SECTION EXE

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Diagnosis Procedure	
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Description	

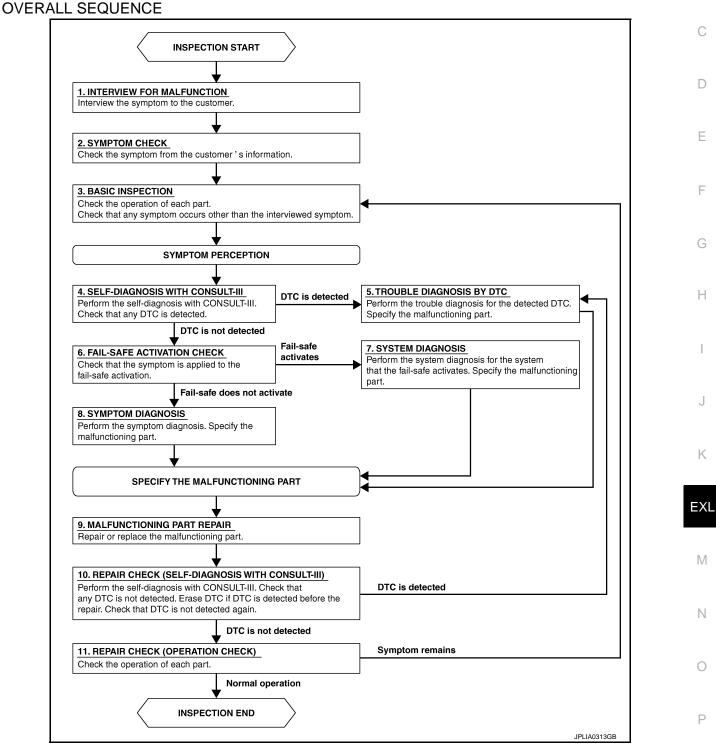
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SERVICE DATA AND SPECIFICATIONS (SDS)

BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000005174479



1.INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

А

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

>> GO TO 2.

2.SYMPTOM CHECK

Check the symptom from the customer's information.

>> GO TO 3.

3.BASIC INSPECTION

Check the operation of each part. Check that any symptom occurs other than the interviewed symptom.

>> GO TO 4.

4.SELF-DIAGNOSIS WITH CONSULT-III

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

Is any DTC detected?

YES >> GO TO 5. NO >> GO TO 6.

5.TROUBLE DIAGNOSIS BY DTC

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

>> GO TO 9. 6.FAIL-SAFE ACTIVATION CHECK

Check that the symptom is applied to the 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 that 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. Check that any DTC is not detected. Erase DTC if DTC is detected before the repair. Check 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.

Does it operate normally?

YES >> INSPECTION END NO >> GO TO 3.

INSPECTION AND ADJUSTMENT
< BASIC INSPECTION > [XENON TYPE]
INSPECTION AND ADJUSTMENT ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT)
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT) : Description
Perform "LEVELIZER ADJUSTMENT" with CONSULT-III when replacing the AFS control unit. ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT) : Special Repair Requirement
1.LEVELIZER ADJUSTMENT
Perform "LEVELIZER ADJUSTMENT".
>> Refer to <u>EXL-9, "LEVELIZER ADJUSTMENT : Special Repair Requirement"</u> . ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SEN- SOR)
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR) : Description
Perform "LEVELIZER ADJUSTMENT" with CONSULT-III when replacing the height sensor. ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR) : Special Repair Requirement
1.LEVELIZER ADJUSTMENT
Perform "LEVELIZER ADJUSTMENT".
>> Refer to <u>EXL-9, "LEVELIZER ADJUSTMENT : Special Repair Requirement"</u> . LEVELIZER ADJUSTMENT LEVELIZER ADJUSTMENT : Description
Ež
Perform "LEVELIZER ADJUSTMENT" when installing, removing, and replacing the height sensor and the suspension components.
LEVELIZER ADJUSTMENT : Special Repair Requirement
1. CHECK VEHICLE CONDITION
 Park the vehicle in the straight-forward position. Unload the vehicle (no passenger aboard).
>> GO TO 2.
2.LEVELIZER ADJUSTMENT
 CONSULT-III WORK SUPPORT Select "LEVELIZER ADJUSTMENT" of ADAPTIVE LIGHT work support item. Select "START". When "ADJUSTMENT IS COMPLETED", select "END". CAUTION: If "CAN NOT BE TESTED" is indicated, AFS control unit detects that the height sensor signal changes. The levelizer adjustment is cancelled. In this case, turn the ignition switch OFF to pre-
vent the vehicle from the height change. Perform the levelizer adjustment again.

< BASIC INSPECTION >

Is the levelizer adjustment completed?

YES >> GO TO 3.

NO >> Perform the levelizer adjustment again.

3.SELF-DIAGNOSIS RESULT CHECK

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

Is any DTC detected?

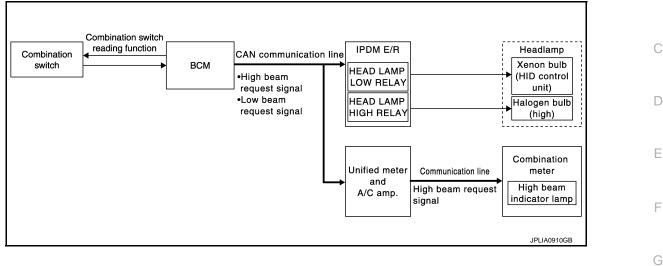
YES >> GO TO 2.

NO >> Levelizer adjustment completed

< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION HEADLAMP SYSTEM

System Diagram



System Description

INFOID:000000005174487

OUTLINE

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

HEADLAMP (LO) OPERATION

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

Headlamp (LO) ON condition

- Lighting switch 2ND
- IPDM E/R turns the integrated headlamp low relay ON, and turns the headlamp ON according to the low K beam request signal.

HEADLAMP (HI) OPERATION

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

Headlamp (HI) ON condition

- Lighting switch HI with the lighting switch 2ND
- Lighting switch PASS
- Combination meter turns the high beam indicator lamp ON according to the high beam request signal.
- IPDM E/R turns the integrated headlamp high relay ON, and turns the headlamp ON according to the high beam request signal.

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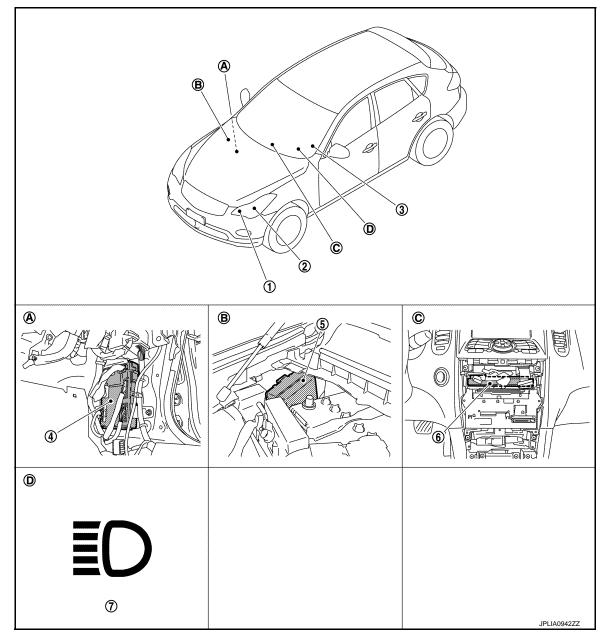
HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000005174488

[XENON TYPE]



- 1. Headlamp (HI)
- 4. BCM
- 7. High beam indicator lamp
- A. Dash side lower (Passenger side)
- D. On the combination meter
- 2. Headlamp (LO)
- 5. IPDM E/R
- B. Engine room dash panel (RH)
- 3. Combination switch
- 6. Unified meter and A/C amp.
- C. Behind the cluster lid C

HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Description

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А

[XENON TYPE]

	Part	Description
BCM		 Detects each switch condition by the combination switch reading function. Judges that the headlamp is turned ON according to the vehicle condition. Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication). Requests the high beam indicator lamp ON to the combination meter [with CAN communication (through unified meter and A/C amp.)].
IPDM E/R		Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn sign		Refer to BCS-8, "System Diagram".
Combination meter (High beam indicated		Turns the high beam indicator lamp ON according to the request from BCM [with CAN communication (through unified meter and A/C amp.)].
Front combination lamp assembly	HID control unitXenon bulb	Refer to EXL-71. "Description".

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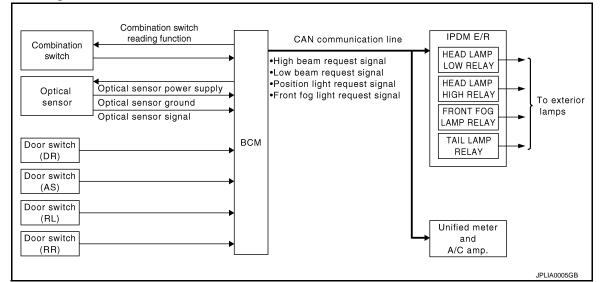
AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

AUTO LIGHT SYSTEM

INFOID:000000005174490

System Diagram



System Description

INFOID:000000005174491

OUTLINE

• Auto light system is controlled by each function of BCM and IPDM E/R.

Control by BCM

- Combination switch reading function
- Headlamp control function
- Auto light function
- Delay timer function

Control by IPDM E/R

- Relay control function
- Auto light system has the auto light function and the delay timer function.
- Auto light function turns the exterior lamps* and each illumination ON/OFF automatically according to the
 outside brightness.
- When auto light system turns the exterior lamps ON with the ignition switch OFF, delay timer function turns the exterior lamps OFF depending on the vehicle condition with the auto light function after a certain period of time.

*: Headlamp (LO/HI), parking lamp, tail lamp, and front fog lamp (Headlamp HI and front fog lamp depend on the combination switch condition.)

AUTO LIGHT FUNCTION

- BCM detects the combination switch condition with the combination switch reading function.
- BCM supplies voltage to optical sensor when the ignition switch is turned ON or ACC.
- Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.
- BCM judges outside brightness from the optical sensor signal and judges ON/OFF condition of the exterior lamp and each illumination according to the outside brightness.
- BCM transmits each request signal to IPDM E/R with CAN communication according to ON/OFF condition by the auto light function.

NOTE:

ON/OFF timing differs based on the sensitivity from the setting. The setting can be set by CONSULT-III. Refer to EXL-33, "HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)".

DELAY TIMER FUNCTION

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

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

EXL-14

AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

INFOID:000000005174492

В

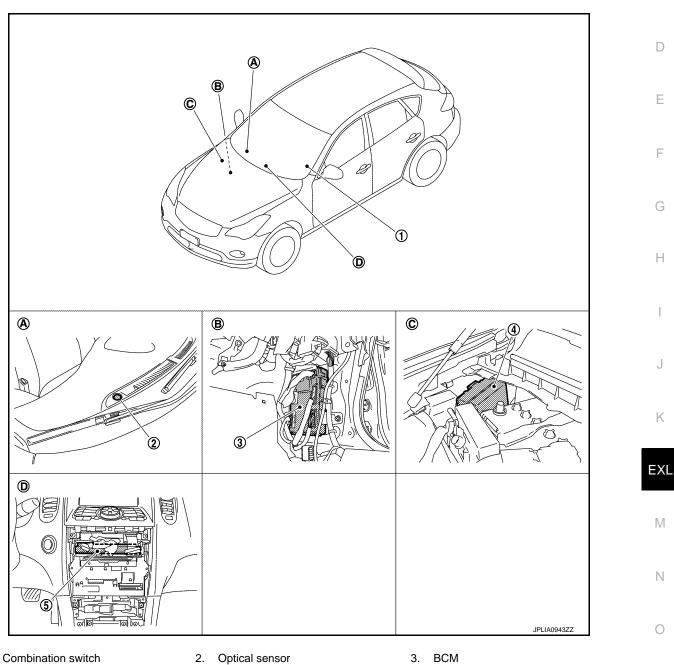
• Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF.

*: The preset time is 45 seconds. The timer operating time can be set by CONSULT-III. Refer to EXL-33. А "HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)".

NOTE:

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

Component Parts Location



IPDM E/R 4.

1.

- Instrument upper panel (RH) Α.
- Behind the cluster lid C D.
- Unified meter and A/C amp. 5.
- B. Dash side lower (Passenger side)
- C. Engine room dash panel (RH)

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Component Description

INFOID:000000005174493

[XENON TYPE]

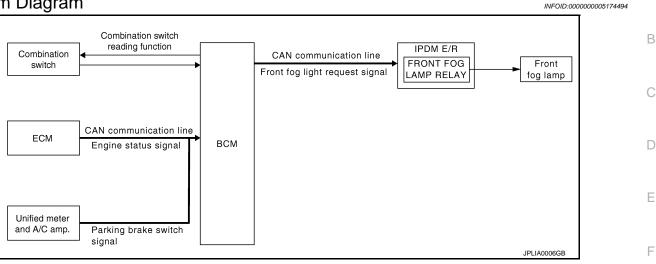
Part	Description	
BCM	 Judges each switch condition by the combination switch reading function. Judges the outside brightness from the optical sensor signal. Judges the OFF timing according to the vehicle condition. Judges the ON/OFF status of the exterior lamp and each illumination according to the outside brightness and the vehicle condition. Requests ON/OFF of each relay to IPDM E/R (with CAN communication). 	
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).	
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-8, "System Diagram"</u> .	
Optical sensor	Refer to EXL-80, "Description".	

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

DAYTIME RUNNING LIGHT SYSTEM

System Diagram



System Description

OUTLINE

- Turns the front fog lamp ON as the daytime running light.
- Daytime running light is controlled by daytime running light control function and combination switch reading H function of BCM, and relay control function of IPDM E/R.

DAYTIME RUNNING LIGHT OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM detects the vehicle condition depending on the following signals.
- Engine condition signal (received from ECM with CAN communication)
- Parking brake switch signal (received from unified meter and A/C amp. with CAN communication)
- BCM transmits the front fog light request signal to IPDM E/R with CAN communication according to the daytime running light ON condition.

Daytime running light ON condition

- While the engine running with the parking brake released

Daytime running light OFF condition

- Engine stopped
- Headlamp ON (Passing included)
- IPDM E/R turns the integrated front fog lamp relay ON and turns the front fog lamp ON according to the front fog light request signal.
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[XENON TYPE]

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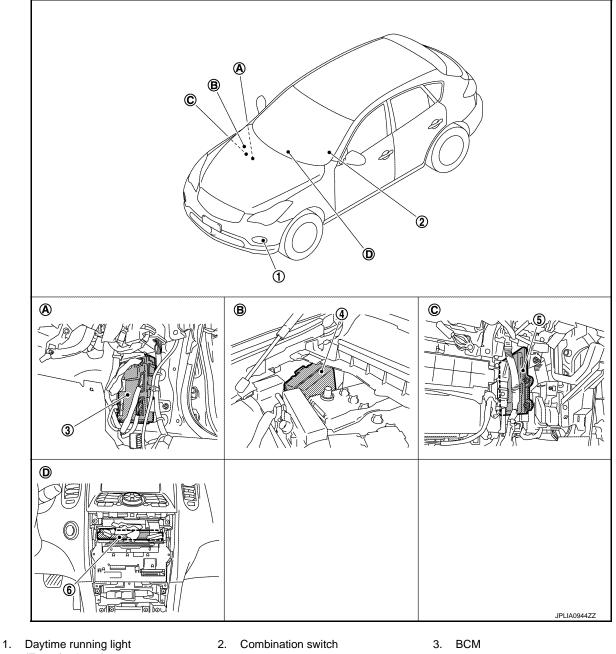
DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000005174496

[XENON TYPE]



- (Front fog lamp)
- 4. IPDM E/R
- A. Dash side lower (Passenger side)
- D. Behind the cluster lid C

Component Description

- 5. ECM
- B. Engine room dash panel (RH)
- 6. Unified meter and A/C amp.
- C. Behind the glove box

INFOID:000000005174497

Part	Description
BCM	 Judges each switch condition with the combination switch reading function. Judges the headlamp ON/OFF status according to the vehicle condition. Requests the front fog lamp relay ON to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

Part	Description	
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-8, "System Diagram"</u> .	<i>P</i>
ECM	Transmits the engine condition signal to BCM with CAN communication.	
Unified meter and A/C amp.	Transmits the parking brake switch signal to BCM with CAN communication.	

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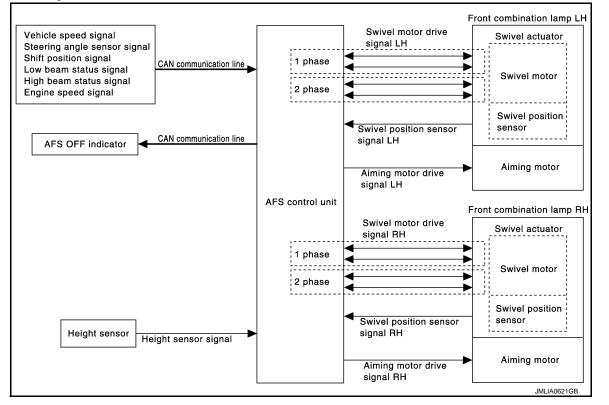
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ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

< SYSTEM DESCRIPTION >

ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

System Diagram



System Description

INFOID:000000005174499

OUTLINE

- AFS (ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM) is controlled by AFS control unit.
- AFS has AFS control (swivel control) and the headlamp auto aiming control.
- AFS control swivels the headlamp to the steering direction.
- Headlamp auto aiming control moves the headlamp light axis up/down according to the vehicle height.

AFS (ADAPTIVE FRONT-LIGHTING SYSTEM)

AFS Control Description

- AFS control controls the headlamp (right) only when the steering wheel is turned rightward, and the headlamp (left) only when the steering wheel is turned leftward.
- AFS control unit detects the vehicle condition necessary for AFS control with the following signals.
- Steering angle sensor signal (received from steering angle sensor with CAN communication)
- Engine speed signal (received from ECM with CAN communication)
- Shift position signal (received from TCM with CAN communication)
- Low beam status and high beam status (received from IPDM E/R with CAN communication)
- Vehicle speed signal (received from unified meter and A/C amp. with CAN communication)
- When the operation conditions are satisfied, AFS control unit controls the swivel angle depending on the steering angle and the vehicle speed.

AFS operation condition

- Swivel actuator initialization completed
- Headlamp ON
- While the engine running
- Selector lever position other than "P" or "R"
- Vehicle speed approximately 25 km/h (15.5 MPH) or more (left swivel only; Right swivel activates regardless
 of the vehicle speed.)

Swivel Actuator Initialization

• AFS control unit performs the swivel actuator initialization when detecting that the engine starts.

EXL-20

INFOID:000000005174498

ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

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- Swivels the headlamp to the vehicle-center side until it hits the stopper.
- Returns the swivel angle from the stopper. Completes the initialization with regarding the returned position A as the swivel angle 0° (straight-forward position).

Swivel Operation

- AFS control unit transmits the drive signal to the swivel actuator when activation conditions are satisfied.
 B And swivels the headlamp.
- The swivel starts after steering approximately 20° or more from straight-forward position. **NOTE:**

The steering angle differs between right turn and left turn.

- The swivel angle becomes the maximum angle toward the driving direction if the steering angle is approximately 90° or more depending on the vehicle speed. The swivel angle is maintained by shutting off the drive signal.
- The swivel starts, and returns to the swivel angle 0° (straight-forward position) when the steering is returned to the straight-forward position.
- AFS control unit returns the swivel angle to the straight-forward position, and stops the swivel regardless of the steering angle if the operation condition is not satisfied while the swivel angle is 0°.

AFS OFF Indicator Lamp

- AFS control unit transmits AFS OFF indicator lamp signal to the combination meter (through the unified meter and A/C amp.) with CAN communication.
- Combination meter turns AFS OFF indicator lamp ON/OFF/blinking according to AFS OFF indicator lamp signal.
- AFS OFF indicator lamp is turned ON for 1 second for the AFS OFF indicator lamp bulb check when the ignition switch is turned ON. AFS OFF indicator lamp is turned OFF within 1 second when the engine starts.
- AFS OFF indicator lamp blinks (1 second each) if AFS control unit detects a specific DTC. **NOTE:**

Combination meter blinks AFS OFF indicator lamp (approximately 1 second each) if AFS OFF indicator lamp signal is not received from AFS control unit.

HEADLAMP AUTO AIMING

Headlamp Auto Aiming Control Description

- Headlamp auto aiming control controls the headlamp light axis height appropriately according to the vehicle height.
- AFS control unit detects the vehicle condition necessary for headlamp auto aiming control with the following signals.
- Height sensor signal
- Engine speed signal (received from ECM with CAN communication)
- Low beam status signal and high beam status signal (received from IPDM E/R with CAN communication)
- Vehicle speed signal (received from unified meter and A/C amp. with CAN communication)
- When the operation conditions are satisfied, AFS control unit transmits the aiming motor drive signal for adjusting the headlamp axis height.

Headlamp auto aiming operation condition

- Headlamp ON
- While the engine running
- Vehicle speed (Control mode is switched according to the driving condition.)

Headlamp Auto Aiming Operation

 AFS control unit calculates the vehicle pitch angle from the height sensor signal. AFS control unit judges the angle for adjusting the axis gap from the preset position.
 CAUTION:

Adjusted axis position may differ from the preset position although the headlamp auto aiming activates properly if the suspension is replaced or worn.

- AFS control unit controls the headlamp axis by changing the aiming motor drive signal output according to the vehicle-rearward height when detecting the following vehicle condition. Output is maintained if other condition than following is detected.
- Engine starts.
- Headlamp is turned ON.
- Vehicle posture becomes stable after changing the vehicle posture change is detected with the headlamp ON and the vehicle stopped.
- Vehicle speed is maintained with the headlamp ON and the vehicle driven.

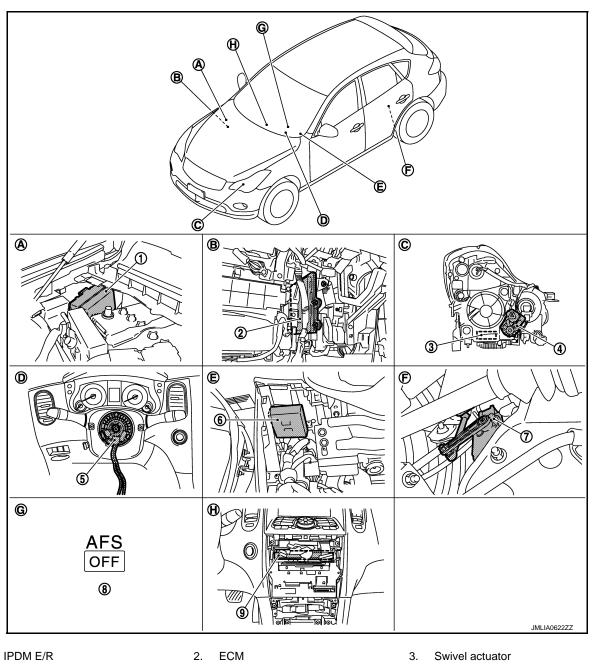
EXL-21

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000005174500

[XENON TYPE]



4. Aiming motor

1.

- 7. Height sensor
- Engine room dash panel (RH) Α.
- D. Steering column cover (inside)
- On the combination meter G.

Component Description

- 5. Steering angle sensor
- 8. AFS OFF indicator lamp
- Behind the glove box Β.
- Behind the instrument driver lower Ε. panel
- Behind the cluster lid C Η.
- 6. AFS control unit
- 9. Unified meter and A/C amp.
- C. Front combination lamp (back)
- F. Rear suspension member (LH)

INFOID:000000005174501

Part	Description
AFS control unit	Refer to EXL-56, "Description".
Swivel actuator	Refer to EXL-44, "Description".

ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

Part	Description	٨
Aiming motor	Refer to EXL-72, "Description".	А
Height sensor	Refer to EXL-50, "Description".	
Steering angle sensor	Refer to EXL-59, "Description".	В
IPDM E/R	Transmits the headlamp (LO) ON signal and the headlamp (HI) ON signal to AFS control unit with CAN communication.	
ECM	Transmits the engine speed signal to AFS control unit with CAN communication.	С
ТСМ	Refer to EXL-53, "Description".	
Unified meter and A/C amp.	Refer to EXL-54, "Description".	
Combination meter	Turns AFS OFF indicator lamp ON/OFF/blinking according to AFS control unit request [with CAN communication (through unified meter and A/C amp.)].	D

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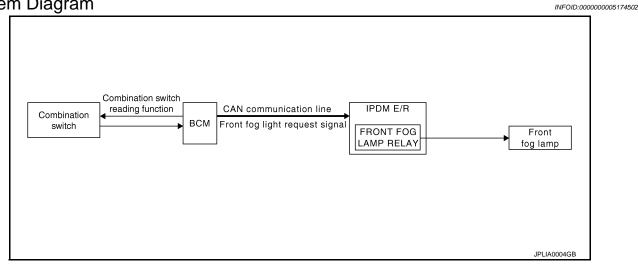
FRONT FOG LAMP SYSTEM

< SYSTEM DESCRIPTION >

FRONT FOG LAMP SYSTEM



System Diagram



System Description

INFOID:000000005174503

OUTLINE

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

NOTE:

For Canada models, the front fog lamp is turned ON as the daytime running light. Refer to <u>EXL-17, "System</u> <u>Diagram"</u> for the detail.

FRONT FOG LAMP OPERATION

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

Front fog lamp ON condition

- Front fog lamp switch ON with the headlamp ON (except for the high beam ON)
- IPDM E/R turns the integrated front fog lamp relay ON, and turns the front fog lamp ON according to the front fog light request signal.

FRONT FOG LAMP SYSTEM

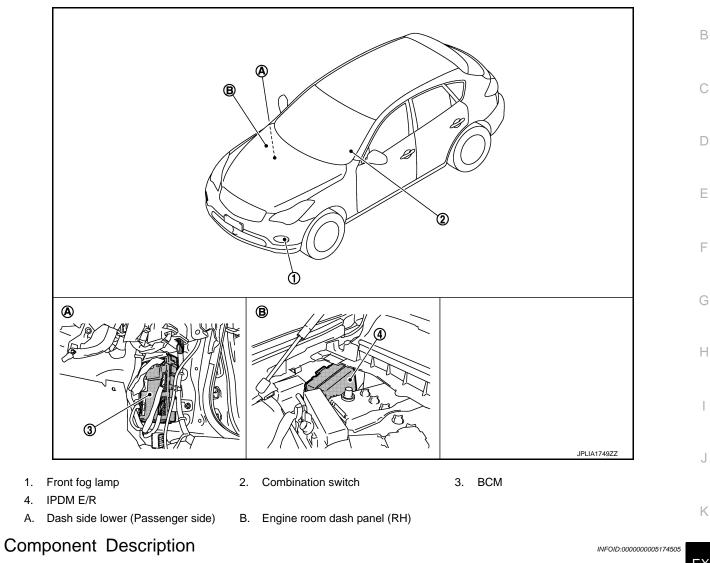
< SYSTEM DESCRIPTION >

Component Parts Location

[XENON TYPE]

INFOID:000000005174504

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Part	Description
BCM	 Judges each switch condition by the combination switch reading function. Judges the front fog lamp ON/OFF status according to the vehicle condition. Requests the front fog lamp relay ON to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-8, "System Diagram"</u> .

Ρ

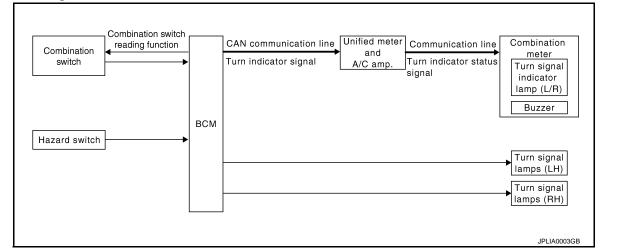
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< SYSTEM DESCRIPTION >

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

System Diagram



System Description

INFOID:000000005174507

[XENON TYPE]

INFOID:000000005174506

OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

- BCM transmits the turn signal indicator lamp signal to the combination meter (through the unified meter and A/C amp.) with CAN communication while the turn signal lamp and the hazard warning lamp operating.
- Combination meter outputs the turn signal sound with the integrated buzzer while blinking the turn signal indicator lamp according to the turn signal indicator lamp signal.

HIGH FLASHER OPERATION (FAIL-SAFE)

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

NOTE:

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

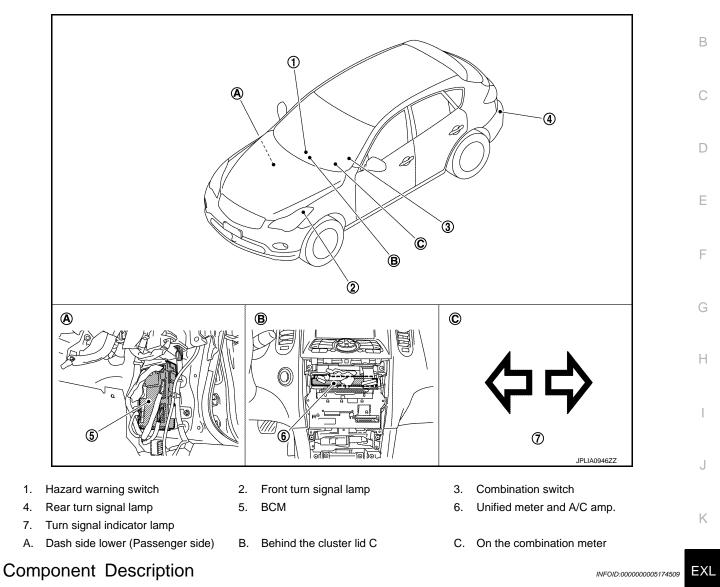
TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM SCRIPTION > [XENON TYPE]

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000005174508





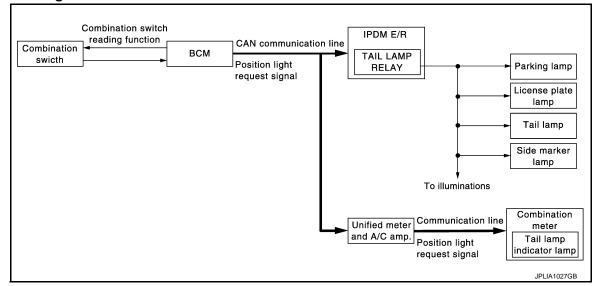
Part	Description
BCM	 Judges each switch condition by the combination switch reading function. Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks. Requests the turn signal indicator lamp blink to the combination meter (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-8, "System Diagram"</u> .
Hazard switch (Multifunction switch)	Refer to EXL-83, "Description".
Combination meter (Turn signal indicator lamp & buzzer)	Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM [with CAN communication (through unified meter and A/C amp.)].

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< SYSTEM DESCRIPTION >

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

System Diagram



System Description

INFOID:000000005174511

[XENON TYPE]

INFOID:000000005174510

OUTLINE

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

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS OPERATION

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

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

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

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

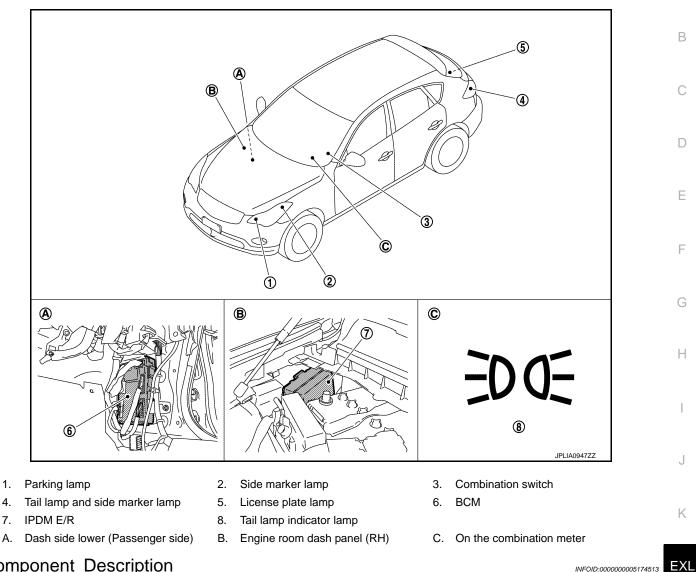
< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000005174512

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[XENON TYPE]



Component Description

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INFOID:000000005174513

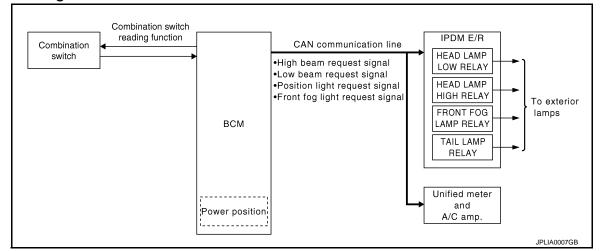
Part	Description
ВСМ	 Judges each switch condition by the combination switch reading function. Judges the ON/OFF status of the clearance, license plate, side marker and tail lamps according to the vehicle condition. Requests the tail lamp relay ON to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "System Diagram".
Combination meter (Tail lamp indicator lamp)	Turns the tail lamp indicator lamp ON according to the request from BCM [with CAN communication (through the unified meter and A/C amp.)].

EXTERIOR LAMP BATTERY SAVER SYSTEM

< SYSTEM DESCRIPTION >

EXTERIOR LAMP BATTERY SAVER SYSTEM

System Diagram



System Description

INFOID:000000005174515

[XENON TYPE]

INFOID:000000005174514

OUTLINE

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

Control by BCM

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

Control by IPDM E/R

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

When the lighting switch is turned AUTO, the exterior lamp battery saver switches to the auto light system. Refer to <u>EXL-14, "System Diagram"</u>.

EXTERIOR LAMP BATTERY SAVER ACTIVATION

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

NOTE:

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

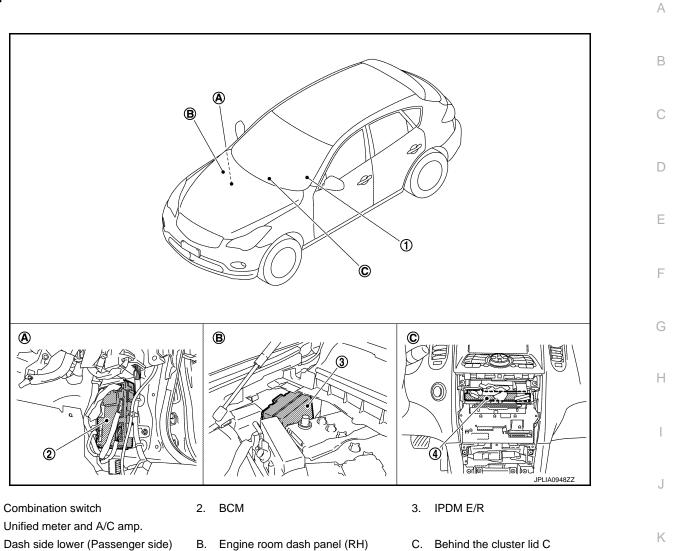
EXTERIOR LAMP BATTERY SAVER SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000005174516

[XENON TYPE]



Component Description

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INFOID:000000005174517 EXL

Part	Description
ВСМ	 Judges each switch condition by the combination switch reading function. Judges the exterior lamp OFF according to the vehicle condition. Requests each relay OFF to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay according to the request from BCM (with CAN communi- cation).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-8, "System Diagram"</u> .

DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:000000005612308

APPLICATION ITEM

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

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

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

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

NOTE:

*: This item is displayed, but is not used.

FREEZE FRAME DATA (FFD)

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

< SYSTEM DESCRIPTION >

[XENON TYPE]

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

HEADLAMP

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

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INFOID:000000005174519

WORK SUPPORT

Service item	Setting item	Setting	Р
BATTERY SAVER SET	On*	With the exterior lamp battery saver function	
DATTERT GAVER GET	Off	Without the exterior lamp battery saver function	

< SYSTEM DESCRIPTION >

[XENON TYPE]

Service item	Setting item	Setting		
	MODE 1*	45 sec.		
	MODE 2	Without the func- tion		
	MODE 3	30 sec.		
ILL DELAY SET	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 setting than normal setting (Turns ON earlier than normal operation.)		
TING	MODE 3	More sensitive setting 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 unified meter and A/C amp. with CAN communication		
KEY SW-SLOT [On/Off]	Key switch status input from key slot		
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]			
RR FOG SW [On/Off]	NOTE: The item is indicated, but not monitored.		
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)		
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)		

< SYSTEM DESCRIPTION >

[XENON TYPE]

Monitor item [Unit]	Description	A
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	В
DOOR SW-BK [On/Off]	NOTE: The item is indicated, but not monitored.	С
OPTICAL SENSOR [V]	The value of exterior brightness voltage input from the optical sensor	
		D

ACTIVE TEST

Test item	Operation	Description
TAIL LAMP	On	Transmits the position light request signal to IPDM E/R with CAN com- munication to turn the tail lamp ON.
	Off	Stops the position light request signal transmission.
	Hi	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).
HEAD LAMP	Low	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 light request signal to IPDM E/R with CAN com- munication to turn the front fog lamp ON.
	Off	Stops the front fog light request signal transmission.
	On	NOTE:
RR FOG LAMP	Off	The item is indicated, but cannot be tested.
	On	NOTE:
DAYTIME RUNNING LIGHT	Off	The item is indicated, but cannot be tested.
	RH	
CORNERING LAMP	LH	NOTE: The item is indicated, but cannot be tested.
	Off	
ILL DIM SIGNAL	On	NOTE:
ILE DIM SIGNAL	Off	The item is indicated, but cannot be tested.

FLASHER

FLASHER : CONSULT-III Function (BCM - FLASHER)

WORK SUPPORT

Service item	Setting item	Setting		
	Lock Only*	With locking only		0
HAZARD ANSWER BACK	Unlk Only	With unlocking only	Sets the hazard warning lamp answer back function when the door is lock/unlock with the request switch or	
	Lock/Unlk	With locking/unlocking	the key fob.	
	Off	Without the function	-	Ρ

*: Initial setting

DATA MONITOR

Revision: 2009 August

INFOID:000000005174520

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< SYSTEM DESCRIPTION >

[XENON TYPE]

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 quitch condition that PCM judges from the combination quitch reading f		
TURN SIGNAL L [On/Off]	 Each switch condition that BCM judges from the combination switch reading function 		
HAZARD SW [On/Off]	The switch status input from the hazard switch		
RKE-LOCK [On/Off]	Lock signal status received from the remote keyless entry receiver		
RKE-UNLOCK [On/Off]	Unlock signal status received from the remote keyless entry receiver		
RKE-PANIC [On/Off]	Panic alarm signal status received from the remote keyless entry receiver		

ACTIVE TEST

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

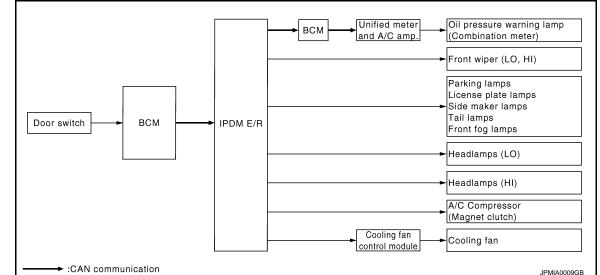
DIAGNOSIS SYSTEM (IPDM E/R)	А
Diagnosis Description	A
AUTO ACTIVE TEST	В
Description In auto active test mode, the IPDM E/R sends a drive signal to the following systems to check their operation. • Oil pressure warning lamp • Front wiper (LO, HI) • Parking lamps	С
 License plate lamps Side maker lamps Tail lamps 	D
 Front fog lamps Headlamps (LO, HI) A/C compressor (magnet clutch) Cooling fan (cooling fan control module) 	Е
Operation Procedure	F
 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. 	G
2. Turn the ignition switch OFF.	
 Turn the ignition switch ON, and within 20 seconds, press the front door switch (driver side) 10 times. Then turn the ignition switch OFF. CAUTION: Close passenger door. 	H
 Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts. 	I
 The oil pressure warning lamp starts blinking when the auto active test starts. After a series of the following operations is repeated 3 times, auto active test is completed. 	J
NOTE: When auto active test mode has to be cancelled halfway through test, turn the ignition switch OFF. CAUTION:	К
 If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-66,</u> <u>"Component Function Check"</u>. Do not start the engine. 	EXL
Inspection in Auto Active Test Mode When auto active test mode is actuated, the following 6 steps are repeated 3 times.	Μ

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 \rightarrow HI for 5 seconds
3	 Parking lamps License plate lamps Side maker lamps Tail lamps Front fog lamps 	10 seconds
4	Headlamps	 LO 10 seconds HI ON ⇔ OFF 5 times
5	A/C compressor (magnet clutch)	$ON \Leftrightarrow OFF 5 times$
6*	Cooling fan	MID for 5 seconds \rightarrow HI for 5 seconds

*: Outputs duty ratio of 50% for 5 seconds \rightarrow duty ratio of 100% for 5 seconds on the cooling fan control module.

< SYSTEM DESCRIPTION >

Concept of auto active test



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

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause
Any of the following components do not operate		YES	BCM signal input circuit
 Parking lamps License plate lamps Side maker lamps Tail lamps Front fog lamps Headlamp (HI, LO) Front wiper (HI, LO) 	Perform auto active test. Does the applicable system operate?	NO	 Lamp or motor Lamp or motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R
A/C compressor does not operate	Perform auto active test. Does the magnet clutch oper- ate?	YES	 Unified meter and A/C amp. signal input circuit CAN communication signal between unified meter and A/C amp. and ECM CAN communication signal between ECM and IPDM E/ R
		NO	 Magnet clutch Harness or connector be- tween IPDM E/R and mag- net clutch IPDM E/R
Oil pressure warning lamp does not operate	Perform auto active test. Does the oil pressure warning lamp blink?	YES	 Harness or connector be- tween IPDM E/R and oil pressure switch Oil pressure switch IPDM E/R
		NO	 CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and unified meter and A/C amp. Combination meter

< SYSTEM DESCRIPTION >

[XENON TYPE]

Symptom	Inspection contents		Possible cause
		YES	 ECM signal input circuit CAN communication signal between ECM and IPDM E/ R
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	NO	 Cooling fan Harness or connector be- tween cooling fan and cool- ing fan control module Cooling fan control module Harness or connector be- tween IPDM E/R and cool- ing fan control module Cooling fan relay Harness or connector be- tween IPDM E/R and cool- ing fan relay IPDM E/R

CONSULT-III Function (IPDM E/R)

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 RESULT Refer to <u>PCS-31, "DTC Index"</u>.

DATA MONITOR Monitor item

Monitor Item [Unit]	MAIN SIG- NALS	Description	EXL
RAD FAN REQ [%]	×	Displays the value of the cooling fan speed signal received from ECM via CAN communication.	M
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.	IVI
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.	Ν
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.	0
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.	Ρ
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.	

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< SYSTEM DESCRIPTION >

[XENON TYPE]

Monitor Item [Unit]	MAIN SIG- NALS	Description
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 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 ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW [Off/On]		Displays the status of the A/T shift selector (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/UNLOCK/UNKWN]		Displays the status of the steering lock judged by IPDM E/R.
DTRL REQ [Off/On]		NOTE: The item is indicated, but not monitored.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.
HL WASHER REQ [Off/On]		NOTE: The item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN com- munication.
CRNRNG LMP REQ [Off/On]		NOTE: The item is indicated, but not monitored.

ACTIVE TEST Test item

Test item	Operation	Description
	Off	
CORNERING LAMP	LH	NOTE: The item is indicated, but cannot be tested.
	RH	
HORN	On	Operates horn relay 1 and horn relay 2 for 20 ms.
	Off	OFF
FRONT WIPER	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper high relay.
	1	OFF
MOTOR FAN	2	Outputs 50% pulse duty signal (PWM signal) to the cooling fan control module.
	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.

< SYSTEM DESCRIPTION >

[XENON TYPE]

Test item	Operation	Description
HEAD LAMP WASHER	On	NOTE: The item is indicated, but cannot be tested.
EXTERNAL LAMPS	Off	OFF
	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 sec- ond intervals.
	Fog	Operates the front fog lamp relay.

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< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (AFS) CONSULT-III Function (ADAPTIVE LIGHT)

INFOID:000000005174523

[XENON TYPE]

APPLICATION ITEM

Diagnostic mode	Description
ECU Identification	Allows confirmation of auto levelizer control unit part number.
Self Diagnostic Result	Displays the diagnosis results judged by AFS control unit.
Work support	Sets each sensor.
Data monitor	Indicates AFS control unit input data in real time.
Active test	Provides the drive signal to the load. Checks operation.

WORK SUPPORT

Service item	Description
ST ANG SEN ADJUSTMENT [*]	_
LEVELIZER ADJUSTMENT	Adjusts the height sensor signal output value (AFS control unit recognized) in the unloaded vehicle condition.

*: Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to <u>BRC-9, "ADJUST-</u> <u>MENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"</u>.

DATA MONITOR

Monitor item [Unit]	Description
STR ANGLS SIG [deg]	The steering angle value judged by the steering angle sensor signal received from the steering angle sensor with CAN communication
VHCL SPD [km/h]	The vehicle speed signal value from the unified meter and A/C amp. with CAN com- munication
SLCT LVR POSI [P - 1]	The selector lever status judged by the position indicator signal received from TCM with CAN communication
HEAD LAMP [On/Off]	The headlamp On/Off status judged by the low beam headlamp (ON) signal received from IPDM E/R with CAN communication
AFS SW [On/Off]	NOTE: The item is indicated, but not monitored.
HI SEN OTP RR [V]	The height sensor signal voltage value input from the height sensor
LEV ACTR VLTG [%]	The ratio value to the battery voltage generated by the levelizer activation signal con- trol value judged by AFS control unit
SWVL SEN RH [*] [deg]	The head lamp swivel angle value judged by AFS control unit received from the swiv-
SWVL SEN LH [*] [deg]	el position sensor signal input from the swivel actuator
SWVL ANGLE RH [*] [deg]	The quinclengle command value to the quincle mater judged by AFS control write
SWVL ANGLE LH [*] [deg]	 The swivel angle command value to the swivel motor judged by AFS control unit

*: The swivel angle "0°" (feedback value) of the swivel position sensor signal may differ from the swivel angle "0°" of the swivel motor (AFS control unit command value). This causes that the swivel motor initializes the value based on the step number from the stopper.

ACTIVE TEST CAUTION: Start the engine when using "ACTIVE TEST".

DIAGNOSIS SYSTEM (AFS)

< SYSTEM DESCRIPTION >

[XENON TYPE]

Test item	Operation Item	Description
	Origin Fast	Swivels the right headlamp to the swivel angle 0° in the normal speed.
-	Peak Fast	Swivels the right headlamp to the swivel angle approximately 15° in the normal speed.
LOW BEAM TEST RIGHT	Origin Slow	Swivels the right headlamp to the swivel angle 0° in the speed at the initialization.
-	Peak Slow	Swivels the right headlamp to the swivel angle approximately 15° in the speed at the initialization.
	Origin Fast	Swivels the left headlamp to the swivel angle 0° in the normal speed.
-	Peak Fast	Swivels the left headlamp to the swivel angle approximately 17° in the normal speed.
LOW BEAM TEST LEFT	Origin Slow	Swivels the left headlamp to the swivel angle 0° in the speed at the initialization.
-	Peak Slow	Swivels the left headlamp to the swivel angle approximately 17° in the speed at the initialization.
LEVELIZER TEST	Origin	Changes the aiming motor drive signal to approximately 70% of the battery voltage. Moves the headlamp upward and downward.
LLVLUZEN IEGI -	Peak	Changes the aiming motor drive signal to approximately 15% of the battery voltage. Moves the headlamp upward and downward.

NOTE:

"Fast" operation speed is as three times fast as "Slow".

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INFOID:000000005174524

DTC/CIRCUIT DIAGNOSIS B2503, B2504 SWIVEL ACTUATOR

Description

SWIVEL ACTUATOR

The swivel actuator is installed in the headlamp unit. The swivel actuator consists of the swivel motor and the swivel position sensor.

SWIVEL MOTOR

- The swivel motor is the two-phase step motor.
- The swivel motor drives headlamp by exciting the two drive coils according to the drive signal from AFS control unit.
- The rotation direction of the swivel motor is changeable by changing the exciting pattern.

SWIVEL POSITION SENSOR

The swivel position sensor detects the headlamp swivel angle to transmit the swivel position sensor signal to AFS control unit.

DTC Logic

DTC DETECTION LOGIC

- [B2503] Swivel actuator [RH]
- [B2504] Swivel actuator [LH]

DTC detection condition	DTC erase condition	Possible cause
 AFS control unit indicates an applicable DTC when detecting any of the following conditions continuously for 2 seconds or more. AFS control unit-recognized swivel position differs extremely from the swivel position sensor-input value while the swivel operating.[*] The swivel position sensor signal does not change even though AFS control unit transmits the swivel motor driving signal while the swivel operating[*]. The swivel motor short and open is detected while the swivel operating[*]. The swivel position sensor power supply is 6 V or more, or 4 V or less. The swivel position sensor signal is 0.25 V or less, or 4.75 V or more. 	Ignition switch OFF	Swivel position sensor • Swivel position sensor • Harness and connector • AFS control unit Swivel motor • Swivel motor • Harness and connector • AFS control unit

*: Initialization is not included.

DTC CONFIRMATION PROCEDURE

1.DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2. CONFIRMATION DTC SELECTION

Select "B2503" or "B2504" for confirmation. Which DTC is confirmation?

B2503 >> GO TO 3. B2504 >> GO TO 4.

3.DTC CONFIRMATION (B2503)

- 1. Steer to the straight-forward position.
- 2. Start the engine.
- 3. Turn the headlamp ON.
- 4. Shift the selector lever to "N".
- 5. Steer to the right. (Rotate it once or more.)
- 6. Perform the self-diagnosis with CONSULT-III.

1502 D1504 CMUVEL ACTUATOD

	B2503, B25	04 SWIVEL	ACTUATOR		
< DTC/CIRCUIT DIAGNOSIS	;>			[XENON TYPE]	
Is "B2503" detected? YES >> Refer to EXL-45, " NO >> Refer to GI-37, "In	termittent Incide				
4. DTC CONFIRMATION (B25					
 Steer to the straight-forward Start the engine. Turn the headlamp ON. Drive at 25 km/h (15.5 MP) Steer to the left. (Rotate it Stop the vehicle. Perform the self-diagnosis Is "B2504" detected? 	H) or more. once or more.)	-111.			
YES >> Refer to <u>EXL-45</u> , " NO >> Refer to <u>GI-37</u> , "In					
Diagnosis Procedure		<u></u> .		INFOID:000000005174526	
1.CHECK SWIVEL POSITION	N SENSOR SIG	NAL INPUT			
 Turn the ignition switch ON Check the voltage betwee 	۷.		connector and the ground.		
Terminals	1	_			
(+)	(-)	Voltage (Approx.)			
AFS control unit Connector Terminal RH M16 9 LH M16 29	Ground	0.25 - 4.75 V			
Is the measurement value with	in the standard	value?			
YES >> GO TO 2. Less than the standard value Higher than the standard valu 2.CHECK SWIVEL MOTOR					
Check the swivel motor.EXL-4	3. "Component I	nspection".			
Is the inspection result normal	?				
YES >> GO TO 3. NO >> Replace the front of 3. CHECK SWIVEL MOTOR (p.			
 Turn the ignition switch OF Disconnect AFS control ur 	F. hit connector and		swivel actuator connector. onnector and the headlamp	swivel actuator har-	

B2503, B2504 SWIVEL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

	AFS control unit Headlamp swivel actuator		Continuity		
Co	onnector	Terminal	Connector	Terminal	-
		11		8	
RH		13	E29	7	
ΝП	M16	32		3	
		34		4	Existed
	IVITO	15		3	EXISTED
LH		17	E59	4	
		36	∟39	8	
		38		7	

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4.CHECK SWIVEL MOTOR SHORT CIRCUIT

Check continuity between the AFS control unit harness connector and the ground.

	AFS contro	l unit		Continuity
	Connector	Terminal		Continuity
		11		
RH		13		
КΠ	32	32	Ground	
		34	Giodila	Not existed
		15		NOT EXISTED
1.11		17		
Ln				
		38		

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 5.

5.CHECK SWIVEL MOTOR CIRCUIT VOLTAGE OUTPUT

1. Connect AFS control unit connector.

2. Turn the ignition switch ON.

3. Turn the headlamp ON.

4. Select "LOW BEAM TEST RIGHT" or "LOW BEAM TEST LEFT" of ADAPTIVE LIGHT active test item.

5. With operating the test item, check the voltage between the AFS control unit harness connector and the ground.

B2503, B2504 SWIVEL ACTUATOR

Condition

< DTC/CIRCUIT DIAGNOSIS >

Terminals

(-) (+) Voltage (Approx.) AFS control unit В Swivel motor Connector Terminal 11 RH 32 15 Active D LH Ground 36 M16 SKIB2408J 8 - 12 V Е 13 RH 34 Stop 9.5 - 11.5 V F 17 LH 38 Is the measurement value within the standard value? YES >> Replace the front combination lamp. NO >> Replace AFS control unit. **6.**CHECK SWIVEL POSITION SENSOR SIGNAL OUTPUT Н Check the voltage between the AFS control unit harness connector and the ground. Terminals (+) (-) Voltage (Approx.) AFS control unit Connector Terminal Ground 4 RH M16 5 V Κ LH 24 Is the measurement value normal? YES >> GO TO 7. EXL NO >> GO TO 9. 7.CHECK SWIVEL POSITION SENSOR POWER SUPPLY CIRCUIT INPUT VOLTAGE 1. Turn the ignition switch OFF. Μ 2. Disconnect the headlamp swivel actuator connector. Turn the ignition switch ON. 3. Check the voltage between the headlamp swivel actuator harness connector and the ground. 4. Ν Terminals (+) (-) Voltage (Approx.) Headlamp swivel actuator Connector Terminal Ground Ρ RH E29 2 5 V LH E59 2 Is the measurement value normal? YES >> GO TO 8. NO >> Repair the harnesses or connectors. ${f 8}.$ CHECK SWIVEL POSITION SENSOR SIGNAL SHORT CIRCUIT

EXL-47

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B2503, B2504 SWIVEL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

- 1. Turn the ignition switch OFF.
- 2. Disconnect AFS control unit connector.
- 3. Check continuity between the AFS control unit harness connector and the headlamp swivel actuator harness connector.

	AFS control unit		Headlamp swivel actuator		Continuity
Co	nnector	Terminal	Connector	Terminal	Continuity
RH	M16	9	E29	1	Existed
LH	IVITO	29	E59	1	LAISIEU

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

9. CHECK SWIVEL POSITION SENSOR GROUND CIRCUIT VOLTAGE OUTPUT

Check the voltage between the AFS control unit harness connector and the ground.

	Terminals			
	(+)		(-)	Voltage (Approx.)
	AFS control	l unit		(Approx.)
(Connector	Terminal	Ground	
RH	M16	2	Ground	0 V
LH	10110	27	1	0 V

Is the measurement value normal?

YES >> GO TO 10.

NO >> Replace AFS control unit.

10. CHECK SWIVEL POSITION SENSOR SHORT GROUND CIRCUIT

1. Turn the ignition switch OFF.

- 2. Disconnect AFS control unit connector and the headlamp swivel actuator connector.
- Check continuity between the AFS control unit harness connector and the headlamp swivel actuator harness connector.

	AFS control unit		Headlamp swivel actuator		Continuity
Co	onnector	Terminal	Connector	Terminal	Continuity
RH	M16	2	E29	6	Existed
LH	WIO	27	E59	6	LXISIEU

Does continuity exist?

- YES >> Replace the front combination lamp.
- NO >> Repair the harnesses or connectors.

Component Inspection

1.CHECK SWIVEL MOTOR SINGLE PART

- 1. Disconnect the swivel actuator connector.
- 2. Check the resistance among each swivel actuator connector terminal.

Swivel	actuator	Resistance
Terminal	Terminal	(Approx.)
3	7	7.2 Ω
4	8	7.2 Ω
3	4	10 M Ω or more

< DTC	/CIRCUIT DIAGNOSIS >	[XENON TYPE]
Is the r	neasurement value normal?	
YES NO	>> Swivel actuator is normal.>> Replace the front combination lamp.	A
		В
		С
		D
		E

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B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

B2514 HEIGHT SENSOR UNUSUAL [RR]

Description

The height sensor is installed to the rear suspension arm. The height sensor detects the suspension arm displacement as the vehicle height change. The height sensor transmits the height sensor signal to AFS control unit.

NOTE:

The sensor angle of the unloaded vehicle position is the reference value.

DTC Logic

DTC DETECTION LOGIC

[B2514] Height sensor unusual [RR]

DTC detection condition	DTC erase condition	Possible cause
 An applicable DTC is indicated when any of the following conditions is detected continuously for 2 seconds or more. The height sensor power supply is 6 V or more, or 4 V or less. The height sensor signal is 0.25 V or less, or 4.75 V or more. 	Ignition switch OFF	Height sensor • Height sensor • Harness and connector • AFS control unit

DTC CONFIRMATION PROCEDURE **1.**DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2.DTC CONFIRMATION

- 1. Start the engine.
- 2. Turn the headlamp ON.
- 3. Select the self-diagnosis with CONSULT-III.
- 4. Check the self-diagnosis result. Refer to EXL-192, "DTC Index".

Is "B2514" detected?

- YES >> Refer to EXL-50, "Diagnosis Procedure".
- NO >> Refer to <u>GI-37, "Intermittent Incident"</u>.

Diagnosis Procedure

INFOID:000000005174530

1.CHECK HEIGHT SENSOR POWER SUPPLY OUTPUT

- 1. Turn the ignition switch ON.
- 2. Check the voltage between the AFS control unit harness connector and the ground.

(+)	(-)	Voltage (Approx.)
AFS co	AFS control unit		(Approx.)
Connector	Connector Terminal		
M16	6		5 V

Is the measurement value within the standard value?

YES >> GO TO 2.

NO >> Replace AFS control unit.

2.CHECK HEIGHT SENSOR POWER SUPPLY INPUT

Check the voltage between the AFS control unit harness connector and the ground.

EXL-50

INFOID:000000005174528

B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

	T				
	Termir	lais	()		
	(+)		(-)	Voltage (Approx.)	
	ontrol unit			(Applox.)	
Connector	Termi		Ground		
M16	28			0.25 - 4.75 V	
Is the measure				alue?	
Less than the Higher than th	standard ne standai	rd value>>G	D TO 3. 60 TO 6.		
			ER SUPPL	Y CIRCUIT O	JTPUT VOLTAGE
3. Turn the ig	t the heigl nition swi	ht sensor co tch ON.		or harness co	nnector and the ground.
	je na ge ne				
	Termir	nals			
	(+)		()	Voltage	
Heigh	t sensor			(Approx.)	
Connector	Termi	nal (Ground		
B32	1			5 V	
Is the measure	ment valu	e within the	standard v	alue?	
	O TO 4.				
NO >> Re	epair the h	arnesses or	connectors	5.	
NO >> Re 4. CHECK HE	•				
4.снеск не	IGHT SEN	NSOR SIGN			
4. CHECK HE 1. Turn the ig 2. Disconnec	IGHT SEN Inition swith the AFS cont	NSOR SIGN tch OFF. htrol unit cor	IAL OPEN (CIRCUIT	
4.CHECK HE 1. Turn the ig 2. Disconnec 3. Check con	IGHT SEN Inition swith the AFS cont	NSOR SIGN tch OFF. htrol unit cor	IAL OPEN (CIRCUIT	onnector and the height sensor harness connec-
4.CHECK HE 1. Turn the ig 2. Disconnec	IGHT SEN Inition swith the AFS cont	NSOR SIGN tch OFF. htrol unit cor	IAL OPEN (CIRCUIT	onnector and the height sensor harness connec-
 Turn the ig Disconnec Check contor 	IGHT SEN Inition swi t AFS con Itinuity bet	NSOR SIGN tch OFF. trol unit cor ween the A	IAL OPEN (inector. FS control (CIRCUIT	onnector and the height sensor harness connec-
4.CHECK HE 1. Turn the ig 2. Disconned 3. Check con tor. AFS contro	IGHT SEN Inition swi the AFS con attinuity bet	NSOR SIGN tch OFF. ttrol unit cor ween the A Heigh	IAL OPEN (Inector. FS control (t sensor	CIRCUIT	onnector and the height sensor harness connec-
4.CHECK HE 1. Turn the ig 2. Disconnec 3. Check con tor. AFS contro Connector	IGHT SEN Inition swi et AFS con atinuity bet ol unit Terminal	NSOR SIGN tch OFF. ttrol unit cor ween the A Heigh Connector	IAL OPEN (Inector. FS control (t sensor Terminal	CIRCUIT unit harness c	onnector and the height sensor harness connec-
4.CHECK HE 1. Turn the ig 2. Disconnec 3. Check con tor. AFS contro Connector M16	IGHT SEN Inition swith the AFS connection the action of the action of unit Terminal 28	NSOR SIGN tch OFF. ttrol unit cor ween the A Heigh	IAL OPEN (Inector. FS control (t sensor	CIRCUIT unit harness c	onnector and the height sensor harness connec-
4.CHECK HE 1. Turn the ig 2. Disconnec 3. Check con tor. AFS contro Connector M16 Does continuity	IGHT SEN Inition swir that AFS con tinuity bet of unit Terminal 28 y exist?	NSOR SIGN tch OFF. ttrol unit cor ween the A Heigh Connector	IAL OPEN (Inector. FS control (t sensor Terminal	CIRCUIT unit harness c	onnector and the height sensor harness connec-
4.CHECK HE 1. Turn the ig 2. Disconnec 3. Check con tor. AFS contro Connector M16 Does continuity YES >> G0	IGHT SEN Inition swire AFS con Initinuity bet of unit Terminal 28 <u>y exist?</u> D TO 5.	NSOR SIGN tch OFF. ttrol unit cor ween the A Heigh Connector B32	IAL OPEN (inector. FS control u t sensor Terminal 2	CIRCUIT unit harness c Continuity Existed	onnector and the height sensor harness connec-
4.CHECK HE 1. Turn the ig 2. Disconnec 3. Check con tor. AFS contro Connector M16 Does continuit YES >> G0 NO >> Re	DIGHT SEN IGHT SEN Inition swire that AFS connection tinuity bet of unit Terminal 28 <u>y exist?</u> O TO 5. Epair the h	NSOR SIGN tch OFF. ttrol unit cor ween the A Heigh Connector B32	IAL OPEN (Inector. FS control (t sensor Terminal 2	CIRCUIT	onnector and the height sensor harness connec-
4.CHECK HE 1. Turn the ig 2. Disconned 3. Check con tor. AFS contro Connector M16 Does continuit YES >> G0 NO >> Re 5.CHECK HE	DIGHT SEN IGHT SEN Inition swire AFS connection tinuity bet of unit Terminal 28 <u>y exist?</u> O TO 5. epair the h IGHT SEN	NSOR SIGN tch OFF. ttrol unit cor ween the A Heigh Connector B32 arnesses of NSOR SIGN	IAL OPEN (Inector. FS control (t sensor Terminal 2 Connectors IAL SHORT	CIRCUIT	
 4.CHECK HE 1. Turn the ig 2. Disconnec 3. Check contor AFS contro Connector M16 Does continuity YES >> GO NO >> Re 5.CHECK HE 	DIGHT SEN IGHT SEN Inition swire AFS connection tinuity bet of unit Terminal 28 <u>y exist?</u> O TO 5. epair the h IGHT SEN	NSOR SIGN tch OFF. ttrol unit cor ween the A Heigh Connector B32 arnesses of NSOR SIGN	IAL OPEN (Inector. FS control (t sensor Terminal 2 Connectors IAL SHORT	CIRCUIT	onnector and the height sensor harness connec-
 4.CHECK HE 1. Turn the ig 2. Disconnec 3. Check contor AFS contro Connector M16 Does continuity YES >> GC NO >> Re 5.CHECK HE Check continuity 	IGHT SEN Inition swire that AFS connection tinuity bet of unit Terminal 28 <u>y exist?</u> O TO 5. epair the h IGHT SEN ity betwee	NSOR SIGN tch OFF. ttrol unit cor ween the A Heigh Connector B32 arnesses of NSOR SIGN	IAL OPEN (Inector. FS control (t sensor Terminal 2 Connectors IAL SHORT	CIRCUIT	
4.CHECK HE 1. Turn the ig 2. Disconned 3. Check con tor. AFS contro Connector M16 Does continuity YES >> G0 NO >> Re 5.CHECK HE Check continuit Heigh	IGHT SEN IGHT SEN Inition swirt to AFS connection the approximation of the approximation of unit Terminal 28 <u>y exist?</u> D TO 5. epair the h IGHT SEN ity betwee	NSOR SIGN tch OFF. trol unit cor ween the A Heigh Connector B32 arnesses of NSOR SIGN n the height	IAL OPEN (Inector. FS control u t sensor Terminal 2 Connectors IAL SHORT s sensor har	CIRCUIT	
4.CHECK HE 1. Turn the ig 2. Disconnec 3. Check con tor. AFS contro Connector M16 Does continuit YES >> GC NO >> Re 5.CHECK HE Check continuit Heigh Connector	IGHT SEN IGHT SEN IGHT SEN Inition swire to AFS connection to a strain and the of unit Terminal 28 <u>y exist?</u> O TO 5. epair the h IGHT SEN ity betwee t sensor Terminal	NSOR SIGN tch OFF. trol unit cor ween the A Heigh Connector B32 arnesses of NSOR SIGN n the height	IAL OPEN (Inector. FS control (t sensor Terminal 2 Connectors IAL SHORT	CIRCUIT unit harness c Continuity Existed S. CIRCUIT rness connect Continuity	
 4.CHECK HE 1. Turn the ig 2. Disconned 3. Check contor AFS contro Connector M16 Does continuity YES >> GO NO >> Re 5.CHECK HE Check continuity Check continuity Heigh Connector B32 	IGHT SEN IGHT SEN IGHT SEN Inition swire t AFS con- Itinuity beta of unit Terminal 28 <u>y exist?</u> D TO 5. epair the h IGHT SEN ity betwee I sensor Terminal 2 2 2 2 2 2 2 2 2 2 2 2 2	NSOR SIGN tch OFF. trol unit cor ween the A Heigh Connector B32 arnesses of NSOR SIGN n the height	IAL OPEN (Inector. FS control u t sensor Terminal 2 Connectors IAL SHORT s sensor har	CIRCUIT unit harness c Continuity Existed	
 4.CHECK HE 1. Turn the ig 2. Disconnection 3. Check contout AFS contro Connector M16 Does continuit YES >> GC NO >> Res 5.CHECK HE Check continuit Heigh Connector B32 Does continuit 	IGHT SEN IGHT SEN IGHT SEN IT AFS con- IT AFS con- I	NSOR SIGN tch OFF. ttrol unit cor ween the A Heigh Connector B32 arnesses of NSOR SIGN n the height	IAL OPEN (Inector. FS control (t sensor Terminal 2 Connectors IAL SHORT c sensor har Ground	CIRCUIT unit harness c Continuity Existed S. CIRCUIT mess connect Continuity Not existed	
4.CHECK HE 1. Turn the ig 2. Disconnec 3. Check con tor. AFS contro Connector M16 Does continuit YES >> GC NO >> Re 5.CHECK HE Check continuit Heigh Connector B32 Does continuit YES >> Re	IGHT SEN IGHT SEN IGHT SEN IT AFS con- IT AFS con- I	ASOR SIGN tch OFF. trol unit cor ween the A Heigh Connector B32 arnesses of NSOR SIGN n the height nal	IAL OPEN (inector. FS control (t sensor Terminal 2 Connectors IAL SHORT sensor har Ground	CIRCUIT unit harness c Continuity Existed S. CIRCUIT mess connect Continuity Not existed	
4.CHECK HE 1. Turn the ig 2. Disconnec 3. Check con tor. AFS contro Connector M16 Does continuit YES >> GC NO >> Re 5.CHECK HE Check continuit Heigh Connector B32 Does continuit YES >> Re	IGHT SEN phition swire t AFS con- attinuity bether of unit Terminal 28 <u>y exist?</u> D TO 5. epair the h IGHT SEN ity betwee t sensor <u>29</u> <u>y exist?</u> pair the h eplace the	NSOR SIGN tch OFF. ttrol unit cor ween the A Heigh Connector B32 arnesses of NSOR SIGN n the height nal	IAL OPEN (inector. FS control (t sensor Terminal 2 Connectors IAL SHORT connectors Ground	CIRCUIT unit harness c Continuity Existed S. CIRCUIT mess connect Continuity Not existed	

[XENON TYPE]

B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

	Terminals			
((+) (–)			
AFS co	ntrol unit		(Approx.)	
Connector	Connector Terminal			
M16	8	† 	0 V	

Is the measurement value within the standard value?

