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[XENON TYPE] < BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow INFOID:0000000004347018 В

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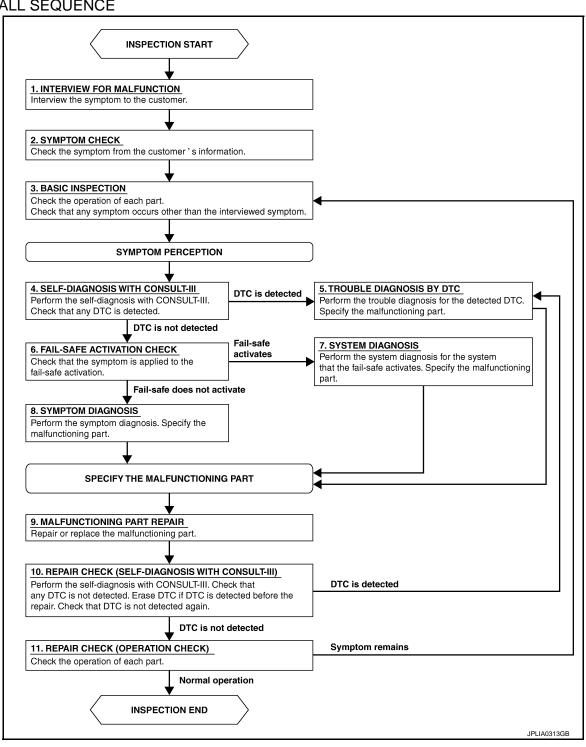
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OVERALL SEQUENCE



DETAILED FLOW

1.INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION > [XENON TYPE]

>> 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.

${f 5.}$ 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

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 EXL-9, "LEVELIZER ADJUSTMENT: Special Repair Requirement". ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR)
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR): Description Output 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 EXL-9, "LEVELIZER ADJUSTMENT : Special Repair Requirement". LEVELIZER ADJUSTMENT
LEVELIZER ADJUSTMENT : Description INFOID:0000000004347023
Perform "LEVELIZER ADJUSTMENT" when installing, removing, and replacing the height sensor and the suspension components. LEVELIZED ADJUSTMENT: Special Repair Requirement
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 1. Select "LEVELIZER ADJUSTMENT" of ADAPTIVE LIGHT work support item. 2. Select "START". 3. 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 prevent the vehicle from the height change. Perform the levelizer adjustment again.

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INSPECTION AND ADJUSTMENT

< BASIC INSPECTION > [XENON TYPE]

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

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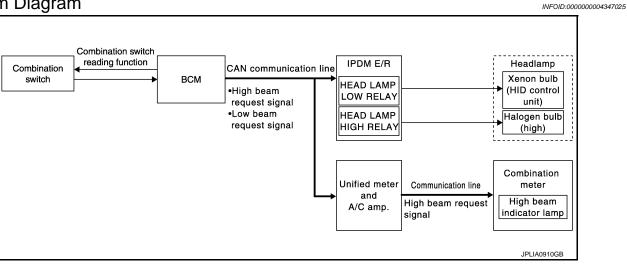
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SYSTEM DESCRIPTION

HEADLAMP SYSTEM

System Diagram



System Description

INFOID:0000000004347026

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 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.

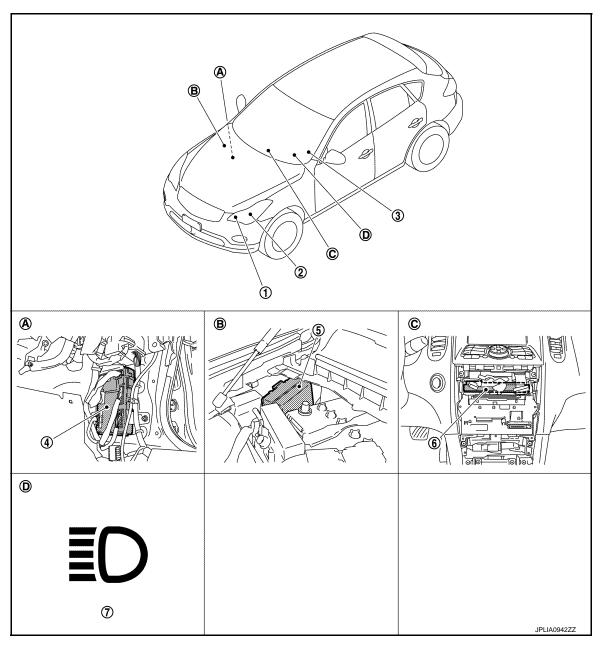
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INFOID:0000000004347027



- 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 >

[XENON TYPE]

Component	Description
Component	Description

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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 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.)].
Front combination lamp assembly • HID control unit • Xenon bulb	Refer to EXL-71, "Description".

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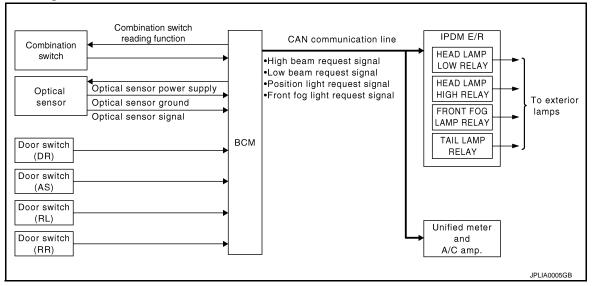
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AUTO LIGHT SYSTEM

System Diagram

INFOID:0000000004347029



System Description

INFOID:0000000004347030

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).

- 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 <u>EXL-33</u>, <u>"HEADLAMP : CONSULT-III Function (BCM HEAD LAMP)"</u>.

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

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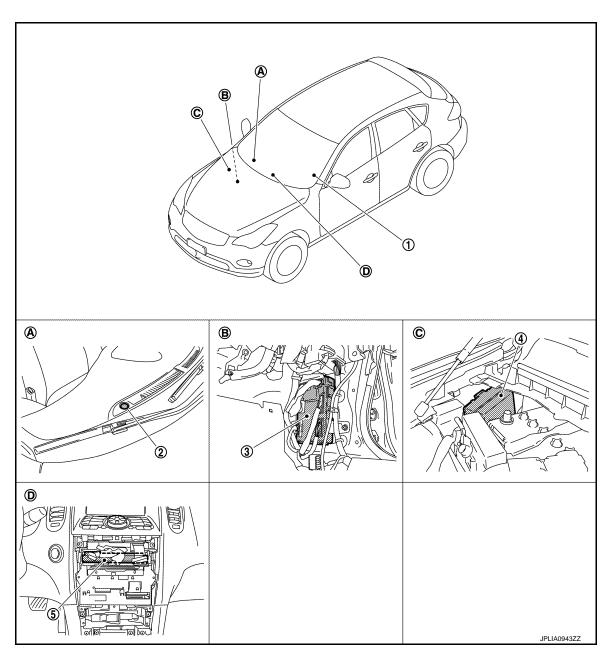
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- 1. Combination switch
- 4. IPDM E/R
- A. Instrument upper panel (RH)
- D. Behind the cluster lid C
- 2. Optical sensor
- 5. Unified meter and A/C amp.
- B. Dash side lower (Passenger side)
- 3. BCM
- C. Engine room dash panel (RH)

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AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

Component Description

INFOID:0000000004347032

Part	Description
ВСМ	 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 BCS-8, "System Diagram".
Optical sensor	Refer to EXL-80, "Description".

[XENON TYPE]

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DAYTIME RUNNING LIGHT SYSTEM

System Diagram

INFOID:0000000004347033 Combination switch reading function IPDM E/R Combination CAN communication line FRONT FOG Front switch Front fog light request signal LAMP RELAY fog lamp CAN communication line **ECM** всм Engine status signal Unified meter and A/C amp. Parking brake switch signal JPLIA0006GB

System Description

INFOID:0000000004347034

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.

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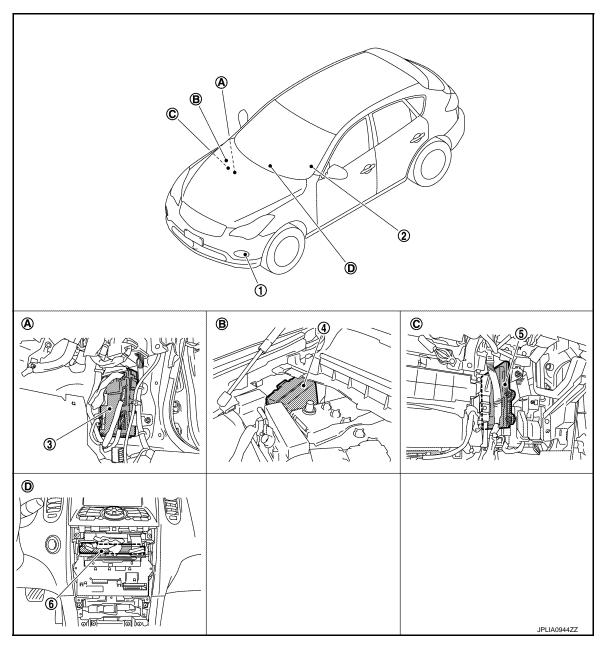
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EXL-17 Revision: 2010 March 2009 EX35

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- Daytime running light (Front fog lamp)
- 4. IPDM E/R
- A. Dash side lower (Passenger side)
- D. Behind the cluster lid C
- 2. Combination switch
- 5. ECM
- B. Engine room dash panel (RH)
- 3. BCM
- 6. Unified meter and A/C amp.
- C. Behind the glove box

Component Description

INFOID:0000000004347036

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 BCS-8, "System Diagram".
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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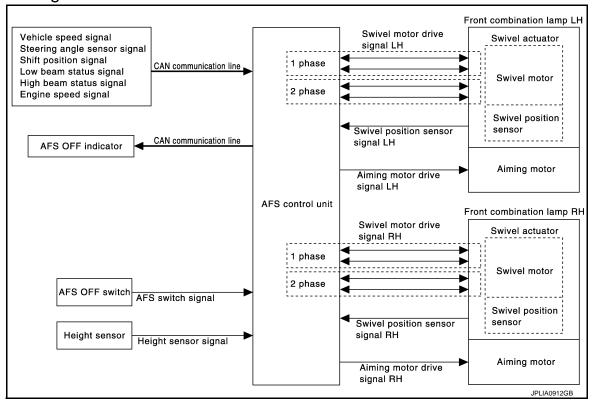
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[XENON TYPE]

ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

System Diagram

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System Description

INFOID:0000000004347038

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.
- AFS switch signal
- 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
- AFS OFF switch OFF
- 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.)

ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

< SYSTEM DESCRIPTION > [XENON TYPE]

Swivel Actuator Initialization

- AFS control unit performs the swivel actuator initialization when detecting that the engine starts.
- 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 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. 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 is turned OFF when AFS OFF switch is turned ON.
- 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.

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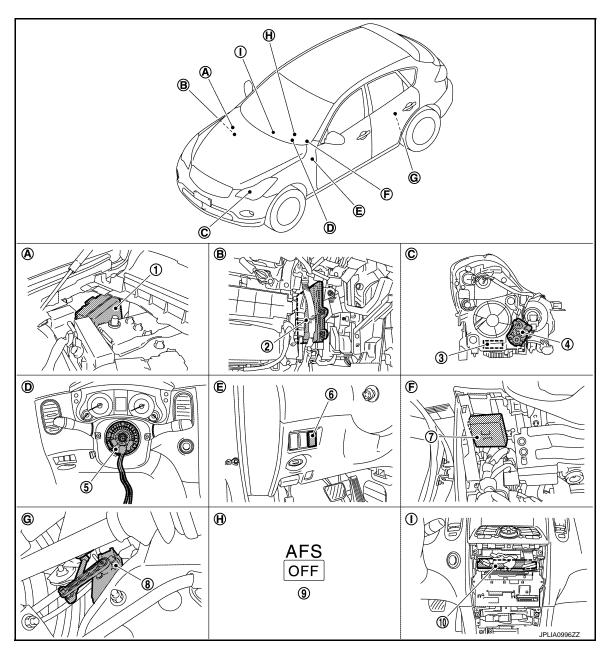
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- Vehicle posture becomes stable after changing the vehicle posture change is detected with the headlamp ON and the vehicle stopped.
- · Vehicle speed is maintained with the headlamp ON and the vehicle driven.

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- 1. IPDM E/R
- 4. Aiming motor
- 7. AFS control unit
- 10. Unified meter and A/C amp.
- A. Engine room dash panel (RH)
- D. Steering column cover (inside)
- G. Rear suspension member (LH)

- 2. ECM
- 5. Steering angle sensor
- 8. Height sensor
- B. Behind the glove box
- E. Instrument driver lower panel
- H. On the combination meter

- 3. Swivel actuator
- 6. AFS OFF switch
- 9. AFS OFF indicator lamp
- C. Front combination lamp (back)
- F. Behind the instrument driver lower panel
- I. Behind the cluster lid C

Component Description

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ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

Part	Description	
AFS control unit	Refer to EXL-56, "Description".	
Swivel actuator	Refer to EXL-44, "Description".	
Aiming motor	Refer to EXL-72, "Description".	
AFS OFF switch	Inputs AFS OFF switch ON/OFF signal to AFS control unit.	
Height sensor	Refer to EXL-50, "Description".	
Steering angle sensor	Refer to EXL-59, "Description".	
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.	
TCM	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.)].	

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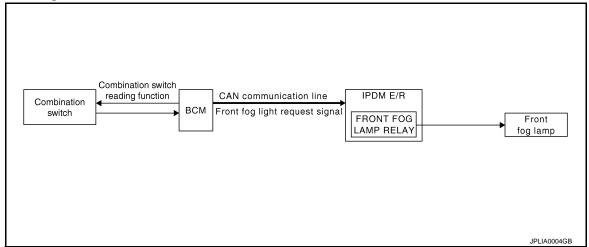
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[XENON TYPE]

FRONT FOG LAMP SYSTEM

System Diagram

INFOID:0000000004347041



System Description

INFOID:0000000004347042

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</u>, "System <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.

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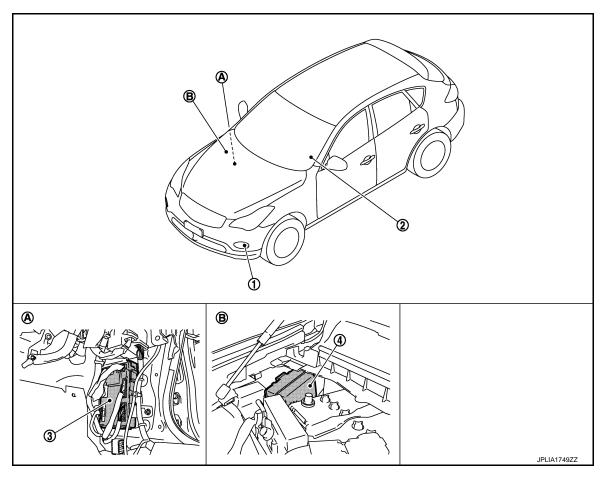
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- 1. Front fog lamp
- IPDM E/R
- A. Dash side lower (Passenger side)
- 2. Combination switch
- 3. BCM

B. Engine room dash panel (RH)

Component Description

INFOID:0000000004347044

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 BCS-8, "System Diagram".

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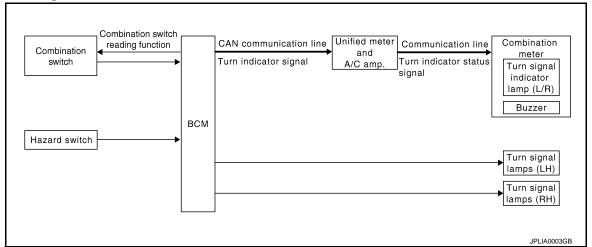
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[XENON TYPE]

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

System Diagram

INFOID:0000000004347045



System Description

INFOID:0000000004347046

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.

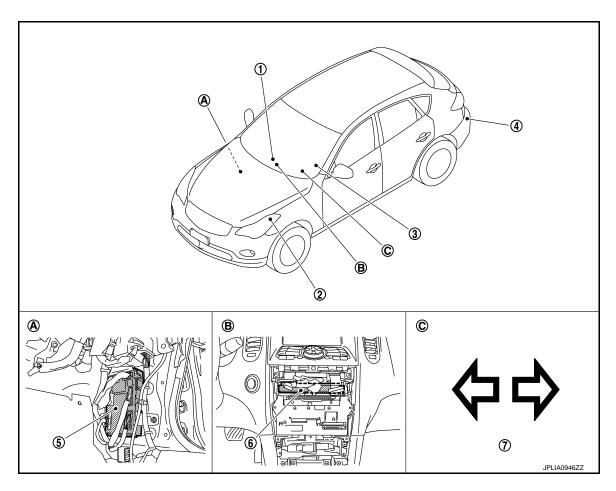
HIGH FLASHER OPERATION (FAIL-SAFE)

- 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.

INFOID:0000000004347047



- 1. Hazard warning switch
- Rear turn signal lamp
- 7. Turn signal indicator lamp
- A. Dash side lower (Passenger side)
- 2. Front turn signal lamp
- 5. BCM
- B. Behind the cluster lid C
- 3. Combination switch
- 6. Unified meter and A/C amp.
- C. On the combination meter

Component Description

INFOID:0000000004347048

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 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.)].		

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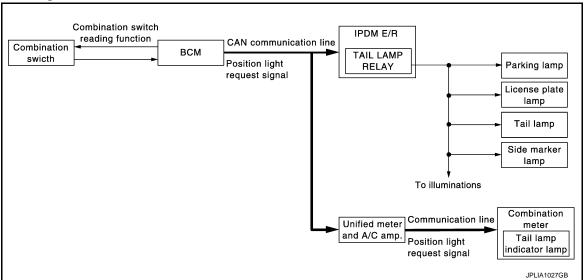
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[XENON TYPE]

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

System Diagram

INFOID:0000000004347049



System Description

INFOID:0000000004347050

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.

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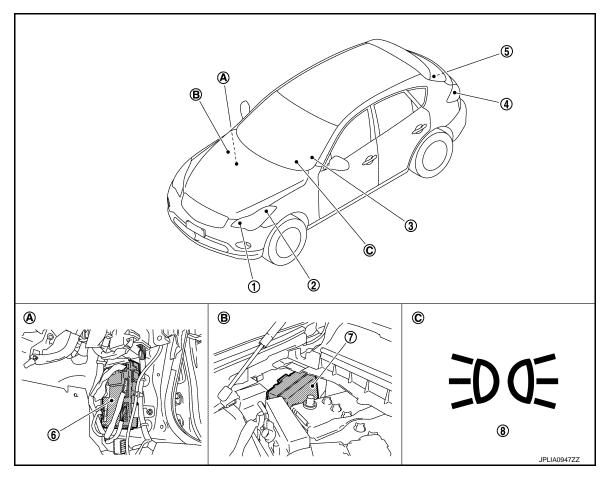
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- 1. Parking lamp
- 4. Tail lamp and side marker lamp
- 7. IPDM E/R
- A. Dash side lower (Passenger side)
- 2. Side marker lamp
- 5. License plate lamp
- 3. Tail lamp indicator lamp
- B. Engine room dash panel (RH)
- 3. Combination switch
- S. BCM
- C. On the combination meter

Component Description

INFOID:0000000004347052

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.)].

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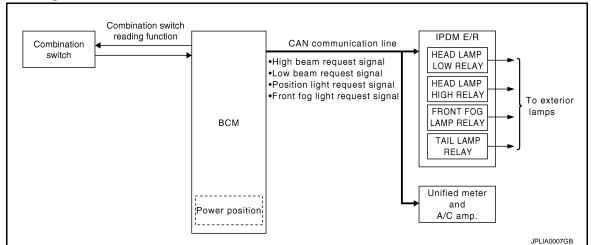
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EXTERIOR LAMP BATTERY SAVER SYSTEM

System Diagram

INFOID:0000000004347053



System Description

INFOID:0000000004347054

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 EXL-14, "System Diagram".

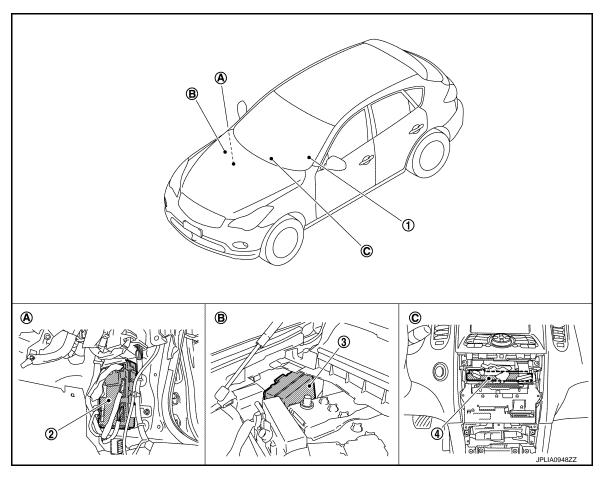
EXTERIOR LAMP BATTERY SAVER ACTIVATION

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.

INFOID:0000000004347055



- 1. Combination switch
- 4. Unified meter and A/C amp.
- A. Dash side lower (Passenger side)
- 2. BCM
- B. Engine room dash panel (RH)
- 3. IPDM E/R
- C. Behind the cluster lid C

Component Description

INFOID:0000000004347056

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".	

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[XENON TYPE]

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

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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	Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III operation 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.		
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.

×: Applicable item

System	Sub system selection 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 system Engine 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:

FREEZE FRAME DATA (FFD)

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

^{*:} This item is displayed, but is not used.

DIAGNOSIS SYSTEM (BCM)

< 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>LOC	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		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" (Emergency stop operation)	
	ACC>OFF	Power position status of the moment a particular DTC is detected	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 steering 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)	
ENG	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 30 until the self-diagnosis results are erased if it is over 30. 		
HEADLAMP			o 39 until the self-diagnosis results are erased if it is over 39.	

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

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WORK SUPPORT

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

Service item	Setting item	Setting		
	MODE 1*	45 sec.		
	MODE 2	Without the function		
	MODE 3	30 sec.		
ILL DELAY SET	MODE 4	60 sec.	Sets delay timer function timer operation time. (All doors closed)	
	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)	

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[XENON TYPE]

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

FLASHER

FLASHER: CONSULT-III Function (BCM - FLASHER)

WORK SUPPORT

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

^{*:} Initial setting

DATA MONITOR

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< SYSTEM DESCRIPTION >

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

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.

< SYSTEM DESCRIPTION >

[XENON TYPE]

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

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AUTO ACTIVE TEST

Description

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

- Oil pressure warning lamp
- Front wiper (LO, HI)
- Parking lamps
- License plate lamps
- 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.
- 3. 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.
- 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>, "Component Function Check".
- Do not start the engine.

Inspection in Auto Active Test Mode

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

Operation sequence	Inspection location	Operation
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test
2	Front wiper	LO for 5 seconds → HI for 5 seconds
3	 Parking lamps License plate lamps 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 ⇔ OFF 5 times
6*	Cooling fan	MID for 5 seconds → HI for 5 seconds

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

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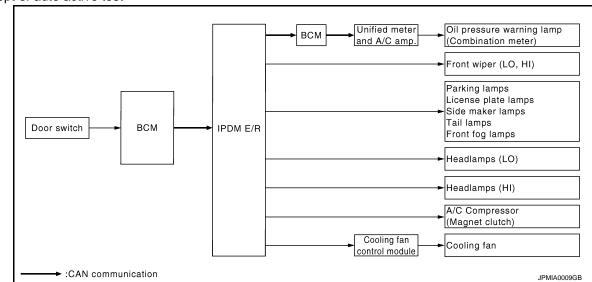
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[XENON TYPE]

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 operate?	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 between IPDM E/R and magnet clutch IPDM E/R
	Perform auto active test. Does the oil pressure warning lamp blink?	YES	Harness or connector between IPDM E/R and oil pressure switch Oil pressure switch IPDM E/R
Oil pressure warning lamp does not operate		NO	CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and unified meter and A/C amp. Combination meter

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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 between cooling fan and cooling fan control module Cooling fan control module Harness or connector between IPDM E/R and cooling fan control module Cooling fan relay Harness or connector between IPDM E/R and cooling fan relay IPDM E/R

CONSULT-III Function (IPDM E/R)

INFOID:0000000004927440

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 EXL-338, "DTC Index".

DATA MONITOR

Monitor item

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

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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 communication.
CRNRNG LMP REQ [Off/On]		NOTE: The item is indicated, but not monitored.

ACTIVE TEST

Test item

Test item	Operation	Description
	Off	NOTE: The item is indicated, but cannot be tested.
CORNERING LAMP	LH	
	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.
MOTOR FAIN	3	Outputs 80% pulse duty signal (PWM signal) to the cooling fan control module.
	4	Outputs 100% pulse duty signal (PWM signal) to the cooling fan control module.

< SYSTEM DESCRIPTION >

[XENON TYPE]

Test item	Operation	Description
HEAD LAMP WASHER	On	NOTE: The item is indicated, but cannot be tested.
	Off	OFF
	TAIL	Operates the tail lamp relay.
EXTERNAL LAMPS	Lo	Operates the headlamp low relay.
2/11 2 11 11 12 2/11 11 0	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.
	Fog	Operates the front fog lamp relay.

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DIAGNOSIS SYSTEM (AFS)

CONSULT-III Function (ADAPTIVE LIGHT)

INFOID:0000000004347062

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 BRC-9, "ADJUST-MENT OF STEERING ANGLE SENSOR NEUTRAL POSITION: Special Repair Requirement".

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 communication
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]	The switch status input from AFS OFF switch
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 control 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 publical angle command value to the publical mater judged by AEC control with
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.
	Peak	Changes the aiming motor drive signal to approximately 15% of the battery voltage. Moves the headlamp upward and downward.

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[&]quot;Fast" operation speed is as three times fast as "Slow".

[XENON TYPE]

DTC/CIRCUIT DIAGNOSIS

B2503, B2504 SWIVEL ACTUATOR

Description INFOID.000000004347063

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 AFS OFF switch OFF.
- Turn the headlamp ON.
- 5. Shift the selector lever to "N".
- 6. Steer to the right. (Rotate it once or more.)
- Perform the self-diagnosis with CONSULT-III.

B2503, B2504 SWIVEL ACTUATOR [XENON TYPE] < DTC/CIRCUIT DIAGNOSIS > Is "B2503" detected? Α YES >> Refer to EXL-45, "Diagnosis Procedure". NO >> Refer to GI-40, "Intermittent Incident". **4.**DTC CONFIRMATION (B2504) В Steer to the straight-forward position. 2. Start the engine. Turn AFS OFF switch OFF. 3. Turn the headlamp ON. 4. 5. Drive at 25 km/h (15.5 MPH) or more. 6. Steer to the left. (Rotate it once or more.) Stop the vehicle. D Perform the self-diagnosis with CONSULT-III. Is "B2504" detected? >> Refer to EXL-45, "Diagnosis Procedure". Е NO >> Refer to GI-40, "Intermittent Incident". Diagnosis Procedure INFOID:0000000004347065 F 1. CHECK SWIVEL POSITION SENSOR SIGNAL INPUT Turn the ignition switch ON. Check the voltage between the AFS control unit harness connector and the ground. **Terminals** Н (+)(-)Voltage (Approx.) AFS control unit **Terminal** Connector Ground RH 0.25 - 4.75 V M16 LH 29 Is the measurement value within the standard value? YES >> GO TO 2. Less than the standard value >>GO TO 6. K Higher than the standard value>>GO TO 9. 2. CHECK SWIVEL MOTOR Check the swivel motor. EXL-48, "Component Inspection". **EXL** Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the front combination lamp.

3.check swivel motor open circuit

- 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.

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	AFS contro	5 CODITOLUDII		np swivel lator	Continuity
Co	onnector	Terminal	Connector	Terminal	
		11		8	
RH	13	E29	7		
КП		32	L29	3	
	M16		4	Existed	
	IVITO	15		3	LXISIEU
LH		17	E59	4	
		36	E09	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 control unit			Continuity	
	Connector	Terminal		Continuity	
		11			
RH		13			
КΠ		32	Ground		
	M16	34	Glound	Not existed	
	WITO	15		Not existed	
LH			17		
LII		36			
		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.

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		Terminals		- Condition		
	(+)		(-)	Condition	Voltage	
,	AFS contr	ol unit		Swivel motor	(Approx.)	
Cor	nector	Terminal		Swiverinotor		
RH		11				
ΝП		32			(V) 15	
		15		Active 100 μs 8 - 12 V	10	
LH	M16	36	Ground		+-+100µs	
RH		13				
ΝП		34		Stop	9.5 - 11.5 V	
LH		17			9.5 - 11.5 V	
ЦΠ		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

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

	Terminals				
	(+) (-)				
	AFS contro	l unit		Voltage (Approx.)	
	Connector Terminal		Ground		
RH	M16	4	Ground	5.V	
LH	10/10	24	1	5 V	

Is the measurement value normal?

YES >> GO TO 7.

NO >> GO TO 9.

7.CHECK SWIVEL POSITION SENSOR POWER SUPPLY CIRCUIT INPUT VOLTAGE

- Turn the ignition switch OFF.
- 2. Disconnect the headlamp swivel actuator connector.
- 3. Turn the ignition switch ON.
- 4. Check the voltage between the headlamp swivel actuator harness connector and the ground.

	Terminals				
	(+) (-)				
	Headlamp swive	el actuator		(Approx.)	
	Connector Terminal		Ground		
RH	E29	2	Ground	5 V	
LH	E59	2		J V	

Is the measurement value normal?

YES >> GO TO 8.

NO >> Repair the harnesses or connectors.

8.check swivel position sensor signal short circuit

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B2503, B2504 SWIVEL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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

	AFS contro	ntrol unit Headlamp swivel actuator Contin		Headlamp swivel actuator		
Со	nnector	Terminal	Connector Terminal		Continuity	
RH	M16	9	E29	1	Existed	
LH	IVITO	29	E59	1	LXISIGU	

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

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 contr	ol unit	Headlamp swivel actuator		Continuity
Co	nnector	Terminal	Connector Terminal		Continuity
RH	M16	2	E29	6	Existed
LH	WITO	27	E59	6	LXISIOU

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

Component Inspection

INFOID:0000000004347066

1. CHECK SWIVEL MOTOR SINGLE PART

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

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

B2503, B2504 SWIVEL ACTUATOR

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DTC/CIRCUIT DIAGNOSIS >		XENON TYPE]

Is the measurement value normal?

YES >> Swivel actuator is normal.

>> Replace the front combination lamp. NO

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B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

B2514 HEIGHT SENSOR UNUSUAL [RR]

Description INFOID:0000000004347067

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 INFOID:0000000004347068

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

- Start the engine.
- Turn the headlamp ON.
- Select the self-diagnosis with CONSULT-III.
- Check the self-diagnosis result. Refer to EXL-178, "DTC Index".

Is "B2514" detected?

YES >> Refer to EXL-50, "Diagnosis Procedure".

>> Refer to GI-40, "Intermittent Incident". NO

Diagnosis Procedure

INFOID:0000000004347069

1. CHECK HEIGHT SENSOR POWER SUPPLY OUTPUT

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

Terminals			
(+) (-)			Voltage
AFS control unit			(Approx.)
Connector Terminal		Ground	
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.

B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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Terminals			
(+) (-)			Voltage
AFS control unit			(Approx.)
Connector	Terminal	Ground	
M16	28		0.25 - 4.75 V

Is the measurement value within the standard value?

YES >> Replace AFS control unit.

Less than the standard value >>GO TO 3.

Higher than the standard value>>GO TO 6.

3.check height sensor power supply circuit output voltage

- 1. Turn the ignition switch OFF.
- 2. Disconnect the height sensor connector.
- 3. Turn the ignition switch ON.
- 4. Check the voltage between the height sensor harness connector and the ground.

Terminals			
(+) (-)			Voltage
Height	sensor		(Approx.)
Connector	Terminal	Ground	
B32	1		5 V

Is the measurement value within the standard value?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK HEIGHT SENSOR SIGNAL OPEN CIRCUIT

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

AFS control unit		Height sensor		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M16	28	B32	2	Existed

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

CHECK HEIGHT SENSOR SIGNAL SHORT CIRCUIT

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

Height sensor			Continuity
Connector	Terminal	Ground	Continuity
B32	2		Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace the height sensor.

O.CHECK HEIGHT SENSOR GROUND

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

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B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Terminals			
(+) (-)			Voltage
AFS control unit			(Approx.)
Connector Terminal		Ground	
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.
- Check continuity between the AFS control unit harness connector and the height sensor harness connector.

AFS control unit		Height sensor		Continuity
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

INFOID:0000000004347070

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	Contact with		Monitor status [Standard value (Approx.)]
		Contact with stopper	0.9 V
HI SEN OTP RR	Sensor lever position	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 S	IGNAL [P, R]	IVELIALI TVAET
< DTC/CIRCUIT DIAGNOSIS >		[XENON TYPE]
B2516 SHIFT SIGNAL [P, R]		
Description		INFOID:000000000434707
AFS control unit receives the shift position signal from T	CM with CAN communica	ation.
DTC Logic		INFOID:00000000434707
DTC DETECTION LOGIC [B2516] Shift signal [P, R]		
DTC detection condition	DTC erase condition	Possible causes
The shift position signal is not received.	Ignition switch OFF	TCM AFS control unit
1.DTC ERASE Erase the DTC memory of AFS with CONSULT-III.		
>> GO TO 2. 2.DTC CONFIRMATION		
 Turn ignition ON. Select the self-diagnosis with CONSULT-III. Check the self-diagnosis result. Refer to <u>EXL-178</u>, " Is "B2516" detected? YES >> Refer to <u>EXL-53</u>, "<u>Diagnosis Procedure</u>". 	DTC Index".	
NO >> Refer to GI-40, "Intermittent Incident".		
Diagnosis Procedure		INFOID:000000000434707
1.TCM SELF-DIAGNOSIS		
Check the self-diagnosis result with CONSULT-III. Check the self-diagnosis result with Consult with		ect any DTCs.
NO >> GO TO 2. 2.DTC ERASE		
Erase the DTC memory of AFS with CONSULT-III. <u>Is the memory erased?</u>		

Is the memory erased?

YES >> Inspection end.
NO >> Replace AFS control unit.

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B2517 VEHICLE SPEED SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

B2517 VEHICLE SPEED SIGNAL

Description INFOID:000000004347074

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-178, "DTC Index".

Is "B2517" detected?

YES >> Refer to <u>EXL-54</u>, "<u>Diagnosis Procedure</u>". NO >> Refer to <u>GI-40</u>, "<u>Intermittent Incident</u>".

Diagnosis Procedure

INFOID:0000000004347076

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 MWI-100, "DTC Index".

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.

B2519 LEVELIZER CALIBRATION

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

B2519 LEVELIZER CALIBRATION

Description INFOID:0000000004347077

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

INFOID:0000000004347079

1.LEVELIZER ADJUSTMENT

Perform the levelizer adjustment.

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

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[XENON TYPE]

B2521 ECU CIRCUIT

Description INFOID:000000004347080

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

DTC Logic

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. 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 AFS control unit 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.
- Select the self-diagnosis with CONSULT-III.
- Check the self-diagnosis result. Refer to <u>EXL-178</u>, "<u>DTC Index</u>".

Is "B2521" detected?

YES >> Refer to EXL-56, "Diagnosis Procedure".

NO >> Refer to GI-40, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000004347082

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.

(+)	(–)	Voltage
AFS control unit			(Approx.)
Connector	Terminal		
	4	Ground	
M16	6		5 V
	24		

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.

B2521 ECU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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2. CHECK EACH SENSOR SIGNAL

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		0.25 - 4.75 V
	29		

Is the measurement value within the standard value?

YES >> Replace AFS control unit.

Less than the standard value >>GO TO 5.

Higher than the standard value>>GO TO 6.

3.CHECK EACH SENSOR POWER SUPPLY SHORT CIRCUIT

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

AFS control unit			Continuity
Connector	Connector Terminal		Continuity
	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

- Turn the ignition switch OFF.
- 2. Disconnect AFS control unit connector.
- 3. Check the voltage between the AFS control unit harness connector and the ground.

Terminals			
(+) (-)			Voltage
AFS control unit			Voltage (Approx.)
Connector	Terminal		
	4	Ground	
M16	6		0 V
	24		

Is the measurement value normal?

YES >> Replace AFS control unit.

NO >> Repair the harnesses or connectors.

5. CHECK EACH SENSOR SIGNAL SHORT CIRCUIT

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

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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 (Approx.)
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.

C0126 STEERING ANGLE SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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C0126 STEERING ANGLE SENSOR SIGNAL

Description INFOID:0000000004347083

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

DTC Logic INFOID:0000000004347084

DTC DETECTION LOGIC

[C0126] Steering angle sensor signal

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 sensor AFS control unit

DTC CONFIRMATION PROCEDURE

1.DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2.dtc confirmation

- 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 EXL-178, "DTC Index".

Is "C0126" detected?

YES >> Refer to EXL-59, "Diagnosis Procedure".

>> Refer to GI-40, "Intermittent Incident". NO

Diagnosis Procedure

${f 1}$.abs actuator and electrical unit (control unit) self-diagnosis

Check the self-diagnosis result with CONSULT-III. Check that ABS actuator and electrical unit (control unit) does not detect any DTCs.

Is any DTC detected?

YES >> Check ABS actuator and electrical unit (control unit). Refer to BRC-96, "DTC No. Index".

NO >> GO TO 2.

2.DTC ERASE

Erase DTC memory of AFS with CONSULT-III.

Is the memory erased?

YES >> Inspection end.

NO >> Replace AFS control unit.

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INFOID:0000000004347085

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C0428 STEERING ANGLE SENSOR CALIBRATION

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

C0428 STEERING ANGLE SENSOR CALIBRATION

Description INFOID:0000000004347086

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 recognized.	When the steering angle sensor neutral position registration is completed	Steering angle sensor

Diagnosis Procedure

INFOID:0000000004347088

1. STEERING ANGLE SENSOR NEUTRAL POSITION ADJUSTMENT

Perform the steering angle sensor neutral position adjustment.

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".

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

INFOID:0000000004347091

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U1000 CAN COMM CIRCUIT

Description INFOID:0000000004347089

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-26, "CAN Communication Signal Chart".

CAN Communication Signal Chart. Refer to <u>LAN-26, CAN Communication Signal Chart.</u>

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 communication 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.
- Check "Self Diagnostic Result".

Is "CAN COMM CIRCUIT" displayed?

YES >> Refer to LAN-17, "Trouble Diagnosis Flow Chart".

NO >> Refer to GI-40, "Intermittent Incident".

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U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

U1010 CONTROL UNIT (CAN)

DTC Logic

DTC DETECTION 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

INFOID:0000000004347093

1. REPLACE AFS CONTROL UNIT

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

>> Replace AFS control unit.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE): Diagnosis Procedure

INFOID:0000000004927441

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1. CHECK FUSE AND FUSIBLE LINK

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

Signal name	Fuse and fusible link No.
Rattony nowor cupply	К
Battery power supply	10

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

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

Terminals			
(+)		(-)	Voltage
BCM			(Approx.)
Connector	Terminal	Ground	
M118	1	Glound	Battery voltage
M119	11		Dattery Voltage

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM Connector Terminal			Continuity
		Ground	Continuity
M119	13		Existed

Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

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

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

1. CHECK FUSES AND FUSIBLE LINK

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

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

INFOID:0000000004347096

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
IPDM E/R		()	(Approx.)
Connector	Terminal	Ground	
E4	1	Giodila	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	Giodila	Existed
E6	41	EXISTED	LXISIEU

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

- 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.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

(+) (-)			Voltage
AFS co	ntrol unit		(Approx.)
Connector	Terminal	Ground	
M16	1		Battery voltage

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Check continuity between AFS control unit harness connectors and ground.

AFS co	ntrol unit		Continuity
Connector Terminal		Ground	Continuity
M16	25		Existed

Does continuity exist?

YES >> Power supply and ground circuit are normal.

NO >> Repair harness or connector.

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[XENON TYPE]

EXTERIOR LAMP FUSE

Description INFOID:0000000004347097

Fus<u>e list</u>

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 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

INFOID:0000000004347098

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 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.

HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

HEADLAMP (HI) CIRCUIT

Component Function Check

INFOID:0000000004347099

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1. CHECK HEADLAMP (HI) OPERATION

PIPDM E/R AUTO ACTIVE TEST

- 1. Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".
- Check that the headlamp switches to the high beam.

(P)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 EXL-67, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004347100

1. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

©CONSULT-III ACTIVE TEST

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector.
- Turn the ignition switch ON.
- 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		Condition			
	(+)		(-)	Condition	Voltage
	IPDM E	/R		External	(Approx.)
Cor	nnector	Terminal		lamp	
RH		89	Ground	Hi	Battery voltage
	E8			Off	0 V
LH		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.
- Check continuity between the IPDM E/R harness connector and the front combination lamp harness connector.

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IPDM E/R		Front combination lamp		Continuity	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E8	89	E28	7	Existed
LH	LO	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
Connector Terminal			Ground	Continuity
RH	E8	89	Cround	Not existed
LH		90		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 HEAD LAMP (HI) GROUND OPEN CIRCUIT

- 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	nt combinat	ion lamp		Continuity
Connector		Terminal	Ground	Continuity
RH	RH E28		Giodila	Existed
LH	LH E58			Existed

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

INFOID:0000000004347102

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HEADLAMP (LO) CIRCUIT

Description INFOID:000000004347101

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 EXL-71, "Description".

Component Function Check

1. CHECK HEADLAMP (LO) OPERATION

PIPDM E/R AUTO ACTIVE TEST

- Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".
- Check that the headlamp is turned ON.
- (P)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 EXL-69, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK HEADLAMP (LO) OUTPUT VOLTAGE

(P)CONSULT-III ACTIVE TEST

- 1. 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.
- 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	
	IPDN	/I E/R		EXTERNAL	(Approx.)	
Connector Terminal			LAMP			
RH		83	Ground	Lo	Battery voltage	
IXII	E8	03	Ground	Off	0 V	
LH	LO	84	84	Lo	Battery voltage	
				Off	0 V	

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK HEADLAMP (LO) OPEN CIRCUIT

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

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< DTC/CIRCUIT DIAGNOSIS >

IPDM E/R			Front comb	Continuity	
Connector		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.

IPDM E/R				Continuity	
Connector Terminal			Ground	Continuity	
RH	E8	83	Ciodila	Not existed	
LH	LO	84			

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

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

Front combination lamp				Continuity
Connector Terminal			Ground	Continuity
RH	E28	3	Glound	Existed
LH	LH E58 3			Existed

Does continuity exist?

YES >> Perform the xenon headlamp diagnosis. Refer to EXL-71, "Diagnosis Procedure".

NO >> Repair the harnesses or connectors.

[XENON TYPE]

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XENON HEADLAMP

Description INFOID:000000004347104

OUTLINE

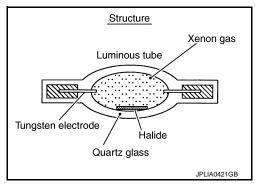
- The lamp light source is by the arch discharge by applying high voltage into the xenon gas-filled bulb instead
 of the halogen bulb filament.
- Sight becomes more natural and brighter because the amount of light are gained adequately and the color of light is sunshine-like white.
- The xenon bulb drops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

ILLUMINATION PRINCIPLE

- Discharging starts in high voltage pulse between bulb electrodes.
- 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

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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INFOID:0000000004347105

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Revision: 2010 March EXL-71 2009 EX35

HEADLAMP LEVELIZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

HEADLAMP LEVELIZER CIRCUIT

Description INFOID:000000004347106

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

Component Function Check

INFOID:0000000004347107

1. CHECK AIMING MOTOR OPERATION

(P)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 change reference quantity (Approx.)	
LEVELIZER TEST	(Reference value)		
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

INFOID:0000000004347108

1. CHECK AIMING MOTOR DRIVE SIGNAL OUTPUT

(P)CONSULT-III ACTIVE TEST

- 1. Start the engine.
- Turn the light switch 2ND.
- 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.

(+) (-) Voltage (Approx.) AFS control unit LEVELIZER TEST Voltage (Approx.) Connector Terminal Origin 8.8 V Peak 1.9 V Origin 8.8 V Peak 1.9 V Peak 1.9 V	Terminals				Test item	
Connector Terminal RH 19 Ground Origin 8.8 V Peak 1.9 V Origin 8.8 V		(+)		(-)	rest item	Voltage
Connector Terminal RH 19 Ground Origin 8.8 V Peak 1.9 V Origin 8.8 V	Α	FS con	trol unit		LEVELIZED TEST	(Approx.)
RH	Con	nector	Terminal		LEVELIZER 1E31	
M16 Peak 1.9 V LH 40 Origin 8.8 V	ВH		10	Ground	Origin	8.8 V
LH 40 Origin 8.8 V	IXII	M16	19	Ground	Peak	1.9 V
	ΙШ	IVITO			Origin	8.8 V
	LII				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

- 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.

HEADLAMP LEVELIZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Continuity	g motor	Aiming	AFS control unit		
Continuity	Connector Terminal		Terminal	nnector	Со
Existed	1	E26	19	M16	RH
LXISIGU	1	E56	40	IVITO	LH

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
Con	nector	Terminal	Ground	
RH	M16	19	Giodila	Not existed
LH	IVITO	40		Not existed

Does continuity exist?

YES >> Repair the harness and connectors.

NO >> Replace AFS control unit.

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FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

FRONT FOG LAMP CIRCUIT

Component Function Check

INFOID:0000000004347109

1. CHECK FRONT FOG LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

- Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".
- 2. Check that the front fog lamp is turned ON.

(P)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

INFOID:0000000004347110

1. CHECK FRONT FOG LAMP FUSE

- 1. Turn the ignition switch OFF.
- 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		Not existed
LH	EO	87		Not existed

Does continuity exist?

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

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

3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4. CHECK FRONT FOG LAMP OUTPUT VOLTAGE

(P)CONSULT-III ACTIVE TEST

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

FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	Т	erminals		Test item	
	(+)		(-)	163t Itelli	Voltage
IPDM E/R			EXTERNAL	(Approx.)	
Cor	nnector	Terminal		LAMP	
RH		86	Ground	Fog	Battery voltage
	E8		Cround	Off	0 V
LH	LO	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.

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

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

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
Connector		Terminal	Ground	Continuity
RH	E34	2	Giodila	Existed
LH	E64	2		Existed

Does continuity exist?

YES >> Replace the front fog lamp.

NO >> Repair the harnesses or connectors.

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PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

PARKING LAMP CIRCUIT

Component Function Check

INFOID:0000000004347111

1. CHECK PARKING LAMP OPERATION

PIPDM 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.

PCONSULT-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

INFOID:0000000004347112

1. CHECK PARKING LAMP FUSE

- 1. Turn the ignition switch OFF.
- 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	EO	91	Giodila	Not existed
LH	_H 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

(P)CONSULT-III ACTIVE TEST

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

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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

	Т	erminals		Test item		
(+)		(-)	163t Item	Voltage		
IPDM E/R			EXTERNAL	(Approx.)		
Cor	nnector	Terminal		LAMP		
RH		91	91 Ground	TAIL	Battery voltage	
	F0			E9	Oround	Off
LH	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 combination lamp		Continuity	
Conr	nector	Terminal	Connector Terminal		Continuity
RH	E9	91	E28	8	Existed
LH	LJ	92	E58	8	LAISIEU

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

6.CHECK PARKING LAMP GROUND OPEN CIRCUIT

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

Fro	nt combinat	ion lamp		Continuity
Connector		Terminal	Ground	Continuity
RH	E28	4	Ground	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

Description INFOID:000000004347113

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

INFOID:0000000004347114

1. CHECK TURN SIGNAL LAMP

(P)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

INFOID:0000000004347115

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

(P)CONSULT-III ACTIVE TEST

- Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector or the rear combination lamp connector.
- 3. Turn the ignition switch ON.
- 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	
(+)		(-)	1631 16111	Voltage (Approx.)	
	ВСМ			FLASHER	voltage (Approx.)
Conne	ector	Terminal		TEASILIN	
Front RH		17			(V) 15
Front LH	M119	18	Ground	LH or RH	5 0 1 s PKID0926E
Rear RH	M400	20		0"	0.1/
Rear LH	M120	25		Off	0 V

Is the measurement value normal?

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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YES >> GO TO 3.

NO >> Replace BCM.

3.check turn signal lamp open circuit

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

ВСМ			Front combination lamp/ Rear combination lamp		Continuity
Connector Terminal		Terminal	Connector	Terminal	
Front RH	M119	17	E28	6	
Front LH	IVITIE	18	E58	6	Existed
Rear RH	M120	20	B261	1	EXISTEC
Rear LH	IVITZU	25	B260	1	

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between the BCM harness connector and the ground.

	BCM			Continuity
Connector		Terminal		Continuity
Front RH	M119	17	Ground	
Front LH	M120	18	Glound	Not existed
Rear RH		20		Not existed
Rear LH		25		

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 5.

5. CHECK TURN SIGNAL LAMP GROUND OPEN CIRCUIT

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

	t combination or combination	•		Continuity
Connector Terminal				
Front RH	E28	4	Ground	
Front LH	E58	4		Existed
Rear RH	B261	2		Existed
Rear LH	B260	2		

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

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OPTICAL SENSOR

Description INFOID:0000000004347116

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

Component Function Check

INFOID:0000000004347117

1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT-III

(P)CONSULT-III DATA MONITOR

- 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

INFOID:0000000004347118

1. CHECK OPTICAL SENSOR POWER SUPPLY INPUT

- 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	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 (Approx.)
Optica	sensor		(Approx.)
Connector Terminal		Ground	
M94	3		0 V

Is the measurement value normal?

YES >> GO TO 3.

NO >> GO TO 6.

3.check optical sensor signal output

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< DTC/CIRCUIT DIAGNOSIS >

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

	Terminals		Condition	Voltage	
(+	.)	(-)	Condition		
Optical sensor			Optical sensor	(Approx.)	
Connector	Terminal	Optical Selisor			
	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?

YES >> GO TO 7.

NO >> Replace the optical sensor.

4. CHECK OPTICAL SENSOR OPEN CIRCUIT

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

Optical sensor		В	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.

$\mathsf{6}.$ CHECK OPTICAL SENSOR GROUND OPEN CIRCUIT

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

Optical sensor		В	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

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

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Optical	Optical sensor		BCM		
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.

-	Optical	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 >

[XENON TYPE]

HAZARD SWITCH

Description INFOID:0000000004347119

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

Component Function Check

INFOID:0000000004347120

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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	Condition		Monitor status
HAZARD SW Hazard	Hazard switch	While pressing the switch	On
	Tiazaiu 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

INFOID:0000000004347121

1. CHECK HAZARD SWITCH SIGNAL INPUT

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

Terminals (+) (-)			Condition	Voltage (Approx.)	
		(-)	Condition		
ВС	M		Hazard switch	voltage (Approx.)	
Connector	Terminal		Tiazaid Switch		
			While pressing the switch	0 V	
M122	110	Ground	While not pressing the switch	(V) 15 10 5 0 10 ms JPMIA0012GB	

Is the measurement value normal?

YES >> Replace BCM.

NO >> GO TO 2.

$2.\mathsf{CHECK}$ HAZARD SWITCH SIGNAL OPEN CIRCUIT

- 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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Multifunc	Multifunction switch		BCM		
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.

Multifunc	tion switch		Continuity
Connector	Connector Terminal		Continuity
M72	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.

Multifunc	tion switch		Continuity
Connector	Connector Terminal		Continuity
M72	1		Existed

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

TAIL LAMP CIRCUIT

Component Function Check

INFOID:0000000004347122

1. CHECK TAIL LAMP OPERATION

■IPDM E/R AUTO ACTIVE TEST

- Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".
- Check that the tail lamp is turned ON.

PCONSULT-III ACTIVE TEST

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

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TAIL : Tail lamp ON Off : Tail lamp OFF

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Is the tail lamp turned ON?

YES >> Tail lamp circuit is normal.

>> Refer to EXL-85, "Diagnosis Procedure". NO

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Diagnosis Procedure

INFOID:0000000004347123

1. CHECK TAIL LAMP FUSE

Turn the ignition switch OFF.

Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Tail lampRear side marker lampLicense plate lamp	IPDM E/R	#53	10 A

Is the fuse fusing?

YES >> Repair the malfunctioning part before replacing the fuse.

NO >> GO TO 2.

K

2.CHECK TAIL LAMP OUTPUT VOLTAGE

(P)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.
- With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

	Terminals	Test item			
(-	+)	(-)	rest item	Voltage	
IPDM E/R			EXTERNAL	(Approx.)	
Connector	onnector Terminal Groun		LAMP		
E5	7	Oround	TAIL	Battery voltage	
	,		Off	0 V	

Is the measurement value normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R.

3.CHECK TAIL LAMP OPEN CIRCUIT

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

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EXL-85 Revision: 2010 March 2009 EX35

TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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

IPDM E/R		Rear combination lamp		Continuity	
C	Connector	Terminal	Connector	Terminal	Continuity
RH	Es	7	B232	1	Existed
LH	E5 7		B60	1	Existed

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	Glound	Existed
LH	B60	4		Existed

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

LICENSE PLATE LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

LICENSE PLATE LAMP CIRCUIT

Component Function Check

INFOID:0000000004347124

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NOTE:

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

1. CHECK LICENSE PLATE LAMP OPERATION

PIPDM E/R AUTO ACTIVE TEST

- 1. Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".
- Check that the license plate lamp is turned ON.

®CONSULT-III ACTIVE TEST

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

TAIL : License plate lamp ON
Off : License plate lamp OFF

Is the license plate lamp turned ON?

YES >> License plate lamp circuit is normal.

NO >> Refer to EXL-87, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004347125

1. CHECK LICENSE PLATE LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

2.CHECK LICENSE PLATE LAMP OPEN CIRCUIT

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

Continuity	late lamp	License p	IPDM E/R			
Continuity	Terminal	Connector	Terminal	onnector	С	
Existed	1	D117	7	E5	RH	
Existed	1	D112	7	Eo		

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3.check license plate lamp ground open circuit

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

	License plate	alamp		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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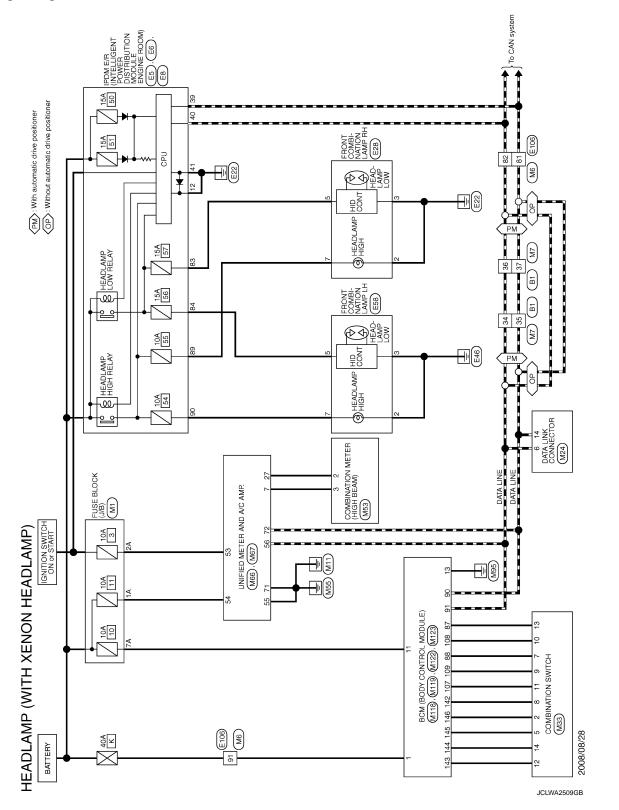
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INFOID:0000000004347126

HEADLAMP SYSTEM

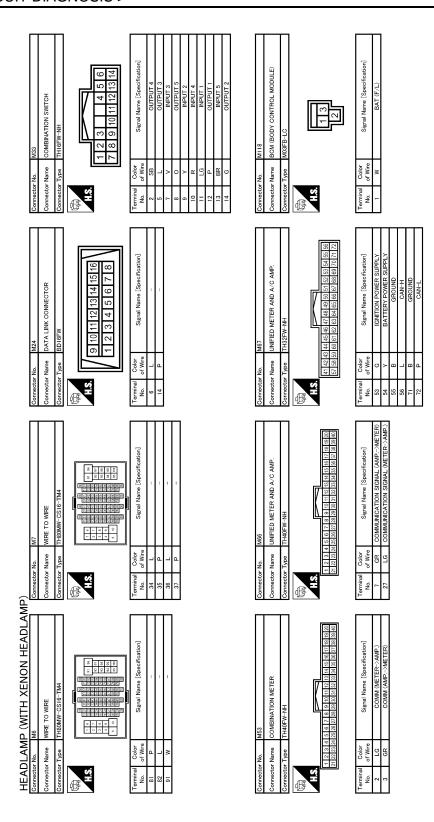
Wiring Diagram - HEADLAMP -



HEADLAMP SYSTEM

ROOM)		А
EB FR (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) NSOBFW-CS 85	OCK (J/B) M2 2A 1A 7A 6A 5A 4A Signal Name [Specification]	В
	M1 FUSE BL NSOGFW BA	С
Connector No. Connector Name Connector Type Connect	Connector No. Connector Type	D
		E
E6 INDEAE (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) THOSPW-NH 42 41 40 38 46 45 44 43 Signal Name [Specification]	WRE CS16-TM4 CS16-TM4 CS16-TM4 Signal Name [Specification]	F
	MAR T T T T T T T T T T T T T T T T T T T	G
Connector No. Connector Name Connector Type II.S. II.S. 39 P P 41 B.W. 41 B.W.	Connector No. Connector Name Connector Type Connector Type Color No. of Wire 81 R 82 R 82 R 82 R 82 R 82 R 84	Н
Pro (M)		
	FRONT COMBINATION LAMP LH RS08FB-PR T 2 3 4 Signal Name [Specification]	I
	FRONT C	J
onnector onnector onnector onnector	Connector No. Connector Name Connector Type Connector Name Connec	K
ADLAMP		EXL
WHE CSIG-TMA CSIG-TMA Signal Name (Specification)	Signal Name [Specification]	M
BE WIRE TO WIRE THE THEOFUN-CS IG THE SECOND	FRONT COMBINATION LAMP RHRS09FB-PR	N
	ttor Name Stor No. Story Name Story No. Story Name Story No. St	0
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EXL-89 Revision: 2010 March 2009 EX35



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HEADL	AMP (WI	HEADLAMP (WITH XENON HEADLAMP)						
Connector No.	M119		Connector No.	r No.	M122	Connector No.		M123
Connector Name	me BCM (BOI	BCM (BODY CONTROL MODULE)	Connector Name		BCM (BODY CONTROL MODULE)	Connector Name	Name	BCM (BODY CONTROL MODULE)
Connector Type	pe NS16FW-CS	cs	Connector Type	r Type	TH40FB-NH	Connector Type	П	TH40FG-NH
₽ H.S.	7	7	是 HS.			€ H.S.		
	4 5 6 11 12 13	14 15 16 17 18 19	الخلقا	91 90 89 88	91 90 80 80 81 80 85 84 80 82 81 80 70 73 77 76 75 74 73 72 72 72 72 72 72 72 72 72 72 72 72 72	812	1 150 149 148	त्र । हा हम
Terminal Co No. of	Color of Wire	Signal Name [Specification]	Terminal No.	Color of Wire	Signal Name [Specification]	Terminal No.	Color of Wire	Signal Name [Specification]
1	2	BAT (FUSE)	87	BR	COMBI SW INPUT 5	142	0	COMBI SW OUTPUT 5
13	В	GND	88	^	COMBI SW INPUT 3	143	Ь	COMBI SW OUTPUT 1
			06	d	CAN-L	144	9	COMBI SW OUTPUT 2
			91	٦	CAN-H	145	٦	COMBI SW OUTPUT 3
			107	LG	COMBI SW INPUT 1	146	SB	COMBI SW OUTPUT 4
			108	В	COMBI SW INPUT 4			
			109	Υ	COMBI SW INPUT 2			

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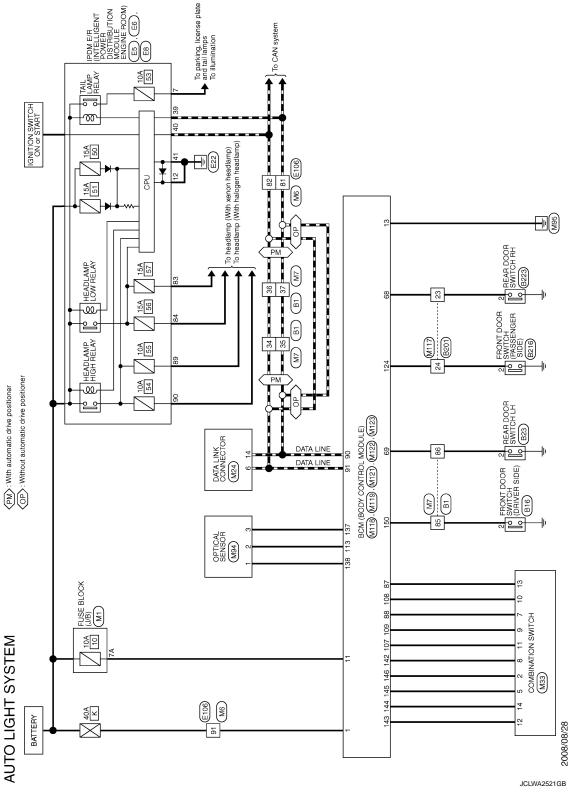
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AUTO LIGHT SYSTEM

Wiring Diagram - AUTO LIGHT SYSTEM -

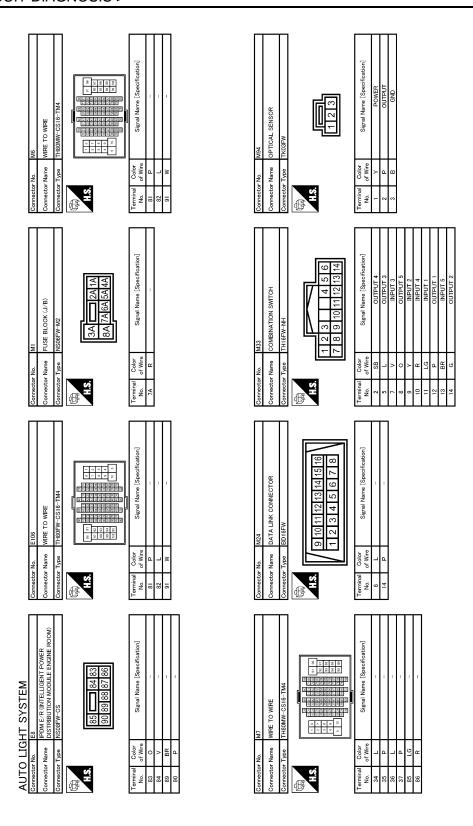
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AUTO LIGHT SYSTEM

WIRE TO WIRE THOOFW-CS.16-TM4 ** Thoofwell to the time of the tim	E6 THOMA CR (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) THOSEW-NH 42 41 40 39 46 45 44 43 Signal Name (Specification)	АВ
Connector No. B201 Connector Type WIRE TO WIRE Connector Type TH80FW-CS16	Connector No. E6	C D
OR SWITCH LH Signal Name [Specification]	ES PEDM E-R (NITELLGENT POWER DISTRIBUTION MODILE ENGINE ROOM) TH20FW-CS12-M4-1V TH	E
B23 B23 A03FW B A03FW B A03FW B A03FW B A03FW B B B B B B B B B	e 0 4 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	G
Connector Nar Connector Type Terminal Col No. of O No. o	Connector Nam Connector Type List Terminal Torm To	Н
Bile FRONT DOOR SWITCH (DRIVER SIDE) A03FW Signal Name [Specification]	REAR DOOR SWITCH RH A03FW Signal Name [Specification]	J
Connector No. B16 Connector Type A03 Connector Type A03 Terminal Color No. Type A03 2 v	Connector No. 65 Connector Name RE Connector Type AC No. of Wise 2 BR	К
		EXL
O WIRE W-CS16-TM4 W-CS16-TM4 Signal Name (Specification)	BE16 FRONT DOOR SWITCH (PASSENGER SIDE) AGBFW Signal Name [Specification]	М
HT SYSTEM BI RI WRE TO WRE THEOPH-CSIG-TMA Signal Nam		N
AUTO LIGHT SYSTEM Connector No. Bii Connector Name Wire TO Wire Connector Type TH80PW-CS16-TM4 M. M	Connector No. Connector Type Connector Type Terminal Color No. 2 GR	0
		JCLWA2522GB

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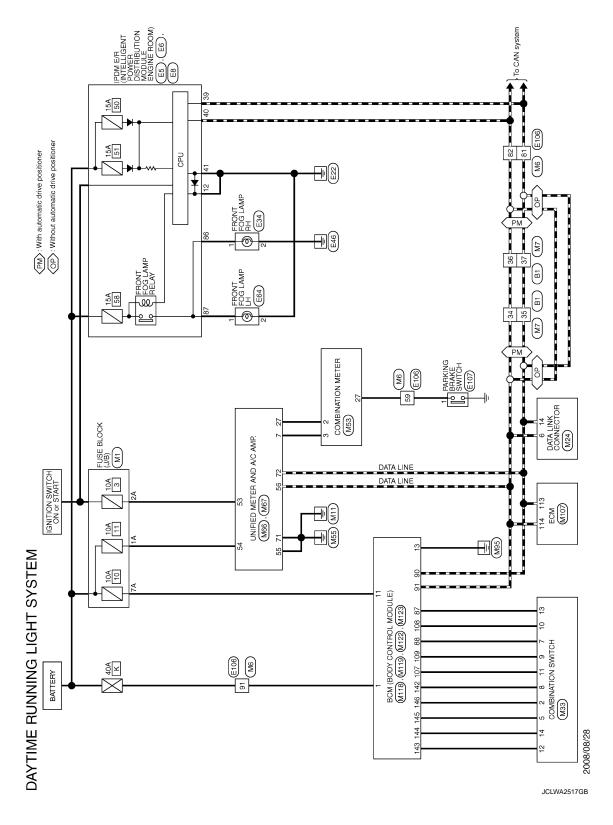
				А
DY CONTROL MODULE) -NH -NH -NH -NH -NH -NH -NH -N				В
(B) (B) (B) (B) (B)				С
Commettor No. M12				D
9 10 18 19 16 15 15 15 15 15 15 15 15 15 15 15 15 15				Е
SONTROL MC 15 16 17				F
MI19 BCM (800 NS16FW 11 12 13				G
Connector No. Connector Name Connector Type List Color No. of Wire 13 B				Н
[5]		on] NW NW SUBPLY 2 2 4 4		
MOSTB-LC MOSTB-LC Signal Name [Specification] BAT (F/L)	MIZ3 TH40FG-NH TH40FG-NH TH40FG-NH TH40FG-NH	Signal Name [Specification] OPUCAL SENSOR PASSENGER DOOR SW REGENER/SENSOR RAID RECHER/SENSOR POWER SUPPLY COMEI SW OUTPUT 5 COMEI SW OUTPUT 2 COMEI SW OUTPUT 3 COMEI SW OUTPUT 3 COMEI SW OUTPUT 3		1
M118 BCM (BC) M03FB-L	M123 BCM (BODY OC TH40FG-NH SCHEEDER CORE	 		J
Connector No. Connector Name Connector Type II.S. I of Wire W	Connector No. Connector Type H.S. H.S. Electrical Connector Type	Terminal Color No. of Wire No. 1124 LG 1124 C 1124 C 1142 C 1142 C 1144 C 1146		K
				EXL
WIRE CSIG-TMA CSIG-TMA Signal Name (Specification)	COL MODULE)	Signal Name [Specification] COMBI SW INPUT 5 COMBI SW INPUT 3 CAN-L COMBI SW INPUT 1 COMBI SW INPUT 1 COMBI SW INPUT 2		M
HT SYSTEM MIT) THEORIN' CSIG-TM4 THEORIN' CSIG-TM4 Signal Name [Signal	M122 TH40FB-NH TH40FB-NH TH60FB-NH SI SE	Signal Narr COMBI COMBI COMBI COMBI COMBI		N
No. Name Type	Connector No. M122 Connector Name BCM Connector Type TH40F MA. H.S. TH60E B B B B B B B B B B B B B B B B B B B	Color Of Write BR R R R R R R R R R R R R R R R R R R		0
Commercial Commercial National	Conne	Terminal To No. 100 1007 1109	JCLWA2524GB	O
				Р

Revision: 2010 March EXL-95 2009 EX35

DAYTIME RUNNING LIGHT SYSTEM

Wiring Diagram - DAYTIME LIGHT SYSTEM -

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DAYTIME RUNNING LIGHT SYSTEM

MANTAIRE GLANNING LIGHT SYSTEM Contact in the co	NT POWER POOM) LE ENGINE ROOM) 83	Signal Name [Specification]	но	Signal Name [Specification]		АВ
DATATHE RUNNING LIGHT SYSTEM Common law Provide the provided	EE PROM E. P. (INTELLIGE DISTRIBUTION MODUL NSOBFW-CS STORT		PARKING BI	Ш		С
Secretarian Education Control	Connector No. Connector Typ		Connector Nan Connector Typ			D
DAYTIME RUNNING LIGHT SVSTEM Connector Name Bright Street To Bright Control of Name Bright Street To Bright Control of Name Bright Street To	NE ROOM)	lation]		ation]		Е
DAYTIME RUNNING LIGHT SVSTEM Connector Name Bright Street To Bright Control of Name Bright Street To Bright Control of Name Bright Street To	A E.R. (INTELLIGENT POW PRENTION MODULE ENG SPW-NH 42 41 40 39 46 45 44 43	Signal Name (Specific	TO WIRE TO WIRE TO THE T	Signal Name (Specific		F
DAYTIME RUNNING LIGHT SYSTEM Connector No. 6 Connector	o.		₽ ₽	Color of Wire		G
DAYTIME RUNNING LIGHT SYSTEM Connector Name	Connec	Termir No. 0. 40 40 41 41 41	Connec	7 Permir No. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.		Н
DAYTIME RUNNING LIGHT SYSTEM Connector Name	LIGENT POWER ODULE ENGINE ROOM) 4-1V 828 SESTERES S 38 38	ame [Specification]	Had 60	ame [Specification]		I
DAYTIME RUNNING LIGHT SYSTEM Connector Name	5 ISTRIBUTION M HZOFW-CS12-M MADEW GS0278 21314 GS0278 1 7 8 GS0278	Signal N	64 CI_240PC023S4(Signal N		J
Connector Nume Bit	1 = 0	Terrinal Color No. of Wire 12 B.W	₽ ₽			K
Connector Name Integrate CS16-TM4 Connector Name I	YSTEM					EXL
Connector Name WIRE TO Connector Name WIRE TO Connector Name WIRE TO Connector Name WIRE TO Connector Name Connector Name FRONT FOR TO Marie TO of Wire TO Connector Name FRONT FOR TO Marie TO OF Wire TO OF WIR		Adi Name (Specificatio	LAMP RH	nal Name [Specificatio		M
JCLWA2518GB	RUNNIF BI TH80FW-CS					Ν
JCLWA2518GB	DAYTIME Connector No. Connector Type M.S. H.S.		Connector No. Connector Type			0
	<u></u>				JCLWA2518GB	Р

Revision: 2010 March EXL-97 2009 EX35

Connector No. M24 Connector Name DATA LINK CONNECTOR Connector Type BD16FW 4.5 1.2 1.2 3 4 5 6 7 8	Terminal Color Signal Name [Specification] Or Wire C L	Connector Name UNIFIED METER AND A/O AMP. Connector Type TH32FW-NH 11432FW-144 1152 451 441 451 661 146 451 551 551 551 551 551 551 551 551 551	Terminal Color Signal Name [Specification]
Connector No. M7 Connector Type TH80MW-CS16-TM4 LAS LAS LAS LAS LAS LAS LAS LA	Terminal Color Signal Name [Specification] No. of Wire Signal Name [Specification] 134 L	Connector No. M66 Connector Name UNIFIED METER AND A/C AMP. Connector Type TH40FW-NH H.S. T 2 4 5 6 7 8 9 9 9 1 1 1 1 1 1 1	Terminal Color Signal Name [Specification] No. Of Wire Signal Name [Specification] T GR COMMUNICATION SIGNAL (METER-)AMP.] LG COMMUNICATION SIGNAL (METER-)AMP.]
Connector No. M6 Connector Name WIRE TO WIRE Connector Type ITHOWN'CSIG-TM4 H.S. ITHOWN'CSIG-TM4 THOWN'CSIG-TM4 THOWN'CSIG-	Terminal Goldor Signal Name [Specification] No. of Wire Signal Name [Specification] Signal Name [Specification]	Miss Miss Miss Connector Name COMBINATION METER Connector Type TH40FW-NH Miss Miss	Terminal Golor Signal Name [Specification] No. of Wire Signal Name [Specification] 2
DAYTIME RUNNING LIGHT SYSTEM Gornector Name Fuse BLOCK (J/B) Connector Type NSOBTW-NZ A.S. 3A 2A 1A RATAGA 5A 4A	Terminal Color No. of Wire Signal Name Specification	Connector Name COMBINATION SWITCH Connector Type THISFW-NH 1 2 3 14 5 6 7 8 9 10 11 12 13 14 14 5 6 7 8 9 9 10 11 12 13 14 15 8 15 8 9 10 11 12 13 14 15 8 15 8 9 10 11 12 13 14 15 8 15 8 9 10 11 12 13 14 15 8 15 8 9 10 11 12 13 14 15 8 15 8 9 10 11 12 13 14 15 8 9 9 10 11 12 13 14 15 8 9 9 10 11 12 13 14 15 8 9 9 10 11 12 13 14 15 8 9 9 10 11 12 13 14 15 8 9 9 10 11 12 13 14 15 8 9 9 10 11 12 13 14 15 8 9 9 10 11 12 13 14 15 8 9 9 10 11 12 13 14 15 8 9 9 10 11 12 13 14 15 8 9 9 10 11 12 13 14 15 8 9 9 10 11 12 13 14 15 8 9 9 10 11 12 13 14 15 8 9 9 10 11 12 13 14 15 8 9 9 9 10 11 12 13 14 15 8 9 9 10 11 12 13 15 8 9 9 10 11 12 15 8 9 9 10 11 12 15 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Terminal Color Signal Name [Specification] Color Signal Name [Specification] Color Color

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DAYTIME RUNNING LIGHT SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