YES >> GO TO 7.

NO >> Replace AFS control unit.

7. CHECK HEIGHT SENSOR GROUND CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect AFS control unit connector and the height sensor connector.
- 3. Check continuity between the AFS control unit harness connector and the height sensor harness connector.

AFS co	AFS control unit		Height sensor	
Connector	Terminal	Connector	Terminal	Continuity
M16	8	B32	3	Existed

Does continuity exist?

- YES >> Replace the height sensor.
- NO >> Repair the harnesses or connectors.

Component Inspection

1.CHECK HEIGHT SENSOR

- 1. Remove the height sensor (the height sensor connector is connected).
- 2. Start the engine.
- 3. Turn the light switch 2ND.
- 4. Select "HI SEN OTP RR" of AFS data monitor item.
- 5. With moving the sensor lever, check the monitor status.

Monitor item	Condition		Monitor status [Standard value (Approx.)]
		Contact with stopper	0.9 V
HI SEN OTP RR	Sensor lever po- sition	Moving be- tween two posi- tions	Smooth move- ment
		90° from stopper	4.5 V

Is the output value normal?

- YES >> Height sensor is normal.
- NO >> Replace the height sensor.

B2516 SHIFT SIGNAL [P, R]

	GNAL [F, K]	
< DTC/CIRCUIT DIAGNOSIS >		[XENON TYPE]
B2516 SHIFT SIGNAL [P, R]		
Description		INFOID:000000005174532
AFS control unit receives the shift position signal from TC	M with CAN communica	tion.
DTC Logic		INFOID:000000005174533
DTC DETECTION LOGIC [B2516] Shift signal [P, R]		
	DTC cross condition	Dessible severe
DTC detection condition	DTC erase condition	Possible causes TCM
The shift position signal is not received.	Ignition switch OFF	AFS control unit
DTC CONFIRMATION PROCEDURE		
1.dtc erase		
Erase the DTC memory of AFS with CONSULT-III.		
00 70 0		
>> GO TO 2. 2.DTC CONFIRMATION		
1. Turn ignition ON.		
2. Select the self-diagnosis with CONSULT-III.		
 Check the self-diagnosis result. Refer to <u>EXL-192, "D</u> <u>Is "B2516" detected?</u> 	<u>TC Index"</u> .	
YES >> Refer to <u>EXL-53, "Diagnosis Procedure"</u> .		
NO >> Refer to <u>GI-37. "Intermittent Incident"</u> .		
Diagnosis Procedure		INFOID:000000005174534
1. TCM SELF-DIAGNOSIS		
Check the self-diagnosis result with CONSULT-III. Check	that TCM does not deter	ct any DTCs.
Is any DTC detected?		
YES >> Check TCM. Refer to <u>TM-113, "DTC Index"</u> . NO >> GO TO 2.		
2.DTC ERASE		
Erase the DTC memory of AFS with CONSULT-III.		
Is the memory erased?		
YES >> Inspection end. NO >> Replace AFS control unit.		

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< DTC/CIRCUIT DIAGNOSIS >

B2517 VEHICLE SPEED SIGNAL

Description

AFS control unit receives the vehicle speed signal from the unified meter and A/C amp. with CAN communication.

DTC Logic

DTC DETECTION LOGIC

[B2517] Vehicle speed signal

DTC detection condition	DTC erase condition	Possible causes
The vehicle speed signal is not received.	Ignition switch OFF	 Unified meter and A/C amp. AFS control unit

DTC CONFIRMATION PROCEDURE

1.DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2.DTC CONFIRMATION

1. Turn ignition ON.

2. Select the self-diagnosis with CONSULT-III.

3. Check the self-diagnosis result. Refer to EXL-192, "DTC Index".

Is "B2517" detected?

- YES >> Refer to EXL-54, "Diagnosis Procedure".
- NO >> Refer to <u>GI-37, "Intermittent Incident"</u>.

Diagnosis Procedure

1. UNIFIED METER AND A/C AMP. SELF-DIAGNOSIS

Check the self-diagnosis result with CONSULT-III. Check that the unified meter and A/C amp. does not detect any DTCs.

Is any DTC detected?

YES >> Check the unified meter and A/C amp. Refer to <u>MWI-104, "DTC Index"</u>.

NO >> GO TO 2.

2.DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

Is the memory erased?

YES >> Inspection end.

NO >> Replace AFS control unit.

INFOID:000000005174536

INFOID:000000005174537

B2519 LEVELIZER CALIBRATION

< DTC/CIRCUIT DIAGNOSIS >
B2519 LEVELIZER CALIBRATION

Description

AFS control unit transmits the height sensor signal from the height sensor.

DTC Logic

[B2519] Levelizer calibration

DTC detection condition	DTC erase condition	Possible causes	
The height sensor adjustment position is not recognized.	When the levelizer adjust- ment is completed	AFS control unit	

Diagnosis Procedure

1.LEVELIZER ADJUSTMENT

Perform the levelizer adjustment.

>> Refer to EXL-9, "LEVELIZER ADJUSTMENT : Special Repair Requirement".

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[XENON TYPE]

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< DTC/CIRCUIT DIAGNOSIS >

B2521 ECU CIRCUIT

Description

AFS control unit judges the vehicle condition from each signal. AFS control unit controls AFS function and the headlamp aiming.

DTC Logic

INFOID:000000005174542

INFOID:000000005174541

DTC DETECTION LOGIC

[B2521] ECU circuit

Error detection condition	DTC erase condition	Possible cause
 AFS control unit indicates an applicable DTC when detecting any of the following conditions continuously for 2 seconds or more. The swivel position sensor is shorted to the power supply or the ground. The swivel position sensor signal is shorted to the ground. The height sensor power supply is shorted to the power supply or the ground. The height sensor signal is shorted to the ground. The height sensor signal is shorted to the ground. AFS control unit RAM/ROM error 	Ignition switch OFF	Swivel position sensor • Swivel position sensor • Harness and connector • AFS control unit Height sensor • Height sensor • Harness and connector • AFS control unit AFS control unit (RAM/ROM) • AFS control unit

DTC CONFIRMATION PROCEDURE

1.DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2.DTC CONFIRMATION PROCEDURE

- 1. Turn ignition ON.
- 2. Select the self-diagnosis with CONSULT-III.
- 3. Check the self-diagnosis result. Refer to EXL-192, "DTC Index".

Is "B2521" detected?

- YES >> Refer to EXL-56, "Diagnosis Procedure".
- NO >> Refer to GI-37, "Intermittent Incident".

Diagnosis Procedure

1.CHECK EACH SENSOR POWER SUPPLY

- 1. Turn the ignition switch ON.
- 2. Check the voltage between the AFS control unit harness connector and the ground.

Terminals				
(+)	()	Voltage	
AFS co	AFS control unit		(Approx.)	
Connector	Terminal			
	4	Ground		
M16	6	6 24	5 V	
	24			
a the measurement value within the standard value?				

Is the measurement value within the standard value?

YES >> GO TO 2. Less than the standard value >>GO TO 3. Higher than the standard value>>GO TO 4.

EXL-56

INFOID:000000005174543

[XENON TYPE]

B2521 ECU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

2. CHECK EACH SENSOR SIGNAL А Check the voltage between the AFS control unit harness connector and the ground. Terminals В (+) (-) Voltage (Approx.) AFS control unit Connector Terminal 9 Ground 28 M16 0.25 - 4.75 V D 29 Is the measurement value within the standard value? Е YES >> Replace AFS control unit. Less than the standard value >>GO TO 5. Higher than the standard value>>GO TO 6. ${ m 3.}$ CHECK EACH SENSOR POWER SUPPLY SHORT CIRCUIT F 1. Turn the ignition switch OFF. Disconnect AFS control unit connector. 2. Check continuity between the AFS control unit harness connector and the ground. 3. AFS control unit Н Continuity Connector Terminal 4 Ground M16 6 Not existed 24 Does continuity exist? YES >> Repair the harnesses or connectors. NO >> Replace AFS control unit. 4.CHECK EACH SENSOR POWER SUPPLY CIRCUIT Κ 1. Turn the ignition switch OFF. Disconnect AFS control unit connector. 2. 3. Check the voltage between the AFS control unit harness connector and the ground. EXL Terminals Μ (+) (-) Voltage (Approx.) AFS control unit Connector Terminal Ν 4 Ground 6 0 V M16 24 Is the measurement value normal? YES >> Replace AFS control unit. NO >> Repair the harnesses or connectors. ${f 5.}$ CHECK EACH SENSOR SIGNAL SHORT CIRCUIT 1. Turn the ignition switch OFF.

2. Disconnect AFS control unit connector.

3. Check continuity between the AFS control unit harness connector and the ground.

B2521 ECU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

AFS co	AFS control unit		Continuity
Connector	Terminal	*	Continuity
	9	Ground	
M16	28		Not existed
	29		

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace AFS control unit.

6. Check each sensor signal short circuit

1. Turn the ignition switch OFF.

2. Disconnect AFS control unit connector.

3. Turn the ignition switch ON.

4. Check the voltage between the AFS control unit harness connector and the ground.

	Terminals			
(+)	(-)	Voltage	
AFS control unit			(Approx.)	
Connector	Terminal	*		
	9	Ground		
M16	28		0 V	
	29			

Is the measurement value normal?

YES >> Replace AFS control unit.

NO >> Repair the harnesses or connectors.

DTC DETECTION LOGIC

C0126 STEERING ANGLE SENSOR SIGNAL

[C0126] Steering angle sensor signal

< DTC/CIRCUIT DIAGNOSIS >

Description

DTC Logic

cation.

DTC detection condition	DTC erase condition	Possible causes	
 In any of the following conditions The steering angle sensor signal is not received. The steering angle sensor signal error is received. Out-of-standard signal (-900°- +900°) is received. 	The ignition switch OFF	Steering angle sensorAFS control unit	
DTC CONFIRMATION PROCEDURE			
1.DTC ERASE			
Erase the DTC memory of AFS with CONSULT-III.			
>> GO TO 2.			
2.DTC CONFIRMATION			
1. Start the engine.			
 Turn the steering wheel to the maximum right/left. Select the self-diagnosis with CONSULT-III. Check the self-diagnosis result. Refer to <u>EXL-192. "I</u> 	DTC Index".		
Is "C0126" detected?			
YES >> Refer to <u>EXL-59</u> , "Diagnosis Procedure". NO >> Refer to <u>GI-37</u> , "Intermittent Incident".			
Diagnosis Procedure		INFOID:000000005174546	
1.ABS ACTUATOR AND ELECTRICAL UNIT (CONTRO	OL UNIT) SELF-DIAGNO	SIS	_
Check the self-diagnosis result with CONSULT-III. Check does not detect any DTCs.			
Is any DTC detected?			
YES >> Check ABS actuator and electrical unit (cont NO >> GO TO 2.	rol unit).Refer to <u>BRC-94</u>	<u>, "DTC No. Index"</u> .	
2.dtc erase			
Erase DTC memory of AFS with CONSULT-III.			
Is the memory erased?			
YES >> Inspection end. NO >> Replace AFS control unit.			

AFS control unit receives the steering angle sensor signal from the steering angle sensor with CAN communi-

[XENON TYPE]

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C0428 STEERING ANGLE SENSOR CALIBRATION

< DTC/CIRCUIT DIAGNOSIS >

C0428 STEERING ANGLE SENSOR CALIBRATION

Description

AFS control unit receives the steering angle sensor signal from the steering angle sensor with CAN communication.

DTC Logic

[C0428] Steering angle sensor calibration

DTC detection condition	DTC erase condition	Possible causes
The steering angle sensor neutral position is not recog- nized.	When the steering angle sensor neutral position registration is completed	Steering angle sensor

Diagnosis Procedure

INFOID:000000005174549

1.STEERING ANGLE SENSOR NEUTRAL POSITION ADJUSTMENT

Perform the steering angle sensor neutral position adjustment.

CAUTION:

Perform the steering angle sensor neutral position adjustment on VDC side. VDC may activate incorrectly.

>> Refer to <u>BRC-9</u>, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement".

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< DTC/CIRCUIT DIAGNOSIS >

U1000 CAN COMM CIRCUIT

Description

CAN (Controller Area Network) is the serial transmission for real time application. CAN is the multiplex communication for the vehicle with superior data transmission speed and error detection ability. Many electronic control units are equipped on the vehicle. These control units do not operate individually, but associates with other control units by sharing information. In CAN communication, each control unit is connected with two communication lines (CAN-H and CAN-L). Much information is transmitted with fewer communication lines than before. Each control unit transmits/receives data and reads the necessary data only. CAN Communication Signal Chart. Refer to LAN-27, "CAN Communication Signal Chart".

DTC Logic

DTC DETECTION LOGIC

[U1000] CAN communication circuit

DTC detection condition	DTC erase condition	Possible causes	_
When AFS control unit does not transmit/receive CAN com- munication signal continuously for 2 seconds or more	Ignition switch OFF	CAN communication system	-

Diagnosis Procedure

1.PERFORM SELF DIAGNOSTIC

- 1. Turn ignition switch ON and wait for 2 seconds or more.
- 2. Check "Self Diagnostic Result".
- Is "CAN COMM CIRCUIT" displayed?
- YES >> Refer to LAN-18. "Trouble Diagnosis Flow Chart".
- NO >> Refer to <u>GI-37, "Intermittent Incident"</u>.

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U1010 CONTROL UNIT (CAN)

DTC Logic

[U1000] CAN communication circuit

DTC	CONSULT-III display description	DTC detection condition	Possible causes
U1010	CONTROL UNIT (CAN)	AFS control unit detected internal CAN communication circuit malfunction.	AFS control unit

Diagnosis Procedure

1.REPLACE AFS CONTROL UNIT

When DTC [U1010] is detected, replace AFS control unit.

>> Replace AFS control unit.

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< DTC/CIRCUI	_		PLY AN	D GR		[XENON TYPE]	
POWER S BCM (BOD)				CUI	Γ		А
BCM (BOD)	CONTROL	MODULE)	: Diagr	nosis	Procedure	INF0ID:000000005174555	В
1.CHECK FUS	SE AND FUSIBI	LE LINK					D
Check that the	following fuse a	nd fusible link	are not blo	own.			С
	Signal nan	ne			Fuse and fus	ble link No.	
	Battery power	supply	-		K 10		D
blo	place the blown wn.) TO 2.		e link after	r repaii		it if a fuse or fusible link is	E
2. Disconnect	n switch OFF. BCM connecto age between BC		nnector a	nd grou	und.		G
	Terminals						Н
	+)	(-)	Volta	0			
	CM		(Appro	ox.)			
Connector M118	Terminal 1	Ground					I
M119	11		Battery v	voltage			
Is the measurer YES >> GC NO >> Re 3. CHECK GRO Check continuit	TO 3. pair harness or OUND CIRCUIT	connector. Г	nector and	groun	d.		K
P(СМ						EXL
Connector	Terminal	Ground	Contin	uity			M
M119 Does continuity	13		Exist	ed			
YES >> INS NO >> Re	SPECTION ENE pair harness or	connector.	R DIST	ribu	TION MODULE	ENGINE ROOM)	Ν
IPDM E/R (I agnosis Pro		IT POWER	DISTR	IBUT	ION MODULE EI	NGINE ROOM) : Di-	0
1.CHECK FUS	SES AND FUSI	BLE LINK					Ρ
Check that the	following IPDM	E/R fuses or fu	usible links	s are n	ot blown.		

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Signal name	Fuses and fusible link No.
	С
Battery power supply	50
	51

Is the fuse fusing?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.

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

	Terminals			
(·	(+)		Voltage	
IPDN	/IE/R	(-)	(Approx.)	
Connector	Terminal	Ground		
E4	1	Gibunu	Battery voltage	

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

 ${f 3.}$ CHECK GROUND CIRCUIT

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

IPDM E	E/R	Continuity	Continuity
Connector	Terminal	Ground	Continuity
E5	12	Giouna	Existed
E6	41		Existed

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

AFS CONTROL UNIT

AFS CONTROL UNIT : Diagnosis Procedure

1.FUSE INSPECTION

Check that the following fuses are not fusing.

Signal name	Connection position	Fuse No.	Capacity
Ignition power supply	FUSE BLOCK (J/B)	3	10 A

Is the fuse fusing?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect AFS control unit harness connector.

3. Turn ignition switch ON.

4. Check voltage between AFS control unit harness connector and ground.

EXL-64

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

	Terminals		
(+	-)	(-)	Voltage
AFS con	itrol unit		(Approx.)
Connector	Terminal	Ground	
M16	1		Battery voltage
Is the measuren	nent value nor	mal?	
YES >> GO			
· ·	bair harness or		
3.CHECK GRO		1	
	n switch OFF.	AES control u	nit harnaaa aann
2. Check conti	inuity between	AFS control u	nit harness conr
AFS con	ntrol unit		
Connector	Terminal	Ground	Continuity
M16	25	-	Existed
Does continuity	exist?		
		ground circuit	are normal.
NO >> Rep	pair harness or	connector.	

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EXTERIOR LAMP FUSE

Description

INFOID:000000005174558

INFOID:000000005174559

[XENON TYPE]

Unit	Location	Fuse No.	Capacity
Headlamp HI (LH)	IPDM E/R	#54	10 A
Headlamp HI (RH)	IPDM E/R	#55	10 A
Headlamp LO (LH)	IPDM E/R	#56	15 A
Headlamp LO (RH)	IPDM E/R	#57	15 A
Front fog lamp	IPDM E/R	#58	15 A
Parking lampFront side marker lamp	IPDM E/R	#52	10 A
 Tail lamp Rear side marker lamp License plate lamp Each illumination 	IPDM E/R	#53	10 A
Stop lamp	FUSE BLOCK (J/B)	#7	10 A
Back-up lamp	FUSE BLOCK (J/B)	#4	10 A

Diagnosis Procedure

1.CHECK FUSE

Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Headlamp HI (LH)	IPDM E/R	#54	10 A
Headlamp HI (RH)	IPDM E/R	#55	10 A
Headlamp LO (LH)	IPDM E/R	#56	15 A
Headlamp LO (RH)	IPDM E/R	#57	15 A
Front fog lamp	IPDM E/R	#58	15 A
Parking lampFront side marker lamp	IPDM E/R	#52	10 A
 Tail lamp Rear side marker lamp License plate lamp Each illumination 	IPDM E/R	#53	10 A
Stop lamp	FUSE BLOCK (J/B)	#7	10 A
Back-up lamp	FUSE BLOCK (J/B)	#4	10 A

Is the fuse fusing?

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

NO >> The fuse is normal.

HEADLAMP (HI) CIRCUIT

HEA	DLAM	P (HI) C	IRCUIT	-			Δ
Comp	onent	Function	Check			INFOID:000000005174560	A
1. сн	ECK HEA	DLAMP (H	I) OPERAT	ΓΙΟΝ			В
1. Ac 2. Ch CON 1. Se	tivate IPE neck that NSULT-III elect "EXT	the headlar ACTIVE TI ERNAL LA	o active tes np switche EST \MPS" of IF	s to the high PDM E/R act	beam. ive test iter	agnosis Description". n. II) is turned ON.	C
	Hi	: Headlar	np (HI) ON	I.			
	Off	: Headlar	np (HI) OF	F			Е
	DTE: N/OFF is	repeated 1	second ea	ch			
		(HI) turned					F
YES NO		adlamp (HI) er to EXI -6		ormal. sis Procedu	re"		
		ocedure			<u>.</u> .	INFOID:000000005174561	G
				T VOLTAGE			
		ACTIVE TI					Π
2. Di	sconnect		ombination	lamp conne	ctor.		Ι
4. Se 5. W	elect "EXT	ERNAL LA	MPS" of IF	PDM E/R act heck the vo		n. een the IPDM E/R harness connector and the	J
	Т	erminals		Condition			
	(+)		(-)	Condition	Voltage		K
	IPDM E	/R Terminal		External lamp	(Approx.)		
RH	nnector	89		Hi	Battery voltage		EXL
	E8		Ground	Off	0 V		M
LH	EO	90		Hi	Battery voltage		
				Off	0 V		Ν
<u>Is the I</u> YES NO	<u>neasurer</u> >> GO >> GO		normal?				0
•		DLAMP (H	I) OPEN C	IRCUIT			
1. Tu 2. Di 3. Ch	rn the igr sconnect	nition switch IPDM E/R	n OFF. connector.		ess conne	tor and the front combination lamp harness con-	Ρ

< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

	IPDM E/R		Front combin	Continuity	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E8	89	E28	7	Existed
LH	L0	90	E58	7	LAISIEU

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

3.CHECK HEADLAMP (HI) FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Headlamp HI (RH)	IPDM E/R	#55	10 A
Headlamp HI (LH)	IPDM E/R	#54	10 A

Is the fuse fusing?

YES >> GO TO 4.

NO >> Replace IPDM E/R.

4. CHECK HEAD LAMP (HI) SHORT CIRCUIT

1. Disconnect IPDM E/R connector.

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

	IPDM E/	R		Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E8	89	Giound	Not existed
LH	LO	90		NUL EXISIEU

Does continuity exist?

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

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

5. CHECK HEAD LAMP (HI) GROUND OPEN CIRCUIT

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

Fro	Front combination lamp			Continuity
Con	nector	Terminal	Ground	Continuity
RH	E28	2	Giound	Existed
LH	E58	2	1	LAISIEU

Does continuity exist?

YES >> Replace the headlamp (HI) bulb. (Bulb socket is abnormally.)

NO >> Repair the harnesses or connectors.

HEADLAMP (LO) CIRCUIT

HEADLAMP (LO) CIRCUIT
< DTC/CIRCUIT DIAGNOSIS > [XENON TYPE]
HEADLAMP (LO) CIRCUIT
Description
Headlamp (LO) circuit is connected to HID control unit integrated in the headlamp. Headlamp (LO) circuit turns xenon headlamp ON. For the details of HID control unit and the xenon headlamp, refer to <u>EXL-71, "Description"</u> .
Component Function Check
1.CHECK HEADLAMP (LO) OPERATION
 IPDM E/R AUTO ACTIVE TEST Activate IPDM E/R auto active test. Refer to <u>PCS-10, "Diagnosis Description"</u>. Check that the headlamp is turned ON. CONSULT-III ACTIVE TEST Select "EXTERNAL LAMPS" of IPDM E/R active test item. With operating the test items, check that the headlamp (LO) is turned ON.
Lo : Headlamp (LO) ON
Off : Headlamp (LO) OFF Is the headlamp (LO) turned ON? ()
YES >> Headlamp (LO) is normal. NO >> Refer to <u>EXL-69, "Diagnosis Procedure"</u> .
Diagnosis Procedure
 CONSULT-III ACTIVE TEST Turn the ignition switch OFF. Disconnect the front combination lamp connector. Turn the ignition switch ON. Select "EXTERNAL LAMPS" of IPDM E/R active test item. With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.
Terminals
(+) (-) Voltage
IPDM E/R EXTERNAL (Approx.)
Lo Battery voltage
RH 83 Ground Off 0 V
LH 84
Off 0 V
<u>Is the measurement value normal?</u> YES >> GO TO 2.
NO >> GO TO 3.
2.CHECK HEADLAMP (LO) OPEN CIRCUIT
 Turn the ignition switch OFF. Disconnect IPDM E/R connector.

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

HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

	IPDN	/I E/R	Front comb	Front combination lamp	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E8	83	E28	5	Existed
LH	LO	84	E58	5	LAISIEU

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

3.CHECK HEADLAMP (LO) FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuses are not fusing.

Unit	Lotion	Fuse No.	Capacity
Headlamp LO (RH)	IPDM E/R	#57	15 A
Headlamp LO (LH)	IPDM E/R	#56	15 A

Is the fuse fusing?

YES >> GO TO 4.

NO >> Replace IPDM E/R.

4.CHECK HEADLAMP (LO) SHORT CIRCUIT

1. Disconnect IPDM E/R connector.

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

	IPDN	/I E/R		Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E8	83	Glound	Not existed
LH	LO	84		NOT EXISTED

Does continuity exist?

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

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

5. CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT

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

Front comb		ination lamp		Continuity
Con	nector	Terminal	Ground	Continuity
RH	E28	3	Glound	Existed
LH	E58	3	Ţ	LAISteu

Does continuity exist?

- YES >> Perform the xenon headlamp diagnosis. Refer to EXL-71, "Diagnosis Procedure".
- NO >> Repair the harnesses or connectors.

XENON HEADLAMP

< DTC/CIRCUIT DIAGNOSIS > XENON HEADLAMP

Description

OUTLINE

- The lamp light source is by the arch discharge by applying high voltage into the xenon gas-filled bulb instead of the halogen bulb filament.
- Sight becomes more natural and brighter because the amount of light are gained adequately and the color of light is sunshine-like white.
- The xenon bulb drops the amount of light, repeats blinking, and illuminates in red if the bulb reaches the service life.

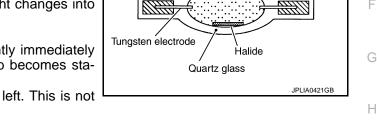
ILLUMINATION PRINCIPLE

- 1. Discharging starts in high voltage pulse between bulb electrodes.
- 2. Xenon gas is activated by current between electrodes. Pale light is emitted.
- The luminous tube (bulb) temperature elevates. Evaporated halide is activated by discharge. The color of light changes into white.

NOTE:

- Brightness and the color of light may change slightly immediately after the headlamp turned ON until the xenon bulb becomes stable. This is not malfunction.
- Illumination time lag may occur between right and left. This is not malfunction.

PRECAUTIONS FOR TROUBLE DIAGNOSIS



Structure

Luminous tube

Representative malfunction examples are; "Light does not turn ON", "Light blinks", and "Brightness is inadequate." The cause often be the xenon bulb. Such malfunctions, however, are occurred occasionally by HID control unit malfunction or lamp case malfunction. Specify the malfunctioning part with diagnosis procedure.

WARNING:

- Never touch the harness, HID control unit, the inside and metal part of lamp when turning the headlamp ON or operating the light switch.
- Never work with wet hands.

CAUTION:

- Never perform HID control unit circuit diagnosis with a circuit tester or an equivalent.
- Temporarily install the headlamp on the vehicle. Connect the battery to the connector (vehicle side) when checking ON/OFF status.
- Disconnect the battery negative terminal before disconnecting the lamp socket connector or the harness connector.
- Check for fusing of the fusible link(s), open around connector, short, disconnection if the symptom
 is caused by electric error.

NOTE:

- Turn the switch OFF once before turning ON, if the ON/OFF is inoperative.
- The xenon bulb drops the amount of light, repeats blinking, and illuminates in red if the bulb reaches the service life.

Diagnosis Procedure

1.CHECK XENON BULB

Install the normal bulb to the applicable headlamp. Check that the xenon bulb is turned ON. Is the headlamp turned ON?

YES >> Replace the xenon bulb.

NO >> Check the headlamp control system, replace the xenon headlamp assembly if normal.

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[XENON TYPE]

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Xenon gas

< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP LEVELIZER CIRCUIT

Description

The headlamp levelizer adjusts the headlamp light axis upward and downward with the aiming motor integrated in the front combination lamp.

Component Function Check

1. CHECK AIMING MOTOR OPERATION

CONSULT-III ACTIVE TEST

- 1. Start the engine.
- 2. Turn the lighting switch 2ND.
- 3. Select "LEVELIZER TEST" of ADAPTIVE LIGHT active test item.
- 4. With operating the test item, check the operation.

Test item	Light axis angle	10 m (32.8 ft)-forward light axis
LEVELIZER TEST	(Reference value)	change reference quantity (Approx.)
Origin	0 °	—
Peak	2.5°	450 mm (17.9 in)

Is the operation normal?

- YES >> Headlamp levelizer circuit is normal.
- NO >> Refer to EXL-72, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK AIMING MOTOR DRIVE SIGNAL OUTPUT

CONSULT-III ACTIVE TEST

- 1. Start the engine.
- 2. Turn the light switch 2ND.
- 3. Select "LEVELIZER TEST" of ADAPTIVE LIGHT active test item.
- 4. With operating the test item, check the voltage between the AFS control unit harness connector and the ground.

Terminals				Test item	
(+)			(-)	lest tielli	Voltage (Approx.)
AFS control unit				LEVELIZER TEST	
Connector		Terminal			
RH	M16	19	Ground	Origin	8.8 V
				Peak	1.9 V
LH	WITO	40		Origin	8.8 V
				Peak	1.9 V

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK AIMING MOTOR DRIVE SIGNAL CIRCUIT INPUT

1. Turn the ignition switch OFF.

2. Disconnect AFS control unit connector and aiming motor connector.

3. Check continuity between AFS control unit harness connector and the aiming motor harness connector.

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[XENON TYPE]

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HEADLAMP LEVELIZER CIRCUIT

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AFS control unit			Aiming	Continuity	
Co	nnector	Terminal	Connector	Terminal	Continuity
RH	M16	19	E26	1	Existed
LH	WITO	40	E56	1	LAISted

Does continuity exist?

- YES >> Replace the front combination lamp.
- NO >> Repair the harnesses and connectors.

3. check aiming motor drive signal short circuit

- 1. Turn the ignition switch OFF.
- 2. Disconnect AFS control unit connector and aiming motor connector.
- 3. Check continuity between AFS control unit harness connector and ground.

	AFS contro	ol unit		Continuity
Conr	nector	Terminal	Ground	
RH	M16	19		Not existed
LH	IVITO	40		NOL EXISTED

Does continuity exist?

- YES >> Repair the harness and connectors.
- NO >> Replace AFS control unit.

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< DTC/CIRCUIT DIAGNOSIS >

FRONT FOG LAMP CIRCUIT

Component Function Check

1.CHECK FRONT FOG LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".

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

CONSULT-III ACTIVE TEST

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

Fog : Front fog lamp ON

Off : Front fog lamp OFF

Is the front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.

NO >> Refer to EXL-74, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK FRONT FOG LAMP FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#58	15 A

Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK FRONT FOG LAMP SHORT CIRCUIT

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

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

	IPDM E	′R		Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E8	86	Giouna	Not existed
LH	Εo	87		NUL EXISTED

Does continuity exist?

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

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

3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

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FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	т	erminals			
	(+)		()	Test item	
		/D	(-)		Voltage (Approx.)
	IPDM E	/K		EXTERNAL	(Applox.)
Co	nnector	Terminal		LAMP	
RH		86	Ground	Fog	Battery voltage
	- E8		Ground	Off	0 V
LH		87		Fog	Battery voltage
				Off	0 V

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5. CHECK FRONT FOG LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect IPDM E/R connector.

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

	IPDM E	/R	Front fog	g lamp	Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E8	86	E34	1	Existed
LH	LO	87	E64	1	EXISTED

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

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

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

	Front fog la	amp		Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E34	2	Ground	Existed
LH	E64	2		Existed

Does continuity exist?

YES >> Replace the front fog lamp.

NO >> Repair the harnesses or connectors.

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< DTC/CIRCUIT DIAGNOSIS >

PARKING LAMP CIRCUIT

Component Function Check

1. CHECK PARKING LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".

2. Check that the parking lamp is turned ON.

(E)CONSULT-III ACTIVE TEST

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

TAIL : Parking lamp ON

Off : Parking lamp OFF

Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal.

NO >> Refer to EXL-76, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK PARKING LAMP FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Parking lamp	IPDM E/R	#52	10 A

Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK PARKING LAMP SHORT CIRCUIT

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

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

	IPDM E/	′R		Continuity	
Conr	nector	Terminal	Ground	Continuity	
RH	E9	91	Ground	Not existed	
LH	E9	92		NUL EXISTED	

Does continuity exist?

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

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

3.CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4.CHECK PARKING LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

1. Disconnect the front combination lamp connector.

2. Turn the ignition switch ON.

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

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PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	Т	erminals				
	(+)		(-)	Test item	Voltage	
	IPDM E/R			EXTERNAL	(Approx.)	
Co	nnector	Terminal		LAMP		
RH		91	Ground	TAIL	Battery voltage	
	E9			Ground	Off	0 V
LH	L9	92	92	TAIL	Battery voltage	
				Off	0 V	

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5. CHECK PARKING LAMP OPEN CIRCUIT

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

	IPDM E	/R	Front combin	ation lamp	Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E9	91	E28	8	Existed
LH	23	92	E58	8	LAISteu

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

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

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

Fro	nt combinat	ion lamp		Continuity
Conr	nector	Terminal	Ground	
RH	E28	4		Existed
LH	E58	4		Existed

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

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TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

TURN SIGNAL LAMP CIRCUIT

Description

BCM performs the high 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

(E)CONSULT-III ACTIVE TEST

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

Off : The turn signal lamp OFF

Does the turn signal lamp blink?

- YES >> Turn signal lamp circuit is normal.
- NO >> Refer to EXL-78, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector or the rear combination lamp connector.
- 3. Turn the ignition switch ON.
- 4. Select "FLASHER" of BCM (FLASHER) active test item.
- 5. With operating the turn signal switch, check the voltage between the BCM harness connector and the ground.

	Terminals			Test item		
	(+)				Voltage (Approx)	
BCM			FLASHER	Voltage (Approx.)		
Conne	Connector Terminal			FLASHER		
Front RH		17	17 Ground 18			
Front LH	M119	18		LH or RH	5 0 1 s PKiD0926E	
Rear RH	M120	20		Off	0 V	
Rear LH	11120	25			υv	
		4	10			

Is the measurement value normal?

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TURN SIGNAL LAMP CIRCUIT

[XENON TYPE] < DTC/CIRCUIT DIAGNOSIS > YES >> GO TO 3. NO >> Replace BCM. А ${f 3.}$ CHECK TURN SIGNAL LAMP OPEN CIRCUIT 1. Turn the ignition switch OFF. В Disconnect BCM connector. 2. Check the continuity between the BCM harness connector and the front combination lamp or the rear 3. combination lamp harness connector. С Front combination lamp/ BCM Rear combination lamp Continuity D Connector Terminal Connector Terminal Front RH E28 6 17 M119 Front LH E58 6 18 Е Existed 20 1 Rear RH B261 M120 Rear LH 25 B260 1 F Does continuity exist? YES >> GO TO 4. NO >> Repair the harnesses or connectors. ${f 4.}$ CHECK TURN SIGNAL LAMP SHORT CIRCUIT Check continuity between the BCM harness connector and the ground. Н BCM Continuity Connector Terminal Front RH 17 M119 Ground Front LH 18 Not existed Rear RH 20 M120 Rear LH 25 Does continuity exist? YES >> Repair the harnesses or connectors. Κ NO >> GO TO 5. 5.check turn signal lamp ground open circuit EXL Check the continuity between the BCM harness connector and the front combination lamp or the rear combination lamp and the ground. Μ Front combination lamp / Rear combination lamp Continuity Connector Terminal Ν Front RH E28 4 Ground Front LH F58 4 Existed Rear RH B261 2 Rear LH B260 2

YES >> Replace the front combination lamp or the rear combination lamp.

NO >> Repair the harnesses or connectors.

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

OPTICAL SENSOR

Description

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

Component Function Check

1.CHECK OPTICAL SENSOR SIGNAL BY CONSULT-III

CONSULT-III DATA MONITOR

- $\check{1}$. Turn the ignition switch ON.
- 2. Select "OPTICAL SENSOR" of BCM (HEADLAMP) data monitor item.
- 3. Turn the lighting switch AUTO.
- 4. With the optical sensor illuminating, check the monitor status.

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

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

Is the item status normal?

YES >> Optical sensor is normal.

NO >> Refer to EXL-80, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK OPTICAL SENSOR POWER SUPPLY INPUT

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

(·	+)	()	Voltage (Approx.)
Optical	sensor		(Approx.)
Connector	Terminal	Ground	
M94	1	†	5 V

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 4.

2.CHECK OPTICAL SENSOR GROUND INPUT

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

(+	+)	(-)	Voltage
Optical	sensor		(Approx.)
Connector	Terminal	Ground	
M94	3	·	0 V
Is the measurer	ment value nori	mal?	
	TO 0		

YES >> GO TO 3.

NO >> GO TO 6.

 $\mathbf{3}$. CHECK OPTICAL SENSOR SIGNAL OUTPUT

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

Terminals		Condition		
(+)		(–)	Condition	Voltage
Optical sensor			Optical sensor	(Approx.)
Connector	Terminal	Optical sensor		
		Ground	When illuminating	3.1 V or more *
M94	2		When shutting off light	0.6 V or less

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

Is the measurement value normal?

`

NO >> Replace the optical sensor.

4.CHECK OPTICAL SENSOR OPEN CIRCUIT

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

Optical sensor		B	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M94	1	M123	138	Existed

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

5.CHECK OPTICAL SENSOR SHORT CIRCUIT

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

Optica	sensor		Continuity	
Connector	Terminal	Ground	Continuity	
M94	1		Not existed	

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

${f 6}.$ CHECK OPTICAL SENSOR GROUND OPEN CIRCUIT

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

Optica	l sensor	B	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M94	3	M123	137	Existed

Does continuity exist?

YES >> Replace BCM.

NO >> Repair the harnesses or connectors.

7.CHECK OPTICAL SENSOR SIGNAL OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect the optical sensor connector and BCM connector.

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

EXL-81

[XENON TYPE]

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Optical	sensor	B	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M94	2	M123	113	Existed

Does continuity exist?

YES >> GO TO 8.

NO >> Repair the harnesses or connectors.

8.CHECK OPTICAL SENSOR SHORT CIRCUIT

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

Optica	l sensor		Continuity	
Connector	Terminal	Ground	Continuity	
M94	2		Not existed	

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

HAZARD SWITCH

Description

Hazard switch is integrated in the multifunction switch. Hazard switch inputs the signals to BCM when pressing the switch.

Component Function Check

1.CHECK HAZARD SWITCH SIGNAL BY CONSULT-III

CONSULT-III DATA MONITOR

- 1. Turn the ignition switch ON.
- 2. Select "HAZARD SW" of BCM (FLASHER) data monitor item.
- 3. With operating the hazard switch, check the monitor status.

Monitor item	С	Monitor status	
HAZARD SW	Hazard switch	While pressing the switch	On
	Hazard switch	While not pressing the switch	Off

Is the item status normal?

- YES >> Hazard switch circuit is normal.
- NO >> Refer to EXL-83, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK HAZARD SWITCH SIGNAL INPUT

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

	Terminals (+) (-)		O			J
(+			Condition	Voltago (Approx)		
BC	BCM		Hazard switch	Voltage (Approx.)	L	K
Connector	Terminal		Hazaru Switch		1	
	M122 110		While pressing the switch	0 V	E	XL
M122		Ground	While not pressing the switch	(V) 15 0 0 10 10 10 ms J J J J J J J J J J J J J		N
Is the mea	surement	value no	vrmal?			
YES >>	> Replace > GO TO	e BCM.	<u>annat:</u>		C	С
2.снеск	HAZAR	O SWITC	H SIGNAL OPEN	CIRCUIT		

1. Turn the ignition switch OFF.

2. Disconnect the multifunction switch connector and BCM connector.

3. Check continuity between the multifunction switch harness connector and the BCM harness connector.

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HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Multifunc	tion switch	B	СМ	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M72	16	M122	110	Existed

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3. CHECK HAZARD SWITCH SIGNAL SHORT CIRCUIT

Check continuity between the multifunction switch harness connector and the ground.

Multifunct	tion switch		Continuity
Connector	Terminal	Ground	Continuity
M72	16		Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 4.

4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

Check continuity between the multifunction switch harness connector and the ground.

Multifunct	ion switch		Continuity
Connector	Terminal	Ground	Continuity
M72	1		Existed

Does continuity exist?

YES >> Replace the hazard switch (multifunction switch).

NO >> Repair the harnesses or connectors.

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	MP CIRC	UIT									
Compon	ent Functio	on Cheo	ck							INF0ID:000000	005174583
.снеск	K TAIL LAMP C	PERATI	ON								
. Activa 2. Check CONSU . Select	/R AUTO ACT te IPDM E/R a that the tail la ILT-III ACTIVE "EXTERNAL I operating the te	uto activ mp is tur TEST LAMPS"	e test. Ref ned ON. of IPDM E	/R acti	ive test iten	n.		<u>scription</u>	<u>.</u> .		
ТА	IL : Tail la	mp ON									
Off		mp OFF									
YES >	amp turned ON > Tail lamp circ	cuit is noi									
	> Refer to <u>EXL</u> is Procedur		gnosis Pro	ocedur	<u>e"</u> .						
										INFOID:000000	005174584
 Turn the ignition switch OFF. Check that the following fuses are not fusing. 											
	•		s are not fi	ising.							
	Unit	Loca	ation Fu	se No.	Capacity	_					
•		IPDM	E/R	#53	10.0						
	plate lamp										
License p s the fuse YES >: NO >:	<u>fusing?</u> > Repair the m > GO TO 2.			efore i		– he fus	se.				
License p the fuse YES >: NO >: CHECk OCONSU Discor Turn tl Select With c	<u>fusing?</u> > Repair the m > GO TO 2. (TAIL LAMP C ILT-III ACTIVE nnect the rear of he ignition swit t "EXTERNAL poperating the f	OUTPUT TEST combinat cch ON. LAMPS"	VOLTAGE ion lamp c	onnect	replacing th tor.	n.		DM E/R	harness	connector an	d the
Unit Location Fuse No. Capacity • Tail lamp IPDM E/R #53 10 A • Rear side marker lamp IPDM E/R #53 10 A • License plate lamp IPDM E/R #53 10 A • Sthe fuse fusing? YES >> Repair the malfunctioning part before replacing the fuse. NO >> GO TO 2. • CHECK TAIL LAMP OUTPUT VOLTAGE Image: CONSULT-III ACTIVE TEST Disconnect the rear combination lamp connector. • Turn the ignition switch ON. Select "EXTERNAL LAMPS" of IPDM E/R active test item. Image: Constant of the test item.											
 License p the fuse YES > NO > CHECK CONSU Discor Turn tl Select With c ground 	<u>fusing?</u> Repair the m GO TO 2. TAIL LAMP C ILT-III ACTIVE ILT-III ACTIVE Innect the rear of the ignition switted in the ignition should be ignition to be ignition to be ignition to be ignition. Terminals (+)	OUTPUT TEST combinat cch ON. LAMPS"	VOLTAGE ion lamp c	onnect /R acti he vol	tor. Itage betwe	n.		DM E/R	harness	connector an	d the
License p the fuse YES > NO > CHECK CONSU Discor Turn tl Select With c ground	<pre>fusing? > Repair the m > GO TO 2. (TAIL LAMP C ULT-III ACTIVE nnect the rear of the ignition swite t "EXTERNAL I operating the for d. Terminals (+) M E/R</pre>	DUTPUT TEST combinat cch ON. LAMPS" test item	VOLTAGE ion lamp c of IPDM E s, check 1	onnect /R acti he vol	replacing th tor. ive test iten Itage betwo	n.		DM E/R	harness	connector an	d the
 License p the fuse YES > NO > CHECK CONSU Discor Turn ti Select With c ground (IPDI Connector 	<pre>stusing? > Repair the m > GO TO 2. (TAIL LAMP C ULT-III ACTIVE nnect the rear of he ignition swite t "EXTERNAL operating the st coperating the st coper</pre>	DUTPUT TEST combinat cch ON. LAMPS" test item	VOLTAGE ion lamp c of IPDM E s, check t Test item EXTERNA	onnect /R acti he vol	tor. Itage betwe	n.		DM E/R	harness	connector an	d the
License p Sthe fuse YES >: NO >: CONSU Discor Discor Turn tl Select With c ground (IPDM	<pre>state fusing? > Repair the m > GO TO 2. (TAIL LAMP C ILT-III ACTIVE nnect the rear of he ignition swite t "EXTERNAL I operating the for d. Terminals (+) M E/R Terminal</pre>	DUTPUT TEST combinat cch ON. LAMPS" test item	VOLTAGE ion lamp c of IPDM E s, check t Test item EXTERNA LAMP	onnect /R acti he vol	tor. ive test iten ltage betwe Voltage (Approx.)	n.		DM E/R	harness	connector an	d the
License p s the fuse YES >: NO >: 2.CHECK CONSU Discor Turn tl Select With c ground (IPDN Connector E5 s the mea	<pre>stusing? > Repair the m > GO TO 2. (TAIL LAMP C ULT-III ACTIVE nnect the rear of he ignition swite t "EXTERNAL operating the st coperating the st coper</pre>	DUTPUT TEST combinat cch ON. LAMPS" test item (-)	VOLTAGE ion lamp c of IPDM E s, check t Test item EXTERNA LAMP TAIL Off	onnect /R acti he vol	replacing th tor. ive test iten Itage betwe Voltage (Approx.)	n.		DM E/R	harness	connector an	d the

2. Disconnect IPDM E/R connector.

< DTC/CIRCUIT DIAGNOSIS >

TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	IPDM E	/R	Rear comb	ination lamp	Continuity
C	Connector	Terminal	Connector	Terminal	Continuity
RH	E5	7	B232	1	Existed
LH	LJ	'	B60	1	LAISIEU

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TAIL LAMP GROUND OPEN CIRCUIT

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

	Rear combinat	ion lamp		Continuity
	Connector	Terminal	Ground	Continuity
RH	B232	4	Ground	Existed
LH	B60	4	-	Existed

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

[XENON TYPE]

LICENSE PLATE LAMP CIRCUIT

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< DTC/CIRCUIT DIAGNC	SIS >				[XENON TYPE]
LICENSE PLATE L	AMP CIF	RCUIT			
Component Function	Check				INFOID:000000005174585
NOTE: Check the tail lamp circuit i 1. CHECK LICENSE PLAT	•		cense plate l	amp are not turned ON.	
 IPDM E/R AUTO ACTIV Activate IPDM E/R aut Check that the license CONSULT-III ACTIVE T Select "EXTERNAL LA With operating the light 	o active test. plate lamp is EST MPS" of IPD	turned ON M E/R activ	I. ve test item.		
Is the license plate lamp tu YES >> License plate l	rned ON? amp circuit is	normal.	<u>e"</u> .		
Diagnosis Procedure					INFOID:000000005174586
Diagnosis Procedure INFOID .CHECK LICENSE PLATE LAMP BULB Infoid theck the applicable lamp bulb. Infoid the bulb normal? YES YES >> GO TO 2. NO >> Replace the bulb. .CHECK LICENSE PLATE LAMP OPEN CIRCUIT . Turn the ignition switch OFF. . Disconnect IPDM E/R connector and the license plate lamp connector.					
Is the bulb normal? YES >> GO TO 2. NO >> Replace the bu	ılb.	EN CIRCU	IT		
 Turn the ignition switch Disconnect IPDM E/R Check continuity betw 	n OFF. connector an	d the licens	se plate lamp		amp harness connec-
YES >> License plate lamp circuit is normal. NO >> Refer to EXL-87, "Diagnosis Procedure". Diagnosis Procedure Image: Construction of the second					
Off : License plate lamp OFF Is the license plate lamp turned ON? YES YES >> License plate lamp circuit is normal. NO >> Refer to EXL-87. "Diagnosis Procedure". Diagnosis Procedure					
— E5 7			Existed		-
Does continuity exist?YES>> GO TO 3.NO>> Repair the har 3. CHECK LICENSE PLAT			EN CIRCUIT	-	
Check continuity between	he license pla	ate lamp ha	arness conne	ector and the ground.	

	License plate	e lamp		Continuity
	Connector	Terminal	Ground	Continuity
RH	D117	2	Ground	Existed
LH	D112	2		LAISIEU

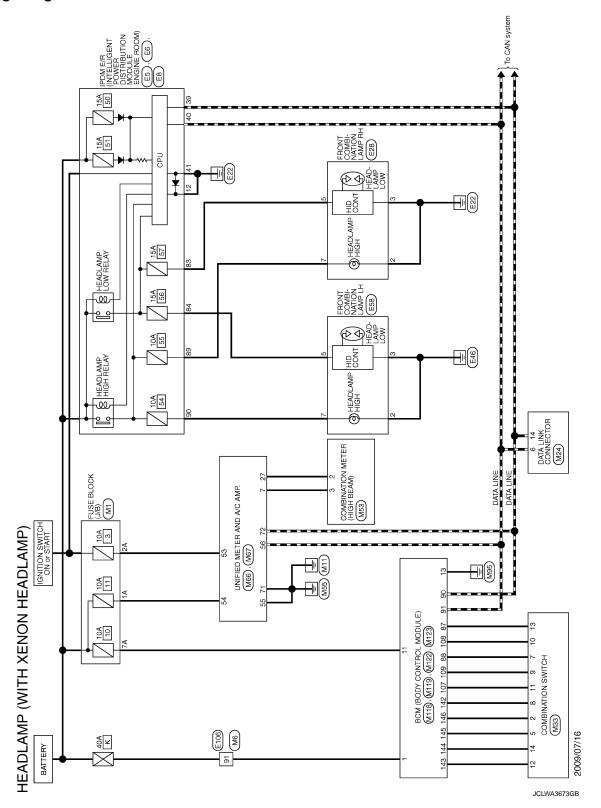
Does continuity exist?

YES

>> Replace the license plate lamp.>> Repair the harnesses or connectors. NO

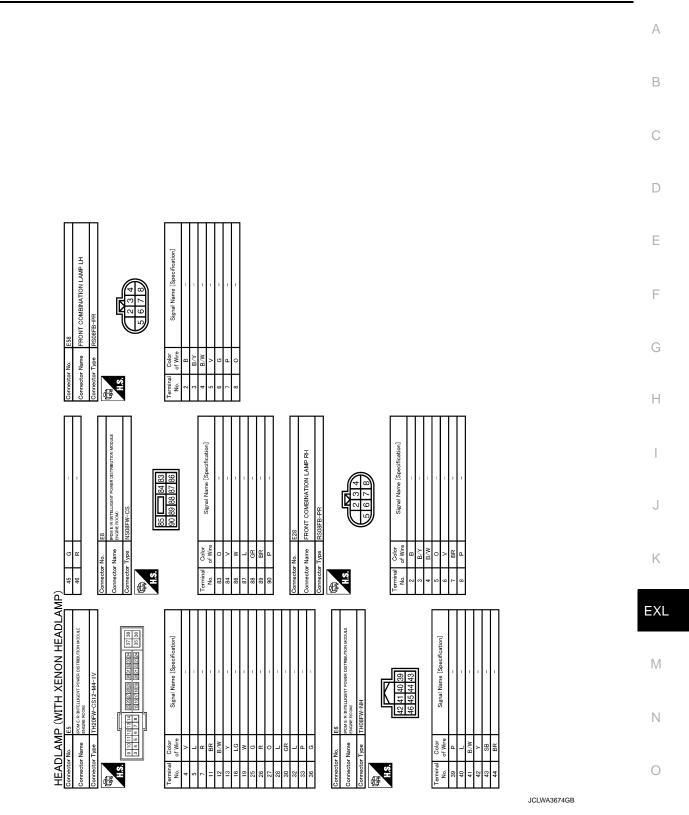
HEADLAMP SYSTEM

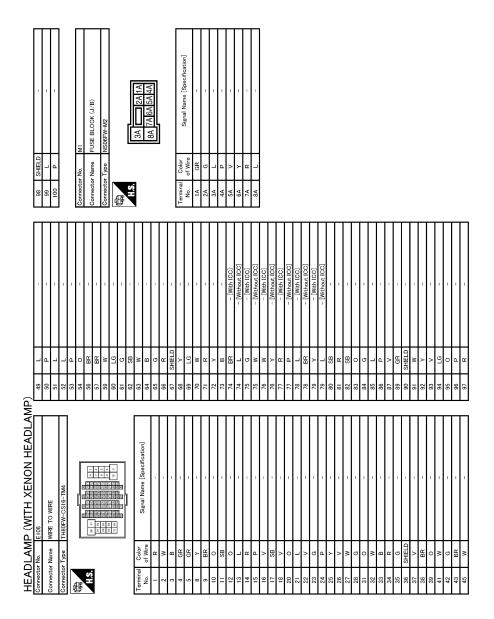
Wiring Diagram - HEADLAMP -



HEADLAMP SYSTEM

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Image: constraint of the sector fluctuation of		Н		99	 SB	П	H	INPUT 4 INPUT 1
	1 H80MW-CS16-1 M4		1 1				-	OUTPUT 1 INPUT 5
		\parallel	-	Connector	Π	Π	Н	OUTPUT 2
Operation Operation <t< td=""><td></td><td></td><td>1 1</td><td>Connector</td><td></td><td></td><td></td><td></td></t<>			1 1	Connector				
		\vdash	Т	Connector		Π	Connector No.	M53
Image: Second control Second contro Second control S		+					Connector Name	
Control Standal Standal <t< td=""><td></td><td>H</td><td>-</td><td>H.S.</td><td></td><td></td><td>Connector Type</td><td></td></t<>		H	-	H.S.			Connector Type	
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9HELD 2 0 0Wee 0mmentation 7 1 1 0			-	_			21 22	24 25 26 27 28 29 20 31 33 36 37 38 39 40
Q C	SHIELD -		1	_				
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BR	X		1	4			_	
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R -		_	- [Without ICC]	=	-		-	GROUND
P ····································		_	u.	14			-	
V - Mithol: Mithol: <td></td> <td></td> <td>- [With ICC]</td> <td>16</td> <td></td> <td></td> <td>_</td> <td></td>			- [With ICC]	16			_	
SB		_	- [Without ICC]					SECURITY SIGNAL
V -		+	- [With ICC]	ļ		[+	GROUND
C		+	- [Without ICC]	Connector	Τ		+	METER CONTROL SWITCH GROUND
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	- 0	+	- [With ICC]	Connector			+	ILL GND
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R N	- ≥ c	> 3		Connector			╉	
Product Product <t< td=""><td>- 6</td><td>+</td><td>- [WITHOUT LCC]</td><td>£</td><td></td><td></td><td>╉</td><td>Т</td></t<>	- 6	+	- [WITHOUT LCC]	£			╉	Т
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G V		+	I	Ϋ́Υ.Η			+	Т
G C	1	+	1	_	0 2 4 E		╉	T
1 1	-	+	1	_			+	PARKING BRAKE SWITCH SIGNAL
- -	-	+	1	-	8 8 10 11 17 13		+	BRAKE FLUID LEVEL SWITCH SIGNAL
1 1 2 V 1 2 3 4 3 1		+	1	_			+	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)
8/ W 1 Hermal Gold Signal Name [Specification] 31 L 90 RR 1 P P Feacification] 33 L 1 P P P P P P Signal Name [Specification] 33 L 1 L 1 P P Feacification] 33 L 1 L 1 P P Feacification] 33 L 1 L 1 P P Feacification] 33 L 1 1 P P Feacification] 33 L 1 1 P P P 1 P P P 1 <td>1</td> <td>+</td> <td>1</td> <td></td> <td></td> <td>ſ</td> <td>_</td> <td>SEAT BEET BUCKLE SWITCH SIGNAL (PASSENGER SIDE)</td>	1	+	1			ſ	_	SEAT BEET BUCKLE SWITCH SIGNAL (PASSENGER SIDE)
- -	1	Т					+	WASHER LEVEL SWITCH SIGNAL
1 1 P F	1	Т	1	t		Τ	╉	
- 91 W - 2 SB OUTPUT 4 37 SB - - - - - 2 SB OUTPUT 4 37 SB - - - - - - - - 37 SB - - - - - - - - 37 SB - - - - - - - - 37 SB - - - - - - - - - 37 SB - - - - - - - - - - - - 37 - - - 38 L - - - - - 38 L - - - - - - - - - - - - - -	-		-	-		1		SELECT SWITCH SIGNAL
32 Y -	1	_	1	2				ENTER SWITCH SIGNAL
33 ER - 33 P 34 P - - - 39 P 94 P - </td <td>1</td> <td>+</td> <td>T</td> <td>~</td> <td></td> <td></td> <td></td> <td>TRIP A/B RESET SWITCH SIGNAL</td>	1	+	T	~				TRIP A/B RESET SWITCH SIGNAL
- 94 P - 5 L OUPUT3 40 0 - 95 GR - 6 B 0.01 0 - - - - - - 40 0 - - - - - - - 40 0	-	_	-	4			_	ILLUMINATION CONTROL SWITCH SIGNAL (-)
	-	_	1	2			40 O	ILLUMINATION CONTROL SWITCH SIGNAL (+)
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	1		1					
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HEADLAMP SYSTEM

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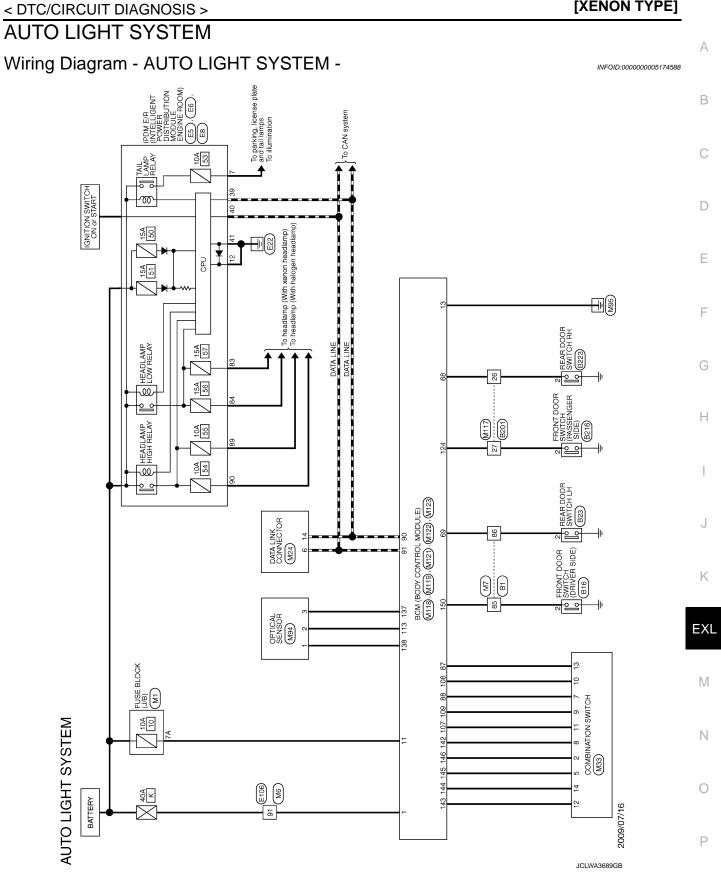
99 R SHIFT P 100 G PASSENGER DOOR RECUEST SW 101 SB DRIVER DOOR RECUEST SW 102 G DRIVER DOOR RECUEST SW 103 SB DRIVER DOOR RELAY CONT 103 LG RUNER PAIN MOTOR RELAY CONT 103 LG KEVLESS ENTRY RECEVER POWER SUPPLY 103 LG KEVLESS ENTRY RECEVER POWER SUPPLY 104 S.L. UNIT POWER SUPPLY 105 R COMBIS SWI NEUT 1 106 R COMBIS SWI NEUT 2 107 LG COMBIS SWI NEUT 2 108 R COMBIS SWI NEUT 2 110 G HAZARD SW	AL DUIL COMM Connector Name BCM (BODY CONTROL MODULE) Connector Type TH40FG-NH MM Ended ended ended ended ended and balance	all Color 0<	14 G SECURIT INDIGATION OUTPUT 142 P COMBI SW OUTPUT 1 143 P COMBI SW OUTPUT 1 144 G COMBI SW OUTPUT 1 145 L COMBI SW OUTPUT 1 146 C COMBI SW OUTPUT 1 148 L COMBI SW OUTPUT 3 149 W TIRE PRESS MARING OHEOR SW 149 W TIRE PRESS WARNED OHEOR SW 150 LG DRIVER DOOR SW 151 G REAR WINDOW DEFOGGER RELAY CONT
	19 V TURN SURVE, LY TOULI) 10 V ROM LAMP TIMER CONTROL () Connector Name BCM (BODY CONTROL MODULE) Connector Type TH40FB-NH Connector Type TH40FB-NH MAS Th40FB-NH	al Color of Wires B R R R S B R P A Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color R R R R R R Color	8 V CORISI SM INUT 3 89 F CM-L 90 F CM-L 91 L CM-L 91 L CM-L 92 LG KEY SLOT ILL 93 V ON IND 94 Y PUDDLE LAMP CONT 95 G A-T SHET SLECTOR POWER SUPPLY 96 GR A-T SHET SLECTOR POWER SUPPLY 97 L S/L CONDITION 1 98 P S/L CONDITION 2
53 53 55 55 55 55 55 55 55 55 55 55 55 5	65 0 ECV SIGNAL 69 L A/C LMI SIGNAL 70 R EACH DOOR INFORMER SUPPLY 71 B GATUND 72 P CAN-L 70 Connector Mane BCM (BODY CONTROL 7 P CAN-L	Terminal No. Colter No. Signal Name (Specification) 2 W EXMER WINDOW POWER SUPPLY(RAT) 3 Y POWER WINDOW POWER SUPPLY(RAT) Connector No. M119 Connector Name EOM (FOU) CONTROL MODULE) Connector Name EOM (FOU) CONTROL MODULE)	Terminal 6 1 9 10 11 12 13 14 15 16 17 18 19 Terminal Color Signal Name [Specification] A LG NTEROR ROOM LAMP POWER SUPPLY
HEADLAMP (WITH XENON HEADLAMP) Connector Name UNFED METER AND A/C AMP. Connector Type TH40FW-NH MAS MAS MAS MAS MAS MAS MAS MAS	Terminal No. Color of Wires Signal Name (Specification) 6 L MANUAL MODE SHIFT UP SIGNAL 7 GR MANUAL MODE SHIFT ANP:-MRIERD 8 L COMMUNICATION SIGNAL (AMPMRIERD) 9 SB FGORT SIGNAL (CP-PLIEE) 10 W MANUAL MODE SIGNAL 11 G NM-MAULAL MODE SIGNAL 23 Y MANUAL MODE SIGNAL 23 Y MANUAL MODE SIGNAL 27 LG COMMUNICATION SIGNAL	(57) 57) 57) 57) 57) 57) 57) 57)	Terminal Color Signal Name [Specification] 4.0 of Wire ACC POWER SUPPLY 4.1 V ACC POWER SUPPLY 4.2 Y Full LEVEL. EXERS SIGNAL. 4.3 R IM-VEHOLE SENSOR SIGNAL. 4.4 LG IM-VEHOLE SENSOR SIGNAL. 4.5 P AMEIENT SENSOR SIGNAL. 4.6 O SUNLOAD SENSOR SIGNAL. 4.7 G GAS SENSOR SIGNAL.

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HEADLAMP SYSTEM

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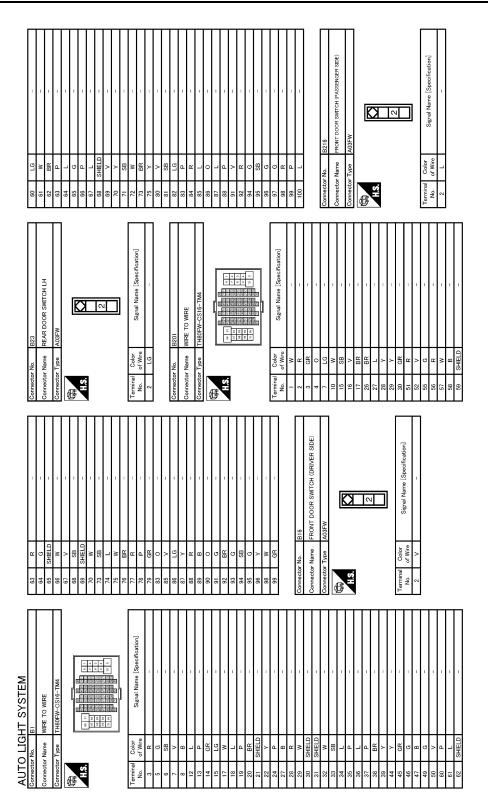
[XENON TYPE]



AUTO LIGHT SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



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AUTO LIGHT SYSTEM

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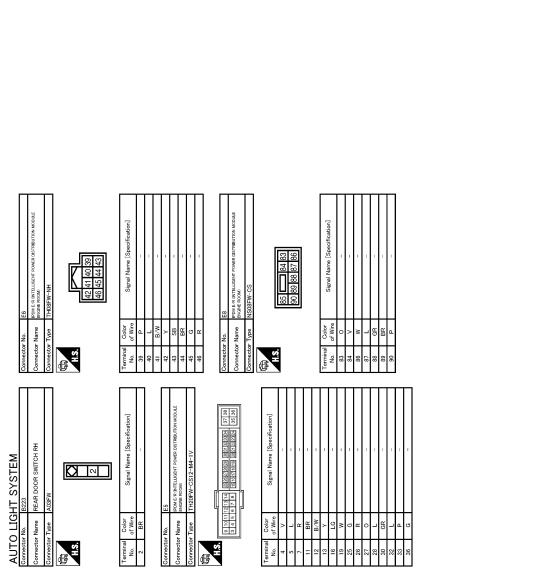
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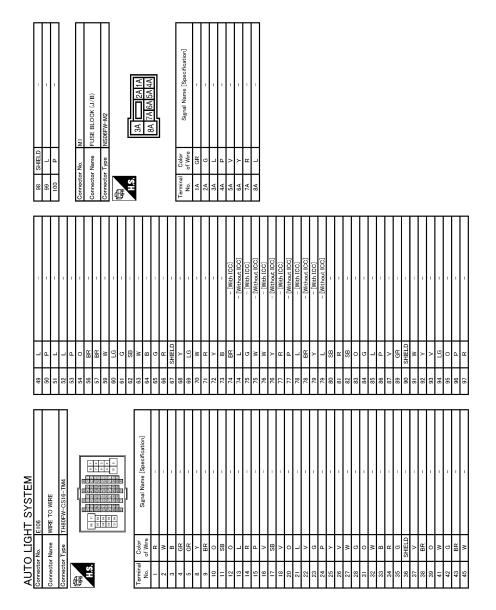
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AUTO LIGHT SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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AUTO LIGHT SYSTEM Connector Name MRE TO WRE Connector Name WRE TO WRE Connector Name MRE TO WRE Connector Name Manuella Main Galaxy Manuella Main Galaxy Standards Standards Standards Standards Main Galaxy Standards </td <td>N</td>	N

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GHT SYSTEM Iat Iat DATA LINK CONNECTOR DatA LINK CONNECTOR Eomedative No BDI 6FW BDI 6FW Connector No Connector No Signal Name (Specification) Connector No Signal Name (Specification) Imminal C Connector No Connector No Connector No Connector No Connector No Imminal C Imminal C Signal Name (Specification) Imminal C Imminal C Imminal C Imminal C Imminal C Immian C Immian C
HT SYSTEM Mat Mat DATA LINK CONNECTOR BDI 6FW BDI 6FW CONNECTOR CONNECTOR BDI 6FW CONNECTOR
HT SYSTEM M24 M24 BDI FFW BDI FFW
M21 S 0 AT A LIN M21 S 0 AT A LIN M33 M33 M33 M33 M33 M33 M33 M3

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[XENON TYPE]

Image: Second	ACC RELAY CONT A.T SHIFT SELECTOR POINTER ULY S.L. CONDITION 1 S.L. CONDITION 2 S.H. CONDITION 2 SHIFT PASSENGER DOOR RECUEST SW DRIVER FAM MOTOR RELAY CONT REVLESS INTRY RECEIVER POWER SUPPLY S.L. UNIT POWER SUPPLY S.L. UNIT POWER SUPPLY COMBI SW INPUT 1 COMBI SW INPUT 2 HAZARD SW S.L. UNIT COMM	BODY CONTROL MODULE) BODY CONTROL MODULE) B-HA B-HA B-HA B-HA B-HA B-HA B-HA B-HA	Signal Mane (Specification) Terminal Color Signal Mane (Specification) No. of Wire Signal Mane (Specification) 113 Color ROOM ANT2- FIOOM ANT2- CPLOLASHSOR CPLOLASHSOR PASSENCER DOOR ANT- 116 Signal Mane (Specification) CPLOR-SNL PASSENCER DOOR ANT- 118 P STOP LAMP SNL CPLOR-SNL PASSENCER DOOR ANT- 119 P STOP LAMP SNL CPLOR-SNL PASSENCER DOOR ANT- 119 P STOP LAMP SNL CPLOR-SNL PASSENCER DOOR ANT- 119 P NCOP LAMP SNL CPLOR-SNL PORT 118 P NCOP LAMP SNL CPLOR-SNL PORT 118 P NCOP LAMP SNL CPLOR-SNL PORT 119 P NCOP LAMP SNL CPLOR-SNL PORT 110 P P NCOP LAMP SNL PORT 110 P P NCOP LAMP SNL PORT 110 P P NCOP LAMP SNL PO	
001 WOL	Terminal No. Color of Wires Signal Name (Specification and Signal Color Anti- and Signal Color Anti- Anti- and Signal Color Anti- Anti- Anti- Signal Color Anti- Ant	Connector No. M122 Connector Name BCM (BODY CONTROL MODULE) Connector Type TH40FB-NH MARENE TH40FB-NH	Terminal Nu Color of Wire a Wire Signal Mane [Specification ROOM ANT2+ TOOM ANT2+ TOOM ANT2+ TOOM ANT2+ TOOM ANT- TO 72 R PAASSENGER DOOF ANT2+ PAASSENGER DOOF ANT2+ TOOM ANT1+ TO 73 G PAASSENGER DOOF ANT2+ TOOP ANT2+ TO 74 C PAASSENGER DOOF ANT2+ TOOP ANT1+ TO 75 G PAASSENGER DOOF ANT1- TO 76 C PAASSENGER DOOF ANT1- TO 78 PA 79 V 70 C 71 Lo 72 C 73 PA 74 PAOS	

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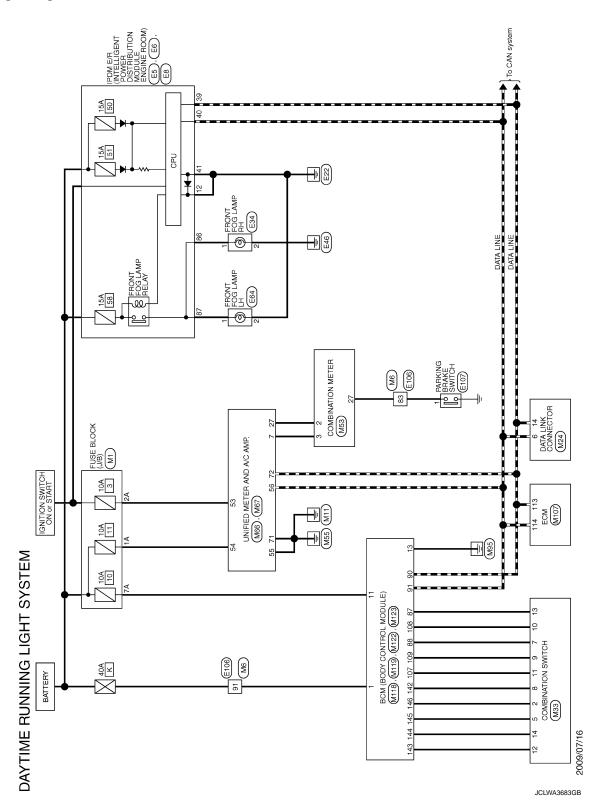
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Wiring Diagram - DAYTIME LIGHT SYSTEM -

[XENON TYPE]

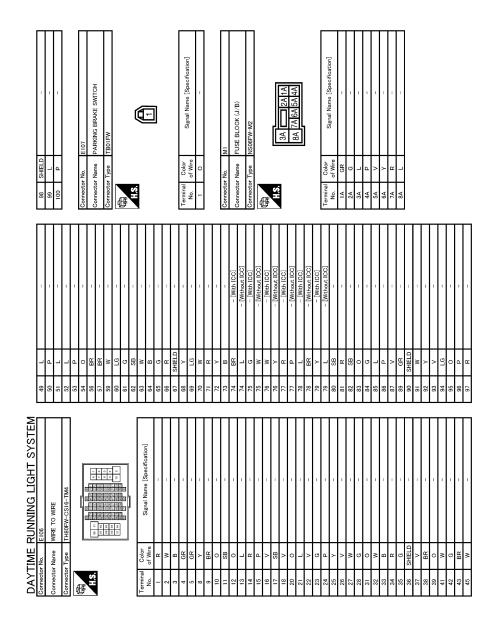


DTC/CIRCUIT DIAGNOSIS >	[XENON TYPE]	
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40 L 50 P 51 BR 52 L 53 P 54 Y 55 BR 56 BR 57 L 58 B 59 B 51 B 52 B 53 W 54 B 55 B 56 B 57 S 58 C 59 CH 50 CR 51 LG 52 S 53 S 54 L 57 S 58 C 59 SHELD 51 F 71 LG 71 LG 73 S 74 L 71 LG 71 <td< td=""><td></td></td<>	
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DAYTIME RUNNING LIGHT SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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I0 BR REAR DOOR UMLOCK OUTPUT 11 R BAT (FUSE) MD 13 B PUSH-BUTTON (BATTON SW ILL GND) 15 Y ACS MAL IH (FRONT) 19 W TUBN SIGNAL LH (FRONT) 19 V ROM LMR SIGNAL LH (FRONT) 19 V ROM LMP TORE CONTROL			
VEHCAN+L1 VEHCAN+H1 EHCAN+H1 (ALINE COLV EDCV EDCV EDCV EDCV EDCV EDCV EDCV EDC	MI18 BECM (BODY CONTF MOBFE-LC C Signal Nam POWER WINDOW		DRIVER DOOR, FUEL LID UNLOCK OUTPUT
11111111111111111111111111111111111111	al of C	3 Y Connector No. Connector Name Connector Name Connector Type La Connector Type A Connector Type A Connector Type	H
53 G IONTTON POWER SUPPLY 54 Y BATTERY POWER SUPPLY 56 L GROUND 56 L CATH 57 W BRAKE FLUID LEVEL SWORD SIGNAL 58 R IELL LEVEL SENSOR GROUND 59 GR INTAKE SENSOR GROUND 60 L IN-TAKE SENSOR GROUND 61 R INTAKE SENSOR GROUND 62 S SUNLOAD SENSOR GROUND 63 GR INTAKE SENSOR GROUND 61 R NABIENT SENSOR GROUND 62 S SUNLOAD SENSOR GROUND		Terminal Color Signal Name [Spacification] 97 K APS1 98 Y APS2 [WithCIC] 99 G APS2 [WithCIC] 99 L APS2 [WithCIC] 99 L AVCC-APS1 [Web ICC] 99 L AVCC-APS1 [Web ICC] 99 L AVCC-APS1 [Web ICC] 90 L AVCC-APS1 [Web ICC] 101 SB AVCC-APS1 [Web ICC] 102 L AVCC-APS1 [Web ICC] 103 L AVCC-APS1 [Web ICC] 103 G AVCC-APS2 [Web ICC] 104 GR AVCC-APS1 [Web ICC] 105 L AVCC-APS1 [Web ICC] 106 C AVCC-APS2 [Web ICC] 107 GR AVCC-FIPES 108 Y AVCC-FIPES 109 G AVCC-FIPES 101 R AVCC-FIPES 102 AVCC-FIPES AVCC-FIPES	>
DUTY TIME FUNNING LIGHT SYSTEM Connector Name UNIFIED METER AND A/C ANP Connector Type TH40FW-NH Connector Type TH40FW-NH	Terrinal No. Color of Wor of Wor Signal Name [Specification] 7 CL MANUNICATION SIGNAL (MPC-NATION SIGNAL CAPTON SIGNAL (MPC-NATION SIGNAL CAPTON SIGNAL (MPC-NATION SIGNAL CAPTON SIGNAL (MPC-NATION SIGNAL CAPTON SIGNAL (MPC-NATION 10 MANUAL MODE SIGNAL (MPC-NATION SIGNAL (MPC-NATION SIGNAL (MPC-NATION 200 11 G NON-MANUAL MODE SIGNAL (MPC-NATION 200 MANUAL MODE SIGNAL (MPC-NATION 200 23 Y MANUAL MODE SIGNAL (MPC-NATION 200 MANUAL MODE SIGNAL (MPC-NATION 200 23 Y MANUAL MODE SIGNAL (MPC-NATION 200 MANUAL MODE SIGNAL (MPC-NATION 200 23 Y MANUAL MODE SIGNAL (MPC-NATION 200 MPC-NATION SIGNAL (MPC-NATION 200 24 Y COMMUNICATION SIGNAL (MPC-PLCD) 200 MANUAL MODE SIGNAL (MPC-PLCD) 200 38 P BLOWER MATTON SIGNAL (MPC-PLCD) 200 200	Connector No. M67 Connector Name UNIFED ME TER AND A/C AMP. Connector Type TH32FW-NH Connector Type Stanta Connector Type Terminal Connector Type Stanta All Lip No. VEHOLE EBISOR SIGNAL All Do SIMI DID SENSOR SIGNAL	5 5

DAYTIME RUNNING LIGHT SYSTEM

Revision: 2009 August

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DAYTIME RUNNING LIGHT SYSTEM

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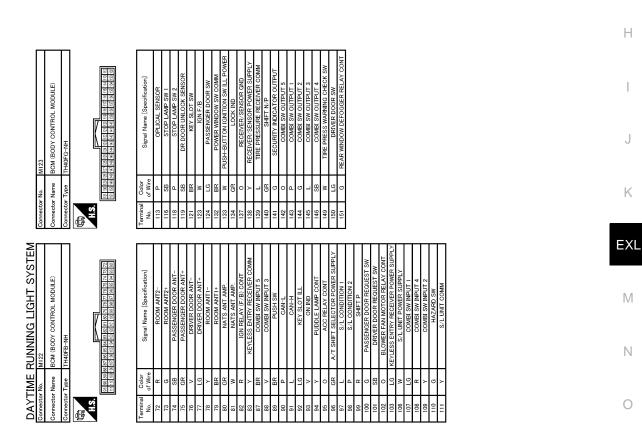
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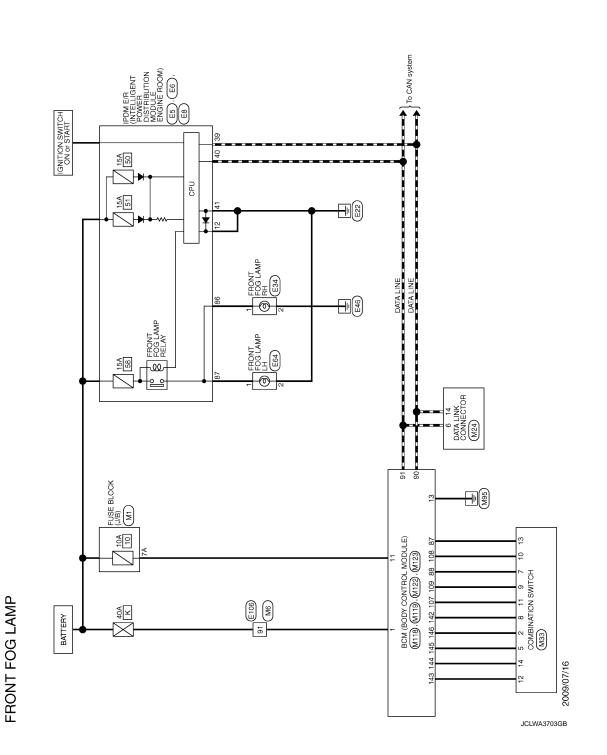


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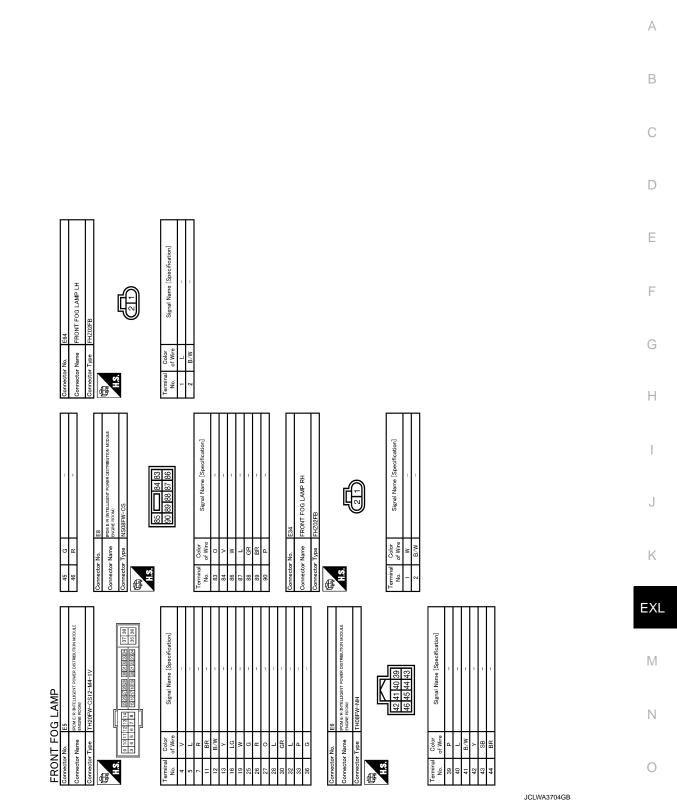
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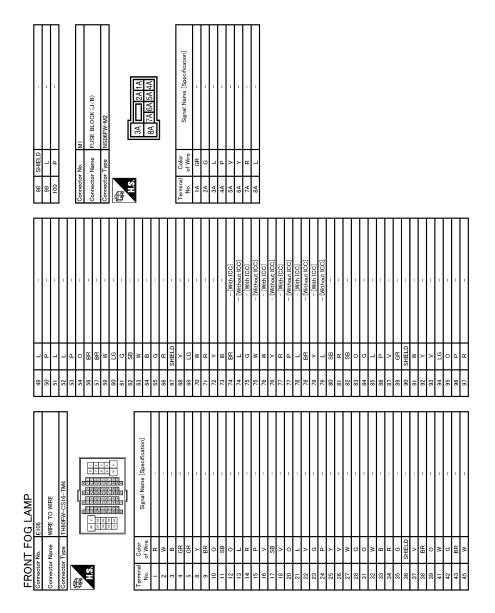
FRONT FOG LAMP SYSTEM

Wiring Diagram - FRONT FOG LAMP -



	FRONT FOG LAMP SYSTEM	
< DTC/CIRCUIT DIAGNOSIS >		





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JI DIAGNOSIS >	[/==]
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FRONT FOG LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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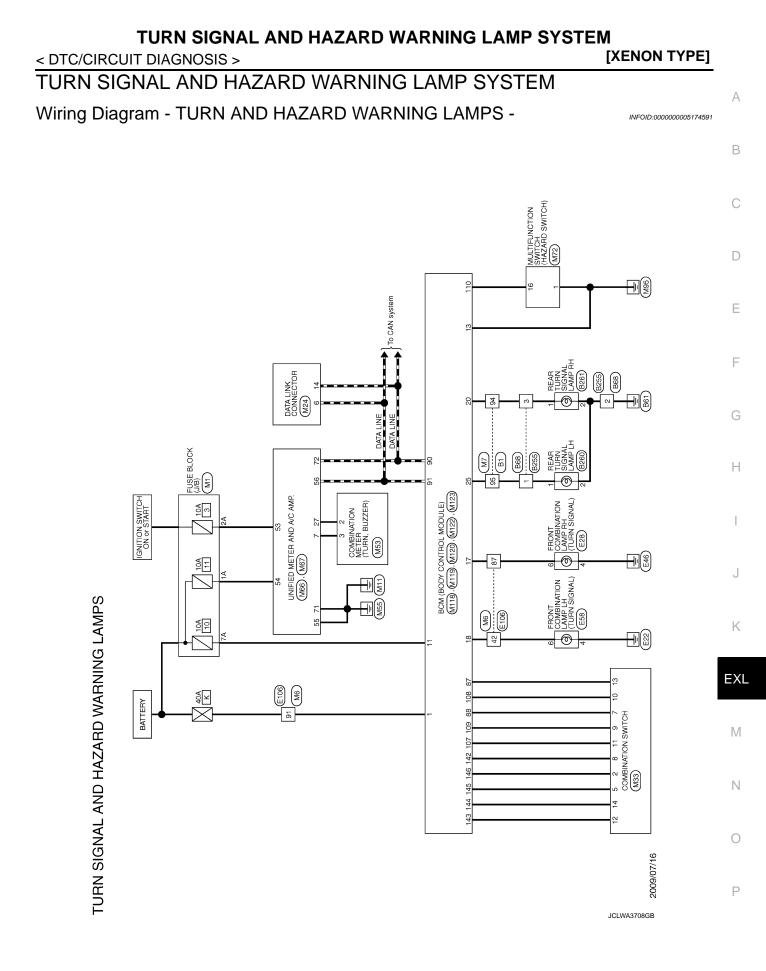
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8	82	83	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	106	107	108	109	110	111		Connector No.	Connector Name	Connector Type		小 HS.			Terminal	No.	113
FRONT FOG LAMP	C I I I	BCM (BODY CONTROL MODULE)	NS16FW-CS				4 5 6 7 9 9 10	11 12 13 14 15 16 17 18 19				Signal Name [Snecification]	_	INTERIOR ROOM LAMP POWER SUPPLY	PASSENGER DOOR UNLOCK OUTPUT	STEP LAMP OUTPUT	ALL DOOR, FUEL LID LOCK OUTPUT	DRIVER DOOR, FUEL LID UNLOCK OUTPUT	REAR DOOR UNLOCK OUTPUT	BAT (FUSE)	GND	PUSH-BUTTON IGNITION SW ILL GND	ACC IND	TURN SIGNAL RH (FRONT)	TURN SIGNAL LH (FRONT)	ROOM LAMP TIMER CONTROL		M122	BCM (BODY CONTROL MODULE)	TH40FB-NH			200 801 800 805 804 803 803 801 801 903 908 901 301 901 901 901 901 900 908 908 908 908 908 908 908 908 908			Signal Name [Specification]
й Ну		r Name	r Type			Ľ		1-	-			Color	of Wire	LG	٦	λ	^	9	ЯR	۲	œ	N	Y	Μ	0	>		r No.	r Name	r Type			91 90 89		Color	of Wire
		Connector Name	Connector Type	4	F							Terminal	No.	4	5	7	8	6	10	11	13	14	15	17	18	19		Connector No.	Connector Name	Connector Type	Ē	H.S.			Terminal	No.

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Terminal No.	Color of Wire	Signal Name [Specification]
113	٩	OPLICAL SENSOR
116	SB	STOP LAMP SW 1
118	٩	STOP LAMP SW 2
119	SB	DR DOOR UNLOCK SENSOR
121	BR	KEY SLOT SW
123	w	IGN F/B
124	PG LG	PASSENGER DOOR SW
132	BR	POWER WINDOW SW COMM
133	M	PUSH-BUTTON IGNITION SW ILL POWER
134	GR	LOCK IND

Signal Name [Specification]	ROOM ANT2-	ROOM ANT2+	PASSENGER DOOR ANT-	PASSENGER DOOR ANT+	DRIVER DOOR ANT-	DRIVER DOOR ANT+	ROOM ANT1-	ROOM ANT1+	NATS ANT AMP.	
Color of Wire	œ	9	SB	GR	^	PG	Y	BR	GR	
Terminal No.	72	73	74	75	76	77	78	79	80	

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< DTC/CIRCUIT DIAGNOSIS >



TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

Signal Name [Specification] Signal Name [Specification] Signal Name [Specification] FRONT COMBINATION LAMP RH FRONT COMBINATION LAMP LH 2 3 9 7 9 Color of Wire Color of Wire Color of Wire ctor Type Connector Name 0 B/W > # a Connector Name ype Connector No. Terminal No. Connector 化 H.S. Terminal No. 19/-呢 HS erminal No. Signal Name [Specification] Signal Name [Specification] REAR TURN SIGNAL LAMP LH REAR TURN SIGNAL LAMP RH Ð Ð WIRE TO WIRE 3255 B260 B261 Color of Wire Color of Wire nnector No. Connector Name Connector Name Type Connector Type œ inector Name Connector No. Terminal No. . SH H.S. erminal No. 强 H.S. đ Signal Name [Specification] ო WIRE TO WIRE 9 B68 BHIELD SB - > Hara Color of Wire ΓC Connector Name жворЖ იწი -≥ଞ 2 m 🕅 m a ∰ o œ 3 LAMPS Connector No. 围 HS erminal No. ŝ TURN SIGNAL AND HAZARD WARNING Signal Name [Specification] - 4 0 4 0 WIRE TO WIRE - - K SHIELD SHIELD W SB L l-l-SHIELD Color of Wire Connector Name 照≻≻ ح R S ≥ H.S. ermina No. ß

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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM [XENON TYPE] < DTC/CIRCUIT DIAGNOSIS >

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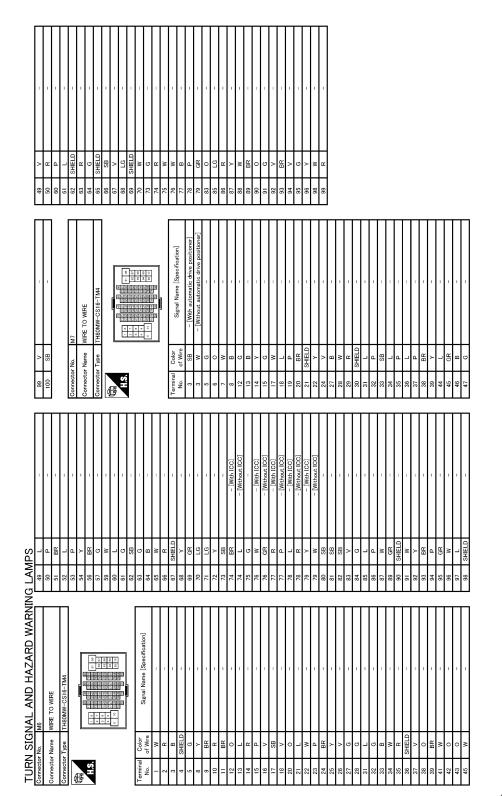
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



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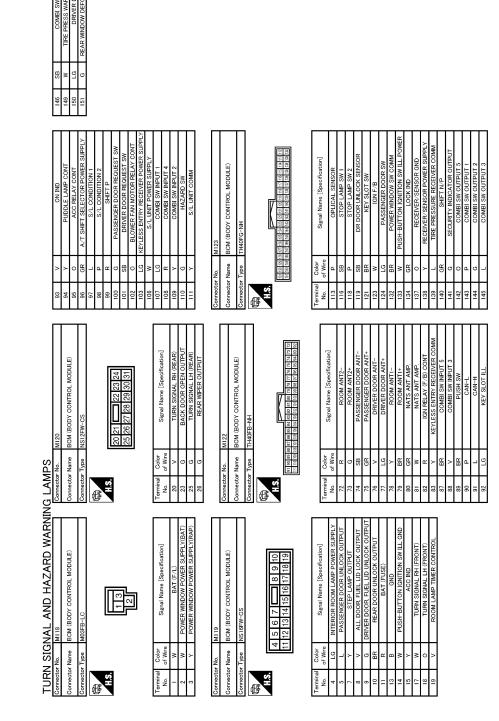
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM [XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

Revision: 2009 August

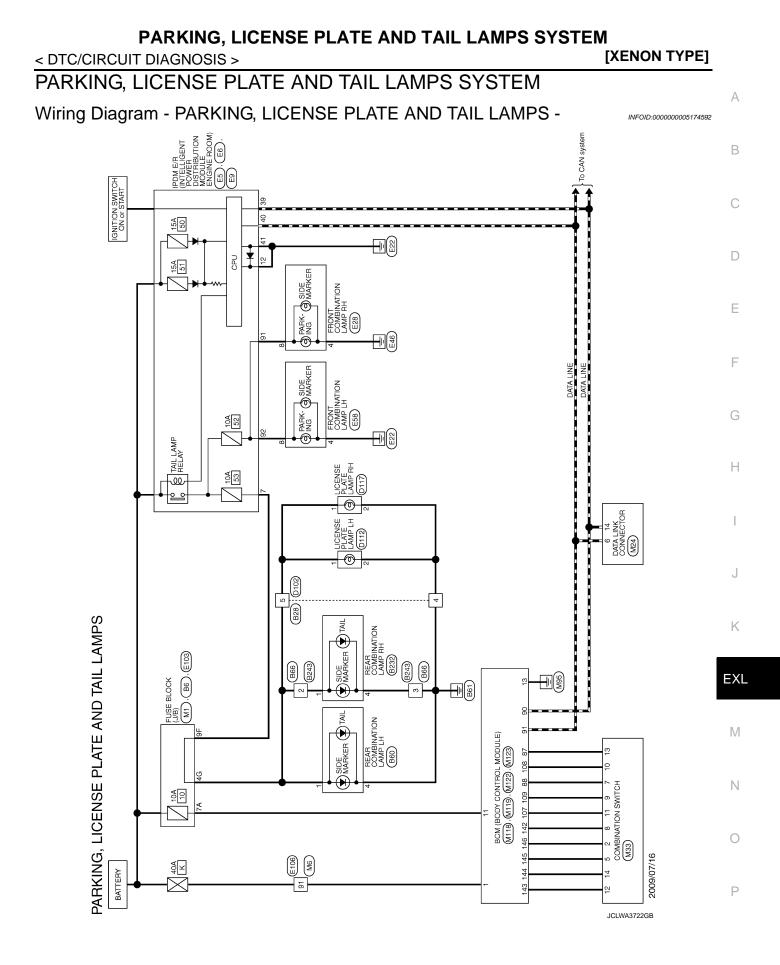


TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

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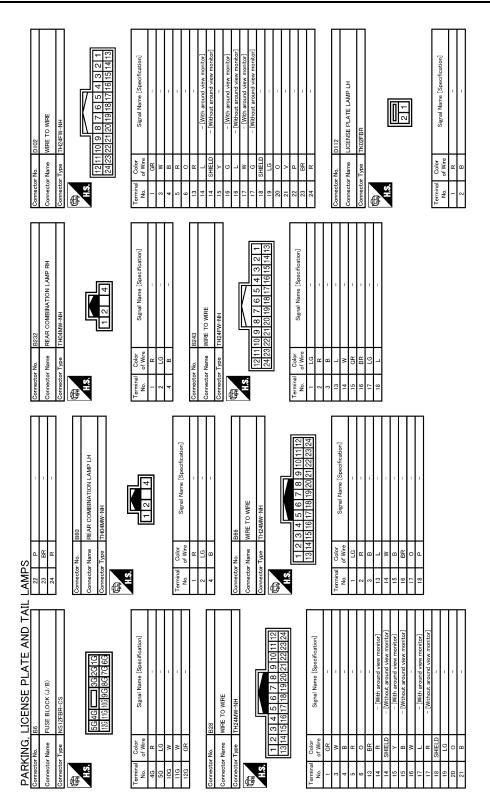
[XENON TYPE]

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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

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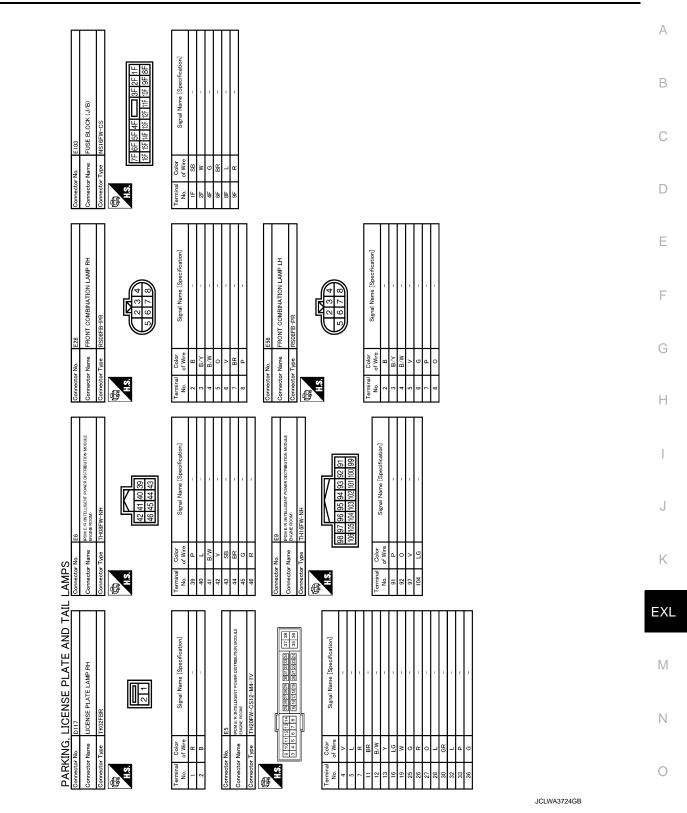


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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

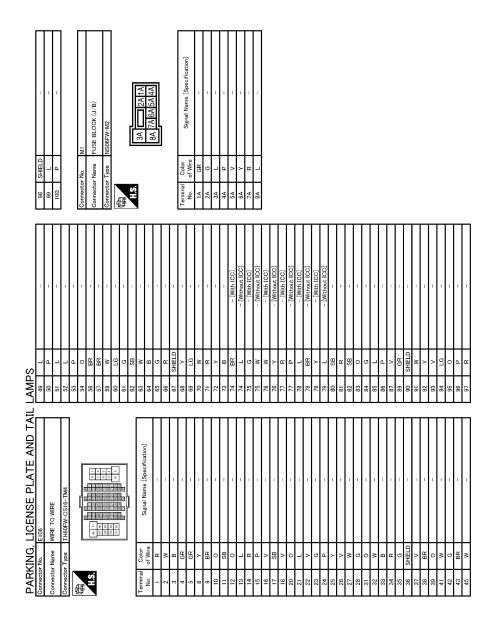
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Revision: 2009 August

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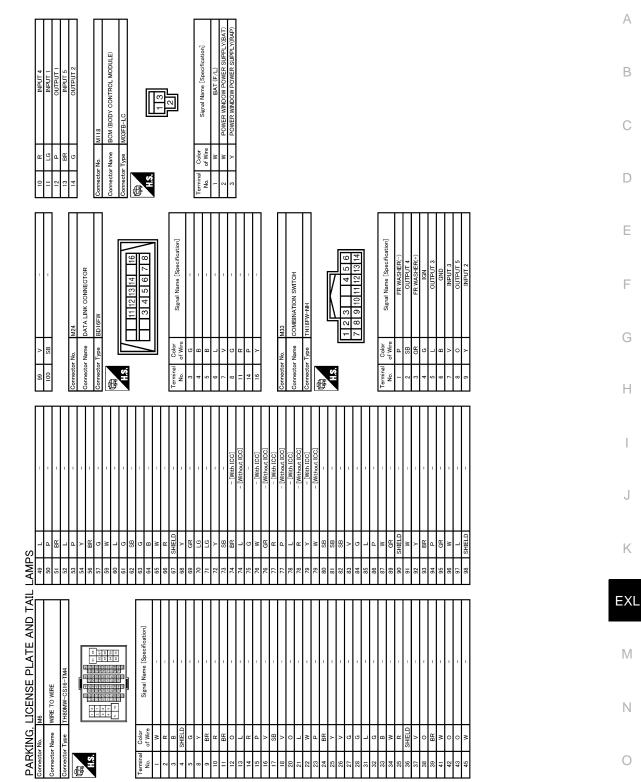


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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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< DTC/CIRCUIT DIAGNOSIS >	[XENON TYPE]

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

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151	σ	REAR WINDOW DEFOGGER RELAY CONT

	NATS ANT AMP.	IGN RELAY (F/B) CONT	KEYLESS ENTRY RECEIVER COMM	COMBI SW INPUT 5	COMBI SW INPUT 3	MS HSNd	CAN-L	H-NYO	KEY SLOT ILL	GNI NO	PUDDLE LAMP CONT	ACC RELAY CONT	A/T SHIFT SELECTOR POWER SUPPLY	S/L CONDITION 1	S/L CONDITION 2	SHIFT P	PASSENGER DOOR REQUEST SW	DRIVER DOOR REQUEST SW	BLOWER FAN MOTOR RELAY CONT	KEYLESS ENTRY RECEIVER POWER SUPPLY	S/L UNIT POWER SUPPLY	COMBI SW INPUT 1	COMBI SW INPUT 4	COMBI SW INPUT 2	MS DARZAH	S/L UNIT COMM	
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_AMPS	81	82	83	87	88	89	06	91	92	93	94	95	96	67	98	96	100	101	102	103	106	107	108	109	110	111	

Terminal No.	Color of Wire	Signal Name [Specification]
4	ΓC	INTERIOR ROOM LAMP POWER SUPPLY
5	٦	PASSENGER DOOR UNLOCK OUTPUT
7	λ	STEP LAMP OUTPUT
8	>	ALL DOOR, FUEL LID LOCK OUTPUT
6	σ	DRIVER DOOR, FUEL LID UNLOCK OUTPUT
10	ЯB	REAR DOOR UNLOCK OUTPUT
1	ч	BAT (FUSE)
13	•	GND
14	M	DUSH-BUTTON IGNITION SW ILL GND
15	≻	ACC IND
17	M	TURN SIGNAL RH (FRONT)
18	0	TURN SIGNAL LH (FRONT)
19	^	ROOM LAMP TIMER CONTROL
Connector No.	r No.	M122
Connector Name	r Name	BCM (BODY CONTROL MODULE)
Connector Type	r Type	TH40FB-NH
.S.H		

M122	BCM (BODY CONTROL MODULE)	TH40FB-NH	1000년 111년 111년 111년 111년 111년 111년 111
onnector No.	onnector Name	onnector Type	H.S. 9190 89 80 111 110 109 109

3CM (BODY CONTROL MODULE)

ector Name

	Signal Name [Specification]	OPLICAL SENSOR	STOP LAMP SW 1
150 150 449 44	Color of Wire	Р	SB
.S.H	Terminal No.	113	116

Signal Name [Specification]	ROOM ANT2-	ROOM ANT2+	PASSENGER DOOR ANT-	PASSENGER DOOR ANT+	DRIVER DOOR ANT-	DRIVER DOOR ANT+	ROOM ANTI-	ROOM ANT1+	NATS ANT AMP.
Color of Wire	æ	ŋ	SB	GR	^	ΓC	Y	BR	GR
Terminal No.	72	73	74	75	76	77	78	79	80

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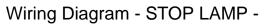
PARKING, LICENSE PLATE AND TAIL

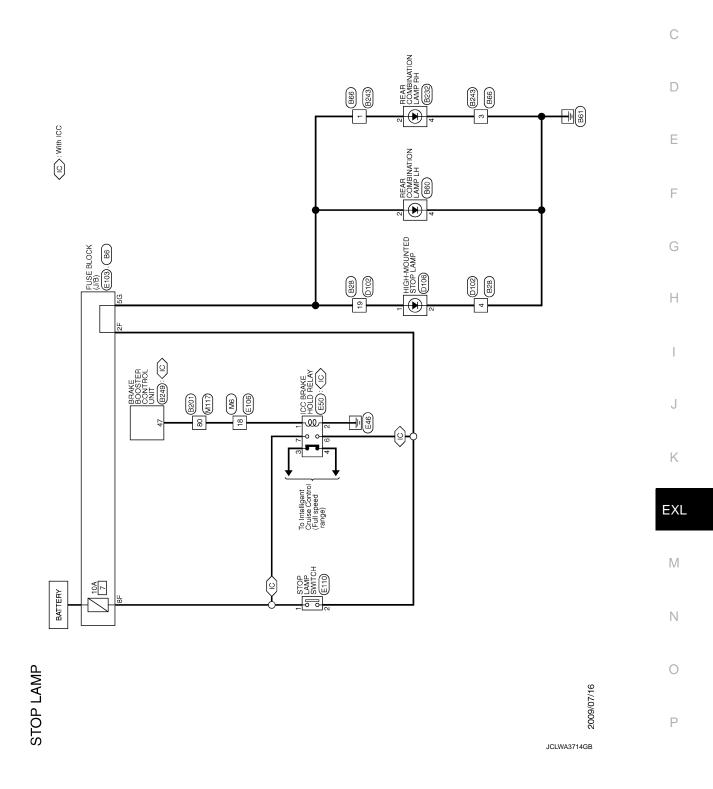
BCM (BODY CONTROL MODULE)

nector Name

H.S.H

STOP LAMP

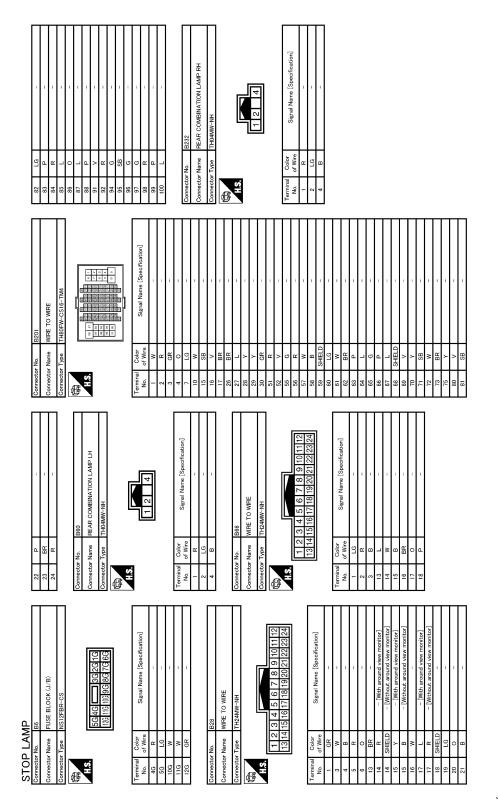




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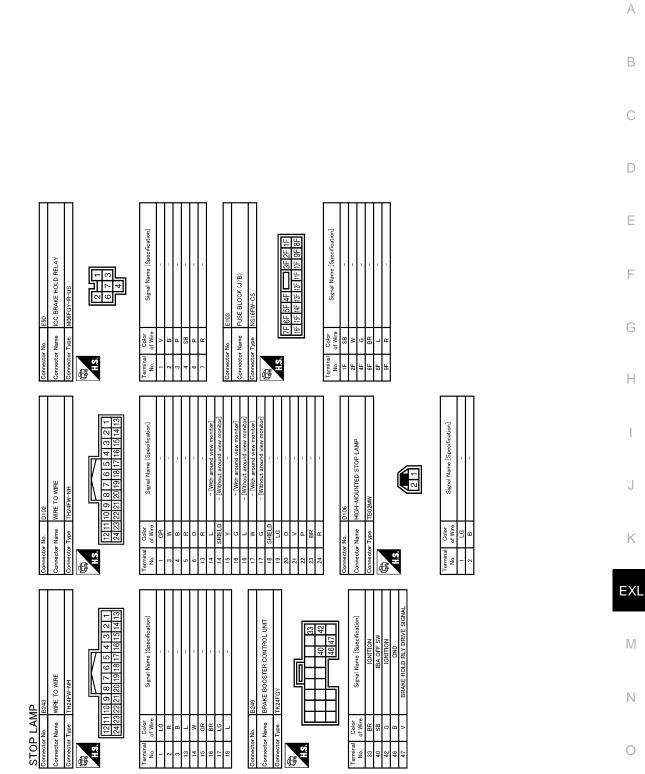
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STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >



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Revision: 2009 August

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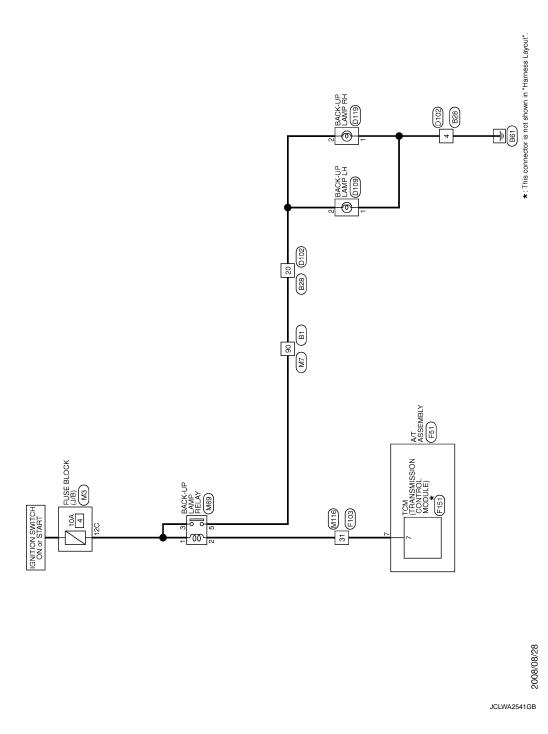
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< DTC/CIRCUIT DIAGNOSIS >

BACK-UP LAMP

Wiring Diagram - BACK-UP LAMP -



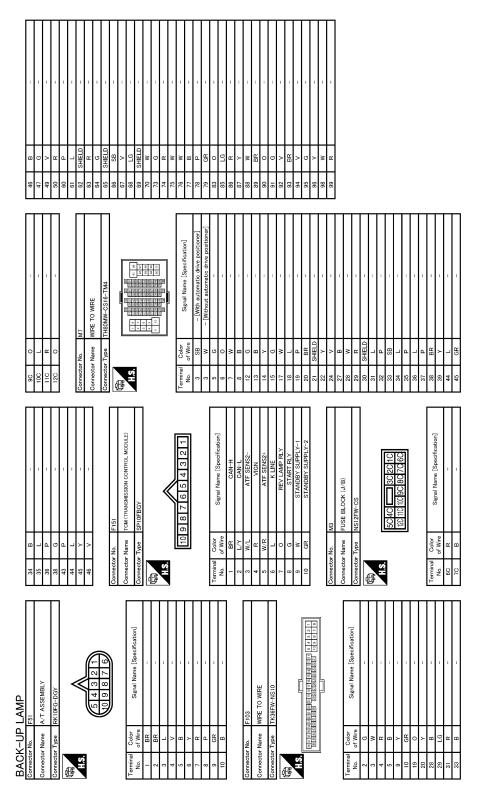
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Signal Name (Specification)	A
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BACK-UP LAMP

< DTC/CIRCUIT DIAGNOSIS >

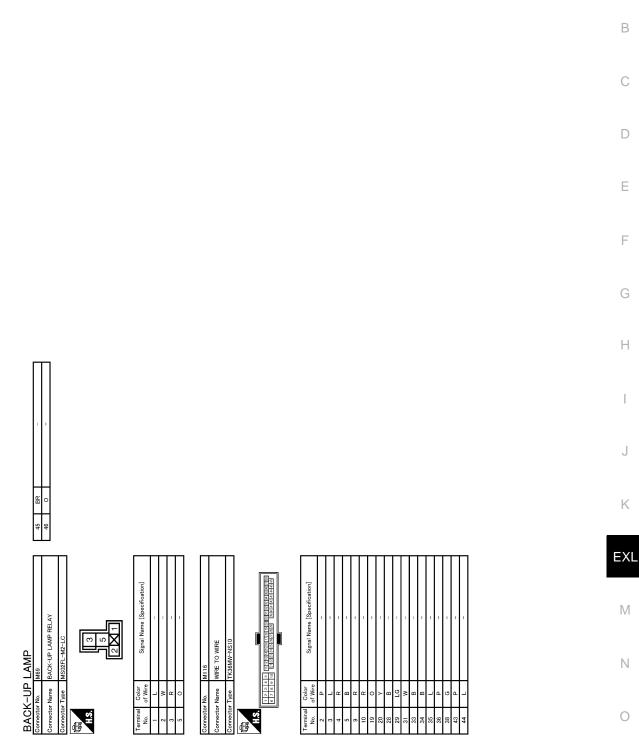


JCLWA3720GB

BACK-UP LAMP



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JCLWA3721GB

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Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
	Front wiper switch HI	On
FR WIPER LOW	Other than front wiper switch LO	Off
	Front wiper switch LO	On
	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
FR WIPER INT	Other than front wiper switch INT	Off
	Front wiper switch INT	On
	Front wiper is not in STOP position	Off
FR WIPER STOP	Front wiper is in STOP position	On
NT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
	Other than rear wiper switch ON	Off
RR WIPER ON	Rear wiper switch ON	On
	Other than rear wiper switch INT	Off
RR WIPER INT	Rear wiper switch INT	On
	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
	Rear wiper is in STOP position	Off
RR WIPER STOP	Rear wiper is not in STOP position	On
	Other than turn signal switch RH	Off
TURN SIGNAL R	Turn signal switch RH	On
	Other than turn signal switch LH	Off
TURN SIGNAL L	Turn signal switch LH	On
	Other than lighting switch 1ST and 2ND	Off
TAIL LAMP SW	Lighting switch 1ST or 2ND	On
	Other than lighting switch HI	Off
HI BEAM SW	Lighting switch HI	On
	Other than lighting switch 2ND	Off
HEAD LAMP SW 1	Lighting switch 2ND	On
	Other than lighting switch 2ND	Off
HEAD LAMP SW 2	Lighting switch 2ND	On
	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On
	Front fog lamp switch OFF	Off
FR FOG SW	Front fog lamp switch ON	On

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< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off	
	Driver door closed	Off	
DOOR SW-DR	Driver door opened	On	
	Passenger door closed	Off	
DOOR SW-AS	Passenger door opened	On	
	Rear RH door closed	Off	
DOOR SW-RR	Rear RH door opened	On	
	Rear LH door closed	Off	
DOOR SW-RL	Rear LH door opened	On	
	Back door closed	Off	
DOOR SW-BK	Back door opened	On	
	Other than power door lock switch LOCK	Off	
CDL LOCK SW	Power door lock switch LOCK	On	
	Other than power door lock switch UNLOCK	Off	
DL UNLOCK SW	Power door lock switch UNLOCK	On	
	Other than driver door key cylinder LOCK position	Off	
EY CYL LK-SW	Driver door key cylinder LOCK position	On	
	Other than driver door key cylinder UNLOCK position	Off	
EY CYL UN-SW	Driver door key cylinder UNLOCK position	On	
EY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off	
	Hazard switch is OFF	Off	
IAZARD SW	Hazard switch is ON	On	
REAR DEF SW	NOTE: The item is indicated, but not monitored.	Off	
R CANCEL SW	NOTE: The item is indicated, but not monitored.	Off	
	Back door opener switch OFF	Off	
R/BD OPEN SW	While the back door opener switch is turned ON	On	
RNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off	
	LOCK button of the key is not pressed	Off	
KE-LOCK	LOCK button of the key is pressed	On	
	UNLOCK button of the key is not pressed	Off	
KE-UNLOCK	UNLOCK button of the key is pressed	On	
KE-TR/BD	NOTE: The item is indicated, but not monitored.	Off	
	PANIC button of the key is not pressed	Off	
KE-PANIC	PANIC button of the key is pressed	On	
	UNLOCK button of the key is not pressed	Off	
RKE-P/W OPEN	UNLOCK button of the key is pressed and held	On	
	LOCK/UNLOCK button of the key is not pressed and held simulta- neously	Off	
RKE-MODE CHG	LOCK/UNLOCK button of the key is pressed and held simulta- neously	On	

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5 V
OF HOAL SENSOR	Dark outside of the vehicle	Close to 0 V
REQ SW -DR	Driver door request switch is not pressed	Off
REQ 3W -DR	Driver door request switch is pressed	On
REQ SW -AS	Passenger door request switch is not pressed	Off
REQ 3W -AS	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
	Back door request switch is not pressed	Off
REQ SW -BD/TR	Back door request switch is pressed	On
	Push-button ignition switch (push switch) is not pressed	Off
PUSH SW	Push-button ignition switch (push switch) is pressed	On
	Ignition switch in OFF or ACC position	Off
IGN RLY2 -F/B	Ignition switch in ON position	On
ACC RLY -F/B	NOTE: The item is indicated, but not monitored.	Off
CLUCH SW	NOTE: The item is indicated, but not monitored.	Off
	The brake pedal is depressed when No. 7 fuse is blown	Off
BRAKE SW 1	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal	On
	The brake pedal is not depressed	Off
BRAKE SW 2	The brake pedal is depressed	On
	Selector lever in P position	Off
DETE/CANCL SW	Selector lever in any position other than P	On
	Selector lever in any position other than P and N	Off
SFT PN/N SW	Selector lever in P or N position	On
	Steering is unlocked	Off
S/L -LOCK	Steering is locked	On
	Steering is locked	Off
S/L -UNLOCK	Steering is unlocked	On
	Ignition switch in OFF or ACC position	Off
S/L RELAY-F/B	Ignition switch in ON position	On
	Driver door is unlocked	Off
UNLK SEN -DR	Driver door is locked	On
	Push-button ignition switch (push-switch) is not pressed	Off
PUSH SW -IPDM	Push-button ignition switch (push-switch) is pressed	On
	Ignition switch in OFF or ACC position	Off
IGN RLY1 -F/B	Ignition switch in ON position	On
	Selector lever in any position other than P	Off
DETE SW -IPDM	Selector lever in P position	On
	Selector lever in any position other than P and N	Off
SFT PN -IPDM		

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
SFT P -MET	Selector lever in any position other than P	Off
	Selector lever in P position	On
SFT N -MET	Selector lever in any position other than N	Off
	Selector lever in N position	On
	Engine stopped	Stop
ENGINE STATE	While the engine stalls	Stall
ENGINE STATE	At engine cranking	Crank
	Engine running	Run
	Steering is unlocked	Off
S/L LOCK-IPDM	Steering is locked	On
	Steering is locked	Off
S/L UNLK-IPDM	Steering is unlocked	On
	Steering lock system is not the LOCK condition and the changing condition from LOCK to UNLOCK.	Off
S/L RELAY-REQ	Steering lock system is the LOCK condition or the changing condi- tion from LOCK to UNLOCK.	On
VEH SPEED 1	While driving	Equivalent to speedometer reading
VEH SPEED 2	While driving	Equivalent to speedometer reading
	Driver door is locked	LOCK
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door is unlocked	UNLOCK
	Passenger door is locked	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door is unlocked	UNLOCK
	Steering is locked	Reset
ID OK FLAG	Steering is unlocked	Set
	The engine start is prohibited	Reset
PRMT ENG STRT	The engine start is permitted	Set
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset
	The key is not inserted into key slot	Off
KEY SW -SLOT	The key is inserted into key slot	On
RKE OPE COUN1	During the operation of the key	Operation frequency of the key
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	_
	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

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
CONFIRM ID2	The key ID that the key slot receives does not accord with the sec- ond key ID registered to BCM.	Yet
	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
	The key ID that the key slot receives accords with the first key ID registered to BCM.	Done
	The ID of fourth key is not registered to BCM	Yet
TP 4	The ID of fourth key is registered to BCM	Done
TP 3	The ID of third key is not registered to BCM	Yet
IF 5	The ID of third key is registered to BCM	Done
TP 2	The ID of second key is not registered to BCM	Yet
IP 2	The ID of second key is registered to BCM	Done
TP 1	The ID of first key is not registered to BCM	Yet
IFI	The ID of first key is registered to BCM	Done
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
	ID of front LH tire transmitter is registered	Done
ID REGST FL1	ID of front LH tire transmitter is not registered	Yet
	ID of front RH tire transmitter is registered	Done
ID REGST FR1	ID of front RH tire transmitter is not registered	Yet
	ID of rear RH tire transmitter is registered	Done
ID REGST RR1	ID of rear RH tire transmitter is not registered	Yet
	ID of rear LH tire transmitter is registered	Done
ID REGST RL1	ID of rear LH tire transmitter is not registered	Yet
	Tire pressure indicator OFF	Off
WARNING LAMP	Tire pressure indicator ON	On
	Tire pressure warning alarm is not sounding	Off
BUZZER	Tire pressure warning alarm is sounding	On

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

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EXL

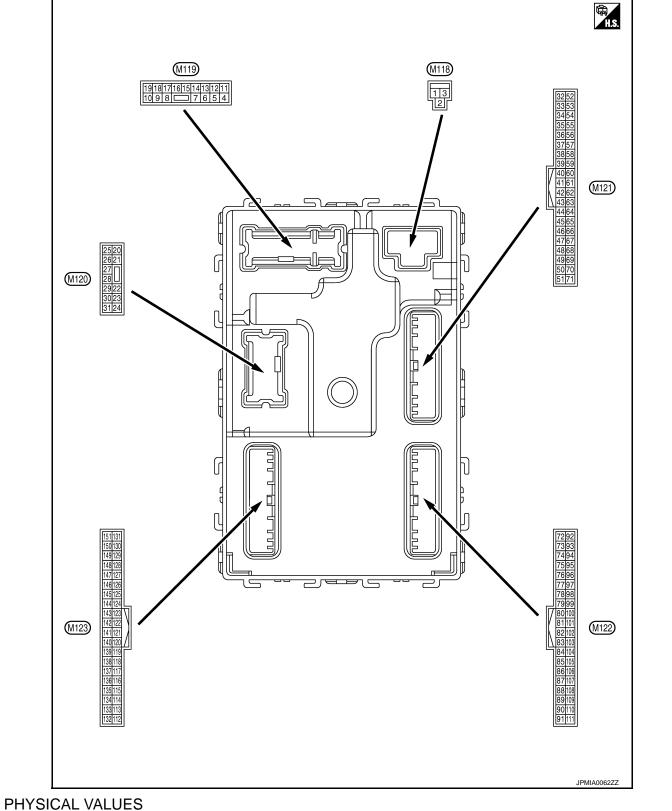
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TERMINAL LAYOUT



< ECU DIAGNOSIS INFORMATION >

	Terminal No. Description				\/_\	
(Wire	e color)	Signal name	Input/		Condition	Value (Approx.)
+	_	olghai fiailio	Output			
1 (W)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (W)	Ground	P/W power supply (BAT)	Output	Ignition switch OF	F	Battery voltage
3 (Y)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
					battery saver is activated. oom lamp power supply)	0 V
4 (LG)	Ground	Interior room lamp power supply	Output	ed.	battery saver is not activat- or room lamp power supply)	Battery voltage
5	Crownd	Passenger door UN-	Outrout	Dessenant dess	UNLOCK (Actuator is activated)	Battery voltage
(L)	Ground	LOCK	Output	Passenger door	Other than UNLOCK (Actuator is not activated)	0 V
7	Cround	Ston Jamp	Outout	Step lamp	ON	0 V
(Y)	Ground	Step lamp	Output	Step lamp	OFF	Battery voltage
8	Ground	All doors, fuel lid	Output	All doors	LOCK (Actuator is activated)	Battery voltage
(V)		LOCK	C alp at		Other than LOCK (Actuator is not activated)	0 V
9	Ground	Driver door, fuel lid	Output	Driver door	UNLOCK (Actuator is activated)	Battery voltage
(G)	Cround	UNLOCK	output		Other than UNLOCK (Actuator is not activated)	0 V
10	Ground	Rear RH door and rear LH door UN-	Output	Rear RH door	UNLOCK (Actuator is activated)	Battery voltage
(BR)	Cround	LOCK	Output	and rear LH door	Other than UNLOCK (Actuator is not activated)	0 V
11 (R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
13 (B)	Ground	Ground		Ignition switch ON	I	0 V
					OFF	0 V
14 (W)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp	ON	NOTE: When the illumination brighten- ing/dimming level is in the neutral position
15	Ground	ACC indiactor lama	Quitout	Ignition switch	OFF or ON	Battery voltage
(Y)	Ground	ACC indicator lamp	Output	Ignition switch	ACC	0 V

< ECU DIAGNOSIS INFORMATION >

Term	inal No.	Description					
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	А
					Turn signal switch OFF	0 V	
17 (W)	Ground	Turn signal RH (Front)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 15 10 10 10 10 10 10 10 10 10 10	B C D
					Turn signal switch OFF	0 V	Е
18 (O)	Ground	Turn signal LH (Front)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	F
						6.5 V	
19 (V)	Ground	Room lamp timer control	Output	Interior room lamp	OFF	Battery voltage	Н
(•)					ON Turn signal switch OFF	0 V 0 V	
20 (V)	Ground	Turn signal RH (Rear)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 1 5 0 1 5 0 1 1 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 1 5 0 1 1 1 5 1 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1	I J K
23	Orrent	De de de se se se	Outrut	De els de en	OPEN (Back door opener actuator is activated)	Battery voltage	EXL
(G)	Ground	Back door open	Output	Back door	Other than OPEN (Back door opener actuator is not activated)	0 V	Μ
					Turn signal switch OFF	0 V	
25 (G)	Ground	Turn signal LH (Rear)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s 1 s 1 s 1 s 1 s 1 s 1 s 1 s	N O P
26	Ground	Rear wiper	Output	Rear wiper	OFF (Stopped)	0 V	
(G)	Croand		- arbar		ON (Operated)	Battery voltage	

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(VVire +	e color) -	Signal name	Input/ Output		Condition	(Approx.)	
34	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	
(SB)	Giouna	na (–)	Guiput	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	
35	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 0 1 s JMKIA0062GB	
(V)		na (+)	When Intelligent Ke	^t OFF	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 5 0 1 s JMKIA0063GB
38	Ground	Back door antenna (-	Output	When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
(B)		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB				

< ECU DIAGNOSIS INFORMATION >

Terminal No. Description (Wire color)		Description			0	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
39		Back door antenna		When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1
(W)	Ground	(+)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 1 1 1 1 1 1 1 1 1 1 1 1 1
47 (Y)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC ON	Battery voltage 0 V
52	Ground	Startar ralay control	Quitout	Ignition switch	When selector lever is in P or N position	Battery voltage
(SB)	Ground	Starter relay control	Output	ŌN	When selector lever is not in P or N position	0 V
					ON (Pressed)	0 V
61 (W)	Ground	Back door opener re- quest switch	Input	Back door opener request switch	OFF (Not pressed)	(V) 15 10 10 ms JPMIA0016GB
		Intelligent Kousser		Intolligent	Sounding	1.0 V
64 (V)	Ground	Intelligent Key warn- ing buzzer (Engine	Output	Intelligent Key warning buzzer	Sounding Not sounding	0 V Battery voltage
. /		room)		(Engine room)		
65 (O)	Ground	Rear wiper stop posi- tion	Input	Rear wiper	In stop position	(V) 15 10 10 ms JPMIA0016GB 1.0 V
					Not in stop position	0 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
+	e color) -	Signal name	Input/ Output	Condition		(Approx.)	
66 (R)	Ground	Back door switch	Input	Back door switch	OFF (Door close)	(V) 15 10 50 10 ms JPMIA0011GB 11.8 V 0 V	
					ON (Door open) Pressed	0 V	
67 (GR)	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	(V) 15 10 5 0 10 ms 10 ms 11.8 V	
68 (BR)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (Door close) ON (Door open)	(V) 15 10 10 10 10 11.8 V 0 V	
69 (R)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (Door close)	(V) 15 10 10 10 10 11.8 V	
					ON (Door open)	0 V	

< ECU DIAGNOSIS INFORMATION >

Terminal No.		Description				Malua	
(Wire +	e color) –	Signal name	Input/ Output	Condition		Value (Approx.)	A
72 (R)	Ground	Room antenna 2 (–) (Center console)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 15 10 10 15 10 10 15 10 10 15 10 10 15 10 10 15 10 10 15 10 10 15 10 10 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 15 15 15 15 15 15 15 15 15	B C D
					When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	E
73 (G)	Ground	Room antenna 2 (+) (Center console)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 15 10 5 0 15 15 10 10 10 10 10 10 10 10 10 10 10 10 10	G H I
					When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	J K EXL
74 (SB)	Ground	Passenger door an- tenna (–)	Output	When the pas- senger door re- quest switch is operated with ig- nition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	M
					When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s 10 5 0 1 s 10 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0	P

< ECU DIAGNOSIS INFORMATION >

Terminal No.		Description				Value	
(Wire color)		Signal name	Input/ Output	Condition		(Approx.)	
75 (GR)	Ground	Passenger door an- tenna (+)	Output	When the pas- senger door re- quest switch is operated with ig- nition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 0 10 10 10 15 10 15 10 10 15 10 10 10 10 10 10 10 10 10 10	
					When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	
76 (V)	Ground	Driver door antenna (-)	Output	When the driver door 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	
					When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	
77 (LG)	Ground	Driver door antenna (+)	Output	When the driver door 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	
					When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Terminal No.		Description				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	
78		Room antenna 1 (–)		Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 15 0 15 0 15 0 15 0 15 0 15 0 15	
(Y)	Ground	(Instrument panel)	Output	ŎFF			
79		Room antenna 1 (+)		lanition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 50 1 s JMKIA0062GB	
(BR)	Ground	(Instrument panel)	Output	Ignition switch OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	
80 (GR)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
81 (W)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
82	Ground	Ignition relay [Fuse	Output	Ignition switch	OFF or ACC	0 V	
(R)	2.50.00	block (J/B)] control			ON	Battery voltage	

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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(VVIr) +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
83	Ground	Remote keyless entry receiver communica- tion	Input/ Output	During waiting		(V) 15 0 5 0 1 ms JMKIA0064GB
(Y)	Giouna			When operating ei	ither button on the key	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1
		und Combination switch INPUT 5 Input	Input	Combination switch	All switches OFF (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0041GB 1.4 V
87	Ground				Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0037GB 1.3 V
(BR)					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0039GB 1.3 V
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 0 2 ms JPMIA0040GB 1.3 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(Wire +	e color) -	Signal name	Input/ Output		Condition	(Approx.)	А
					All switches OFF (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0041GB 1.4 V	B C D
					Lighting switch HI (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0036GB 1.3 V	E
88 (V)	Ground	Bround Combination switch Input INPUT 3	Input	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V	G H
				Rear washer switch ON (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0039GB 1.3 V	J K EXI	
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	(V) 15 10 2 ms JPMIA0040GB 1.3 V	M
89 (BR)	Ground	Push-button ignition switch (Push switch)	Input	Push-button igni- tion switch (push switch)	Pressed Not pressed	0 V Battery voltage	0
90 (P)	Ground	CAN-L	Input/ Output			_	Ρ
91 (L)	Ground	CAN-H	Input/ Output			_	

< ECU DIAGNOSIS INFORMATION >

$ \begin{array}{ c c c c c } \begin{array}{ c c c } \hline & Ground \\ \hline & Key slot illumination \\ \hline & LOCK status \\ \hline & Ground \\ \hline & Key slot illumination \\ \hline & LOCK status \\ \hline & \\ & \\$	Value (Approx.) Battery voltage
$ \begin{array}{ c c c c c } \begin{array}{ c c c } \hline & & & \\ \hline & & \hline$	I S JPMIA0015GB
$\begin{array}{c c c c c c c c } \begin{array}{c} Ground \\ (LG) \\ (LG) \\ \end{array} \end{array} \begin{array}{c} Ground \\ Key slot illumination \\ \end{array} \end{array} \begin{array}{c} Output \\ hon \\ \end{array} \end{array} \begin{array}{c} Key slot illumination \\ hon \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ N \\ \end{array} \end{array} \end{array} \begin{array}{c} Wey slot illumination \\ \hline \\ Wey slot \\ \end{array} \end{array} $ \end{array}	1 s JPMIA0015GB
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	0.5 V
OW Ground ON indicator lamp Output Ignition switch ON 94 (Y) Ground Puddle lamp control Output Puddle lamp OFF Image: Control of the tention switch OFF 95 (O) Ground ACC relay control Output Ignition switch OFF Image: Control of tention switch OFF 96 (GR) Ground A/T shift selector (Detention switch) power supply Output Ignition switch OFF Image: Control of tention switch Image: Control of tention switch Image: Control of tention switch OFF Image: Control of tention switch Image: Control of tentis </td <td>0 V</td>	0 V
$ \begin{array}{c c c c c c c c c } \hline \begin{array}{c} & Ground \\ \hline (Y) \hline (Y) \hline (Y) \\ \hline (Y) \hline$	Battery voltage 0 V
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Battery voltage
$ \begin{array}{c c c c c c c } \hline \begin{array}{c} 0 \\ \hline 0 \\ \hline 0 \\ \hline \end{array} \\ \hline \end{array} \\ \hline \begin{array}{c} 95 \\ \hline (O) \\ \hline \end{array} \\ \hline \begin{array}{c} 95 \\ \hline (O) \\ \hline \end{array} \\ \hline \begin{array}{c} 95 \\ \hline (O) \\ \hline \end{array} \\ \hline \begin{array}{c} 95 \\ \hline (O) \\ \hline \end{array} \\ \hline \begin{array}{c} 95 \\ \hline (O) \\ \hline \end{array} $ \\ \hline \end{array} \end{array} \\ \hline \end{array} \\ \hline \end{array} \\ \hline \end{array} \hline \end{array} \hline \end{array} \\ \hline \end{array} \end{array} \\ \hline \end{array} \end{array} \\ \hline \end{array} \end{array} \\ \hline \end{array} \\ \hline \end{array} \\ \hline \end{array} \\ \hline \end{array} \end{array} \\ \hline \end{array} \end{array} \\ \hline \end{array} \hline \end{array} \hline \end{array} \\ \hline \end{array} \end{array} \\ \hline \end{array} \\ \end{array} \\ \hline \end{array} \\ \hline \end{array} \end{array} \\ \hline \end{array} \\ \hline \end{array} \\ \end{array} \\ \hline \end{array} \end{array} \\ \hline \end{array} \end{array} \\ \end{array} \end{array} \\ \hline \end{array} \\ \hline \end{array} \\ \hline \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \\ \\ \\ \\ \end{array} \\ \hline \end{array} \\ \hline \end{array} \end{array} \\ \hline \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \\ \end{array} \\ \\ \hline \end{array} \\ \hline \end{array} \\ \hline \end{array} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \end{array} \\ \end{array} \\ \\ \\ \end{array} \\ \\ \end{array} \\ \hline \end{array} \\ \hline \end{array} \\ \hline \end{array} \\ \\ \end{array} \\ \\ \end{array} \\ \hline \end{array} \\ \hline \end{array} \\ \\ \end{array} \\ \\ \end{array} \\ \\ \end{array} \\ \hline \end{array} \\ \\ \hline \end{array} \\ \\ \hline \end{array} \\ \end{array} \\ \\ \end{array} \\ \hline \end{array} \\ \\ \hline \end{array} \\ \\ \hline \end{array} \\ \\ \\ \\ \\ \\ \\ \\ \\	0 V
$ \begin{array}{c c c c c c c } \hline \begin{array}{c} 0 \\ (O) \end{array} & \hline \begin{array}{c} Ground \end{array} & ACC relay control \end{array} & \hline \begin{array}{c} Output \end{array} & \hline \begin{array}{c} Ignition \ switch \end{array} & \hline \begin{array}{c} ACC \ or \ ON \end{array} & \hline \begin{array}{c} ACC \ or \ ON \end{array} & \hline \begin{array}{c} ACC \ or \ ON \end{array} & \hline \begin{array}{c} ACC \ or \ ON \end{array} & \hline \begin{array}{c} ACC \ or \ ON \end{array} & \hline \begin{array}{c} ACC \ or \ ON \end{array} & \hline \begin{array}{c} P \end{array} & \hline \end{array} & \hline \begin{array}{c} P \end{array} & \hline \end{array} & \hline \begin{array}{c} P \end{array} & \hline \end{array} & \hline \end{array} & \hline \begin{array}{c} P \end{array} & \hline \end{array} \\ & \hline \end{array} \\ & \hline \end{array} \end{array} & \hline \end{array} \\ & \hline \end{array} & \hline \end{array} & \hline \end{array} & \hline \end{array} \\ & \hline \end{array} & \hline \end{array} & \hline \end{array} \\ & \hline \end{array} & \hline \end{array} \\ & \hline \end{array} & \hline \end{array} & \hline \end{array} & \hline \end{array} \\ & \hline \end{array} \\ & \hline \end{array} \end{array} \\ & \end{array} & \end{array} & \hline \end{array} \\ & \end{array} & \hline \end{array} \end{array} \\ & \end{array} \end{array} \\ & \end{array} \end{array} \\ & \hline \end{array} \end{array} & \end{array} \\ \\ & \hline \end{array} \end{array} \\ \\ & \hline \end{array} & \end{array} \end{array} \\ & \end{array} \end{array} \end{array} \end{array} \\ & \end{array} \end{array} \\ \\ \\ & \hline \end{array} \\ \\ $ & \hline \\ \\ \\ \hline \\ \\ \\ \hline \end{array} \\ & \hline \end{array} \\ \\ \\ \\ \\ \hline \end{array} \end{array} \\ \\ \\ \\ \hline \\ \\ \\ \\ \hline \end{array} \\ \\ \\ \\ \\ \\ \\ \begin{array} \\ \\ \end{array} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \end{array} \\ \end{array}	0 V
$ \begin{array}{c c c c c c c } \hline & & & & & & & & & & & & & & & & & & $	Battery voltage
$ \begin{array}{c c c c c c c c c } \hline 96 \\ \hline (GR) & Ground & tention switch) power \\ \hline supply & \\ \hline 0P \\ \hline (L) & Ground & Steering lock condition No. 1 & \\ \hline 1nput & Input \\ \hline 0P \\ \hline (P) & Ground & Steering lock condition No. 2 & \\ \hline 1nput \\ \hline 0P \\ \hline (P) & Ground & Steering lock condition No. 2 & \\ \hline 1nput \\ \hline 0P \\ \hline (P) & Ground & Steering lock condition No. 2 & \\ \hline 1nput \\ \hline 0P \\ \hline (R) & Ground & Selector lever P position \\ \hline 1nput \\ \hline 1nput \\ \hline 0P \\ \hline (R) & Ground & Selector lever P position \\ \hline 1nput \\ \hline 1nput \\ \hline 0P \\ \hline (R) & Ground & Selector lever P position \\ \hline 1nput \\ \hline (P) & Ground \\ \hline (P) \hline (P) \\ \hline (P) \\ \hline (P) \\ \hline (P) \\ \hline (P) \hline (P) \\ \hline (P) \hline (P) \hline (P) \\ \hline (P) \hline $	
Ground Ground Ground Ground Input Steering lock UNLOCK status Input 98 (P) Ground Steering lock condition No. 2 Input Steering lock LOCK status Input Input 99 (R) Ground Selector lever P position switch Input Steering lock P position Input P position 99 (R) Ground Selector lever P position switch Input Selector lever P position Input Selector lever 99 (R) Ground Selector lever P position switch Input Selector lever P position Input Selector lever 1000000000000000000000000000000000000	Battery voltage
(L) Ground tion No. 1 Input Steering lock UNLOCK status It 98 (P) Ground Steering lock condition No. 2 Input Steering lock LOCK status It 99 (R) Ground Selector lever P position switch Input Selector lever P position Position 99 (R) Ground Selector lever P position switch Input Selector lever ON (Pressed) 99 (R) From Steering lock Input Selector lever ON (Pressed) Input	0 V
OP Ground Ground Ground Ground Input Steering lock 99 (R) Ground Selector lever P position Input Selector lever P position 99 (R) Ground Selector lever P position switch Input Selector lever P position 99 (R) Ground Selector lever P position Input Selector lever ON (Pressed) 99 (R) Input Input Selector lever ON (Pressed)	Battery voltage
(P) Iton No. 2 Unit of No. 2 99 (R) Ground Selector lever P position switch Input Selector lever P position Any position other than P Input Selector lever ON (Pressed)	Battery voltage
(R) Ground Ground Ground Ground Input Selector lever (R) Any position other than P Input Any position other than P Input (R) (R) (R) (R) (R) (R) (R) (R)	0 V
(R) tion switch Any position other than P I ON (Pressed) (V) 15	0 V
	Battery voltage
(V) 15	0 V
100 (G)GroundPassenger door re- quest switchInputPassenger door request switchOFF (Not pressed)10 5 0	JPMIA0016GB 1.0 V
ON (Pressed)	0 V
101 (SB) Ground Driver door request switch Input Driver door re- quest switch OFF (Not pressed) Input	
102 OFF or ACC	0 ms JPMIA0016GB 1.0 V
(O) Ground Ground Iay control Output Ignition switch ON ON F	0 ms JPMIA0016GB