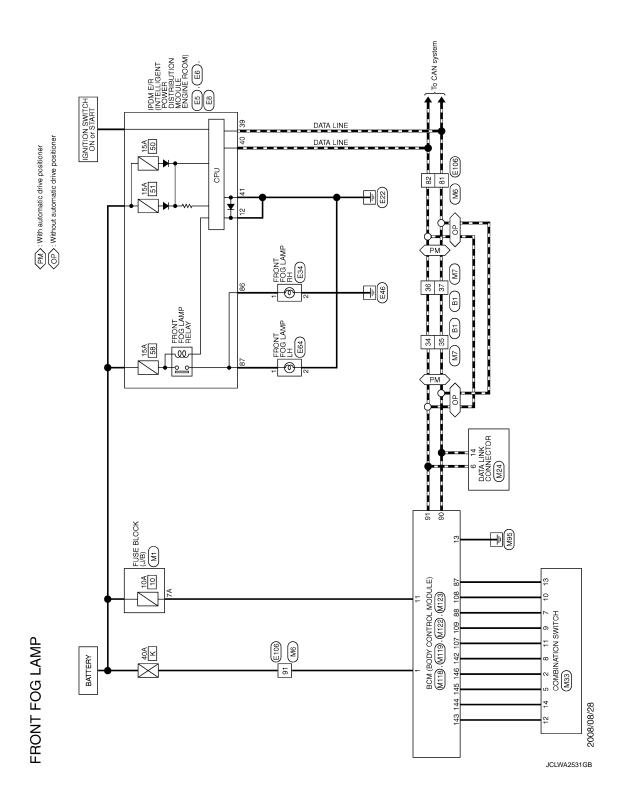
MAZZ BCM (BODY CONTROL MODULE) TH40FB-NH TH40FB-NH SIGNED BE		В
M122 Connector No. M122 Connector Name BOM (BOD) Connector Type TH40FB-NH M22 M3 M3 M3 M3 M3 M3 M		C D
OY CONTROL MODULE) CS 7		E
M119		G
		H
Name BCM (BODY CONTROL MODULE) Types MUGFB-LC Tipe (13) Color Signal Name (Specification) W BAT (F/L)		J K
Connector Connector Connector Terminal No.		EXL
SYSTE CIRCUITS CONTRACTOR CONTRAC	MI23 THAFFG-NH THAFFG-NH Signal Name [Speadfeatton] COMBI SW OUTPUT 1 COMBI SW OUTPUT 2 COMBI SW OUTPUT 3 COMBI SW OUTPUT 3 COMBI SW OUTPUT 4	M
TIME RUNN No. MIOT Type RH24FG/ TYPE TIME TO O'N'N'N'N'N'N'N'N'N'N'N'N'N'N'N'N'N'N'	M123 M123	N
DAYTIME Connector Nume Connector Type Connector Type H.S. H.S. 113 P 114 L	Connector No. Connector Name Connector Name Connector Name No. 143 144 144 144 144 144 144 144 144 144	0
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Revision: 2010 March EXL-99 2009 EX35

FRONT FOG LAMP SYSTEM

Wiring Diagram - FRONT FOG LAMP -

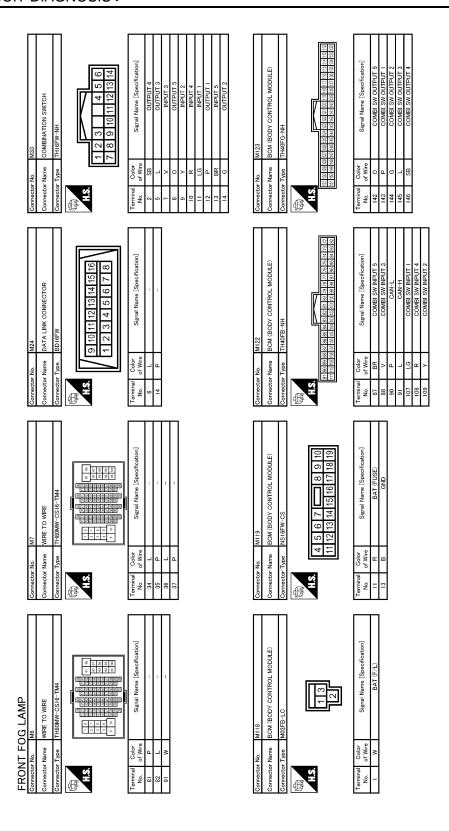
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FRONT FOG LAMP SYSTEM

EB NOWER COMPLETED TO WER INSOGRIFF GOOM) NSOGRIFF GOOM) NSOGRIFF ELOCK (J. R) Signal Name [Specification] Signal Name [Specification] Signal Name [Specification]	АВ
	С
Connector No. Connector Type Connector No. Connector No. Connector Name SS W SS W SS W ST L Connector Name	D
POWER POOM) Pacification] pacification]	Е
Signal Name [S. Signal Name [S	F
Name Name Ookler Type B.W. Wire	G
Connector Nar Co	Н
ES THEODY FOWER DISTRIBUTION MODILE ENGINE ROOM) THEODY CS12-M4-1V THEODY CS12-M4-1V THEORY FOR LAMP LH FRONT FOR LAMP LH FRONT FOR LAMP LH FOR 240P-002354019 Signal Name [Specification]	I
EE TRONE CR. QUITELLIGER DISTINGTION MODILIGE THEORY CS12-M4-1V TH	J
Connector No. E5	К
	EXL
WIRE SIG-TM4 Signal Name (Specification) Signal Name (Specification)	М
Mare 1 1 1 1 1 1 1 1 1	N
Connector Name Connec	0
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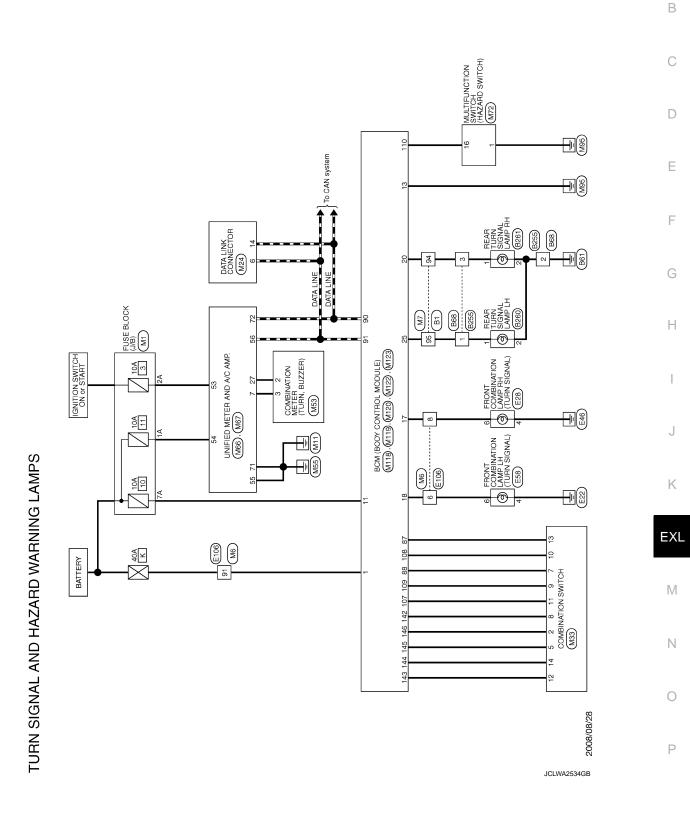
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[XENON TYPE]

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

Wiring Diagram - TURN AND HAZARD WARNING LAMPS -

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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

[XENON TYPE]

TURN SIGNAL AND HAZARD WARNING LAMPS	NG LAMPS					
Connector No. B1	Connector No.	868	Connector No.	B255	Connector No.	B260
Connector Name WIRE TO WIRE	Connector Name	WIRE TO WIRE	Connector Name	WIRE TO WIRE	Connector Name	REAR TURN SIGNAL LAMP LH
Connector Type TH80FW-CS16-TM4	Connector Type	RH08MB	Connector Type	RH08FB	Connector Type	HS02FG-W
# 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	E SE	1 2 3 4 5 6 7 8	H.S.	44 3 2 1 8 7 6 5	E S.	
Terminal Color Signal Name [Specification] Color Signal Name [Specification] 94 SB	Color Color No. Of Wire Color Color Color Color Color Color Color Color	Signal Name [Specification]	Terminal Color No. of Wire 1 G 2 B 2 B 3 V	Signal Name [Specification]	Terminal Color No. of Wire 1 G 2 B	Signal Name [Specification]
Connector No. B261	Connector No.	E28	Connector No.	E58	Connector No.	E106
Connector Name REAR TURN SIGNAL LAMP RH	Connector Name	FRONT COMBINATION LAMP RH	Connector Name	FRONT COMBINATION LAMP LH	Connector Name	WIRE TO WIRE
Connector Type HS02FG-W	Connector Type	RS08FB-PR	Connector Type	RS08FB-PR	Connector Type	TH80FW-CS16-TM4
SH.	语:	6 6 7 8 4 8 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	H.S.	5 5 7 8 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	€ E	
Terminal Color Signal Name [Specification] No. of Wire Signal Name [Specification]	Terminal Color No. of Wire	Signal Name [Specification]	Terminal Color No. of Wire	Signal Name [Specification]	Terminal Color No. of Wire	Signal Name [Specification]
H	4 B/W	Т	ª	=	H	1
2 B = -	9		9		8 8	1 1

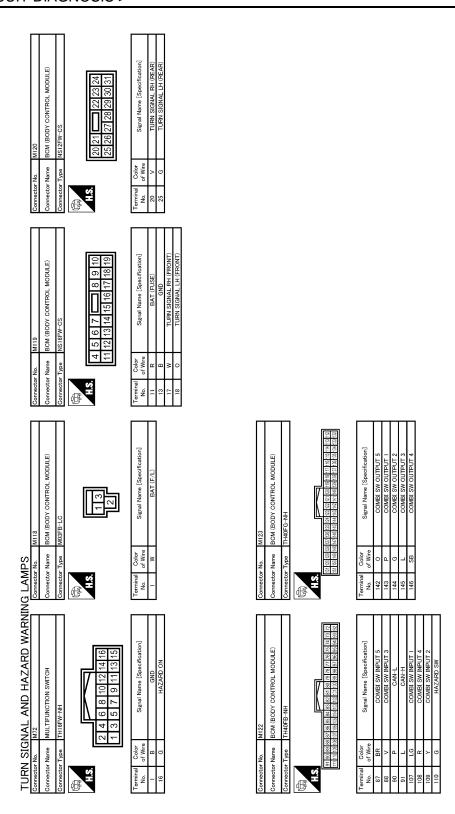
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS > [XENON TYPE]

Connector No. M24 Connector Name DATA LINK CONNECTOR Connector Type BD16FW	Connector No. M67	A B C
Connector No. M7 Connector Type MRE TO WRE Connector Type TH80MW-CS 16-TM4 The Connector Type TH80MW-CS 16-TM4 Terminal Color Signal Name [Specification] Terminal Color Signal Name [Specification]	Connector No. M66	E F G
NG LAMPS Connector None Wife TO WIFE Connector Type THEOMY-CS16-TM4 Terminal Color No. of Wire No. of Wire Signal Name (Specification) 8 W 91 W	Connector No. M53	J K
TURN SIGNAL AND HAZARD WARNING Connector Nu. MI Connector Nume FUSE BLOOK (J/B) Connector Type NSOBTW-M2 A A A A A A A A A	Connector No. M33 Connector No. M33 Connector Name Connector Name Conditional Name Connector Type THISFW-NH T Z 3 4 5 6	M N O

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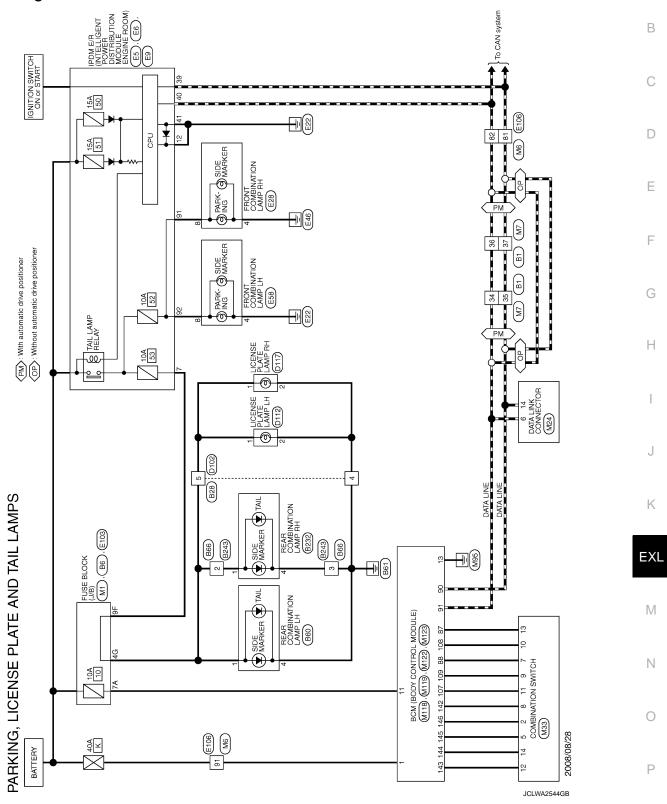
[XENON TYPE]

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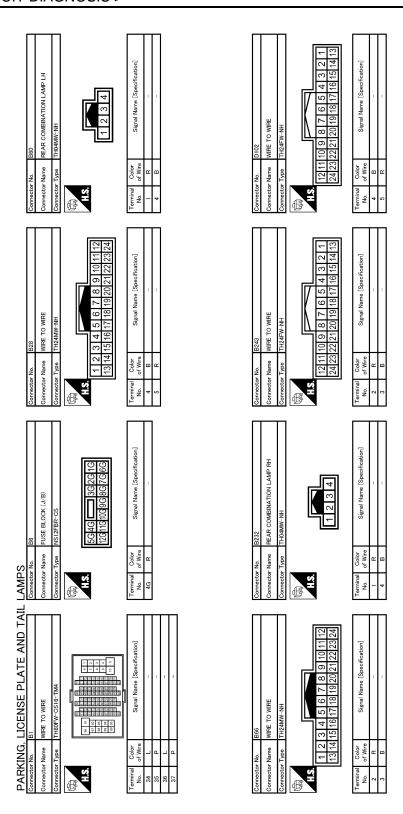
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

Wiring Diagram - PARKING, LICENSE PLATE AND TAIL LAMPS -



PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

[XENON TYPE]



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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

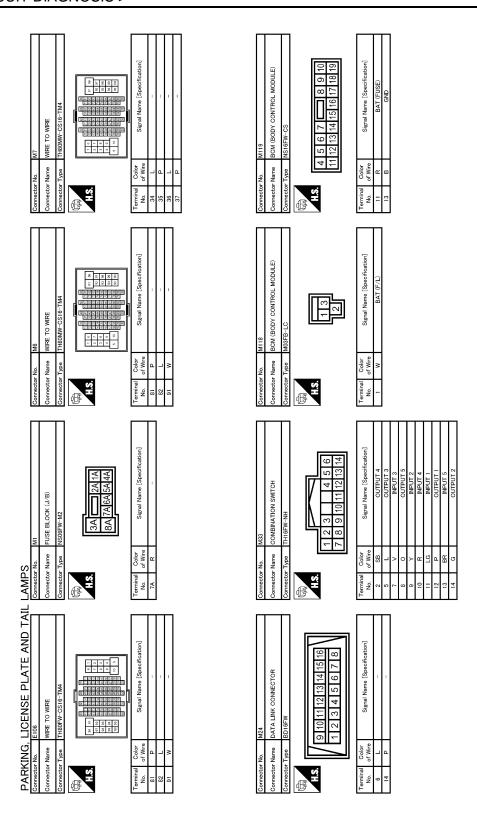
< DTC/CIRCUIT DIAGNOSIS > [XENON TYPE]

Connector No. E6	Connector No E103	A B C
NT POWER LE ENGINE ROOM) GRIEGES 37 38 Grieges 35 38 Greenfoation]	VATON LAMP LH 3 4 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 8 8 8 9 9 8 9 9 9 9 9 9 9 9	E
Connector No. E5	Connector No E58 Connector Name FRONT COMBI Connector Type RS08TB-PR Co	G
LICENSE PLATE LAMP RHI TROZ-BR Signal Name (Specification)	FRONT COMBINATION LAMP RH RSOBFB-PR 1 2 3 4 5 6 7 8 Signal Name [Specification]	I
Connector No. D117 Connector Name LICENSE Connector Type TKOZFBR No. of Wer I R R 2 B	Connector No. E28 Connector Name FRONT COM Connector Type RSS08FB-PR HS. Of Wire No. of Wire Sur	J K
NSE PLATE AND TAIL PLATE LAMP LH Signal Name [Specification]	EBOM E.R. (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) THISTW-NH Signal Name [Specification]	EXL
DARKING, LICENSE PLATE AND TA Connector Name LICENSE PLATE LAMP LH Connector Type IROZEBR ALS Terminal Color Signal Name [Specification] 1 R 2 B 2 B	Cornector No. E9 POME PR UNIT	N O
		JCLWA2546GB

Revision: 2010 March **EXL-109** 2009 EX35

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

[XENON TYPE]



JCLWA2547GB

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< DTC/CIRCUIT DIAGNOSIS > [XENON TYPE]

/IPS	Connector No. M123	Connector Name BCM (BODY CONTROL MODULE)	Connector Type TH40FG-NH		inal Color Signal Name [Specification]	2 O COMBI SW OUTPUT 5	3 P COMBI SW OUTPUT 1	4 G COMBISW OUTPUT 2	5 L COMBI SW OUTPUT 3	6 SB COMBI SW OUTPUT 4		
Sc			П	2 3	Color of Wire				L COMBI SW OUTPUT 3			
LAME	Connect	Connect	Connect	H.S.	Terminal No.	142	143	144	145	146		
AIL	П		_								_	
-			ш		ı	Г			Г	Г		
LICENSE PLATE AND 7	M122	BCM (BODY CONTROL MODULE)	TH40FB-NH		Signal Name [Specification]	COMBI SW INPUT 5	COMBI SW INPUT 3	CAN-L	CAN-H	COMBI SW INPUT 1	COMBI SW INPUT 4	COMBI SW INPUT 2
PARKING, LICENSE PLATE AND TAIL LAMPS	Connector No. M122	Connector Name BCM (BODY CONTROL MODULE)	Connector Type TH40FB-NH		Terminal Color Signal Name [Specification]	BR COMBI SW INPUT 5	V COMBI SW INPUT 3	P CAN-L	L CAN-H	LG COMBI SW INPUT 1	R COMBI SW INPUT 4	Y COMBI SW INPUT 2

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JCLWA2548GB

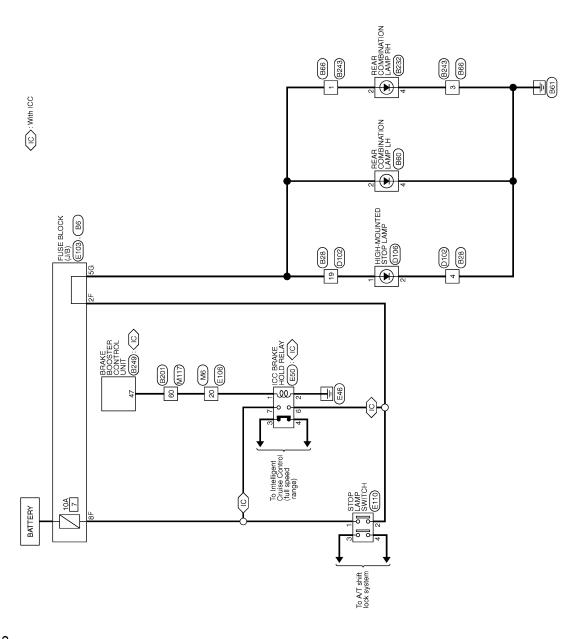
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Revision: 2010 March **EXL-111** 2009 EX35

STOP LAMP

Wiring Diagram - STOP LAMP -

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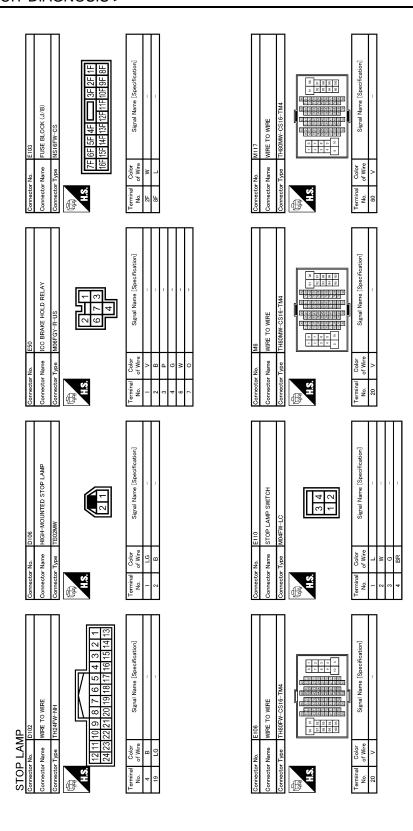


STOP LAMP

87/80/80/8000 JCLWA2538GB

111 23 24	8	NIT NIT SIGNAL		Α
7 8 9 10 8 19 20 21 22	Signal Name [Specification]	BRAKE BOOSTER CONTROL UNIT TX24FGY 26 27 28 29 40 41 42 35 36 37 38 39 40 41 42 35 36 37 38 39 40 41 42 35 36 37 38 39 40 41 42 Signal Name [Specification] BRAKE HOLD RLY DRIVE SIGNAL		В
No. B866 Name WIRE TO WIRE Type THZAMW-NH 1 2 3 4 5 6 13 14 15 16 17 18		15 2 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		С
Connector No. Connector Name Connector Type H.S.	Terminal Color	Connector None Connector Type Connector Type 134 143 143 143 144 15 15 15 15 15 15 15 15 15 15 15 15 15		D
3	freation	3 2 1 14 13 14 13 14 13 14 13 14 15		Е
BB0 THOMMY-NH THOMMY-NH TT 2 3 4	Signal Name [Specification]	PWRE		F
	Color of Wire LG	B243 WRE TO 1109 0 222 1120 0 9 1		G
Connector No Connector Name Connector Type	Terminal No.	Connector Nome Connector Type		Н
9 10 11 12 21 22 23 24	pecification]	MP RH		I
вая чиет то wire тначми-гин	Signal Name [Specification]	REAR COMBINATION LAMP RH THOMAWW-NH Signal Name [Specification]		J
Connector No. B28 Connector Name WIRE TC Connector Type TH24MM LS.	Color of Wire B B B LG	Name Type of Wire LG B B		K
Conne	Terminal No.	Connector Connector Connector In No. No. 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		EXL
52G1G 57G6G	Signal Name [Specification]	WIPE CS 16 - TM4 Signal Name (Specification)	-	M
P B6 B6 B6 B6 B6 B6 B6	Signal Nam	WIPE TO WIPE THEORY-CS-16-TM4 Signal Name (St.		Ν
STOP LAMP Connector No. Bis Connector Name FLU Connector Type NSI LLS EGG LLS LLS EGG LLS LLS EGG LLS	Terminal Color No. of Wire 5G LG	ector No. Bector No. Color inial Color of Wire Color LG Color LG Color C		0
이임 및 임[[ⓒ ▲	F	O Common Tem	JCLWA2539GB	
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Revision: 2010 March **EXL-113** 2009 EX35



JCLWA2540GB

BACK-UP LAMP

Wiring Diagram - BACK-UP LAMP -

INFOID:0000000004347133

31 M116 F103 IGNITION SWITCH ON or START

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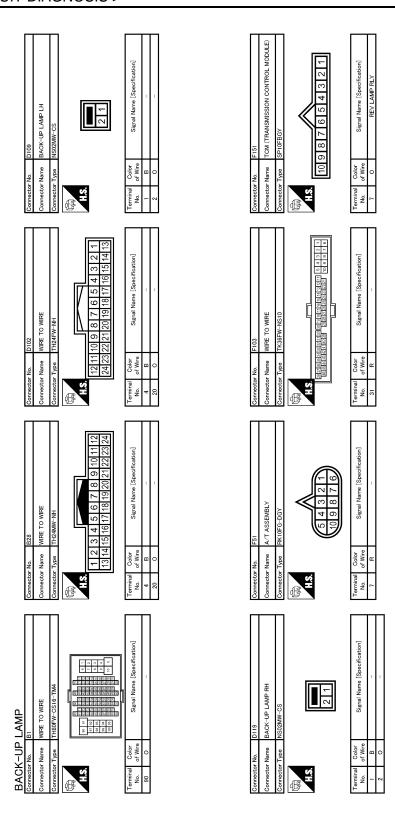
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JCLWA2541GB

2008/08/28

BACK-UP LAMP



JCLWA2542GB

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or Name WIRE TO WIRE Trype Tryslam-NSIO Color Signal Name [Specification] Wife Signal Name [Specification]	В
No Wife To wife	С
Connector No. Connector Name Connector Type Terminal No. Orloy Terminal Orloy W. W. W. W. W. W. W. W. W. W	D
jifeation)	Е
BACK-UP LAMP RELAY MS02FL-M2-LC Signal Name [Specification]	F
Name of Oder of the control of the c	G
Connector No. Connector Name Connector Name No. Framinal Color 1 R 1 R 2 R 2 R 2 R 2 R 2 R 2 R 2 R 2 R	Н
WIRE -OS 16-TM4	I
	J
ector No.	K
	EXL
OOK (J/B) OOK (J/B) OOK (J/B) Signal Name [Specification]	M
HOSTSEW FUSE BL 120110	N
Connector Name Connector Name Connector Name Connector Type Conn	0
JCLWA2543GB	Р

EXL-117 2009 EX35 Revision: 2010 March

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

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
TIX WIII EIX TIII	Front wiper switch HI	On
FR WIPER LOW	Other than front wiper switch LO	Off
	Front wiper switch LO	On
FR WASHER SW	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
FR WIPER INT	Other than front wiper switch INT	Off
FR WIFER IN	Front wiper switch INT	On
FR WIPER STOP	Front wiper is not in STOP position	Off
FR WIFER STOP	Front wiper is in STOP position	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
RR WIPER ON	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
DD MACHED OW	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
DD WIDED OTOD	Rear wiper is in STOP position	Off
RR WIPER STOP	Rear wiper is not in STOP position	On
TUDNI OLONIAL D	Other than turn signal switch RH	Off
TURN SIGNAL R	Turn signal switch RH	On
TUDNI GIONIAL I	Other than turn signal switch LH	Off
TURN SIGNAL L	Turn signal switch LH	On
TAIL AND OW	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
DAGGING CITT	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
ALITO LIQUE OU	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On
ED 500 011	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
OOD CW DD	Driver door closed	Off
OOOR SW-DR	Driver door opened	On
OOD CW AC	Passenger door closed	Off
OOOR SW-AS	Passenger door opened	On
2000 0144 000	Rear RH door closed	Off
DOOR SW-RR	Rear RH door opened	On
	Rear LH door closed	Off
OOOR SW-RL	Rear LH door opened	On
	Back door closed	Off
OOOR 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
CDL UNLOCK SW	Power door lock switch UNLOCK	On
	Other than driver door key cylinder LOCK position	Off
KEY CYL LK-SW	Driver door key cylinder LOCK position	On
	Other than driver door key cylinder UNLOCK position	Off
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On
KEY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off
	Hazard switch is OFF	Off
HAZARD SW	Hazard switch is ON	On
REAR DEF SW	NOTE: The item is indicated, but not monitored.	Off
FR CANCEL SW	NOTE: The item is indicated, but not monitored.	Off
ED/DD ODEN OW	Back door opener switch OFF	Off
TR/BD OPEN SW	While the back door opener switch is turned ON	On
FRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
DKE LOCK	LOCK button of the key is not pressed	Off
RKE-LOCK	LOCK button of the key is pressed	On
DICE LINII COLC	UNLOCK button of the key is not pressed	Off
RKE-UNLOCK	UNLOCK button of the key is pressed	On
RKE-TR/BD	NOTE: The item is indicated, but not monitored.	Off
DIVE DANIO	PANIC button of the key is not pressed	Off
RKE-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 simultaneously	Off
RKE-MODE CHG	LOCK/UNLOCK button of the key is pressed and held simultaneously	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
	Driver door request switch is pressed	On
REQ SW -AS	Passenger door request switch is not pressed	Off
NEQ 3W -A3	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
REQ 3W -BD/TR	Back door request switch is pressed	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
F03H 3W	Push-button ignition switch (push switch) is pressed	On
IGN RLY2 -F/B	Ignition switch in OFF or ACC position	Off
IGN RL12 -F/D	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
DDAKE OM 2	The brake pedal is not depressed	Off
BRAKE SW 2	The brake pedal is depressed	On
DETE/CANCL SW	Selector lever in P position	Off
DETE/CANCE 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
31 1 714/14 344	Selector lever in P or N position	On
S/L -LOCK	Steering is unlocked	Off
3/L -LOCK	Steering is locked	On
S/L -UNLOCK	Steering is locked	Off
3/L -UNLOCK	Steering is unlocked	On
S/L RELAY-F/B	Ignition switch in OFF or ACC position	Off
3/L NELAT-1/B	Ignition switch in ON position	On
UNLK SEN -DR	Driver door is unlocked	Off
ONER SEN -DIX	Driver door is locked	On
PUSH SW -IPDM	Push-button ignition switch (push-switch) is not pressed	Off
FUSH SW -IFDIVI	Push-button ignition switch (push-switch) is pressed	On
IGN RLY1 -F/B	Ignition switch in OFF or ACC position	Off
ION INLI I "F/D	Ignition switch in ON position	On
DETE CM IDDM	Selector lever in any position other than P	Off
DETE SW -IPDM	Selector lever in P position	On
CET DN IDDM	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
OFT D. MET	Selector lever in any position other than P	Off
SFT P -MET	Selector lever in P position	On
OFT N. MET	Selector lever in any position other than N	Off
SFT N -MET	Selector lever in N position	On
	Engine stopped	Stop
ENIONE OTATE	While the engine stalls	Stall
ENGINE STATE	At engine cranking	Crank
	Engine running	Run
2/L L GOL (IDDA	Steering is unlocked	Off
S/L LOCK-IPDM	Steering is locked	On
	Steering is locked	Off
S/L UNLK-IPDM	Steering is unlocked	On
ON DELAY DEG	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 condition from LOCK to UNLOCK.	On
VEH SPEED 1	While driving	Equivalent to speedometer reading
/EH SPEED 2	While driving	Equivalent to speedometer reading
	Driver door is locked	LOCK
OOR 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
D OK EL A O	Steering is locked	Reset
D OK FLAG	Steering is unlocked	Set
2247 540 0727	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
(E) (O) (O) (O) (O)	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
CONFIDM ID 4	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
CONFIDM ID2	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 second key ID registered to BCM.	Yet
CONFIRM ID2	The key ID that the key slot receives accords with the second key ID registered to BCM.	Done
CONFIRM ID1	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	Yet
CONFIRM ID I	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
17 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 3	The ID of third key is registered to BCM	Done
TP 2	The ID of second key is not registered to BCM	Yet
IP Z	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 REGST FL1	ID of front LH tire transmitter is registered	Done
ID REGST FLT	ID of front LH tire transmitter is not registered	Yet
ID REGST FR1	ID of front RH tire transmitter is registered	Done
ID REGST FRT	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
ID REGST KKT	ID of rear RH tire transmitter is not registered	Yet
ID DECCT DL4	ID of rear LH tire transmitter is registered	Done
ID REGST RL1	ID of rear LH tire transmitter is not registered	Yet
WARNING LAMP	Tire pressure indicator OFF	Off
WARNING LAMP	Tire pressure indicator ON	On
DU77ED	Tire pressure warning alarm is not sounding	Off
BUZZER	Tire pressure warning alarm is sounding	On

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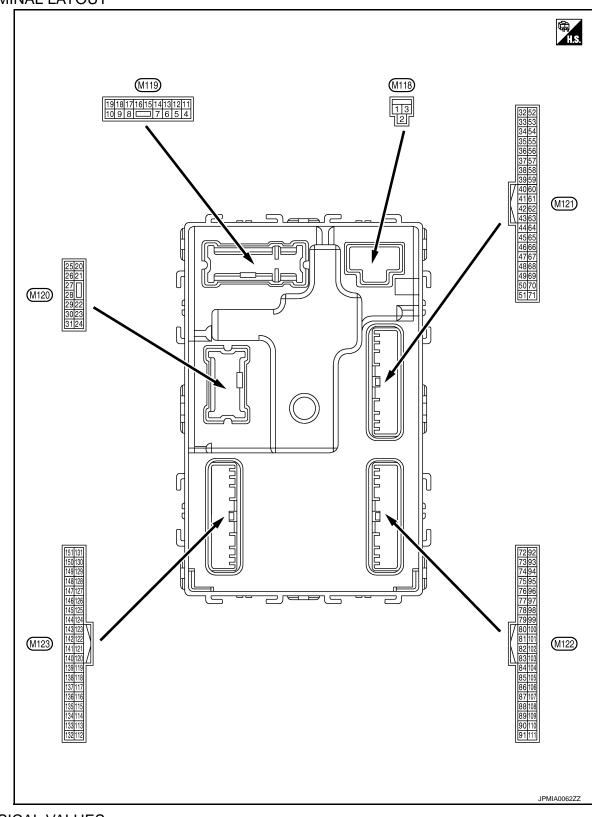
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TERMINAL LAYOUT



PHYSICAL VALUES

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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (Y)	Ground	P/W power supply (BAT)	Output	Ignition switch OF	F	Battery voltage
3 (O)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
		Interior room lamp			battery saver is activated. oom lamp power supply)	0 V
4 (LG)	Ground	power supply	Output	ed.	battery saver is not activat- or room lamp power supply)	Battery voltage
5	Ground	Passenger door UN-	Output	Passenger door	UNLOCK (Actuator is activated)	Battery voltage
(L)	Ground	LOCK	Output	1 assenger door	Other than UNLOCK (Actuator is not activated)	0 V
7	Ground	Step lamp	Output	Step lamp	ON	0 V
(Y)	Cround	Otop lamp	Output	Ctop lamp	OFF	Battery voltage
8	Ground	All doors, fuel lid	Output	All doors	LOCK (Actuator is activated)	Battery voltage
(V)	Cround	LOCK	Odiput	7 111 00010	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	Billy of Gool	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)	Ground	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		0 V
					OFF	0 V
14 (W)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp	ON	NOTE: When the illumination brightening/dimming level is in the neutral position (V) 10 0 JSNIA0010GB
15 (Y)	Ground	ACC indicator lamp	Output	Ignition switch	OFF or ON	Battery voltage
(1)					ACC	0 V

< ECU DIAGNOSIS INFORMATION >

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

	inal No. e color)	Description Input/			Condition	Value	
+	-	Signal name	Input/ Output		Condition	(Approx.)	
34	Capital	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB	
(SB)	Ground	na (–)	Output	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB	
35	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB	
(V)	Ground	na (+)	Cutput	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 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 s JMKIA0062GB	
(B)	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 0 JMKIA0063GB	

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description	ı			Value	
+	- COIOT)	Signal name	Input/ Output		Condition	(Approx.)	
				When the back	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	
39 (W)	Ground	Back door antenna (+)	Output	door opener request switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB	
47	Ground	Ignition relay (IPDM	Output	Ignition switch	OFF or ACC	Battery voltage	
(Y)	Ground	E/R) control	Output	ignition switch	ON	0 V	
52	Ground	Starter relay control	Output	Ignition switch	When selector lever is in P or N position	Battery voltage	
(SB) Ground	Giodila	Canonical volume	Output	ON	When selector lever is not in P or N position	0 V	
					ON (Pressed)	0 V	
61 (W)	Ground	Back door opener request switch	Input	Back door opener request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB	
64		Intelligent Key warn-		Intelligent Key	Sounding	1.0 V	1
64 (V)	Ground	ing buzzer (Engine room)	Output	warning buzzer (Engine room)	Not sounding	Battery voltage	
65 (O)	Ground	Rear wiper stop position	Input	Rear wiper	In stop position	(V) 15 10 5 0	
						JPMIA0016GB 1.0 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)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (Door open)	0 V
					Pressed	0 V
67 (G)	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0011GB
68 (BR)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (Door open)	0 V
69 (R)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (Door open)	0 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
72	Outside	Room antenna 2 (–)	0.4.4	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB
(R) Ground	Ground	(Center console)	Output	ÕFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
73 (G) Groun		Room antenna 2 (+)		Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
	Ground	(Center console)			When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB
74 (SB)	Ground	Passenger door antenna (–)	Output	When the passenger door request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0062GB
	Ground				When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB

	inal No. e color)	Description			Condition	Value
+	_	Signal name	Input/ Output		Condition	(Approx.)
75	Canada				When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 S S S S S S S S S
(GR)	Glound		quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB	
76	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 11 1 s JMKIA0062GB
(V)	Ground				When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB
77	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 11 1 s JMKIA0062GB
(LG)					When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

	inal No.	Description				Value
(Wire	e color) –	Signal name	Input/ Output		Condition	(Approx.)
78		Room antenna 1 (–) (Instrument panel)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(Y)					When Intelligent Key is not in the passenger compartment	(V) 15 10 1
79	Room antenna 1 (+)	0.1	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB	
79 (BR) Gro	Ground	(Instrument panel)	Output	ŎFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB
80 (GR)	Ground	NATS antenna amp (Built in key slot)	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 (Built in key slot)	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 block (J/B)] control	Output	Ignition switch	OFF or ACC	0 V Battery voltage

Р

	inal No. e color)	Description	Innut/		Condition	Value
+	_	Signal name	Input/ Output		Condition	(Approx.)
83	Constant	Remote keyless entry receiver communication	Input/ Output	During waiting		(V) 15 10 5 1 ms 1 ms
(Y)	Ground			When operating e	ither button on the key	(V) 15 10 5 0 1 ms JMKIA0065GB
	Ground	Combination switch INPUT 5	Input	Combination switch	All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB
87					Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0037GB
(BR)					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0039GB
					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 10 5 0 2 ms JPMIA0040GB