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	А
103 (LG)	Ground	Remote keyless entry receiver power sup- ply	Output	Ignition switch OFF		Battery voltage	В
106	Ground	Steering lock unit	Output	Ignition switch	OFF or ACC	Battery voltage	C
(W)		power supply		- g	ON	0 V	С
			Input	Combination switch (Wiper intermit- tent dial 4)	All switches OFF	(V) 15 0 2 ms JPMIA0041GB 1.4 V	D E
		Combination switch INPUT 1			Turn signal switch LH	(V) 15 10 2 ms JPMIA0037GB 1.3 V	G
107 (LG)	Ground				Turn signal switch RH	(V) 15 0 2 ms JPMIA0036GB 1.3 V	I J K
					Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3 V	EXL
					Front washer switch ON	(V) 15 10 2 ms JPMIA0039GB 1.3 V	N O P

< ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description		Condition		Value
+	-	Signal name	Input/ Output	Condition		(Approx.)
					All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V
			Input	Combination switch	Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0038GB 1.3 V
108 (R)	Ground	Combination switch INPUT 4			Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0036GB 1.3 V
					Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0040GB 1.3 V
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	(V) 15 0 2 ms JPMIA0039GB 1.3 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
	e color)	Signal name	Input/	Condition		(Approx.)	А
+	_		Output		All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V	B C D
					Lighting switch PASS	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V	E
109 (Y)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 0 2 ms 1.3 V	G H
					Front wiper switch INT	(V) 15 10 2 ms JPMIA0038GB 1.3 V	J K EXL
					Front wiper switch HI	(V) 10 0 2 ms JPMIA0040GB 1.3 V	M
					ON	0 V	0
110 (G)	Ground	Hazard switch	Input	Hazard switch	OFF	(V) 15 10 5 10 10 10 10 10 11 JPMIA0012GB 1.1 V	Ρ

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				\ <i>I</i> =1=
(Wire +	e color) -	Signal name	Input/ Output		Condition	Value (Approx.)
					LOCK status	Battery voltage
111 (Y)	Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK or UNLOCK	(V) 15 10 50 50 ms JMKIA0066GB
					For 15 seconds after UN- LOCK	Battery voltage
					15 seconds or later after UNLOCK	0 V
113	Ground	Optical sensor	Input	Ignition switch	When bright outside of the vehicle	Close to 5 V
(P)	Ground		input	ON	When dark outside of the vehicle	Close to 0 V
116 (SB)	Ground	Stop lamp switch 1	Input	_		Battery voltage
		Stop lamp switch 2		Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
118	Ground		- Input		ON (Brake pedal is de- pressed)	Battery voltage
(P)	Cround			Stop lamp switch OFF (Brake pedal is not de- pressed) and ICC brake hold relay OFF		0 V
		(With ICC)		Stop lamp switch (pressed) or ICC bi	ON (Brake pedal is de- rake hold relay ON	Battery voltage
119 (SB)	Ground	Front door lock as- sembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 0 10 ms JPMIA0012GB 1.1 V
					UNLOCK status (Unlock switch sensor ON)	0 V
121	Ground	Key slot switch	Input	When the key is in	serted into key slot	Battery voltage
(BR)	Cround		mput	When the key is no	ot inserted into key slot	0 V
123	Ground	IGN feedback	Input	Ignition switch	OFF or ACC	0 V
(W)				-	ON	Battery voltage

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

	Terminal No. Description				Value		
(VVire +	e color) -	Signal name	Input/ Output		Condition	(Approx.)	A
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door close) ON (Door open)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V 0 V	B C D
132 (BR)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		(V) 15 10 10 10 10 10 10 10 10 10 10	E F G
				Ignition switch OFF	F or ACC	Battery voltage	
					ON (Tail lamps OFF)	9.5 V	Н
						NOTE: The pulse width of this wave is varied by the illumination bright- ening/dimming level.	
133 (W)	Ground	Push-button ignition switch illumination	Output	Push-button igni- tion switch illumi- nation	ON (Tail lamps ON)		J
					OFF	JPMIA0159GB	
10.4					OFF	Battery voltage	
134 (GR)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	ON	0 V	EX
137 (O)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V	M
138	Ground	Receiver and sensor	Output	Ignition switch	OFF	0 V	
(Y)		power supply			ACC or ON	5.0 V	

0

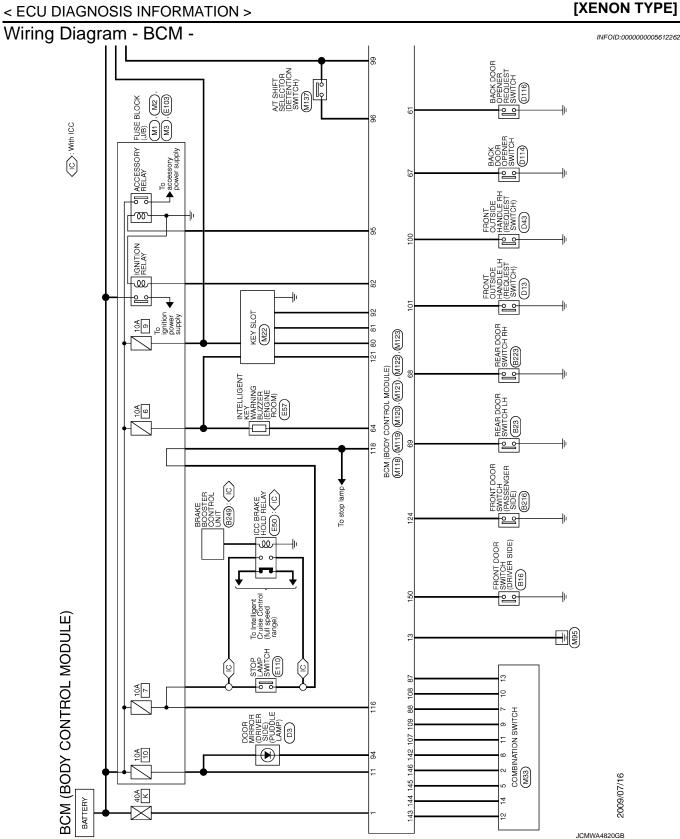
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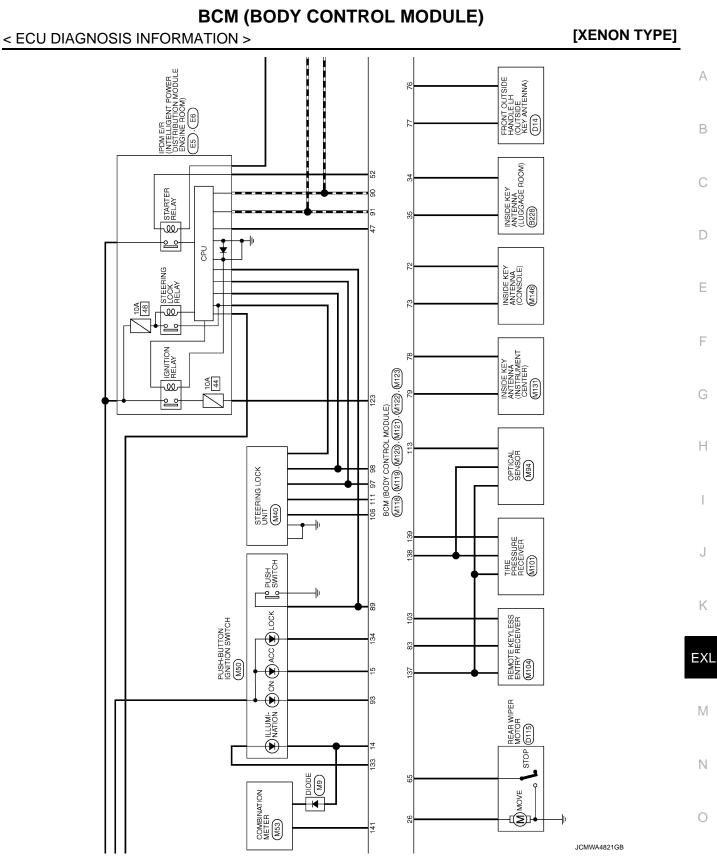
< ECU DIAGNOSIS INFORMATION >

	Terminal No. Description					Value	
(Wir +	e color) -	Signal name	Input/ Output		Condition	(Approx.)	
139	Ground	Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 6 2 0 + 0.2s DCC38B1D	
(L)		er communication	Output	t ON	When receiving the signal from the transmitter	(V) 4 2 0 + 0.2s OCC3880D	
140	Ground	Selector lever P/N	Input	Selector lever	P or N position	Battery voltage	
(GR)	Croana	position	mput		Except P and N positions ON	0 V 0 V	
141 (G)	Ground	Security indicator	Output	Security indicator	Blinking	(V) 15 0 15 10 15 10 15 10 15 10 10 15 10 10 10 10 10 10 10 10 10 10	
142 (O)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	OFF All switches OFF Lighting switch 1ST Lighting switch HI Lighting switch 2ND Turn signal switch RH	Battery voltage 0 V (V) 15 0 2 ms JPMIA0031GB 10.7 V	
143 (P)	Ground	Combination switch OUTPUT 1	Output	Combination switch	All switches OFF (Wiper intermittent dial 4) Front wiper switch HI (Wiper intermittent dial 4) Rear wiper switch INT (Wiper intermittent dial 4) Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7	0 V	

< ECU DIAGNOSIS INFORMATION >

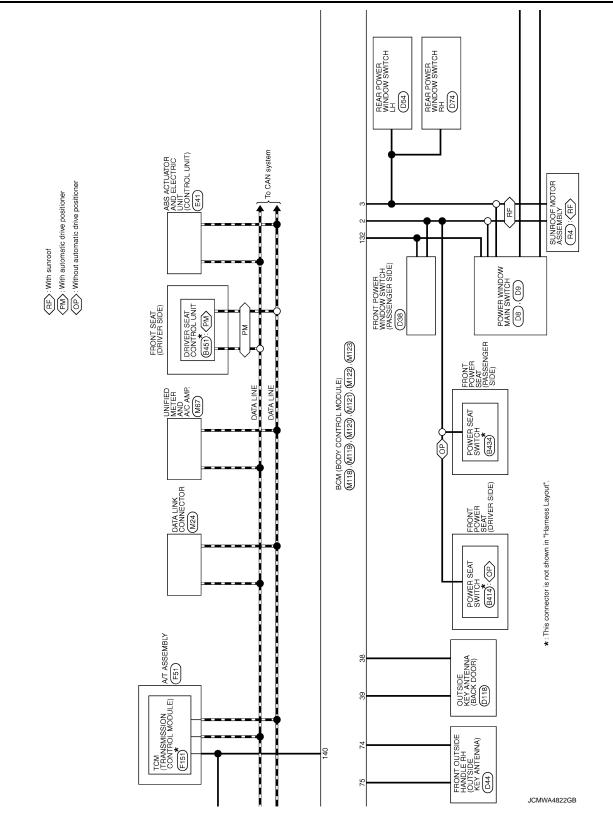
Terminal No.		Description				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	value (Approx.)	A
					All switches OFF (Wiper intermittent dial 4)	0 V	В
					Front washer switch ON (Wiper intermittent dial 4)		
144		Combination switch		Combination	Rear wiper switch ON (Wiper intermittent dial 4)		С
(G)	Ground	OUTPUT 2	Output	switch	Rear washer switch ON (Wiper intermittent dial 4)		D
					 Any of the conditions below with all switches OFF Wiper intermittent dial 1 Wiper intermittent dial 5 Wiper intermittent dial 6 	2 ms JPMIA0033GB 10.7 V	Е
					All switches OFF	0 V	F
					Front wiper switch INT		
				Combination	Front wiper switch LO	(V) 15	_
145 (L)	Ground	Ind Combination switch OUTPUT 3	Output	switch (Wiper intermit- tent dial 4)	Lighting switch AUTO	10 0 2 ms JPMIA0034GB	G
						10.7 V	
					All switches OFF	0 V	
		Combination switch OUTPUT 4		Combination switch (Wiper intermit- tent dial 4)	Front fog lamp switch ON	0.0	
146	Ground		Output		Lighting switch 2ND Lighting switch PASS	(V) 15 10 5	J
(SB)	Cround				Turn signal switch LH	0 2 ms JPMIA0035GB	K
						10.7 V	
						(V)	EXL
149 (W)	Ground	Tire pressure warn- ing check switch	Input	Ignition switch ON		15 10 5 0 ••••••••••••••••••••••••••••••	Μ
							Ν
150 (LG)	Ground	Driver door switch	Input	Driver door switch	OFF (Door close)	(V) 15 10 5 0 10 10 10 10 10 JPMIA0011GB	O
						11.8 V	
					ON (Door open)	0 V	
151	Ground	Rear window defog-	Output	Rear window de-	Active	0 V	
(G)		ger relay control		fogger	Not activated	Battery voltage	





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[XENON TYPE]

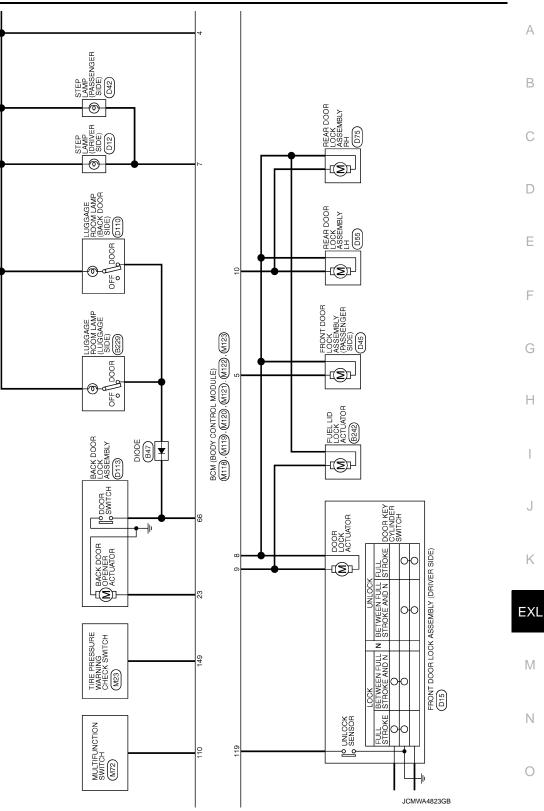


< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

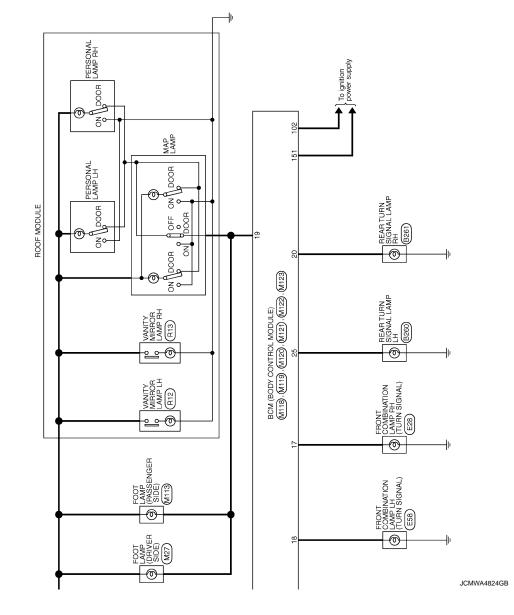
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >



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< ECU DIAGNOSIS INFORMATION >



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	G
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BOM (BODY CONTROL MODULE) Diameter Name Diameter Name Diameter Name Diameter Name Commeter Name Commete	Ν
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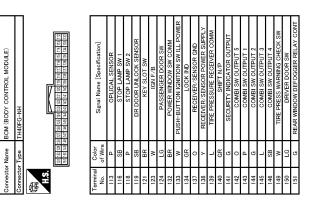
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BCM (BODY CONTROL MODULE) < ECU DIAGNOSIS INFORMATION >

Revision: 2009 August

JCMWA4825GB

< ECU DIAGNOSIS INFORMATION >



JCMWA4826GB

INFOID:000000005612263

Fail-safe

FAIL-SAFE CONTROL BY DTC

BCM (BODY CONTROL MODULE)

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

< ECU DIAGNOSIS INFORMATION >

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
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	Ignition switch $ON \rightarrow OFF$
B2557: VEHICLE SPEED	Inhibit steering lock	When normal vehicle speed signals are received from ABS actua- tor and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status be- comes consistentStarter control relay signalStarter relay status signal
B2601: SHIFT POSITION	Inhibit steering 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 steering 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 (2.5 MPH) or more
B2603: SHIFT POSI STATUS	Inhibit steering 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 steering lock	 500 ms after any of the following BCM recognition conditions are 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 steering lock	 500 ms after any of the following BCM recognition conditions are 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 becomes consistent Steering lock relay signal (Request signal) Steering lock relay signal (Condition signal)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Display contents of CONSULT	Fail-safe	Cancellation
B2607: S/L RELAY	Inhibit engine cranking	 500 ms after the following CAN signal communication status becomes consistent Steering lock relay signal (Request signal) Steering lock relay signal (Condition signal)
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 crankingInhibit steering lock	 When the following steering lock conditions agree BCM steering lock control status Steering lock condition No. 1 signal status Steering 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 are fulfilledPower position changes to ACCReceives engine status signal (CAN)
B2612: S/L STATUS	Inhibit engine crankingInhibit steering lock	 When any of the following conditions are fulfilled Steering lock unit status signal (CAN) is received normally The BCM steering lock control status matches the steering lock status recognized by the steering 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 be- comes normal
B2619: BCM	Inhibit engine cranking	1 second after the steering lock unit power supply output control in- side BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization
B26E9: S/L STATUS	Inhibit engine crankingInhibit steering lock	 When BCM transmits the LOCK request signal to steering lock unit, and receives LOCK response signal from steering lock unit, the following conditions are fulfilled Steering condition No. 1 signal: LOCK (0 V) Steering condition No. 2 signal: LOCK (Battery voltage)

HIGH FLASHER OPERATION

BCM detects the turn signal lamp circuit status by the current value.

BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

NOTE:

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

REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper stop position signal.

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

Condition of cancellation

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

DTC Inspection Priority Chart

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

EXL-164

INFOID:000000005612264

< ECU DIAGNOSIS INFORMATION >

Priority	DTC	Α
1	B2562: LOW VOLTAGE	_
2	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN)	В
3	 B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI SCANNING 	С
	 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 	D
	 B2602: SHIFT POSITION B2603: SHIFT POSI STATUS B2604: PNP SW B2605: PNP SW B2606: S/L RELAY 	F
4	 B2607: S/L RELAY B2608: STARTER RELAY B2609: S/L STATUS B260A: IGNITION RELAY B260B: STEERING LOCK UNIT B260C: STEERING LOCK UNIT 	Н
	 B2600: STEERING LOCK UNIT B260F: ENG STATE SIG LOST B2612: S/L STATUS B2614: ACC RELAY CIRC B2615: BLOWER RELAY CIRC 	l
	 B2616: IGN RELAY CIRC B2617: STARTER RELAY CIRC B2618: BCM B2619: BCM B2614: PUSH-BTN IGN SW B261E: VEHICLE TYPE B26E9: S/L STATUS B26EA: KEY REGISTRATION C1729: VHCL SPEED SIG ERR U0415: VEHICLE SPEED SIG 	K
	 C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL 	M
5	 C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL C1734: CONTROL UNIT 	O
6	B2621: INSIDE ANTENNA B2622: INSIDE ANTENNA B2623: INSIDE ANTENNA	_

DTC Index

NOTE:

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< ECU DIAGNOSIS INFORMATION >

The details of time display are as follows.CRNT: A malfunction is detected now.

PAST: A malfunction was detected now.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to <u>BCS-16, "COM-MON ITEM : CONSULT-III Function (BCM - COMMON ITEM)"</u>.

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.		_	_		
U1000: CAN COMM CIRCUIT	—	—	_	_	BCS-37
U1010: CONTROL UNIT (CAN)	—	—	_	_	BCS-38
U0415: VEHICLE SPEED SIG	—	—	_	_	BCS-39
B2013: ID DISCORD BCM-S/L	×	×	—	—	<u>SEC-48</u>
B2014: CHAIN OF S/L-BCM	×	×	—	—	<u>SEC-49</u>
B2190: NATS ANTENNA AMP	×	—	—	—	<u>SEC-41</u>
B2191: DIFFERENCE OF KEY	×	—	_	_	<u>SEC-44</u>
B2192: ID DISCORD BCM-ECM	×	—	_	_	<u>SEC-45</u>
B2193: CHAIN OF BCM-ECM	×	—	_	_	<u>SEC-46</u>
B2195: ANTI SCANNING	×	_	_	_	<u>SEC-47</u>
B2553: IGNITION RELAY		×	_	_	PCS-49
B2555: STOP LAMP		×	_	_	<u>SEC-52</u>
B2556: PUSH-BTN IGN SW	—	×	×	_	<u>SEC-54</u>
B2557: VEHICLE SPEED	×	×	×	_	<u>SEC-56</u>
B2560: STARTER CONT RELAY	×	×	×	_	<u>SEC-57</u>
B2562: LOW VOLTAGE		×	_	_	BCS-40
B2601: SHIFT POSITION	×	×	×		<u>SEC-58</u>
B2602: SHIFT POSITION	×	×	×	_	<u>SEC-61</u>
B2603: SHIFT POSI STATUS	×	×	×	_	<u>SEC-63</u>
B2604: PNP SW	×	×	×		<u>SEC-66</u>
B2605: PNP SW	×	×	×	_	<u>SEC-68</u>
B2606: S/L RELAY	×	×	×	_	<u>SEC-70</u>
B2607: S/L RELAY	×	×	×	—	<u>SEC-71</u>
B2608: STARTER RELAY	×	×	×	_	<u>SEC-73</u>
B2609: S/L STATUS	×	×	×	_	<u>SEC-75</u>
B260A: IGNITION RELAY	×	×	×	_	PCS-51
B260B: STEERING LOCK UNIT	—	×	×	—	<u>SEC-79</u>
B260C: STEERING LOCK UNIT	—	×	×	—	<u>SEC-80</u>
B260D: STEERING LOCK UNIT		×	×	—	<u>SEC-81</u>
B260F: ENG STATE SIG LOST	×	×	×	—	<u>SEC-82</u>
B2612: S/L STATUS	×	×	×	—	<u>SEC-86</u>
B2614: ACC RELAY CIRC	_	×	×	_	PCS-53
B2615: BLOWER RELAY CIRC	—	×	×	—	PCS-56
B2616: IGN RELAY CIRC	—	×	×	—	PCS-59

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< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2617: STARTER RELAY CIRC	×	×	×	_	<u>SEC-90</u>
B2618: BCM	×	×	×	—	PCS-62
B2619: BCM	×	×	×	—	<u>SEC-92</u>
B261A: PUSH-BTN IGN SW	—	×	×	—	<u>SEC-93</u>
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	—	<u>SEC-96</u>
B2621: INSIDE ANTENNA	—	×	—	—	DLK-59
B2622: INSIDE ANTENNA	_	×	—	—	DLK-61
B2623: INSIDE ANTENNA	—	×	—	—	DLK-63
B26E1: ENG STATE NO RES	×	×	×	_	<u>SEC-83</u>
B26E9: S/L STATUS	×	×	× (Turn ON for 15 seconds)	_	<u>SEC-84</u>
B26EA: KEY REGISTRATION	—	×	× (Turn ON for 15 seconds)	_	<u>SEC-85</u>
C1704: LOW PRESSURE FL	—	—	—	×	
C1705: LOW PRESSURE FR	—	—	—	×	WT-25
C1706: LOW PRESSURE RR	—	—	—	×	<u>vv1-25</u>
C1707: LOW PRESSURE RL	—	—	—	×	
C1708: [NO DATA] FL	_	_	—	×	
C1709: [NO DATA] FR			—	×	WT-27
C1710: [NO DATA] RR	_	_	—	×	<u>vv1-21</u>
C1711: [NO DATA] RL			_	×	
C1716: [PRESSDATA ERR] FL				×	
C1717: [PRESSDATA ERR] FR	_		—	×	WT-30
C1718: [PRESSDATA ERR] RR			—	×	<u></u>
C1719: [PRESSDATA ERR] RL	_		—	×	
C1729: VHCL SPEED SIG ERR	_		—	×	<u>WT-32</u>
C1734: CONTROL UNIT			—	×	<u>WT-34</u>

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

Reference Value

INFOID:000000005612266

VALUES ON THE DIAGNOSIS TOOL

Monitor Item		Condition	Value/Status
RAD FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 – 100 %
		A/C switch OFF	Off
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On
	Lighting switch OFF		Off
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On
	Lighting switch OFF		Off
HL LO REQ	Lighting switch 2ND HI or AUTC) (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) 	On
		Front wiper switch OFF	Stop
FR WIP REQ	Ignition switch ON	Front wiper switch INT	1LOW
FR WIF REQ		Front wiper switch LO	Low
		Front wiper switch HI	Hi
		Front wiper stop position	STOP P
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P
		Front wiper operates normally	Off
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe opera- tion	BLOCK
IGN RLY1 -REQ	Ignition switch OFF or ACC		Off
IGN KETT-KEQ	Ignition switch ON	On	
IGN RLY	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
PUSH SW	Release the push-button ignition	n switch	Off
	Press the push-button ignition s	witch	On
INTER/NP SW	Ignition switch ON	Selector lever in any position other than P or N	Off
		Selector lever in P or N position	On
	Ignition switch ON		Off
ST RLY CONT	At engine cranking		On
	Ignition switch ON		Off
IHBT RLY -REQ	At engine cranking		On

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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Monitor Item		Value/Status		
	Ignition switch ON	Off		
	At engine cranking		$INHI\:ON\toST\:ON$	
ST/INHI RLY		tarter control relay cannot be recognized by n, etc. when the starter relay is ON and the	UNKWN	
DETENT SW	Ignition switch ON	 Press the selector button with selector lever in P position Selector lever in any position other than P 	Off	
	Release the selector button w	vith selector lever in P position	On	
	None of the conditions below	are present	Off	
S/L RLY -REQ	seconds)	he ignition switch is turned OFF (for a few ion switch when the steering lock is activat-	On	
	Steering lock is activated			
S/L STATE	Steering lock is deactivated		UNLOCK	
	[DTC: B210A] is detected		UNKWN	
DTRL REQ	NOTE: The item is indicated, but not	Off		
OIL P SW	Ignition switch OFF, ACC or engine running		Open	
OIL F 3W	Ignition switch ON		Close	
HOOD SW	Close the hood		Off	
	Open the hood		On	
HL WASHER REQ	NOTE: The item is indicated, but not	monitored.	Off	
	Not operation		Off	
THFT HRN REQ	 Panic alarm is activated Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM 			
	Not operating		Off	
HORN CHIRP	Door locking with Intelligent K	ey (horn chirp mode)	On	
CRNRNG LMP REQ	NOTE: The item is indicated, but not	Off		

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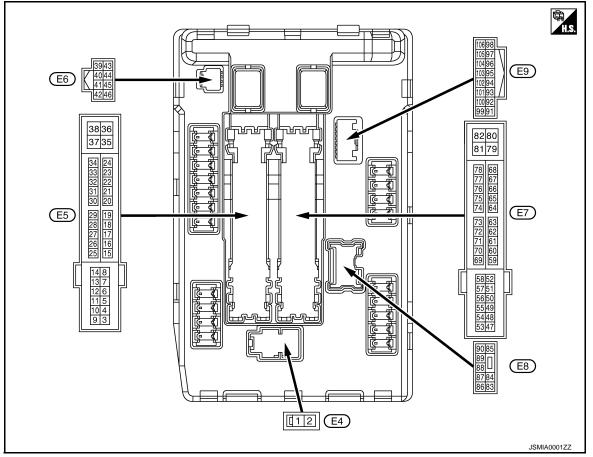
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

TERMINAL LAYOUT



PHYSICAL VALUES

	inal No.	Description				Value
(VVire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
4	Oround	FrontwinerLO	Quitaut	Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
5	Cround	Front win or HI	Quitout	Ignition	Front wiper switch OFF	0 V
(L)	Ground	Front wiper HI		switch ON	Front wiper switch HI	Battery voltage
7	Ground	Tail, license plate lamps &	Quitout	Ignition	Lighting switch OFF	0 V
(R)	Ground	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
				Ignition switch OFF	A few seconds after open- ing the driver door	Battery voltage
11 (BR)	Ground	Steering lock unit power supply	Output	Ignition switch LOCK	Press the push-button ig- nition switch	Battery voltage
				Ignition switch ACC or ON		0 V
12 (B/W)	Ground	Ground	_	Ignition switch ON		0 V

Terminal No. (Wire color)		Description				Value	
(VVire +	e color)	Signal name	Input/ Output		Condition	(Approx.)	
13					tely 1 second or more after ignition switch ON	0 V	_
(Y)	Ground	Fuel pump power supply	Output		nately 1 second after turning on switch ON unning	Battery voltage	
16				Ignition	Front wiper stop position	0 V	_
(LG)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage	
19	Ground	Ignition relay power supply	Output	Ignition swi	itch OFF	0 V	
(W)	Cround	ignition roldy power oupply	Output	Ignition swi	itch ON	Battery voltage	
25	Ground	Ignition relay power supply	Output	Ignition swi	itch OFF	0 V	
(G)	Croana	ignition roldy power oupply	Output	Ignition swi	itch ON	Battery voltage	
26*	Ground	Ignition relay power supply	Output	Ignition swi	itch OFF	0 V	
(R)	C. Guild		- albai	Ignition swi	itch ON	Battery voltage	
27	Ground	Ignition relay monitor	Input	Ignition swi	itch OFF or ACC	Battery voltage	
(O)	Croana		mput	Ignition swi	itch ON	0 V	
28	Ground	Push-button ignition	Input	Press the p	oush-button ignition switch	0 V	
(L)	Croana	switch	mput	Release the	e push-button ignition switch	Battery voltage	
30 (GR)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any posi- tion other than P or N	0 V	
(GIV)					Selector lever P or N	Battery voltage	
32	Ground	Steering lock unit condi-	Input	Steering lo	ck is activated	0 V	
(L)	Cround	tion-1	mput	Steering lo	ck is deactivated	Battery voltage	
33	Ground	Steering lock unit condi-	Input	Steering lock is activated		Battery voltage	
(P)	Giouna	tion-2	mput	Steering lock is deactivated		0 V	
36 (G)	Ground	Battery power supply	Input	Ignition swi	itch OFF	Battery voltage	
39 (P)	_	CAN-L	Input/ Output		-	_	_
40 (L)	_	CAN-H	Input/ Output		-	_	
41 (B/W)	Ground	Ground		Ignition swi	itch ON	0 V	
42	Ground	Cooling fan relay control	Input	Ignition swi	itch OFF or ACC	0 V	
(Y)	C. Sund			Ignition swi	itch ON	0.7 V	
43 (SB)	Ground	A/T shift selector (Detention switch)	Input	Ignition switch ON	 Press the selector but- ton (Selector lever P) Selector lever in any po- sition other than P 	Battery voltage	
					Release the selector but- ton (selector lever P)	0 V	_
44	Ground	Horn rolay control	Input	The horn is	deactivated	Battery voltage	
(BR)	Ground	Horn relay control	Input	The horn is	activated	0 V	
45	Ground	Anti thaft have rales as the	loout	The horn is	deactivated	Battery voltage	
(G)	Ground	Anti theft horn relay control	Input	The horn is	activated	0 V	

	inal No.	Description				Value								
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)								
46 (R)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any posi- tion other than P or N	0 V								
(K)				SWIICH ON	Selector lever P or N	Battery voltage								
					A/C switch OFF	0 V								
48 (L)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is oper- ating)	Battery voltage								
40				Ignition sw (More than ignition sw	a few seconds after turning	0 V								
49 (O)	Ground	ECM relay power supply	Output	 Ignition s Ignition s (For a fe tion swite 	witch OFF witch off after turning igni-	Battery voltage								
51	Ground	lapition roley power supply	Output	Ignition sw	itch OFF	0 V								
(Y)	Ground	Ignition relay power supply	Output	Ignition sw	itch ON	Battery voltage								
				Ignition sw (More than ignition sw	a few seconds after turning	0 V								
53 (W)	Ground	ECM relay power supply	Output	 Ignition s Ignition s (For a fe tion swite 	witch OFF witch off after turning igni-	Battery voltage								
E A		Throttle control motor ro		Ignition sw (More than ignition sw	a few seconds after turning	0 V								
54 (P)	Ground	Throttle control motor re- lay power supply	Output	 Ignition s Ignition s (For a fe tion swite 	witch OFF w seconds after turning igni-	Battery voltage								
55 (SB)	Ground	ECM power supply	Output	Ignition sw	itch OFF	Battery voltage								
56	Ground	Ignition relay power supply	Output	Ignition sw	itch OFF	0 V								
(LG)	Gibunu	Ignition relay power supply	Output	Ignition sw	itch ON	Battery voltage								
57	Ground	Ignition relay power supply	Output	Ignition sw	itch OFF	0 V								
(G)		·9····································		Ignition sw	itch ON	Battery voltage								
58	Ground	Ignition relay power supply	Output	Ignition sw		0 V								
(V)				Ignition sw		Battery voltage								
69												Ignition sw (More than ignition sw	a few seconds after turning	Battery voltage
(BR)	Ground	ECM relay control	Output	 Ignition s Ignition s (For a fe tion swite) 	witch OFF witch of turning igni-	0 – 1.5 V								
						0 – 1.0 V								
70 (O)	Ground	round Throttle control motor re- lay control		Ignition sw	itch ON \rightarrow OFF	↓ Battery voltage ↓ 0 V								
				Ignition sw	itch ON	0 – 1.0 V								
	1			1										

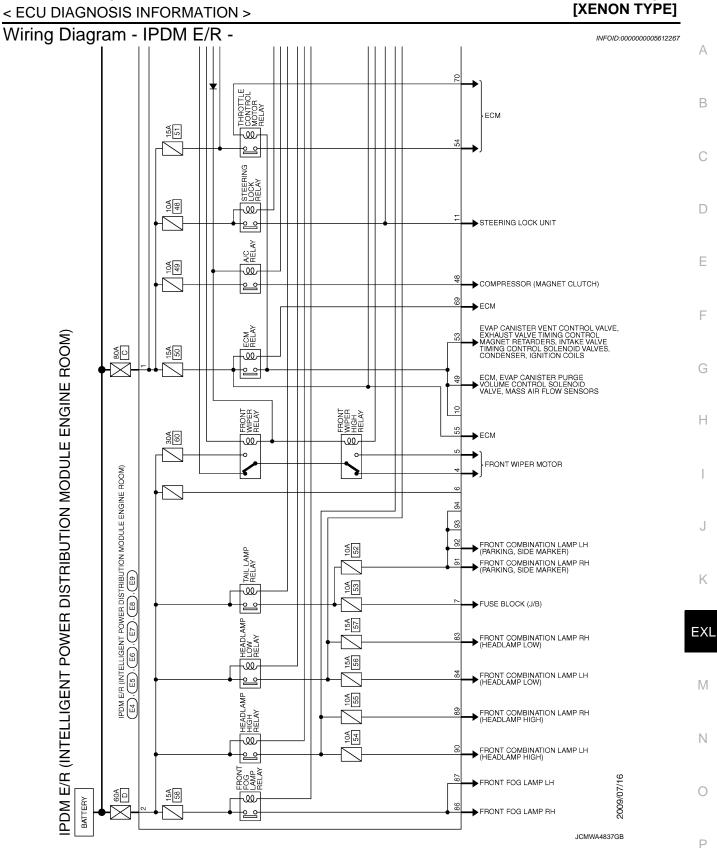
	Terminal No. Description					Value
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
74	Cround	Ignition roley newer supply	Quitout	Ignition swi	tch OFF	0 V
(P)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
75	Ground	Oil pressure switch	Input	Ignition	Engine stopped	0 V
(SB)	Ground	On pressure switch	mput	switch ON	Engine running	Battery voltage
				Ignition switch ON 40% is set on "ACTIVE TEST", "AL- TERNATOR DUTY" of "ENGINE"		(V) 6 4 0 → 4 2 ms → JPMIA0001GB 6.3 V
76 (Y)			Output			(V) 6 4 0 4 2 0 4 2 m 4 2 m 5 4 2 m 5 7 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
				80% is set on "ACTIVE TEST", "AL- TERNATOR DUTY" of "ENGINE"		(V) 6 4 0 2 0 2 2 2 3 2 3 2 3 2 3 3 3 3 3 3 3 3
77 (R)	Ground	Fuel pump relay control	Output		nately 1 second after turning on switch ON unning	1.4 V 0 – 1.0 V
(••)				Approximately 1 second or more after turning the ignition switch ON		Battery voltage
80 (W)	Ground	Starter motor	Output	At engine o	-	Battery voltage
83	Ground	Headlamp LO (RH)	Output	Ignition	Lighting switch OFF	0 V
(O)				switch ON	Lighting switch 2ND	Battery voltage
84	Ground	Headlamp LO (LH)	Output	Ignition	Lighting switch OFF	0 V
(V)	Croand		Carpar	switch ON	Lighting switch 2ND	Battery voltage
86 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	 Front fog lamp switch OFF Front fog lamp switch ON Daytime running light activated (Only for Can- 	0 V Battery voltage

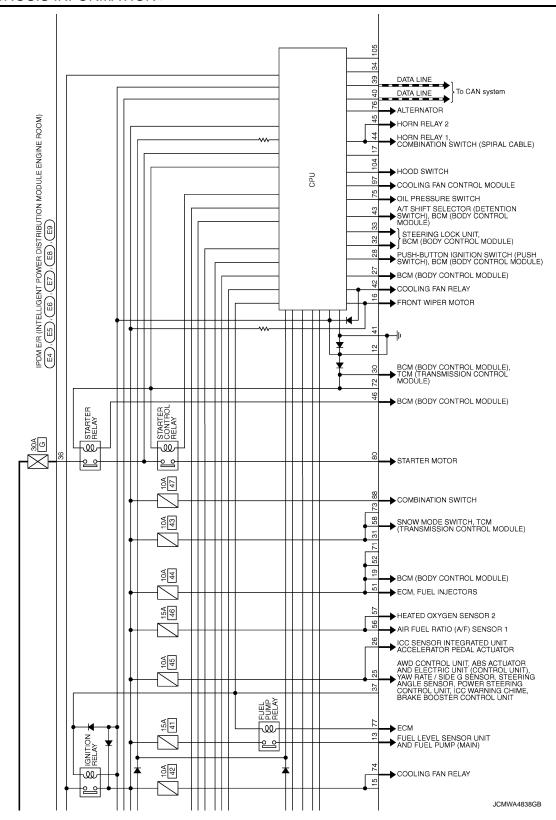
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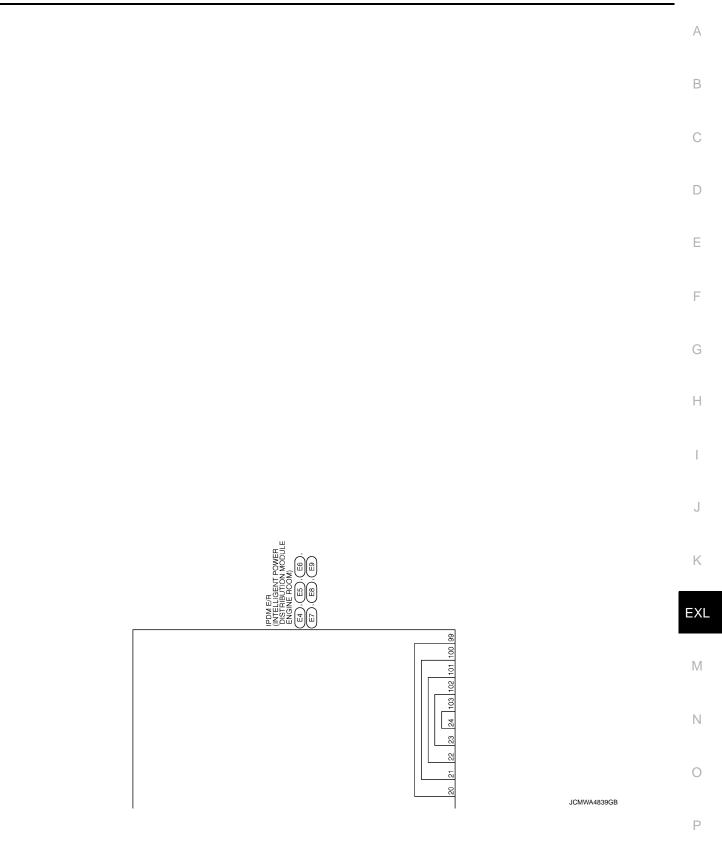
	inal No.	Description				Value
(Wire	e color) –	Signal name	Input/ Output	Condition		(Approx.)
					Front fog lamp switch OFF	0 V
87 (L)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	 Front fog lamp switch ON Daytime running light activated (Only for Can- ada) 	Battery voltage
88 (GR)	Ground	Washer pump power sup- ply	Output	Ignition swi	tch ON	Battery voltage
89				Ignition	Lighting switch OFF	0 V
(BR)	Ground	Headlamp HI (RH)	Output	put Ignition switch ON	Lighting switch HILighting switch PASS	Battery voltage
90				Ignition	Lighting switch OFF	0 V
90 (P)	Ground	Headlamp HI (LH)	Output	switch ON	Lighting switch HILighting switch PASS	Battery voltage
91	Ground	Parking lamp (RH)	Output	Ignition	Lighting switch OFF	0 V
(P)	Giouna		Output	switch ON	Lighting switch 1ST	Battery voltage
92	Ground	Parking lamp (LH)	Output	Ignition	Lighting switch OFF	0 V
(O)	Giouna		Output	switch ON	Lighting switch 1ST	Battery voltage
97 (V)	Ground	Cooling fan control	Output	Engine idling		0 – 5 V
104	Ground	Hood switch	Input	Close the hood		Battery voltage
(LG)	Ciouna		Input	Open the h	ood	0 V

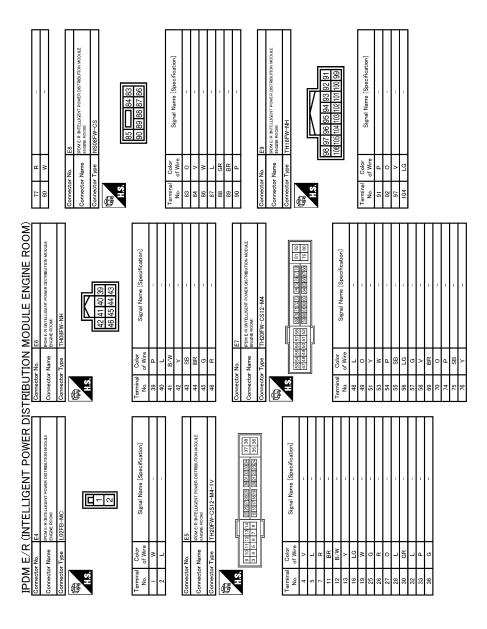
*: Only for the models with ICC system

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









JCMWA4840GB

INFOID:000000005612268

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

Fail-safe

EXL-178

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

< ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe operation	
Cooling fan	 Outputs the pulse duty signal (PWM signal) 100% when the ignition switch is turned ON Outputs the pulse duty signal (PWM signal) 0% when the ignition switch is turned OFF 	
A/C compressor	A/C relay OFF	
Alternator	Outputs the power generation command signal (PWM signal) 0%	

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation	
Headlamp	 Turns ON the headlamp low relay when the ignition switch is turned ON Turns OFF the headlamp low relay when the ignition switch is turned OFF Headlamp high relay OFF 	
 Parking lamps License plate lamps Side maker lamps Illuminations Tail lamps 	 Turns ON the tail lamp relay when the ignition switch is turned ON Turns OFF the tail lamp relay when the ignition switch is turned OFF 	
Front wiper	 The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating. 	
Front fog lamps	Front fog lamp relay OFF	
Horn	Horn relay OFF	
Ignition relay	The status just before activation of fail-safe is maintained.	
Starter motor	Starter control relay OFF	
Steering lock unit	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.

Voltago	judgment			EXL
Ignition relay contact side	Ignition relay excitation coil side	IPDM E/R judgment	Operation	М
ON	ON	Ignition relay ON normal	_	IVI
OFF	OFF	Ignition relay OFF normal	—	
ON	OFF	Ignition relay ON stuck	 Detects DTC "B2098: IGN RELAY ON" Turns ON the tail lamp relay for 10 minutes 	Ν
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"	0

FRONT WIPER CONTROL

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

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

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

< ECU DIAGNOSIS INFORMATION >

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

NOTE:

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

STARTER MOTOR PROTECTION FUNCTION

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

DTC Index

NOTE:

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

		×: Applicable
CONSULT display	Fail-safe	Reference
No DTC is detected. further testing may be required.	_	_
U1000: CAN COMM CIRCUIT	×	PCS-15
B2098: IGN RELAY ON	×	PCS-16
B2099: IGN RELAY OFF	_	PCS-17
B2108: STRG LCK RELAY ON	-	<u>SEC-97</u>
B2109: STRG LCK RELAY OFF	-	<u>SEC-98</u>
B210A: STRG LCK STATE SW	-	<u>SEC-99</u>
B210B: START CONT RLY ON	_	<u>SEC-103</u>
B210C: START CONT RLY OFF	-	<u>SEC-104</u>
B210D: STARTER RELAY ON	_	<u>SEC-105</u>
B210E: STARTER RELAY OFF	-	<u>SEC-106</u>
B210F: INTRLCK/PNP SW ON	-	<u>SEC-108</u>
B2110: INTRLCK/PNP SW OFF	-	<u>SEC-110</u>

INFOID:000000005612269

< ECU DIAGNOSIS INFORMATION >

AFS CONTROL UNIT

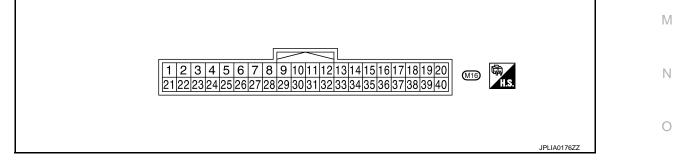
Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item	Condition	on	Value/Status	(
STR ANGLE SIG	Steering	Straight-forward	Approx. 0°	_
STR ANGLE SIG	Steering	Steering	Approx900° - +900°	
VHCL SPD	Driving at 40 km/h (25 MPH)		40 km/h	_
SLCT LVR POSI	Selector lever operation		P - 1	_
		2ND	On	_
HEAD LAMP	Light switch	Other than 2ND	Off	_
AFS SW	NOTE: The item is inidicated, but not monitore	NOTE: The item is inidicated, but not monitored.		
		Unloaded vehicle condition	Approx. 2.5 V	_
HI SEN OTP RR	Vehicle rear height	Low (Leveling operation downward edge)	Approx. 1.6 V	(
LEV ACTR VLTG	Headlamp leveling	Unloaded vehicle condition	Approx. 70.0%	
		Low (Leveling operation	Approx. 35.4% (With 17-inch wheel)	
		downward edge)	Approx. 32.1% (With 18-inch wheel)	
		Standard position	Approx. 0°	
SWVL SEN RH	Right headlamp swivel activation	Activation	Positive degree (+ $^{\circ}$)	
SWVL SEN LH	Left headlamp swivel activation	Standard position	Approx. 0°	
SWVL SEN LH		Activation	Positive degree (+°)	
SWVL ANGLE RH	Pight headlamp quivel activation	Standard position	Approx. 0°	
	Right headlamp swivel activation	Activation	Positive degree (+°)	_
SWVL ANGLE LH	Left headlamp swivel activation	Standard position	Approx. 0°	_
		Activation	Positive degree (+°)	E

TERMINAL LAYOUT



PHYSICAL VALUES

INFOID:000000005174604

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AFS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

	inal No. e color)	Description		Condition		Value
+	-	Signal name	Input/ output	Conditio	on	(Approx.)
1 (Y)	Ground	Ignition power supply	Input	The ignition switch ON	٧	Battery voltage
2 (LG)	Ground	Right swivel position sensor ground	Input	The ignition switch ON	٧	0 V
4 (Y)	Ground	Right swivel position sensor power supply	Output	The ignition switch ON	V	5 V
6 (W)	Ground	Height sensor power supply	Output	The ignition switch ON		5 V
7 (P)	Ground	CAN-L	Input/ output	—		_
8 (B)	Ground	Height sensor ground	Input	The ignition switch ON		0 V
9 (GR)	Ground	Right swivel position sensor signal	Output	Right headlamp swivel angle	0° 15°	0.7 V 2.8 V
						Reference waveform
11 (R)	Ground	Right swivel motor 1-phase (–)	Output	Right headlamp swivel	Activation	(V) 10 5 0 + 100 µs SKIB2408J 8 - 12 V
13 (B)	Ground	Right swivel motor 2-phase (-)	Output	Right headlamp swivel	Stopped	9.5 - 11.5 V
15 (G)	Ground	Left swivel motor 1-phase (+)	Output	Left headlamp swivel	Activation	Reference waveform
17 (W)	Ground	Left swivel motor 2-phase (+)	Output	Left headlamp swivel	Stopped	9.5 - 11.5 V
					Unloaded ve- hicle condition	8.8 V
19 (SB)	Ground	Right levelizer signal	Output	Right headlamp lev- eling	Leveling oper- ation down- ward edge	4.4 V (With 17-inch wheel) 4.0 V
24 (V)	Ground	Left swivel position sensor power supply	Output	The ignition switch ON	۷	(With 18-inch wheel) 5 V
(V) 25 (B)	Ground	Ground	_	The ignition switch ON	٧	0 V
27 (BR)	Ground	Left swivel position sensor ground	Input	The ignition switch ON	V	0 V

AFS CONTROL UNIT

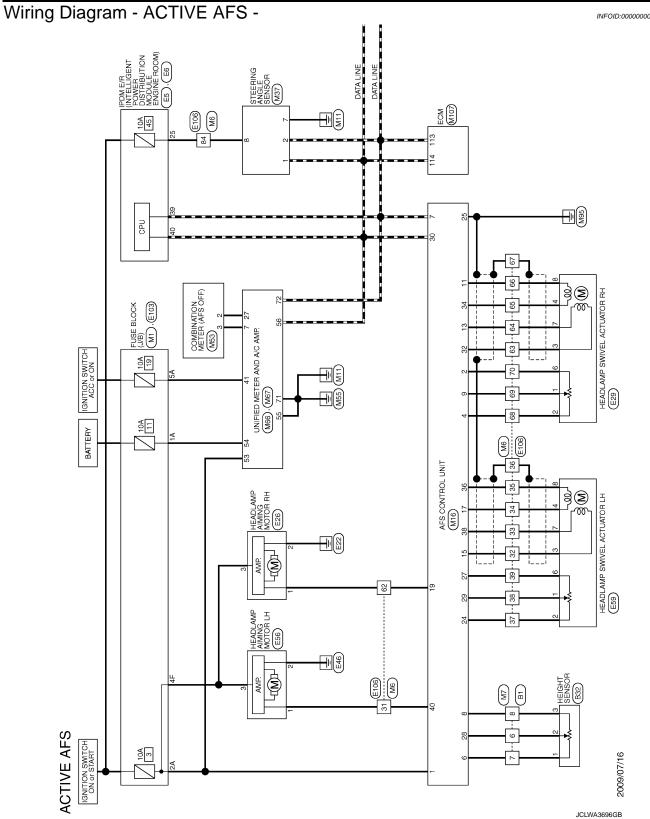
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[XENON TYPE]

	inal No. e color)	Description		Condition		Value	А
+	-	Signal name	Input/ output	Conditio	ווכ	(Approx.)	
					Unloaded ve- hicle condition	2.5 V	В
28 (SB)	Ground	Height sensor signal	Output	Vehicle rear height	Low (Leveling operation downward edge)	1.6 V	С
29 (O)	Ground	Left swivel position sensor sig- nal	Output	Left headlamp swivel angle	0°	0.7 V	D
30	Ground	CAN-H	Input/		17°	3.0 V	
(L)			output		[E
						Reference waveform	
32 (G)	Ground	Right swivel motor 2-phase (+)	Output	Right headlamp swivel	Activation	$(V) \\ 15 \\ 10 \\ 5 \\ 0 \\ + +100 \mu s$	F
						SKIB2408J	G
						8 - 12 V	
34 (W)	Ground	Right swivel motor 1-phase (+)	Output	Right headlamp swivel	Stopped	9.5 - 11.5 V	Н
						Reference waveform	
36 (R)	Ground	Left swivel motor 2-phase (-)	Output	Left headlamp swivel	Activation	(V) 15 10 5 0 ★ €100µs	J
						SKIB2408J 8 - 12 V	
38 (B)	Ground	Left swivel motor 1-phase (-)	Output	Left headlamp swivel	Stopped	9.5 - 11.5 V	K
					Unloaded ve- hicle condition	8.8 V	EXL
40 (L)	Ground	Left levelizer signal	Output	Right headlamp lev- eling	Leveling oper- ation down-	4.4 V (With 17-inch wheel)	M
					ward edge	4.0 V (With 18-inch wheel)	1

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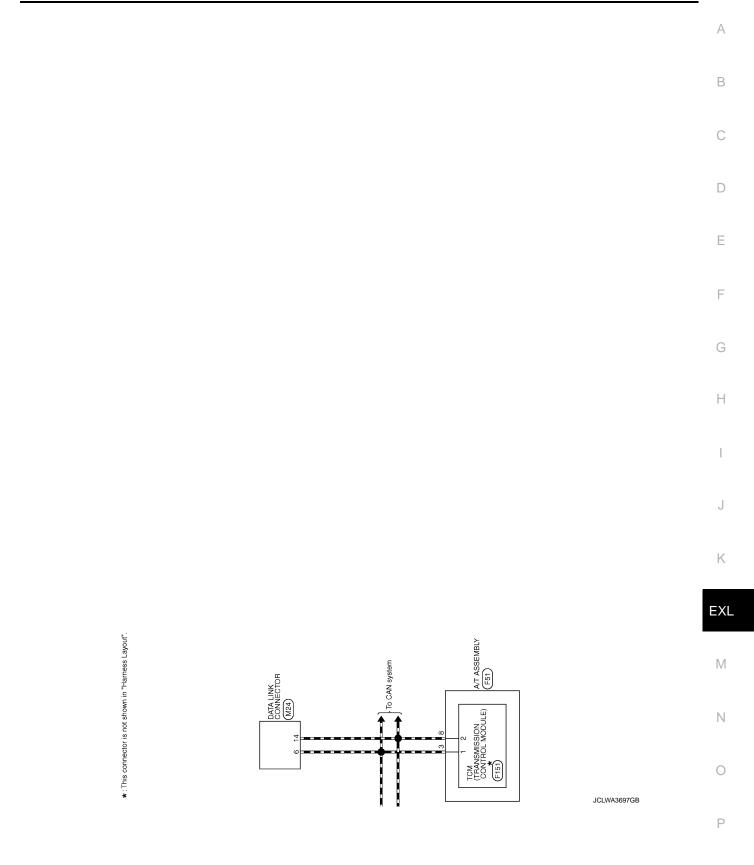


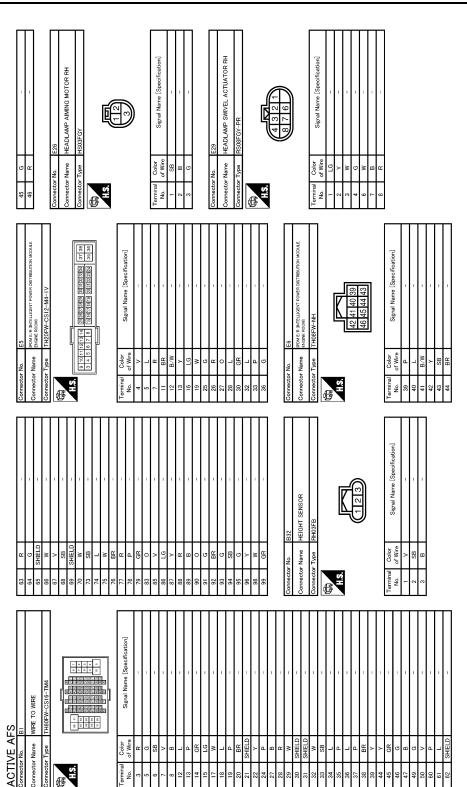
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[XENON TYPE]

AFS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >





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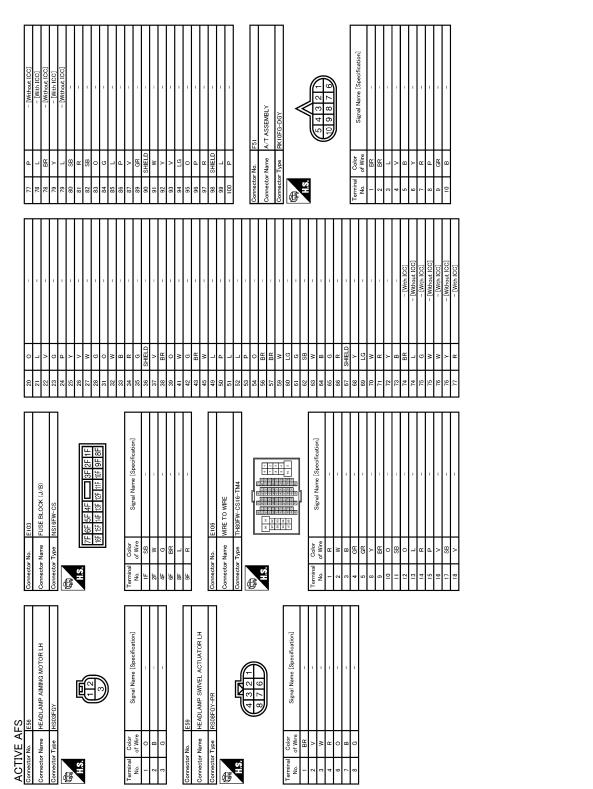
AFS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

AFS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >



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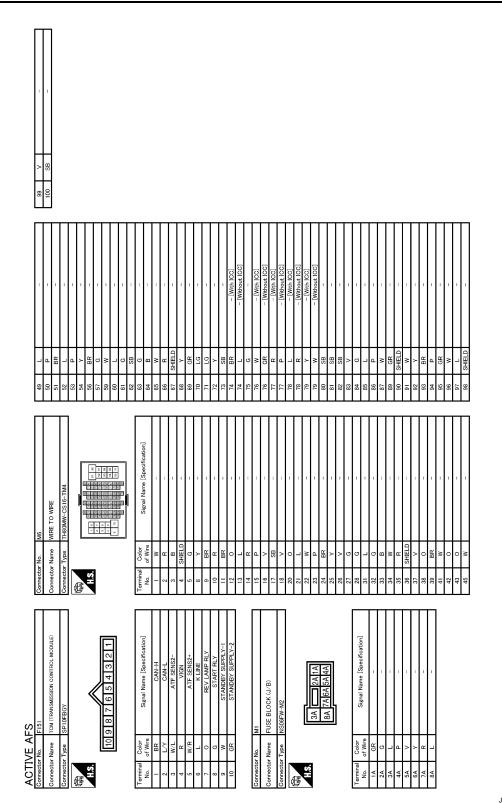
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< ECU DIAGNOSIS INFORMATION >

Revision: 2009 August

	AFS CONTROL UNIT	
INFORMAT	TION >	[XE
1406FW-HNH	Signal Marre [Specification] CAN-H CAN-L CAN-L CAN- ION	
	O O O O O O O O O O O O O O O O O O O	
Intector Type	8 2	

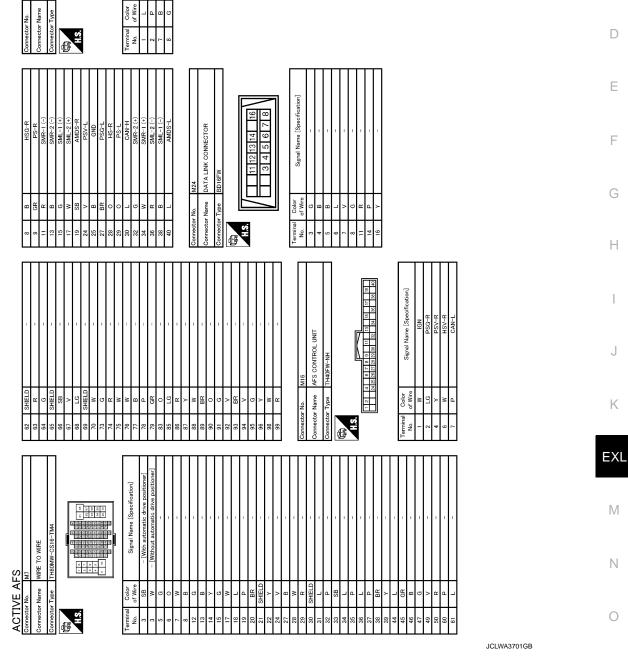
< ECU DIAGNOSIS I

STEERING ANGLE SENSOR

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ACTIVE AFS	Connector No	MRG	53	<u> </u>	IGNITION POWER SUBDLY	13	_	VEHCAN-I 1	Γ
Т			54		RATTERY POWER SLIPPLY	114		VEHCAN-H1	Γ
Connector Name COMBINATION METER	Connector Name	UNIFIED METER AND A/C AMP.	55	ι - œ	GROUND	116	N N	GNDA-PDPRFS	Γ
Connector Type TH40FW-NH	Connector Type	TH40FW-NH	56		CAN-H	117	>	KLINE	Γ
4	4		57	W BRAKE	BRAKE FLUID LEVEL SWITCH SIGNAL	121	ГG	CDCV	Γ
F	F		58	BR FUE	FUEL LEVEL SENSOR GROUND	122	٩	BRAKE	
Hs.	H.S.H		59	GR IN	INTAKE SENSOR GROUND	123	в	GND	
Ŀ			60	L IN-V	IN-VEHICLE SENSOR GROUND	124	в	GND	
1 2 3 5 6 7 10 11 14 15 16 18 18 20 21 22 24 25 26 27 28 29 39 31 33 33 33 33 33 34 37 38 39 40	21 22 23	5 6 7 8 9 10 11 12 14 15 16 20 26 26 27 28 30 30 34 34 38 38 38	61	BR AN	AMBIENT SENSOR GROUND	125	Я	VBR	
	1		62	SB SU	SUNLOAD SENSOR GROUND	126	BR	BNC SW	
			63	R	-	127	в	GND	
			65	0	ECV SIGNAL	128	в	GND	
Terminal Color Signal Name [Specification]	ler	Signal Name [Specification]	69	+	A/C LAN SIGNAL				
	NO. OT WIFE	MANULAL MODE CURET UD CIONAL	0/ -	╉	EACH DOOR MOTOR POWER SUPPLY				
2 1.6 COMMINICATION SIGNAL (METER-YAMD)		COMMINICATION SIGNAL (AME-SMETER)	, 1	• •	CANE				
2 g	α	VEHICLE SPEED SIGNAL (2-DLILSE)	-	-	1				
B GROUND	a es	FRONT SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)							
P ALTEF	┝	MANUAL MODE SIGNAL	Connector No.	o. M107					
BR	11	NON-MANUAL MODE SIGNAL							
	14 BR	COMMUNICATION SIGNAL (LCD->AMP.)	Connector Name	ame ECM					
H	20 L	ION ON/OFF SIGNAL	Connector Type		RH24FGY-RZ8-R-LH-Z				
16 B METER CONTROL SWITCH GROUND	23 Y	AT SNOW SWITCH SIGNAL	ģ						
19 B ILL GND	25 V	MANUAL MODE SHIFT DOWN SIGNAL	F	ĺ					
٣	-	COMMUNICATION SIGNAL (METER->AMP.)	H.S.	128 124	116112108104100				
0 IGNITIO	28 R	VEHICLE SPEED SIGNAL (8-PULSE)		127 123	111 107 103 99				
m	30 <	PARKING BRAKE SWITCH SIGNAL		126 122	114 110 106 102 98				
BR :	+	COMMUNICATION SIGNAL (AMP>LCD)		125 121	11711310910510197				
+	289	BLOWER MUTOR CONTROL SIGNAL		ſ					
20 K VEHICLE SPEEU SIGNAL (8-PULSE) 27 V DARKING RPAKE SWITCH SIGNAL			Tarminal	Color					
> 3	Connector No	MG7			Signal Name [Specification]				
SF		/ OM	t	è a	APS1				
C SEAT BELT BLICKLE SWITCH SIGNAL (DASSENCED S	Connector Name	UNIFIED METER AND A/C AMP.	80	: >					
I WASHER LEVEL SWITCH SIGNAL	Connector Type	TH32FW-NH	86	. a	APS2 [Without ICC]				
			66	. 0	AVCC-APS1 [With ICC]				
- D1	低		66		AVCC-APS1 [Without ICC]				
ß			100	N	GND-A (APS1)				
L			101	SB	ASCDSW				
	42	45 46 47	102	LG	FTPRS				
40 0 ILLUMINATION CONTROL SWITCH SIGNAL (+)	57 58 59	59/60/61/62/63 65 69/70/71/72	103	_	AVCC-APS2 [With ICC]				
			103	۲ ع	AVCC-APS2 [Without ICC]				
			104	BR	GND-A(APS2) [With ICC]				
	Terminal Color	Cimital Name (Same	104	GR GI	GND-A(APS2) [Without ICC]				
	No. of Wire	oignaí Ivanie Lopecification]	105	L L	PDPRESS				
	41 V	ACC POWER SUPPLY	106	M	TF				
	42 Y	FUEL LEVEL SENSOR SIGNAL	107	BR	AVCC-FTPRS				
	43 R	INTAKE SENSOR SIGNAL	108	Y	GNDA ASCD				
	44 LG	IN-VEHICLE SENSOR SIGNAL	109	IJ	NEUT-H				
	45 P	AMBIENT SENSOR SIGNAL	110	æ	TACHO				

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AFS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

Fail-Safe

INFOID:000000005174606

[XENON TYPE]

DTC	Fail-safe	AFS OFF indica- tor lamp	Cancellation
CAN COMM CIRCUIT [U1000]	 Right and left swivel motors stop at the position when DTC is detected. Right and left aiming motors stop at the position when DTC is detected. 	Blinks 1 second each.	Ignition switch OFF
CONTROL UNIT (CAN) [U1010]	 Right and left swivel motors stop at the position when DTC is detected. Right and left aiming motors stop at the position when DTC is detected. 	Blinks 1 second each.	Ignition switch OFF
SWIVEL ACTUATOR [RH, LH] [B2503, B2504]	 Right and left swivel motors stop at the position when DTC is detected. The signal, approximately 2 V decreased from the level- izer signal when DTC detected, is output. 	Blinks 1 second each.	Ignition switch OFF
HI SEN UNUSUAL [RR] [B2514]	Right and left aiming motors stop at the position when DTC is detected.	_	Ignition switch OFF
ST ANG SEN SIG [C0126]	 Right and left swivel motor swivel angle returns to 0° and fixed. 	Blinks 1 second each.	Ignition switch OFF
SHIFT SIG [P, R] [B2516]	 Right and left swivel motor swivel angle returns to 0° and fixed. 	Blinks 1 second each.	Ignition switch OFF
VEHICLE SPEED SIG [B2517]	 Right and left swivel motor swivel angle returns to 0° and fixed. Right and left aiming motors stop at the position when DTC is detected. 	Blinks 1 second each.	Ignition switch OFF
LEVELIZER CALIB [B2519]	 Right and left aiming motors stop at the position when DTC is detected. 	_	When the levelizer adjustment is com- pleted.
ST ANGLE SEN CALIB [C0428]	 Right and left swivel motor swivel angle returns to 0° and fixed. 	Blinks 1 second each.	When the steering angle sensor neutral position registration is competed
ECU CIRC [B2521]	 Right and left swivel motors stop at the position when DTC is detected. Right and left aiming motors stop at the position when DTC is detected. 	Blinks 1 second each.	Ignition switch OFF

DTC Inspection Priority Chart

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

NOTE:

• If DTC U1000 is displayed with other DTC, first perform the trouble diagnosis for DTC U1000.

• If DTC U1010 is displayed with other DTC, first perform the trouble diagnosis for DTC U1010.

Priority	Detected items (DTC)	
1	U1000 CAN COMM CIRCUIT U1010 CONTROL UNIT (CAN)	(
2	B2519 LEVELIZER CALIB B2521 ECU CIRC C0428 ST ANG SEN CALIB	F
3	 B2503 SWIVEL ACTUATOR [RH] B2504 SWIVEL ACTUATOR [LH] B2514 HI SEN UNUSUAL [RR] B2516 SHIFT SIG [P, R] B2517 VEHICLE SPEED SIG C0126 ST ANG SEN SIG 	

INFOID:000000005174607

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AFS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

DTC Index

[XENON TYPE]

CONSULT indication	Fail-safe	AFS OFF indicator lamp	Reference
U1000: CAN COMM CIRCUIT	×	×	EXL-61, "Description"
U1010: CONTROL UNIT (CAN)	×	×	EXL-62, "DTC Logic"
B2503, B2504: SWIVEL ACTUATOR [RH, LH]	×	×	EXL-44, "Description"
B2514: HI SEN UNUSUAL [RR]	×		EXL-50, "Description"
B2516: SHIFT SIG [P, R]	×	×	EXL-53, "Description"
B2517: VEHICLE SPEED SIG	×	×	EXL-54, "Description"
B2519: LEVELIZER CALIB	×		EXL-55, "Description"
B2521: ECU CIRC	×	×	EXL-56, "Description"
C0126: ST ANG SEN SIG	×	×	EXL-59, "Description"
C0428: ST ANGLE SEN CALIB	×	×	EXL-60, "Description"

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS > SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

INFOID:000000005174609

[XENON TYPE]

CAUTION:

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

Syr	nptom	Possible cause	Inspection item	
Headlamp (HI) is not turned ON.	One side	 Fuse Halogen bulb (HI) Harness between IPDM E/R and the headlamp high IPDM E/R 	Headlamp (HI) circuit Refer to <u>EXL-67</u> .	
	Both sides	Symptom diagnosis		
Headlamp (HI) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (HI) A Refer to <u>EXL-196</u> .	RE NOT TURNED ON"	
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_	
High beam indicator lam [The headlamp (HI) is tu		Combination meter	 Combination meter Data monitor "HI-BEAM IND" BCM (HEAD LAMP) Active test "HEADLAMP" 	
Headlamp (LO) is not turned ON.	One side	 Fuse Xenon bulb (LO) Harness between IPDM E/R and the headlamp low IPDM E/R 	Headlamp (LO) circuit Refer to <u>EXL-69</u> .	
	Both sides	Symptom diagnosis		
Headlamp (LO) is not When ignition switch is turned ON.		"BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-197</u> .		
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_	
Headlamp is not turned ON/OFF with the lighting switch AUTO.		 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-82</u> .	
		 Optical sensor Harness between the optical sensor and BCM BCM 	Optical sensor Refer to <u>EXL-80</u> .	
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 <u>EXL-74</u> .	
	Both side	Symptom diagnosis	1	
Front fog lamp is not tur	ned ON.	"BOTH SIDE FRONT FOG LAMPS Refer to <u>EXL-199</u> .	S ARE NOT TURNED ON"	
Parking lamp is not turne	ed ON.	 Fuse Parking lamp bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R 	Parking lamp circuit Refer to <u>EXL-76</u> .	

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EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

Symp	tom	Possible cause	Inspection item
Tail lamp is not turned ON.		 Harness between IPDM E/R and the rear combination lamp Rear combination lamp 	Tail lamp circuit Refer to <u>EXL-85</u> .
License plate lamp is not to	urned ON.	 Harness between IPDM E/R and the license plate lamp License plate lamp 	License plate lamp circuit Refer to <u>EXL-87</u> .
Tail lamp and the license p ON.	late lamp are not turned	 Fuse Harness between IPDM E/R and the rear combination lamp IPDM E/R 	Tail lamp circuit Refer to <u>EXL-85</u> .
 Parking lamp, the tail lan lamp are not turned ON. Parking lamp, the tail lan lamp are not turned OFF (Each illumination is turned) 	np and the license plate	Symptom diagnosis "PARKING, LICENSE PLATE AND ON" Refer to <u>EXL-198</u> .	TAIL LAMPS ARE NOT TURNED
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (The applicable side performs the high flash- er activation.)	 Harness between BCM and each turn signal lamp Turn signal lamp bulb 	Turn signal lamp circuit Refer to <u>EXL-78</u> .
	Indicator lamp is includ- ed	 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-82</u> .
	One side	Combination meter	_
Turn signal indicator lamp does not blink. (The turn signal indicator	Both sides (Always)	 Turn signal indicator lamp signal Unified meter and A/C amp. BCM Combination meter 	 Unified meter and A/C amp. Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER"
amp is normal.)	Both sides (Only when activating the hazard warning lamp with the ignition switch OFF)	The combination meter power supply and the ground circuitCombination meter	Combination meter Power supply and the ground circuit Refer to <u>MWI-53</u> .
 Hazard warning lamp does not activate. Hazard warning lamp continues activating. (Turn signal is normal.) 		 Hazard switch Harness between the hazard switch and BCM BCM 	Hazard switch Refer to <u>EXL-83</u> .
Headlamp auto aiming doe normal.)	es not activate. (AFS is	 Harness between AFS control unit and aiming motor Front combination lamp (Aiming motor) AFS control unit 	Headlamp levelizer circuit Refer to <u>EXL-72</u> .
AFS OFF indicator lamp is	not turned ON.	 AFS OFF indicator lamp signal Unified meter and A/C amp. AFS control unit Combination meter 	Unified meter and A/C amp. Data monitor "AFS OFF IND"

NORMAL OPERATING CONDITION

Description

XENON HEADLAMP

- Brightness and the color of light may change slightly immediately after turning the headlamp ON 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 headlamp may not be turned ON/OFF immediately after passing dark area or bright area (short tunnel, sky bridge, shadowed area etc.) while using the auto light system. This causes for the control difference. This is normal.

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BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description

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

Diagnosis Procedure

1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to <u>BCS-82, "Symptom Table"</u>.

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

Monitor item	Con	dition	Monitor status
HL HI REQ	Lighting switch	HI or PASS	On
	(2ND)	LO	Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-84, "Exploded View"</u>.

 $\mathbf{3.}$ HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-67. "Component Function Check".

Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

INFOID:000000005174611

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM D		MPS (LO)	ARE NOT TURNED	 DN
Description	, ,			
•				INFOID:000000005174613
	. ,	e not turned Ol	N in any condition.	
Diagnosis P	rocedure			INFOID:000000005174614
1. СНЕСК СОГ	MBINATION SW	ITCH		
Is the combinat YES >> GC NO >> Rep	ion switch norma	al? ne malfunction		
 Select "HL With operation 		M E/R data m switch, check t	the monitor status.	
1. Select "HL	LO REQ" of IPD	M E/R data m switch, check t	the monitor status.	
 Select "HL With operation 	LO REQ" of IPD ting the lighting s	M E/R data m switch, check t	the monitor status.	
1. Select "HL 2. With operation Monitor item HL LO REQ Is the item statu YES >> GC NO >> Re	LO REQ" of IPD ting the lighting s Cond Lighting switch <u>us normal?</u> TO 3. place BCM.	M E/R data m switch, check t ition 2ND OFF	Monitor status On	
1. Select "HL 2. With operation Monitor item HL LO REQ Is the item statu YES >> GC NO >> Re 3. HEADLAMP	LO REQ" of IPD ting the lighting s Cond Lighting switch us normal? D TO 3. place BCM. (LO) CIRCUIT I	M E/R data m switch, check t ition 2ND OFF NSPECTION	the monitor status. Monitor status On Off	
1. Select "HL 2. With operation HL LO REQ Is the item statu YES >> GC NO >> Rej 3. HEADLAMP Check the head Is the headlamp YES >> Rej	LO REQ" of IPD ting the lighting s Cond Lighting switch us normal? D TO 3. place BCM. (LO) CIRCUIT I	M E/R data m switch, check t 2ND OFF NSPECTION it. Refer to <u>EX</u> mal?	the monitor status. Monitor status On Off	

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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

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

Diagnosis Procedure

INFOID:000000005174616

INFOID:000000005174615

1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to <u>BCS-82, "Symptom Table"</u>.

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

CONSULT-III DATA MONITOR

1. Select "TAIL & CLR REQ" of IPDM E/R data monitor item.

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

Monitor item	Condition		Monitor status
TAIL & CLR	Lighting switch	1ST	On
REQ	Lighting Switch	OFF	Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

3.TAIL LAMP CIRCUIT INSPECTION

Check the tail lamp circuit. Refer to EXL-85, "Component Function Check".

Is the tail lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

			[XENON TYPE]
<u>SYMPTOM DIAGNOSIS</u> > BOTH SIDE FRONT FOG		PS ARE NOT TURNED	
Description			INFOID:000000005174617
•			NV 012.00000000174017
The front fog lamps are not turned OI	n in any o	condition.	
Diagnosis Procedure			INFOID:000000005174618
1 .COMBINATION SWITCH INSPEC	TION		
Check the combination switch. Refer	to BCS-8	32, "Symptom Table".	
Is the combination switch normal?			
YES >> GO TO 2. NO >> Repair or replace the ma	Ifunctioni	ng part	
2. CHECK FRONT FOG LAMP REQ			
PCONSULT-III DATA MONITOR	-		
1. Select "FR FOG REQ" of IPDM E			
2. With operating the front fog lamp	switch, c	check the monitor status.	
Monitor item Condition		Monitor status	
FR FOG REQ	ON	On	
		•	
(Lighting switch 2ND)	OFF	Off	
(Lighting switch 2ND) Is the item status normal?	OFF	-	
(Lighting switch 2ND) Is the item status normal? YES >> GO TO 3.	OFF	-	
Is the item status normal? YES >> GO TO 3. NO >> Replace BCM.		Off	
Is the item status normal? YES >> GO TO 3. NO >> Replace BCM. 3. FRONT FOG LAMP CIRCUIT INST	SPECTIO	Off	,
Is the item status normal? YES >> GO TO 3. NO >> Replace BCM. 3. FRONT FOG LAMP CIRCUIT INS Check the front fog lamp circuit. Reference	SPECTIO	Off	<u>.</u>
Is the item status normal? YES >> GO TO 3. NO >> Replace BCM. 3. FRONT FOG LAMP CIRCUIT INS Check the front fog lamp circuit. Refe Is the front fog lamp circuit normal? YES >> Replace IPDM E/R.	SPECTIO	Off N 74, "Component Function Check	<u>.</u>
Is the item status normal? YES >> GO TO 3. NO >> Replace BCM. 3. FRONT FOG LAMP CIRCUIT INS Check the front fog lamp circuit. Refe Is the front fog lamp circuit normal?	SPECTIO	Off N 74, "Component Function Check	<u>.</u>

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< PRECAUTION > PRECAUTION PRECAUTIONS

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

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

WARNING:

- 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 "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

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

Precautions For Xenon Headlamp Service

INFOID:000000005174620

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.

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.).

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< PERIODIC MAINTENANCE > PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

Description

PREPARATION BEFORE ADJUSTING

NOTE:

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

Before performing aiming adjustment, check the following.

- Adjust the tire pressure to the specification.
- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the trunk room.)
 NOTE:

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

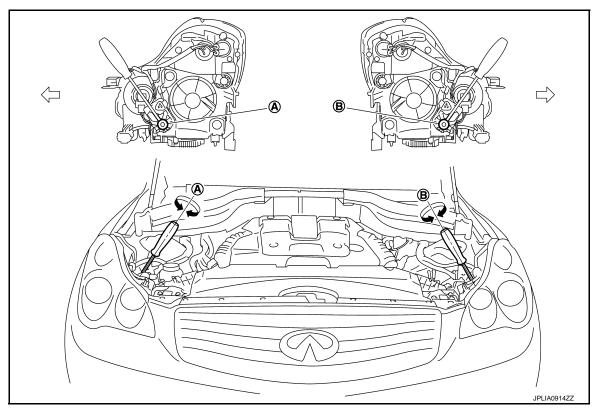
• Wipe out dirt on the headlamp.

CAUTION:

Never use organic solvent (thinner, gasoline etc.)

• Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



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

C: Vehicle center

NOTE:

The figure is the vehicle without AFS. Each adjustment screw is applied to the vehicle with AFS.

EXL-201

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

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

Aiming Adjustment Procedure

INFOID:000000005174622

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

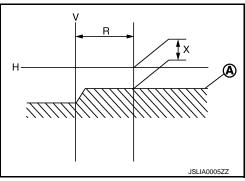
Shut off the headlamp light with the board to prevent from illuminating the adjustment screen. **CAUTION:**

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

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

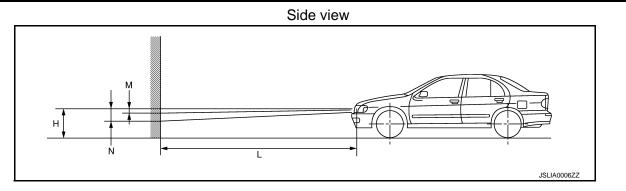
Light axis measurement range (R) $: 350 \pm 175 \text{ mm} (13.78 \pm 6.89 \text{ in})$

Low beam distribution on the screen



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

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



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

EXL-202

FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE > FRONT FOG LAMP AIMING ADJUSTMENT

Description

PREPARATION BEFORE ADJUSTING

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

Before performing aiming adjustment, check the following.

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

NOTE:

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

- Wipe out dirt on the headlamp.
- **CAUTION:**
- Never use organic solvent (thinner, gasoline etc.)
- Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW

• Turn the aiming adjusting screw for adjustment.

A: UP

B: DOWN

• For the position and direction of the adjusting screw, refer to the figure.

NOTE:

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

Aiming Adjustment Procedure

1. Place the screen.

NOTE:

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

NOTE:

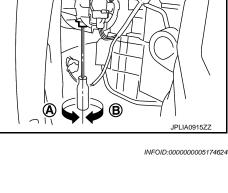
Shut off the headlamp light with the board to prevent from illuminating the adjustment screen. **CAUTION:**

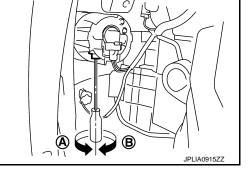
Never cover the lens surface with a tape etc. The lens is made of resin.

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

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[XENON TYPE]

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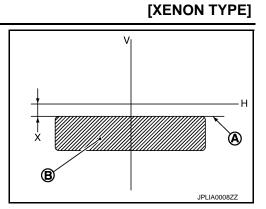
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FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

Front fog lamp light distribution on the screen



- 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

< REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION

FRONT COMBINATION LAMP

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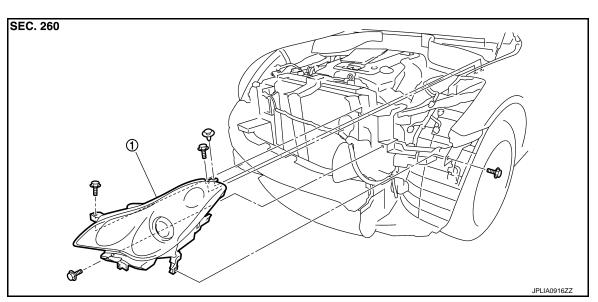
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INFOID:000000005174625 B

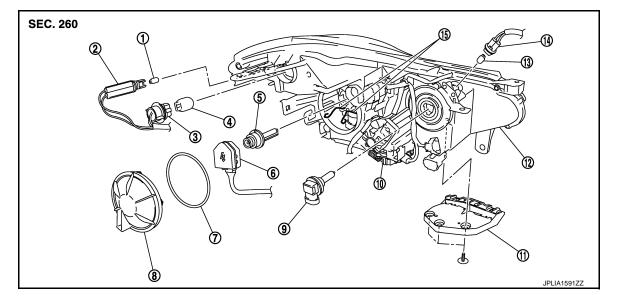
Exploded View

REMOVAL



1. Front combination lamp

DISASSEMBLY



- 1. Front side marker lamp bulb
- 4. Front turn signal lamp bulb
- 7. Seal packing
- 10. HID control unit
- 13. Parking lamp bulb

- 2. Front side marker lamp bulb socket
- 5. Xenon bulb
- 8. Resin cap
- 11. Bumper bracket
- 14. Parking lamp bulb socket
- 3. Front turn signal lamp bulb socket
- 6. Xenon bulb socket
- 9. Headlamp (HI) bulb
- 12. Headlamp housing assembly
- 15. Retaining spring

CAUTION:

HID control unit and xenon bulb socket cannot be disassembled.

Revision: 2009 August

FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

Removal and Installation

REMOVAL

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

- 1. Remove the front bumper fascia. Refer to EXT-12, "Exploded View".
- 2. Remove the headlamp mounting bolts and clips.
- Remove the harness clip and the holding clip (A)*.
 *: Left side only.

<□ : Vehicle front

- 4. Pull out the headlamp assembly forward the vehicle.
- 5. Disconnect the connector before removing the headlamp assembly.

emoving the headlamp

Install in the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to EXL-201, "Description".

Replacement

INSTALLATION

CAUTION:

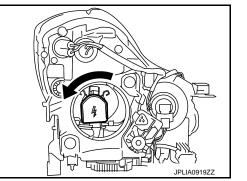
- Disconnect the battery negative terminal or remove the fuse.
- After installing the bulb, install the resin cap and the bulb socket securely for watertightness.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never touch bulb by hand while it is lit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

HEADLAMP BULB (LO)

- 1. Remove the fender rubber protector in the engine room. Keep a service area.
- 2. Rotate the resin cap counterclockwise and unlock it.
- 3. Rotate the bulb socket counterclockwise and unlock it.
- 4. Remove the retaining spring lock. And then remove the bulb from the headlamp housing assembly.

CAUTION: Never break the xenon bulb ceramic tube when replacing

the bulb.



HEADLAMP BULB (HI)

- 1. Remove the washer tank inlet^{*}. Refer to <u>WW-105, "Exploded View"</u>. *:When replace a right.
- 2. Disconnect the headlamp (HI) bulb connector.
- 3. Rotate the bulb socket counterclockwise and unlock it.
- 4. Remove the bulb socket from the headlamp housing assembly.

PARKING LAMP BULB

1. Rotate the bulb socket counterclockwise and unlock it.



EXL-206

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FRONT COMBINATION LAMP

FRONT COMBINATION LAMP	
< REMOVAL AND INSTALLATION > [XENON TYPE]	
2. Remove the bulb from the bulb socket.	٥
FRONT TURN SIGNAL LAMP BULB	A
1. Remove the fender rubber protector in the engine room. Keep a service area.	
2. Rotate the bulb socket counterclockwise and unlock it.	В
3. Remove the bulb from the bulb socket.	
FRONT SIDE MARKER LAMP BULB	
1. Remove the fender rubber protector in the engine room. Keep a service area.	С
2. Rotate the bulb socket counterclockwise and unlock it.	
3. Remove the bulb from the bulb socket.	D
Disassembly and Assembly	
CAUTION:	Е
HID control unit and xenon bulb socket cannot be disassembled.	
DISASSEMBLY	
 Rotate the resin cap counterclockwise and unlock it. 	F
2. Rotate the xenon bulb socket counterclockwise and unlock it.	
3. Remove the retaining spring lock. Remove the xenon bulb.	G
4. Remove the bumper bracket.	0
5. Rotate the parking lamp bulb socket counterclockwise and unlock it.	
6. Remove the bulb from the parking lamp bulb socket.	Н
7. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it.	
8. Remove the bulb from the front turn signal lamp bulb socket.	
 Rotate the front side marker lamp bulb socket counterclockwise and unlock it. Demove the bulb from the front side marker lamp bulb cocket. 	I
10. Remove the bulb from the front side marker lamp bulb socket.	
 Rotate the headlamp (HI) bulb socket counterclockwise and unlock it. Remove the bulb socket from the headlamp housing assembly. 	J
	-
ASSEMBLY	
Assemble in the reverse order of disassembly. CAUTION:	Κ
After installing the bulb, install the resin cap and the bulb socket securely for watertightness.	

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FRONT FOG LAMP

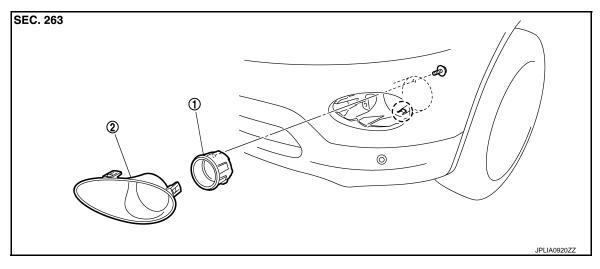
< REMOVAL AND INSTALLATION >

FRONT FOG LAMP

Exploded View

INFOID:000000005174629

[XENON TYPE]



1. Front fog lamp

2. Front fog lamp finisher

(`) : Pawl

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the front fender protector. Keep a service area. Refer to <u>EXT-25. "FENDER PROTECTOR :</u> <u>Exploded View"</u>.
- 2. Remove the front fog lamp finisher.
- 3. Remove the front fog lamp connector.
- 4. Remove the screw.
- 5. Disengage the pawl. And then remove the front fog lamp.

INSTALLATION

Installation is the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to EXL-203. "Description"

Replacement

CAUTION:

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

FRONT FOG LAMP BULB

1. Remove the front fender protector. Keep the service area. Refer to <u>EXT-25. "FENDER PROTECTOR :</u> <u>Exploded View"</u>.

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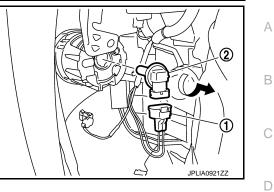
FRONT FOG LAMP

< REMOVAL AND INSTALLATION >

2. Remove the front fog lamp bulb connector (1).

3. Rotate the bulb (2) counterclockwise and unlock it.

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Revision: 2009 August

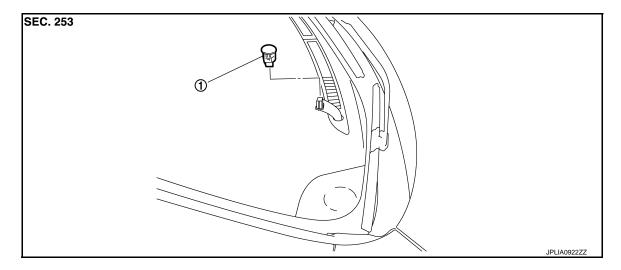
OPTICAL SENSOR

< REMOVAL AND INSTALLATION >

OPTICAL SENSOR

Exploded View

INFOID:000000005174632



1. Optical sensor

Removal and Installation

INFOID:000000005174633

REMOVAL

- 1. Insert an appropriate tool between the optical sensor and the instrument upper panel. Pull out the optical sensor upward.
- 2. Disconnect the optical sensor connector. And then remove the optical sensor.

INSTALLATION

Install in the reverse order of removal.

Povision: 2000 August	EXL-211	

LIGHTING AND TURN SIGNAL SWITCH

< REMOVAL AND INSTALLATION > LIGHTING AND TURN SIGNAL SWITCH

Exploded View

Lighting and turn signal switch is integrated in the combination switch. BCS-85, "Exploded View".

[XENON TYPE]

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< REMOVAL AND INSTALLATION >

HAZARD SWITCH

Exploded View

The hazard warning switch is integrated in the multifunction switch. Refer to AV-137, "Exploded View".

AFS CONTROL UNIT

< REMOVAL AND INSTALLATION >

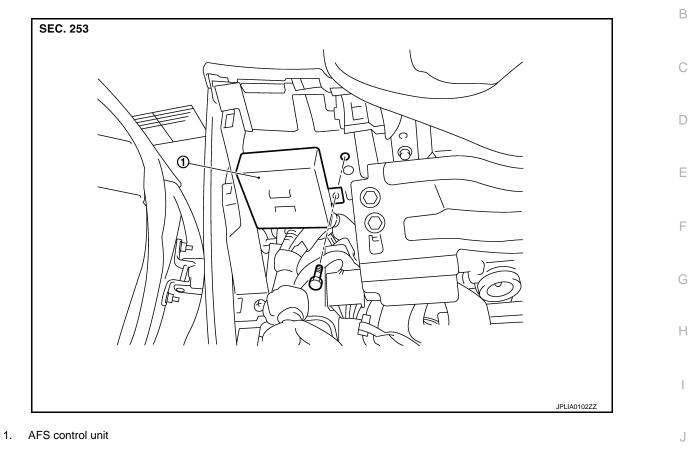
AFS CONTROL UNIT

Exploded View

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[XENON TYPE]



Removal and Installation

REMOVAL	ł
 Remove the instrument lower panel LH. Refer to <u>IP-11, "Exploded View"</u>. Remove the AFS control unit mounting bolt. 	E
 Disconnect the AFS control unit connector. Remove the AFS control unit. 	
INSTALLATION Install in the reverse order of removal.	IV.
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< REMOVAL AND INSTALLATION >

STEERING ANGLE SENSOR

Removal and Installation

Refer to <u>SR-14, "Removal and Installation"</u>.

HEIGHT SENSOR

< REMOVAL AND INSTALLATION >

HEIGHT SENSOR

Exploded View

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[XENON TYPE]

Removal and Installation

B

Height sensor

REMOVAL

1. А

- 1. Remove the height sensor mounting nut.
- 2. Remove the height sensor lever link bracket mounting bolt.
- 3. Disconnect the height sensor connector.
- 4. Remove the height sensor.

INSTALLATION

Install in the reverse order of removal. CAUTION: Perform the levelizer adjustment when removing the height sensor. Refer to EXL-9, "LEVELIZER ADJUSTMENT : Special Repair Requirement".

REAR COMBINATION LAMP

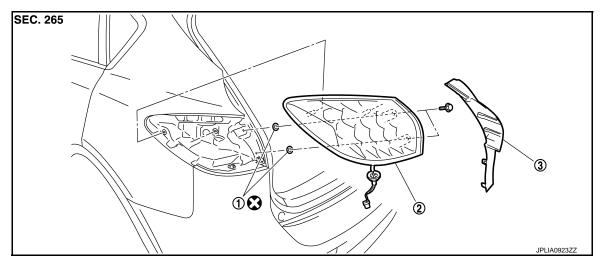
< REMOVAL AND INSTALLATION >

REAR COMBINATION LAMP

[XENON TYPE]

Exploded View

INFOID:000000005174643



1. Seal packing2. Rear combination lamp3. Rear combination lamp finisherRefer toGI-4. "Components" for symbols in the figure.

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the luggage side finisher lower. Refer to INT-34, "Exploded View".
- 2. Remove the rear combination lamp finisher.
- 3. Remove the rear combination lamp mounting bolts.
- 4. Disconnect the rear combination lamp connector.
- 5. Pull the rear combination lamp toward outside of the vehicle. Remove the rear combination lamp.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Seal packing cannot be reused.

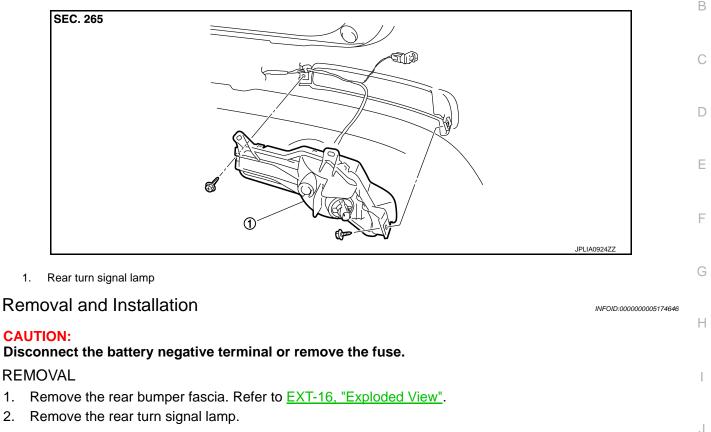
REAR TURN SIGNAL LAMP

< REMOVAL AND INSTALLATION >

REAR TURN SIGNAL LAMP

Exploded View

INFOID:000000005174645



INSTALLATION

Install in the reverse order of removal.

Replacement

CAUTION:

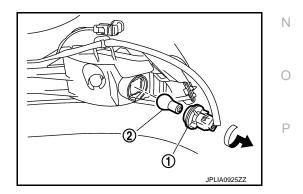
1.

2.

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

REAR TURN SIGNAL LAMP BULB

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



[XENON TYPE]

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HIGH-MOUNTED STOP LAMP

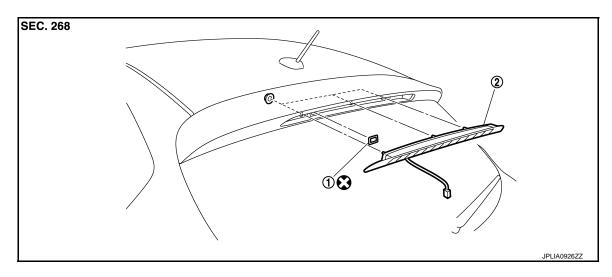
< REMOVAL AND INSTALLATION >

HIGH-MOUNTED STOP LAMP

Exploded View

INFOID:000000005174648

[XENON TYPE]



1. Seal packing2. High-mounted stop lampRefer toGI-4, "Components" for symbols in the figure.

Removal and Installation

REMOVAL

- 1. Remove the back door finisher inner. Refer to INT-38, "Exploded View".
- 2. Remove the high-mounted stop lamp mounting nuts.
- 3. Disconnect the high-mounted stop lamp connector. And then remove the rear washer tube.
- 4. Pull the high-mounted stop lamp toward rear of the vehicle.
- 5. Remove the high-mounted stop lamp.

INSTALLATION

Install in the reverse order of removal. CAUTION: Seal packing cannot be reused.

BACK-UP LAMP

< REMOVAL AND INSTALLATION >

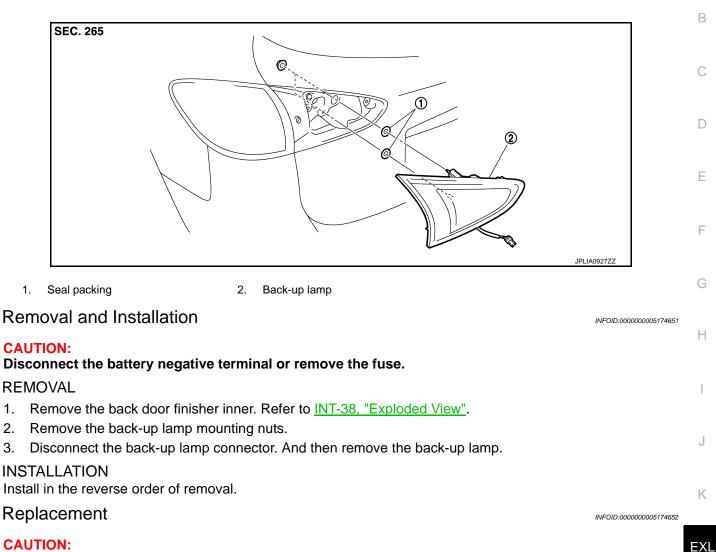
BACK-UP LAMP

Exploded View

INFOID:000000005174650

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[XENON TYPE]



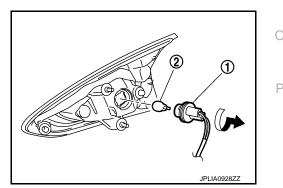
- Disconnect the battery negative terminal or remove the fuse.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because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

BACK-UP LAMP BULB

1.

2. 3.

- Remove the back-up lamp. Refer to EXL-219, "Exploded View". 1.
- Turn the bulb socket (1) counterclockwise and unlock it. 2.
- 3. Remove the bulb (2) from the socket.



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< REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

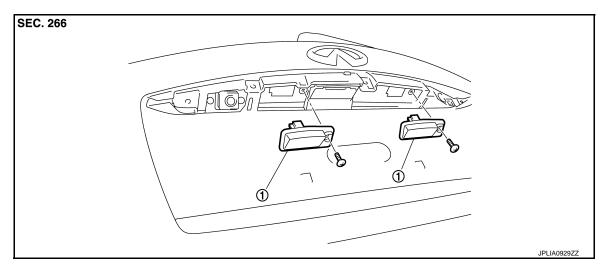
Exploded View

INFOID:000000005174653

INFOID:000000005174654

INFOID:000000005174655

[XENON TYPE]



1. License plate lamp

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the door handle cover. Refer to EXT-48, "Exploded View".
- 2. Remove the screw. And then remove the license plate lamp.
- 3. Disconnect the license plate lamp connector.

INSTALLATION

Install in the reverse order of removal.

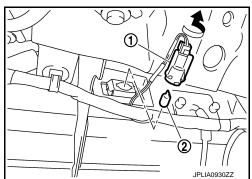
Replacement

CAUTION:

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

LICENSE PLATE LAMP BULB

- 1. Remove the back door finisher inner. Refer to INT-38, "Exploded View".
- 2. Turn the bulb socket (1) counterclockwise and unlock it.
- 3. Remove the bulb (2) from the socket.



Revision: 2009 August

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

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

Bulb Specifications

INFOID:000000005174656 B

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[XENON TYPE]

	Item	Туре	Wattage (W)
Front combination lamp	Headlamp (HI)	H9 (Halogen)	65
	Headlamp (LO)	D2S (XENON)	35
	Front turn signal lamp	W21W	21
	Parking lamp	W5W	5
	Front side marker lamp	W5W	5
Front fog lamp		H8	35
Poor combination lamp	Stop lamp/Tail lamp	LED	_
Rear combination lamp	Rear side marker lamp	LED	_
Rear turn signal lamp		PY21W (Amber)	21
Back-up lamp		W16W	16
License plate lamp		W5W	5
High-mounted stop lamp		LED	_

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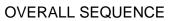
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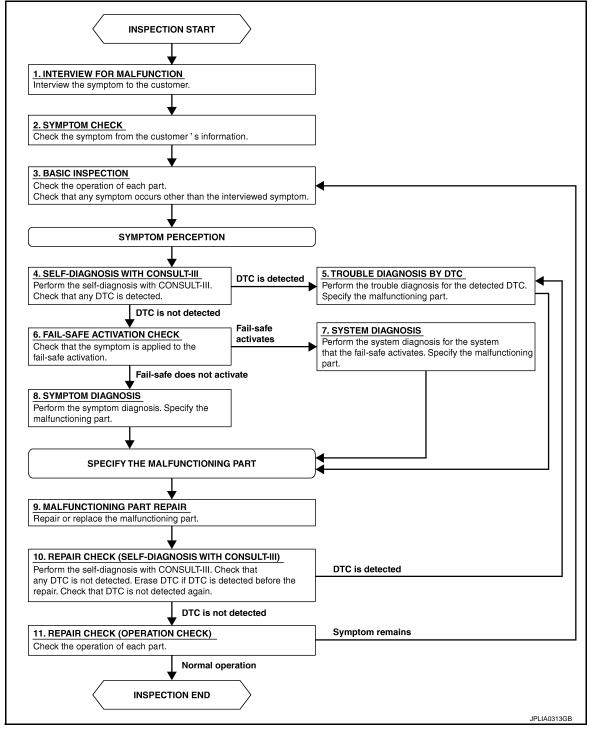
Ρ

BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000005174657





DETAILED FLOW

1.INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

DIAGNOSIS AND REPAIR WORKFLOW

DIAGNOSIS AND REPAIR WORKFLOW
< BASIC INSPECTION > [HALOGEN TYPE]
>> GO TO 2.
Check the symptom from the customer's information.
>> GO TO 3.
3.BASIC INSPECTION
Check the operation of each part. Check that any symptom occurs other than the interviewed symptom.
>> GO TO 4.
4.SELF-DIAGNOSIS WITH CONSULT-III
Perform the self-diagnosis with CONSULT-III. Check that any DTC is detected.
Is any DTC detected?
YES >> GO TO 5. NO >> GO TO 6.
5. TROUBLE DIAGNOSIS BY DTC
Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning part.
>> GO TO 9.
6. FAIL-SAFE ACTIVATION CHECK
Check that the symptom is applied to the 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 that 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. Check that any DTC is not detected. Erase DTC if DTC is
detected before the repair. Check 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. Does it operate normally?
YES >> INSPECTION END

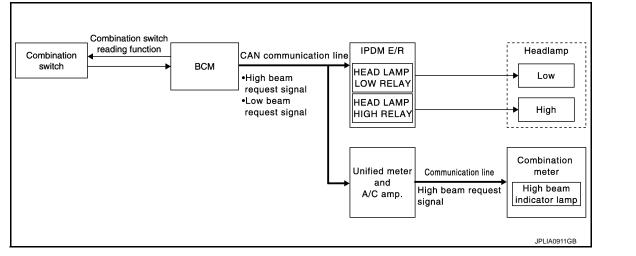
Revision: 2009 August

NO >> GO TO 3.

INFOID:000000005174658

<u>SYSTEM DESCRIPTION ></u> SYSTEM DESCRIPTION HEADLAMP SYSTEM

System Diagram



System Description

INFOID:000000005174659

OUTLINE

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

HEADLAMP (LO) OPERATION

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

Headlamp (LO) ON condition

- Lighting switch 2ND
- IPDM E/R turns the integrated headlamp low relay ON, and turns the headlamp ON according to the low beam request signal.

HEADLAMP (HI) OPERATION

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

Headlamp (HI) ON condition

- Lighting switch HI with the lighting switch 2ND
- Lighting switch PASS
- Combination meter turns the high beam indicator lamp ON according to the high beam request signal.
- IPDM E/R turns the integrated headlamp high relay ON, and turns the headlamp ON according to the high beam request signal.

HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

[HALOGEN TYPE]

INFOID:000000005174660

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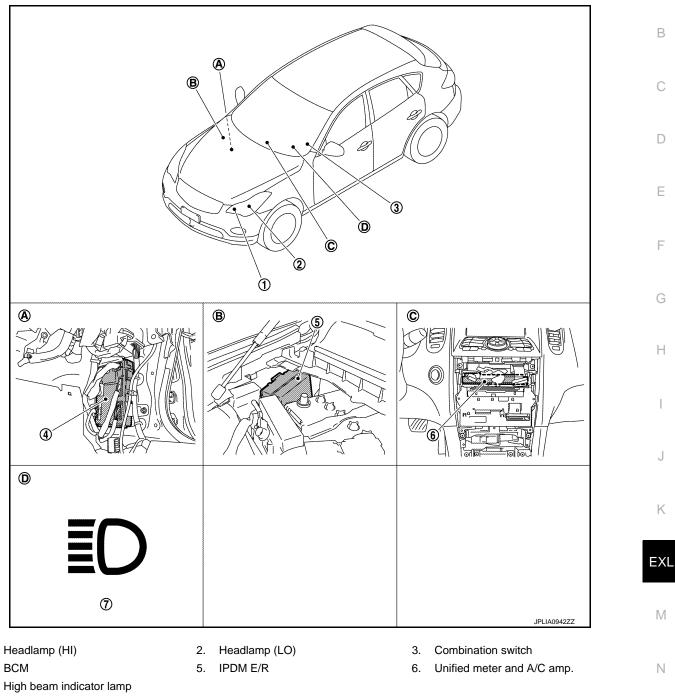
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- Dash side lower (Passenger side) Α.
- On the combination meter D.

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- B. Engine room dash panel (LH)
- C. Behind the cluster lid c

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HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Description

INFOID:000000005174661

[HALOGEN TYPE]

Part	Description
BCM	 Detects each switch condition by the combination switch reading function. Judges that the headlamp is turned ON according to the vehicle condition. Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication). Requests the high beam indicator lamp ON to the combination meter (with CAN communication).
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "System Diagram".
Combination meter (High beam indicator lamp)	Turns the high beam indicator lamp ON according to the request from BCM [(with CAN communication (through unified meter and A/C amp.)].

AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

INFOID:000000005174662

INFOID:000000005174663

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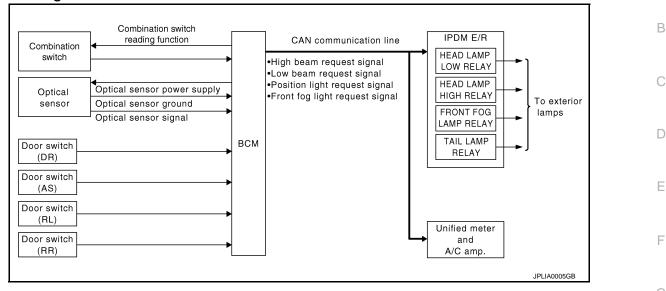
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System Diagram



System Description

OUTLINE

• Auto light system is controlled by each function of BCM and IPDM E/R.

Control by BCM

- Combination switch reading function
- Headlamp control function
- Auto light function
- Delay timer function

Control by IPDM E/R

- Relay control function
- Auto light system has the auto light function and the delay timer function.
- Auto light function turns the exterior lamps* and each illumination ON/OFF automatically according to the
 outside brightness.
- When auto light system turns the exterior lamps ON with the ignition switch OFF, delay timer function turns the exterior lamps OFF depending on the vehicle condition with the auto light function after a certain period of time.

*: Headlamp (LO/HI), parking lamp, tail lamp, and front fog lamp (Headlamp HI and front fog lamp depend on the combination switch condition.)

AUTO LIGHT FUNCTION

- BCM detects the combination switch condition with the combination switch reading function.
- BCM supplies voltage to optical sensor when the ignition switch is turned ON or ACC.
- Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.
- BCM judges outside brightness from the optical sensor signal and judges ON/OFF condition of the exterior lamp and each illumination according to the outside brightness.
- BCM transmits each request signal to IPDM E/R with CAN communication according to ON/OFF condition by the auto light function.

NOTE:

ON/OFF timing differs based on the sensitivity from the setting. The setting can be set by CONSULT-III. Refer to EXL-33, "HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)".

DELAY TIMER FUNCTION

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

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

EXL-227

AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

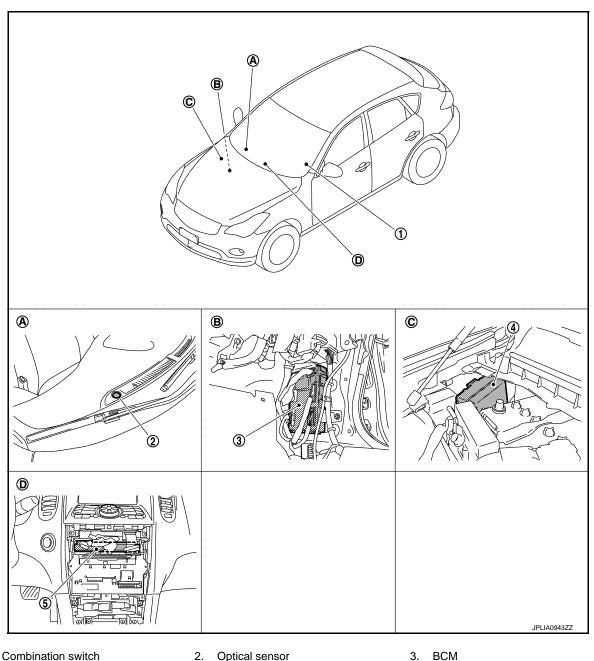
• Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF.

*: The preset time is 45 seconds. The timer operating time can be set by CONSULT-III. Refer to EXL-33, "HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)".

NOTE:

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

Component Parts Location



- 1. Combination switch
- IPDM E/R 4.
- Instrument upper panel (RH) Α.
- D. Behind the cluster lid C
- Optical sensor 2.
- Unified meter and A/C amp. 5.
- B. Dash side lower (Passenger side)
- C. Engine room dash panel (RH)

AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

Component Description

INFOID:000000005174665

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[HALOGEN TYPE]

Part Description		
BCM	 Judges each switch condition by the combination switch reading function. Judges the outside brightness from the optical sensor signal. Judges the OFF timing according to the vehicle condition. Judges the ON/OFF status of the exterior lamp and each illumination according to the outside brightness and the vehicle condition. Requests ON/OFF of each relay to IPDM E/R (with CAN communication). 	
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).	
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-8, "System Diagram"</u> .	
Optical sensor	Refer to EXL-264, "Description".	

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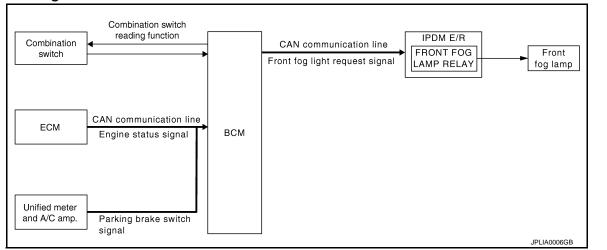
Revision: 2009 August

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

DAYTIME RUNNING LIGHT SYSTEM

System Diagram



System Description

INFOID:000000005174667

OUTLINE

- Turns the front fog lamp ON as the daytime running light.
- Daytime running light is controlled by daytime running light control function and combination switch reading function of BCM, and relay control function of IPDM E/R.

DAYTIME RUNNING LIGHT OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM detects the vehicle condition depending on the following signals.
- Engine condition signal (received from ECM with CAN communication)
- Parking brake switch signal (received from unified meter and A/C amp. with CAN communication)
- BCM transmits the front fog light request signal to IPDM E/R with CAN communication according to the daytime running light ON condition.

Daytime running light ON condition

- While the engine running with the parking brake released

Daytime running light OFF condition

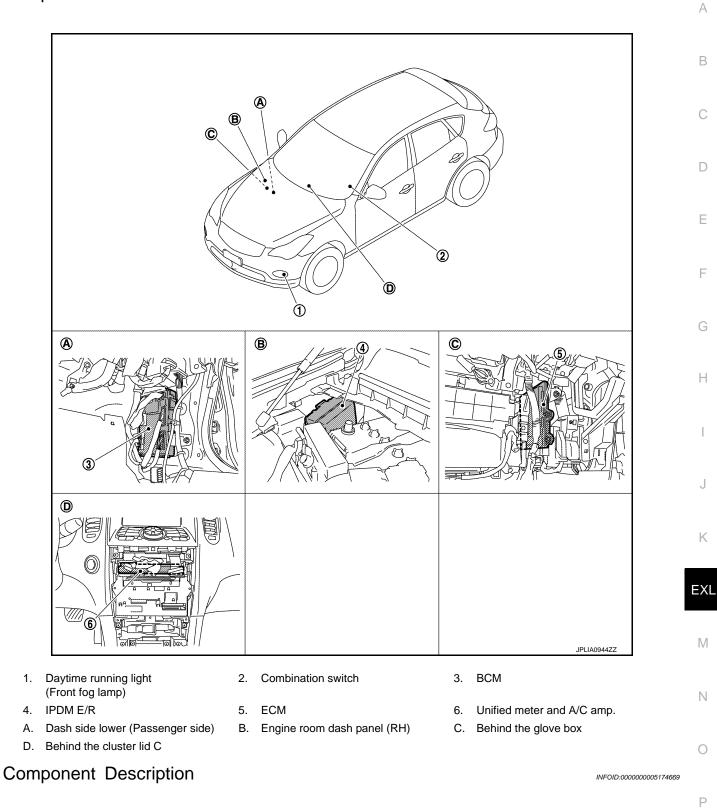
- Engine stopped
- Headlamp ON (Passing included)
- IPDM E/R turns the integrated front fog lamp relay ON and turns the front fog lamp ON according to the front fog light request signal.

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

[HALOGEN TYPE]



Part	Description	
BCM	 Judges each switch condition with the combination switch reading function. Judges the headlamp ON/OFF status according to the vehicle condition. Requests the front fog lamp relay ON to IPDM E/R (with CAN communication). 	
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).	

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Part	Description
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-8, "System Diagram"</u> .
ECM	Transmits the engine condition signal to BCM with CAN communication.
Unified meter and A/C amp.	Transmits the parking brake switch signal to BCM with CAN communication.

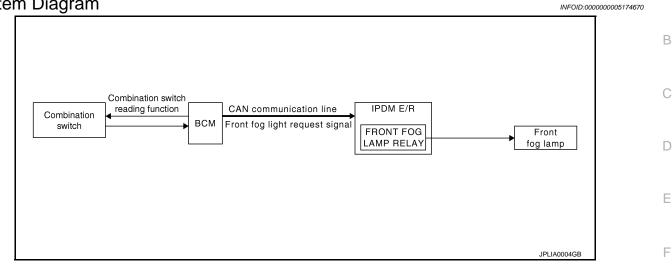
FRONT FOG LAMP SYSTEM

< SYSTEM DESCRIPTION >

FRONT FOG LAMP SYSTEM



System Diagram



System Description

INFOID:000000005174671

OUTLINE

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

NOTE:

For Canada models, the front fog lamp is turned ON as the daytime running light. Refer to EXL-17, "System Diagram" for the detail.

FRONT FOG LAMP OPERATION

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

Front fog lamp ON condition

- Front fog lamp switch ON with the headlamp ON (except for the high beam ON)
- IPDM E/R turns the integrated front fog lamp relay ON, and turns the front fog lamp ON according to the front fog light request signal.

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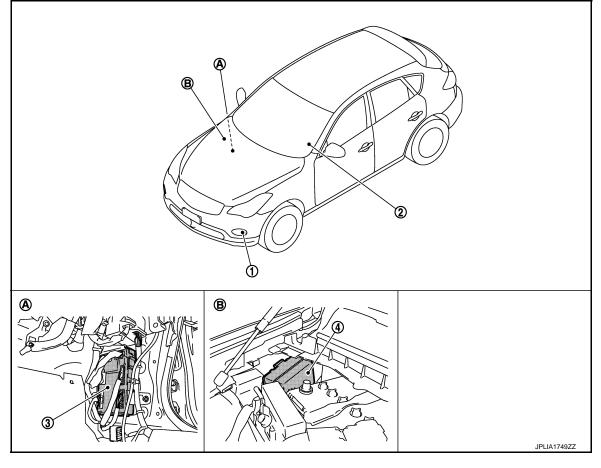
FRONT FOG LAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000005174672

[HALOGEN TYPE]



1. Front fog lamp

2. Combination switch 3. BCM

- 4. IPDM E/R
- A. Dash side lower (Passenger side)
- B. Engine room dash panel (RH)

Component Description

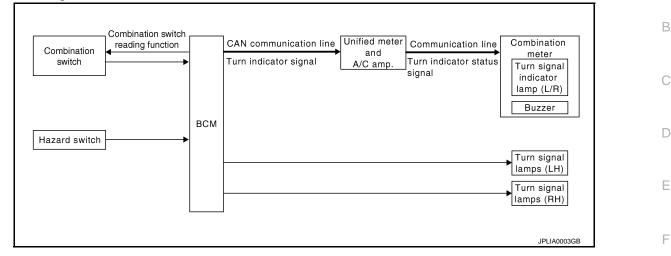
Part Description	
BCM	 Judges each switch condition by the combination switch reading function. Judges the front fog lamp ON/OFF status according to the vehicle condition. Requests the front fog lamp relay ON to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-8, "System Diagram"</u> .

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< SYSTEM DESCRIPTION >

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

System Diagram



System Description

INFOID:000000005174675

[HALOGEN TYPE]

INFOID:000000005174674

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OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

- BCM transmits the turn signal indicator lamp signal to the combination meter (through the unified meter and A/C amp.) with CAN communication while the turn signal lamp and the hazard warning lamp operating.
- Combination meter outputs the turn signal sound with the integrated buzzer while blinking the turn signal indicator lamp according to the turn signal indicator lamp signal.

HIGH FLASHER OPERATION (FAIL-SAFE)

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

NOTE:

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

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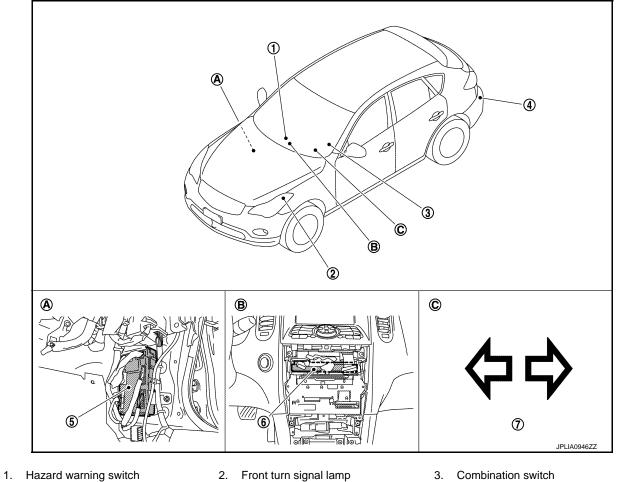
TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000005174676

[HALOGEN TYPE]



- 4. Rear turn signal lamp
- Turn signal indicator lamp 7.

Component Description

- A. Dash side lower (Passenger side)
- 5. BCM
- B. Behind the cluster lid C
- 6. Unified meter and A/C amp.
- C. On the combination meter

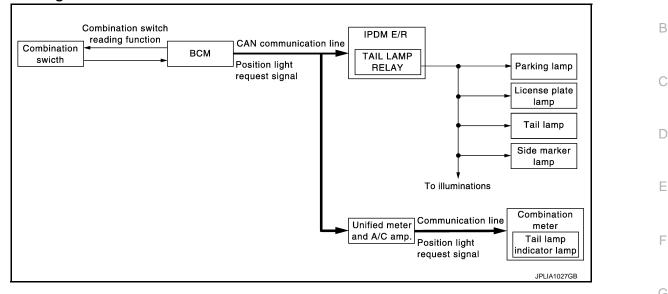
Part	Description		
ВСМ	 Judges each switch condition by the combination switch reading function. Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks. Requests the turn signal indicator lamp blink to the combination meter (with CAN communication). 		
Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "System Diagram".		
Hazard switch (Multifunction switch)	Refer to <u>EXL-267</u> , "Description".		
Combination meter (Turn signal indicator lamp & buzzer)	Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM [with CAN communication (through unified meter and A/C amp.)].		

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< SYSTEM DESCRIPTION >

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

System Diagram



System Description

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[HALOGEN TYPE]

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OUTLINE

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

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS OPERATION

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

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

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

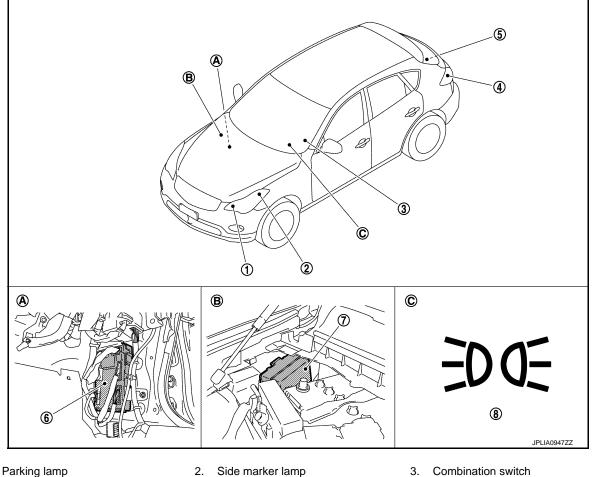
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000005174680

[HALOGEN TYPE]



- 1. Parking lamp
- 4. Tail lamp and side marker lamp
- 7. IPDM E/R
- A. Dash side lower (Passenger side)

Component Description

- 5. License plate lamp
- Tail lamp indicator lamp 8.
- Β. Engine room dash panel (RH)
- 6. BCM
- C. On the combination meter

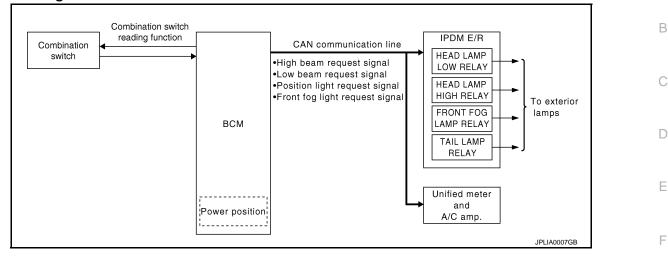
Part	Description		
BCM	 Judges each switch condition by the combination switch reading function. Judges the ON/OFF status of the clearance, license plate, side marker and tail lamps according to the vehicle condition. Requests the tail lamp relay ON to IPDM E/R (with CAN communication). 		
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).		
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-8, "System Diagram"</u> .		
Combination meter (Tail lamp indicator lamp)	Turns the tail lamp indicator lamp ON according to the request from BCM [with CAN communication (through the unified meter and A/C amp.)].		

EXTERIOR LAMP BATTERY SAVER SYSTEM

< SYSTEM DESCRIPTION >

EXTERIOR LAMP BATTERY SAVER SYSTEM

System Diagram



System Description

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[HALOGEN TYPE]

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OUTLINE

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

Control by BCM

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

Control by IPDM E/R

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

When the lighting switch is turned AUTO, the exterior lamp battery saver switches to the auto light system. Refer to <u>EXL-227, "System Diagram"</u>.

EXTERIOR LAMP BATTERY SAVER ACTIVATION

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

NOTE:

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

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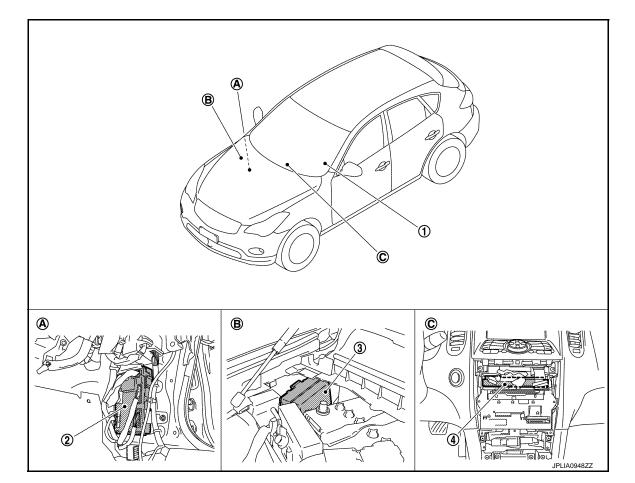
EXTERIOR LAMP BATTERY SAVER SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000005174684

[HALOGEN TYPE]



- 1. Combination switch
- 4. Unified meter and A/C amp.
- A. Dash side lower (Passenger side)
- 2. BCM
- B. Engine room dash panel (RH)

C. Behind the cluster lid C

3. IPDM E/R

Component Description

Part	Description	
BCM	 Judges each switch condition by the combination switch reading function. Judges the exterior lamp OFF according to the vehicle condition. Requests each relay OFF to IPDM E/R (with CAN communication). 	
IPDM E/R	Controls the integrated relay according to the request from BCM (with CAN communication).	
Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "System Diagram".	

< SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:000000005612311

[HALOGEN TYPE]

APPLICATION ITEM

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

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

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

System	Sub system selection item	Diagnosis mode			
		Work Support	Data Monitor	Active Test	-
Door lock	DOOR LOCK	×	×	×	-
Rear window defogger	REAR DEFOGGER		×	×	_
Warning chime	BUZZER		×	×	_
Interior room lamp timer	INT LAMP	×	×	×	-
Exterior lamp	HEAD LAMP	×	×	×	-
Wiper and washer	WIPER	×	×	×	
Turn signal and hazard warning lamps	FLASHER	×	×	×	
—	AIR CONDITONER*				- 1
Intelligent Key systemEngine start system	INTELLIGENT KEY	×	×	×	
Combination switch	COMB SW		×		_
Body control system	BCM	×			
IVIS - NATS	IMMU		×	×	_
Interior room lamp battery saver	BATTERY SAVER	×	×	×	_
Back door open system	TRUNK		×	×	-
Vehicle security system	THEFT ALM	×	×	×	-
RAP system	RETAINED PWR		×		-
Signal buffer system	SIGNAL BUFFER		×	×	-
TPMS	TPMS (AIR PRESSURE MONITOR)	×	×	×	

NOTE:

*: This item is displayed, but is not used.

FREEZE FRAME DATA (FFD)

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

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< SYSTEM DESCRIPTION >

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

HEADLAMP

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

INFOID:000000005174687

WORK SUPPORT

Service item	Setting item	Setting
BATTERY SAVER SET	On*	With the exterior lamp battery saver function
DATTERT SAVER SET	Off	Without the exterior lamp battery saver function

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Service item	Setting item		Setting			
	MODE 1*	45 sec.				
	MODE 2	Without the func- tion				
	MODE 3	30 sec.				
ILL DELAY SET	MODE 4	60 sec.	Sets delay timer function timer operation time. (All doors closed)			
	MODE 5	90 sec.				
	MODE 6	120 sec.				
	MODE 7	150 sec.				
	MODE 8	180 sec.				
	MODE 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 setting 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 unified meter and A/C amp. with CAN communication		
KEY SW-SLOT [On/Off]	Key switch status input from key slot		
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]			
RR FOG SW [On/Off]	NOTE: The item is indicated, but not monitored.		
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)		
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)		

< SYSTEM DESCRIPTION >

Monitor item [Unit]	Description		
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]	NOTE: The item is indicated, but not monitored.		
OPTICAL SENSOR [V]	The value of exterior brightness voltage input from the optical sensor		

ACTIVE TEST

Test item	Operation	Description			
TAIL LAMP	On	Transmits the position light request signal to IPDM E/R with CAN com- munication to turn the tail lamp ON.			
	Off	Stops the position light request signal transmission.			
	Hi	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).			
HEAD LAMP	Low	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 light request signal to IPDM E/R with CAN com munication to turn the front fog lamp ON.			
	Off	Stops the front fog light request signal transmission.			
RR FOG LAMP	On	NOTE:			
RR FOG LAMP	Off	The item is indicated, but cannot be tested.			
DAYTIME RUNNING LIGHT	On	NOTE:			
DATTIME RONNING LIGHT	Off	The item is indicated, but cannot be tested.			
	RH				
CORNERING LAMP	LH	NOTE: The item is indicated, but cannot be tested.			
	Off	The term is indicated, but cannot be tested.			
ILL DIM SIGNAL	On	NOTE:			
ILE DIWI SIGNAL	Off	The item is indicated, but cannot be tested.			

FLASHER

FLASHER : CONSULT-III Function (BCM - FLASHER)

INFOID:000000005174688

WORK SUPPORT

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

*: Initial setting

DATA MONITOR

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

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]	
HAZARD SW [On/Off]	The switch status input from the hazard switch
RKE-LOCK [On/Off]	Lock signal status received from the remote keyless entry receiver
RKE-UNLOCK [On/Off]	Unlock signal status received from the remote keyless entry receiver
RKE-PANIC [On/Off]	Panic alarm signal status received from the remote keyless entry receiver

ACTIVE TEST

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

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Diagnosis Description

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
- Side maker lamps
- Tail lamps
- Front fog lamps
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan (cooling fan control module)

Operation Procedure

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

NOTE:

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

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

Close passenger door.

- 4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
- 5. The oil pressure warning lamp starts blinking when the auto active test starts.
- 6. After a series of the following operations is repeated 3 times, auto active test is completed.

NOTE:

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

• If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-66.</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 \rightarrow HI for 5 seconds		
3	 Parking lamps License plate lamps Side maker lamps Tail lamps Front fog lamps 	10 seconds		
4	Headlamps	 LO 10 seconds HI ON ⇔ OFF 5 times 		
5	A/C compressor (magnet clutch)	$ON \Leftrightarrow OFF 5 times$		
6*	Cooling fan	MID for 5 seconds \rightarrow HI for 5 seconds		

*: Outputs duty ratio of 50% for 5 seconds \rightarrow duty ratio of 100% for 5 seconds on the cooling fan control module.

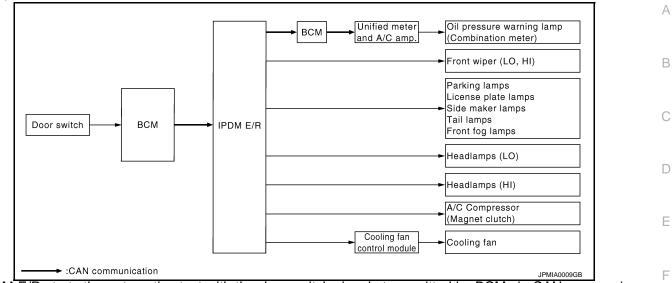
EXL-246

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

1.1

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	Inspection contents		
Any of the following components do not operate		YES	BCM signal input circuit	
 Parking lamps License plate lamps Side maker lamps Tail lamps Front fog lamps Headlamp (HI, LO) Front wiper (HI, LO) 	Perform auto active test. Does the applicable system operate?	NO	 Lamp or motor Lamp or motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R 	
A/C compressor does not operate	Perform auto active test. Does the magnet clutch oper- ate?	YES	 Unified meter and A/C amp. signal input circuit CAN communication signal between unified meter and A/C amp. and ECM CAN communication signal between ECM and IPDM E/ R 	E
			 Magnet clutch Harness or connector be- tween IPDM E/R and mag- net clutch IPDM E/R 	
	Perform auto active test.	YES	 Harness or connector be- tween IPDM E/R and oil pressure switch Oil pressure switch IPDM E/R 	
Oil pressure warning lamp does not operate	Does the oil pressure warning lamp blink?	NO	 CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and unified meter and A/C amp. Combination meter 	

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Symptom	Inspection contents		Possible cause
		YES	 ECM signal input circuit CAN communication signal between ECM and IPDM E/ R
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	NO	 Cooling fan Harness or connector be- tween cooling fan and cool- ing fan control module Cooling fan control module Harness or connector be- tween IPDM E/R and cool- ing fan control module Cooling fan relay Harness or connector be- tween IPDM E/R and cool- ing fan relay IPDM E/R

CONSULT-III Function (IPDM E/R)

INFOID:000000005612313

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 RESULT Refer to <u>PCS-31, "DTC Index"</u>.