< ECU DIAGNOSIS INFORMATION >

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

	inal No.	Description				.,,	
	e color)	Signal name	Input/ Output		Condition	Value (Approx.)	
+	_		Output		OFF	0 V	
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	Blinking	(V) 15 10 5 0 1 s JPMIA0015GB	
					ON	Battery voltage	
93	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	Battery voltage	
(V)				9	ON	0 V	
94	Ground	Puddle lamp control	Output	Puddle lamp	OFF	Battery voltage	
(Y)				•	ON	0 V	
95	Ground	ACC relay control	Output	ut Ignition switch	OFF	0 V	
(O)		•			ACC or ON	Battery voltage	
96 (GR)	Ground	A/T shift selector (Detention switch) power supply	Output		_	Battery voltage	
97		Steering lock condi-	Input	Steering lock	LOCK status	0 V	
(L)	Ground	tion No. 1	Input	Steering lock	UNLOCK status	Battery voltage	
98		Steering lock condition No. 2	Input Steering lock Input Selector lever	Steering lock	LOCK status	Battery voltage	
(P)	Ground				UNLOCK status	0 V	
99	Ground	Selector lever P posi-		P position	0 V		
(R)	Ground	tion switch	mput	20.00.01.10701	Any position other than P	Battery voltage	
					ON (Pressed)	0 V	
100 (G)	Ground	Passenger door request switch	Input	Passenger door request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V	
					ON (Pressed)	0 V	
101 (SB)	Ground	Driver door request switch	Input	Driver door request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V	
102	0	Blower fan motor re-	0	Indian	OFF or ACC	0 V	
(O)	Ground	Blower fan motor re- lay control	Output	Ignition switch	ON	Battery voltage	
	1	ı	1	ı	1		

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description			0 1111	Value
+ (vvire	e color)	Signal name	Input/ Output		Condition	(Approx.)
103 (LG)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OFF		Battery voltage
106 (W)	Ground	Steering lock unit power supply	Output	Ignition switch	OFF or ACC	Battery voltage 0 V
107 (LG) Ground			Input	Combination switch (Wiper intermittent dial 4)	All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB
		Combination switch INPUT 1			Turn signal switch LH	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V
	Ground				Turn signal switch RH	(V) 15 10 5 0 2 ms JPMIA0036GB
					Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3 V
					Front washer switch ON	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V

< ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description	1			Value
+	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 AUTO (Wiper intermittent dial 4)	(V) 15 10 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 10 5 0 2 ms JPMIA0036GB
					Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0040GB
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB
					Lighting switch PASS	(V) 15 10 5 0 2 ms JPMIA0037GB
109 (Y)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermittent dial 4)	Lighting switch 2ND	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V
					Front wiper switch INT	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3 V
					Front wiper switch HI	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V
					ON	0 V
110 (G)	Ground	Hazard switch	Input	Hazard switch	OFF	(V) 15 10 5 0 10 ms JPMIA0012GB 1.1 V

< ECU DIAGNOSIS INFORMATION >

Term	inal No.	Description				
(Wire	e color)	Signal name	Input/		Condition	Value (Approx.)
+	_	Giginal maine	Output		1001/	D
111 (Y)	Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK status LOCK or UNLOCK	Battery voltage (V) 15 10 50 ms JMKIA0066GB
					For 15 seconds after UN- LOCK	Battery voltage
					15 seconds or later after UNLOCK	0 V
113	Ground Chical sensor	Input	Ignition switch	When bright outside of the vehicle	Close to 5 V	
(P)	0.000	opiloa. concer		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)	- Input	Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
118	Ground				ON (Brake pedal is depressed)	Battery voltage
(P)		Stop lamp switch 2 (With ICC)		Stop lamp switch OFF (Brake pedal is not depressed) and ICC brake hold relay OFF		0 V
				Stop lamp switch ON (Brake pedal is depressed) or ICC brake hold relay ON		Battery voltage
119 (SB)	Ground	Front door lock assembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 10 5 0 10 ms JPMIA0012GB
					UNLOCK status (Unlock switch sensor ON)	0 V
121	Ground	Key slot switch	Input		serted into key slot	Battery voltage
(BR)			1	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) Ground				ON	Battery voltage	

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

	inal No.	Description				Value	А
+	e color) –	Signal name	Input/ Output	С	Condition	(Approx.)	
					055 (D l)	(V) 15 10 5	В
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door close)	10 ms JPMIA0011GB	C
		l			ON (Door open)	0 V	
132 (V)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		(V) 15 10	Е
						5	F
						JPMIA0013GB 10.2 V	G
				Ignition switch OFF or ACC		Battery voltage	
		Push-button ignition Output tion so		ON (Tail lamps OFF)	9.5 V	Н	
133			Output	Push-button ignition switch illumination	ON (Tail lamps ON)	NOTE: The pulse width of this wave is varied by the illumination brightening/dimming level. (V) 15	I
(W)	Ground						J K
					OFF	JPMIA0159GB	
134 (GR)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	OFF	Battery voltage	
					ON	0 V	EXI
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	Ν

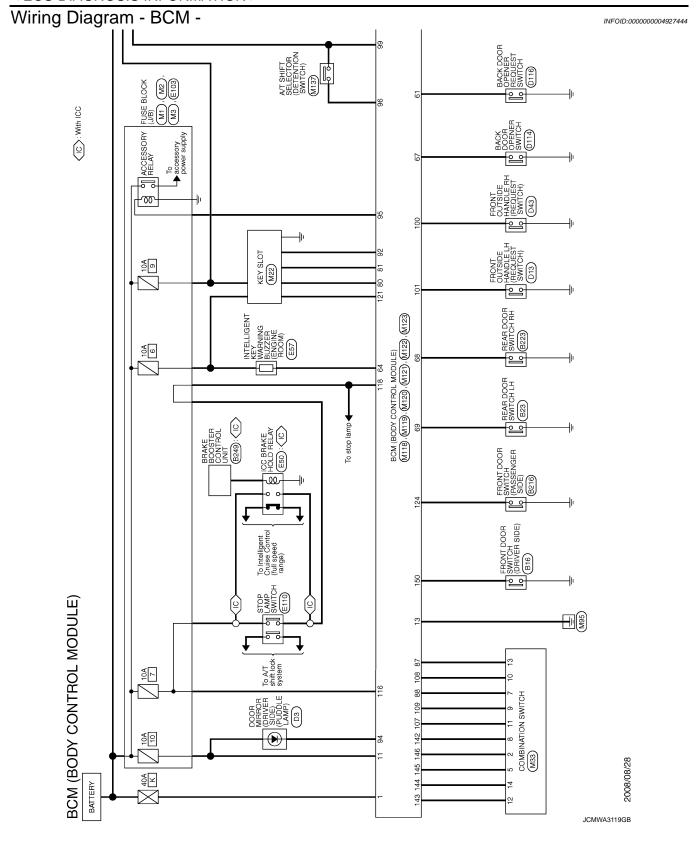
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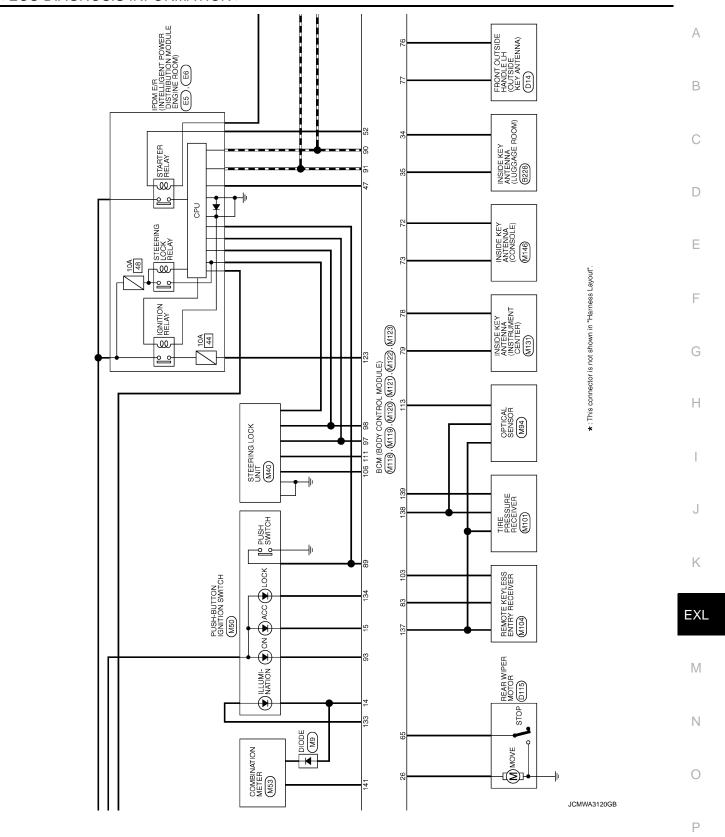
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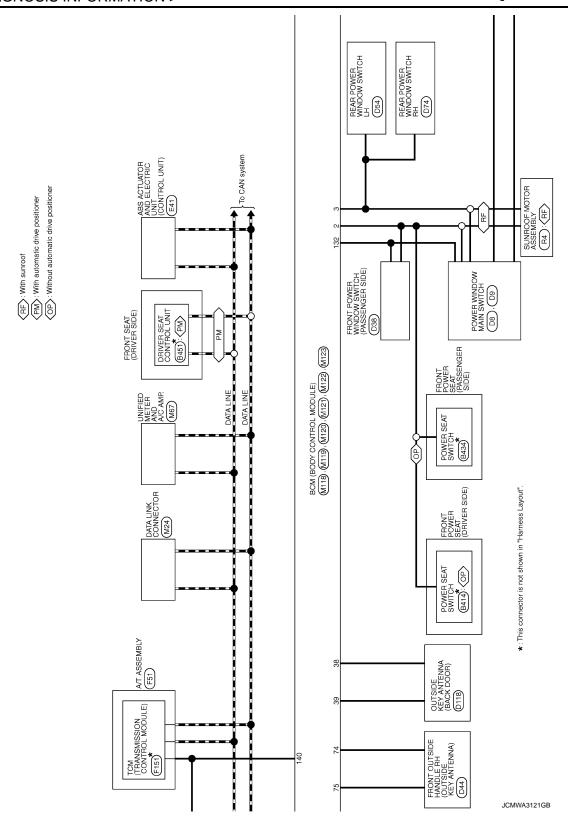
Terminal No. (Wire color)		Description		Condition		Value (Approx.)	
		Signal name Input/ Output					
139 (L)	Ground	Tire pressure receiver communication	Input/ Output	Ignition switch ON	Standby state	(V) 6 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
					When receiving the signal from the transmitter	(V) 6 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
140	Ground	Selector lever P/N	Input	Selector lever	P or N position	Battery voltage	
(GR)	Ground	position	IIIput	Selector level	Except P and N positions	0 V	
141 (G)	Ground	Security indicator	Output	Security indicator	ON Blinking	(V) 15 10 1	
					OFF	Battery voltage	
142 (O)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	All switches OFF Lighting switch 1ST Lighting switch HI Lighting switch 2ND Turn signal switch RH	(V) 15 10 2 ms JPMIA0031GB	
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)	0 V	
					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	

< ECU DIAGNOSIS INFORMATION >

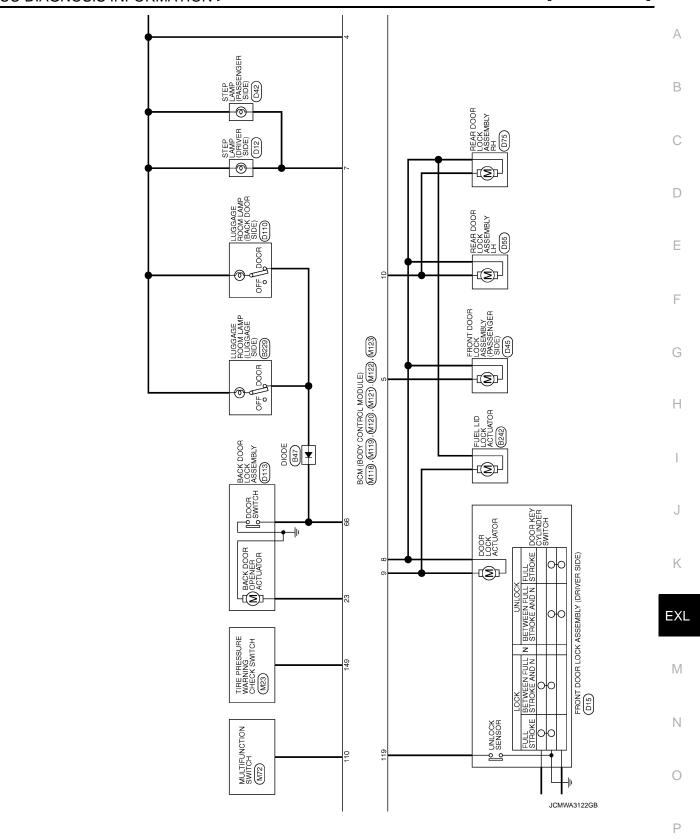
Terminal No. (Wire color)		Description				Value	/
		Signal name	Signal name Input/ Condition Output		Condition	(Approx.)	
144 (G)	Ground	Combination switch OUTPUT 2	Output	Combination switch	All switches OFF (Wiper intermittent dial 4)	0 V	
					Front washer switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 JPMIA0033GB 10.7 V	
					Rear wiper switch ON (Wiper intermittent dial 4)		
					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		
					All switches OFF	0 V	
			Output	Combination switch (Wiper intermit- tent dial 4)	Front wiper switch INT		
	Ground	Combination switch OUTPUT 3			Front wiper switch LO	(V)	
145 (L)					Lighting switch AUTO	10 5 0 2 ms JPMIA0034GB 10.7 V	
	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper intermit- tent dial 4)	All switches OFF	0 V	
					Front fog lamp switch ON		
					Lighting switch 2ND	(V)	
146 (SB)					Lighting switch PASS	10	
					Turn signal switch LH	2 ms JPMIA0035GB	
						10.7 V	
149 (W)	Ground	Tire pressure warning check switch	Input	put Ignition switch ON		(V) 15 10 5 0	
						10 ms JPMIA0011GB	
150 (LG)	Ground	Driver door switch Inpu		Driver door switch	OFF (Door close)	(V) 15	
			Input			10 5 0 10 ms JPMIA0011GB	
					ON (Day)	11.8 V	
					ON (Door open)	0 V	
151 (G) Gro	Ground	Rear window defog- ger relay control	Output	Rear window de- fogger	Active	0 V	
					Not activated	Battery voltage	

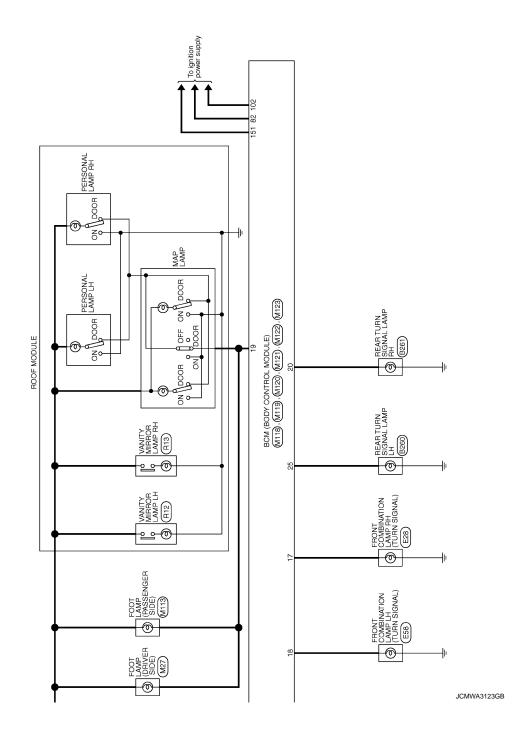






[XENON TYPE]





< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

TURN SIGNAL LH (FRONT) ROOM LAMP TIMER CONTROL					В
0 > 88 61					D
9 10 18 19 18 19	Pification] Oower Supply LOCK OUTBUT COCK OUTBUT MILLOCK OUTBUT AMLOCK OUTBUT E E E N SW ILL GND N SW ILL GND (FRONT)	PR SW			Е
(60DY CONTROL MC FW-GS 6 7 8 13 14 15 16 17	Signal Name (Specification) INTERIOR ROOM LAMP POWER SUPELY PASSHIGER DOOR UNLOCK OUTPUT ALL DOOR BULL UD LOCK OUTPUT BATE LAND LOCK OUTPUT REARD DOOR RULE LUD LOCK OUTPUT REARD DOOR RULE LUD LOCK OUTPUT REARD DOOR RULE LUD LOCK OUTPUT REARD DOOR WILL COK OUTPUT BAT (FUSE) ACC NO ACC IND ACC IND ACC IND ACC IND	REAR IH DOOR SW REAR IH DOOR SW			F
Connector No. MI19 Connector Name BOM Connector Type INSIG	Color No. of Wire No. of	89 69 88 B B B B B B B B B B B B B B B B B B			G
			ation] NNT- NNT		H
MITIS BOM (BODY CONTROL MODULE) MOSFB-LC 113	Signal Name [Speoification] BAT (F/L) POWER WINDOW POWER SUPPLY(RAP) POWER WINDOW POWER SUPPLY(RAP)	MI21 TH40FGY-NH TH40FGY-NH TH80FGY-NH TR80FG T T T T T T T T T T T T T T T T T T T	Signal Name [Specification] LUGGAGE ROOM ANT- LUGGAGE ROOM ANT- EACK DOOR ANT- EACK DOOR ANT- IGN RELAY (PDM F. R) CONT EACK DOOR OFFER RELUEST SW H-KEY WARN BUZZER (ENG ROOM) REAR WHER STOP POSITION REAR WHER STOP POSITION BACK DOOR SW BACK DOOR SW BACK DOOR SW		J
ector No.	Color Color No. Of Wire No. Of Wir	ector No. ector Name ector Type	Color Colo		K
					EXL
NY CONTROL MOD M83 COMBINATION SWITCH THISFW-NH 1 2 3 4 5 6 7 8 9 10 11 12 13 14	Signal Name (Specification) OUTPUT 4 OUTPUT 3 OUTPUT 5 OUTPUT 5 INPUT 2 INPUT 1 OUTPUT 1 OUTPUT 1 OUTPUT 1 INPUT 1 OUTPUT 2 OUTPUT 2 OUTPUT 2	MIZO NSIZEW-CS 20 21	Signal Name (Specification) TURN SIGNAL RH (FREAR) BACK DOOR OFEN OUTPUT TURN SIGNAL LH (FREAR) FRAR WIPER OUTPUT		M
	Color of Wife SB	$\overline{}$	Color of Wire G		N
BCM (BOI Commettor No. Commettor Name Commettor Type Commettor Type H.S.	Terminal No. 18	Connector No. Connector Name Connector Type	Terminal No. 20 20 25 25 26 26	JCMWA3124GB	0
					Р

EXL-147 Revision: 2010 March 2009 EX35

BCN	1 (BOC	BCM (BODY CONTROL MODULE)									
Connector No.	Г	M122	83	>	KEYLESS ENTRY RECEIVER COMM	Connector No.	Γ	M123	138	>	RECEIVER/SENSOR POWER SUPPLY
,		PON (BODY CONTROL MOBILE)	87	BR	COMBI SW INPUT 5		г	(alligon logation acoa) Mod	139	٦	TIRE PRESSURE RECEIVER COMM
Colliec	Confidence Name	BOW (BODT CONTROL MODULE)	88	۸	COMBI SW INPUT 3	Confidence Name		BOIN (BODT CONTROL MODOLE)	140	GR	SHIFT N/P
Connect	Connector Type	TH40FB-NH	88	띪	PUSH SW	Connector Type	Г	TH40FG-NH	141	g	SECURITY INDICATOR OUTPUT
			06	۵	CAN-L	ſ			142	0	COMBI SW OUTPUT 5
			91	_	CAN-H				143	Ь	COMBI SW OUTPUT 1
Ę			95	PT	KEY SLOT ILL	\ \ -			144	G	COMBI SW OUTPUT 2
2			93	>	ONI NO	2			145	7	COMBI SW OUTPUT 3
	91 90 89 88	91 90 89 88 87 86 85 84 83 82 81 80 79 78 77 76 75 74 73 72	94	>	PUDDLE LAMP CONT	图	1 130 129 128	129 128 128 126 126 125 124 123 122 121 120 119 118 117 116 116 115 114 113 112	146	SB	COMBI SW OUTPUT 4
	111 110 109 106	8 107 106 105 104 103 102 101 100 99 98 97 96 95 94 93 92	95	0	ACC RELAY CONT	#1	1 150 149 148	150 148 148 148 147 146 145 144 143 142 141 140 139 138 137 135 135 134 133 132	149	W	TIRE PRESS WARNING CHECK SW
			96	æ	A/T SHIFT SELECTOR POWER SUPPLY				120	ΓC	DRIVER DOOR SW
			97	-	S/L CONDITION 1				151	5	REAR WINDOW DEFOGGER RELAY CONT
Terminal	Color	[minimum]	86	۵	S/L CONDITION 2	Terminal	Color	Company of the Compan			
No.	of Wire	olgital Ivalite Lopecification	66	۲	SHIFT P	No.	of Wire	ogna ivanie Lopecincaciorij			
72	œ	ROOM ANT2-	100	5	PASSENGER DOOR REQUEST SW	113	Ь	OPLICAL SENSOR			
73	9	ROOM ANT2+	101	SB	DRIVER DOOR REQUEST SW	116	SB	STOP LAMP SW 1			
74	SB	PASSENGER DOOR ANT-	102	0	BLOWER FAN MOTOR RELAY CONT	118	Ь	STOP LAMP SW 2			
75	GR	PASSENGER DOOR ANT+	103	97	KEYLESS ENTRY RECEIVER POWER SUPPLY	119	SB	DR DOOR UNLOCK SENSOR			
9/	>	DRIVER DOOR ANT-	106	М	S/L UNIT POWER SUPPLY	121	BR	KEY SLOT SW			
77	PT	DRIVER DOOR ANT+	107	97	COMBI SW INPUT 1	123	М	IGN F/B			
78	Υ	ROOM ANTI-	108	۲	COMBI SW INPUT 4	124	57	PASSENGER DOOR SW			
79	BR	ROOM ANT1+	109	Υ	COMBI SW INPUT 2	132	٨	POWER WINDOW SW COMM			
80	GR	IMMOBI ANTENNA CONTROL	110	G	HAZARD SW	133	W	PUSH-BUTTON IGNITION SW ILL POWER			
81	W	IMMOBI ANTENNA SIGNAL	111	Ь	S/L UNIT COMM	134	GR	LOCK IND			
82	α	IGN RELAY (F/B) CONT				137	0	RECEIVER/SENSOR GND			

JCMWA3125GB

Fail-safe

INFOID:0000000004927445

FAIL-SAFE CONTROL BY DTC

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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

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 → OFF
B2557: VEHICLE SPEED	Inhibit steering lock	When normal vehicle speed signals are received from ABS actuator and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status becomes 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 ful-filled 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 cranking Inhibit 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 fulfilled • Power position changes to ACC • Receives 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 becomes normal
B2619: BCM	Inhibit engine cranking	1 second after the steering lock unit power supply output control inside BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization
B26E9: S/L STATUS	Inhibit engine cranking Inhibit 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.
- Turn rear wiper switch OFF.
- 3. Operate the rear wiper switch or rear washer switch.

DTC Inspection Priority Chart

INFOID:0000000004927446

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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

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	D
	 B2556: PUSH-BTN IGN SW B2557: VEHICLE SPEED B2560: STARTER CONT RELAY B2601: SHIFT POSITION 	Е
	 B2602: SHIFT POSITION B2603: SHIFT POSI STATUS B2604: PNP SW B2605: PNP SW 	F
	 B2606: S/L RELAY B2607: S/L RELAY B2608: STARTER RELAY 	G
4	 B2609: S/L STATUS B260A: IGNITION RELAY B260B: STEERING LOCK UNIT B260C: STEERING LOCK UNIT 	Н
	 B260D: STEERING LOCK UNIT B260F: ENG STATE SIG LOST B2612: S/L STATUS B2614: ACC RELAY CIRC 	I
	 B2615: BLOWER RELAY CIRC B2616: IGN RELAY CIRC B2617: STARTER RELAY CIRC 	J
	 B2618: BCM B2619: BCM B261A: PUSH-BTN IGN SW B261E: VEHICLE TYPE 	K
	 B26E9: S/L STATUS B26EA: KEY REGISTRATION C1729: VHCL SPEED SIG ERR U0415: VEHICLE SPEED SIG 	EXL

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< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Priority	DTC
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] FR C1711: [NO DATA] RR C1711: [NO DATA] RR C1711: [CHECKSUM ERR] FL C1713: [CHECKSUM ERR] FR C1714: [CHECKSUM ERR] FR C1715: [CHECKSUM ERR] RR C1716: [PRESSDATA ERR] FR C1716: [PRESSDATA ERR] FR C1717: [PRESSDATA ERR] FR C1719: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RR C1719: [CODE ERR] FR C1720: [CODE ERR] FR C1721: [CODE ERR] FR C1722: [CODE ERR] RR C1723: [CODE ERR] RR C1725: [BATT VOLT LOW] FR C1726: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RL C1727: [BATT VOLT LOW] RL C1727: [BATT VOLT LOW] RL
6	 B2621: INSIDE ANTENNA B2622: INSIDE ANTENNA B2623: INSIDE ANTENNA

DTC Index

NOTE:

The details of time display are as follows.

- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to EXL-228, "COM-MON ITEM: CONSULT-III Function (BCM - COMMON ITEM)".

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	_	_
U1000: CAN COMM CIRCUIT	_	_	_	_	BCS-37
U1010: CONTROL UNIT (CAN)	_	_	_	_	BCS-38
U0415: VEHICLE SPEED SIG	_	_	_	_	BCS-39
B2013: ID DISCORD BCM-S/L	×	×	_	_	SEC-48
B2014: CHAIN OF S/L-BCM	×	×	_	_	SEC-49
B2190: NATS ANTENNA AMP	×	_		_	SEC-41
B2191: DIFFERENCE OF KEY	×	_	_	_	SEC-44
B2192: ID DISCORD BCM-ECM	×	_	_	_	<u>SEC-45</u>
B2193: CHAIN OF BCM-ECM	×	_	_	_	SEC-46
B2195: ANTI SCANNING	×	_	_	_	SEC-47
B2553: IGNITION RELAY	_	×		_	PCS-49

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2555: STOP LAMP	_	×	_	_	SEC-52
B2556: PUSH-BTN IGN SW	_	×	×	_	SEC-54
B2557: VEHICLE SPEED	×	×	×	_	SEC-56
B2560: STARTER CONT RELAY	×	×	×	_	SEC-57
B2562: LOW VOLTAGE	_	×	_	_	BCS-40
B2601: SHIFT POSITION	×	×	×	_	SEC-58
B2602: SHIFT POSITION	×	×	×	_	SEC-61
B2603: SHIFT POSI STATUS	×	×	×	_	SEC-63
B2604: PNP SW	×	×	×	_	SEC-66
B2605: PNP SW	×	×	×	_	SEC-68
B2606: S/L RELAY	×	×	×	_	<u>SEC-70</u>
B2607: S/L RELAY	×	×	×	_	<u>SEC-71</u>
B2608: STARTER RELAY	×	×	×	_	SEC-73
B2609: S/L STATUS	×	×	×	_	<u>SEC-75</u>
B260A: IGNITION RELAY	×	×	×	_	PCS-51
B260B: STEERING LOCK UNIT	_	×	×	_	SEC-79
B260C: STEERING LOCK UNIT	_	×	×	_	SEC-80
B260D: STEERING LOCK UNIT	_	×	×	_	SEC-81
B260F: ENG STATE SIG LOST	×	×	×	_	SEC-82
B2612: S/L STATUS	×	×	×	_	SEC-86
B2614: ACC RELAY CIRC	_	×	×	_	PCS-53
B2615: BLOWER RELAY CIRC	_	×	×	_	PCS-56
B2616: IGN RELAY CIRC	_	×	×	_	PCS-59
B2617: STARTER RELAY CIRC	×	×	×	_	SEC-90
B2618: BCM	×	×	×	_	PCS-62
B2619: BCM	×	×	×	_	<u>SEC-92</u>
B261A: PUSH-BTN IGN SW	_	×	×	_	SEC-93
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)		SEC-96
B2621: INSIDE ANTENNA	_	×	_	_	DLK-59
B2622: INSIDE ANTENNA	_	×	_	_	DLK-61
B2623: INSIDE ANTENNA		×	_		DLK-63
B26E1: ENG STATE NO RES	×	×	×	_	<u>SEC-83</u>
326E9: 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		_	_	×	<u>WT-17</u>
C1706: LOW PRESSURE RR	_	_	_	×	<u>vv 1-17</u>
C1707: LOW PRESSURE RL	_	_	_	×	

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	
C1708: [NO DATA] FL	_	_	_	×		
C1709: [NO DATA] FR	_	_	_	×	WT-19	
C1710: [NO DATA] RR	_	_	_	×	<u> </u>	
C1711: [NO DATA] RL	_	_	_	×		
C1712: [CHECKSUM ERR] FL	_	_	_	×		
C1713: [CHECKSUM ERR] FR	_	_	_	×	WT 00	
C1714: [CHECKSUM ERR] RR	_	_	_	×	<u>WT-22</u>	
C1715: [CHECKSUM ERR] RL	_	_	_	×		
C1716: [PRESSDATA ERR] FL	_	_	_	×		
C1717: [PRESSDATA ERR] FR	_	_	_	×	WT-25	
C1718: [PRESSDATA ERR] RR	_	_	_	×	<u>W1-25</u>	
C1719: [PRESSDATA ERR] RL	_	_	_	×	-	
C1720: [CODE ERR] FL	_	_	_	×		
C1721: [CODE ERR] FR	_	_	_	×	WT-27	
C1722: [CODE ERR] RR	_	_	_	×	<u>VV 1-27</u>	
C1723: [CODE ERR] RL	_	_	_	×		
C1724: [BATT VOLT LOW] FL	_	_	_	×		
C1725: [BATT VOLT LOW] FR	_	_	_	×	WT 20	
C1726: [BATT VOLT LOW] RR	_	_	_	×	<u>WT-30</u>	
C1727: [BATT VOLT LOW] RL	_	_	_	×		
C1729: VHCL SPEED SIG ERR	_	_	_	×	<u>WT-33</u>	
C1734: CONTROL UNIT	_	_	_	×	<u>WT-34</u>	

< ECU DIAGNOSIS INFORMATION >

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

Reference Value INFOID:0000000004927448

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	
TAIL OOLD DEO	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 AUTO	(Light is illuminated)	On	
	Lighting switch OFF		Off	
HL HI REQ	Lighting switch HI		On	
		Front fog lamp switch OFF	Off	
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	 Front fog lamp switch ON Daytime running light activated (Only for Canada) 	On	
	Ignition switch ON	Front wiper switch OFF	Stop	
		Front wiper switch INT	1LOW	
FR WIP REQ		Front wiper switch LO	Low	
		Front wiper switch HI	Hi	
		Front wiper stop position	STOP P	
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P	
		Front wiper operates normally	Off	
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe operation	BLOCK	
ION DIVI DEO	Ignition switch OFF or ACC		Off	
IGN RLY1 -REQ	Ignition switch ON		On	
ICN DLV	Ignition switch OFF or ACC		Off	
IGN RLY	Ignition switch ON		On	
Release the push-button ignition switch		switch	Off	
PUSH SW	Press the push-button ignition s	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 DI V CONT	Ignition switch ON			
ST RLY CONT	At engine cranking		On	
IUDT DI V. DEO	Ignition switch ON		Off	
IHBT RLY -REQ	At engine cranking		On	

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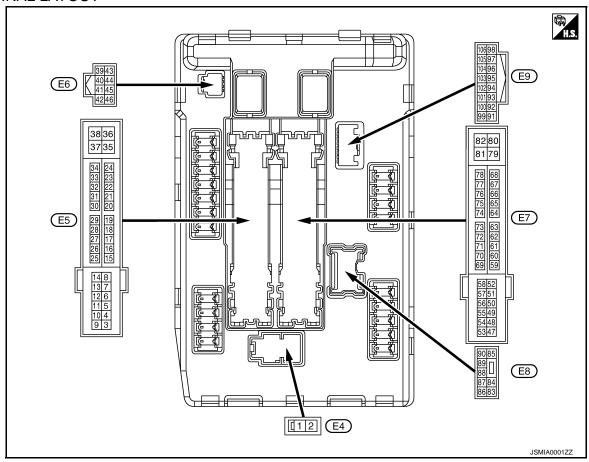
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< ECU DIAGNOSIS INFORMATION >

Monitor Item	Co	ndition	Value/Status
	Ignition switch ON		Off
	At engine cranking		INHI ON \rightarrow ST ON
ST/INHI RLY	The status of starter relay or starter the battery voltage malfunction, etc starter control relay is OFF	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 with se	elector lever in P position	On
	None of the conditions below are p	present	Off
S/L RLY -REQ	 Open the driver door after the ig seconds) Press the push-button ignition so ed 	On	
	Steering lock is activated		LOCK
S/L STATE	Steering lock is deactivated	UNLOCK	
	[DTC: B210A] is detected	UNKWN	
DTRL REQ	NOTE: The item is indicated, but not moni	Off	
OIL P SW	Ignition switch OFF, ACC or engine	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 moni	Off	
Not operation		Off	
THFT HRN REQ	Panic alarm is activated Horn is activated with VEHICLE TEM	On	
HODN CHIDD	Not operating		Off
HORN CHIRP	Door locking with Intelligent Key (h	norn chirp mode)	On
CRNRNG LMP REQ	NOTE: The item is indicated, but not moni	Off	

< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT



PHYSICAL VALUES

	nal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition swi	itch OFF	Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition swi	itch OFF	Battery voltage
4	Ground	Front winer LO	Output	Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
5	Ground	Front wiper HI	Output Ignition switch ON	Front wiper switch OFF	0 V	
(L)	Giodila	Front wiper Hi		switch ON	Front wiper switch HI	Battery voltage
7	Ground	Tail, license plate lamps &	Output	Ignition	Lighting switch OFF	0 V
(R)	Ground	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
		Ignition switch OFF		switch	A few seconds after opening 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 swi	tch ACC or ON	0 V
12 (B/W)	Ground	Ground	_	Ignition swi	itch ON	0 V

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< ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description				Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
13				turning the	tely 1 second or more after ignition switch ON	0 V
(SB)	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)	0.00	igiliaeli relaj petrel eappij		Ignition swi	itch ON	Battery voltage
25	Ground	Ignition relay power supply	Output	Ignition swi	itch OFF	0 V
(G)	Orodina	iginaliticiay power cappiy	Catpat	Ignition swi	itch ON	Battery voltage
26*	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(R)	Glodila	ignition relay power supply	Output	Ignition swi	itch ON	Battery voltage
27	Graves	lanition relay manifer	Inn.:4	Ignition swi	tch OFF or ACC	Battery voltage
(O)	Ground	Ignition relay monitor	Input	Ignition swi	itch ON	0 V
28		Push-button ignition switch		Press the push-button ignition switch		0 V
(L)	Ground		Input	Release the	e push-button ignition switch	Battery voltage
30	Ground	d Starter relay control	Input	Ignition	Selector lever in any position other than P or N	0 V
(GR)	Cround			switch ON	Selector lever P or N	Battery voltage
32		Steering lock unit condi-		Steering lock is activated		0 V
(L)	Ground	tion-1	Input	Steering lock is deactivated		Battery voltage
33		Steering lock unit condi-		Steering lock is activated		Battery voltage
(P)	Ground	tion-2	Input	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	Crawad	Cooling for relay control	lnn::t	Ignition swi	tch OFF or ACC	0 V
(Y)	Ground	Cooling fan relay control	Input	Ignition swi	tch ON	0.7 V
43 (SB)	Ground	Control device (Detention switch)	Input	Ignition switch ON	Press the selector button (Selector lever P) Selector lever in any position other than P	Battery voltage
		,			Release the selector but- ton (selector lever P)	0 V
44	Ground	Horn rolay control	Innut	The horn is	deactivated	Battery voltage
(W)	Ground	Horn relay control	Input	The horn is	activated	0 V
45		A children in the children in the	1.	The horn is	deactivated	Battery voltage
(G) Ground		Anti theft horn relay control	Input	The born is	activated	0 V

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description			0 188	Value
+	-	Signal name	Input/ Output	Condition		(Approx.)
46 (R)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any position other than P or N	0 V
(11)				SWITCH OIL	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 operating)	Battery voltage
49				Ignition swi (More than ignition swi	a few seconds after turning	0 V
(R)	Ground	ECM relay power supply	Output	Ignition s Ignition s (For a feetion switch	witch OFF w seconds after turning igni-	Battery voltage
51	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(G)	Cround	ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
52				Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
(W) Ground		ECM relay power supply	Output	 Ignition switch ON Ignition switch OFF (For a few seconds after turning ignition switch OFF) 		Battery voltage
		. Throttle control motor re-		Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
54 (LG)	Ground	lay power supply	Output	Ignition s Ignition s (For a fertion switch	witch OFF w seconds after turning igni-	Battery voltage
55 (BR)	Ground	ECM power supply	Output	Ignition swi	tch OFF	Battery voltage
56	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(V)	Ground	ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
57	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(SB)	Ground	ignition relay power supply		Ignition swi	tch ON	Battery voltage
58	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(P)	- Country	.gon supply	Jaipai	Ignition swi	tch ON	Battery voltage
69				Ignition swi (More than ignition swi	a few seconds after turning	Battery voltage
(W)	Ground	ECM relay control	Output	Ignition s Ignition s (For a fertion switch)	witch OFF w seconds after turning igni-	0 – 1.5 V
						0 – 1.0 V
70	Ground	Throttle control motor re-	Output	Ignition swi	tch ON \rightarrow OFF	↓ Battery voltage
(O)	Stourid	lay control	Output			↓ 0 V
				Ignition swi	tch ON	0 – 1.0 V

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< ECU DIAGNOSIS INFORMATION >

	Terminal No. Descript					Value
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
74	0	1	0	Ignition swi	tch OFF	0 V
(P)	Ground	Ignition relay power supply	Output	Ignition switch ON		Battery voltage
75	Ground	Oil pressure switch	Input	Ignition Engine stopped switch ON Engine running		0 V
(Y)	Glound	Oil pressure switch	input			Battery voltage
				Ignition swi	itch ON	(V) 6 4 2 0 2 2ms JPMIA0001GB 6.3 V
76 (V)	Ground	Power generation command signal	Output		on "ACTIVE TEST", "AL- R DUTY" of "ENGINE"	(V) 6 4 2 0 2 2ms JPMIA0002GB 3.8 V
				80% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 2 ms JPMIA0003GB
77	Ground	Fuel pump relay control	Output		nately 1 second after turning on switch ON unning	0 – 1.0 V
(L)			·		tely 1 second or more after ignition switch ON	Battery voltage
80 (W)	Ground	Starter motor	Output	At engine of	cranking	Battery voltage
83	Ground	Headlamp LO (RH)	Output	Ignition	Lighting switch OFF	0 V
(O)	Cidana		Carpat	switch ON	Lighting switch 2ND	Battery voltage
84	Ground	Headlamp LO (LH)	Output	Ignition	Lighting switch OFF	0 V
(V)		. , ,	'	switch ON	Lighting switch 2ND	Battery voltage
86 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch OFF • Front fog lamp switch OFF • Front fog lamp switch ON • Daytime running light activated (Only for Canada)		0 V Battery voltage

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	_
+ (Wire	e color)	Signal name	Input/ Output	Condition		(Approx.)	
					Front fog lamp switch OFF	0 V	– – B
87 (L)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	Front fog lamp switch ON Daytime running light activated (Only for Canada)	Battery voltage	C
88 (GR)	Ground	Washer pump power supply	Output	Ignition switch ON		Battery voltage	_ D
89		nd Headlamp HI (RH)		Output Ignition switch ON	Lighting switch OFF	0 V	_
(BR)	Ground		Output		Lighting switch HI Lighting switch PASS	Battery voltage	E
90				Output Ignition switch ON	Lighting switch OFF	0 V	_
(P)	Ground	Headlamp HI (LH)	Output		Lighting switch HI Lighting switch PASS	Battery voltage	F
91	Ground	Parking lamp (RH)	Output	Ignition	Lighting switch OFF	0 V	_
(P)	Ground	Faiking lamp (IXII)	Output	switch ON	Lighting switch 1ST	Battery voltage	_
92	Ground	Parking lamp (LH)	Output	Ignition	Lighting switch OFF	0 V	– G
(O)	Ground	r arking lamp (Err)	Odiput	switch ON	Lighting switch 1ST	Battery voltage	_
97 (V)	Ground	Cooling fan control	Output	Engine idling		0 – 5 V	Н
104	Ground	Hood switch	Innut	Input Close the hood Open the hood		Battery voltage	_
(LG)	Cround	11000 SWILOIT	input			0 V	

^{*:} Only for the models with ICC system

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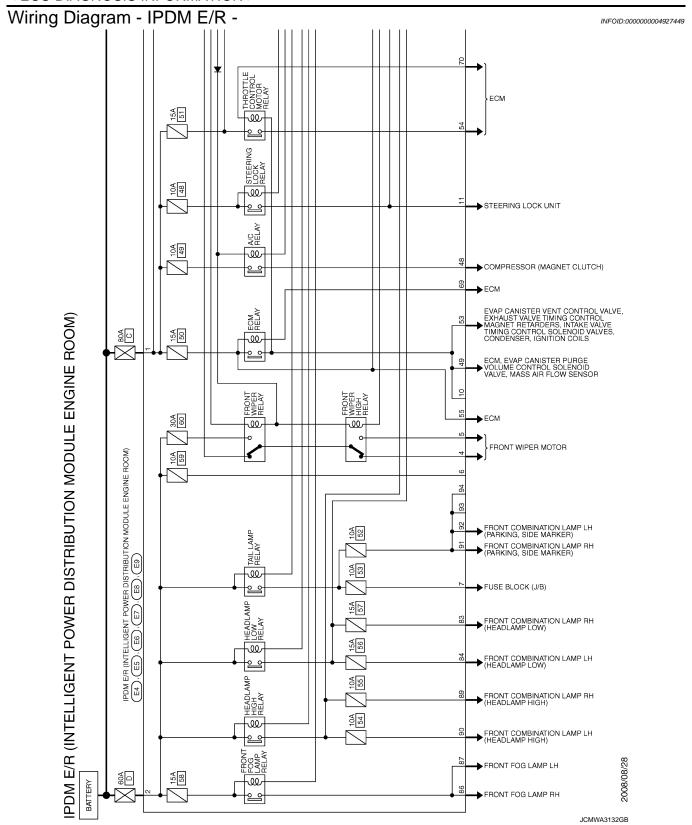
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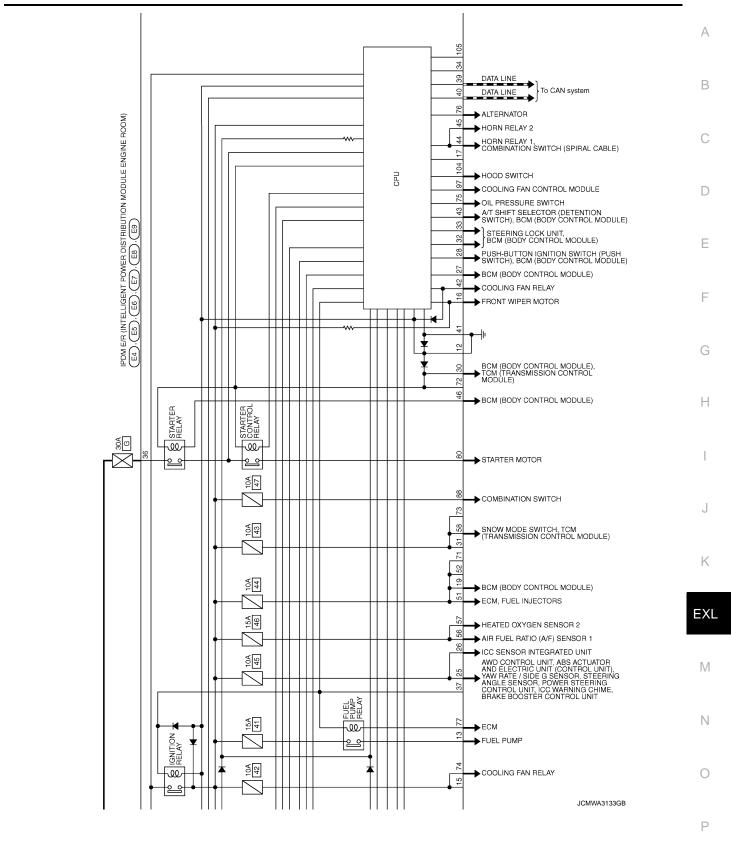
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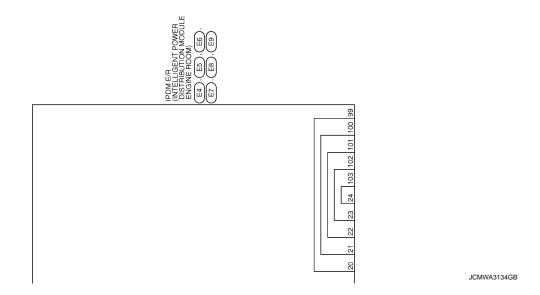
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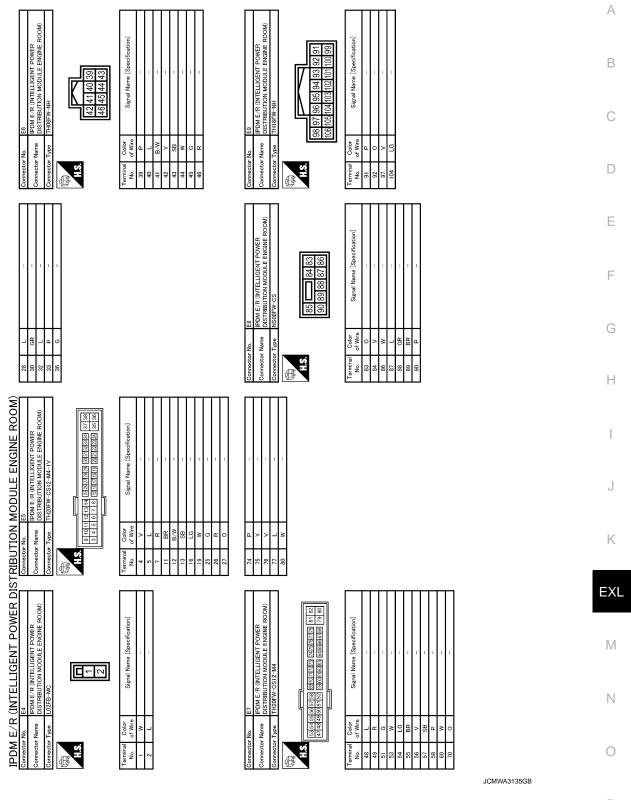


< ECU DIAGNOSIS INFORMATION >





< ECU DIAGNOSIS INFORMATION >



Fail-safe INFOID:0000000004927450

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

< 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 lampsLicense plate lampsSide maker lampsIlluminationsTail 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.

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

FRONT WIPER CONTROL

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

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

< 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	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 INFOID:0000000004927451

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 ightarrow 2 \cdots 38 ightarrow 39 after returning to the normal condition whenever IGN OFF ightarrow
- 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	_	SEC-110		

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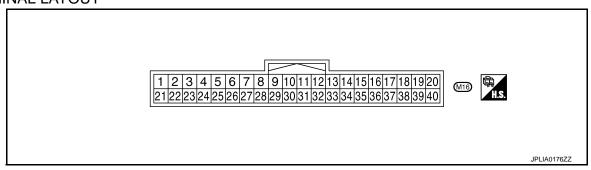
Reference Value

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)	m/h (25 MPH)	
SLCT LVR POSI	Selector lever operation		P - 1
115451445	light puitab	2ND	On
HEAD LAMP	Light switch	Other than 2ND	Off
AEC 014/	A50 O55	ON	On
AFS SW	AFS OFF switch	OFF	Off
		Unloaded vehicle condition	Approx. 2.5 V
HI SEN OTP RR	Vehicle rear height	Low (Leveling operation downward edge)	Approx. 1.6 V
		Unloaded vehicle condition	Approx. 70.0%
LEV ACTR VLTG	Headlamp leveling	Low (Leveling operation	Approx. 35.4% (With 17-inch wheel)
		downward edge)	Approx. 32.1% (With 18-inch wheel)
OMAN // OFM DIA	Diebt beedlesse eninel estimation	Standard position	Approx. 0°
SWVL SEN RH	Right headlamp swivel activation	Activation	Positive degree (+°)
0140 // 051111	Loft collection in the first	Standard position	Approx. 0°
SWVL SEN LH	Left headlamp swivel activation	Activation	Positive degree (+°)
CMAN ANOLE DU	Dight had diamen autical actions to a	Standard position	Approx. 0°
SWVL ANGLE RH	Right headlamp swivel activation	Activation	Positive degree (+°)
	Left handleren nuival netivetier	Standard position	Approx. 0°
SWVL ANGLE LH	Left headlamp swivel activation	Activation	Positive degree (+°)

TERMINAL LAYOUT



PHYSICAL VALUES

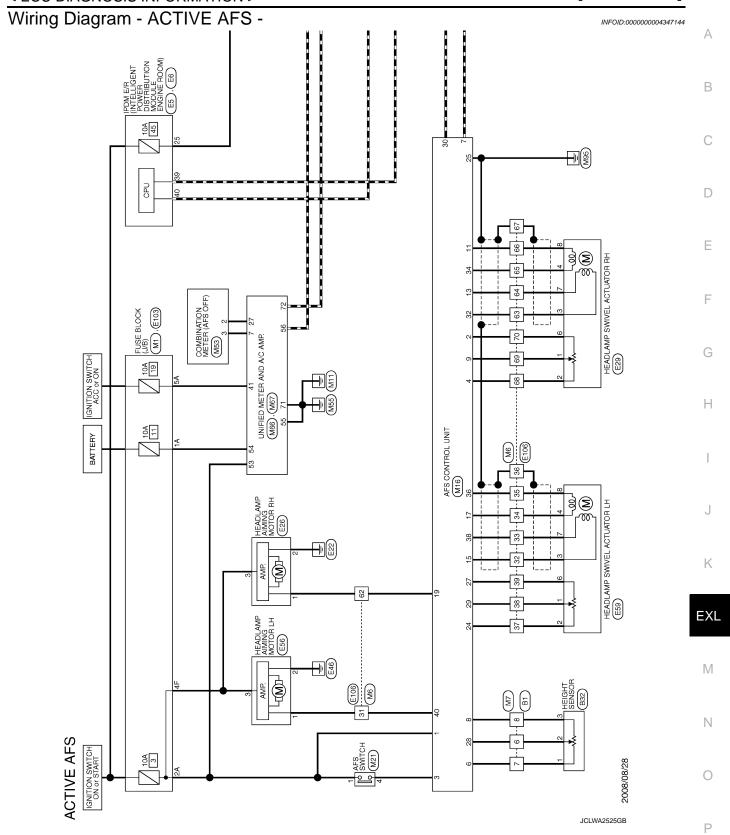
[XENON TYPE]

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

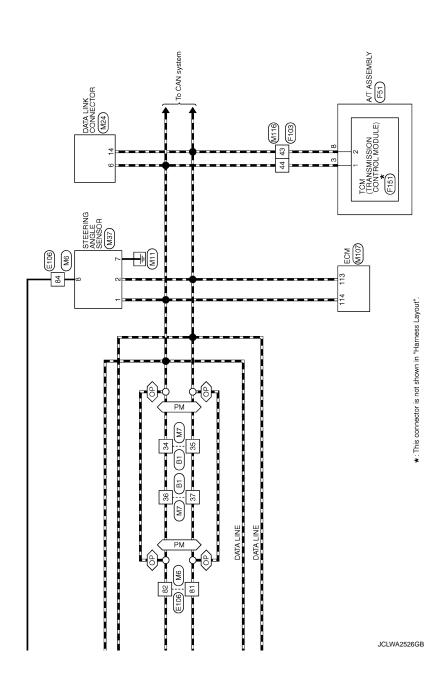
< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

	nal No. e color)	Description		Condition		Value
+	_	Signal name	Input/ output	Condition	on	(Approx.)
					Unloaded vehicle condition	2.5 V
28 (SB)	Ground	Height sensor signal	Output	Vehicle rear height	Low (Leveling operation downward edge)	1.6 V
29	Ground	Left swivel position sensor sig-	Output	Left headlamp swivel	0°	0.7 V
(O)		nal		angle	17°	3.0 V
30 (L)	Ground	CAN-H	Input/ output	_		_
						Reference waveform
32 (G)	Ground	Right swivel motor 2-phase (+)	Output	Right headlamp swivel	Activation	(V) 15 10 5 0 **100μs SKIB2408J
						8 - 12 V
34 (W)	Ground	Right swivel motor 1-phase (+)	Output	Right headlamp swivel	Stopped	9.5 - 11.5 V
36 (R)	Ground	Left swivel motor 2-phase (-)	Output	Left headlamp swivel	Activation	Reference waveform (V) 15 10 5 0 ****************************
38 (B)	Ground	Left swivel motor 1-phase (-)	Output	Left headlamp swivel	Stopped	9.5 - 11.5 V
		Left levelizer signal	Output	Right headlamp lev- eling	Unloaded vehicle condition	8.8 V
40 (L)	Ground				Leveling operation down-ward edge	4.4 V (With 17-inch wheel)
						4.0 V (With 18-inch wheel)

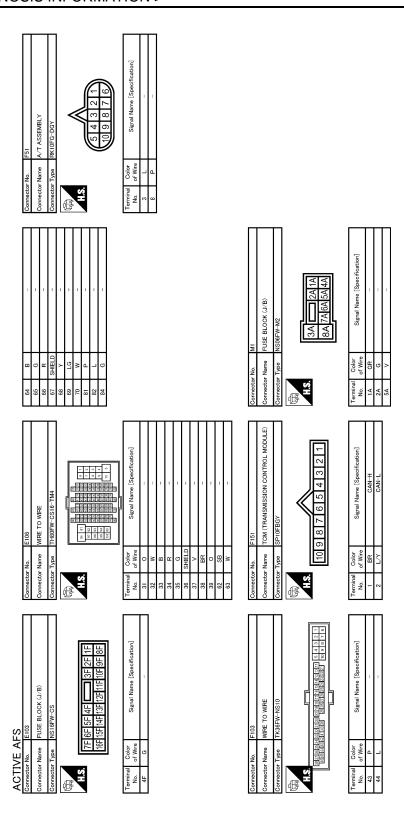


⟨PM⟩: With automatic drive positioner ⟨OP⟩: Without automatic drive positioner



Cornector No. E6 Connector Name EDM E.R. (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Type THOSE W-NH Towns Type Those Those	Connector No. E59 Connector No. E59 Connector Name HEADLAMP SWIVEL ACTUATOR LH	A B C	
Connector No. ES Connector Name DISTRIBUTION MODULE ENGINE ROOM) Connector Type ITADRW-CS12-M4-1V Signal Name [Specification] Terminal Color No. of Wire Signal Name [Specification]	Connector No. E86 Connector Name HEADLAMP AMING MOTOR LH Connector Type HSOGF GV ALS Terminal Codic No. of Wire 1 0 0 2 B 3 G -	E F G	
Signal Name Name Signal Name	Connector Name	J K	
ACTIVE AFS Cornector Name WIRE TO WIRE Connector Type TH80FW-CS-16-TM4 Terminal Color No. of Wire 6 SB - C	Connector No. E26	M N O	
		JCLWA2527GB	

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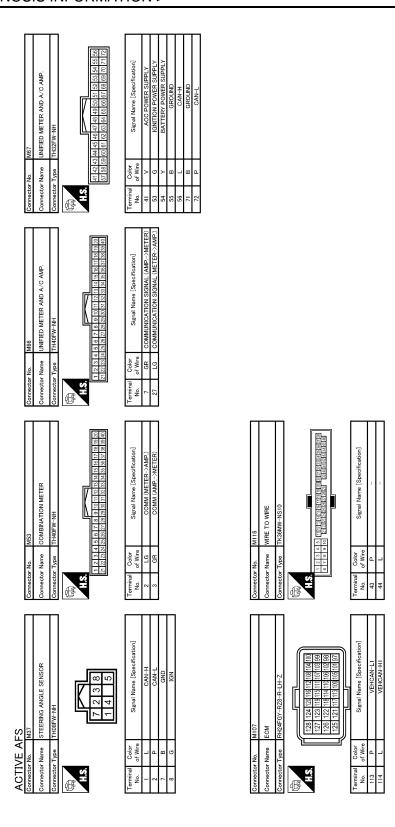
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	M24 Octomector No. M24 Octomector Name DATA LINK CONNECTOR Octomector Type BD16FW DATA LINK CONNECTOR DATA LINK DATA LINK DATA LINK CONNECTOR DATA LINK DATA LINK DATA LINK DATA LINK Color Signal Name (Sneeffcation) DATA LINK DATA LINK DATA LINK Color Signal Name (Sneeffcation) DATA LINK DATA LINK DATA LINK Color Signal Name (Sneeffcation) DATA LINK DATA LINK	
Connector No M7 Connector Name WIRE TO WIRE	Connector No. M21 Connector Name AFS SWITCH Connector Type TK06FW- 1V Terminal Color Signal Name [Specification] No. of Wire 1	
64 B	17 W SML-2 (+) 19 SB AMDS-R 24 V CiVID 25 BR PSG-L 29 C CARLH 30 L CARLH 30 L CARLH 31 W SML-2 (+) 32 BR SMR-2 (+) 33 BR SMR-2 (+) 34 W SML-2 (-) 35 BR SMR-2 (-) 36 BR SMR-2 (-) 37 AMDS-L 38 BR SMR-2 (-) 39 C CARLH 30 C CARLH 30 C CARLH 30 C CARLH 40 L AMDS-L 40 L AMDS-L 40 C CARLH 40 CARLH 40 CARLH 40 CARLH 40	
Connector Name WIRE TO WIRE	Connector No. M16	JCLWA2529GB

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[XENON TYPE]

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Fail-Safe

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 levelizer 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 completed.
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

INFOID:0000000004347146

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

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< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

DTC Index

×: Applicable

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 >

[XENON TYPE]

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SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table INFOID:0000000004347148

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.		Fuse Halogen bulb (HI) Harness between IPDM E/R and the headlamp high IPDM E/R	Headlamp (HI) circuit Refer to EXL-67.
	Both sides	Symptom diagnosis	
Headlamp (HI) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to EXL-182.	
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_
High beam indicator lamp is not turned ON. [The headlamp (HI) is turned ON.] Combination meter • BCM		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 EXL-69.
	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-183</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 BCS-83.
		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 EXL-74.
	Both side	Symptom diagnosis	
Front fog lamp is not turned ON.		"BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to <u>EXL-185</u> .	
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-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 EXL-85.
License plate lamp is not turned ON.		Harness between IPDM E/R and the license plate lamp License plate lamp	License plate lamp circuit Refer to EXL-87.
Tail lamp and the license plate lamp are not turned ON.		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 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 TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-184.	
Turn signal lamp does not blink.	Indicator lamp is normal. (The applicable side performs the high flasher activation.)	Harness between BCM and each turn signal lamp Turn signal lamp bulb	Turn signal lamp circuit Refer to EXL-78.
	Indicator lamp is included	Combination switch Harness between the combination switch and BCM BCM	Combination switch Refer to BCS-83.
	One side	Combination meter	_
Turn signal indicator lamp does not blink. (The turn signal indicator lamp is normal.)	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"
	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 MWI-53.
 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 does not activate. (AFS is normal.)		Harness between AFS control unit and aiming motor Front combination lamp (Aiming motor) AFS control unit	Headlamp levelizer circuit Refer to EXL-72.
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

< SYMPTOM DIAGNOSIS > [XENON TYPE]

NORMAL OPERATING CONDITION

Description A

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 > [XENON TYPE]

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description INFOID:000000004347150

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

Diagnosis Procedure

INFOID:0000000004347151

1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-83, "Symptom Table".

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 (2ND)	HI or PASS	On
		LO	Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-85, "Exploded View".

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.

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON [XENON TYPE] < SYMPTOM DIAGNOSIS > BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON Α Description INFOID:0000000004347152 The headlamps (both sides) are not turned ON in any condition. В Diagnosis Procedure INFOID:0000000004347153 CHECK COMBINATION SWITCH Check the combination switch. Refer to BCS-83, "Symptom Table". Is the combination switch normal? D YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT Е **©CONSULT-III DATA MONITOR** Select "HL LO REQ" of IPDM E/R data monitor item. With operating the lighting switch, check the monitor status. F Monitor item Condition Monitor status 2ND On **HL LO REQ** Lighting switch OFF Off Is the item status normal? Н YES >> GO TO 3. NO >> Replace BCM. 3.HEADLAMP (LO) CIRCUIT INSPECTION Check the headlamp (LO) circuit. Refer to EXL-69, "Description".

Is the headlamp (LO) circuit normal? YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

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PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

Description INFOID:000000004347154

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

Diagnosis Procedure

INFOID:0000000004347155

1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-83, "Symptom Table".

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

(P)CONSULT-III DATA MONITOR

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

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

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

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] < SYMPTOM DIAGNOSIS > BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON Α Description INFOID:0000000004347156 The front fog lamps are not turned ON in any condition. В Diagnosis Procedure INFOID:0000000004347157 1.COMBINATION SWITCH INSPECTION Check the combination switch. Refer to BCS-83, "Symptom Table". Is the combination switch normal? D YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT Е PCONSULT-III DATA MONITOR Select "FR FOG REQ" of IPDM E/R data monitor item. With operating the front fog lamp switch, check the monitor status. F Monitor item Condition Monitor status ON On Front fog lamp switch FR FOG REQ (Lighting switch 2ND) OFF Off Is the item status normal? Н YES >> GO TO 3. NO >> Replace BCM.

3.FRONT FOG LAMP CIRCUIT INSPECTION

>> Repair or replace the malfunctioning part.

Is the front fog lamp circuit normal?

>> Replace IPDM E/R.

YES

NO

Check the front fog lamp circuit. Refer to EXL-74, "Component Function Check".

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PRECAUTIONS

< PRECAUTION > [XENON TYPE]

PRECAUTION

PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "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 that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see 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:0000000004347159

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.).

[XENON TYPE]

PERIODIC MAINTENANCE

HEADLAMP AIMING ADJUSTMENT

Description INFOID:0000000004347160 В

PREPARATION BEFORE ADJUSTING

NOTE:

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

Before performing aiming adjustment, check the following.

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

NOTE:

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

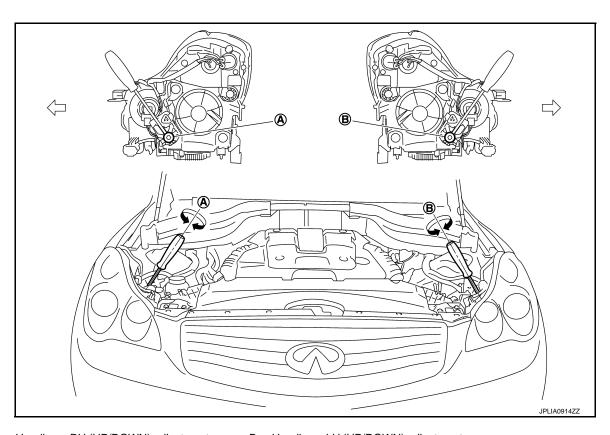
Wipe out dirt on the headlamp.

CAUTION:

Never use organic solvent (thinner, gasoline etc.)

Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



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

NOTE:

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

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	Adjustment screw	Screw driver rotation	Facing direction
A Headlema BH (LID/DOWN)		Clockwise	UP
A	A Headlamp RH (UP/DOWN)	Counterclockwise	DOWN
В	D. Hoodleres III (IID/DOWN)	Clockwise	UP
B Headlamp LH (UP/DOWN)	Counterclockwise	DOWN	

Aiming Adjustment Procedure

INFOID:0000000004347161

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.

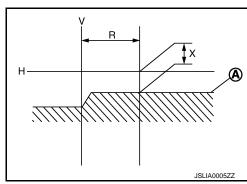
CAUTION:

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 mm (13.78 \pm 6.89 in)

Low beam distribution on the screen

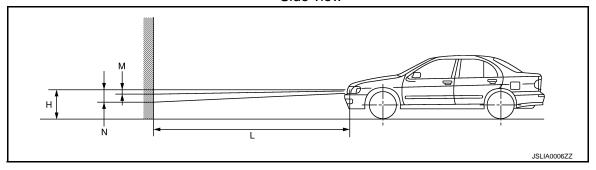


 Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

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)

Side view



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

FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

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FRONT FOG LAMP AIMING ADJUSTMENT

Description INFOID:0000000004347162

PREPARATION BEFORE ADJUSTING

- 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.

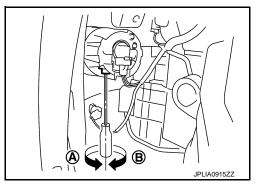
A: UP

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.



INFOID:0000000004347163

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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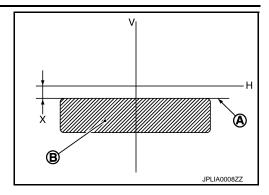
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FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

Front fog lamp light distribution on the screen



A : Cutoff line

B : High illuminance area

H : Horizontal center line of front fog lampV : Vertical center line of front fog lamp

X : Cutoff line height

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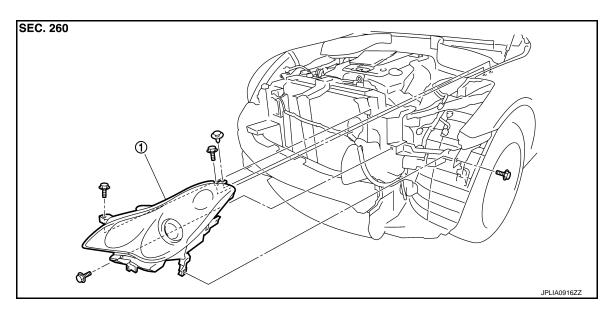
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REMOVAL AND INSTALLATION

FRONT COMBINATION LAMP

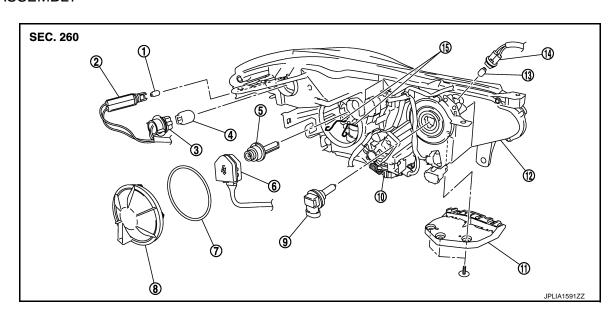
Exploded View

REMOVAL



1. Front combination lamp

DISASSEMBLY



- 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.

Removal and Installation

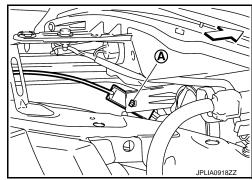
INFOID:0000000004347165

REMOVAL

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

- Remove the front bumper fascia. Refer to <u>EXT-12</u>, "<u>Exploded View</u>".
- 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-187, "Description".

Replacement

CAUTION:

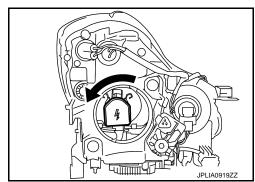
- Disconnect the battery negative terminal or remove the fuse.
- After installing the bulb, install the resin cap and the bulb socket securely for watertightness.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never touch bulb by hand while it is lit 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.
- 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)

- Remove the washer tank inlet^{*}. Refer to <u>WW-101, "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

Rotate the bulb socket counterclockwise and unlock it.

FRONT COMBINATION LAMP < REMOVAL AND INSTALLATION > [XENON TYI	PF1
THE WALL WAS THE WALL WAS TO SEE THE WALL WAS THE WALL WA	
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.	
Disassembly and Assembly	4347167
CAUTION:	
HID control unit and xenon bulb socket cannot be disassembled.	
DISASSEMBLY	
Rotate the resin cap counterclockwise and unlock it.	
2. Rotate the xenon bulb socket counterclockwise and unlock it.	
3. Remove the retaining spring lock. Remove the xenon bulb.	
4. Remove the bumper bracket.	
5. Rotate the parking lamp bulb socket counterclockwise and unlock it.	
6. Remove the bulb from the parking lamp bulb socket.	
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.	
9. Rotate the front side marker lamp bulb socket counterclockwise and unlock it.10. Remove the bulb from the front side marker lamp bulb socket.	
 Remove the build from the front side marker lamp build socket. Rotate the headlamp (HI) bulb socket counterclockwise and unlock it. 	
12. Remove the bulb socket from the headlamp housing assembly.	
ASSEMBLY	
Assemble in the reverse order of disassembly.	
CAUTION:	
After installing the bulb, install the resin cap and the bulb socket securely for watertightness.	

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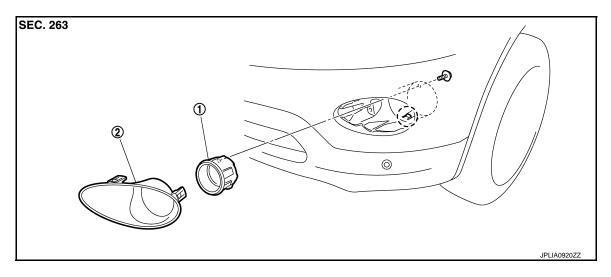
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EXL-193 Revision: 2010 March 2009 EX35

FRONT FOG LAMP

Exploded View



- Front fog lamp
- ? : Pawl

2. Front fog lamp finisher

Removal and Installation

INFOID:0000000004347169

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- Remove the front fender protector. Keep a service area. Refer to <u>EXT-25</u>, "<u>FENDER PROTECTOR</u>: Exploded View".
- 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 <a>EXL-189. "Description"

Replacement INFOID:000000004347170

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

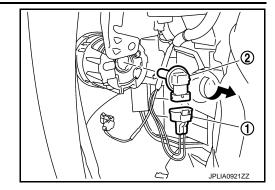
1. Remove the front fender protector. Keep the service area. Refer to EXT-25, "FENDER PROTECTOR: Exploded View".

FRONT FOG LAMP

< REMOVAL AND INSTALLATION >

[XENON TYPE]

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



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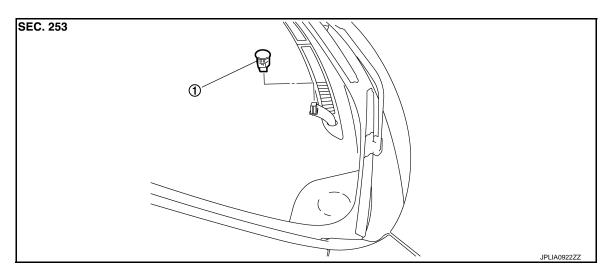
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OPTICAL SENSOR

Exploded View



Optical sensor

Removal and Installation

INFOID:0000000004347172

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.

LIGHTING AND TURN SIGNAL SWITCH

< REMOVAL AND INSTALLATION >

[XENON TYPE]

LIGHTING AND TURN SIGNAL SWITCH

Exploded View

Lighting and turn signal switch is integrated in the combination switch. BCS-86, "Exploded View".

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HAZARD SWITCH

< REMOVAL AND INSTALLATION >

[XENON TYPE]

HAZARD SWITCH

Exploded View

The hazard warning switch is integrated in the multifunction switch. Refer to AV-160, "Exploded View".

[XENON TYPE]

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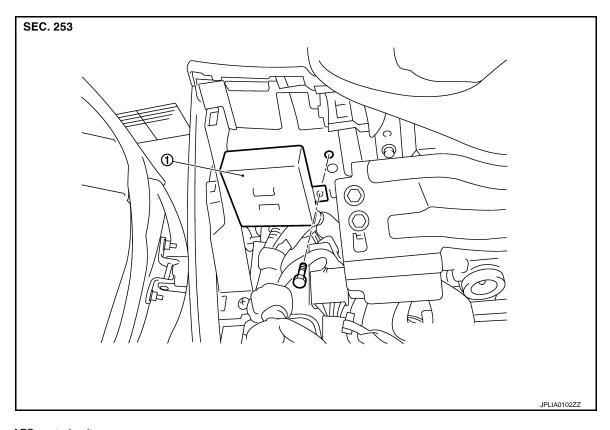
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INFOID:0000000004347176

AFS CONTROL UNIT

Exploded View



1. AFS control unit

Removal and Installation

REMOVAL

- 1. Remove the instrument lower panel LH. Refer to IP-12, "Exploded View".
- 2. Remove the AFS control unit mounting bolt.
- 3. Disconnect the AFS control unit connector.
- 4. Remove the AFS control unit.

INSTALLATION

Install in the reverse order of removal.

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STEERING ANGLE SENSOR

< REMOVAL AND INSTALLATION >

[XENON TYPE]

STEERING ANGLE SENSOR

Removal and Installation

INFOID:0000000004347177

Refer to SR-14, "Removal and Installation".

[XENON TYPE]

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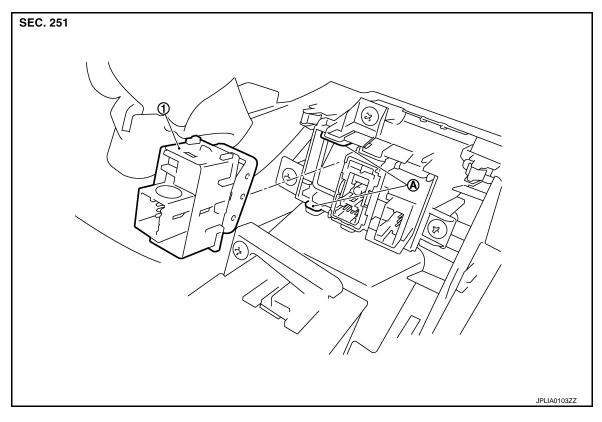
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AFS OFF SWITCH

Exploded View



- 1. AFS OFF switch
- A Pawls

Removal and Installation

REMOVAL

- 1. Remove the instrument driver lower panel. Refer to IP-12, "Exploded View".
- 2. Widen the pawl. And then remove AFS OFF switch.

INSTALLATION

Install in the reverse order of removal.

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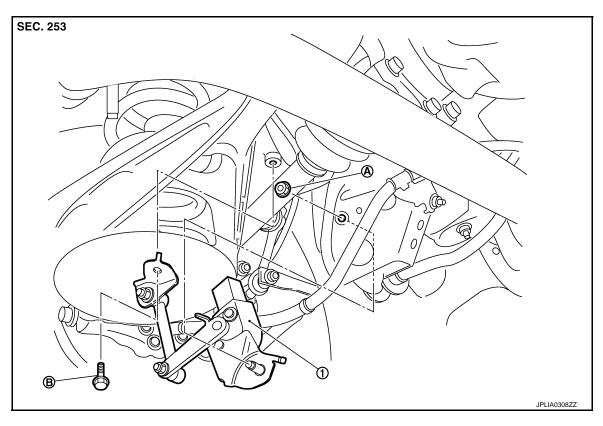
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HEIGHT SENSOR

Exploded View



- 1. Height sensor
- A Height sensor mounting nut
- B. Height sensor lever link bracket mounting bolt

Removal and Installation

INFOID:0000000004347181

REMOVAL

- 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 <u>EXL-9</u>, "<u>LEVELIZER ADJUSTMENT</u>: <u>Special Repair Requirement</u>".