DATA MONITOR Monitor item

MAIN SIG-Monitor Item Description [Unit] NALS RAD FAN REQ Displays the value of the cooling fan speed signal received from ECM via CAN × [%] communication. AC COMP REQ Displays the status of the A/C compressor request signal received from ECM via × [Off/On] CAN communication. TAIL&CLR REQ Displays the status of the position light request signal received from BCM via CAN × [Off/On] communication. HL LO REQ Displays the status of the low beam request signal received from BCM via CAN × [Off/On] communication. HL HI REQ Displays the status of the high beam request signal received from BCM via CAN × [Off/On] communication. FR FOG REQ Displays the status of the front fog light request signal received from BCM via × [Off/On] CAN communication. FR WIP REQ Displays the status of the front wiper request signal received from BCM via CAN × [Stop/1LOW/Low/Hi] communication. WIP AUTO STOP Displays the status of the front wiper auto stop signal judged by IPDM E/R. × [STOP P/ACT P] WIP PROT × Displays the status of the front wiper fail-safe operation judged by IPDM E/R. [Off/BLOCK]

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Monitor Item [Unit]	MAIN SIG- NALS	Description	
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 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 ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.	
DETENT SW [Off/On]		Displays the status of the A/T shift selector (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/UNLOCK/UNKWN]		Displays the status of the steering lock judged by IPDM E/R.	
DTRL REQ [Off/On]		NOTE: The item is indicated, but not monitored.	
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.	
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.	
HL WASHER REQ [Off/On]		NOTE: The item is indicated, but not monitored.	
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.	
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN com- munication.	
CRNRNG LMP REQ [Off/On]		NOTE: The item is indicated, but not monitored.	

ACTIVE TEST

Test item

Test item	Operation	Description	
	Off		
CORNERING LAMP	LH	NOTE: The item is indicated, but cannot be tested.	
	RH		
HORN	On	Operates horn relay 1 and horn relay 2 for 20 ms.	0
	Off	OFF	
FRONT WIPER	Lo	Operates the front wiper relay.	Ρ
	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.	
	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.	

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< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Test item	Operation	Description	
HEAD LAMP WASHER	On	NOTE: The item is indicated, but cannot be tested.	
	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 sec- ond intervals.	
	Fog	Operates the front fog lamp relay.	

	_		LY AND G	
				[HALOGEN TYPE]
	RCUIT D			A
· ·	Y CONTRO		,	В
BCM (BOD)	Y CONTROL	MODULE)	: Diagnosis	s Procedure INFOID:000000005174691
1.CHECK FUS	SE AND FUSIBI	LE LINK		С
Check that the	following fuse a	nd fusible link a	are not blown.	
	Signal nan	ne		Fuse and fusible link No.
	0			К
	Battery power	supply		10 E
$\begin{array}{c} \text{blo}\\ \text{NO} & >> \text{GC}\\ \textbf{2.CHECK PO} \end{array}$	•		e link after repa	airing the affected circuit if a fuse or fusible link is
2. Disconnect	t BCM connecto age between BC		nnector and gr	ound.
	Terminals		-	
	+) CM	(-)	Voltage (Approx.)	I
Connector	Terminal			
M118	1	Ground	Battery voltage	J
M119	11		Dattery voltage	-
YES >> GC NO >> Re 3. CHECK GR	ment value norr) TO 3. pair harness or OUND CIRCUIT	connector.		K EX
Check continuit	ty between BCM	I harness conn	ector and grou	ind.
B	СМ		Continuity	M
Connector	Terminal	Ground	Continuity	
M119	13		Existed	N
NO >> Re	SPECTION ENE	connector.	R DISTRIB	UTION MODULE ENGINE ROOM) $^{\circ}$
IPDM E/R (I agnosis Pro		IT POWER	DISTRIBU	
1.CHECK FUS	SES AND FUSI	BLE LINK		

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

Signal name	Fuses and fusible link No.
	С
Battery power supply	50
	51

Is the fuse fusing?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect IPDM E/R connector.

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

(+) (-) Voltage (Approx.) IPDM E/R (-) Voltage (Approx.) Connector Terminal Ground E4 1 Battery voltage	Terminals			
IPDM E/R (Approx.) Connector Terminal Ground	(+)		(-)	Voltage (Approx.)
Ground	IPDM E/R			
	Connector	Terminal	Ground	Ť
	E4	1	Ground	Battery voltage

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

3. CHECK GROUND CIRCUIT

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

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
E5	12	Glound	Existed
E6	41		

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

< DTC/CIRCUIT DIAGNOSIS >

EXTERIOR LAMP FUSE

Description

INFOID:000000005174693

[HALOGEN TYPE]

ł	list	

Unit	Location	Fuse No.	Capacity
Headlamp HI (LH)	IPDM E/R	#54	10 A
Headlamp HI (RH)	IPDM E/R	#55	10 A
Headlamp LO (LH)	IPDM E/R	#56	15 A
Headlamp LO (RH)	IPDM E/R	#57	15 A
Front fog lamp	IPDM E/R	#58	15 A
Parking lamp (also used as the front side marker lamp)	IPDM E/R	#52	10 A
 Tail lamp Rear side marker lamp License plate lamp Each illumination 	IPDM E/R	#53	10 A
Stop lamp	FUSE BLOCK (J/B)	#7	10 A
Back-up lamp	FUSE BLOCK (J/B)	#4	10 A

Diagnosis Procedure

1.CHECK FUSE

Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Headlamp HI (LH)	IPDM E/R	#54	10 A
Headlamp HI (RH)	IPDM E/R	#55	10 A
Headlamp LO (LH)	IPDM E/R	#56	15 A
Headlamp LO (RH)	IPDM E/R	#57	15 A
Front fog lamp	IPDM E/R	#58	15 A
Parking lamp (also used as the front side marker lamp)	IPDM E/R	#52	10 A
 Tail lamp Rear side marker lamp License plate lamp Each illumination 	IPDM E/R	#53	10 A
Stop lamp	FUSE BLOCK (J/B)	#7	10 A
Back-up lamp	FUSE BLOCK (J/B)	#4	10 A

Is the fuse fusing?

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

NO >> The fuse is normal. INFOID:000000005174694

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< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP (HI) CIRCUIT

Component Function Check

1.CHECK HEADLAMP (HI) OPERATION

®IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".

2. Check that the headlamp switches to the high beam.

CONSULT-III ACTIVE TEST

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

Hi : Headlamp (HI) ON

Off : Headlamp (HI) OFF

NOTE:

ON/OFF is repeated 1 second each.

Is the headlamp (HI) turned ON?

- YES >> Headlamp (HI) circuit is normal.
- NO >> Refer to <u>EXL-254</u>, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

	Т	erminals	Condition		
	(+)		(-)	Condition	Voltage
	IPDM E	/R		External	(Approx.)
Cor	nnector	Terminal		lamp	
RH		89	Ground	Hi	Battery voltage
	E8			Off	0 V
LH	LO	90		Hi	Battery voltage
				Off	0 V

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

2. CHECK HEADLAMP (HI) OPEN CIRCUIT

1. Turn the ignition switch OFF.

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

INFOID:000000005174695

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[HALOGEN TYPE]

HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

	1 E/R	Front comb	ination lamp	Continuit					
Connector	Termina	I Connector	Terminal	- Continuity					
RH E8	89	E28	7	Existed					
	90	E58	7	Existed					
oes continu	<u>ty exist?</u>								
	O TO 5.								
	•	arnesses or co	onnectors.						
CHECK H									
	gnition swi		not fucing						
. Check th		ving fuses are	not rusing.						
Un	:	Location	Fuse No.	Capacity					
Headlamp HI (RH)	IPDM E/R	#55	10 A					
Headlamp HI (.H)	IPDM E/R	#54	10 A					
the fuse fu	sing?			1					
-	io to 4.								
	eplace IPD								
CHECK H	EADLAMP	(HI) SHORT (IRCUIT						
D :		R connector.							
			/						
		ween the IPD	M E/R harn	ess connec	tor terminal	I and the	ground	ł.	
Check co	ntinuity be		M E/R harn	ess connec	tor termina	I and the	ground	J.	
. Check co	ntinuity bei		M E/R harn	ess connec	tor termina	I and the	ground	J.	
Check co	ntinuity bei DM E/R Terr	ween the IPD	M E/R harn		tor termina	I and the	grounc	J.	
Check co	DM E/R Terr	ween the IPD			tor termina	I and the	ground	J.	
Check co	DM E/R Terr 88	ween the IPD		Continuity	tor termina	l and the	ground	J.	
Check construction Connector RH LH Oes continut YES >> F	DM E/R Terr 8 ty exist? epair the h	ween the IPD	onnectors.	Continuity Not existed And then re	place the fu	JSe.	ground	J.	
Check co IF Connecto RH LH Oes continu YES >> F NO >> F	DM E/R Terr 8 10 10 10 10 10 10 10 10 10 10 10 10 10	ween the IPD	onnectors.	Continuity Not existed And then re I if the fuse	place the fu	JSe.	ground	J.	
Check co IF Connecto RH LH Oes continu YES >> F NO >> F	DM E/R Terr 8 10 10 10 10 10 10 10 10 10 10 10 10 10	ween the IPD	onnectors.	Continuity Not existed And then re I if the fuse	place the fu	JSe.	ground	J.	
Check co IF Connecto RH LH Oes continu YES >> F NO >> F O.CHECK H	ntinuity be DM E/R Terr 8 <u>ty exist?</u> epair the h eplace the EADLAMP gnition swi	arnesses or co fuse. (Replac (HI) GROUNE	onnectors. PDN E/F OPEN CII	Continuity Not existed And then re R if the fuse RCUIT	place the fu	JSe.	ground	J.	
Check co IF Connecto RH LH Oes continu YES >> F NO >> F O.CHECK H . Turn the Disconne	ntinuity be DM E/R Terr 8 <u>ty exist?</u> epair the h eplace the EADLAMP gnition swi ct the front	arnesses or co fuse. (Replac (HI) GROUNE tch OFF. combination I	onnectors. e IPDM E/F O OPEN CII	Continuity Not existed And then re R if the fuse RCUIT ctor.	place the fu is fusing ag	use. gain.)			
Check co IF Connecto RH LH Oes continu YES >> F NO >> F O.CHECK H . Turn the Disconne	ntinuity be DM E/R Terr 8 <u>ty exist?</u> epair the h eplace the EADLAMP gnition swi ct the front	arnesses or co fuse. (Replac (HI) GROUNE	onnectors. e IPDM E/F O OPEN CII	Continuity Not existed And then re R if the fuse RCUIT ctor.	place the fu is fusing ag	use. gain.)			
Check co IF Connecto RH LH Oes continu YES >> F NO >> F O.CHECK H O.CHECK H Disconne Disconne Check co	ntinuity be DM E/R Terr 8 <u>ty exist?</u> epair the h eplace the EADLAMP gnition swi ct the front	arnesses or co fuse. (Replac (HI) GROUNE tch OFF. combination I ween the fron	onnectors. e IPDM E/F O OPEN CII	Continuity Not existed And then re a if the fuse RCUIT ctor. on lamp har	place the fu is fusing ag	use. gain.)			
Check co IF Connecto RH LH Oes continu YES >> F NO >> F O.CHECK H O.CHECK H Disconne Disconne Check co	ntinuity be DM E/R Terr 8 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20	arnesses or co fuse. (Replac (HI) GROUNE tch OFF. combination I ween the fron	onnectors e IPDM E/F O OPEN CII amp conne t combinati	Continuity Not existed And then re R if the fuse RCUIT ctor.	place the fu is fusing ag	use. gain.)			
Check co IF Connecto RH LH Oes continu YES >> F NO >> F O.CHECK H Disconne Disconne Check co Front co Connecto	ntinuity bet	arnesses or co fuse. (Replac (HI) GROUNE tch OFF. combination I ween the fron	onnectors. e IPDM E/F O OPEN CII	Continuity Not existed And then re R if the fuse RCUIT ctor. on lamp har Continuity	place the fu is fusing ag	use. gain.)			
Check co	ntinuity be DM E/R Terr 8 28 29 20 29 20 20 20 20 20 20 20 20 20 20 20 20 20	ween the IPD	onnectors e IPDM E/F O OPEN CII amp conne t combinati	Continuity Not existed And then re a if the fuse RCUIT ctor. on lamp har	place the fu is fusing ag	use. gain.)			
Check co	ntinuity bet	ween the IPD	onnectors e IPDM E/F O OPEN CII amp conne t combinati	Continuity Not existed And then re R if the fuse RCUIT ctor. on lamp har Continuity	place the fu is fusing ag	use. gain.)			
Check co	ntinuity be DM E/R Terr 8 ty exist? epair the h eplace the EADLAMP gnition swi ct the front ntinuity be bination lam Terr 28 58 ty exist?	ween the IPD	round	Continuity Not existed And then re if the fuse RCUIT ctor. on lamp han Continuity Existed	place the fu is fusing ag	use. gain.) ector and			
Check co IF Connecto RH LH Oes continu YES >> F O.CHECK H Oisconne Connecto RH E LH E Oes continu YES >> F	ntinuity be DM E/R Terr 8 20 E/R Terr 8 20 E/R 10 E/R	ween the IPD	round	Continuity Not existed And then re if the fuse RCUIT ctor. on lamp han Continuity Existed	place the fu is fusing ag	use. gain.) ector and			

< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP (LO) CIRCUIT

Component Function Check

1.CHECK HEADLAMP (LO) OPERATION

®IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".

2. Check that the headlamp is turned ON.

(E)CONSULT-III ACTIVE TEST

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

2. With operating the test items, check that the headlamp (LO) is turned ON.

Lo : Headlamp (LO) ON

Off : Headlamp (LO) OFF

Is the headlamp (LO) turned ON?

YES >> Headlamp (LO) is normal.

NO >> Refer to <u>EXL-256, "Diagnosis Procedure"</u>.

Diagnosis Procedure

INFOID:000000005174698

1.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

		Terminals	Test item			
(+)			(-)	iest item	Voltage	
IPDM E/R				External	(Approx.)	
Conr	nector	Terminal		lamp		
RH		83	Ground	Lo	Battery voltage	
	E8	60	Cround	Off	0 V	
LH	20	84		Lo	Battery voltage	
		54		Off	0 V	

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK HEADLAMP (LO) OPEN CIRCUIT

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

IPDM E/R			Front comb	Continuity	
Connector		Terminal	Connector	Terminal	Continuity
RH	E8	83	E28	5	Existed
LH	LO	84	E58	5	LAISteu

Does continuity exist?

HEADLAMP (LO) CIRCUIT

				MP (LO)	
< DTC/CIRCUIT		i >			[HALOGEN TYPE]
· ·	ir the harness		nnectors.		A
3. CHECK HEAD	DLAMP (LO) F	USE			
 Turn the ignit Check that th 			not fusing		В
Unit	L	otion	Fuse No.	. Capacity	-
Headlamp LO (RH)	IPD	M E/R	#57	15 A	C
Headlamp LO (LH)	IPD	M E/R	#56	15 A	-
· ·	O 4. ace IPDM E/F				D
4.CHECK HEAD			IRCUIT		
	uity between		I E/R harr	ness connec	tor and the ground.
IPDM E	E/R			Continuity	
Connector	Terminal	Grou	nd		G
H E8 -	83 84			Not existed	-
NO >> Repla 5.CHECK HEAD 1. Turn the ignit 2. Disconnect th	ace the fuse. DLAMP (LO) (ion switch OF ne front comb	(Replace GROUND FF. ination la	IPDM E/I OPEN C	R if the fuse	place the fuse. is fusing again.)
					-
Front combina Connector	Terminal			Continuity	K
RH E28	3	Grou	nd		
LH E58	3			Existed	EX
	<u>xist?</u> ace the headl ir the harness			ulb socket is	abnormally.) M N
					P

< DTC/CIRCUIT DIAGNOSIS >

FRONT FOG LAMP CIRCUIT

Component Function Check

1.CHECK FRONT FOG LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".

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

CONSULT-III ACTIVE TEST

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

Fog : Front fog lamp ON

Off : Front fog lamp OFF

Is the front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.

NO >> Refer to <u>EXL-258</u>, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK FRONT FOG LAMP FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#58	15 A

Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK FRONT FOG LAMP SHORT CIRCUIT

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

	IPDM E	/R		Continuity	
Con	nector	Terminal	Ground	Continuity	
RH	Eo	86	Giouna	Not existed	
LH	E8	87			

Does continuity exist?

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

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

3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

CHECK FRONT FOG LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

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FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	T				
	(+)		()	Test item	Voltage
	IPDM E/R			EXTERNAL	(Approx.)
Co	nnector	Terminal		LAMP	
RH		86	Ground	Fog	Battery voltage
	- E8		Ground	Off	0 V
LH		87	Ţ	Fog	Battery voltage
				Off	0 V

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5. CHECK FRONT FOG LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect IPDM E/R connector.

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

	IPDM E	/R	Front fog	Continuity	
Conr	Connector Terminal		Connector	Terminal	Continuity
RH	E8	86	E34	1	Existed
LH	LO	87	E64	1	EXISTED

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

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

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

	Front fog la	amp		Continuity
Conr	Connector Terminal		Ground	Continuity
RH	E34	2	Ground	Existed
LH	E64	2		Existed

Does continuity exist?

YES >> Replace the front fog lamp.

NO >> Repair the harnesses or connectors.

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< DTC/CIRCUIT DIAGNOSIS >

PARKING LAMP CIRCUIT

Component Function Check

1.CHECK PARKING LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".

2. Check that the parking lamp is turned ON.

(E)CONSULT-III ACTIVE TEST

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

TAIL : Parking lamp ON

Off : Parking lamp OFF

Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal.

NO >> Refer to <u>EXL-260, "Diagnosis Procedure"</u>.

Diagnosis Procedure

1.CHECK PARKING LAMP FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Parking lamp	IPDM E/R	#52	10 A

Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK PARKING LAMP SHORT CIRCUIT

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

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

	IPDM E/	′R		Continuity	
Conr	nector	Terminal	Ground	Continuity	
RH	E9	91	Ground	Not ovisted	
LH	E9	92		Not existed	

Does continuity exist?

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

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

3.CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4.CHECK PARKING LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

1. Disconnect the front combination lamp connector.

2. Turn the ignition switch ON.

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

EXL-260

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	Terminals (+) (-)		Test item		
			(-)	1000 10011	Voltage
	IPDM E/R			EXTERNAL	(Approx.)
Co	nnector	Terminal		LAMP	
RH		91	Ground	TAIL	Battery voltage
	E9		Ground	Off	0 V
LH		92	1	TAIL	Battery voltage
				Off	0 V

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5. CHECK PARKING LAMP OPEN CIRCUIT

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

IPDM E/R			Front combir	Continuity	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E9	91	E28	8	Existed
LH	23	92	E58	8	LAISteu

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

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

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

Fro	nt combinat	ion lamp		Continuity
Conr	Connector Terminal		Ground	Continuity
RH	E28	4	Ground	Existed
LH	E58	4		LAISIEU

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

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TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

TURN SIGNAL LAMP CIRCUIT

Description

BCM performs the high 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

CONSULT-III ACTIVE TEST

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

Off : The turn signal lamp OFF

Does the turn signal lamp blink?

- YES >> Turn signal lamp circuit is normal.
- NO >> Refer to <u>EXL-262</u>, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector or the rear combination lamp connector.
- 3. Turn the ignition switch ON.
- 4. Select "FLASHER" of BCM (FLASHER) active test item.
- 5. With operating the turn signal switch, check the voltage between the BCM harness connector and the ground.

Terminals				Test item		
	(+)			root term		
BCM				FLASHER	Voltage (Approx.)	
Conne	ector	Terminal		FLASHER		
Front RH		17			(V) 15 10	
Front LH	M119	18	Ground	LH or RH	5 0 1 s PKiD0926E	
Rear RH	M120	20		Off	0 V	
Rear LH	101120	25			υv	
1 41		4	10			

Is the measurement value normal?

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TURN SIGNAL LAMP CIRCUIT

[HALOGEN TYPE] < DTC/CIRCUIT DIAGNOSIS > YES >> GO TO 3. NO >> Replace BCM. А ${f 3.}$ CHECK TURN SIGNAL LAMP OPEN CIRCUIT 1. Turn the ignition switch OFF. В Disconnect BCM connector. 2. 3. Check the continuity between the BCM harness connector and the front combination lamp or the rear combination lamp harness connector. С Front combination lamp/ BCM Rear combination lamp Continuity D Connector Terminal Connector Terminal Front RH E28 6 17 M119 Front LH E58 6 18 Е Existed 20 1 Rear RH B261 M120 Rear LH 25 B260 1 F Does continuity exist? YES >> GO TO 4. NO >> Repair the harnesses or connectors. ${f 4.}$ CHECK TURN SIGNAL LAMP SHORT CIRCUIT Check continuity between the BCM harness connector and the ground. Н BCM Continuity Connector Terminal Front RH 17 M119 Ground Front LH 18 Not existed Rear RH 20 M120 Rear LH 25 Does continuity exist? YES >> Repair the harnesses or connectors. Κ NO >> GO TO 5. 5.check turn signal lamp ground open circuit EXL Check the continuity between the BCM harness connector and the front combination lamp or the rear combination lamp and the ground. Μ Front combination lamp / Rear combination lamp Continuity Connector Terminal Ν Front RH E28 4 Ground Front LH F58 4 Existed

Does continuity exist?

B261

B260

Rear RH

Rear LH

YES >> Replace the front combination lamp or the rear combination lamp.

NO >> Repair the harnesses or connectors.

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

OPTICAL SENSOR

Description

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

Component Function Check

1.CHECK OPTICAL SENSOR SIGNAL BY CONSULT-III

CONSULT-III DATA MONITOR

- $\check{1}$. Turn the ignition switch ON.
- 2. Select "OPTICAL SENSOR" of BCM (HEADLAMP) data monitor item.
- 3. Turn the lighting switch AUTO.
- 4. With the optical sensor illuminating, check the monitor status.

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

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

Is the item status normal?

YES >> Optical sensor is normal.

NO >> Refer to EXL-264, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK OPTICAL SENSOR POWER SUPPLY INPUT

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

(·	+)	(-)	Voltage (Approx.)
Optica	lsensor		(Approx.)
Connector	Terminal	Ground	
M94	1		5 V

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 4.

2.CHECK OPTICAL SENSOR GROUND INPUT

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

(+	+)	(-)	Voltage		
Optical	sensor		(Approx.)		
Connector	Connector Terminal				
M94	3	-	0 V		
Is the measurement value normal?					

YES >> GO TO 3.

NO >> GO TO 6.

 $\mathbf{3}$. CHECK OPTICAL SENSOR SIGNAL OUTPUT

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

Terminals		Condition		
(+)		(–)	Condition	Voltage
Optical s	ensor		Optical sensor	(Approx.)
Connector	Terminal		Optical Sensor	
		Ground	When illuminating	3.1 V or more *
M94	2		When shutting off light	0.6 V or less

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

Is the measurement value normal?

NO >> Replace the optical sensor.

4.CHECK OPTICAL SENSOR OPEN CIRCUIT

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

Optica	lsensor	B	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M94	1	M123	138	Existed

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

5.CHECK OPTICAL SENSOR SHORT CIRCUIT

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

Optica	l sensor		Continuity
Connector	Terminal	Ground	Continuity
M94	1		Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

${f 6}.$ CHECK OPTICAL SENSOR GROUND OPEN CIRCUIT

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

Optica	l sensor	B	Continuity	
Connector	Terminal	Connector Terminal		Continuity
M94	3	M123	137	Existed

Does continuity exist?

YES >> Replace BCM.

NO >> Repair the harnesses or connectors.

7.CHECK OPTICAL SENSOR SIGNAL OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect the optical sensor connector and BCM connector.

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

EXL-265

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Optical	sensor	B	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M94	2	M123	113	Existed

Does continuity exist?

YES >> GO TO 8.

NO >> Repair the harnesses or connectors.

8.CHECK OPTICAL SENSOR SHORT CIRCUIT

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

Optica	l sensor		Continuity	
Connector	Terminal	Ground	Continuity	
M94	2		Not existed	

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

HAZARD SWITCH

Description

Hazard switch is integrated in the multifunction switch. Hazard switch inputs the signals to BCM when pressing the switch.

Component Function Check

1.CHECK HAZARD SWITCH SIGNAL BY CONSULT-III

CONSULT-III DATA MONITOR

- 1. Turn the ignition switch ON.
- 2. Select "HAZARD SW" of BCM (FLASHER) data monitor item.
- 3. With operating the hazard switch, check the monitor status.

Monitor item	С	Monitor status	
HAZARD SW	Hazard switch	While pressing the switch	On
		While not pressing the switch	Off

Is the item status normal?

- YES >> Hazard switch circuit is normal.
- NO >> Refer to EXL-267, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK HAZARD SWITCH SIGNAL INPUT

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

Terminals		Condition		J	
(+	·)	(-)	Condition Voltage (Approx.)		
BC	М		Hazard switch	vollage (Approx.)	K
Connector	Terminal		Hazaru Switch		IX.
			While pressing the switch	0 V	EX
M122	110	Ground	While not pressing the switch	(V) 15 10 5 0	M
				10 ms	Ν
Is the mea	surement	value no	ormal?		
YES >:	> Replace > GO TO	BCM.			0

2. CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect the multifunction switch connector and BCM connector.

3. Check continuity between the multifunction switch harness connector and the BCM harness connector.

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HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Multifunct	tion switch	B	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M72	16	M122	110	Existed

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3.CHECK HAZARD SWITCH SIGNAL SHORT CIRCUIT

Check continuity between the multifunction switch harness connector and the ground.

Multifunct	tion switch		Continuity
Connector	Terminal	Ground	Continuity
M72	16		Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 4.

4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

Check continuity between the multifunction switch harness connector and the ground.

Multifunct	tion switch		Continuity
Connector	Terminal	Ground	Continuity
M72	1		Existed

Does continuity exist?

YES >> Replace the hazard switch (multifunction switch).

NO >> Repair the harnesses or connectors.

< DTC/CIRCUIT DIAGN	IOSIS >						[HALOGEN TYPE]
TAIL LAMP CIRC	UIT						
Component Functio	on Cheo	ck					INFOID:000000005174712
1 .CHECK TAIL LAMP C	PERATI	ON					
 IPDM E/R AUTO ACTI Activate IPDM E/R a Check that the tail lat CONSULT-III ACTIVE Select "EXTERNAL I With operating the te 	uto active mp is turi TEST LAMPS"	e test. Refer ned ON. of IPDM E/F	R activ	ve test item		<u>pription"</u> .	
TAIL : Tail la	mp ON						
Off : Tail la	mp OFF						
s the tail lamp turned ON							
YES >> Tail lamp circ NO >> Refer to EXL			cedu	ro"			
Diagnosis Procedur				<u>.</u> .			
							INFOID:000000005174713
1. CHECK TAIL LAMP F	USE						
 Turn the ignition swit Check that the follow 		s are not fus	ing.				
Unit	Loca	ation Fuse	e No.	Capacity			
Tail lampRear side marker lampLicense plate lamp	IPDM I	E/R #	53	10 A			
<u>s the fuse fusing?</u> YES >> Repair the m NO >> GO TO 2. 2. CHECK TAIL LAMP C		•	fore r	eplacing th	e fuse.		
 CONSULT-III ACTIVE Disconnect the rear of Turn the ignition swit Select "EXTERNAL I With operating the t ground. 	combinat ch ON. LAMPS"	of IPDM E/F	R activ	ve test item		M E/R harr	less connector and the
Terminals		Test item					
(+)	(-)	Test item		Voltage			
IPDM E/R		EXTERNAL	(Approx.)			
Connector Terminal	Ground		D-1	ton () alta			
E5 7		TAIL	Bat	tery voltage 0 V			
s the measurement value	e normal	_					

TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	IPDM E/R		Rear comb	ination lamp	Continuity
C	Connector	Terminal	Connector	Terminal	Continuity
RH	E5	7	B232	1	Existed
LH	LJ	1	B60	1	LAISIEU

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TAIL LAMP GROUND OPEN CIRCUIT

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

	Rear combinat	ion lamp		Continuity
	Connector	Terminal	Ground	Continuity
RH	B232	4	Ground	Existed
LH	B60	4	-	Existed

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

LICENSE PLATE LAMP CIRCUIT

			LICEN	NSE PLA		P CIRCUIT	
		DIAGNOS					[HALOGEN TYPE]
LICENS	SE P	LATE L	AMP CIF	RCUIT			
Compor	ent F	unction	Check				INFOID:000000005174714
NOTE:							
-		•	•		ense plate l	amp are not turned O	Ν.
			E LAMP OPI	RATION			
		FO ACTIVE M E/R auto		Refer to P	CS-10. "Diad	gnosis Description".	
2. Check	that th	ne license p	olate lamp is				
		ACTIVE TE ERNAL LAI	ST MPS" of IPD	M E/R activ	ve test item.		
						ate lamp is turned ON	
ТА	IL	: License	plate lamp	ON			
Of			plate lamp (
Is the licer	ise plat	te lamp turi	ned ON?				
			mp circuit is		ro"		
		_	71, "Diagnos	<u>IS Procedu</u>	<u>re</u> .		
Diagnos	IS PIC	ocedure					INFOID:000000005174715
1. CHECK	LICE	NSE PLATI	E LAMP BUI	B			
		able lamp b	oulb.				
<u>Is the bulb</u> YES >	<u>norma</u> > GO 1						
		ace the bul	b.				
2.CHECk		NSE PLATE	E LAMP OPI	EN CIRCU	IT		
		tion switch					
			onnector an en the IPDN				te lamp harness connec-
tor.		,					
	PDM E/	D	License p	lato lamo			
Connec	r	Terminal	Connector	Terminal	Continuity		
RH			D117	1			
LH	E5	7	D112	1	Existed		
Does cont	-		1		<u>. </u>		
	> GO 1			no oto			
~	•					-	
		NOE PLAII	E LAMP GR				

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

	License plate	e lamp		Continuity
	Connector	Terminal	Ground	Continuity
RH	D117	2	Ground	Existed
LH	D112	2		LAISIEU

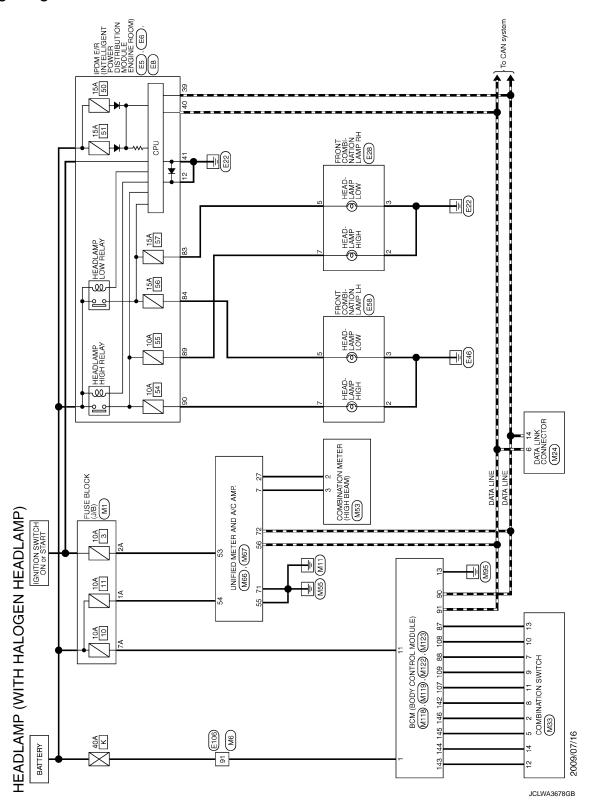
Does continuity exist?

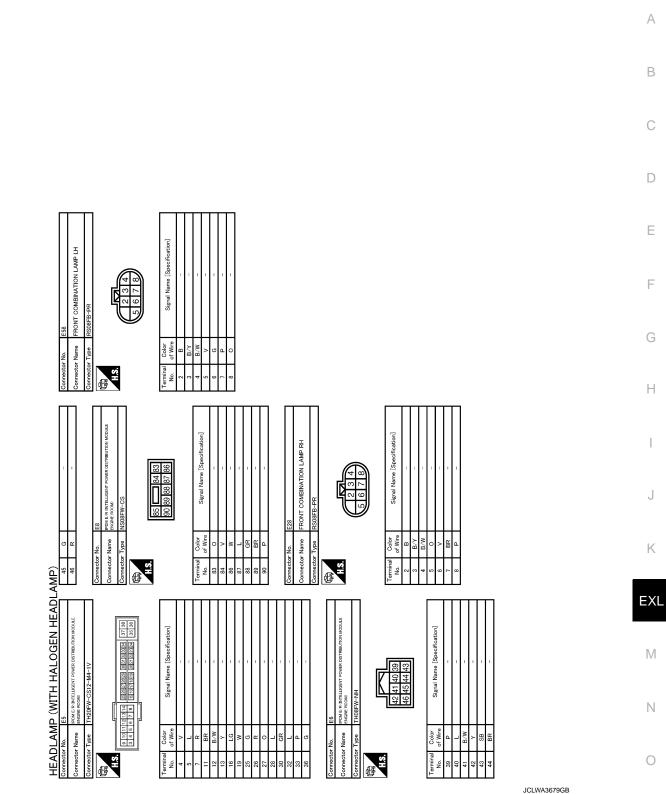
YES >> Replace the license plate lamp. NO >> Repair the harnesses or connectors.

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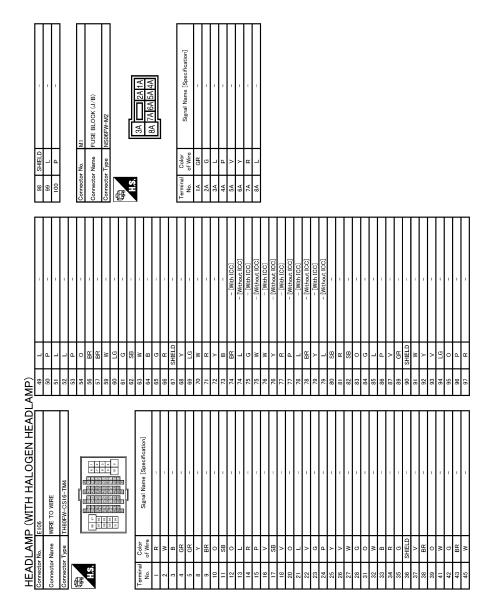
Wiring Diagram - HEADLAMP -





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< DTC/CIRCUIT DIAGNOSIS >



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I0 R INPUT 4 11 LG NNUT 1 12 LG NNUT 1 13 BR NPUT 5 14 G OUTPUT 2 15 Connector No. M33 Connector Name COMBINATION METER Connector Name	Image: Signal News (Specification) Image: Signal News (Specification) 1 0.04 Signal News (Specification) 1 0.04 Signal News (Specification) 1 0.04 Signal News (Specification) 2 1.06 Signal News (Specification) 1 0.07 Signal News (Specification) 1 0.07 Signal News (Supply 1 0.07 Signal News (Supply 1 0.07 Signal News (Supply 1 0.08 Communication Signal, Line 1 0.08 Signal News (Supply 1 0.01 Signal, LiteRay Control 1 0.01 Signal, LiteRay 1 1.1 AITERAY Control 2 1 Signal, LiteRay 2 1 Signal, LiteRay 2 1 Signal, LiteRay 2 1 <t< th=""><th></th></t<>	
	11.112.13.14 16 78 31.45.6 78 Signal Name [Specification] main Signal Name [Specification]	
99 V 100 SB Connector No. Connector Name Connector Type	Terminal Color 1 1 2 0 <t< td=""><td></td></t<>	
49 51 52 53 54 54 56 56 56 56 56 56 56 56 56 56 56 56 56	62 63 63 64 65 65 65 65 53<	
Domestor No. M6 Connector Name WRE TO WRE Domestor Type TH80M*-CS16-TM4 Domestor Type TH80M*-CS16-TM4	Signal Name Signal Name Signa	
Connector Name Connector Type		
Connect Connect H.S.	Terrinal 1 4 4 4 4 4 4 4 3<	

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HEADLAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

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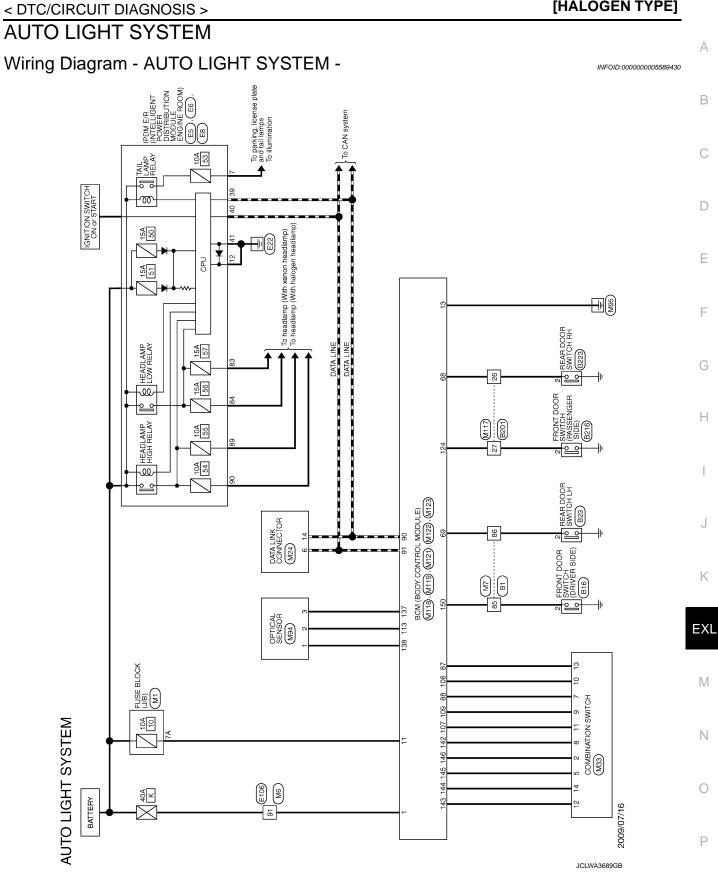
R PASSEN CG PASSEN SB DRIVE SB DRIVE CD BLOWERY LIG KEYLESS ENT LIG KEYLESS ENT LIG KEYLESS ENT LIG C C C R C C C C C C C C C C C C C C C	111 Y S.LUNT COMM Germeetor No. M123 Connector Name BCM (BODY CONTPOL MODULE) Connector Type TH40FG-NH	Terminal Color Signal Name [Specification] No. of Wire Signal Name [Specification] 113 EB PCPLCAL.SENSOR 116 SB STOP LAMP SW1 118 P STOP LAMP SW1 119 B DR DOOR UNLOOK SENSOR 111 B P STOP LAMP SW1 112 BR DR DOOR UNLOOK SENSOR 123 W PASSENGER DOOR SW1 123 W PASSENGER DOOR SW1 133 W PUSH-BUTTON IGNITION SW1.L POMER 133 O REPLEVESISION SW1 133 O REPLEVESISION SW1	
L PASS Y ALL G DRIVERI BR RE BR RE B PUSH W Y	18 0 TURN SIGNAL LINFERONT) 19 V ROOMLANP TIMER CONTROL Connector Name BCM (BODY CONTROL MODULE) Connector Type TH40FB-NH Connector Type TH40FB-NH	Terminal Color Signal Name [Specification] No. of Wire Signal Name [Specification] 72 R ROOM ANT2- 73 G ROOM ANT2- 75 GR PASSENGER DODR ANT- 76 V DREVE DODR ANT- 77 LG DREVE DODR ANT- 78 Y ROOM ANT1+ 79 BR ROOM ANT1- 78 V DREVE DOOR ANT1- 79 BR ROOM ANT1- 80 GR NATS ANT AMP. 81 W NATS ANT AMP. 81 W LGA CARL AMP.	Н 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	63 R ECV SIGNAL 63 L A.C.LM SIGNAL 69 L A.C.LM SIGNAL 60 A.C.LM SIGNAL 71 B A.C.LM SIGNAL 72 P GROUND Connector No. M118		Connector Name BCM (BOY CONTROL MODULE) Connector Type NSIGFW-CS Analysis NSIGFW-CS Initial Color 11121314151617181919 Terminal Color Signal Name [Specification] No. of Wee Analoge Signal Name [Specification]
HEADLAMP (WITH HALOGEN HEADL Connector Name UNIFIED METER AND A/C AMP. Connector Type TH40FW-NH Connector Type TH40FW-NH Connector Type TH40FW-NH	Terminal no Color of Wue Signal Name (Speorfication) 0. of Wue Signal Name (Speorfication) 1 5 L MANUJAL MODE SHIFT UP SIGNAL 2 L COMMUNICATION SIGNAL (L2PULEE) 9 SB FRONT SIGNAL (L2PULEE) 11 G NON-MANUJAL MODE SIGNAL 12 L VEHICLE SPEED SIGNAL (L2PULEE) 11 G NON-MANUJAL MODE SIGNAL 12 L NON-MANUJAL MODE SIGNAL 23 Y NON ON OF SIGNAL 23 L NON MODE SIGNAL 23 Y ANUJAL MODE SIGNAL	ctor Name ctor Name ctor Name P → ≺ < R 5	Terminal Color Signal 64.04.7 Signal 66.061 (82.63) 65 70.7172 Terminal Color Signal Mame (Specification) 60 70.7172 No. of Wes Signal Mame (Specification) 61 71.72 Ab. of Wes Signal Mame (Specification) 41 V FUEL LEVEL SINSOR SIGNAL 43 R Intrace Stresson SIGNAL 44 L Addition 45 Q Intrace Stresson SIGNAL 45 46 0 SIMULOAD SENSOR SIGNAL 45 Q Stresson SIGNAL 45 C SIMULOAD SENSOR SIGNAL 46 O SUNLOAD SENSOR SIGNAL 45 SIMULOAD SENSOR SIGNAL 47 G GAS SENSOR SIGNAL 50 GAS SENSOR SIGNAL

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HEADLAMP SYSTEM

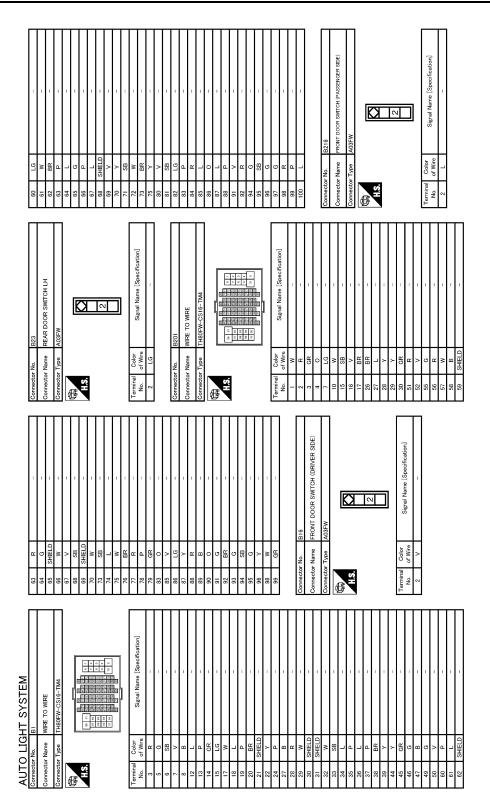
< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]



AUTO LIGHT SYSTEM

< DTC/CIRCUIT DIAGNOSIS >



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AUTO LIGHT SYSTEM

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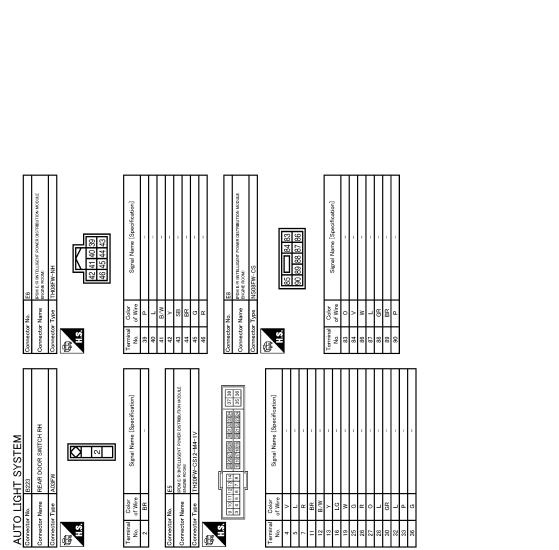
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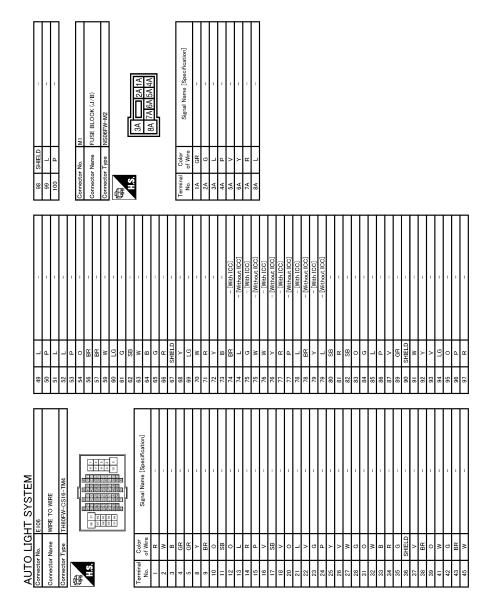
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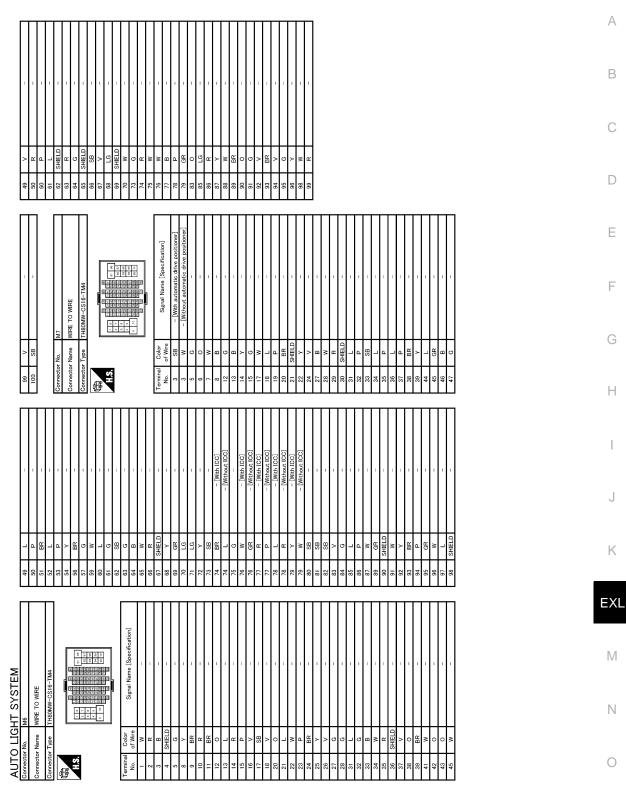


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< DTC/CIRCUIT DIAGNOSIS >

AUTO LIGHT SYSTEM

[HALOGEN TYPE]



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AUTO LIGHT SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

	D LIGHT	AUTO LIGHT SYSTEM	1	e		5 2 2	3		Connector No	40 M118	a
Connector Name		DATA LINK CONNECTOR		-		28		-	Connector Name		BCM (BODY CONTROL MODULE)
Connector Time	Т	DD16DW	Conne	Connector No	Mod	20 20	rc	1	Connector Time	Т	M03EB-I C
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f			Conne	Connector Name	OPTICAL SENSOR	99	>		ſ		
Š	Ŀ		Conne	Connector Type	TK03FW	61	ΓC	1	N H		
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		l	f			63					
		345678		V		64	ΓC	-			2
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					1 2 3	99	œ	1			
Terminal	Color	- - - - - - - - - - - - - - - - - 				67	>	1	Terminal	Color	- - - - - - - - - - - -
No.		Signal Name [Specification]				89	SHIELD	Т		of Wire	Signal Name [Specification]
3	IJ	1				69	>	1	-	M	BAT (F/L)
4	m	1	Terminal	_		70	≻	1	2	┝	POWER WINDOW POWER SUPPLY(BAT)
5	8	1	No.	of Wire	Signal Name [Specification]	12	ß	1	9	┝	POWER WINDOW POWER SUPPLY(RAP)
9	_	I	-	>	POWER	72	M	I			
7	>		2	•	OUTPUT	23	9				
~~	J	-	ŝ		GND	75	×	-	Connector No.	Vo. M119	6
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14	<u>م</u>	1				ā	ď	1	Connector Name		BCM (BODY CONTROL MODULE)
9	. >	1	Conne	Connector No.	M117	8	} >	1	Connector Type	Г	NS16FW-CS
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			Conne	Connector Name	WIRE TO WIRE	84	. a	1	ſ		
Connector No	r No M33		Conne	Connector Tyne		å	-		ľ		
	Т	2		n he		98		1.1	<i>2</i> 1	1 5	
Connector Name		COMBINATION SWITCH	ſ			8 6) -				s !
Connector Type		THIGEW-NH		0	100 00 00 00 00 00 00 00 00 00 00 00 00	ò				11 12	12 13 14 15 16 1/ 18 19
				5		8 8	. >				
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Ω H		 / \ \				\$	5	I	E.	Color	Signal Name [Specification]
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	ţ,			Ŀ		96	9	-	4	LG LG	IN LERIOR ROOM LAMP POWER SUPPLY
	_	8 9 10 11 12 13 14	Terminal	_	Signal Name [Specification]	6	>	-	2	≏ 	PASSENGER DOOR UNLOCK OUTPUT
]]	Р	of Wire		86	BR		7	7	STEP LAMP OUTPUT
			-	-	-	66	>	 [With BOSE audio] 	00	۲ ۱	ALL DOOR, FUEL LID LOCK OUTPUT
Terminal	Color	Cinnal Nama [Cnacification]	2	σ	-	66	_	 [Without BOSE audio] 	6	G DRIV	DRIVER DOOR, FUEL LID UNLOCK OUTPUT
No.	of Wire	oighar Nairie Lopecincauori	ĉ	GR	1	100	SB	 [With BOSE audio] 	10	BR	REAR DOOR UNLOCK OUTPUT
-	٩	FR WASHER(-)	4	8	,	100	-	 [Without BOSE audio] 	=	œ	BAT (FUSE)
2	SB	OUTPUT 4	2	>	1				13	в	GND
e	GR	FR WASHER(+)	10						14	┝	PUSH-BUTTON IGNITION SWILL GND
4	G	IGN	15		1				5	┝	ACCIND
5		OUTPUT 3	16	┝	-				17	×	TURN SIGNAL RH (FRONT)
e U	1 @	GND	17		,				18	: c	TIRN SIGNAL LH (FRONT)
	;	Child Child		╉					•	,	
\ \	> '		97	+					8	>	ROUM LAMP TIMER CONTROL
	0	OUTPUT 5	27	+	-						
6	>	INPUT 2	28	>	1						
10	œ	INPUT 4	29	+	1						
Ξ	LG	INPUT 1	8	+							
12	۵.	OUTPUT 1	51	۳	1						

[HALOGEN TYPE]

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Image: Name of the set o	95 0 ACC RELYA CONT 150 LG 98 R AT SHIFT SELECTOR POWER SUPPLY 151 LG 98 P S.L. CONDITION 1 159 LG 98 P S.L. CONDITION 2 151 LG 98 P S.L. CONDITION 2 151 C R 99 R S.L. CONDITION 2 151 C R 99 R S.L. CONDITION 2 151 C R 910 G PASSENCER DOOR REQUEST SW 101 C R R 101 G B.LOWER FAM MOTOR RELEST SW 101 C R R 102 B. LG REVER ROUND REQUEST SW 101 COMBI SW NEUT 4 101 101 COMBI SW NEUT 4 101 101 C A 103 LG COMBI SW NEUT 4 101 101 C A L COMBI SW NEUT 4 101 101 C A L L COMBI SW NEUT 4	ITEQL MODULE) Connector Nume BOM (BODY CONTROL MODULE) Connector Type THAIPG-NH Connector Type THAIPG-NH	Terminal Color Terminal Color Signal Name (Specification) Name (Specification) Name (Specification) Name (Specification) NOIM ANT2- 113 P OPLICAL SENSOR NOIM ANT2- 116 Signal Name (Specification) ROIM ANT2- 118 P OPCILAL SENSOR NOER DOOR ANT- 119 SB DOOR MANDS EFE DOOR ANT- 121 BF DOOR NANDS 123 W NOER DOOR SENSOR NOER DOOR SENSOR 200M ANT2- 123 W PLASENDER PARE 200M ANT- 123 W NOER DOOR SENSOR 200M ANT- 123 W PLASENDER PARE 200M ANT- 123 W PLASENDER PARE 200M ANT- 134 GR LOCK ND	
400 DULE) 3 88 58 54 58	Terminal Color Signal Name (Specification) No. of Wire Signal Name (Specification) 34 SIS LUIGGAGE ROOM ANTT- 35 B LUIGGAGE ROOM ANTT- 36 B LUIGGAGE ROOM ANTT- 38 V LUIGGAGE ROOM ANTT- 39 W BACK DOOR ANTT- 47 Y IGM RELAY UPM E/R) CONT 61 V IGM RELAY UPM E/R) CONT 62 SI SIGAK DOOR OPERER REQUEST SW 66 REAK DOOR APERER REQUEST SW SIG 67 CR BACK DOOR OPERER REQUEST SW 68 R FACK DOOR OPERER REQUEST SW 69 R REAR PH DOOR SW 69 R REAR PH DOOR SW		Terminal No. Color of Wire Signal Name [Specification] 72 of Wire ROOM ANT2- 73 G ROOM ANT2- 74 SB PASSENGER DOOR ANT- 75 V DRIVER DOOR ANT- 76 V DRIVER DOOR ANT- 77 LG DRIVER DOOR ANT- 78 V DRIVER DOOR ANT- 79 BR ROOM ANTI- 78 V DRIVER DOOR ANT- 79 DRIVER DOOR ANTI- 70 DRIVER DOOR ANTI-	

AUTO LIGHT SYSTEM

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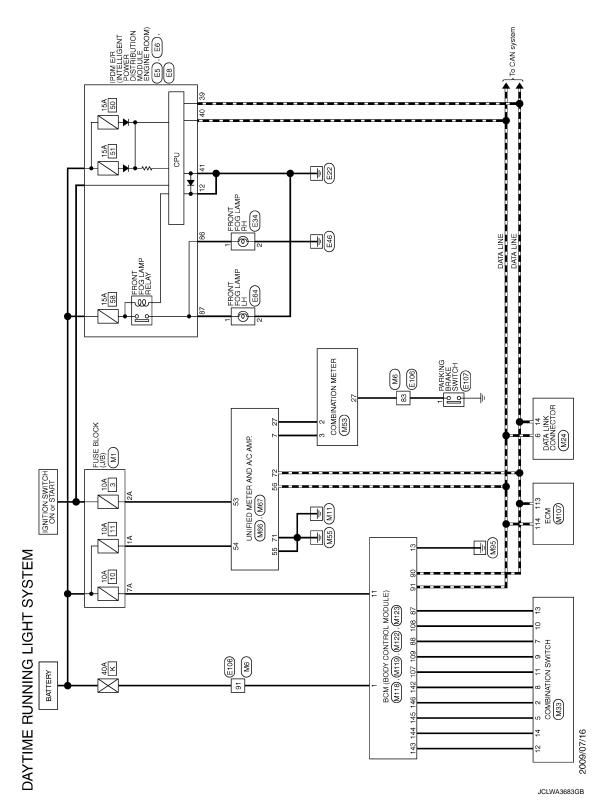
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Revision: 2009 August

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DAYTIME RUNNING LIGHT SYSTEM

Wiring Diagram - DAYTIME LIGHT SYSTEM -

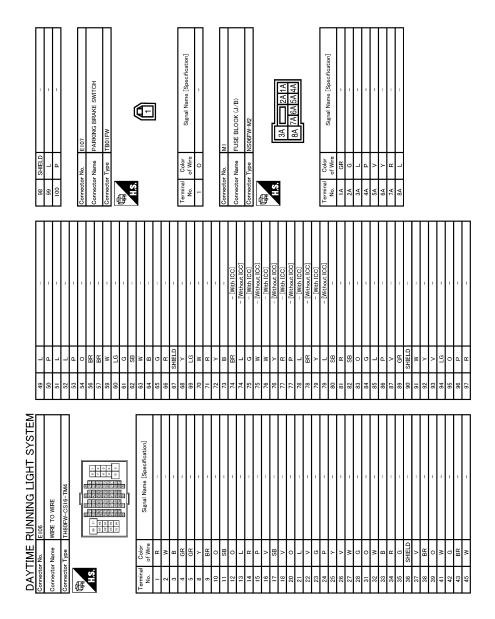


< DTC/CIRCUIT DIAGNOSIS >	[HALOGEN TYPE]
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E64 FROMT FOG LAMP LH Signal Name (Specification)	F
Name B.W. B.W.	G
Connector Name Connector Name Connector Type HS HS Connector Type Connector Type Connector Type Connector Type	Н
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45 6 46 8 46 8 60 9 7 9 7 9 8 0 81 0 83 1 83 1 84 0 83 1 90 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	K
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NPUT 4 NPUT 1 NPUT 1 UNPUT 1 OUTPUT 2 UNPUT 5 MIS3 OUTPUT 3 MIS3 COMBINATION METER MIS3 Signal Name [Specification] Balancipicales/SUL1 METER POWER ALTERNATOR SIGNAL METER POWER ALTERNATOR SIGNAL ALTERNATOR SIGNAL ALTERNATOR SIGNAL ALTERNATOR SIGNAL COMMUNICATION SIGNAL ALTERNATOR SIGNAL ALTERNATOR SIGNAL ALTERNATOR SIGNAL COMMUNICATION SIGNAL ALTERNATOR SIGNAL COMMUNICATION SIGNAL ALTERNATOR SIGNAL COMMUNICATION SIGNAL ALTERNATOR SIGNAL COMMUNICATION SIGNAL ALTERNATION CONTRICU SATIFICE LEVEL SWITCH SIGNAL ALLUMINATION CONTRICU MARTER AND AND SIGNAL ALLUMINATION CONTRICL SWITCH SIGNAL	
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99 V 2 100 SB ATA LINK CONNECTOR Connector Name DATA LINK CONNECTOR Connector Name Color 11 P 12 2 11 P	
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DAYTIME RUNNING LIGHT SYSTEM Connector No. Mile Mile No. Mile	

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< DTC/CIRCUIT DIAGNOSIS >

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Revision: 2009 August

10 BR REAR DOOR UNLOCK OUTPUT	•		•	14 W PUSH-BUITON IGNITION SWILL GND	15 Y ACC IND	17 W TURN SIGNAL RH (FRONT)	18 0 TURN SIGNAL LH (FRONT)	19 V ROOM LAMP TIMER CONTROL					1			T		Г	1								Г						Г	Т		I	1										LY				and a set of the set o
VEHCAN-LI	VEHOVNEH		GNDA-FUFRES	KLINE	CDCV	BRAKE	GND	GND	VBR	BNC SW	GND	GND			M118		BCM (BODY CONTROL MODULE)	M03FB-LC				•	<u>0</u>	725]			Signal Name [Specification]	BAT (F/L)	POWER WINDOW POWER SUPPLY(BAT)	POWER WINDOW POWER SUPPLY(RAP)		M119		BCM (BODY CONTROL MODULE)	NS16FW-CS				4 5 6 7 5 8 9 10	10 10 11 1E 1E 17				- - - - - -	Signal Name [Specification]	INTERIOR ROOM LAMP POWER SUPPLY	PASSENGER DOOR UNLOCK OUTPUT	STEP LAMP OUTPUT	ALL DOOR, FUEL LID LOCK OUTPUT	
4	╞	+	: =	+	1 LG	2	а 2	4 B	5 R	6 BR	7 B	а 8			Connector No		Connector Name	Connector Type			N N	1					inal Color	v	M		>		Connector No		Connector Name	Connector Type			2 2		1				inal Color	of Wire	ΓC		>	>	,
=	-	4	-[`	1	121	122	123	124	125	126	127	128]	-	Con		Conn	Conn		ß			-				Terminal	No.		•× ۲	°	_	Cono		Conn	Conn		ß			_	_	_		Terminal	No.	 	2		00	
IGNITION POWER SUPPLY	DATTEDV DOMED CLIDDI V	BATTERY POWER SUPPLY	GROUND	CAN-H	BRAKE FLUID LEVEL SWITCH SIGNAL	FUEL LEVEL SENSOR GROUND	INTAKE SENSOR GROUND	IN-VEHICLE SENSOR GROUND	AMBIENT SENSOR GROUND	SUNLOAD SENSOR GROUND	ı	ECV SIGNAL	A/C I AN SIGNAL	FACH DOOR MOTOR POWER SLIPPLY		CAN-I	<pre></pre>		M107		ECM	RH24FGY-RZ8-R-LH-Z				128 124 110 112 108 104 100 407 109 1441407 105 00	111	121 117 113 109]	Signal Name [Specification]	4061	APSI APSI	APS2 [Without ICC]	AVCC-APS1 [With ICC]	AVCC-APS1 [Without ICC]	GND-A (APS1)	ASCDSW	FTPRS	AVCC-APS2 [With ICC]	AVCC-APS2 [Without ICC]	GND-A(APS2) [With ICC]	GND-A(APS2) [Without ICC]	PDPRESS	Ŧ	AVCC-FTPRS	GNDA ASCD	NEUT-H	TACHO	AVCC-PDPRESS	0110
σ	>	ہ - ا	<u>.</u>	-	N	H	GR	L	R	ß	я	0	-			•			Connector No.			Connector Type			Ľ	-			ц	- L	al Color of Winn		r >		. 0	_	×	ß	ΓC	-	σ	R			>		>	σ		0	ļ
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DAYTIME RUNNING LIGHT SYSTEM Connector No. M66	Γ	Connector Name UNIFIED METER AND A/C AMP.	Т	Connector Type TH4UEW-NH			SH		2 5 6 7 8 9 10 11 12 14 15 16 20 34 50 50 50 50 50 50 50 50 50 50 50 50 50				Terminal Color	-	5 I MANITAL MODE SHIET LID SIGNAL	7 GP COMMINICATION SIGNAL (AMP ->METER)	T	9 SB FRONT SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)	>	11 G NON-MANUAL MODE SIGNAL	14 BR COMMUNICATION SIGNAL (LCD->AMP.)		- >	V MANI	. e	? œ	: >	· >	38 P BLOWER MOTOR CONTROL SIGNAL		C M. 1003	T	Connector Name UNIFIED METER AND A/C AMP.	Connector Type TH32FW-NH		ſf				[2/128]28[60[61[62[63] [65] [[[65] /0]/1]/2]			Terminal Color	-	41 V ACC POWER SUPPLY	42 Y FUEL LEVEL SENSOR SIGNAL	43 R INTAKE SENSOR SIGNAL	IN LG		46 0 SUNLOAD SENSOR SIGNAL	

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Revision: 2009 August

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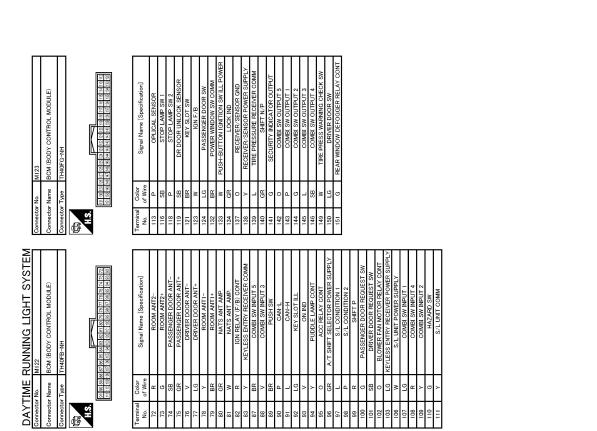
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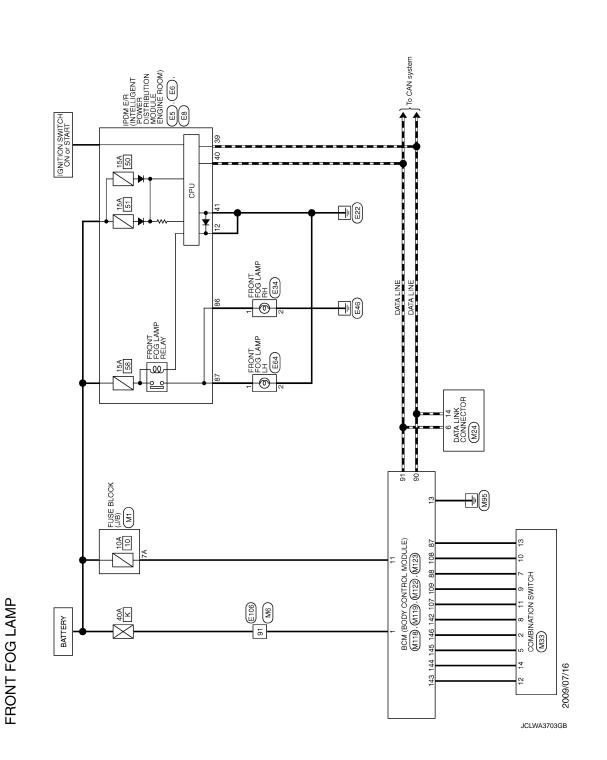
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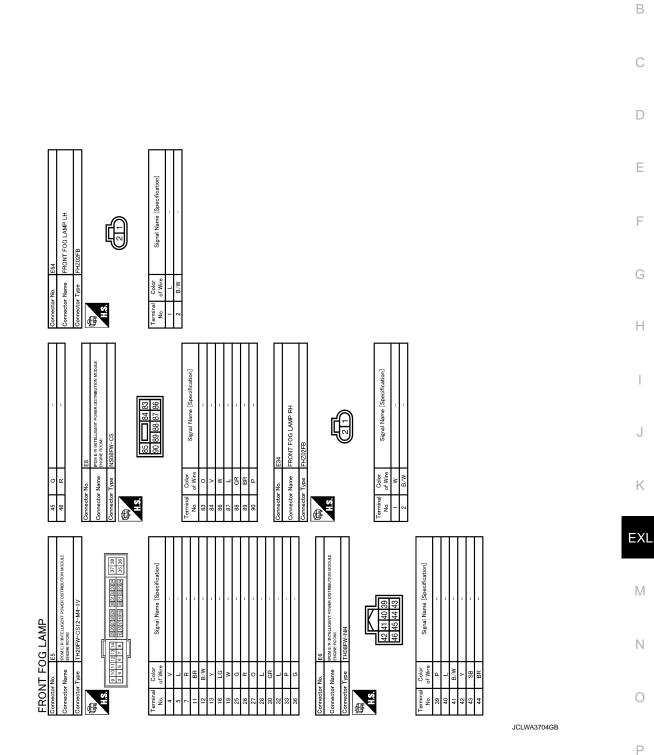
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FRONT FOG LAMP SYSTEM