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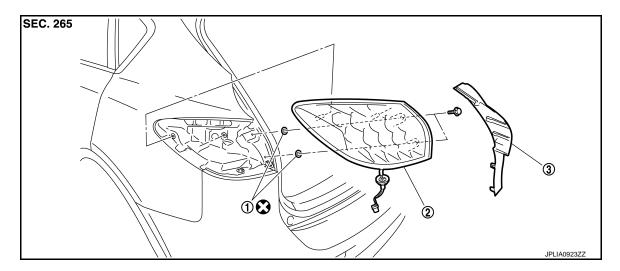
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INFOID:0000000004347183

REAR COMBINATION LAMP

Exploded View



Seal packing

- 2. Rear combination lamp
- 3. Rear combination lamp finisher

Refer to GI-4, "Components" for symbols in the figure.

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 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.

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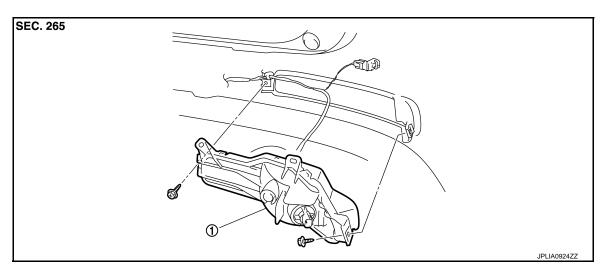
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Revision: 2010 March **EXL-203** 2009 EX35

REAR TURN SIGNAL LAMP

Exploded View



Rear turn signal lamp

Removal and Installation

INFOID:0000000004347185

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the rear bumper fascia. Refer to EXT-16, "Exploded View".
- Remove the rear turn signal lamp.

INSTALLATION

Install in the reverse order of removal.

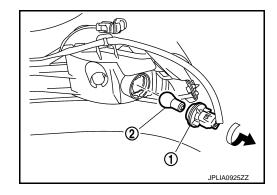
Replacement INFOID:000000004347186

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.



[XENON TYPE]

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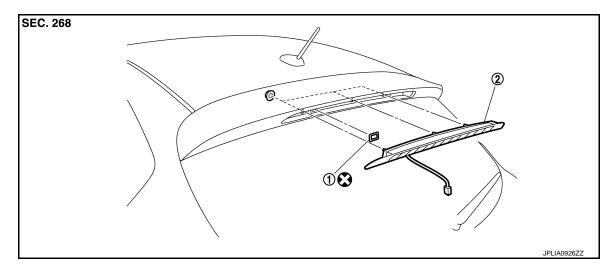
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INFOID:0000000004347188

HIGH-MOUNTED STOP LAMP

Exploded View



1. Seal packing

2. High-mounted stop lamp

Refer to GI-4, "Components" for symbols in the figure.

Removal and Installation

REMOVAL

- Remove the back door finisher inner. Refer to <u>INT-38</u>, "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.
- Remove the high-mounted stop lamp.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Seal packing cannot be reused.

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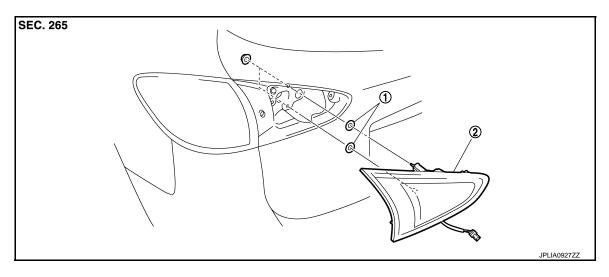
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Revision: 2010 March **EXL-205** 2009 EX35

BACK-UP LAMP

Exploded View



1. Seal packing

Back-up lamp

Removal and Installation

INFOID:0000000004347190

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- Remove the back door finisher inner. Refer to <u>INT-38</u>, "Exploded View".
- 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.

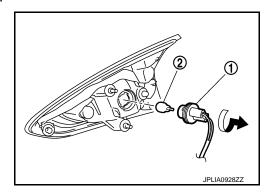
Replacement INFOID:000000004347191

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.

BACK-UP LAMP BULB

- 1. Remove the back-up lamp. Refer to EXL-206, "Exploded View".
- 2. Turn the bulb socket (1) counterclockwise and unlock it.
- Remove the bulb (2) from the socket.



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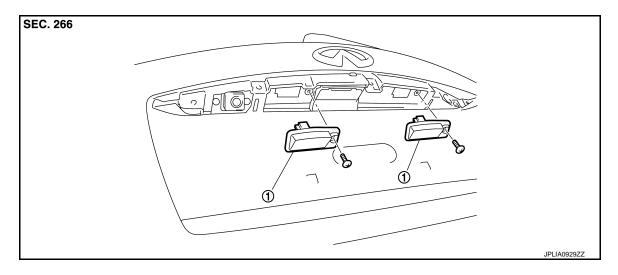
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LICENSE PLATE LAMP

Exploded View INFOID:0000000004347192



License plate lamp

Removal and Installation

INFOID:0000000004347193

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- Remove the door handle cover. Refer to <u>EXT-48</u>, "<u>Exploded View</u>".
- Remove the screw. And then remove the license plate lamp.
- Disconnect the license plate lamp connector.

INSTALLATION

Install in the reverse order of removal.

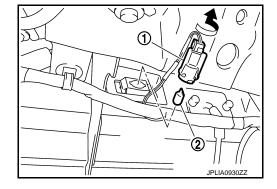
Replacement INFOID:0000000004347194

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



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SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[XENON TYPE]

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Bulb Specifications

INFOID:0000000004347195

Item		Туре	Wattage (W)
	Headlamp (HI)	H9 (Halogen)	65
	Headlamp (LO)	D2S (XENON)	35
Front combination lamp	Front turn signal lamp	W21W	21
	Parking lamp	W5W	5
	Front side marker lamp	W5W	5
Front fog lamp		H8	35
D L' C L	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	_

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow INFOID:0000000004347196 В

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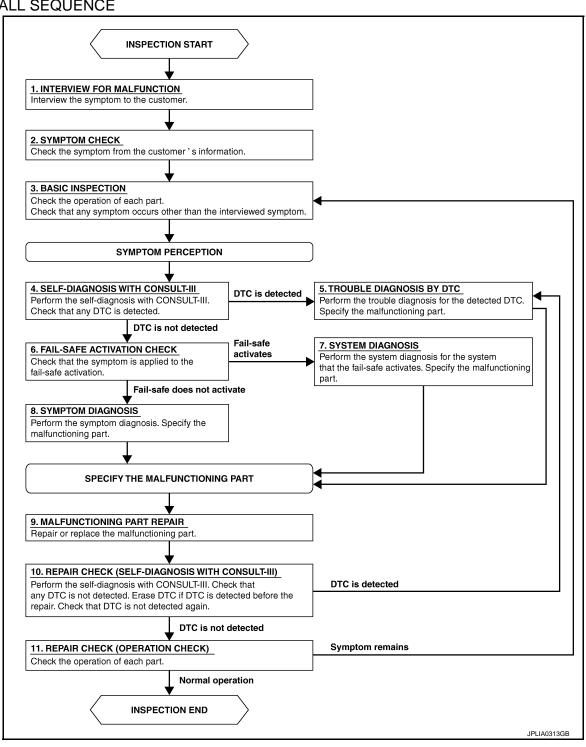
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OVERALL SEQUENCE



DETAILED FLOW

1.INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[HALOGEN TYPE]

>> 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.

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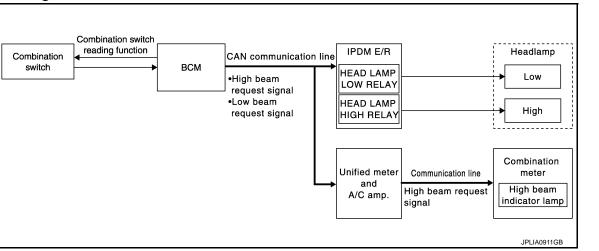
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SYSTEM DESCRIPTION

HEADLAMP SYSTEM

System Diagram



System Description

INFOID:0000000004347198

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.

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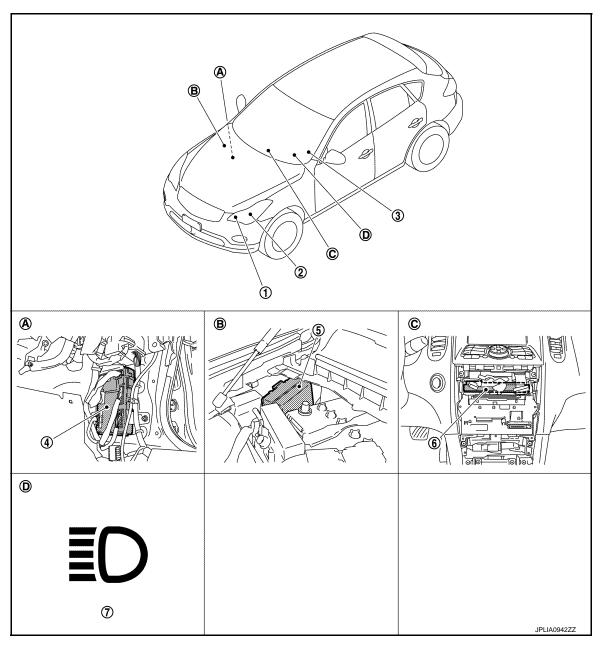
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Component Parts Location

INFOID:0000000004347199



- 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 (LH)
- 3. Combination switch
- 6. Unified meter and A/C amp.
- C. Behind the cluster lid c

HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Component Description

INFOID:0000000004347200

Part	Description	
ВСМ	 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.)].	

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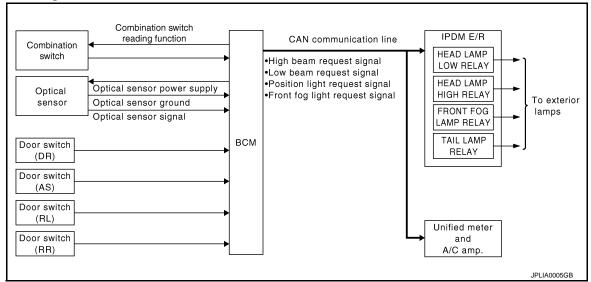
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AUTO LIGHT SYSTEM

System Diagram

INFOID:0000000004347201



System Description

INFOID:0000000004347202

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).

- 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 <u>EXL-33</u>, <u>"HEADLAMP : CONSULT-III Function (BCM HEAD LAMP)"</u>.

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

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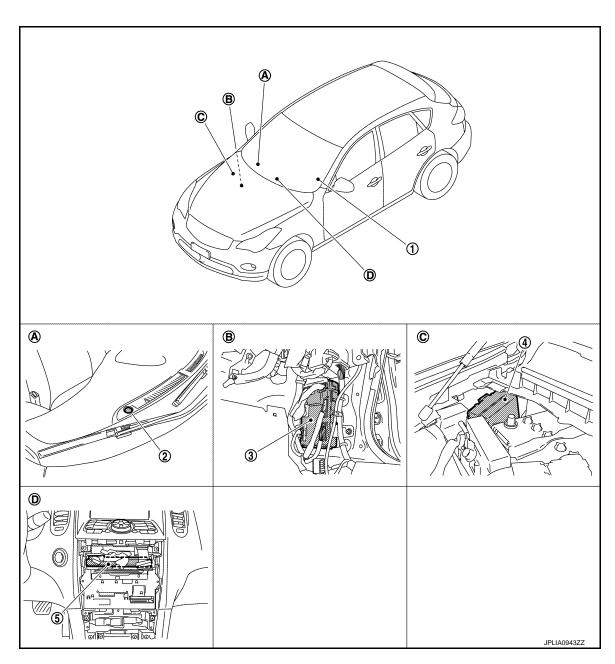
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- 1. Combination switch
- 4. IPDM E/R
- A. Instrument upper panel (RH)
- D. Behind the cluster lid C
- 2. Optical sensor
- 5. Unified meter and A/C amp.
- B. Dash side lower (Passenger side)
- 3. BCM
- C. Engine room dash panel (RH)

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AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Component Description

INFOID:0000000004347204

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 BCS-8, "System Diagram".
Optical sensor	Refer to EXL-251, "Description".

[HALOGEN TYPE]

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DAYTIME RUNNING LIGHT SYSTEM

System Diagram

INFOID:0000000004347205 Combination switch reading function IPDM E/R Combination CAN communication line FRONT FOG Front switch Front fog light request signal LAMP RELAY fog lamp CAN communication line **ECM** всм Engine status signal Unified meter and A/C amp. Parking brake switch signal JPLIA0006GB

System Description

INFOID:0000000004347206

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.

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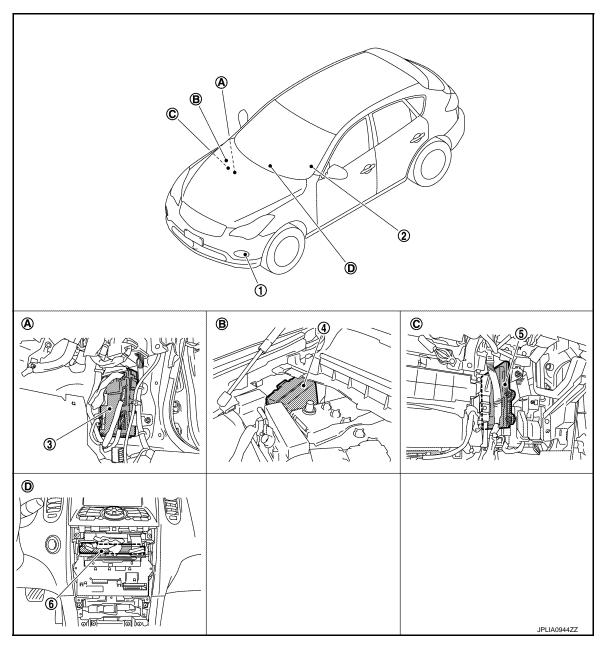
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EXL-217 Revision: 2010 March 2009 EX35

Component Parts Location

INFOID:0000000004347207



- 1. Daytime running light (Front fog lamp)
- 4. IPDM E/R
- A. Dash side lower (Passenger side)
- D. Behind the cluster lid C
- 2. Combination switch
- 5. ECM
- B. Engine room dash panel (RH)
- 3. BCM
- 6. Unified meter and A/C amp.
- C. Behind the glove box

Component Description

INFOID:0000000004347208

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 BCS-8, "System Diagram".
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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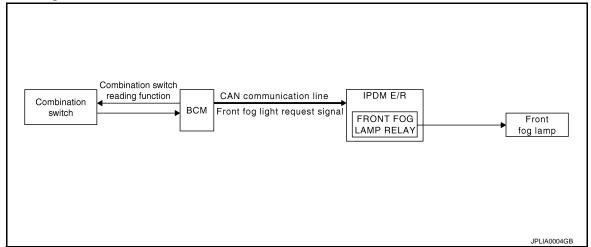
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FRONT FOG LAMP SYSTEM

System Diagram

INFOID:0000000004923797



System Description

INFOID:0000000004923798

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</u>, "System <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.

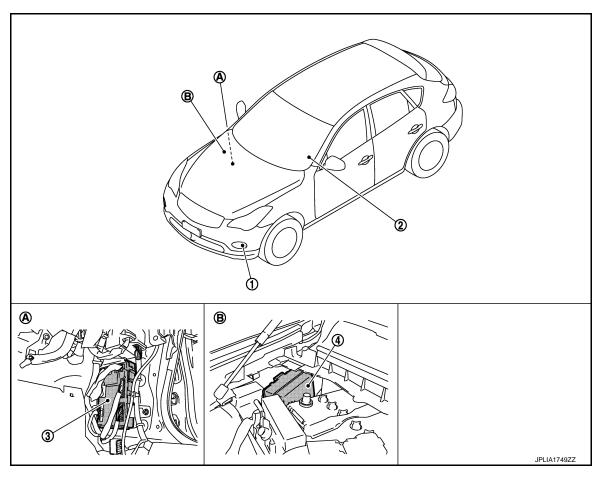
Front fog lamp ON condition

- 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.

[HALOGEN TYPE]

Component Parts Location

INFOID:0000000004923799



- 1. Front fog lamp
- 4. IPDM E/R
- A. Dash side lower (Passenger side)
- 2. Combination switch
- 3. BCM
- B. Engine room dash panel (RH)

Component Description

INFOID:0000000004923800

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 BCS-8, "System Diagram".

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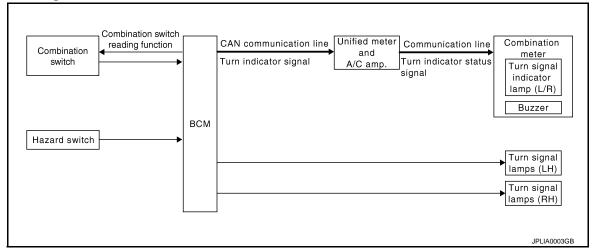
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

System Diagram

INFOID:0000000004347213



System Description

INFOID:0000000004347214

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)

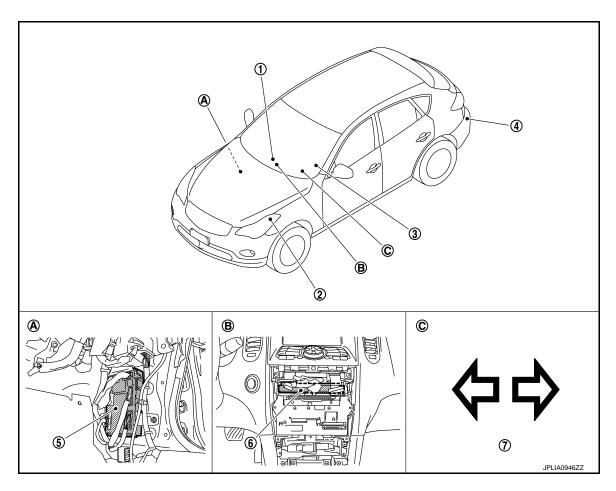
- BCM detects the turn signal lamp circuit status from the current value.
- BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

NOTE:

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

Component Parts Location

INFOID:0000000004347215



- 1. Hazard warning switch
- 4. Rear turn signal lamp
- 7. Turn signal indicator lamp
- A. Dash side lower (Passenger side)
- 2. Front turn signal lamp
- 5. BCM
- B. Behind the cluster lid C
- 3. Combination switch
- 6. Unified meter and A/C amp.
- C. On the combination meter

Component Description

INFOID:0000000004347216

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 EXL-254, "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.)].	

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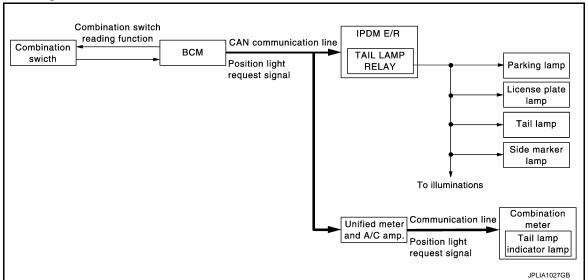
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[HALOGEN TYPE]

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

System Diagram

INFOID:0000000004347217



System Description

INFOID:0000000004347218

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

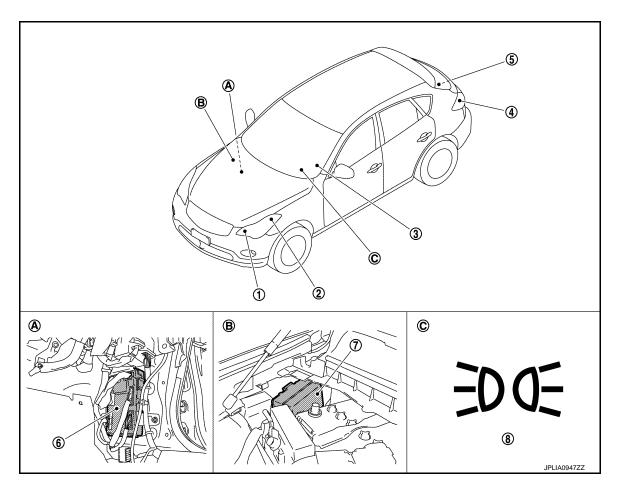
- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the position light request signal to IPDM E/R with CAN communication according to the ON/ OFF condition of the parking, license plate, side marker and tail lamps.

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.

Component Parts Location

INFOID:0000000004347219



- 1. Parking lamp
- 4. Tail lamp and side marker lamp
- 7. IPDM E/R
- A. Dash side lower (Passenger side)
- 2. Side marker lamp
- 5. License plate lamp
- 8. Tail lamp indicator lamp
- B. Engine room dash panel (RH)
- 3. Combination switch
- 6. BCM
- C. On the combination meter

Component Description

INFOID:0000000004347220

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.)].

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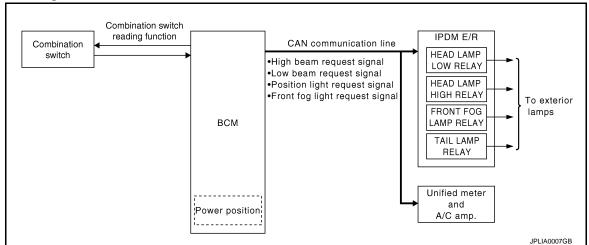
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EXTERIOR LAMP BATTERY SAVER SYSTEM

System Diagram

INFOID:0000000004347221



System Description

INFOID:0000000004347222

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 EXL-214, "System Diagram".

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.

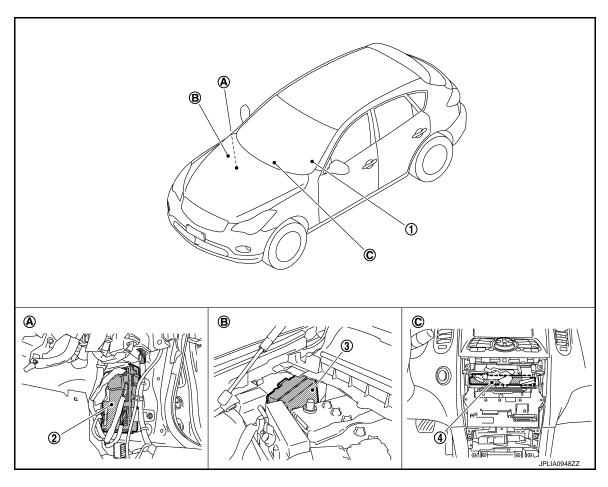
EXTERIOR LAMP BATTERY SAVER SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Component Parts Location

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- 1. Combination switch
- 4. Unified meter and A/C amp.
- A. Dash side lower (Passenger side)
- 2. BCM
- B. Engine room dash panel (RH)
- 3. IPDM E/R
- C. Behind the cluster lid C

Component Description

INFOID:0000000004347224

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 communication).	
Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "System Diagram".	

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DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:0000000004927452

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	Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III operation 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.		
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.

×: Applicable item

System	Sub system selection 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 system Engine 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:

FREEZE FRAME DATA (FFD)

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

^{*:} This item is displayed, but is not used.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[HALOGEN 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		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" (Emergency 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 steering 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: CONSULT-III Function (BCM - HEAD LAMP)

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WORK SUPPORT

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

Service item	Setting item	Setting		
	MODE 1*	45 sec.		
	MODE 2	Without the function		
	MODE 3	30 sec.		
ILL DELAY SET	MODE 4	60 sec.	Sets delay timer function timer operation time. (All doors closed)	
	MODE 5	90 sec.	(All doors closed)	
	MODE 6	120 sec.		
	MODE 7	150 sec.		
	MODE 8	180 sec.		
MODE 1* Normal		Normal		
CUSTOM A/LIGHT SET- TING	MODE 2	More sensitive setting than normal setting (Turns ON earlier than normal operation.)		
	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)

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

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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 communication 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 communication to turn the front fog lamp ON.		
	Off	Stops the front fog light request signal transmission.		
RR FOG LAMP	On	NOTE:		
RR FOG LAWIP	Off	The item is indicated, but cannot be tested.		
DAYTIME RUNNING LIGHT	On	NOTE:		
DAT TIME 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 Roll to Maloacoa, but oalmot be tottou.		
III DIM CIONAL	On	NOTE:		
ILL DIM SIGNAL	Off	The item is indicated, but cannot be tested.		

FLASHER

FLASHER: CONSULT-III Function (BCM - FLASHER)

INFOID:0000000004347227

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

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DIAGNOSIS SYSTEM (BCM)

[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 quitch condition that DCM judges from the combination quitch reading fur		
TURN SIGNAL L [On/Off]	Each switch condition that BCM judges from the combination switch reading fu		
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.

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

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AUTO ACTIVE TEST

Description

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

- Oil pressure warning lamp
- Front wiper (LO, HI)
- Parking lamps
- License plate lamps
- 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.
- 3. 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.
- 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>, "Component Function Check".
- Do not start the engine.

Inspection in Auto Active Test Mode

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

Operation sequence	Inspection location	Operation	
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test	
2	Front wiper	LO for 5 seconds → HI for 5 seconds	
3	 Parking lamps License plate lamps 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 ⇔ OFF 5 times	
6*	Cooling fan	MID for 5 seconds → HI for 5 seconds	

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

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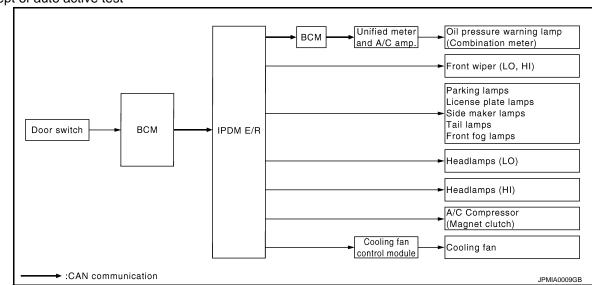
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Concept of auto active test



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

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause
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 operate?	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 between IPDM E/R and magnet clutch IPDM E/R
	Perform auto active test.	YES	Harness or connector between IPDM E/R and oil pressure switch Oil pressure switch IPDM E/R
Oil pressure warning lamp does not operate	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 between cooling fan and cooling fan control module Cooling fan control module Harness or connector between IPDM E/R and cooling fan control module Cooling fan relay Harness or connector between IPDM E/R and cooling fan relay IPDM E/R

CONSULT-III Function (IPDM E/R)

INFOID:0000000004927454

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 EXL-338, "DTC Index".

DATA MONITOR

Monitor item

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

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< 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 communication.
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	The Roll to Indicator, but callingt be tested.	
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 modu	
	3	Outputs 80% pulse duty signal (PWM signal) to the cooling fan control modu	
	4	Outputs 100% pulse duty signal (PWM signal) to the cooling fan control module.	

< SYSTEM DESCRIPTION >

[HALOGEN 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 second intervals.	
	Fog	Operates the front fog lamp relay.	

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE): Diagnosis Procedure

INFOID:0000000004927456

1. CHECK FUSE AND FUSIBLE LINK

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

Signal name	Fuse and fusible link No.
Rattery power supply	К
Battery power supply	10

Is the fuse fusing?

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

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

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

(Voltage		
BCM			(Approx.)
Connector	Terminal	Ground	
M118	1	Glound	Battery voltage
M119	11		Dattery Voltage

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

ВС	CM		Continuity	
Connector Terminal		Ground	Continuity	
M119	13		Existed	

Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

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

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

1. CHECK FUSES AND FUSIBLE LINK

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

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Signal name	Fuses and fusible link No.
Battery power supply	С
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	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
IPDM E/R		(-)	(Approx.)
Connector	Terminal	Ground	
E4	1	Giodila	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 I	IPDM E/R		IPDM E/R		Continuity
Connector	Terminal	Ground	Continuity		
E5	12	Giodila	Existed		
E6	41		LXISIEU		

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

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[HALOGEN TYPE]

EXTERIOR LAMP FUSE

Description INFOID:000000004347232

Fus<u>e list</u>

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 lampRear side marker lampLicense plate lampEach 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

INFOID:0000000004347233

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.

HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

HEADLAMP (HI) CIRCUIT

Component Function Check

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1. CHECK HEADLAMP (HI) OPERATION

PIPDM 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.

PCONSULT-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 EXL-241, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004347235

1. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

©CONSULT-III ACTIVE TEST

- 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.

Terminals			Condition		
(+)		(-)	Oonalion	Voltage	
	IPDM E/R			External	(Approx.)
Cor	nector	Terminal		lamp	
RH		89	89 Ground	Hi	Battery voltage
	E8				Ground
LH			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.
- Check continuity between the IPDM E/R harness connector and the front combination lamp harness connector.

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	IPDM E	/R	Front combination lamp		Continuity
Coni	nector	Terminal	Connector	Terminal	Continuity
RH	E8	89	E28	7	Existed
LH	Lo	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 HEADLAMP (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	
Connector		Terminal	Ground	Continuity	
RH	E8	89	Ground	Not existed	
LH	E0	90		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 (HI) GROUND OPEN CIRCUIT

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

Fro	nt combinat	ion lamp		Continuity	
Connector		Terminal	Ground	Continuity	
RH	E28	2	Giodila	Existed	
LH	E58	2		LAISIEU	

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

HEADLAMP (LO) CIRCUIT

Component Function Check

INFOID:0000000004347236

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".
- Check that the headlamp is turned ON.

PCONSULT-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.

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Lo : Headlamp (LO) ON : Headlamp (LO) OFF Off

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Is the headlamp (LO) turned ON?

YES >> Headlamp (LO) is normal.

>> Refer to EXL-243, "Diagnosis Procedure". NO

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Diagnosis Procedure

INFOID:0000000004347237

1. CHECK HEADLAMP (LO) OUTPUT VOLTAGE

©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	Test item		
(+)			(-)	rest item	Voltage
IPDM E/R			External	(Approx.)	
Conr	nector	Terminal		lamp	
RH	83	Ground	Lo	Battery voltage	
1311	E8	Ground	Off	0 V	
LH	84		Lo	Battery voltage	
		04		Off	0 V

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Is the measurement value normal?

YES >> GO TO 2. NO >> GO TO 3.

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2.CHECK HEADLAMP (LO) OPEN CIRCUIT

- Turn the ignition switch OFF.
- 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	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E8	83	E28	5	Existed
LH	LO	84	E58	5	LAISIGU
	-				

Does continuity exist?

HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

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.

IPDM E/R				Continuity
Conr	Connector Term		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 ground.

Front combination lamp				Continuity
Con	Connector Terminal		Ground	Continuity
RH	E28	3	Ground	Existed
LH	E58	3		LAISIEU

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

FRONT FOG LAMP CIRCUIT

Component Function Check

INFOID:0000000004347238

1. CHECK FRONT FOG LAMP OPERATION

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PIPDM E/R AUTO ACTIVE TEST

- Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".
- Check that the front fog lamp is turned ON.

PCONSULT-III ACTIVE TEST

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

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

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Is the front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.

>> Refer to EXL-245, "Diagnosis Procedure". NO

Diagnosis Procedure

INFOID:0000000004347239

1. CHECK FRONT FOG LAMP FUSE

- Turn the ignition switch OFF.
- 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

- Disconnect IPDM E/R connector and the front fog lamp connector.
- 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	E0	87		Not existed

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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

(P)CONSULT-III ACTIVE TEST

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

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FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

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

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

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

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

6.CHECK FRONT FOG LAMP GROUND CIRCUIT OPEN CIRCUIT

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

Front fog lamp				Continuity
Connector		Terminal	Ground	Continuity
RH	E34	2	Giodila	Existed
LH	E64	2		Existed

Does continuity exist?

YES >> Replace the front fog lamp.

NO >> Repair the harnesses or connectors.

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

PARKING LAMP CIRCUIT

Component Function Check

INFOID:0000000004347240

1. CHECK PARKING LAMP OPERATION

В

PIPDM E/R AUTO ACTIVE TEST

- 1. Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".
- Check that the parking lamp is turned ON.

PCONSULT-III ACTIVE TEST

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

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TAIL : Parking lamp ON Off : Parking lamp OFF

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Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal.

>> Refer to EXL-247, "Diagnosis Procedure". NO

Diagnosis Procedure

INFOID:0000000004347241

1. CHECK PARKING LAMP FUSE

- Turn the ignition switch OFF.
- 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.

Н

2.CHECK PARKING LAMP SHORT CIRCUIT

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

IPDM E/R				Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E9	91	Giodila	Not existed
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.)

${f 3.}$ 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

(P)CONSULT-III ACTIVE TEST

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

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PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

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

	Terminals					
(+)		(-)	Test item	Voltage		
IPDM E/R			EXTERNAL	(Approx.)		
Coi	nnector	Terminal		LAMP		
RH	RH 91	91	Ground	TAIL	Battery voltage	
				Off	0 V	
LH	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 combination lamp		
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E9	91	E28	8	Existed
LH	La	92	E58	8	LAISIEU

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

O.CHECK PARKING LAMP GROUND OPEN CIRCUIT

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

Front combination lamp				Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E28	4	Giodila	Existed
LH	E58	4		Existed

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

TURN SIGNAL LAMP CIRCUIT

Description INFOID:0000000004347242

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

NOTE:

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

Component Function Check

INFOID:0000000004347243

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1. CHECK TURN SIGNAL LAMP

CONSULT-III ACTIVE TEST

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

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-249, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004347244

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

(P)CONSULT-III ACTIVE TEST

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

	Terminals		Test item		
	(+)		(-)	rest item	Voltage (Approx.)
	ВСМ			FLASHER	voltage (Approx.)
Conn	ector	Terminal		TEAGILIE	
Front RH		17			(V) 15 10 hannannannann
Front LH	M119	18	Ground	LH or RH	5 0
Rear RH		20		0,4	
Rear LH	M120	25	1	Off	0 V

Is the measurement value normal?

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TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

YES >> GO TO 3.

NO >> Replace BCM.

3.check turn signal lamp open circuit

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

ВСМ		Front combination lamp/ Rear combination lamp		Continuity	
Conr	nector	Terminal	Connector	Terminal	
Front RH	M119	17	E28	6	
Front LH	IVITIS	18	E58	6	Existed
Rear RH	M120	20	B261	1	Existed
Rear LH	W1120	25	B260	1	

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between the BCM harness connector and the ground.

ВСМ				Continuity
Connector Terminal			Continuity	
Front RH	M119	17	Ground	
Front LH	WITTE	18	Glound	Not existed
Rear RH	M120	20		Not existed
Rear LH	WITZU	25		

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 5.

5. CHECK TURN SIGNAL LAMP GROUND OPEN CIRCUIT

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

Front combination lamp / Rear combination lamp				Continuity
Connector Terminal				
Front RH	E28	4	Ground	
Front LH	E58	4		Existed
Rear RH	B261	2		Existed
Rear LH	B260	2		

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

INFOID:0000000004347246

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OPTICAL SENSOR

Description INFOID:0000000004347245

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

PCONSULT-III DATA MONITOR

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

Monitor item	Condition		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-251, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK OPTICAL SENSOR POWER SUPPLY INPUT

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

(-	+)	(–)	Voltage
Optica	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	Optical sensor		(Approx.)
Connector	Terminal	Ground	
M94	3		0 V

Is the measurement value normal?

YES >> GO TO 3.

>> GO TO 6. NO

3.check optical sensor signal output

INFOID:0000000004347247

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< DTC/CIRCUIT DIAGNOSIS >

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

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

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

Is the measurement value normal?

YES >> GO TO 7.

NO >> Replace the optical sensor.

4. CHECK OPTICAL SENSOR OPEN CIRCUIT

- 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		В	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	
M94	1		Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

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.

Optical sensor		В	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.

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

Optical sensor		BCM		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	
M94	2		Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

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[HALOGEN TYPE]

HAZARD SWITCH

Description INFOID:000000004347248

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

Component Function Check

INFOID:0000000004347249

1. CHECK HAZARD SWITCH SIGNAL BY CONSULT-III

(E)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	Condition		Monitor status
HAZARD SW	Hazard switch	While pressing the switch	
TIAZAKO SW	Tiazaiu Switch	While not pressing the switch	Off

Is the item status normal?

YES >> Hazard switch circuit is normal.

NO >> Refer to EXL-254, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004347250

1. CHECK HAZARD SWITCH SIGNAL INPUT

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

	Terminals		Condition	Voltage (Approx.)	
(+)	(-)	Condition		
ВС	М		Hazard switch		
Connector	Terminal		Hazard Switch		
			While pressing the switch	0 V	
M122	110	Ground	While not pressing the switch	(V) 15 10 5 0 10 ms JPMIA0012GB	

Is the measurement value normal?

YES >> Replace BCM.

NO >> GO TO 2.

2. CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

- 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.

HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

Multifunction switch		BCM		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.

Multifunc	tion switch		Continuity
Connector	Terminal	Ground	
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.

Multifunc	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.

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EXL-255 Revision: 2010 March 2009 EX35

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[HALOGEN TYPE]

TAIL LAMP CIRCUIT

Component Function Check

INFOID:0000000004347251

1. CHECK TAIL LAMP OPERATION

RIPDM E/R AUTO ACTIVE TEST

- Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".
- 2. Check that the tail lamp is turned ON.

(P)CONSULT-III ACTIVE TEST

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

TAIL : Tail lamp ON
Off : Tail lamp OFF

Is the tail lamp turned ON?

YES >> Tail lamp circuit is normal.

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

Diagnosis Procedure

INFOID:0000000004347252

1. CHECK TAIL LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
Tail lampRear side marker lampLicense plate lamp	IPDM E/R	#53	10 A

Is the fuse fusing?

YES >> Repair the malfunctioning part before replacing the fuse.

NO >> GO TO 2.

2. CHECK TAIL LAMP OUTPUT VOLTAGE

©CONSULT-III ACTIVE TEST

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

Terminals			Test item	
(+)	(-)	iest item	Voltage (Approx.)
IPDN	/I E/R		EXTERNAL	
Connector	Terminal	Ground	LAMP	
E5	7	Giodila	TAIL	Battery voltage 0 V
	7		Off	

Is the measurement value normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R.

3.CHECK TAIL LAMP OPEN CIRCUIT

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

TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

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

Continuity	Rear combination lamp		/R	IPDM E	
Continuity	Terminal	Connector	Terminal	Connector	С
Existed	1	B232	7	E5	RH
LAISIEU	1	B60	,	LJ	LH

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	
RH	B232	4	Glound	Existed
LH	B60	4		

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

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LICENSE PLATE LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

LICENSE PLATE LAMP CIRCUIT

Component Function Check

INFOID:0000000004347253

NOTE:

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

1. CHECK LICENSE PLATE LAMP OPERATION

PIPDM E/R AUTO ACTIVE TEST

- 1. Activate IPDM E/R auto active test. Refer to PCS-10, "Diagnosis Description".
- 2. Check that the license plate lamp is turned ON.

(P)CONSULT-III ACTIVE TEST

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

TAIL : License plate lamp ON
Off : License plate lamp OFF

Is the license plate lamp turned ON?

YES >> License plate lamp circuit is normal.

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

Diagnosis Procedure

INFOID:0000000004347254

1. CHECK LICENSE PLATE LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

2.CHECK LICENSE PLATE LAMP OPEN CIRCUIT

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

Continuity	License plate lamp		IPDM E/R		
Continuity	Terminal	Connector	Terminal	onnector	С
Existed	1	D117	7	E5	RH
LXISIGU	1	D112	,	LJ	LH

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3.check license plate lamp ground open circuit

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

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

Does continuity exist?

YES >> Replace the license plate lamp.

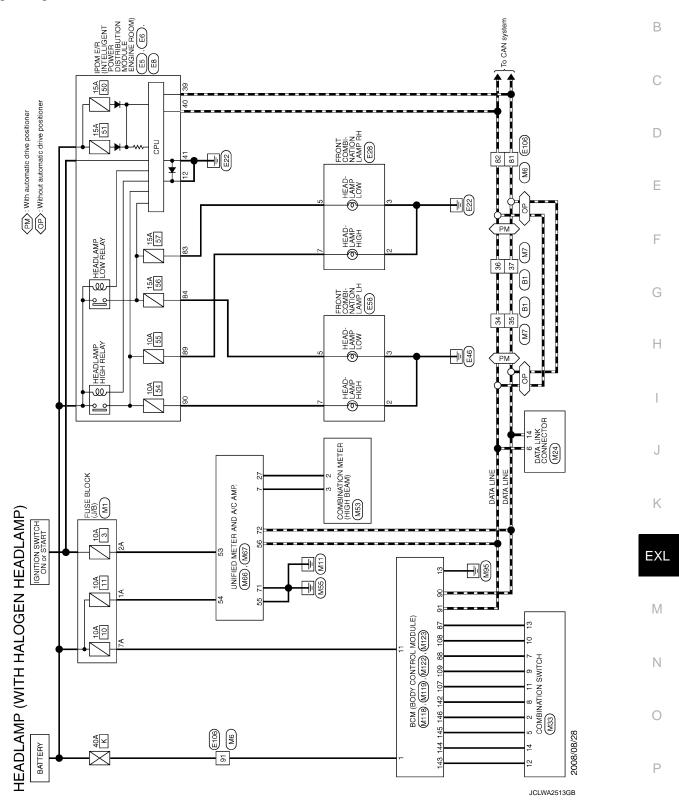
NO >> Repair the harnesses or connectors.

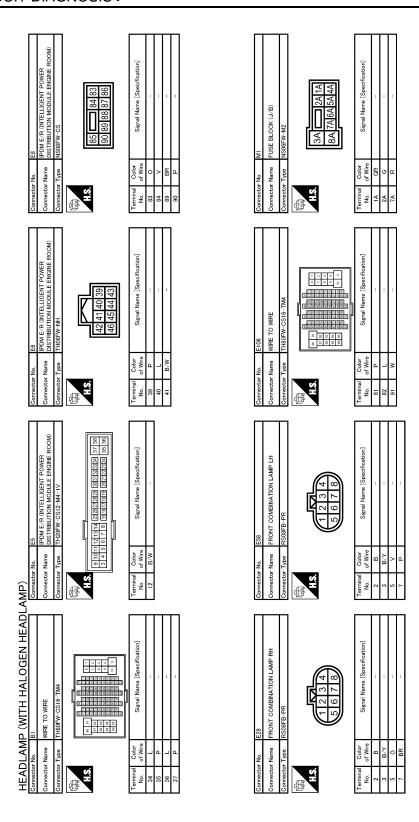
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HEADLAMP SYSTEM

Wiring Diagram - HEADLAMP -

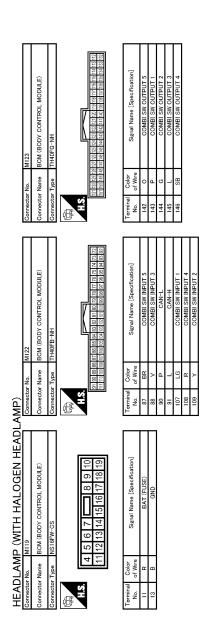




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	M33	Signal Name [Specification]	MI 18 BOM (BODY CONTROL MODULE) MAGSFB-LC 113	Signal Name (Specification) BAT (F/L)		A B C
	Connector No. Connector Type Connector Type H.S.	Terminal Color No. of Wire State Sta	Connector No. Connector Type H.S.	Terminal Color No. of Wire I W		D
	1516	offication]	AMP. 2 55 54 55 56 8 69 70 71 72	S SUPPLY S SUPPLY		Е
	IT 12 13 14 5 6	Signal Name (Specification)	M67 TH32FW-NH TH45-64 12 18 19 20 15 25 25 18 19 10 10 10 10 10 10 10 10 10 10 10 10 10	Signal Name (Specification) IGANTION POWER SUPPLY BATTERY POWER SUPPLY GROUND CAN+H GROUND CAN+H GAN-H		F
	ector No. ector Type BD ector Type 1	No. of Wire 14 P P	ector No. ector Type ector Type ST 58 58 58	Color No. of Wire		G
	Comm	Termin No.	Com			Н
	WHE TO WIRE THROMN-CS:16-TN4	Signal Name [Specification]	M66 TH40FW-NH TH40FW-NH	Signal Name [Specification] COMMUNICATION SIGNAL (METER->METER) COMMUNICATION SIGNAL (METER->AMP)		J
/IP)	ctor No.	Terminal Color No. of Wire 23 P L 24 P P 24 P P P P P P P P P P P P P P P	Connector No. M66 Ownector Name UNIF	Color Color No. Of Wire Terminal Color No. Of Wire Terminal Color Terminal Color Color Of Wire	_	K
ADLAN						EXL
HEADLAMP (WITH HALOGEN HEADLAMP)	Wr-CS16-TM4	Signal Name (Specification)	ON METER UNITED HISTORIES STORY OF SERVICES OF SERVI	Signal Name [Specification] COMM (METER->AME) COMM (AMP->METER)	•	M
AP (WIT	M6 WIRE TO WIRE TH80MW-CS16-TM4 1]	M63 COMBINATI TH40FW-NH 1 6 6 7 8 9 24 55 57 28 28			Ν
HEADLAN	Connector No. Connector Name Connector Type	Terminal Color No. O'Wire P P E E E E E E E E	Connector No. Connector Name Connector Type H.S. E123	Color No. Color No. Color No. Color Co		0
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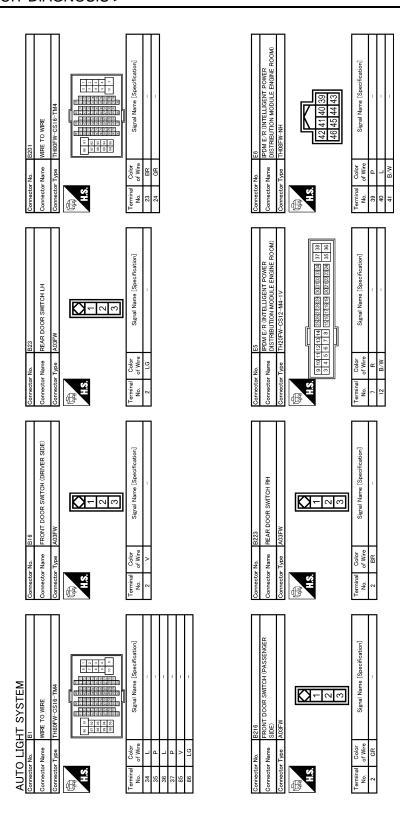
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AUTO LIGHT SYSTEM Α Wiring Diagram - AUTO LIGHT SYSTEM -INFOID:0000000004927397 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (ES), (EG), To parking, license plate and tail lamps To illumination В C IGNITION SWITCH ON or START D To headlamp (With xenon headlamp)
To headlamp (With halogen headlamp) 15A 50 81 82 Е CPU 15A 51 - III F HEADLAMP LOW RELAY 15A 57 G 23 15A 56 FRONT DOOR SWITCH (PASSENGER SIDE) (8216) Н HEADLAMP HIGH RELAY M117 10A 55 ⟨PM⟩: With automatic drive positioner
⟨OP⟩: Without automatic drive positioner 10**A** عف SWITCH LH BCM (BODY CONTROL MODULE) (M113), (M12), (M123), (M123) DATA LINK CONNECTOR (M24) J DATA LINE DATA LINE 86 FRONT DOOR SWITCH (DRIVER SIDE) Κ [B] [\frac{\pi}{2}] OPTICAL SENSOR (M94) EXL FUSE BLOCK (J/B) M1 M COMBINATION SWITCH **AUTO LIGHT SYSTEM** 10A Ν M6 M6 0



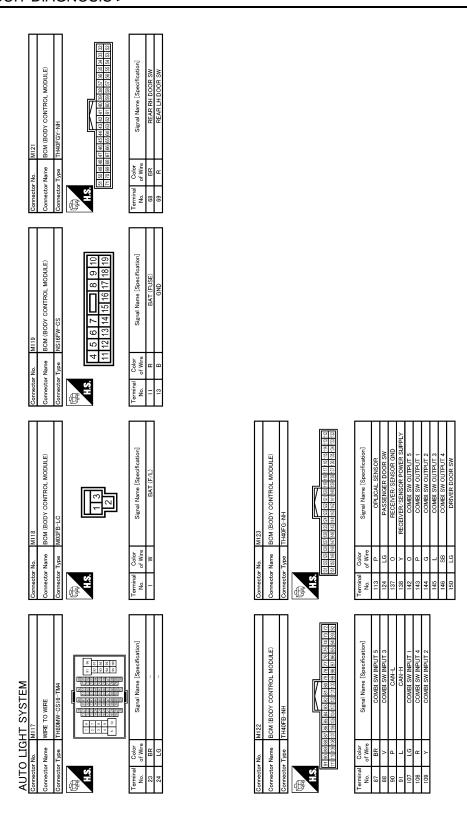
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AUTO LIGHT SYSTEM

[HALOGEN TYPE]

No. M6 Type TH80MW-CS IG-TM4 The man with the man	-Name OPTICAL SENSOR -Type TK03FW Oolor Signal Name [Specification] Y DEOWER B GND OND OND OND OND OND OND OND		A B C
Connector No. Connector Type Connector Type Connector Type Color No. SI P P S S L L SI P WAR	Connector No. Connector Type Connector Type Terminal Color No. O'Wir		D
MISORFW-MZ NSORFW-MZ 3A	COMBINATION SWITCH		E F
Connector No Connector Name FUSE Connector Type No. Fusion Terminal Terminal Todor No. R. R. R. R. R. R. R. R. R.	Connector No. M33 Connector Name COMB Connector Type THIEF Terminal Color No. of Wire 2 SB 2 SB 7 V 7 V 10 R 11 LG 12 P 13 BR 14 G		G H
Spacification)			I
PW-CS-16-TM4 Signal Name (S	M24 DATA LINK CONNECTOR BDISFW 9 10 11 12 13 14 15 16 7 8 Signal Name [Specification]		J
Connector No. Connector Name WIRE Connector Type TH690 Terminal Color No. of Wire 81 P P B B B B B B B B B B B B B B B B B	Connector No M24 Connector Name DAT Connector Type BD16 HS Connector Type BD16 Connector Type	·	К
INE ROOM) INE ROOM)	ostion]		EXL
HT SYSTEM BE FROM E.R. (NITELLIGENT POWER INDEA E.R. (NITELLIGENT POWER INSUBERVICE) NISOBEW-CS Signal Name [Specification]	WIPE TO WIPE THEOMAY CS16-TIM THEOMAY CS16-TIM THEOMAY CS16-TIM Signal Name (Specification)		M
Name Name of Wire of Wire P P P	Name		N O
AUTC Connected Connected Connected No. 14.5. H.S. 18.8 B.8 B.8 B.8 B.8 B.8 B.8 B.8 B.8 B.8	Connecto Connecto Connecto Terminal No. 34 36 36 36 86 86	JCLWA2523GB	
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Revision: 2010 March **EXL-265** 2009 EX35



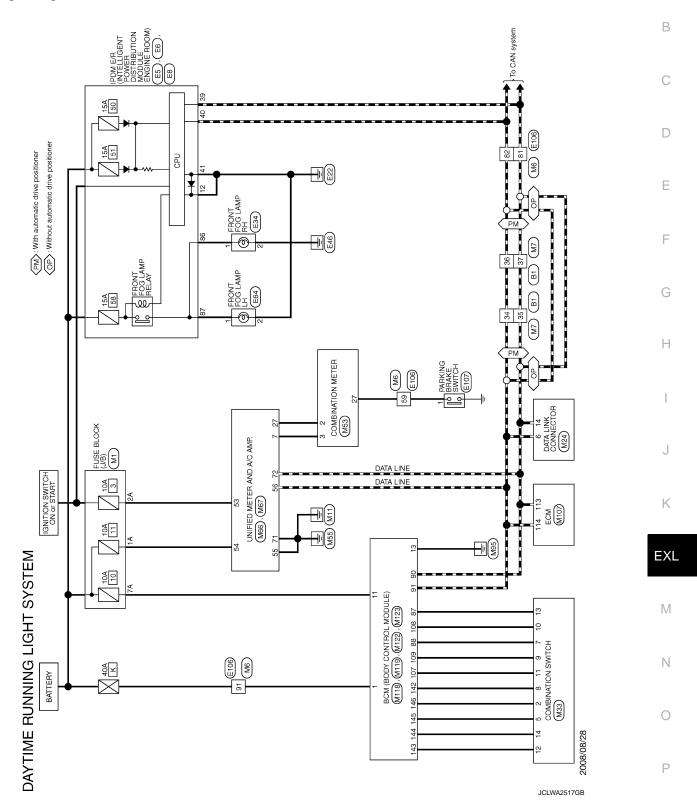
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DAYTIME RUNNING LIGHT SYSTEM

Wiring Diagram - DAYTIME LIGHT SYSTEM -



Connector No. E8 Connector Name IPDM E.R. (INTELLIGENT POWER Connector Type ISTRBUTTON MODULE ENGINE ROOM) Connector Type NS08FW-CS	H.S. 85 184 83 90 89 88 87 86	Terminal Color C	П	Connector Name PARKING BRAKE SWITCH Connector Type TB01FW	1	Terminal Color Signal Name [Specification]	- 0		
Connector No. E6 Connector Name IPDM E.P.R.(INTELLIGENT POWER Connector Name DISTRBUTION MODILE ENGINE ROOM) Connector Type THOSFW-NH	H.S. 42 41 40 39 46 45 44 43	Terminal Color Color Signal Name [Specification] Color Signal Name [Specification] Signal Name Specification] Signal Name Specification]	П	Connector Name WIRE TO WIRE Connector Type TH80FW-CS16-TM4	1	Terminal Color Signal Name [Specification]		g 18	- ≫
Connector No. ES GONTELLIGENT POWER CONNECTOR Name DISTRIBUTION MODULE ENGINE ROOM) Connector Type TH20FW-CS12-M4-IV	H.S. 9 10 10 11 21 31 41 20 21 20 21 20 21 21 21 21 21 21 21 21 21 21 21 21 21	Terminal Color Signal Name [Specification] 12 B/W	П	Connector Name FRONT FOG LAMP LH Connector Type FCI 240PC023S4019	1	Terminal Color Signal Name [Specification]	Н	2 B/W –	
DAYTIME RUNNING LIGHT SYSTEM Connector No. BI Connector Name WIRE TO WIRE Connector Type ITHREFW-CS16-TM4	## ## ## ## ## ## ## ## ## ## ## ## ##	Terminal Color Signal Name Specification	т	Connector Name FRONT FOG LAMP RH Connector Type FCI 240PC023S4019	1	Terminal Color Signal Name [Specification] No. of Wire Signal Name [Specification]	H	2 B/W -	

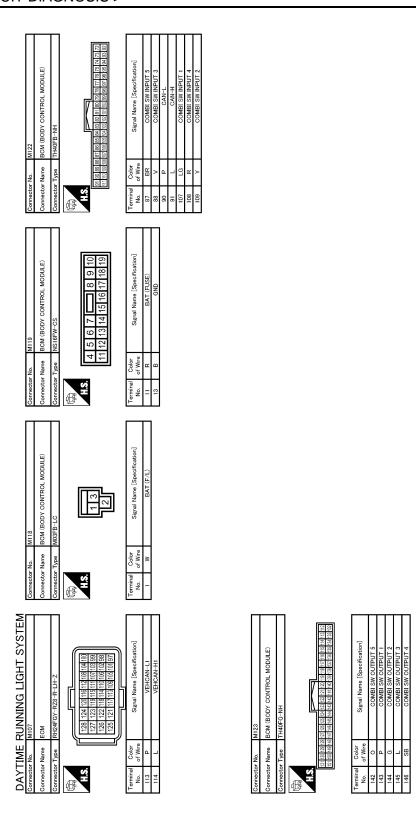
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DAYTIME RUNNING LIGHT SYSTEM

[HALOGEN TYPE]

M24 DATA LINK CONNECTOR BDIGFW 1 2 3 4 5 6 7 8 Signal Name (Specification)	MUSTED METER AND A/O AMP. TH32FW-NH [Add 66 [42] 66 [62] 65 [63] 65 [65] [50] 12 [52] 65 [64] 66 [69] 70 [71 [2] Signal Name [Speedreation] IGNATION POWER SUPPLY BATTERY POWER SUPPLY GROUND CANH CANH	В
Connector No. M24	Connector Name W67	C D
NW-CS16-TM4 NW-CS	MHED METER AND A/C AMP. TH40FW-NH TH40FW-NH TH T	E
Corrector No. M7 Corrector Name WIRE TO WIRE Corrector Type THBIOMY-CSTG H.S. Color Terminal Color No. of Wire Sign P 33 P 96	Connector No. M98	G H
TH80MM-CS16-TM4 TH80MM-CS16-TM4 T T T T T T T T T T	MSS THOSPW-NH THOSPW-NH Signal Name (Specification) COMM (METER->METER) COMM (MRP->METER) PARKING BRAKE SW PARKING BRAKE SW	I J
Connector No. M6	Connector Name COMBINATION COMBINATION Connector Type TH40FW-NH Connector Type TH40FW-NH	K
SYSTE	OUTPUT 3 NINDUT 1 NINDUT 2 NINDUT 1 NINDUT 1 NINDUT 2 NINDUT 1 NINDUT 2 NINDUT 2 NINDUT 2 NINDUT 3 OUTPUT 1 NINDUT 5 OUTPUT 1 NINDUT 5 OUTPUT 2	M
DAYTIME RUNNING LIGHT	Commector No. M33	N O
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Revision: 2010 March **EXL-269** 2009 EX35



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FRONT FOG LAMP SYSTEM

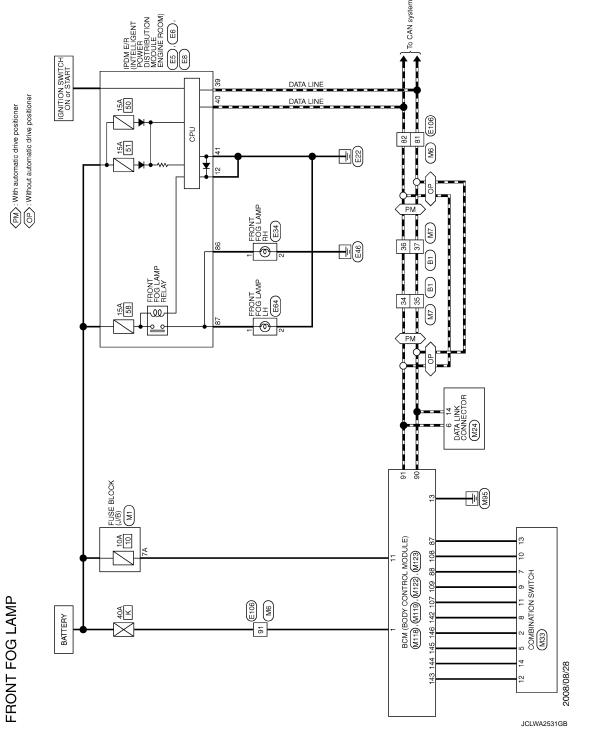
Wiring Diagram - FRONT FOG LAMP -

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Connector No. [28 Connector No. EB Connector No. EPDM E.P. (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) MS0EFW-CS Connector Type MS0EFW-CS	H.S. 85 87 88 87 86	Terminal Color Color Signal Name [Specification] Signal Name Specification Signal Name Specification Signal Name Signal Na	Generator No. M.1	ne	Connector Type NS06FW-M2	H.S. 3A2A1A BA ABA 5A4A	Terminal Golor Signal Name [Specification]	7A R –	
Connector No. E6 Connector Name IPDM E.R. (NITELLIGENT POWER Connector Name DISTRBUTION MODILE ENGINE ROOM) Connector Type THOSPW-NH	H.S. 42 41 40 39 46 45 44 43	Terminal Color Color Signal Name [Specification] Color Signal Name [Specification] S	Commercing No. 1F106	e	Connector Type TH80FW-CS16-TM4		Terminal Color Signal Name [Specification]	81 P	
Connector No. E5 Connector Name IPDM E.R (INTELLIGENT POWER Connector Name IDISTREBITION MODULE ENGINE ROOM) Connector Type TH20PW-CS12-M4-TV	HS. 9145678 ESSENCE ESSENCE SECRETED SECRETED SEC	Terminal Color No. of Wire Signal Name [Specification] 12 B/W	Connector No. 1504	ne	Connector Type FCI 240PC023S4019	H.S.	Terminal Color Signal Name [Specification]	1 L	1
FRONT FOG LAMP Connector No. B1 Connector Name WIRE TO WIRE Connector Type TH60FW-CS16-TM4		Terminal Color Signal Name [Specification] Color Signal Name [Specification] Signal	Geometre No. 1534	не	Connector Type FCI 240PC023S4019	\$.	Terminal Color Signal Name [Specification] No. of Wire	1 W -	1

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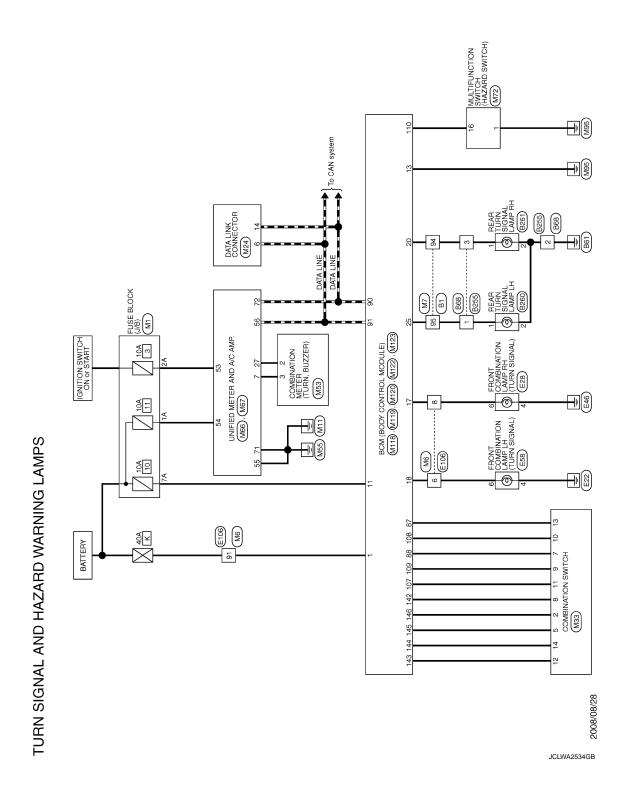
FRONT FOG LAMP SYSTEM

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Control Man		TION SWITCH	100		Y CONTROL MODUL H H GENERAL MENGENER KRIMALMER STEEPENER KRIMALMER KRIMALMER STEEPENER	ignal Name (Specifics COMBIS SW OUTPUT COMBIS SW OUTPUT C		В
FRONCE MAP FRONCE MAP Concoord Name Will Concord Name Concoord Name		-	2/80		1 2 2	Color of Wire B		С
Present No.	Connector	Connector	H.S.	Terminal No. No. 17	Connector Connector H.S.	Terminal No. 142 143 144 145 146		D
FRONTEY COL CLAMP Frontier Name Park 12 or self- Frontier Name Park 12 or sel			8 8	ification]		UT 5 UT 3 UT 1 UT 1 UT 1 UT 1		Е
FRONTEY COL CLAMP Frontier Name Park 12 or self- Frontier Name Park 12 or sel		IK CONNECTOR	12 13 14 4 5 6	Signal Name (Spec	NH NH E SE	Signal Name (Spec COMBI SW INFO COMBI SW INFO COMBI SW INFO COMBI SW INFO		F
FENDIT FOG LAMP FOR TOWN TO 10 NE Connector Name Work TO 10 NE Connector N			9 101		800			G
FRONT FOG LAMP Connector Num Wife To White Connector Num Wife To White Connector Num Wife To White Num of Wise Signal Num (Specification) Num of Wise Signal Num of	Connector	Connector	H.S.		Connector Connector			Н
FRONT FOG LAMP Connector Num Wife To White Connector Num Wife To White Connector Num Wife To White Num of Wise Signal Num (Specification) Num of Wise Signal Num of			X-legation 1	ffcation	9 10 18 19	fication]		I
FRONT FOC LAMP Convector Name Conve		WIRE -CS16-TM4		Signal Name [Spec	DY CONTROL MO CS 7	Signal Name (Spec		J
FRONT FOG LAMP Connector Name WRE TO WIRE Connector Name WRE TO WIRE Connector Name BOM BON CONTROL MODULE) Connector Name BOM BON CONTROL MODULE) Connector Name BOM BON CONTROL MODULE) Connector Name BOM BOM Signal Name (Specification) Terminal Color Connector Name BAT (F.L.) Terminal Connector Name BAT (F.L.)		ПΠ				Ш		K
FRONT FOG LAMP Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Name Specification Signal Name (Specification) Terminal Color Name Specification) Terminal Color Signal Name (Specification) Terminal Color Name Signal Name (Specification) Who of Wire Signal Name (Specification) Terminal Color Name Name Name (Specification) Terminal Color Name Name Name (Specification) Terminal Color Name Name Name Name (Specification) Terminal Color Name Name Name Name Name Name Name Name	Connector N	Connector N	E SH		Connector N Connector T Connector T			
PRONT FOG LA Connector Name WIRE TO Connector Name Book (B) Connector Name Boo				tion				EXL
PRONT FOG LA Connector Name WIRE TO Connector Name Book (B) Connector Name Boo		-TM4	10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Name [Specifica	ONTROL MODUL	Name [Specifica BAT (F/L)		M
JCLWA2533GB	OG LAMP	WIRE TO WIRE TH80MW-CS16			MI18 BCM (BODY CO M03FB-LC			Ν
JCLWA2533GB	FRONT F	Connector Name Connector Type	H.S.		Connector No. Connector Name Connector Type			0
	— <u>c</u>						JCLWA2533GB	Р

EXL-273 Revision: 2010 March 2009 EX35

Wiring Diagram - TURN AND HAZARD WARNING LAMPS -

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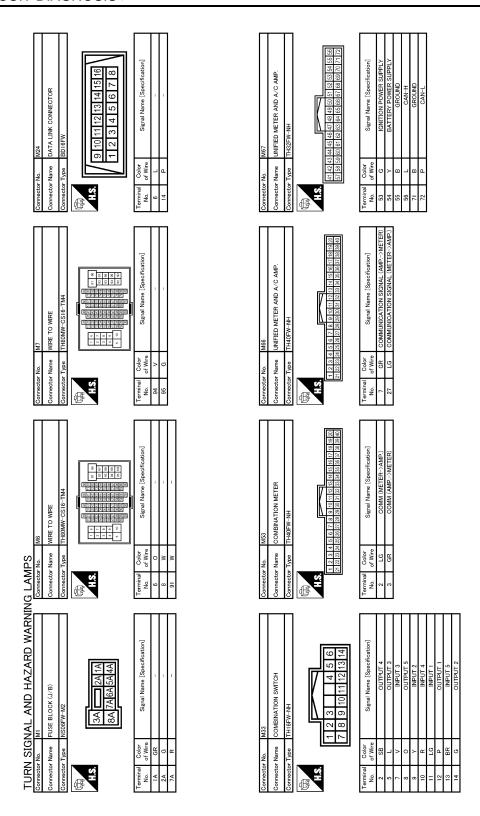
< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

FEAR TURN SIGNAL LAMP LH HS02FG-W Signal Name [Specification]	TO WIRE W-CS16-TM4 Signal Name (Specification)	АВ
Corrector No. B280 Corrector Name REAR TURI Corrector Type H502FG-W Terminal Color No. of Wire 2 B	Connector No. E106 Connector Name WRE TO WRE Connector Type TH60FW-CS16 Residue Connector Type C	C D
WIRE 1321	FRONT COMBINATION LAMP LH RSSØFB-PR [1 2 3 4 4] [5 6 7 8] Signal Name [Specification]	E
Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE	Connector No. E58 Connector Name FRONT COR Connector Type RS08FB-PR A. H.S. Terminal Color No. of Wire Sin	G H
WIRE 2 3 4 5 6 7 8 Signal Name [Specification]	FRONT COMBINATION LAMP RH RS0grB-PR [1234] [1234] [567] Signal Name [Specification]	I J
B968 WIRE TO WIRE TO	Connector No. E28	K
Commerciary Name Color Commerciary Color Col	REAR TURN SIGNAL LAMP RH HS02FG-W Signal Name [Specification]	EXL M
TURN SIGNAL AND H. Connector None Wife TO WIFE Connector Type High VI (1974) H.S. Terminal Color No. of Wire 94 95 95	Connector No. B281 Connector Name REAR TURN S Connector Type HS02FG-W No. of Wive I V I V E B I V I V I V I V I V I V I V I V I V I V	N O
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Revision: 2010 March **EXL-275** 2009 EX35

[HALOGEN TYPE]



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[HALOGEN TYPE]

< DTC/CIRCUIT DIAGNOSIS >

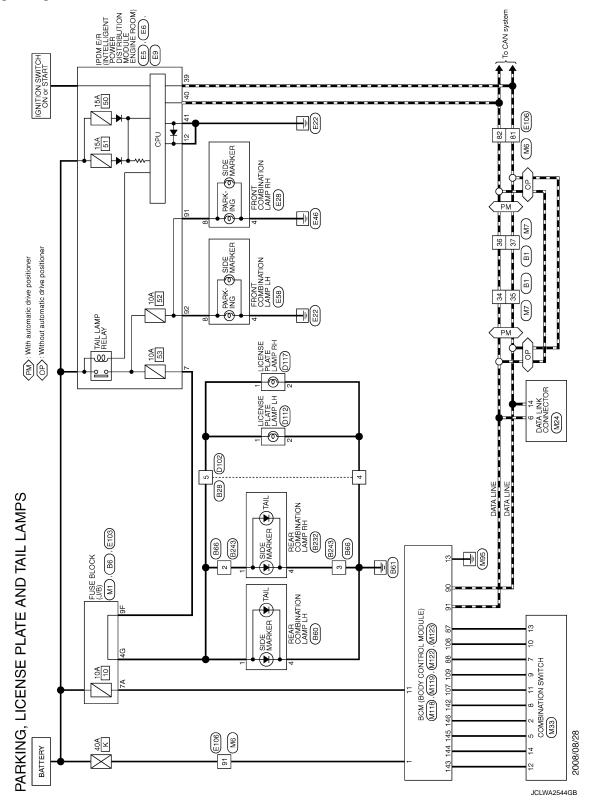
	7 22				А
M120 NSIZEW-CS NSIZEW-CS 20 21 22 23 24 25 26 27 28 29 30 31	Signal Nane [Specification] TURN SIGNAL FH (REAR) TURN SIGNAL LH (REAR)				В
					С
Connector No. Connector Name Connector Type	Color Colo				D
9 10 18 19	enton] RONT)				Е
SONTROL MC	Signal Name [Specification] BAT (FUSA) GND GND TURN SIGNAL, BH (FRONT) TURN SIGNAL, LH (FRONT)				F
4 =	Color of Wire O W B B R				G
Connector No. Connector Name Connector Type H.S.	Terminal No. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				Н
морице)	F/L)	MODULE)	Specification] OUTPUT 5 OUTPUT 1 OUTPUT 2 OUTPUT 3		I
MIIB BCM (BODY CONTROL MODULE) MOSFE-LC	Signal Name [Specification] EAT (F/1)	MI23 BOM (BODY CONTROL MODULE) TH46FG-NH TH6FG-NH TH6FG-NH TH6FG-NH TH6FG-NH TH6FG-NH	Signal Name [Speeification] COMBI SW OUTPUT 5 COMBI SW OUTPUT 1 COMBI SW OUTPUT 2 COMBI SW OUTPUT 2 COMBI SW OUTPUT 3		J
Connector Name BOM Connector Name BOM Connector Name BOM Connector Type M03FE	Terminal Color No. of Wire	ector No. ector Name ector Type	Coder Code		K
<u> </u>		22 SS			EXL
НАZARD V	Signal Name [Specification] GNID HAZARD ON	NITROL MODULE)	Signal Name [Specification] COMBI SW INPUT 3 COMBI SW INPUT 3 CAN-L COMBI SW INPUT 1 COMBI SW INPUT 1 COMBI SW INPUT 4 COMBI SW INPUT 2 HAZARD SW		M
TURN SIGNAL AND HAZARD WARN Connector No. M72 Connector Name MULTIFUNCTION SWITCH CONNECTOR THIS W-NH CONNECTOR T		M122 BOM (BODY OC TH40FB-NH			Ν
TURN SIC Connector No. Connector Name Connector Type	Terminal Color No. of Wire B	Connector No. MI Connector Name BGC Connector Type THI	Terminal Color No. of Wire 87 BR 887 BR 88 BR 88 BR 88 BR 88 BR 88 BR 88 BR 81		0
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Revision: 2010 March **EXL-277** 2009 EX35

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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

Wiring Diagram - PARKING, LICENSE PLATE AND TAIL LAMPS -



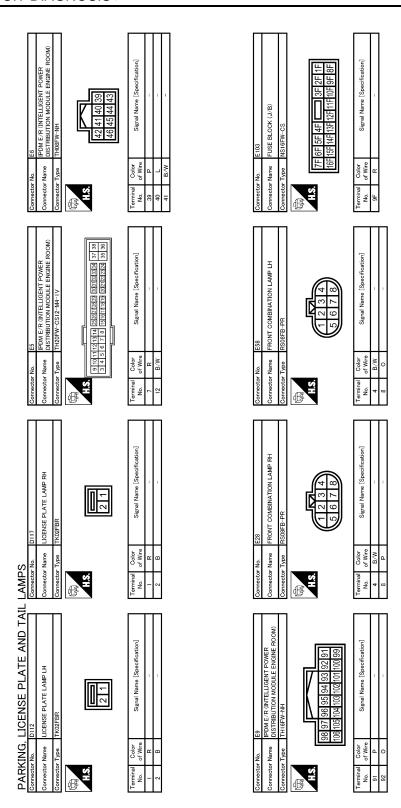
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< DTC/CIRCUIT DIAGNOSIS > [HALOGEN TYPE]

FEAR COMBINATION LAMP LH THOUMW-NH Signal Name [Specification]	5/gral Name [Speerfication]		A B
Connector No. B60 Connector Name REA Connector Type TH6 H.S. H.S	Connector No. D10 Connector Name Wifst Connector Type T112 12 11 10 Terminal Color No. of Wire 4 B 5 R		D
21 22 23 24	16 13 1 1 14 13 peoffcation]		Е
E28 WIRE TO WIRE TH24MW-NH 3 4 5 6 7 8 9 10 11 15 16 17 18 19 20 21 22 23 Signal Name [Specification]	Signal Name (S		F
Connector No. B28	Connector No. B243 Connector Name WIRE TC Connector Type TH-24FN 12 11 10 9 24 22 22 21 Terminal Color No. of Wire 2 R 2 B 3 B		G H
1G 6G officeration]	Feation]		
B6 NS12FBR-CS DG4G 3G2G1G 12G11G10G9G8G7G6G Signal Name [Specification]	REAR COMBINATION LAMP RH THOMWW-NH THOMW NH Signal Name [Specification]		J
Connector No. B6 Connector Type NS12 Connector Type NS12 LS. Connector Type NS12 LS. Color No. C	Connector No. 6222 Connector Name REAF Connector Type TH04 Terminal Color No. of Wire 1 R R	_	K
		E	XL
PARKING, LICENSE PLATE AND TA Connector Name WITE TO WITE Connector Type ITH80FW-CS16-TM4 ALS WITH TO WITE Signal Name (Specification) 34 L 35 P 37 P 38 L	WIPE -NH		M
G, LICENSE P BI WRE TO WRE COUNTE COU	B66 WRE TO TH24MW 15 16 1 3		Ν
Connector No. Connector Type Connector Type Connector Type ALS Terminal Color No. 34 L 34 L 35 P 36 L 37 P	Connector No. Connector Name Connector Type 1 2 1 2 1 3 14 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 3 1		0
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Revision: 2010 March **EXL-279** 2009 EX35