Wiring Diagram - FRONT FOG LAMP -

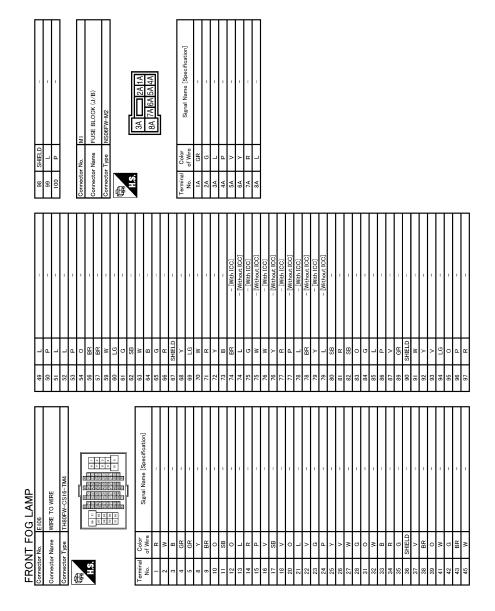
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	E
M24 DaTA LINK CONNECTOR BDTA LINK CONNECTOR BD174 LINK CONNECTOR BD16FW BD16FW BD16FW 3 4 5 6 7 8 3 4 5 6 7 8 3 4 5 6 7 8 3 4 5 6 7 8 1 2 1 1 12 13 14 16 1 1 12 15 1 13 14 16 1 1 12 15 1 14 16 1 14	F
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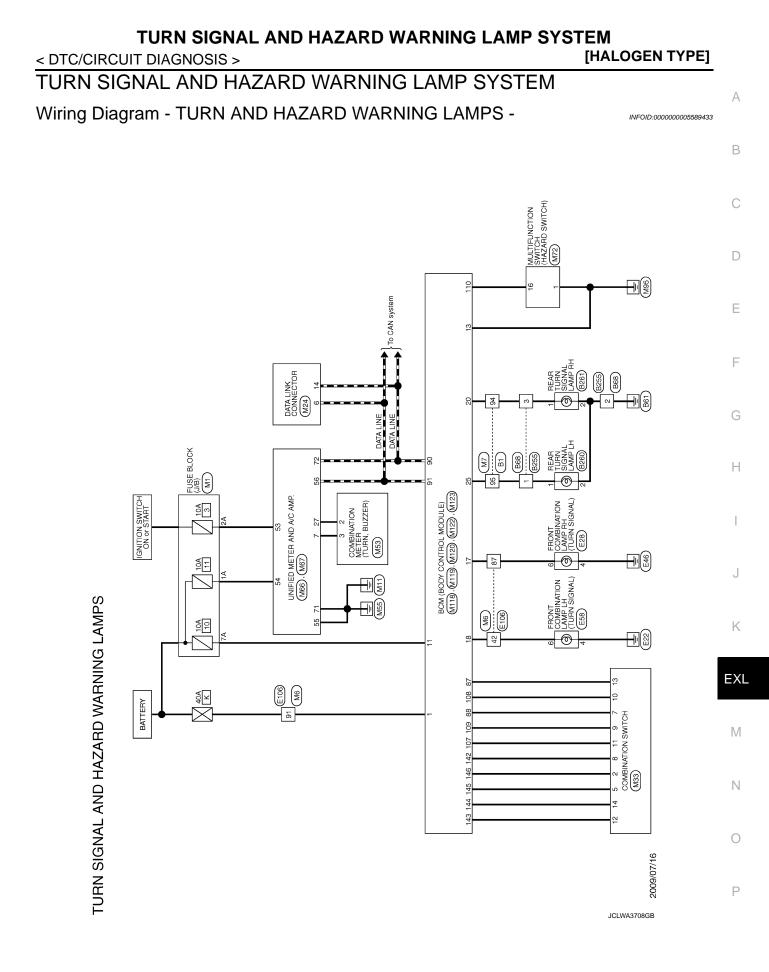
< DTC/CIRCUIT DIAGNOSIS >

FRONT FOG LAMP Connector Name ECM (BODY CONTFOL MODULE) Connector Name ECM (BODY CONTFOL MODULE) Connector Type EREAL BODY UNAMP FOWING COUTPUT P V ALL DOOR FUEL LUD LOCK OUTPUT P V TUTINA SIGNAL LH (FRONT) P PUSH-BUTTON CONTFOL P PUSH-BUTTON CONTFOL P PUSH-BUTTON CONTPUT P PUSH-BUTTON CONTPUT </th <th></th> <th>81 W NATS ANT AMP.</th> <th>82 R IGN RELAY (F/B) CONT</th> <th>Y KEYLES</th> <th>BR</th> <th>V COM</th> <th>89 BR PUSH SW</th> <th>90 P CAN-L</th> <th>91 L CAN-H</th> <th>92 LG KEY SLOT ILL</th> <th>93 V ON IND</th> <th>γ</th> <th>0</th> <th>96 GR A/T SHIFT SELECTOR POWER SUPPLY</th> <th>97 L</th> <th>98 P S/L(</th> <th>ж</th> <th>G P/</th> <th>101 SB</th> <th>102 0</th> <th>100 W 3/L UNIT POWER SUFFLI 107 L G COMBLSW INPLIT 1</th> <th>108 R</th> <th>109</th> <th>110 G HAZARD SW</th> <th>111 Y S/LUNIT COMM</th> <th></th> <th>Connector No. M123</th> <th>Connector Name BCM (BODY CONTROL MODULE)</th> <th></th> <th>đ</th> <th>HAN H.S.</th> <th>(9) (9) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2</th> <th>- F</th> <th>Terminal Color Signal Name [Specification]</th> <th></th>		81 W NATS ANT AMP.	82 R IGN RELAY (F/B) CONT	Y KEYLES	BR	V COM	89 BR PUSH SW	90 P CAN-L	91 L CAN-H	92 LG KEY SLOT ILL	93 V ON IND	γ	0	96 GR A/T SHIFT SELECTOR POWER SUPPLY	97 L	98 P S/L(ж	G P/	101 SB	102 0	100 W 3/L UNIT POWER SUFFLI 107 L G COMBLSW INPLIT 1	108 R	109	110 G HAZARD SW	111 Y S/LUNIT COMM		Connector No. M123	Connector Name BCM (BODY CONTROL MODULE)		đ	HAN H.S.	(9) (9) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	- F	Terminal Color Signal Name [Specification]	
				- MUUULE)					6	17 18	0 /			me [Snerification]		I LAMP POWER SUPPLY	OOR UNLOCK OUTPUT	LAMP OUTPUT	JEL LID LOCK OUTPUT	JEL LID UNLOCK OUTPL	GND	N IGNITION SW ILL GND	ACC IND	GNAL RH (FRONT)	IGNAL LH (FRONT)	MP TIMER CONTROL			FROL MODULE)			79 78 77 76 75 74 73 99 98 97 96 95 94 93			Vame [Specification]
	IG LAMP	M119			NS16FW-CS				S	12 13 14 15	1-1-0-			Signal Na	Olginal Na	INTERIOR ROOM	PASSENGER D	STEP	ALL DOOR, FI	DRIVER DOOR, FL	٥	PUSH-BUTTO		TURN SI	TURN S	ROOM LA		M122	BCM (BODY CONI	TH40FB-NH		87 86 85 84 83 82 81 1 107 108 105 104 103 102 101			Signal

 13/ 138 139 140 141 141	U L GR G	RECEIVERY SENSOR DOWER TIRE PRESSURE POWER SHIFT N/P SECURITY INDICATOR OI COMBI SW OUTPUT
 143 144 145	ч о т	COMBL SW OUTPUT COMBL SW OUTPUT COMBL SW OUTPUT
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 151	с	REAR WINDOW DEFOGGER RE

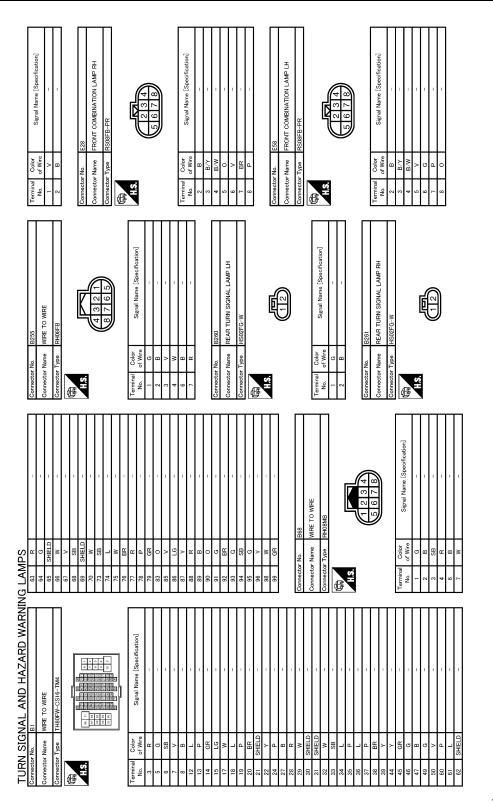
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CONT	149	M	TIRE I
CONT	150 1	g	
POWER SUPPLY	151	σ	REAR WIN
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ION 2			
REQUEST SW			
QUEST SW			
RELAY CONT			



TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >



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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM < DTC/CIRCUIT DIAGNOSIS > [HALOGEN TYPE]

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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

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 77 49 64 Signal Name [Specification] 91 96 99 96 99 96 90 90 90 90 WIRE TO WIRE 10 N 0 V 0 ٤W Color of Wire ector Name SHEL ector No. 99 100 . E HS rmina No. Conne BR ≺ W GR BR W GR SHIELD ച യ 🛱 യ ല ≥ ജ ≻₩ LG GR 88 ≥ 88 88 88 > a - 4 ഗ≥ 」ຏ≥ຬຏ LAMPS 8 6 6 8 8 TURN SIGNAL AND HAZARD WARNING Signal Name [Specification] 21 25 25 27 25 26 29 26 29 WIRE TO WIRE 9 10 9 0 9 - 4 0 4 0 SHIELD ບ∰≻> ເງິເງິ່ງ ເງ Color of Wire Ω≻ЖяЖо Connector Name SHIELD BR 0 < ype 8 0 ≥ ᆈᄣᅀ m ≥ m - ≥ 强 H.S. srmina No. 45 43

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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

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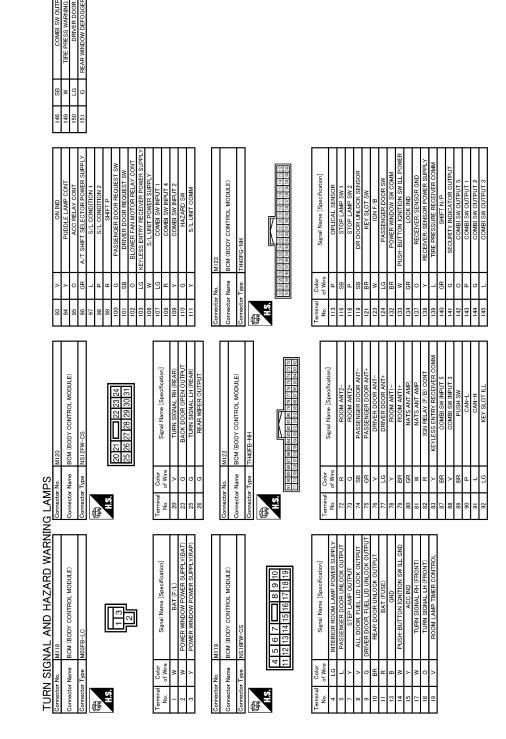
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Revision: 2009 August

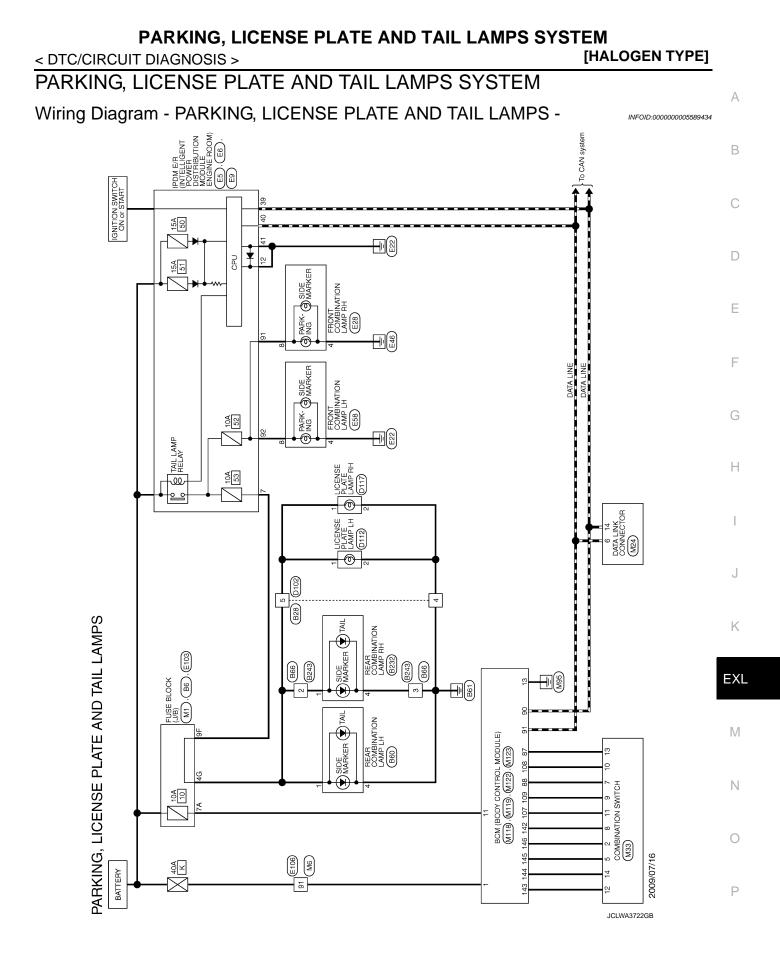


TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

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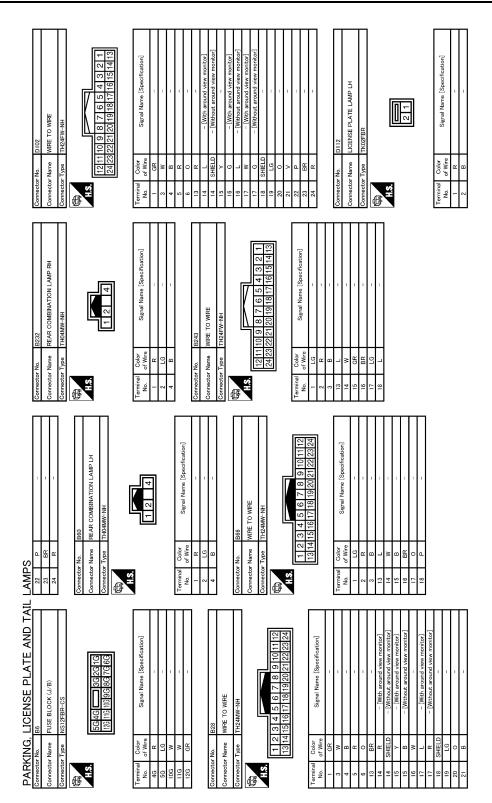
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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

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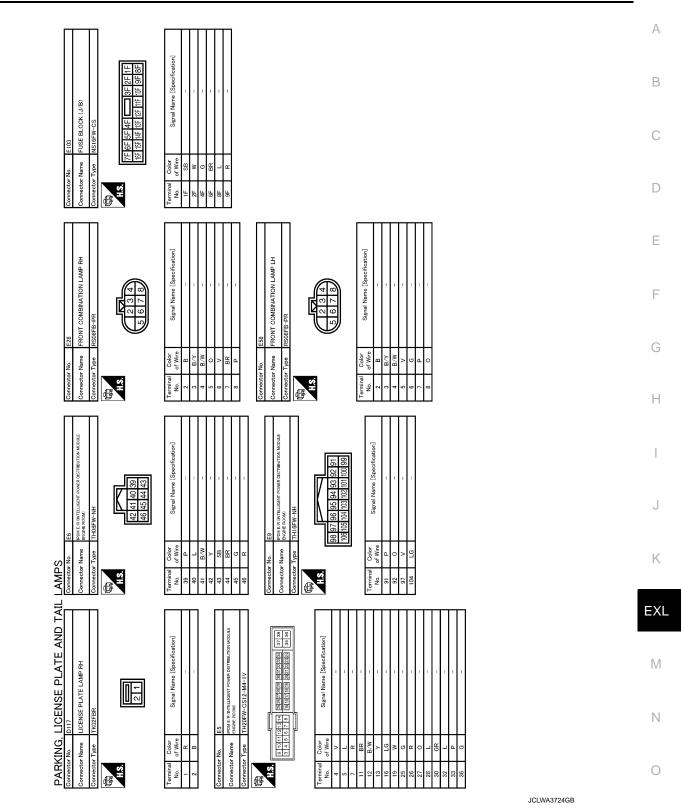


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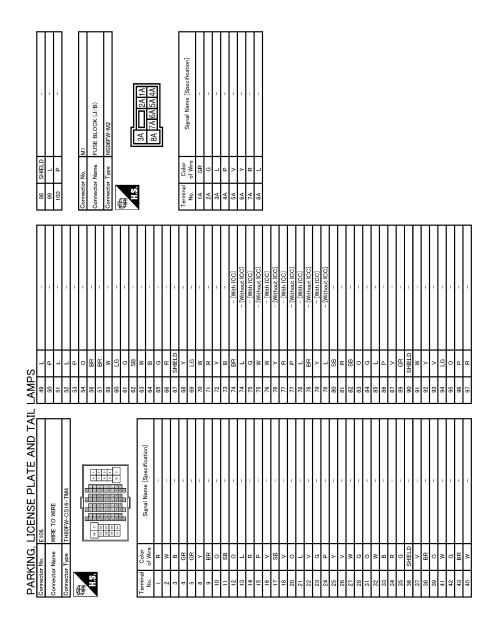
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

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[HALOGEN TYPE]



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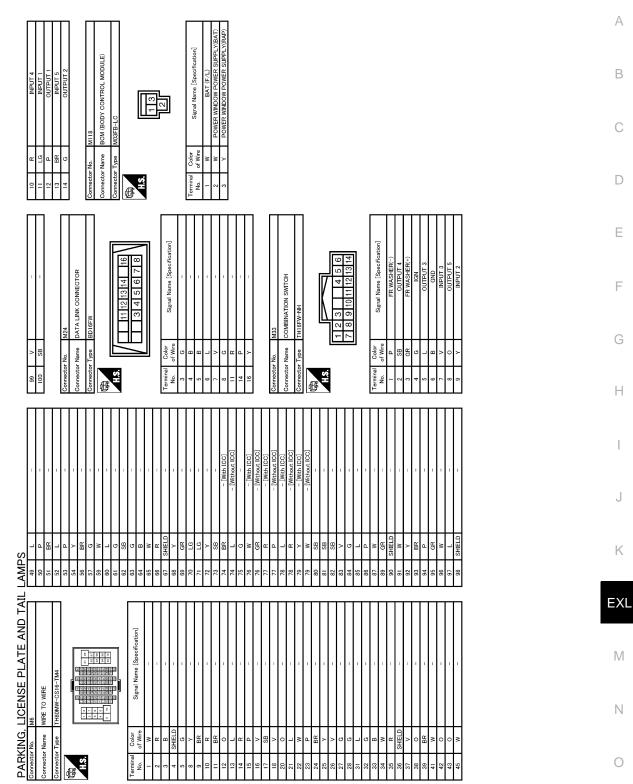


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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]



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PARKING, LICENSE PLATE AND TAIL LA	MPS SYSTEM
< DTC/CIRCUIT DIAGNOSIS >	[HALOGEN TYPE]

137	0	RECEIVER/SENSOR GND
138	Y	RECEIVER/SENSOR POWER SUPPLY
139	Т	TIRE PRESSURE RECEIVER COMM
140	ЯÐ	SHIFT N/P
141	g	SECURITY INDICATOR OUTPUT
142	0	COMBI SW OUTPUT 5
143	Ч	COMBI SW OUTPUT 1
144	9	COMBI SW OUTPUT 2
145	٦	COMBI SW OUTPUT 3
146	BS	COMBI SW OUTPUT 4
149	м	TIRE PRESS WARNING CHECK SW
150	LG	DRIVER DOOR SW
151	5	REAR WINDOW DEFOGGER RELAY CONT

	NATS ANT AMP.	IGN RELAY (F/B) CONT	KEYLESS ENTRY RECEIVER COMM	COMBI SW INPUT 5	COMBI SW INPUT 3	MS HSU4	CAN-L	CAN-H	KEY SLOT ILL	ON IND	PUDDLE LAMP CONT	ACC RELAY CONT	A/T SHIFT SELECTOR POWER SUPPLY	S/L CONDITION 1	S/L CONDITION 2	SHIFT P	PASSENGER DOOR REQUEST SW	DRIVER DOOR REQUEST SW	BLOWER FAN MOTOR RELAY CONT	KEYLESS ENTRY RECEIVER POWER SUPPLY	S/L UNIT POWER SUPPLY	COMBI SW INPUT 1	COMBI SW INPUT 4	COMBI SW INPUT 2	HAZARD SW	S/L UNIT COMM	
s	W	æ	Y	BR	^	BR	Ч	٦	ГG	^	λ	0	GR	٦	٩.	æ	5	SB	0	51	M	ГG	я	λ	5	٢	
_AMPS	81	82	83	87	88	89	06	91	92	93	94	95	96	97	98	66	100	101	102	103	106	107	108	109	110	111	

Terminal No.	Color of Wire	Signal Name [Specification]
4	ГG	INTERIOR ROOM LAMP POWER SUPPLY
5	۲	PASSENGER DOOR UNLOCK OUTPUT
7	Y	STEP LAMP OUTPUT
8	>	ALL DOOR, FUEL LID LOCK OUTPUT
6	σ	DRIVER DOOR, FUEL LID UNLOCK OUTPUT
10	BR	REAR DOOR UNLOCK OUTPUT
11	ж	BAT (FUSE)
13	8	GND
14	w	PUSH-BUTTON IGNITION SW ILL GND
15	٢	ACC IND
41	M	TURN SIGNAL RH (FRONT)
18	0	TURN SIGNAL LH (FRONT)
19	٧	ROOM LAMP TIMER CONTROL
Connector No.	· No.	M122
Connector Name	Name	BCM (BODY CONTROL MODULE)
Connector Type	Type	TH40FB-NH
HS.		

M122	BCM (BODY CONTROL MODULE)	TH40FB-NH	20 (20 Here) 50 (20 (20 Here) 70 (20 Here) 7
nnector No.	nector Name	nnector Type	H.S. 91 90 89 141 16 000

	Signal Name [Specification]	OPLICAL SENSOR	STOP LAMP SW 1	STOP LAMP SW 2	DR DOOR UNLOCK SENSOR	KEY SLOT SW	IGN F/B	PASSENGER DOOR SW	POWER WINDOW SW COMM	PUSH-BUTTON IGNITION SW ILL POWER	LOCK IND	
[5] [5] [49 [48	Color of Wire	٩	ß	Ч	SB	BR	M	ГG	BR	M	GR	
\$	inal o.			8	6	-	3	4	2	3	4	

ector Name

Signal Name [Specification]	OPLICAL SENSOR	STOP LAMP SW 1	STOP LAMP SW 2	DR DOOR UNLOCK SENSOR	KEY SLOT SW	IGN F/B	PASSENGER DOOR SW	POWER WINDOW SW COMM	PUSH-BUTTON IGNITION SW ILL POW	LOCK IND	
Color of Wire	٩	ß	٩.	SB	BR	Μ	ΓC	BR	M	GR	
Terminal No.	113	116	118	119	121	123	124	132	133	134	

Signal Name [Specification]	ROOM ANT2-	ROOM ANT2+	PASSENGER DOOR ANT-	PASSENGER DOOR ANT+	DRIVER DOOR ANT-	DRIVER DOOR ANT+	ROOM ANTI-	ROOM ANT1+	NATS ANT AMP.
Color of Wire	œ	9	SB	GR	^	PG	Y	BR	GR
Terminal No.	72	73	74	75	76	77	78	79	80

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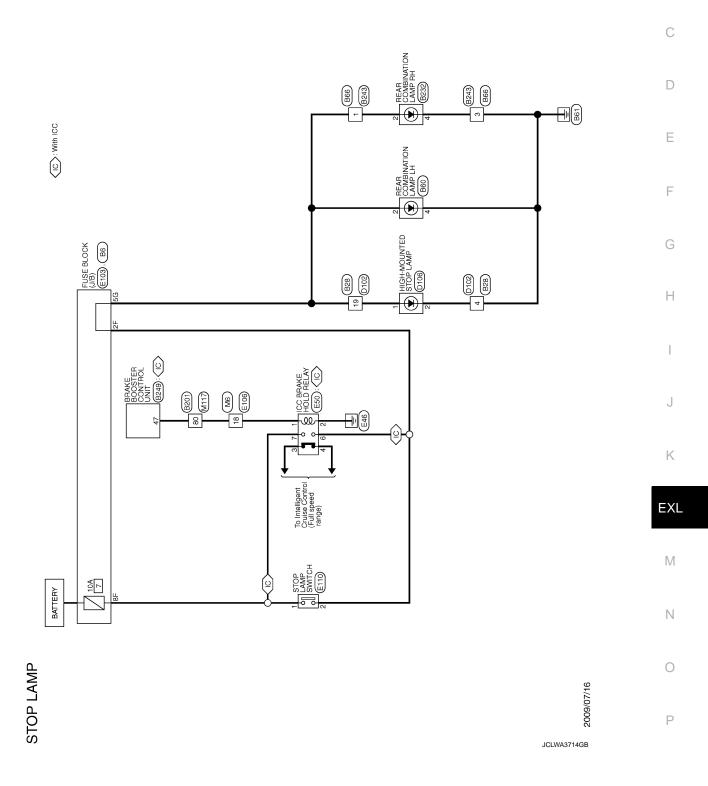
PARKING, LICENSE PLATE AND TAIL

BCM (BODY CONTROL MODULE)

lector Name

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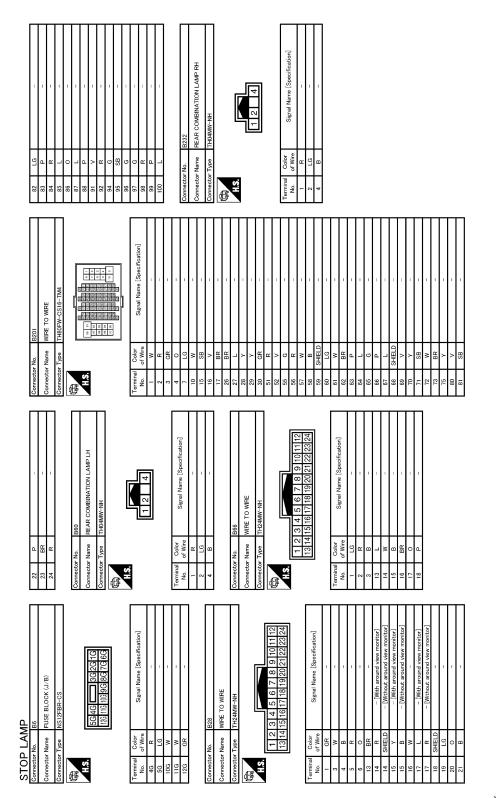
STOP LAMP



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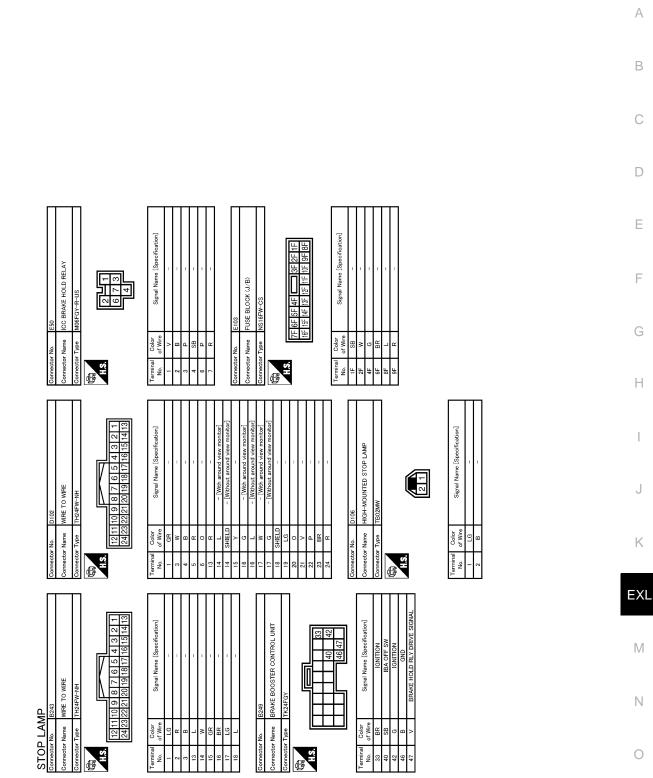
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STOP LAMP

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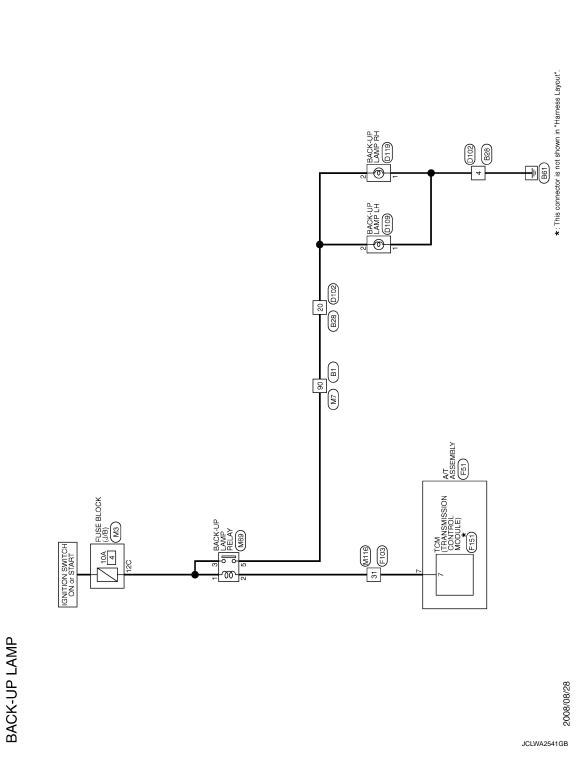
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< DTC/CIRCUIT DIAGNOSIS >

BACK-UP LAMP

Wiring Diagram - BACK-UP LAMP -

INFOID:000000005589436



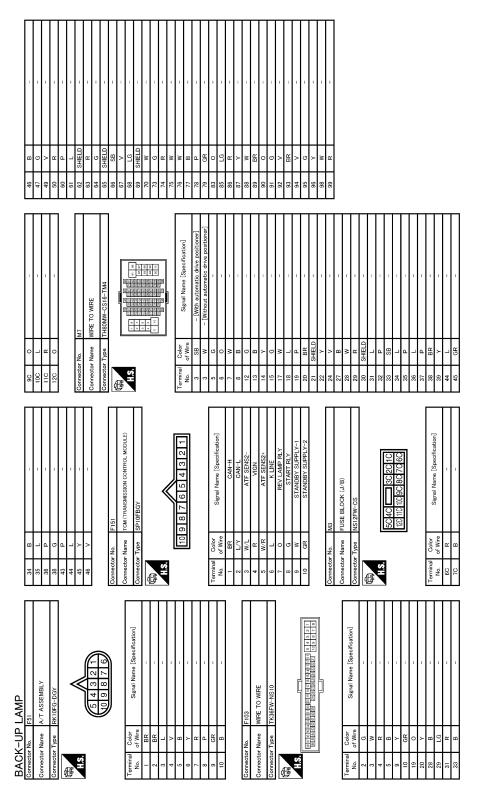
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BACK-UP LAMP

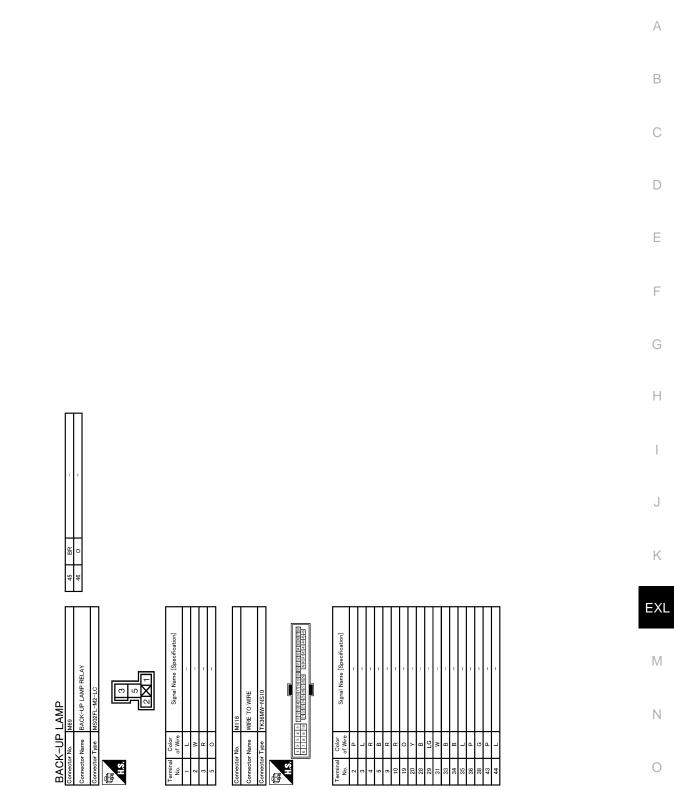
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BACK-UP LAMP

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< DTC/CIRCUIT DIAGNOSIS >

ECU DIAGNOSIS INFORMATION BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000005612270

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item	Condition	Value/Status		
FR WIPER HI	Other than front wiper switch HI	Off		
	Front wiper switch HI	On		
FR WIPER LOW	Other than front wiper switch LO	Off		
FR WIFER LOW	Front wiper switch LO	On		
FR WASHER SW	Other than front wiper switch HI Front wiper switch HI 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		
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		
	Other than rear wiper switch ON	Off		
RR WIPER ON	Rear wiper switch ON	On		
	Other than rear wiper switch INT	Off		
RR WIPER INT	Rear wiper switch INT	On		
	Rear washer switch OFF	Off		
RR WASHER SW	Rear washer switch ON	On		
	Rear wiper is in STOP position	Off		
RR WIPER STOP	Rear wiper is not in STOP position	On		
TURN SIGNAL R	Other than turn signal switch RH	Off		
I URN SIGNAL R	Turn signal switch RH	On		
	Other than turn signal switch LH	Off		
TURN SIGNAL L	Turn signal switch LH	On		
	Other than lighting switch 1ST and 2ND	Off		
TAIL LAMP SW	Lighting switch 1ST or 2ND	On		
	Other than lighting switch HI	Off		
HI BEAM SW	Lighting switch HI	On		
	Other than lighting switch 2ND	Off		
HEAD LAMP SW 1	Lighting switch 2ND	On		
	Other than lighting switch 2ND	Off		
HEAD LAMP SW 2	Lighting switch 2ND	On		
	Other than lighting switch PASS	Off		
PASSING SW	Lighting switch PASS	On		
	Other than lighting switch AUTO	Off		
AUTO LIGHT SW	Lighting switch AUTO	On		
	Front fog lamp switch OFF	Off		
FR FOG SW	Front fog lamp switch ON	On		

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off	_
	Driver door closed	Off	_
JOOR SW-DR	OG SWThe item is indicated, but not monitored.R SW-DRDriver door openedR SW-ASPassenger door openedR SW-ASPassenger door openedR SW-RRRear RH door closedR SW-RRRear RH door closedR SW-RLRear LH door closedR SW-RLRear LH door closedR SW-BKBack door closedBack door closedRear LH door closedR SW-BKBack door closedBack door closedRear LH door closedR SW-BKDiffer than power door lock switch LOCKPower door lock switch LOCKPower door lock switch LOCKUNLOCK SWOther than power door lock switch UNLOCKVNLOCK SWOther than power door lock switch UNLOCKCYL LK-SWOther than driver door key cylinder LOCK positionCYL UN-SWOther than driver door key cylinder UNLOCK positionCYL SW-TRNOTE: The item is indicated, but not monitored.	On	
	Passenger door closed	Off	
JOOR SW-AS	Passenger door opened	On	
	Passenger door opened Rear RH door closed OR SW-RR		
OOR SW-RR	On	_	
	Rear LH door closed	Off	_
OOR SW-RL	Rear LH door opened	On	_
	Back door closed	Off	_
OOR SW-BK	Back door opened	On	_
	Other than power door lock switch LOCK	Off	-
DL LOCK SW	Power door lock switch LOCK	On	_
	Other than power door lock switch UNLOCK	Off	_
DL UNLOCK SW	Power door lock switch UNLOCK	On	_
	Other than driver door key cylinder LOCK position	Off	_
EY 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	_
EY CYL SW-TR	-	Off	
	Hazard switch is OFF	Off	_
IAZARD SW	Hazard switch is ON	On	_
EAR DEF SW	NOTE: The item is indicated, but not monitored.	Off	
R CANCEL SW	NOTE: The item is indicated, but not monitored.	Off	_
	Back door opener switch OFF	Off	 1
R/BD OPEN SW	While the back door opener switch is turned ON	On	- [
RNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off	-1
KELOCK	LOCK button of the key is not pressed	Off	
KE-LOCK	LOCK button of the key is pressed	On	-
	UNLOCK button of the key is not pressed	Off	_
KE-UNLOCK	UNLOCK button of the key is pressed	On	_
KE-TR/BD	NOTE: The item is indicated, but not monitored.	Off	
	PANIC button of the key is not pressed	Off	
KE-PANIC	PANIC button of the key is pressed	On	_
	UNLOCK button of the key is not pressed	Off	_
KE-P/W OPEN	UNLOCK button of the key is pressed and held	On	_
	LOCK/UNLOCK button of the key is not pressed and held simultaneously	Off	_
RKE-MODE CHG	LOCK/UNLOCK button of the key is pressed and held simulta- neously	On	-

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5 V
OF HOAE BENBOR	Dark outside of the vehicle	Close to 0 V
	Driver door request switch is not pressed	Off
REQ SW -DR	Driver door request switch is pressed	On
REQ SW -AS	Passenger door request switch is not pressed	Off
	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
REQ SW -BD/TR	Back door request switch is not pressed	Off
	Back door request switch is pressed	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
F03113W	Push-button ignition switch (push switch) is pressed	On
IGN RLY2 -F/B	Ignition switch in OFF or ACC position	Off
	Ignition switch in ON position	On
ACC RLY -F/B	NOTE: The item is indicated, but not monitored.	Off
CLUCH SW	NOTE: The item is indicated, but not monitored.	Off
	The brake pedal is depressed when No. 7 fuse is blown	Off
BRAKE SW 1	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal	On
BRAKE SW 2	The brake pedal is not depressed	Off
BRARE SW Z	The brake pedal is depressed	On
DETE/CANCL SW	Selector lever in P position	Off
DETE/ORNOL SW	Selector lever in any position other than P	On
SFT PN/N SW	Selector lever in any position other than P and N	Off
	Selector lever in P or N position	On
S/L -LOCK	Steering is unlocked	Off
3/L -LOCK	Steering is locked	On
	Steering is locked	Off
S/L -UNLOCK	Steering is unlocked	On
S/L RELAY-F/B	Ignition switch in OFF or ACC position	Off
3/L RELAT-F/D	Ignition switch in ON position	On
	Driver door is unlocked	Off
UNLK SEN -DR	Driver door is locked	On
	Push-button ignition switch (push-switch) is not pressed	Off
PUSH SW -IPDM	Push-button ignition switch (push-switch) is pressed	On
	Ignition switch in OFF or ACC position	Off
IGN RLY1 -F/B	Ignition switch in ON position	On
	Selector lever in any position other than P	Off
DETE SW -IPDM	Selector lever in P position	On
	Selector lever in any position other than P and N	Off
SFT PN -IPDM	Selector lever in P or N position	On

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	_	
SFT P -MET	Selector lever in any position other than P	Off		
SFTP-MET	Selector lever in P position	On		
SFT N -MET	Selector lever in any position other than N	Off		
SFT N-WET	Selector lever in N position	On		
	Engine stopped	Stop		
	While the engine stalls	Stall		
ENGINE STATE	At engine cranking	Crank		
	Engine running	Run		
	Steering is unlocked	Off		
S/L LOCK-IPDM	Steering is locked	On		
	Steering is locked	Off		
S/L UNLK-IPDM	Steering is unlocked	On		
	Steering lock system is not the LOCK condition and the changing condition from LOCK to UNLOCK.	Off		
S/L RELAY-REQ	Steering lock system is the LOCK condition or the changing condi- tion from LOCK to UNLOCK.	On		
VEH SPEED 1	While driving	Equivalent to speedometer reading		
VEH SPEED 2	While driving	Equivalent to speedometer reading		
	Driver door is locked	LOCK		
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY		
	Driver door is unlocked	UNLOCK		
	Passenger door is locked	LOCK		
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY		
	Passenger door is unlocked	UNLOCK		
	Steering is locked	Reset		
ID OK FLAG	Steering is unlocked	Set		
	The engine start is prohibited	Reset		
PRMT ENG STRT	The engine start is permitted	Set		
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset		
	The key is not inserted into key slot	Off	_	
KEY SW -SLOT	The key is inserted into key slot	On		
RKE OPE COUN1	During the operation of the key	Operation frequency of the key		
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	_		
	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		

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status		
CONFIRM ID2	The key ID that the key slot receives does not accord with the sec- ond key ID registered to BCM.	Yet		
	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		
1P 4	The ID of fourth key is registered to BCM	Done		
TP 3	The ID of third key is not registered to BCM	Yet		
IP 5	The ID of third key is registered to BCM	Done		
TP 2	The ID of second key is not registered to BCM	Yet		
IP 2	The ID of second key is registered to BCM	Done		
TP 1	The ID of first key is not registered to BCM	Yet		
IFI	The ID of first key is registered to BCM	Done		
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire		
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire		
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire		
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire		
	ID of front LH tire transmitter is registered	Done		
ID REGST FL1	ID of front LH tire transmitter is not registered	Yet		
	ID of front RH tire transmitter is registered	Done		
ID REGST FR1	ID of front RH tire transmitter is not registered	Yet		
	ID of rear RH tire transmitter is registered	Done		
ID REGST RR1	ID of rear RH tire transmitter is not registered	Yet		
	ID of rear LH tire transmitter is registered	Done		
ID REGST RL1	ID of rear LH tire transmitter is not registered	Yet		
	Tire pressure indicator OFF	Off		
WARNING LAMP	Tire pressure indicator ON	On		
	Tire pressure warning alarm is not sounding	Off		
BUZZER	Tire pressure warning alarm is sounding	On		

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

А

В

С

D

Ε

F

G

Н

J

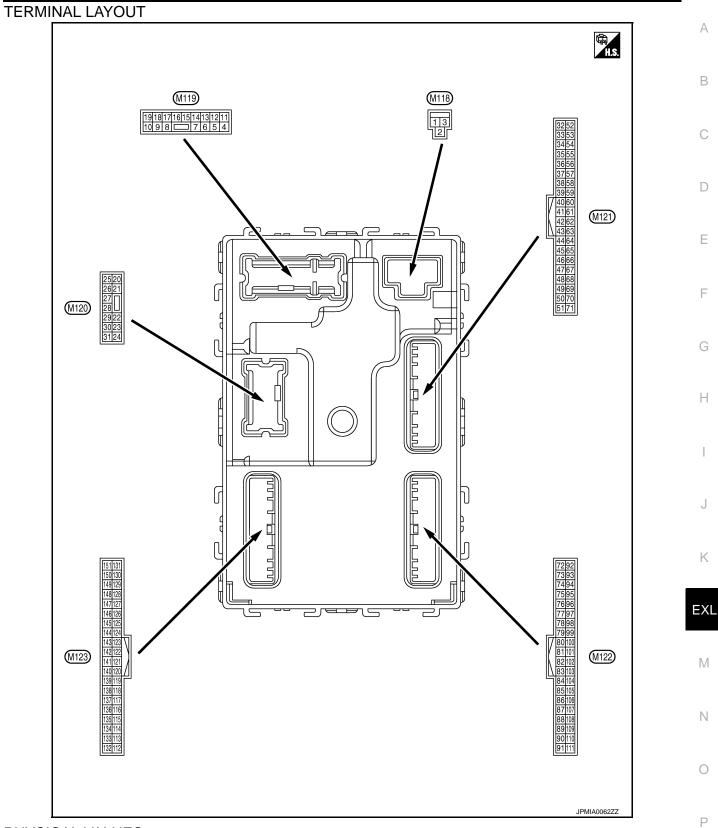
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PHYSICAL VALUES

< ECU DIAGNOSIS INFORMATION >

Terminal No.		Description) /clus
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
2 (W)	Ground	P/W power supply (BAT)	Output	Ignition switch OF	F	Battery voltage
3 (Y)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
					battery saver is activated. oom lamp power supply)	0 V
4 (LG)	Ground	Interior room lamp power supply	Output	ed.	battery saver is not activat- or room lamp power supply)	Battery voltage
5	Ground	Passenger door UN-	Output	December decr	UNLOCK (Actuator is activated)	Battery voltage
(L)	Ground	LOCK	Output	Passenger door	Other than UNLOCK (Actuator is not activated)	0 V
7	Ground	Step lamp	Output	Step lamp	ON	0 V
(Y)	Ciouna		Output		OFF	Battery voltage
8	Ground	All doors, fuel lid	Output	All doors	LOCK (Actuator is activated)	Battery voltage
(V)	(V) Ground	LOCK	Output		Other than LOCK (Actuator is not activated)	0 V
9	9 Ground	Driver door, fuel lid	Output	Driver door	UNLOCK (Actuator is activated)	Battery voltage
(G)	Cround	UNLOCK	Output		Other than UNLOCK (Actuator is not activated)	0 V
10	Ground	Rear RH door and rear LH door UN-	Output	Rear RH door	UNLOCK (Actuator is activated)	Battery voltage
(BR)	Cround	LOCK	Output	and rear LH door	Other than UNLOCK (Actuator is not activated)	0 V
11 (R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
13 (B)	Ground	Ground	—	Ignition switch ON	I	0 V
					OFF	0 V
14 (W)	Ground			ON	NOTE: When the illumination brighten- ing/dimming level is in the neutral position	
15	C	ACC indicator large	0	Ignition out to b	OFF or ON	Battery voltage
(Y)	Ground	ACC indicator lamp	Output	Ignition switch	ACC	0 V

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color) + –		Description Signal name Input/ Output		Condition		Value
						(Approx.)
					Turn signal switch OFF	0 V
17 (W)	Ground	Turn signal RH (Front)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1
					Turn signal switch OFF	0 V
18 (O)	Ground	Turn signal LH (Front)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 50 1 1 1 1 1 5 0 FKID0926E 6.5 V
19	Ground	Room lamp timer	Output	Interior room	OFF	Battery voltage
(V)	0.00110	control		lamp	ON	0 V 0 V
20 (V)	Ground	Turn signal RH (Rear)	Output	Ignition switch ON	Turn signal switch OFF	(V) 15 10 5 0 1 s PKID0926E 6.5 V
23 (G)	Ground	Back door open	Output	Back door	OPEN (Back door opener actuator is activated)	Battery voltage
					Other than OPEN (Back door opener actuator is not activated)	0 V
25 (G)	Ground	Turn signal LH (Rear)	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch LH	(V) 15 10 5 0 15 15 15 15 15 15 15 15 15 15
26 (G)	Ground	Rear wiper	Output	Rear wiper	OFF (Stopped)	0 V
					ON (Operated)	Battery voltage

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value	
+	-	Signal name	Input/ Output		Condition	(Approx.)	
34	Ground	Luggage room anten- na (–)	Output	lgnition switch OFF	When Intelligent Key is in the passenger compart- ment	(V) 15 0 1 s JMKIA0062GB	
(SB)					When Intelligent Key is not in the passenger compart- ment	(V) 15 0 0 1 s JMKIA0063GB	
35	Ground	Luggage room anten- na (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	(V) 15 0 0 1 s JMKIA0062GB	
(V)					When Intelligent Key is not in the passenger compart- ment	(V) 15 0 0 1 s JMKIA0063GB	
38	Ground	Back door antenna (–)	Output	When the back door opener re- quest switch is operated with ig- nition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
(B)					When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value	
(Wire +		Signal name	Input/ Output		Condition	(Approx.)	
39		Back door antenna		When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
(W)	Ground	(+)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 1 1 1 1 1 1 1 1 1 1 1 1 1	
47 (Y)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC	Battery voltage	
					ON When selector lever is in P	0 V Battery voltage	
52 (SB)	52 (SB) Ground	Starter relay control	Output	Ignition switch ON	or N position When selector lever is not in P or N position	0 V	
					ON (Pressed)	0 V	
61 (W)	Ground	Back door opener re- quest switch	Input	Back door opener request switch	OFF (Not pressed)	(V) 15 0 10 10 ms JPMIA0016GB 1.0 V	
64	Ground	Intelligent Key warn- ing buzzer (Engine	Output	Intelligent Key warning buzzer	Sounding	0 V	
(V)		room)	Culput	(Engine room)	Not sounding	Battery voltage	
65 (O)	Ground	Rear wiper stop posi- tion	Input	Rear wiper	In stop position	(V) 15 0 10 10 ms JPMIA0016GB 1.0 V	
					Not in stop position	0 V	

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(vvire +	e color) _	Signal name	Input/ Output		Condition	(Approx.)
66 (R)	Ground	Back door switch	Input	Back door switch	OFF (Door close) ON (Door open)	(V) 15 10 50 10 ms JPMIA0011GB 11.8 V 0 V
					Pressed	0 V
67 (GR)	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	(V) 15 10 50 10 ms JPMIA0011GB 11.8 V
68 (BR)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (Door close) ON (Door open)	(V) 15 10 10 10 11.8 V 0 V
						0 V
69 (R)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (Door close)	(V) 15 10 5 10 10 ms JPMIA0011GB 11.8 V
					ON (Door open)	0 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description					
(Wir) +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
72		Room antenna 2 (–)		Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 50 1 s JMKIA0062GB	B C D
(R)	(R) Ground	(Center console)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 1 s JMKIA0063GB	E
73		Room antenna 2 (+)		Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	G H
(G)	Ground	(Center console)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 1 s JMKIA0063GB	J K EXI
74	Ground	Passenger door an-	Output	When the pas- senger door re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	M
(SB)		tenna (-)		quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	P

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(vvire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
75	Ground	Passenger door an-		When the pas- senger door re-	When Intelligent Key is in the antenna detection area	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1
(GR) Ground	tenna (+)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	
76	Ground	Driver door antenna (-)	Output	When the driver door request	When Intelligent Key is in the antenna detection area	(V) 15 0 5 0 1 s JMKIA0062GB
(V)				switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1
77	Ground	round Driver door antenna (+)	Output	When the driver door request switch is operat- ed with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 0 1 0 1 1 5 0 1 5 1 5 0 1 5 1 1 5 1 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1
(LG)	Ground				When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Terminal No.		Description				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	
78		Room antenna 1 (–)		Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 15 10 5 0 15 15 15 15 15 15 15 15 15 15 15 15 15	
(Y)	Ground	(Instrument panel)	Output	ÕFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	
79	Grand	Room antenna 1 (+)	0.404	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 0 15 10 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10	
(BR)		ŌFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB			
80 (GR)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
81 (W)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
82	Ground	Ignition relay [Fuse	Output	Ignition switch	OFF or ACC	0 V	
(R)		block (J/B)] control		J	ON	Battery voltage	

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< ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description			0	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
83		Remote keyless entry receiver communica- tion	Input/ Output	During waiting		(V) 15 0 5 0 1 ms JMKIA0064GB
(Y)	Ground			When operating ei	ther button on the key	(V) 15 10 5 0 1 ms JMKIA0065GB
		Combination switch INPUT 5	Input	Combination switch	All switches OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0041GB 1.4 V
87 (BR)	Ground				Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0037GB 1.3 V
(=)					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 0 10 10 10 10 10 10 10 10 10
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 0 2 ms JPMIA0040GB 1.3 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(Wire +	e color) -	Signal name	Input/ Output		Condition	(Approx.)	
					All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V	
					Lighting switch HI (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V	
88 (V)	Ground	Combination switch INPUT 3	Input	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V	
					Rear washer switch ON (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0039GB 1.3 V	
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	(V) 15 0 2 ms JPMIA0040GB 1.3 V	
89 BR)	Ground	Push-button ignition switch (Push switch)	Input	Push-button igni- tion switch (push switch)	Pressed Not pressed	0 V Battery voltage	
90 (P)	Ground	CAN-L	Input/ Output	_	1	_	
91 (L)	Ground	CAN-H	Input/ Output			_	

< ECU DIAGNOSIS INFORMATION >

(Wire colo) Signal name Input/ Output Condition Condition (Apres.) # - Signal name Input/ Output Condition OFF Battery voltage # - Ground Key slot illumination Output Key slot illumina- tion Blinking Imput/ ###000000 93 Ground ON indicator lamp Output Ignition switch OFF Battery voltage 94 Ground ON indicator lamp Output Ignition switch OFF Battery voltage 95 Ground ACC relay control Output Ignition switch OFF Battery voltage 96 Ground AC relay control Output Ignition switch OFF Battery voltage 97 Ground Steering lock condi- tion No. 1 Input Steering lock LOCK status Battery voltage 98 Ground Steering lock condi- tion No. 1 Input Steering lock UNLOCK status Battery voltage 99 Ground Steering lock condi- tion No. 1 Input Steering lock UNLOCK status O V 100		inal No.	Description				Value
92 (LG) Ground Key slot illumination Output Key slot illumina- tion Blinking Image: Constraint of the state of the sta		e color) –	Signal name			Condition	
92 (LG) Ground Key slot illumination Output Key slot illumina- tion Blinking 10 0 10 0 10 0 0 93 (V) Ground ON indicator lamp Output Ignition switch OFF or ACC Battery voltage 94 (V) Ground Puddle lamp control Output Puddle lamp OV 0V 95 (O) Ground ACC relay control Output Ignition switch OFF Battery voltage 96 (GR) Ground ACC relay control Output Ignition switch OFF 0 V 97 (L) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status 0 V 98 (P) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 97 (R) Ground Steering lock condi- tion switch Input Steering lock OV V Ary position other than P Battery voltage 100 (G) Ground Steering lock condi- tion switch Input Passenger door request switch OFF (Not pressed) OV Input OFF (Not pressed) OV						OFF	Battery voltage
93 (V) Ground ON indicator lamp Output Ignition switch OFF or ACC Battery voltage 94 (Y) Ground Puddle lamp control Output Puddle lamp OFF Battery voltage 95 (O) Ground ACC relay control Output Ignition switch OFF OFF Battery voltage 96 (GR) Ground ACC relay control Output Ignition switch OFF 0/Y 97 (L) Ground Steering lock condi- tion No. 1 Input Steering lock UNLOCK status 0 V 97 (L) Ground Steering lock condi- tion No. 1 Input Steering lock UNLOCK status 0 V 98 (P) Ground Steering lock condi- tion No. 1 Input Steering lock UNLOCK status 0 V 98 (R) Ground Steering lock condi- tion switch Input Steering lock Position 0 V 99 (R) Ground Passenger door re- quest switch Input Selector lever Position other than P Battery voltage 100 (G) Ground Passenger door re- quest switch Input Passenger door request switch		Ground	Key slot illumination	Output	-	Blinking	10 0 1 s JPMIA0015GB
W Ground ON indicator lamp Output Ignition switch 94 (Y) Ground Puddle lamp control Output Puddle lamp 95 (O) Ground ACC relay control Output Ignition switch OFF Battery voltage 96 (GR) Ground ACT shift selector (De- tention switch) power supply Output Ignition switch OFF 0 V 97 (L) Ground Steering lock condi- tion No. 1 Input Steering lock LOCK status 0 V 98 (P) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 98 (R) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 98 (R) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 100 (G) Ground Steering lock condi- tion switch Input Selector lever Any position other than P Battery voltage 100 (G) Ground Passenger door quest switch Input Passenger door request switch OFF (Not pressed) V 101 (S) Driver door request switch Input Driver door re- quest switch OFF (Not pressed) OV						ON	0 V
(V) Ground Puddle lamp control Output Puddle lamp OV 94 (Y) Ground ACC relay control Output Ignition switch OFF 0 V 95 (O) Ground ACC relay control Output Ignition switch OFF 0 V 96 (GR) Ground ACC relay control Output Ignition switch OFF 0 V 97 (L) Ground Steering lock condition No. 1 Input Steering lock LOCK status 0 V 98 (CP) Ground Steering lock condition No. 2 Input Steering lock LOCK status Battery voltage 98 (R) Ground Steering lock condition No. 2 Input Steering lock LOCK status Battery voltage 99 (R) Ground Steering lock condition No. 2 Input Steering lock UNLOCK status 0 V 100 (G) Ground Steering lock condition switch Input Selector lever Position of V Any position other than P Battery voltage 100 (G) Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) <	93	Cround	ON indicator lamp	Output	Ignition owitch	OFF or ACC	Battery voltage
ON OV 95 Ground ACC relay control Output Ignition switch OFF 0.V 96 Ground ACC relay control Output Ignition switch OFF 0.V 96 Ground AT shift selector (Detection switch) Output — Battery voltage 97 Ground Steering lock condition No. 1 Input Steering lock UCCK status 0.V 98 Ground Steering lock condition No. 1 Input Steering lock UCCK status Battery voltage 98 Ground Steering lock condition No. 2 Input Steering lock UNLOCK status Battery voltage 98 Ground Selector lever P position No. 2 Input Selector lever P position 0.V 99 Ground Selector lever P position switch Input Selector lever ON (Pressed) 0.V 100 Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 0.V 101 Ground Driver door request Input Driver door request switch OFF (Not pressed)	(V)	Ground		Output	ignition switch	ON	0 V
(Y) Ground Puddle lamp control Output Puddle lamp ON 0 V 95 Ground ACC relay control Output Ignition switch OFF 0 V 96 Ground AT shift selector (De- tention switch) power supply Output - Battery voltage 97 Ground Steering lock condi- tion No. 1 Input Steering lock UCK status 0 V 98 Ground Steering lock condi- tion No. 2 Input Steering lock UNLOCK status Battery voltage 98 Ground Selector lever P posi- tion switch Input Steering lock UNLOCK status 0 V 99 Ground Selector lever P posi- tion switch Input Selector lever P position 0 V 100 Ground Passenger door re- quest switch Input Passenger door request switch OFF (Not pressed) 0V 101 Ground Driver door request switch Input Driver door re- quest switch OFF (Not pressed) 0V 101 Brower fan motor re- switch Input Driver door re- quest switch OFF (Not pressed) 0V 10	94			0	Duddle James	OFF	Battery voltage
O Ground ACC relay control Output Ignition switch ACC or ON Battery voltage 96 (GR) Ground AT shift selector (De- tention switch) power supply Output - Battery voltage 97 (L) Ground Steering lock condi- tion No. 1 Input Steering lock LOCK status 0 V 98 (P) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 98 (P) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 99 (R) Ground Selector lever P posi- tion switch Input Selector lever P position other than P Battery voltage 100 (G) Ground Passenger door re- quest switch Input Passenger door request switch OFF (Not pressed) 0 V 101 (SB Ground Driver door request switch Input Driver door re- quest switch OFF (Not pressed) 0V 102 (SB Ground Blower fan motor re- guest switch Otify of the pressed 0FF or ACC 0V	(Y)	Ground	Puddle lamp control	Output	Puddle lamp	ON	0 V
(O) Ground ACC heary control Output 96 (GR) Ground AT shift selector (De- supply Output - Battery voltage 97 (L) Ground Steering lock condi- tion No. 1 Input Steering lock LOCK status 0 V 98 (P) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 98 (P) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 98 (P) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 98 (P) Ground Selector lever P posi- tion switch Input Selector lever Position 0 V 99 (R) Ground Passenger door re- quest switch Input Selector lever ON (Pressed) 0 V 100 (G) Ground Passenger door re- quest switch Input Passenger door request switch OFF (Not pressed) 0V 101 (SB) Ground Driver door request switch Input Driver door re- quest switch OFF (Not pressed) 0V 102 (SB) Blower fan motor re- quest switch Input Driver door re- quest switch OFF or ACC 0 V	95					OFF	0 V
GR (GR) Ground (GR) ention switch) power supply Output (L)		Ground	ACC relay control	Output	Ignition switch	ACC or ON	Battery voltage
CL Ground Input Input Steering lock UNLOCK status Battery voltage 98 Ground Steering lock condition No. 2 Input Steering lock UNLOCK status Battery voltage 99 Ground Selector lever P position No. 2 Input Selector lever P position 0 V 99 Ground Selector lever P position switch Input Selector lever P position other than P Battery voltage 100 Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Pressender or request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input OFF (Not pressed) 0 V 101 Ground Biower fan motor re- Output OFF or ACC 0 V </td <td></td> <td>Ground</td> <td>tention switch) power</td> <td>Output</td> <td>_</td> <td></td> <td>Battery voltage</td>		Ground	tention switch) power	Output	_		Battery voltage
L(1) Litin No. 1 Litin Voltage UNLOCK status Battery voltage 98 Ground Steering lock condition No. 2 Input Steering lock LOCK status 0 V 99 Ground Selector lever P position switch Input Selector lever Position 0 V 100 Ground Selector lever P position switch Input Selector lever Position other than P Battery voltage 100 Ground Passenger door request switch Input Passenger door request switch ON (Pressed) 0 V 100 Ground Driver door request switch Input Passenger door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input OFF (Not pressed) 0 V Input		Ground	Steering lock condi-	Input	Stooring lock	LOCK status	0 V
Ground Ground Ground Ground No. 2 Input Steering lock 99 (R) Ground Selector lever P posi- tion switch Input Selector lever P position 0 V 100 (G) Ground Selector lever P posi- tion switch Input Selector lever P position other than P Battery voltage 100 (G) Ground Passenger door re- quest switch Input Passenger door request switch OFF (Not pressed) 0 V 101 (SB) Ground Driver door request switch Input Passenger door re- quest switch ON (Pressed) 0 V 101 (SB) Ground Driver door request switch Input Driver door re- quest switch OFF (Not pressed) 0 V 102 (SB) Ground Driver door request switch Input Driver door re- quest switch OFF (Not pressed) 0 V 102 (SB) Ground Blower fan motor re- guest switch OFF or ACC 0 V	(L)	Ground	tion No. 1	mput	Oleening lock	UNLOCK status	Battery voltage
(P) tion No. 2 P UNLOCK status 0 V 99 Ground Selector lever P position Input Selector lever P position 0 V Any position other than P Battery voltage 0 V 100 Ground Passenger door request switch Input Passenger door request switch 0 V 100 Ground Passenger door request switch Input Passenger door request switch 0FF (Not pressed) 0V 101 Ground Driver door request switch Input Driver door request switch 0N (Pressed) 0V 101 Ground Driver door request switch Input Driver door request switch 0FF (Not pressed) 0V 101 Ground Driver door request switch Input Driver door request switch 0FF (Not pressed) 0V 101 Ground Driver door request switch Input Driver door request switch 0FF (Not pressed) 0V 102 Ground Blower fan motor re- Output Ignition switch OFF or ACC 0V		Ground		Input	Stooring lock	LOCK status	Battery voltage
(R) Ground Consist of our post Input Selector lever Any position other than P Battery voltage 100 Ground Passenger door request switch Input Passenger door request switch ON (Pressed) 0 V 100 Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 0 ¹⁵ / ₁₅ / ₁₅ / ₁₅ / ₁₆ / _{10 ms} 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 102 Ground Blower fan motor re- Output Output Input OFF or ACC 0 V	(P)	Ground	tion No. 2	mput	Steering lock	UNLOCK status	0 V
(R) tion switch Input Any position other than P Battery voltage 100 Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Passenger door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch ON (Pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 102 Ground Blower fan motor re- Output OFF or ACC 0 V	99	Cround	Selector lever P posi-	Incut	Solootor lover	P position	0 V
100 (G) Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) Imput between the switch 101 (SB) Ground Driver door request switch Input Driver door request switch ON (Pressed) 0V 101 (SB) Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0V 101 (SB) Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0V 102 (SC) Ground Blower fan motor re- uest switch Other of the switch OFF or ACC OV	(R)	Ground		Input	Selector lever	Any position other than P	Battery voltage
100 (G) Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 10 101 (SB) Ground Driver door request switch Input Driver door request switch ON (Pressed) 0 V 101 (SB) Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 (SB) Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 102 (st) Ground Blower fan motor re- uest switch Other for ACC 0 V						ON (Pressed)	0 V
101 (SB) Ground Driver door request switch Input Driver door re- quest switch ON (Pressed) 0 V 101 (SB) Ground Driver door request switch Input Driver door re- quest switch OFF (Not pressed) 0 ¹⁵ 10 10 ms 102 (0) Ground Blower fan motor re- binger fan motor		Ground		Input		OFF (Not pressed)	10 5 0 10 ms JPMIA0016GB
101 (SB) Ground Driver door request switch Input Driver door re- quest switch OFF (Not pressed) 10 5 10 ms 102 (0) Ground Blower fan motor re- to manual to m						ON (Pressed)	
Ground Ground Output Ignition switch		Ground		Input		OFF (Not pressed)	10 5 0 10 ms JPMIA0016GB
Ground Output I Ignition switch	102		Blower fan motor re-	0 • •	Institute to the later	OFF or ACC	0 V
		Ground		Output	ignition switch	ON	Battery voltage

< ECU DIAGNOSIS INFORMATION >

	ninal No.	Description				Value	
(VVir +	e color)	Signal name	Input/ Output		Condition	(Approx.)	1
103 (LG)	Ground	Remote keyless entry receiver power sup- ply	Output	Ignition switch OFF		Battery voltage	
106	Ground	Steering lock unit	Output	Ignition switch	OFF or ACC	Battery voltage	
(W)	Ground	power supply	Output	Ignition Switch	ON	0 V	
					All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V	
					Turn signal switch LH	(V) 15 10 2 ms JPMIA0037GB 1.3 V	
107 (LG)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH	(V) 15 0 2 ms JPMIA0036GB 1.3 V	
					Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3 V	I
					Front washer switch ON	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V	

< ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description			Condition	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0041GB 1.4 V
					Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0038GB 1.3 V
108 (R)	Ground	Combination switch INPUT 4	Input	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0036GB 1.3 V
					Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0040GB 1.3 V
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	(V) 15 0 0 2 ms JPMIA0039GB 1.3 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
					All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V	B C D
					Lighting switch PASS	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V	E
109 (Y)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 0 2 ms JPMIA0036GB 1.3 V	G H I
					Front wiper switch INT	(V) 15 0 2 ms JPMIA0038GB 1.3 V	J K EXL
					Front wiper switch HI	(V) 15 0 2 ms JPMIA0040GB 1.3 V	M
					ON	0 V	0
110 (G)	Ground	Hazard switch	Input	Hazard switch	OFF	(V) 15 10 5 0 10 ms 10 ms JPMIA0012GB 1.1 V	Ρ

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(vvire +	e color) -	Signal name	Input/ Output		Condition	(Approx.)
					LOCK status	Battery voltage
111 (Y)	(-round	Steering lock unit communication	Input/ Output	Steering lock	LOCK or UNLOCK	(V) 15 0 50 50 MKIA0066GB
					For 15 seconds after UN- LOCK	Battery voltage
					15 seconds or later after UNLOCK	0 V
113	Ground	Optical sensor	Input	Ignition switch	When bright outside of the vehicle	Close to 5 V
(P)	Cround		input	ON	When dark outside of the vehicle	Close to 0 V
116 (SB)	Ground	Stop lamp switch 1	Input	_		Battery voltage
		Stop lamp switch 2 (Without ICC) Stop lamp switch 2		Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
118	Ground		Input		ON (Brake pedal is de- pressed)	Battery voltage
(P)	Croana				OFF (Brake pedal is not de- brake hold relay OFF	0 V
		(With ICC)			ON (Brake pedal is de- rake hold relay ON	Battery voltage
119 (SB)	Ground	Front door lock as- sembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 0 10 ms JPMIA0012GB 1.1 V
					UNLOCK status (Unlock switch sensor ON)	0 V
121	Ground	Key slot switch	Input	-	serted into key slot	Battery voltage
(BR)		-		When the key is n	ot inserted into key slot	0 V
123 (W)	Ground	IGN feedback	Input	Ignition switch		
	Ground	IGN feedback	Input	-	OFF or ACC	0 V 0 V Battery voltage

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Terminal No. (Wire color)		Description				Value	
(VVire +	e color) –	Signal name	Input/ Output	Condition		(Approx.)	A
124 (LG)	Ground	Passenger door switch	Input	Passenger door OFF (Door close) switch		(V) 15 10 5 0 10 ms 10 ms JPMIA0011GB 11.8 V	B C D
					ON (Door open)	0 V	
132 (BR)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		(V) 15 10 5 0 10 10 10 10 10 10 10 10 10 10	E
						JPMIA0013GB 10.2 V	G
				Ignition switch OF	F or ACC	Battery voltage	
				5	ON (Tail lamps OFF)	9.5 V	Н
133 (W)	Ground	Push-button ignition switch illumination	Output	Push-button igni- tion switch illumi- nation	ON (Tail lamps ON)	NOTE: The pulse width of this wave is varied by the illumination bright- ening/dimming level. (V) 15 10 5 0	I
						JPMIA0159GB	K
					OFF OFF	0 V	
134 (GR)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	OFF	Battery voltage	EX
137 (O)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V	M
138	Ground	Receiver and sensor	Output	Ignition switch	OFF	0 V	
(Y)	Giound	power supply	Output		ACC or ON	5.0 V	

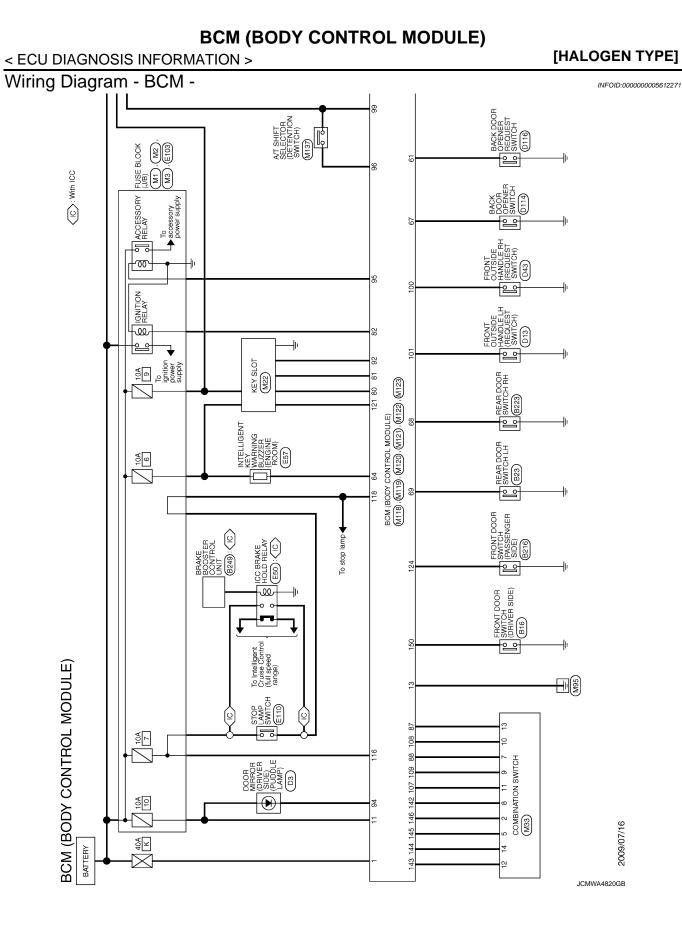
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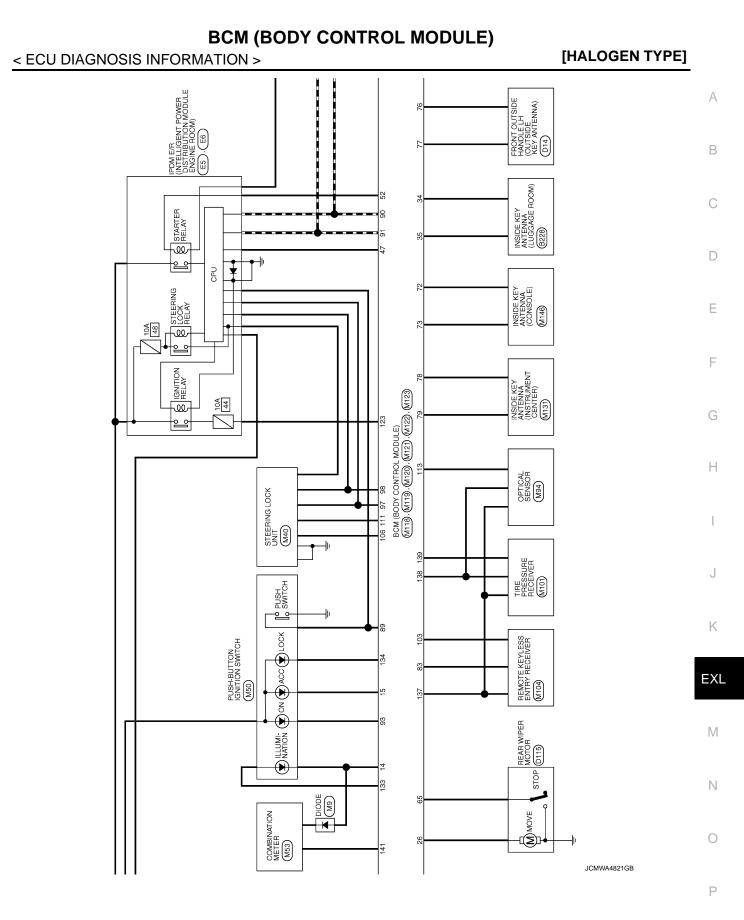
< ECU DIAGNOSIS INFORMATION >

	inal No.	Description) /e lu e
(Wir) +	e color) -	Signal name	Input/ Output		Condition	Value (Approx.)
139	Ground	Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 6 2 0 • • 0.2s OCC3881D
(L)		er communication	Output	ON	When receiving the signal from the transmitter	(V) 4 0 0 0 0 0 0 0 0 0 0 0 0 0
140	Ground	Selector lever P/N	Input	Selector lever	P or N position	Battery voltage
(GR)	Ground	position	input	Selector level	Except P and N positions	0 V
					ON	0 V
141 (G)	Ground	Security indicator	Output	Security indicator	Blinking	(V) 15 10 50 1 s JPMIA0014GB 11.3 V
					OFF	Battery voltage
					All switches OFF	0 V
					Lighting switch 1ST	
				Combination	Lighting switch HI	(V) 15
142 (O)	Ground	Combination switch OUTPUT 5	Output	switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	10 5 0 2 ms
						JPMIA0031GB 10.7 V
					All switches OFF (Wiper intermittent dial 4)	0 V
					Front wiper switch HI (Wiper intermittent dial 4)	
143	Ground	Combination switch	Output	Combination	Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 5
(P)	Ground	OUTPUT 1 Output	switch	Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7	5 0 2 ms JPMIA0032GB 10.7 V	

< ECU DIAGNOSIS INFORMATION >

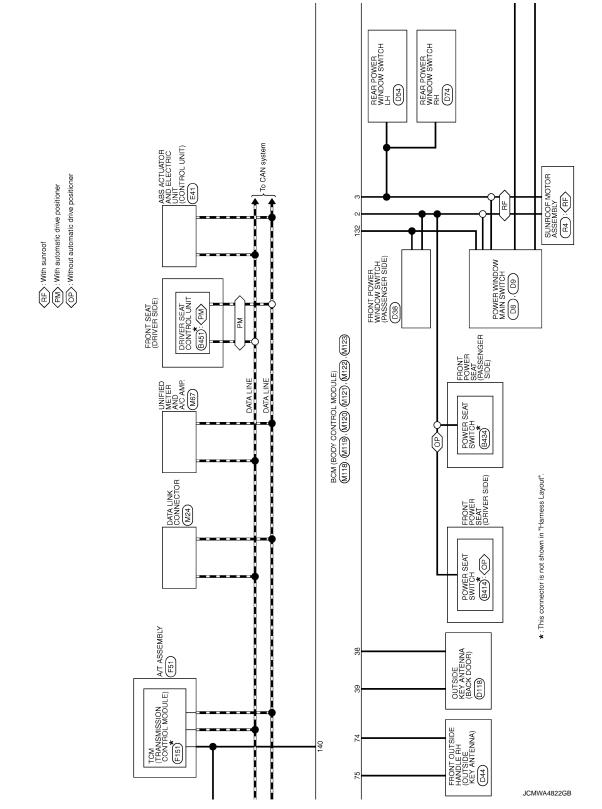
Terminal No.		Description				Valua	
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	
					All switches OFF (Wiper intermittent dial 4)	0 V	_
					Front washer switch ON (Wiper intermittent dial 4)		
144		Combination switch		Combination	Rear wiper switch ON (Wiper intermittent dial 4)		
(G)	Ground	OUTPUT 2	Output	switch	Rear washer switch ON (Wiper intermittent dial 4)		
					 Any of the conditions below with all switches OFF Wiper intermittent dial 1 Wiper intermittent dial 5 Wiper intermittent dial 6 	2.ms JPMIA0033GB 10.7 V	
					All switches OFF	0 V	_
					Front wiper switch INT	(V)	
145 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit-	Front wiper switch LO		
				tent dial 4)	Lighting switch AUTO	2 ms JPMIA0034GB	
						10.7 V	-
		Combination switch OUTPUT 4		Utput witch (Wiper intermit- tent dial 4)	All switches OFF Front fog lamp switch ON	0 V	-
					Lighting switch 2ND	(V)	
146	Ground				Lighting switch PASS	15 10 5	
(SB)	Ciouna				Turn signal switch LH	0 2 ms JPMIA0035GB	
						10.7 V	-
149 (W)	Ground	Tire pressure warn- ing check switch	Input	Ignition switch ON		(V) 15 10 5 0	
						<u>10 ms</u> JPMIA0011GB 11.8 V	_
						(V) 15 10 5	-
150 (LG) Grour	Ground	Driver door switch	Driver door switch Input	Driver door switch	OFF (Door close)	0 10 ms JPMIA0011GB	
						11.8 V	-
		Rear window defog-		Rear window de-	ON (Door open) Active	0 V 0 V	-
151		HODD WIDDOW DOTOD-	Output	Rear window de-	, 101110	U V	





Revision: 2009 August

[HALOGEN TYPE]

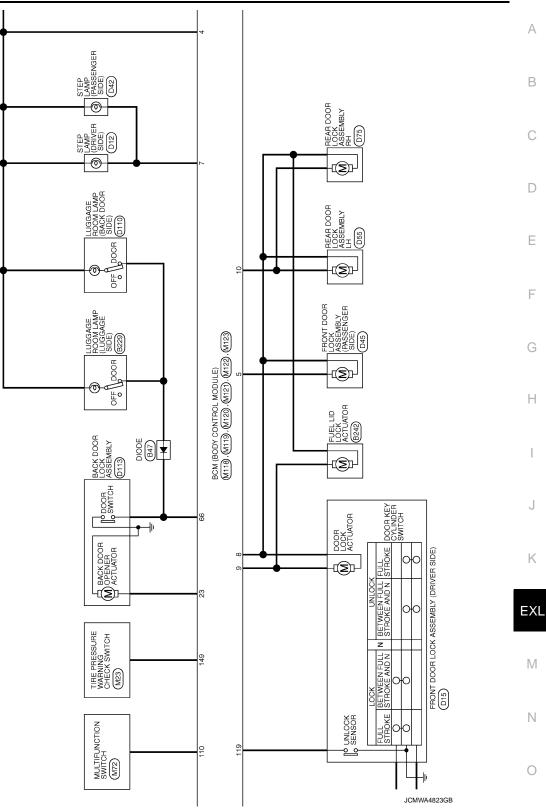


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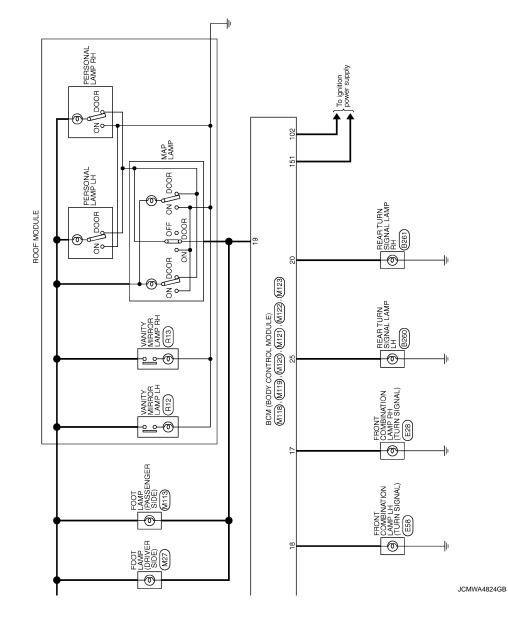
[HALOGEN TYPE]

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >



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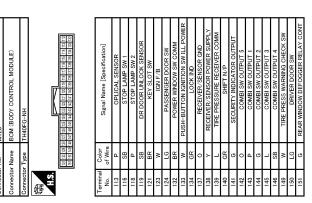
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< ECU DIAGNOSIS INFORMATION >

JCMWA4825GB

< ECU DIAGNOSIS INFORMATION >



JCMWA4826GB

INFOID:000000005612272

Fail-safe

FAIL-SAFE CONTROL BY DTC

BCM (BODY CONTROL MODULE)

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

< ECU DIAGNOSIS INFORMATION >

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
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	Ignition switch $ON \rightarrow OFF$
B2557: VEHICLE SPEED	Inhibit steering lock	When normal vehicle speed signals are received from ABS actua- tor and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	 500 ms after the following CAN signal communication status be- comes consistent Starter control relay signal Starter relay status signal
B2601: SHIFT POSITION	Inhibit steering 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 steering 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 (2.5 MPH) or more
B2603: SHIFT POSI STATUS	Inhibit steering 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 steering lock	 500 ms after any of the following BCM recognition conditions are 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 steering lock	 500 ms after any of the following BCM recognition conditions are 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 becomes consistent Steering lock relay signal (Request signal) Steering lock relay signal (Condition signal)

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Display contents of CONSULT	Fail-safe	Cancellation
B2607: S/L RELAY	Inhibit engine cranking	 500 ms after the following CAN signal communication status becomes consistent Steering lock relay signal (Request signal) Steering lock relay signal (Condition signal)
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 crankingInhibit steering lock	 When the following steering lock conditions agree BCM steering lock control status Steering lock condition No. 1 signal status Steering 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 are fulfilledPower position changes to ACCReceives engine status signal (CAN)
B2612: S/L STATUS	 Inhibit engine cranking Inhibit steering lock 	 When any of the following conditions are fulfilled Steering lock unit status signal (CAN) is received normally The BCM steering lock control status matches the steering lock status recognized by the steering 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 be- comes normal
B2619: BCM	Inhibit engine cranking	1 second after the steering lock unit power supply output control in- side BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization
B26E9: S/L STATUS	Inhibit engine crankingInhibit steering lock	 When BCM transmits the LOCK request signal to steering lock unit, and receives LOCK response signal from steering lock unit, the following conditions are fulfilled Steering condition No. 1 signal: LOCK (0 V) Steering condition No. 2 signal: LOCK (Battery voltage)

HIGH FLASHER OPERATION

BCM detects the turn signal lamp circuit status by the current value.

BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

NOTE:

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

REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper stop position signal.

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

Condition of cancellation

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

DTC Inspection Priority Chart

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

EXL-348

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< ECU DIAGNOSIS INFORMATION >

Priority	DTC	
1	B2562: LOW 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 B2195: ANTI SCANNING 	
	 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 B2607: S/L RELAY 	
4	 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 B2614: PUSH-BTN IGN SW B261E: VEHICLE TYPE B26E9: S/L STATUS B26EA: KEY REGISTRATION C1729: VHCL SPEED SIG ERR U0415: VEHICLE SPEED SIG 	
5	 C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL C1734: CONTROL UNIT 	
6	B2621: INSIDE ANTENNA B2622: INSIDE ANTENNA B2623: INSIDE ANTENNA	

DTC Index

NOTE:

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< ECU DIAGNOSIS INFORMATION >

The details of time display are as follows.CRNT: A malfunction is detected now.

PAST: A malfunction was detected now.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to <u>BCS-16, "COM-MON ITEM : CONSULT-III Function (BCM - COMMON ITEM)"</u>.

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.		_	_		
U1000: CAN COMM CIRCUIT	—	—	_	_	BCS-37
U1010: CONTROL UNIT (CAN)	—	—	_	_	BCS-38
U0415: VEHICLE SPEED SIG	—	—	_	_	BCS-39
B2013: ID DISCORD BCM-S/L	×	×	—	—	<u>SEC-48</u>
B2014: CHAIN OF S/L-BCM	×	×	—	—	<u>SEC-49</u>
B2190: NATS ANTENNA AMP	×	—	—	—	<u>SEC-41</u>
B2191: DIFFERENCE OF KEY	×	—	_	_	<u>SEC-44</u>
B2192: ID DISCORD BCM-ECM	×	—	_	_	<u>SEC-45</u>
B2193: CHAIN OF BCM-ECM	×	—	_	_	<u>SEC-46</u>
B2195: ANTI SCANNING	×	_	_	_	<u>SEC-47</u>
B2553: IGNITION RELAY		×	_	_	PCS-49
B2555: STOP LAMP		×	_	_	<u>SEC-52</u>
B2556: PUSH-BTN IGN SW	—	×	×	_	<u>SEC-54</u>
B2557: VEHICLE SPEED	×	×	×	_	<u>SEC-56</u>
B2560: STARTER CONT RELAY	×	×	×	_	<u>SEC-57</u>
B2562: LOW VOLTAGE		×	_	_	BCS-40
B2601: SHIFT POSITION	×	×	×		<u>SEC-58</u>
B2602: SHIFT POSITION	×	×	×	_	<u>SEC-61</u>
B2603: SHIFT POSI STATUS	×	×	×	_	<u>SEC-63</u>
B2604: PNP SW	×	×	×		<u>SEC-66</u>
B2605: PNP SW	×	×	×	_	<u>SEC-68</u>
B2606: S/L RELAY	×	×	×	_	<u>SEC-70</u>
B2607: S/L RELAY	×	×	×	—	<u>SEC-71</u>
B2608: STARTER RELAY	×	×	×	_	<u>SEC-73</u>
B2609: S/L STATUS	×	×	×	_	<u>SEC-75</u>
B260A: IGNITION RELAY	×	×	×	_	PCS-51
B260B: STEERING LOCK UNIT	—	×	×	—	<u>SEC-79</u>
B260C: STEERING LOCK UNIT	—	×	×	—	<u>SEC-80</u>
B260D: STEERING LOCK UNIT		×	×	—	<u>SEC-81</u>
B260F: ENG STATE SIG LOST	×	×	×	—	<u>SEC-82</u>
B2612: S/L STATUS	×	×	×	—	<u>SEC-86</u>
B2614: ACC RELAY CIRC	_	×	×	_	PCS-53
B2615: BLOWER RELAY CIRC	—	×	×	—	PCS-56
B2616: IGN RELAY CIRC	—	×	×	—	PCS-59

Revision: 2009 August

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2617: STARTER RELAY CIRC	×	×	×	_	<u>SEC-90</u>
B2618: BCM	×	×	×	—	PCS-62
B2619: BCM	×	×	×	—	<u>SEC-92</u>
B261A: PUSH-BTN IGN SW	_	×	×	_	<u>SEC-93</u>
B261E: VEHICLE TYPE	×	×	imes (Turn ON for 15 seconds)	_	<u>SEC-96</u>
B2621: INSIDE ANTENNA	—	×	—	—	DLK-59
B2622: INSIDE ANTENNA	_	×	—	_	DLK-61
B2623: INSIDE ANTENNA	—	×	—	—	DLK-63
B26E1: ENG STATE NO RES	×	×	×	—	<u>SEC-83</u>
B26E9: S/L STATUS	×	×	× (Turn ON for 15 seconds)	_	<u>SEC-84</u>
B26EA: KEY REGISTRATION	_	×	× (Turn ON for 15 seconds)	_	<u>SEC-85</u>
C1704: LOW PRESSURE FL	—	—	—	×	
C1705: LOW PRESSURE FR	_	—	—	×	WT-25
C1706: LOW PRESSURE RR	—	—	—	×	<u>VV1-25</u>
C1707: LOW PRESSURE RL	_	—	—	×	
C1708: [NO DATA] FL	—	—	—	×	
C1709: [NO DATA] FR	—	—	—	×	
C1710: [NO DATA] RR	_	—	—	×	<u>WT-27</u>
C1711: [NO DATA] RL	—	—	—	×	
C1716: [PRESSDATA ERR] FL	—	—	—	×	
C1717: [PRESSDATA ERR] FR	—	—	—	×	<u>WT-30</u>
C1718: [PRESSDATA ERR] RR	—	-	—	×	<u>vv1-50</u>
C1719: [PRESSDATA ERR] RL	—	—	—	×	
C1729: VHCL SPEED SIG ERR	—	—	—	×	<u>WT-32</u>
C1734: CONTROL UNIT	—	—	—	×	<u>WT-34</u>

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

Reference Value

INFOID:000000005612275

VALUES ON THE DIAGNOSIS TOOL

Monitor Item		Value/Status				
RAD FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 – 100 %			
		A/C switch OFF	Off			
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On			
	Lighting switch OFF		Off			
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On			
	Lighting switch OFF		Off			
HL LO REQ	Lighting switch 2ND HI or AUTC	ch 2ND HI or AUTO (Light is illuminated) ch OFF ch HI				
	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) 	On			
		Front wiper switch OFF	Stop			
FR WIP REQ	Ignition switch ON	Front wiper switch INT	1LOW			
		Front wiper switch LO	Low			
		Front wiper switch HI	Hi			
		Front wiper stop position	STOP P			
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P			
		Front wiper operates normally	Off			
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe opera- tion	BLOCK			
IGN RLY1 -REQ	Ignition switch OFF or ACC		Off			
	Ignition switch ON	On				
IGN RLY	Ignition switch OFF or ACC		Off			
	Ignition switch ON	On				
PUSH SW	Release the push-button ignition	n switch	Off			
	Press the push-button ignition s	witch	On			
INTER/NP SW	Ignition switch ON	Selector lever in any position other than P or N	Off			
		Selector lever in P or N position	On			
ST RLY CONT	Ignition switch ON		Off			
	At engine cranking		On			
IHBT RLY -REQ	Ignition switch ON		Off			
	At engine cranking		On			

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

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Monitor Item		Value/Status			
	Ignition switch ON	Off			
	At engine cranking		$INHI\;ON\toST\;ON$		
ST/INHI RLY		arter control relay cannot be recognized by , etc. when the starter relay is ON and the	UNKWN		
DETENT SW	Ignition switch ON	 Press the selector button with selector lever in P position Selector lever in any position other than P 	Off		
	Release the selector button wi	th selector lever in P position	On		
	None of the conditions below a	are present	Off		
S/L RLY -REQ	seconds)	e ignition switch is turned OFF (for a few on switch when the steering lock is activat-	On		
	Steering lock is activated		LOCK		
S/L STATE	Steering lock is deactivated	Steering lock is deactivated			
	[DTC: B210A] is detected		UNKWN		
DTRL REQ	NOTE: The item is indicated, but not r	Off			
OIL P SW	Ignition switch OFF, ACC or er	Open			
OIL F SW	Ignition switch ON	Close			
HOOD SW	Close the hood	Off			
	Open the hood		On		
HL WASHER REQ	NOTE: The item is indicated, but not r	nonitored.	Off		
	Not operation		Off		
 THFT HRN REQ Panic alarm is activated Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM 			On		
	Not operating		Off		
HORN CHIRP	Door locking with Intelligent Ke	ey (horn chirp mode)	On		
CRNRNG LMP REQ	NOTE: The item is indicated, but not r	nonitored.	Off		

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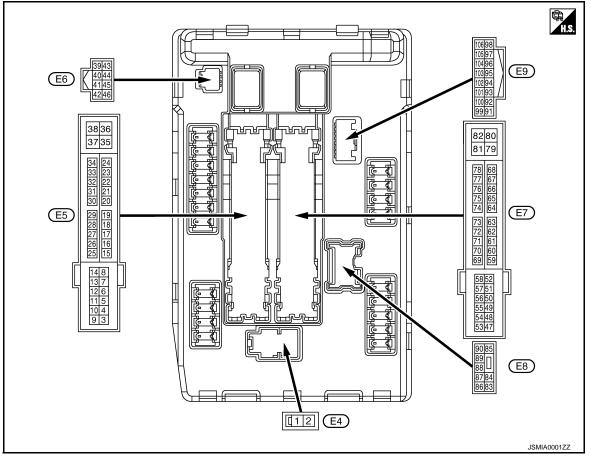
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

TERMINAL LAYOUT



PHYSICAL VALUES

	inal No.	Description				Value
(VVire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
4	Oround	FrontwinerLO	Quitaut	Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
5	Cround	Front win or HI	Quitout	Ignition	Front wiper switch OFF	0 V
(L)	Ground	Front wiper HI	Output	switch ON	Front wiper switch HI	Battery voltage
7	Ground	Tail, license plate lamps &	Quitout	Ignition	Lighting switch OFF	0 V
(R)	Ground	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
				Ignition switch OFF	A few seconds after open- ing the driver door	Battery voltage
11 (BR)	Ground	Steering lock unit power supply	Output	Ignition switch LOCK	Press the push-button ig- nition switch	Battery voltage
				Ignition switch ACC or ON		0 V
12 (B/W)	Ground	Ground	_	Ignition switch ON		0 V

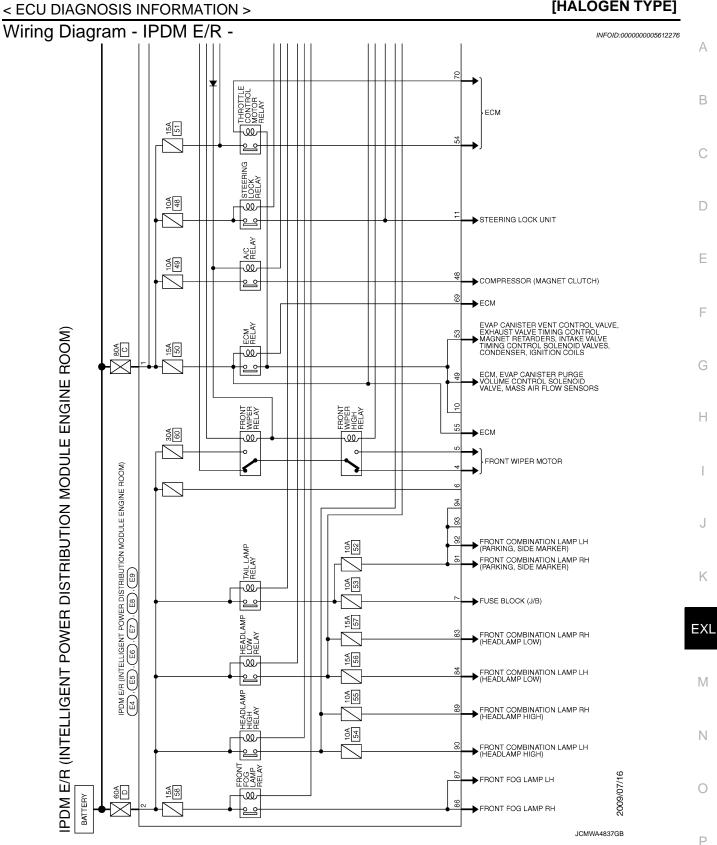
Terminal No.		Description				Value	_
(Wire color) + –		Signal name	Input/ Output	Condition		(Approx.)	
13		Fuel pump power supply		Approximately 1 second or more after turning the ignition switch ON		0 V	
(Y)	Ground		Output	Approximately 1 second after turning the ignition switch ONEngine running		Battery voltage	
16				Ignition switch ON	Front wiper stop position	0 V	
(LG)	Ground	Front wiper auto stop	Input		Any position other than front wiper stop position	Battery voltage	_
19	Ground	ound Ignition relay power supply	Output	Ignition switch OFF		0 V	
(W)	Cround	ignition roldy power suppry	Output	Ignition switch ON		Battery voltage	
25	Ground	I Ignition relay power supply	Output	Ignition switch OFF		0 V	
(G)	Cround			Ignition swi	itch ON	Battery voltage	
26*	Ground	Ignition relay power supply	Output	Ignition swi	itch OFF	0 V	
(R) GIUC	Cround		Culput	Ignition swi	itch ON	Battery voltage	
27 Grou	Ground	Ignition relay monitor	Input	Ignition switch OFF or ACC		Battery voltage	
(O)	Cround			Ignition swi	itch ON	0 V	
28 (L) Gi	Ground	Push-button ignition switch	Input	Press the push-button ignition switch		0 V	
	Ground		input	Release the	e push-button ignition switch	Battery voltage	
30 (OD) Grou	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any posi- tion other than P or N	0 V	
(GR)				SWITCH ON	Selector lever P or N	Battery voltage	
32	Ground	Steering lock unit condi- tion-1	Input	Steering lock is activated		0 V	
(L)	Ground			Steering lo	ck is deactivated	Battery voltage	
33	Ground	Steering lock unit condi-	lanut	Steering lock is activated		Battery voltage	
(P)	Ground	tion-2	Input	Steering lo	ck is deactivated	0 V	
36 (G)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage	
39 (P)	_	CAN-L	Input/ Output	_		_	
40 (L)	—	CAN-H	Input/ Output	_		_	
41 (B/W)	Ground	Ground	—	Ignition switch ON		0 V	
42	Ground	Cooling fan relay control	Input	Ignition switch OFF or ACC Ignition switch ON		0 V	
(Y)						0.7 V	
43 (SB)	Ground	A/T shift selector (Detention switch)	Input	Ignition switch ON	 Press the selector but- ton (Selector lever P) Selector lever in any po- sition other than P 	Battery voltage	
					Release the selector but- ton (selector lever P)	0 V	_
44	0	Horn relay control	Input	The horn is deactivated		Battery voltage	
(BR)	Ground			The horn is activated		0 V	
45	Ground	Anti theft horn relay control	Input	The horn is deactivated		Battery voltage	
(G)				The horn is activated		0 V	

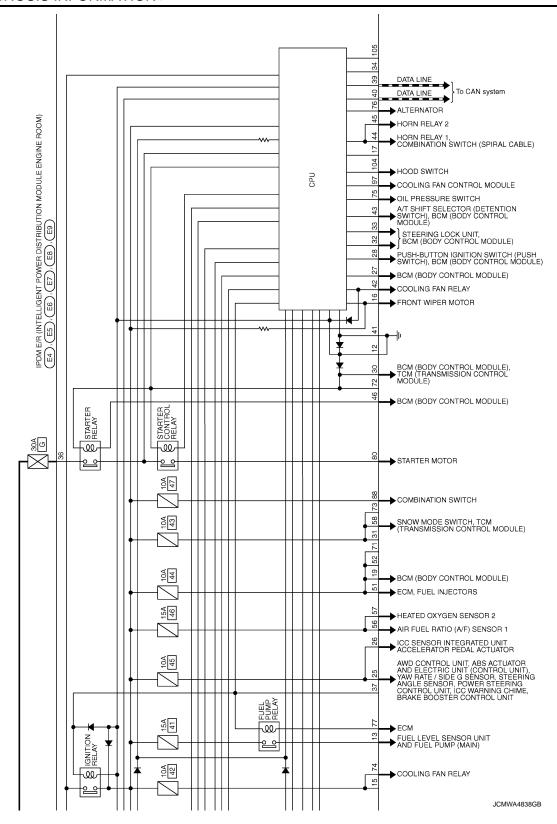
Terminal No.		Description				Value
(Wire color) + –		Signal name	Input/ Output	Condition		value (Approx.)
46 (R)	Ground	Starter relay control	Input	Ignition switch ON		0 V
(K)				SWITCH ON	Selector lever P or N	Battery voltage
					A/C switch OFF	0 V
48 (L)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is oper- ating)	Battery voltage
49	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
49 (O)				 Ignition switch ON Ignition switch OFF (For a few seconds after turning igni- tion switch OFF) 		Battery voltage
51	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(Y)	Cround	ignition relay power supply	Sulpui	Ignition swi	tch ON	Battery voltage
50	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
53 (W)				 Ignition switch ON Ignition switch OFF (For a few seconds after turning igni- tion switch OFF) 		Battery voltage
54	Ground	Throttle control motor re- lay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
(P)				 Ignition switch ON Ignition switch OFF (For a few seconds after turning igni- tion switch OFF) 		Battery voltage
55 (SB)	Ground	ECM power supply	Output	Ignition switch OFF		Battery voltage
56	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
(LG)	Glound	ignition relay power supply	Output	Ignition switch ON		Battery voltage
57	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
(G)				Ignition switch ON		Battery voltage
58	Ground	Ignition relay power supply	Output	Ignition switch OFF Ignition switch ON		0 V
(V)						Battery voltage
69	Ground	ECM relay control	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF) • Ignition switch OFF • Ignition switch OFF (For a few seconds after turning igni- tion switch OFF)		Battery voltage
(BR)						0 – 1.5 V
70 (O)	Ground	Throttle control motor re- lay control	Output	Ignition switch ON \rightarrow OFF		0 – 1.0 V ↓ Battery voltage ↓ 0 V
				Ignition switch ON		0 – 1.0 V

		JSIS INFORMATION	·			
Terminal No. Description (Wire color)					Value	
+	-	Signal name	Input/ Output	Condition		(Approx.)
74 (P) Gro	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
	Ground		Output	Ignition switch ON		Battery voltage
75	Ground	Oil pressure switch	Input	Ignition	Engine stopped	0 V
(SB)	Ground		mput	switch ON	Engine running	Battery voltage
76 (Y)	Ground	Power generation com- mand signal	Output	Ignition switch ON		(V) 6 4 0 4 0 4 0 4 0 4 0 4 0 4 0 4 0 4 0 4 0 4 0 4 0 4 0 4 0 4 0 4 0 4 0 1 1 1 1 1 1 1 1 1 1 1 1 1
				40% is set on "ACTIVE TEST", "AL- TERNATOR DUTY" of "ENGINE"		(V) 6 4 0 4 2 m 2
				80% is set on "ACTIVE TEST", "AL- TERNATOR DUTY" of "ENGINE"		(V) 6 2 0 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
77 (R)	Ground	Fuel pump relay control	Output	 Approximately 1 second after turning the ignition switch ON Engine running 		0 – 1.0 V
(K)				Approximately 1 second or more after turning the ignition switch ON		Battery voltage
80 (W)	Ground	Starter motor	Output	At engine cranking		Battery voltage
83	Ground		Output	Ignition switch ON	Lighting switch OFF	0 V
(O)	Ground	Headlamp LO (RH)			Lighting switch 2ND	Battery voltage
84 (V)	Ground	Headlamp LO (LH)	Output	Ignition	Lighting switch OFF	0 V
	Ground			switch ON	Lighting switch 2ND	Battery voltage
			Output	Lighting switch 2ND	Front fog lamp switch OFF	0 V
86 (W)	Ground	Ground Front fog lamp (RH)			 Front fog lamp switch ON Daytime running light activated (Only for Can- ada) 	Battery voltage

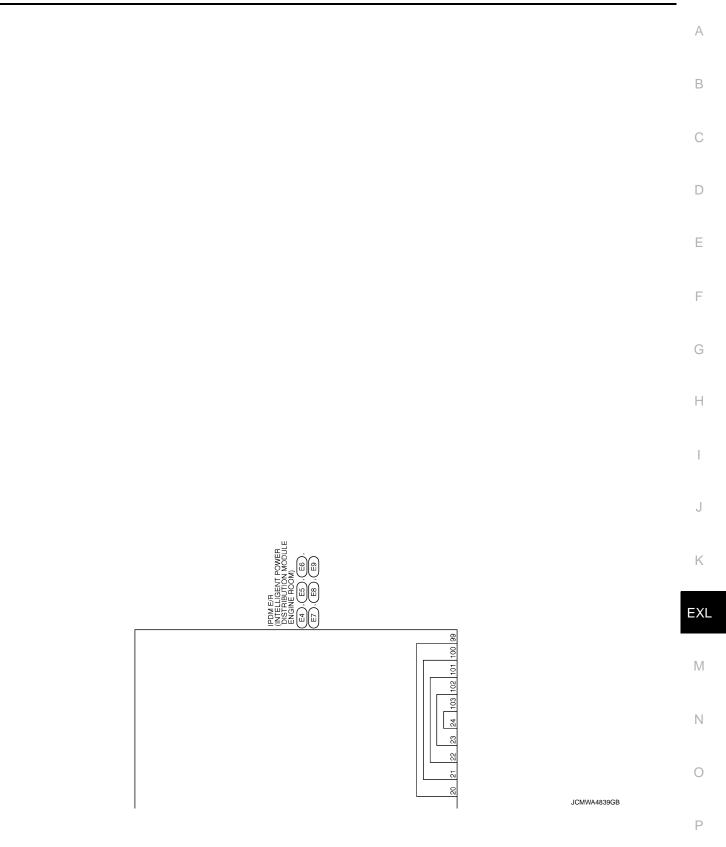
Terminal No.		Description				Value	
(Wire +	e color) –	Signal name	Input/ Output	Condition		(Approx.)	
	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	Front fog lamp switch OFF	0 V	
87 (L)					 Front fog lamp switch ON Daytime running light activated (Only for Can- ada) 	Battery voltage	
88 (GR)	Ground	Washer pump power sup- ply	Output	Ignition switch ON		Battery voltage	
89	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V	
(BR)					Lighting switch HILighting switch PASS	Battery voltage	
90	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V	
90 (P)					Lighting switch HILighting switch PASS	Battery voltage	
91	Ground	Parking lamp (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V	
(P)	Giouria		Output		Lighting switch 1ST	Battery voltage	
92	Ground	Parking lamp (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V	
(O)	Giouna		Output		Lighting switch 1ST	Battery voltage	
97 (V)	Ground	Cooling fan control	Output	Engine idling		0 – 5 V	
104	C rour d	Hood switch	Input	Close the hood		Battery voltage	
(LG)	Ground			Open the hood		0 V	

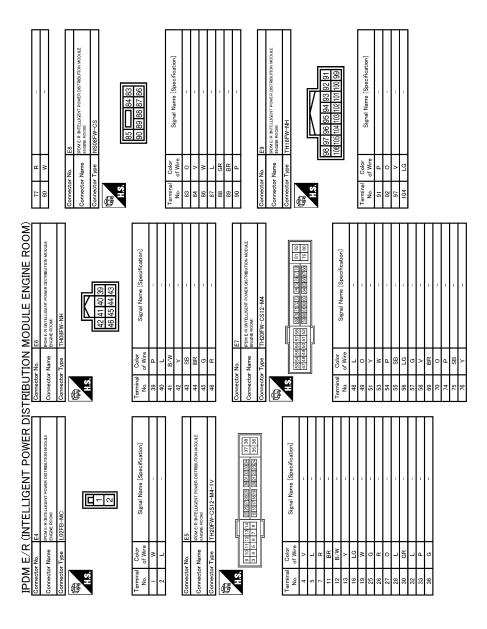
*: Only for the models with ICC system





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





JCMWA4840GB

INFOID:000000005612277

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

Fail-safe

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

Control part	Fail-safe operation
Cooling fan	 Outputs the pulse duty signal (PWM signal) 100% when the ignition switch is turned ON Outputs the pulse duty signal (PWM signal) 0% when the ignition switch is turned OFF
A/C compressor A/C relay OFF	
Alternator	Outputs the power generation command signal (PWM signal) 0%

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation		
Headlamp	 Turns ON the headlamp low relay when the ignition switch is turned ON Turns OFF the headlamp low relay when the ignition switch is turned OFF Headlamp high relay OFF 		
 Parking lamps License plate lamps Side maker lamps Illuminations Tail lamps 	 Turns ON the tail lamp relay when the ignition switch is turned ON Turns OFF the tail lamp relay when the ignition switch is turned OFF 		
Front wiper	 The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating. 		
Front fog lamps	Front fog lamp relay OFF		
Horn	Horn relay OFF		
Ignition relay	The status just before activation of fail-safe is maintained.		
Starter motor	Starter control relay OFF		
Steering lock unit	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.

				EXL
Voltage judgment				
Ignition relay contact side	Ignition relay excitation coil side	IPDM E/R judgment	Operation	M
ON	ON	Ignition relay ON normal	_	1 V I
OFF	OFF	Ignition relay OFF normal	_	
ON	OFF	Ignition relay ON stuck	 Detects DTC "B2098: IGN RELAY ON" Turns ON the tail lamp relay for 10 minutes 	Ν
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"	0

FRONT WIPER CONTROL

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

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

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

< ECU DIAGNOSIS INFORMATION >

	,
[HALOGEN	TYPE]

INFOID:000000005612278

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

NOTE:

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

STARTER MOTOR PROTECTION FUNCTION

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

DTC Index

NOTE:

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

		×: Applicable
CONSULT display	Fail-safe	Reference
No DTC is detected. further testing may be required.	_	_
U1000: CAN COMM CIRCUIT	×	PCS-15
B2098: IGN RELAY ON	×	PCS-16
B2099: IGN RELAY OFF	_	PCS-17
B2108: STRG LCK RELAY ON	_	<u>SEC-97</u>
B2109: STRG LCK RELAY OFF	_	<u>SEC-98</u>
B210A: STRG LCK STATE SW	_	<u>SEC-99</u>
B210B: START CONT RLY ON	_	<u>SEC-103</u>
B210C: START CONT RLY OFF	_	<u>SEC-104</u>
B210D: STARTER RELAY ON	_	<u>SEC-105</u>
B210E: STARTER RELAY OFF	_	<u>SEC-106</u>
B210F: INTRLCK/PNP SW ON	_	<u>SEC-108</u>
B2110: INTRLCK/PNP SW OFF	_	<u>SEC-110</u>

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS > SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

INFOID:000000005174733

CAUTION:

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

Sym	ptom	Possible cause	Inspection item
Headlamp (HI) is not turned ON.	One side	 Fuse Halogen bulb (HI) Harness between IPDM E/R and the headlamp high Daytime running light relay (with daytime running light system) IPDM E/R 	Headlamp (HI) circuit Refer to <u>EXL-254</u> .
	Both sides	Symptom diagnosis	
Headlamp (HI) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (HI) A Refer to <u>EXL-368</u> .	RE NOT TURNED ON"
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_
High beam indicator lamp [The headlamp (HI) is turr		Combination meter	 Combination meter Data monitor "HI-BEAM IND" BCM (HEAD LAMP) Active test "HEADLAMP"
Headlamp (LO) is not turned ON.	One side	 Fuse Halogen bulb (LO) Harness between IPDM E/R and the headlamp low IPDM E/R 	Headlamp (LO) circuit Refer to <u>EXL-256</u> .
	Both sides	Symptom diagnosis	
Headlamp (LO) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-369</u> .	
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_
Headlamp is not turned O	N/OFF with the lighting	 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-82</u> .
switch AUTO.		 Optical sensor Harness between the optical sensor and BCM BCM 	Optical sensor Refer to <u>EXL-264</u> .
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 <u>EXL-258</u> .
	Both side		
Front fog lamp is not turned ON.		"BOTH SIDE FRONT FOG LAMPS Refer to <u>EXL-371</u> .	ARE NUT TURNED UN"
Parking lamp is not turned ON.		 Fuse Parking lamp bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R 	Parking lamp circuit Refer to <u>EXL-260</u> .

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EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[HALOGEN TYPE]

Symp	otom	Possible cause	Inspection item
Tail lamp is not turned ON.		 Harness between IPDM E/R and the rear combination lamp Rear combination lamp 	Tail lamp circuit Refer to <u>EXL-269</u> .
License plate lamp is not to	urned ON.	 Harness between IPDM E/R and the license plate lamp License plate lamp 	License plate lamp circuit Refer to <u>EXL-271</u> .
Tail lamp and the license p ON.	late lamp are not turned	 Fuse Harness between IPDM E/R and the rear combination lamp IPDM E/R 	Tail lamp circuit Refer to <u>EXL-269</u> .
 Parking lamp, the tail lamp and the license plate lamp are not turned ON. Parking lamp, the tail lamp and the license plate lamp are not turned OFF. (Each illumination is turned ON/OFF.) 		Symptom diagnosis "PARKING, LICENSE PLATE AND ON" Refer to <u>EXL-370</u> .	TAIL LAMPS ARE NOT TURNED
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (The applicable side performs the high flash- er activation.)	 Harness between BCM and each turn signal lamp Turn signal lamp bulb 	Turn signal lamp circuit Refer to <u>EXL-262</u> .
DIINK.	Indicator lamp is includ- ed	 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-82</u> .
	One side	Combination meter	_
Turn signal indicator lamp does not blink. (The turn signal indicator	Both sides (Always)	 Turn signal indicator lamp signal Unified meter and A/C amp. BCM Combination meter 	 Unified meter and A/C amp. Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER"
lamp is normal.)	Both sides (Only 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 <u>MWI-53</u> .
 Hazard warning lamp does not activate. Hazard warning lamp continues activating. (Turn signal is normal.) 		 Hazard switch Harness between the hazard switch and BCM BCM 	Hazard switch Refer to <u>EXL-267</u> .

< SYMPTOM DIAGNOSIS >

NORMAL OPERATING CONDITION

Description

AUTO LIGHT SYSTEM

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

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BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description

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

Diagnosis Procedure

1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to <u>BCS-82, "Symptom Table"</u>.

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

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

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-84, "Exploded View"</u>.

 $\mathbf{3.}$ HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-254, "Component Function Check".

Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

[HALOGEN TYPE]

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INFOID:000000005174737

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM [[HALOGEN TYPE]
BOTH SID	E HEADLA	MPS (LO)	ARE NOT TURNED	ON
Description				INFOID:000000005174738
Both side head	lamps (LO) are	not turned ON	in any condition.	
Diagnosis P	rocedure			INFOID:000000005174739
1. СНЕСК СО	MBINATION SW	/ITCH		
Check the com	bination switch.	Refer to <u>BCS-</u>	82, "Symptom Table".	
YES >> GC	<u>tion switch norm</u>) TO 2. pair or replace t		ing part.	
2.снеск не	ADLAMP (LO) R	EQUEST SIG	• ·	
1. Select "HL	I DATA MONITO LO REQ" of IPE ting the lighting	M E/R data m	onitor item. he monitor status.	
Monitor item	Conc	lition	Monitor status	
HL LO REQ	Lighting switch	2ND	On	
		OFF	Off	
) TO 3.	er to <u>BCS-84,</u>	'Exploded View".	
3.HEADLAMP	(LO) CIRCUIT	INSPECTION		
Check the head	dlamp (LO) circu	it. Refer to EX	L-256, "Component Function (<u>Check"</u> .
YES >> Re	<u>p (LO) circuit no</u> place IPDM E/R pair or replace t			

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PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON < SYMPTOM DIAGNOSIS > [HALOGEN TYPE]

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

Description

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

Diagnosis Procedure

INFOID:000000005174741

INFOID:000000005174740

1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to <u>BCS-82, "Symptom Table"</u>.

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

CONSULT-III DATA MONITOR

1. Select "TAIL & CLR REQ" of IPDM E/R data monitor item.

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

Monitor item	Condition		Monitor status
TAIL & CLR	Lighting switch	1ST	On
REQ	Lighting Switch	OFF	Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

3.TAIL LAMP CIRCUIT INSPECTION

Check the tail lamp circuit. Refer to EXL-269. "Component Function Check".

Is the tail lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM		UNIF	OG LAMPS ARE NOT	[HALOGEN TYPE]
		LAM	PS ARE NOT TURN	
Description				INFOID:000000005174742
•	amps are not turned OI	N in anv	condition	
Diagnosis P	•	t in any		INFOID:000000005174743
	ION SWITCH INSPEC			
	bination switch. Refer		22 "Symptom Tablo"	
	tion switch normal?	10 <u>DCS-0</u>	52, Symptom Table.	
YES >> GO	D TO 2.			
^	pair or replace the ma		•	
Z.CHECK FR	ONT FOG LAMP REQ	UEST S	IGNAL INPUT	
			monitor item. check the monitor status.	
Monitor item	Condition	1	Monitor status	
FR FOG REQ	Front fog lamp switch (Lighting switch 2ND)	ON	On Off	
Is the item stat	, ,	OFF	Off	
	D TO 3.			
	place BCM.			
3. FRONT FO	G LAMP CIRCUIT INS	PECTIO	Ν	
Check the from	t fog lamp circuit. Refe	er to <u>EXL</u>	-258, "Component Function C	Check".
-	lamp circuit normal?			
	place IPDM E/R. pair or replace the ma	Ifunction	ing part	

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< PRECAUTION > PRECAUTION PRECAUTIONS

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

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

WARNING:

- 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 "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

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

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< PERIODIC MAINTENANCE > PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

Description

PREPARATION BEFORE ADJUSTING

NOTE:

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

Before performing aiming adjustment, check the following.

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

NOTE:

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

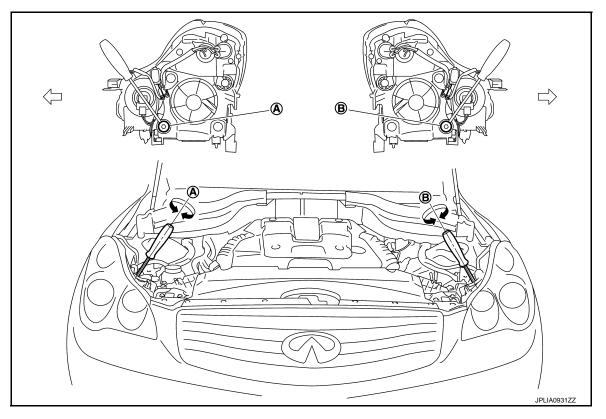
• Wipe out dirt on the headlamp.

CAUTION:

Never use organic solvent (thinner, gasoline etc.)

• Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



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

: Vehicle center

NOTE:

The figure is the vehicle without AFS. Each adjustment screw is applied to the vehicle with AFS.

EXL-373

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN TYPE]

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

Aiming Adjustment Procedure

INFOID:000000005174746

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

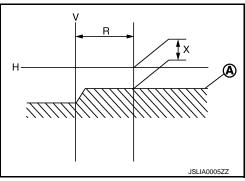
Shut off the headlamp light with the board to prevent from illuminating the adjustment screen. **CAUTION:**

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

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

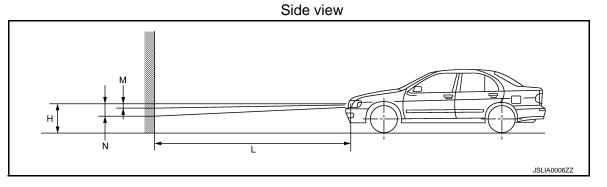
Light axis measurement range (R) $: 350 \pm 175 \text{ mm} (13.78 \pm 6.89 \text{ in})$

Low beam distribution on the screen



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

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



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

EXL-374

FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE > FRONT FOG LAMP AIMING ADJUSTMENT

Description

PREPARATION BEFORE ADJUSTING

NOTE:

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

Before performing aiming adjustment, check the following.

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

NOTE:

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

- Wipe out dirt on the headlamp.
- CAUTION:
- Never use organic solvent (thinner, gasoline etc.)
- Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW

• Turn the aiming adjusting screw for adjustment.

A: UP

B: DOWN

• For the position and direction of the adjusting screw, refer to the figure.

NOTE:

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

Aiming Adjustment Procedure

1. Place the screen.

NOTE:

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

NOTE:

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

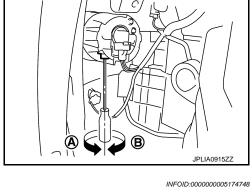
Never cover the lens surface with a tape etc. The lens is made of resin.

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

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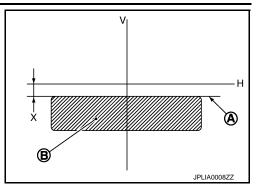
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FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

Front fog lamp light distribution on the screen

[HALOGEN TYPE]



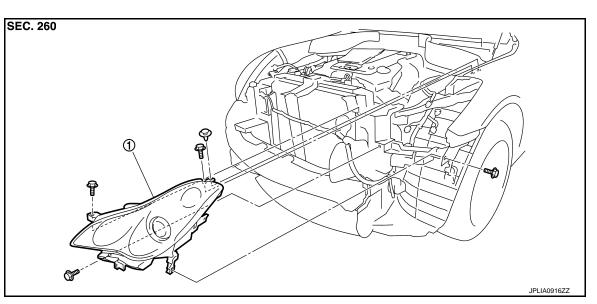
- A : Cutoff line
- B : High illuminance area
- H : Horizontal center line of front fog lamp
- V : Vertical center line of front fog lamp
- X : Cutoff line height

< REMOVAL AND INSTALLATION >

FRONT COMBINATION LAMP

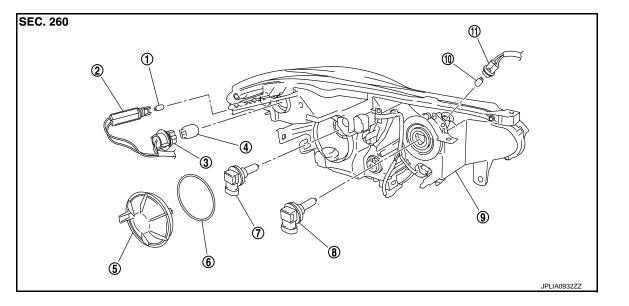
Exploded View

REMOVAL



1. Front combination lamp

DISASSEMBLY



- 1. Front side marker lamp bulb
- 4. Front turn signal lamp bulb
- Halogen bulb (LO) 7.
- 10. Parking lamp bulb

Removal and Installation

REMOVAL **CAUTION:**

- 2. Front side marker lamp bulb socket
- Resin cap 5.
- 8. Halogen bulb (HI)
- 11. Parking lamp bulb socket
- 3. Front turn signal lamp bulb socket
- 6. Seal packing
- Headlamp housing assembly 9.

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[HALOGEN TYPE]

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FRONT COMBINATION LAMP

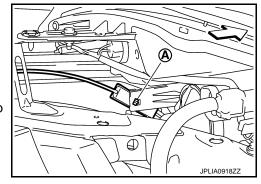
< REMOVAL AND INSTALLATION >

[HALOGEN TYPE]

Disconnect the battery negative terminal or remove the fuse.

- 1. Remove the front bumper fascia. Refer to EXT-12, "Exploded View".
- 2. Remove the headlamp mounting bolts and clips.
- Remove the harness clip and the holding clip (A)*.
 *: Left side only.

- 4. Pull out the headlamp assembly forward the vehicle.
- 5. Disconnect the connector before removing the headlamp assembly.



INSTALLATION

Install in the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to EXL-373, "Description".

Replacement

INFOID:000000005174751

CAUTION:

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

HEADLAMP BULB (LO)

- 1. Remove the fender rubber protector in the engine room. Keep a service area.
- 2. Rotate the resin cap counterclockwise and unlock it.
- 3. Disconnect the headlamp (LO) bulb connector.
- 4. Rotate the bulb counterclockwise and unlock it.
- 5. Remove the bulb from the headlamp housing assembly.

HEADLAMP BULB (HI)

- Remove the washer tank inlet^{*}. Refer to <u>WW-105, "Exploded View"</u>.
 *:When replace a right.
- 2. Disconnect the headlamp (HI) bulb connector.
- 3. Rotate the bulb socket counterclockwise and unlock it.
- 4. Remove the bulb socket from the headlamp housing assembly.

PARKING LAMP BULB

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

FRONT TURN SIGNAL LAMP BULB

- 1. Remove the fender rubber protector in the engine room. Keep a service area.
- 2. Rotate the bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the bulb socket.

FRONT SIDE MARKER LAMP BULB

- 1. Remove the fender rubber protector in the engine room. Keep a service area.
- 2. Rotate the bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the bulb socket.

EXL-378

FRONT COMBINATION LAMP

	[HALOGEN TYPE]
< REMOVAL AND INSTALLATION >	
Disassembly and Assembly	INFOID:000000005174752
DISASSEMBLY	
1. Rotate the resin cap counterclockwise and unlock it.	
2. Disconnect the headlamp bulb (LO) connector.	
3. Rotate the headlamp bulb (LO) counterclockwise and unlock it	
Remove the bulb from the headlamp housing assembly.	
5. Rotate the headlamp bulb (HI) counterclockwise and unlock it	
Remove the bulb from the headlamp housing assembly.	
7. Rotate the parking lamp bulb socket counterclockwise and unlock it.	
Remove the bulb from the parking lamp bulb socket.	
9. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it.	
10. Remove the bulb from the front turn signal lamp bulb socket.	
11. Rotate the front side marker lamp bulb socket counterclockwise and unlock it.	
12. Remove the bulb from the front side marker lamp bulb socket.	

ASSEMBLY

Assemble in the reverse order of disassembly.

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FRONT FOG LAMP

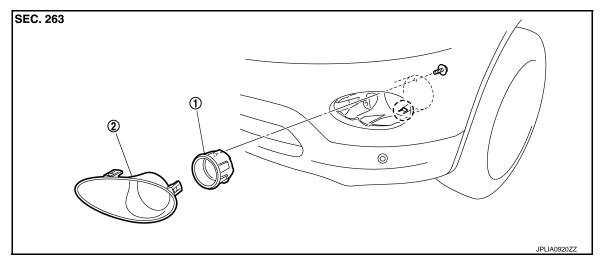
< REMOVAL AND INSTALLATION >

FRONT FOG LAMP

Exploded View

INFOID:000000005174753

[HALOGEN TYPE]



1. Front fog lamp

2. Front fog lamp finisher

(`) : Pawl

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the front fender protector. Keep a service area. Refer to <u>EXT-25. "FENDER PROTECTOR :</u> <u>Exploded View"</u>.
- 2. Remove the front fog lamp finisher.
- 3. Remove the front fog lamp connector.
- 4. Remove the screw.
- 5. Disengage the pawl. And then remove the front fog lamp.

INSTALLATION

Installation is the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to EXL-375. "Description"

Replacement

CAUTION:

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

FRONT FOG LAMP BULB

1. Remove the front fender protector. Keep the service area. Refer to <u>EXT-25. "FENDER PROTECTOR :</u> <u>Exploded View"</u>.

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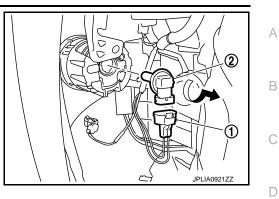
FRONT FOG LAMP

< REMOVAL AND INSTALLATION >

2. Remove the front fog lamp bulb connector (1).

3. Rotate the bulb (2) counterclockwise and unlock it.

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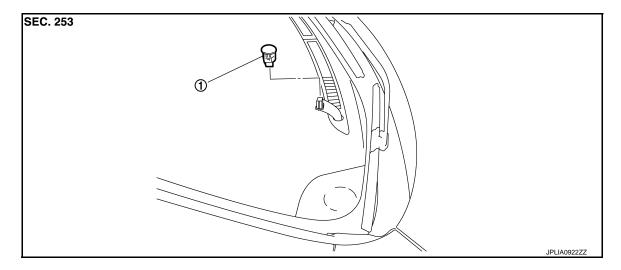
OPTICAL SENSOR

< REMOVAL AND INSTALLATION >

OPTICAL SENSOR

Exploded View

INFOID:000000005174756



1. Optical sensor

Removal and Installation

INFOID:000000005174757

REMOVAL

- 1. Insert an appropriate tool between the optical sensor and the instrument upper panel. Pull out the optical sensor upward.
- 2. Disconnect the optical sensor connector. And then remove the optical sensor.

INSTALLATION

Install in the reverse order of removal.

Pavision: 2000 August	EXL-383	

LIGHTING AND TURN SIGNAL SWITCH

< REMOVAL AND INSTALLATION > LIGHTING AND TURN SIGNAL SWITCH

Exploded View

Revision: 2009 August

Lighting and turn signal switch is integrated in the combination switch. BCS-85, "Exploded View".

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[HALOGEN TYPE]

< REMOVAL AND INSTALLATION >

HAZARD SWITCH

Exploded View

The hazard warning switch is integrated in the multifunction switch. Refer to AV-137, "Exploded View".

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REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

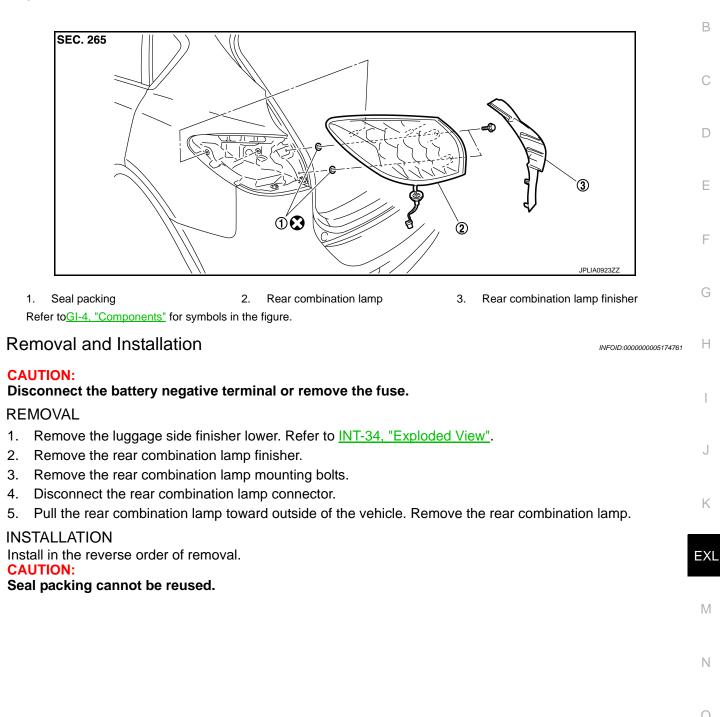
REAR COMBINATION LAMP

[HALOGEN TYPE]

Exploded View

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REAR TURN SIGNAL LAMP

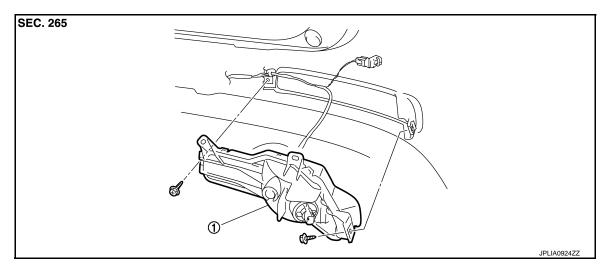
< REMOVAL AND INSTALLATION >

REAR TURN SIGNAL LAMP

Exploded View

INFOID:000000005174762

[HALOGEN TYPE]



1. Rear turn signal lamp

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the rear bumper fascia. Refer to EXT-16, "Exploded View".
- 2. Remove the rear turn signal lamp.

INSTALLATION

Install in the reverse order of removal.

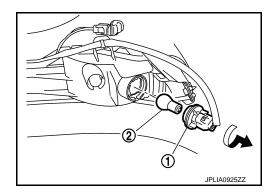
Replacement

CAUTION:

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

REAR TURN SIGNAL LAMP BULB

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



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Revision: 2009 August

HIGH-MOUNTED STOP LAMP

< REMOVAL AND INSTALLATION >

HIGH-MOUNTED STOP LAMP

1.

3.

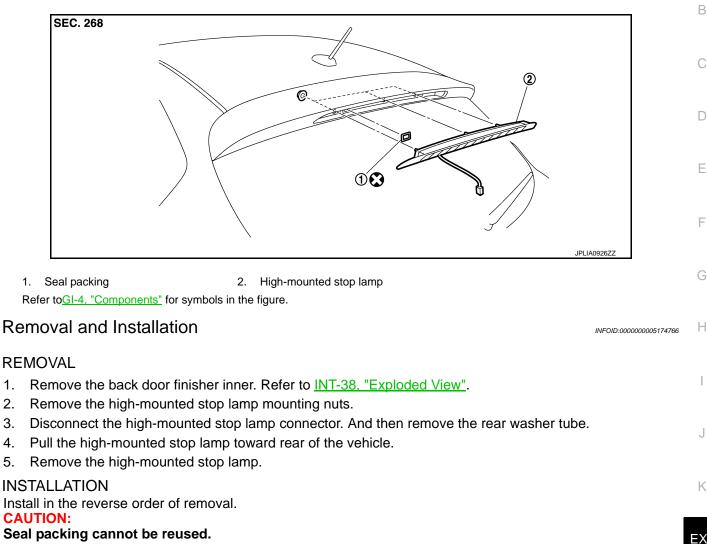
4.

5.

[HALOGEN TYPE]

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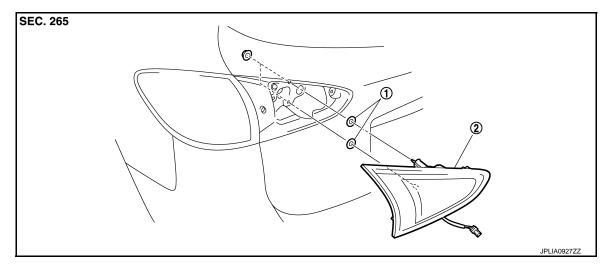
< REMOVAL AND INSTALLATION >

BACK-UP LAMP

Exploded View

INFOID:000000005174767

[HALOGEN TYPE]



1. Seal packing

2. Back-up lamp

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the back door finisher inner. Refer to INT-38, "Exploded View".
- 2. Remove the back-up lamp mounting nuts.
- 3. Disconnect the back-up lamp connector. And then remove the back-up lamp.

INSTALLATION

Install in the reverse order of removal.

Replacement

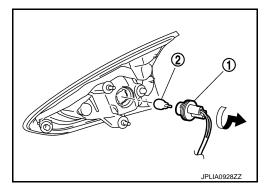
CAUTION:

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

EXL-388

BACK-UP LAMP BULB

- 1. Remove the back-up lamp. Refer to EXL-388, "Exploded View".
- 2. Turn the bulb socket (1) counterclockwise and unlock it.
- 3. Remove the bulb (2) from the socket.



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< REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

Exploded View

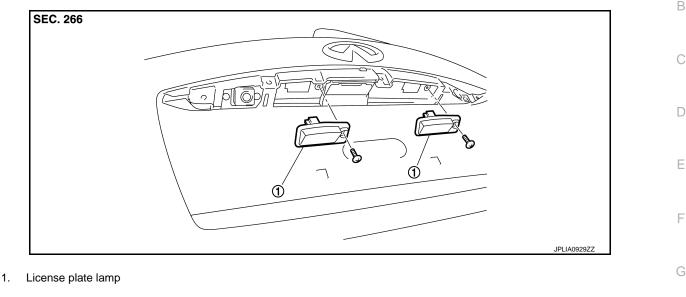
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[HALOGEN TYPE]



Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the door handle cover. Refer to EXT-48, "Exploded View".
- 2. Remove the screw. And then remove the license plate lamp.
- 3. Disconnect the license plate lamp connector.

INSTALLATION

Install in the reverse order of removal.

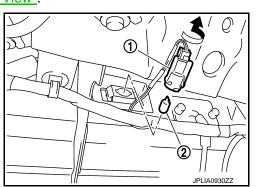
Replacement

CAUTION:

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

LICENSE PLATE LAMP BULB

- 1. Remove the back door finisher inner. Refer to INT-38, "Exploded View".
- 2. Turn the bulb socket (1) counterclockwise and unlock it.
- 3. Remove the bulb (2) from the socket.



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Revision: 2009 August

< SERVICE DATA AND SPECIFICATIONS (SDS)

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

Bulb Specifications

INFOID:000000005174773

[HALOGEN TYPE]

	Item	Туре	Wattage (W)
	Headlamp (HI)	H9 (Halogen)	65
	Headlamp (LO)	H11 (Halogen)	55
Front combination lamp	Front turn signal lamp	W21W	21
	Parking lamp	W5W	5
	Front side marker lamp	W5W	5
Front fog lamp		H8	35
Deer combination lamp	Stop lamp/Tail lamp	LED	_
Rear combination lamp	Rear side marker lamp	LED	_
Rear turn signal lamp		PY21W (Amber)	21
Back-up lamp		W16W	16
License plate lamp		W5W	5
High-mounted stop lamp		LED	_