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM



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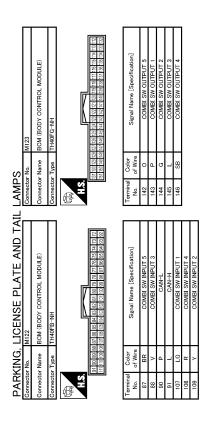
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

Cornector No. M7 Cornector Type TH80MW-CS16-TM4 Cornector Type TH80MW-CS16-TM4 Terminal Color Signal Nano (Specification) 34 L	Connector No. Mi19 Connector No. Mi19 Connector Name BCM (BODY CONTROL MODULE) Connector Type NS16FW-CS	A B C	
Connector Connector Connector Connector San A 35 35 36 37	Connecto Con		
Leation	Fication]	Е	
NW-CS16-TM4 WW-CS16-TM4 WW-CS16-TM4 Signal Name (Specification)	MITE MOSFB-LC Signal Name [Specification] Signal Name [Shecification]	F	
MIRE TO THEOMAY	MI18 BCM (BO M03FB-L	G	
Connector No. Connector Name Connector Type Terminal Color No. of Wire 81 P 81 L 91 W	Connector No Connector Name Connector Name Connector Type H.S. H.S. I W		
Town N N N N N N N N N N N N N N N N N N N	Tem Community Tem	Н	
M2 M2 TABA 5A 1A Signal Name [Specification]	NH NH Signal Name [Specification] OUTPUT 3 OUTPUT 2 NEUT 1 OUTPUT 1 NEUT 1 OUTPUT 1 NEUT 1 NEUT 1 OUTPUT 2 NEUT 1 NEUT 1 OUTPUT 2 NEUT 1 OUTPUT 3 OUTPUT 3 OUTPUT 2 OUTPUT 3 OUTPUT 1	I	
NSOGPW-MZ Signal Nan Signal Nan		J	
olor Wire		K	
Connector No. Connector No. Connector Type Connector Type Terminal Color No. of Wr. 7A R	Connector Name Connector Name Connector Name Connector Name No. of Win No. of		
	ПП <u> </u>	EXL	
PARKING, LICENSE PLATE AND Connector No. E106 Connector Name Wife TO WIFE Connector Type H180FW-CS16-TM4 In In In In In In In I	M24 DATA LINK CONNECTOR BD16FW 9 10 1112 13 14 15 16 1 2 3 4 5 6 7 8 Signal Name [Specification]	М	
LICENSE FINE THOUSE TO WIRE TO WIRE TO WIRE STORY OF THE	M24 b D D D D D D D D D D D D D D D D D D	Ν	
DARKING, Connector No. Connector Name Connector Type Connector Typ	Name Type Offwre	0	
Connector Connector Connector Connector Connector R.S. H.S. B. 8 8 8 8 8 8 1 8 8 9 1	Connection	JCLWA2547GB	
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Revision: 2010 March **EXL-281** 2009 EX35



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STOP LAMP

Wiring Diagram - STOP LAMP -

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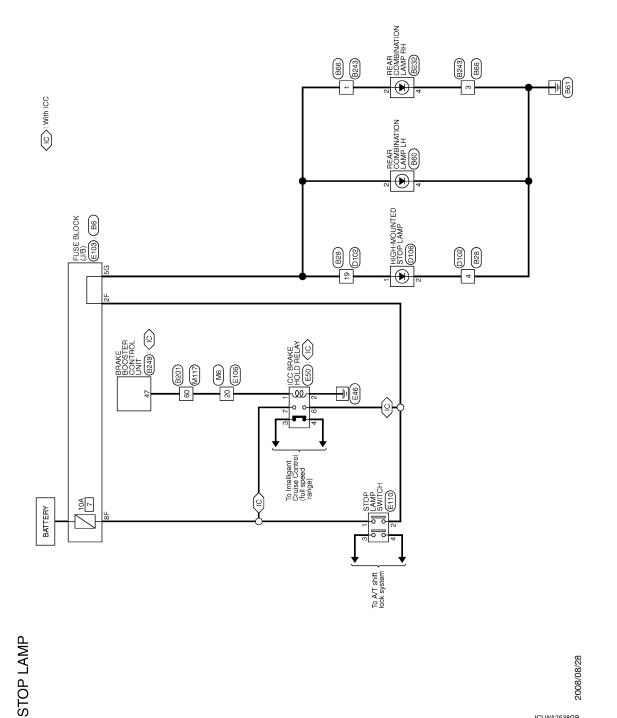
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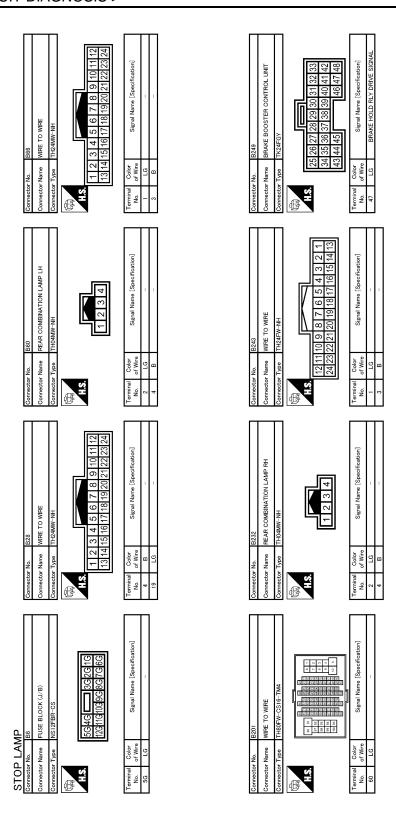
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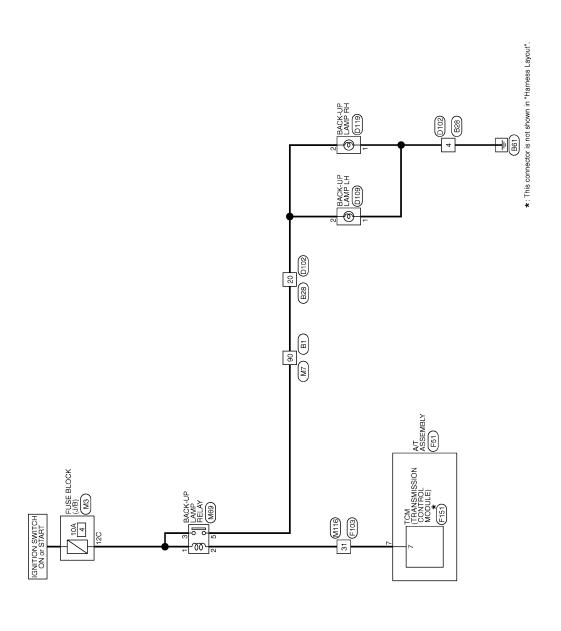
Connector No. E103 Connector Name FUSE BLOCK (J/B) Connector Type INSI 6FW-CS TF 6F 5F 4F	Terminal Color Signal Name [Specification] 2F W 8F L	Connector Name WIRE TO WIRE Connector Type TH80MW-CSI-6-TM4 H.S. TH80MW-CSI-6-TM4 TH		A B C
	oston)	astion)]		Е
ESO ICO BRAKE HOLD RELAY MOBEGY-R-US 6 7 3	Signal Name (Specification)	MRE TO WRE THEOMAY CSSIG-TMA THEOMAY CSSIG-TMA THEOMAY CSSIG-TMA THEOMAY CSSIG-TMA Signal Name (Specification)		F
ector No. ector Name ector Type	Color Colo	Name WIRE		G
Comm	Terminal No. 1 1 2 2 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Connected Connected Connected H.S. H.S. Terminal No. 20		Н
DIOS HIGH-MOLINTED STOP LAMP TBDZANV	Signal Name [Specification]	Signal Name (Speerington)		I
		STOP LA MO4FW-L		
Connector No. Connector Name Connector Type	Cader Cade	Connector No. Connector Name Connector Type 1.5. 1.0. 1.1. 1.1. 1.1. 1.1. 1.1. 1.1		K
				EXL
T 6 5 4 3 2 1 1 19 18 17 16 15 14 13	Signal Name [Specification]	W-CS 16-TM4 W-CS 16-TM4 Signal Name (Specification)		М
2 4 FW NN 2120 8 0	i i i i i i i i i i i i i i i i i i i	E108 WIPE TO WIPE THROWN CSS 16 THROWN CSS 1		Ν
STOP LAMP Commetter No. Commetter Name WIRS Commetter THZ LLS. (12 [1] 10 [24] 28 [22]	Terminal Color No. of Wire 4 B B LG	Connector No. Connector Type Connector Type Terminal Color No. of Wire 20 V		0
		<u> </u>	JCLWA2540GB	
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Revision: 2010 March **EXL-285** 2009 EX35

BACK-UP LAMP

Wiring Diagram - BACK-UP LAMP -

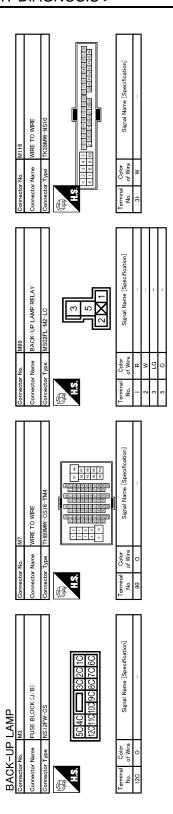
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BACK-UP LAMP

CS Signal Name [Specification]	MANSMISSION CONTROL MODULE) THE Signal Name [Specification] REV LAMP RLY		АВ
NSO2MW N	P 151 TOM (TR. SP10FBG		С
Commetter No. Commetter Name Commetter Type No. of Wr. 1 B 1 B 1 2 Color	Connector No. Connector Name Connector Type 10 Terminal No. of Wir.		D
4 3 2 1 16 15 14 13 pecification]	S 4 0 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Е
Name [S]	WRE NS10 Figure 1997 15 (4 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		F
MIRE TO WIRE TO 110 9 12 12 12 12 12 12 12 12 12 12 12 12 12	Name WIRE TO WIRE		G
Connector No. Connector Type Connector Type 12 1 12	Connector No. Connector Name Connector Type H.S. H.S. H.S. GERER On Press On Pre		Н
10 11 12 22 23 24 featron]	Codion		I
7 8 9 192021	DGY 4 3 2 1 9 8 7 6 Signal Name [Specification]		J
MIRE TO THEAMW	F51 A-T ASS RK10FG- 55		3
Connector No. Connector Name Connector Type 13 14 13 14 14 2 16 17 17 18 14 18 1	Connector No. Connector Name Connector Type Connector Type Connector Type Connector Type No. Of Wire 7 R		K
			EXL
WIRE CSIG-TM4 Signal Name (Specification)	CS Signal Name [Specification]		M
BI BI THEOFW CSIG-TMM BI BI BI BI BI BI BI BI BI BI BI BI BI	BACK-UP LAMP RH NS02MW-CS Signal Nam		Ν
No. Name Type of Wire	No. Name Type		0
Domesto Connecto Connecto Terminal No. 90	Connector Connector No. No.	JCLWA2542GB	O
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Revision: 2010 March **EXL-287** 2009 EX35



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< ECU DIAGNOSIS INFORMATION >

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ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
FK WIPEK HI	Front wiper switch HI	On
ED WIDER LOW	Other than front wiper switch LO	Off
FR WIPER LOW	Front wiper switch LO	On
ED WASHED SW	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
FR WIPER INT	Other than front wiper switch INT	Off
FR WIPER IN	Front wiper switch INT	On
ED WIDED STOD	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
DD WIDED INT	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
TUDNI CIONIAL D	Other than turn signal switch RH	Off
TURN SIGNAL R	Turn signal switch RH	On
TUDNI CIONIAL I	Other than turn signal switch LH	Off
TURN SIGNAL L	Turn signal switch LH	On
TAIL LAND 014/	Other than lighting switch 1ST and 2ND	Off
TAIL LAMP SW	Lighting switch 1ST or 2ND	On
LU DE AM CVA	Other than lighting switch HI	Off
HI BEAM SW	Lighting switch HI	On
LIEAD LAMB OM	Other than lighting switch 2ND	Off
HEAD LAMP SW 1	Lighting switch 2ND	On
HEAD LAMB OW S	Other than lighting switch 2ND	Off
HEAD LAMP SW 2	Lighting switch 2ND	On
DACCING CIAI	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
ALITO LICUT OW	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On
ED EOO 0\4'	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
DOOD CW DD	Driver door closed	Off
DOOR SW-DR	Driver door opened	On
DOOD CW AC	Passenger door closed	Off
DOOR SW-AS	Passenger door opened	On
DOOD SW DD	Rear RH door closed	Off
DOOR SW-RR	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
DOOR SW-RL	Rear LH door opened	On
DOOR SW-BK	Back door closed	Off
DOOR SW-BK	Back door opened	On
CDL LOCK CW	Other than power door lock switch LOCK	Off
CDL LOCK SW	Power door lock switch LOCK	On
CDL LINI OCK CW	Other than power door lock switch UNLOCK	Off
CDL UNLOCK SW	Power door lock switch UNLOCK	On
KEY OWL LK OW	Other than driver door key cylinder LOCK position	Off
KEY CYL LK-SW	Driver door key cylinder LOCK position	On
KEN ONL LINEON	Other than driver door key cylinder UNLOCK position	Off
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On
KEY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off
HAZARD SW	Hazard switch is OFF	Off
HAZARD SW	Hazard switch is ON	On
REAR DEF SW	NOTE: The item is indicated, but not monitored.	Off
TR CANCEL SW	NOTE: The item is indicated, but not monitored.	Off
TR/BD OPEN SW	Back door opener switch OFF	Off
TIVED OF ENGW	While the back door opener switch is turned ON	On
TRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
RKE-LOCK	LOCK button of the key is not pressed	Off
KKL-LOCK	LOCK button of the key is pressed	On
RKE-UNLOCK	UNLOCK button of the key is not pressed	Off
RRE-UNLOCK	UNLOCK button of the key is pressed	On
RKE-TR/BD	NOTE: The item is indicated, but not monitored.	Off
DIVE DANIC	PANIC button of the key is not pressed	Off
RKE-PANIC	PANIC button of the key is pressed	On
DICE DAM ODEN	UNLOCK button of the key is not pressed	Off
RKE-P/W OPEN	UNLOCK button of the key is pressed and held	On
DKE WODE ONO	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 simultaneously	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 SW -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
REQ SW -BD/TR	Back door request switch is not pressed	Off
REQ 3W -BB/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
ICN DI VO E/D	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
BRAKE SW 2	The brake pedal is not depressed	Off
DIVAILE OW Z	The brake pedal is depressed	On
DETE/CANCL SW	Selector lever in P position	Off
DETERMINOL 300	Selector lever in any position other than P	On
SFT PN/N SW	Selector lever in any position other than P and N	Off
OI I FIWIN OVV	Selector lever in P or N position	On
S/I I OCK	Steering is unlocked	Off
S/L -LOCK	Steering is locked	On
S/L LINILOCK	Steering is locked	Off
S/L -UNLOCK	Steering is unlocked	On
0/L DELAY E/D	Ignition switch in OFF or ACC position	Off
S/L RELAY-F/B	Ignition switch in ON position	On
INUX 0511 25	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
SFIF-WEI	Selector lever in P position	On
SFT N -MET	Selector lever in any position other than N	Off
SFI IN -IVIET	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
S/L LOCK-IPDM	Steering is unlocked	Off
S/L LOCK-IPDIVI	Steering is locked	On
C/LINILY IDDM	Steering is locked	Off
S/L UNLK-IPDM	Steering is unlocked	On
S/L RELAY-REQ	Steering lock system is not the LOCK condition and the changing condition from LOCK to UNLOCK.	Off
3/L RELAT-REQ	Steering lock system is the LOCK condition or the changing condition 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
ID OK FLAG	Steering is locked	Reset
ID OK PLAG	Steering is unlocked	Set
PRMT ENG STRT	The engine start is prohibited	Reset
PRIMITENG STRT	The engine start is permitted	Set
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset
VEV SW. SLOT	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.	_
OONEDMID ALL	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
CONFIDATE 4	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
CONFIDMIDS	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 >

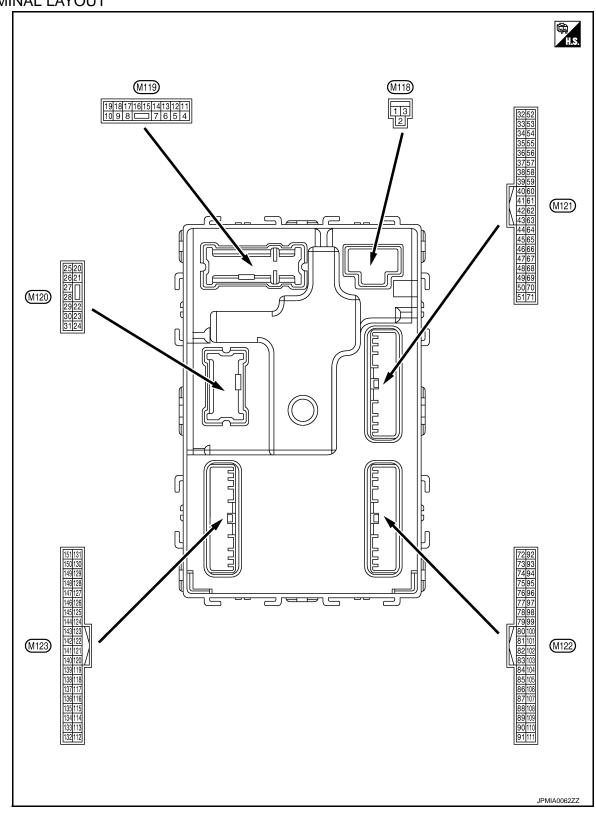
[HALOGEN TYPE]

Monitor Item	Condition	Value/Status	Α.
CONFIDM ID2	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	Yet	A
CONFIRM ID2	The key ID that the key slot receives accords with the second key ID registered to BCM.	Done	В
CONFIDM ID4	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	Yet	
CONFIRM ID1	The key ID that the key slot receives accords with the first key ID registered to BCM.	Done	_ C
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	L
TP 3	The ID of third key is not registered to BCM	Yet	
1173	The ID of third key is registered to BCM	Done	E
TDO	The ID of second key is not registered to BCM	Yet	
TP 2	The ID of second key is registered to BCM	Done	_
	The ID of first key is not registered to BCM	Yet	F
TP 1	The ID of first key is registered to BCM	Done	
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire	G
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	I
ID DECOT EL 4	ID of front LH tire transmitter is registered	Done	
ID REGST FL1	ID of front LH tire transmitter is not registered	Yet	
ID DECOT ED4	ID of front RH tire transmitter is registered	Done	
ID REGST FR1	ID of front RH tire transmitter is not registered	Yet	_
ID DECCT DD4	ID of rear RH tire transmitter is registered	Done	K
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	EX
	Tire pressure indicator OFF	Off	
WARNING LAMP	Tire pressure indicator ON	On	
	Tire pressure warning alarm is not sounding	Off	
BUZZER	Tire pressure warning alarm is sounding	On	

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TERMINAL LAYOUT



PHYSICAL VALUES

< ECU DIAGNOSIS INFORMATION >

Terminal No. Description					Value	
(Wire	e color) –	Signal name	Input/ Output	Condition		(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (Y)	Ground	P/W power supply (BAT)	Output	Ignition switch OF	F	Battery voltage
3 (O)	Ground	P/W power supply (RAP)	Output	Ignition switch ON	I	Battery voltage
					b battery saver is activated. coom lamp power supply)	0 V
4 (LG)	Ground	Interior room lamp power supply	Output	ed.	o battery saver is not activat- or room lamp power supply)	Battery voltage
5	Ground	Passenger door UN-	Output	Passenger door	UNLOCK (Actuator is activated)	Battery voltage
(L)	Ground	LOCK	Output	r asseriger door	Other than UNLOCK (Actuator is not activated)	0 V
7	0	Otan Inna	0	Otan Inna	ON	0 V
(Y)	Ground	Step lamp	Output	Step lamp	OFF	Battery voltage
8	Ground	Ground All doors, fuel lid		stant All do	LOCK (Actuator is activated)	Battery voltage
(V)	Ground	LOCK	Output	All doors	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)	Giodila	UNLOCK	Output	Driver door	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)	Ciouna	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 brightening/dimming level is in the neutral position (V) 10 0 JSNIA0010GB
15	_		_		OFF or ON	Battery voltage
(Y)	Ground	ACC indicator lamp	Output	Ignition switch	ACC	0 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				
(Wire	e color)	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 s PKID0926E 6.5 V
					Turn signal switch OFF	0 V
18 (O)	Ground	Turn signal LH (Front)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s PKID0926E 6.5 V
19	Ground	Room lamp timer	Output	Interior room	OFF	Battery voltage
(V)		control		lamp	ON Turn signal switch OFF	0 V
20 (V)	Ground	Turn signal RH (Rear)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 1 s PKID0926E 6.5 V
23	Ground	Pagk door open	Output	Back door	OPEN (Back door opener actuator is activated)	Battery voltage
(G)	Ground	Back door open	Output	Back door	Other than OPEN (Back door opener actuator is not activated)	0 V
					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
					OFF (Stopped)	6.5 V
26 (G)	Ground	Rear wiper	Output	Rear wiper	OFF (Stopped) ON (Operated)	Battery voltage
\ - /					O14 (Operated)	Dattery Voltage

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
34	Canada	Luggage room anten-	Outout	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(SB)	Ground	na (–)	Output	ÖFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB
35		Luggage room anten-		Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 S S S S S S S S S
(V)	Ground	na (+)	Output	ÖFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 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 JMKIA0062GB
(B)	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 0 1 s JMKIA0063GB

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(VVIre	e color)	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 10 5 0 1 s JMKIA0062GB	
(W)	Ground	(+)	quest switch is operated with ignition switch OFF	operated with ig- nition switch OFF	quest switch is operated with ig-		(V) 15 10 5 0 JMKIA0063GB
47	Ground	Ignition relay (IPDM	Output	Ignition switch	OFF or ACC	Battery voltage	
(Y)	Ground	E/R) control	Output	ignition switch	ON	0 V	
52	Ground	Starter relay control	Output	Ignition switch	When selector lever is in P or N position	Battery voltage	
(SB)	Cround		- a.par	ON	When selector lever is not in P or N position	0 V	
					ON (Pressed)	0 V	
61 (W)	Ground	Back door opener request switch	Input	Back door opener request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V	
64		Intelligent Key warn-		Intelligent Key	Sounding	0 V	
(V)	Ground	ing buzzer (Engine room)	Output	warning buzzer (Engine room)	Not sounding	Battery voltage	
65 (O)	Ground	Rear wiper stop position	Input	Rear wiper	In stop position	(V) 15 10 5 0 10 ms 10 ms JPMIA0016GB	
					Not in stop position	0 V	

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

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	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 5 0 10 ms JPMIA0011GB 11.8 V
					ON (Door open)	0 V
					Pressed	0 V
67 (G)	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V
68 (BR)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V
					ON (Door open)	0 V
69 (R)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (Door close) ON (Door open)	(V) 15 10 5 0 JPMIA0011GB 11.8 V

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< ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description			Condition	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
72	Ground	Room antenna 2 (–)	Qutout	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(R)	Glodina	(Center console)	Output	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
73	Ground	Room antenna 2 (+)	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(G)	Glound	(Center console)	Cutput	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB
74	Canada	Passenger door an-	Outsit	When the passenger door re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 S S S S S S S S S
(SB)	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 JMKIA0063GB

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+ (vvire	e color)	Signal name	Input/ Output		Condition	(Approx.)
78	Ground	Room antenna 1 (–)		the passenger component Ignition switch OFF When Intelligent Key	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB
(Y)	Glound	(Instrument panel)	Output		When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
79	70	Room antenna 1 (+) (Instrument panel)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB
(BR)	Ground				When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
80 (GR)	Ground	NATS antenna amp (Built in key slot)	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 (Built in key slot)	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	- 4	igilitori switori	ON	Battery voltage

< ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description	TI		0 197	Value
+	- COIOT)	Signal name	Input/ Output		Condition	(Approx.)
		Remote keyless entry	Input/	During waiting		(V) 15 10 5 0 1 ms JMKIA0064GB
		receiver communication	Output	When operating either button on the key		(V) 15 10 5 0 JMKIA0065GB
		Combination switch INPUT 5	Input	Combination switch	All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB
87	Ground				Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 10 5 2 ms JPMIA0037GB 1.3 V
(BR)	Glound				Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 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 10 5 0 2 ms JPMIA0040GB

< 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
					Lighting switch HI (Wiper intermittent dial 4)	(V) 15 10 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
					Rear washer switch ON (Wiper intermittent dial 4)	(V) 15 10 5 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 3	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V
89 (BR)	Ground	Push-button ignition switch (Push switch)	Input	Push-button ignition switch (push switch)	Pressed Not pressed	0 V Battery voltage
90 (P)	Ground	CAN-L	Input/ Output		_	_
91 (L)	Ground	CAN-H	Input/ Output		_	_

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	,
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)	-
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	OFF	(V) 15 10 5 0 1 s	
					ON OFF or ACC	6.5 V Battery voltage	6
93 (V)	Ground	ON indicator lamp	Output	Ignition switch	ON ON	Battery voltage 0 V	
94 (Y)	Ground	Puddle lamp control	Output	Puddle lamp	OFF ON	Battery voltage 0 V	F
95					OFF	0 V	
(O)	Ground	ACC relay control	Output	Ignition switch	ACC or ON	Battery voltage	(
96 (GR)	Ground	A/T shift selector (Detention switch) power supply	Output		_	Battery voltage	H
97 (L)	Ground	Steering lock condition No. 1	Input	Steering lock	LOCK status UNLOCK status	0 V Battery voltage	
98 (P)	Ground	Steering lock condition No. 2	Input	Steering lock	LOCK status UNLOCK status	Battery voltage 0 V	
99 (R)	Ground	Selector lever P position switch	Input	Selector lever	P position Any position other than P	0 V Battery voltage	
100 (G)	Ground	Passenger door request switch	Input	Passenger door request switch	ON (Pressed) OFF (Not pressed)	(V) 15 10 5 10 ms JPMIA0016GB	
101 (SB)	Ground	Driver door request switch	Input	Driver door request switch	ON (Pressed) OFF (Not pressed)	0 V (V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V	r C
102	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0 V	
(O)	2.00110	lay control		J	ON	Battery voltage	

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				
(Wire	e color)	Signal name	Input/ Output		Condition	Value (Approx.)
103 (LG)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OF	F	Battery voltage
106	Ground	Steering lock unit	Output	Ignition switch	OFF or ACC	Battery voltage
(W)		power supply		3	ON	0 V
					All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB
					Turn signal switch LH	(V) 15 10 5 0 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 10 5 0 2 ms JPMIA0036GB 1.3 V
					Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB
					Front washer switch ON	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V

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[HALOGEN TYPE]

2009 EX35

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

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB
					Lighting switch PASS	(V) 15 10 5 0 2 ms JPMIA0037GB
109 (Y)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermittent dial 4)	Lighting switch 2ND	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V
					Front wiper switch INT	(V) 15 10 0 2 ms JPMIA0038GB
					Front wiper switch HI	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V
					ON	0 V
110 (G)	Ground	Hazard switch	Input	Hazard switch	OFF	(V) 15 10 5 0 10 ms JPMIA0012GB 1.1 V

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

	ninal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
					LOCK status	Battery voltage
111 (Y) Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK or UNLOCK	(V) 15 10 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)	Ground	Optical selisul	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	OFF (Brake pedal is not depressed)	0 V
118	Ground		Input		ON (Brake pedal is depressed)	Battery voltage
(P)	Cround	Stop lamp switch 2	input		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 assembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 10 5 0 10 ms JPMIA0012GB
					UNLOCK status (Unlock switch sensor ON)	1.1 V 0 V
121	Ground	Key slot switch	Input		serted into key slot	Battery voltage
(BR)	2.34.14	1.3, o.o. ownor		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

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< ECU DIAGNOSIS INFORMATION >

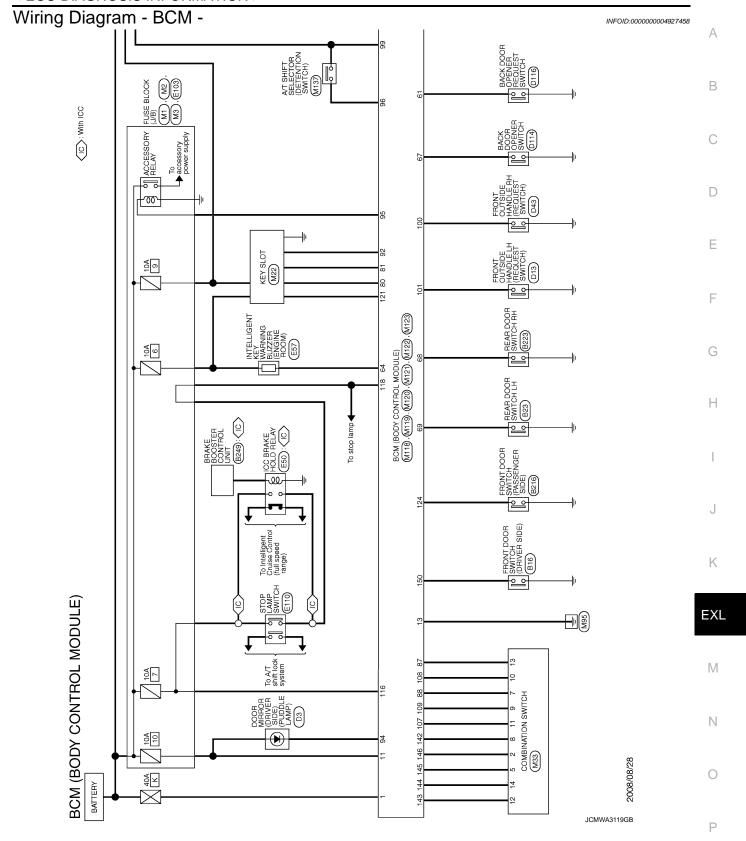
	inal No. e color)	Description			O Bit	Value
+	- COIOI)	Signal name	Input/ Output		Condition	(Approx.)
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (Door open)	0 V
132 (V)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		(V) 15 10 5 0 10 ms JPMIA0013GB
				Ignition switch OF	F or ACC	Battery voltage
					ON (Tail lamps OFF)	9.5 V
133 (W)	Ground	Push-button ignition switch illumination	Output	Push-button ignition switch illumination	ON (Tail lamps ON)	NOTE: The pulse width of this wave is varied by the illumination brightening/dimming level. (V) 15 10 5 0 JPMIA0159GB
					OFF	0 V
134 (GR)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	OFF ON	Battery voltage 0 V
137 (O)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V
138	Cround	Receiver and sensor	Output	Ignition switch	OFF	0 V
(Y)	Ground	power supply	Output	ignition switch	ACC or ON	5.0 V

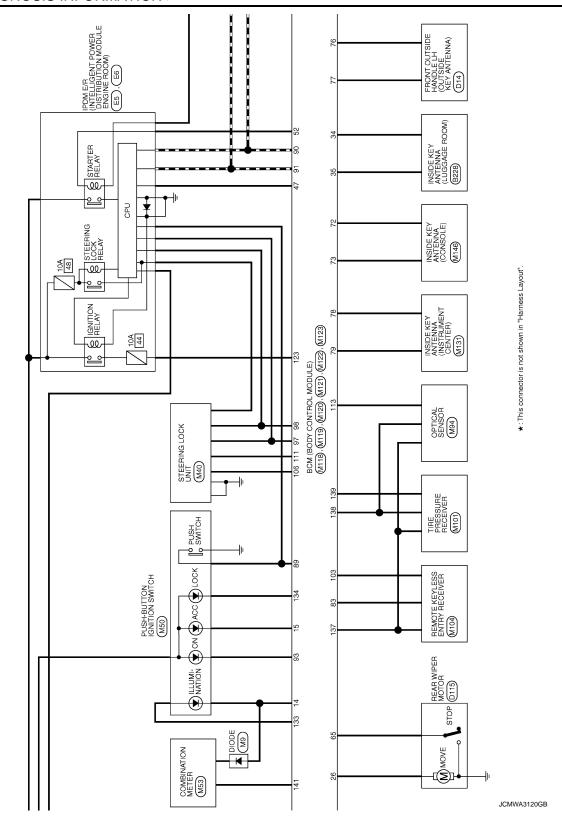
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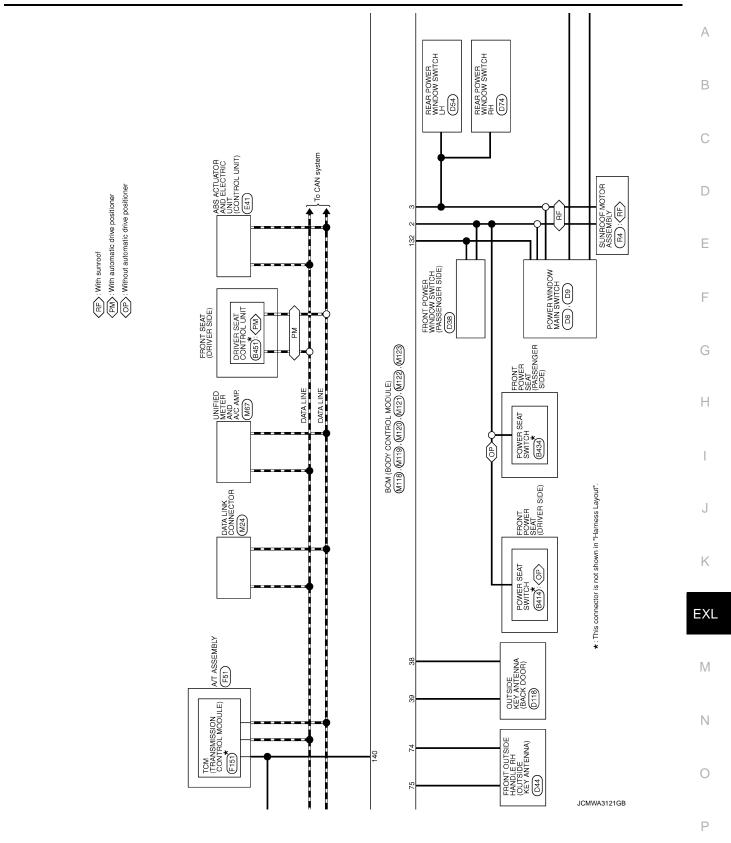
	inal No.	Description				Value
+	e color) –	Signal name	Input/ Output		Condition	(Approx.)
139		Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 6 4 2 0 •• 0.2s OCC3881D
(L)	Ground	er communication	Output	ON SWIGHT	When receiving the signal from the transmitter	(V) 6 4 2 0
140 (GR)	Ground	Selector lever P/N position	Input	Selector lever	P or N position Except P and N positions	Battery voltage 0 V
		•			ON ON	0 V
141 (G)	Ground	Security indicator	Output	tput Security indicator	Blinking	(V) 15 10 5 0 1 s JPMIA0014GB
					OFF	Battery voltage
142 (O)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	All switches OFF Lighting switch 1ST Lighting switch HI Lighting switch 2ND Turn signal switch RH	0 V (V) 15 10 5 0 JPMIA0031GB
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	10.7 V 0 V (V) 15 10 5 0 2 ms JPMIA0032GB 10.7 V

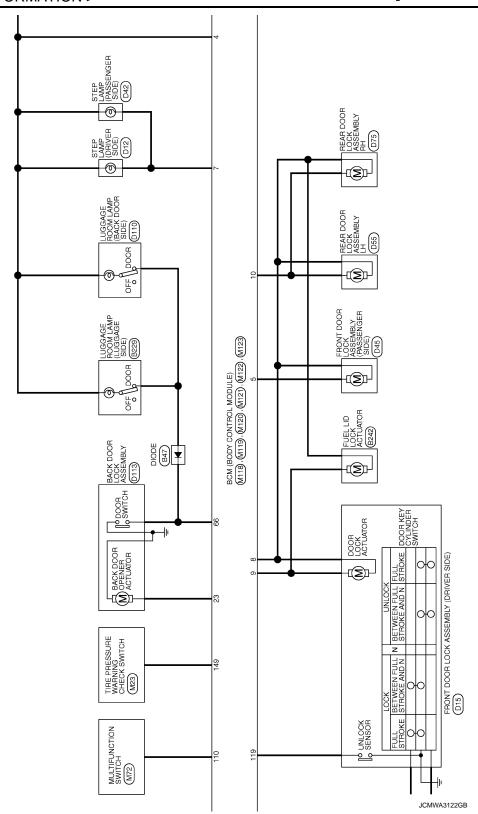
< ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description			O and distingu	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF (Wiper intermittent dial 4)	0 V
					Front washer switch ON (Wiper intermittent dial 4)	
144		Combination switch	Output	Combination	Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15
(G)	Ground	OUTPUT 2		switch	Rear washer switch ON (Wiper intermittent dial 4)	0
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	2 ms JPMIA0033GB
					All switches OFF	0 V
					Front wiper switch INT	
145	One week	Combination switch	Outrast	Combination switch	Front wiper switch LO	(V) 15 10
(L)	Ground	OUTPUT 3	Output	(Wiper intermit- tent dial 4)	Lighting switch AUTO	0 2 ms JPMIA0034GB
						10.7 V
					All switches OFF	0 V
		Combination switch OUTPUT 4		Combination switch (Wiper intermit- tent dial 4)	Front fog lamp switch ON	[(V)
					Lighting switch 2ND	15
146 (SB)	Ground		Output		Lighting switch PASS Turn signal switch LH	2 ms JPMIA0035GB
149 (W)	Ground	Tire pressure warning check switch	Input	Ignition switch ON		10.7 V (V) 15 10 5 0 JPMIA0011GB 11.8 V
150 (LG)	Ground	Driver door switch	Input	Driver door switch	OFF (Door close)	(V) 15 10 10 ms JPMIA0011GB
					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

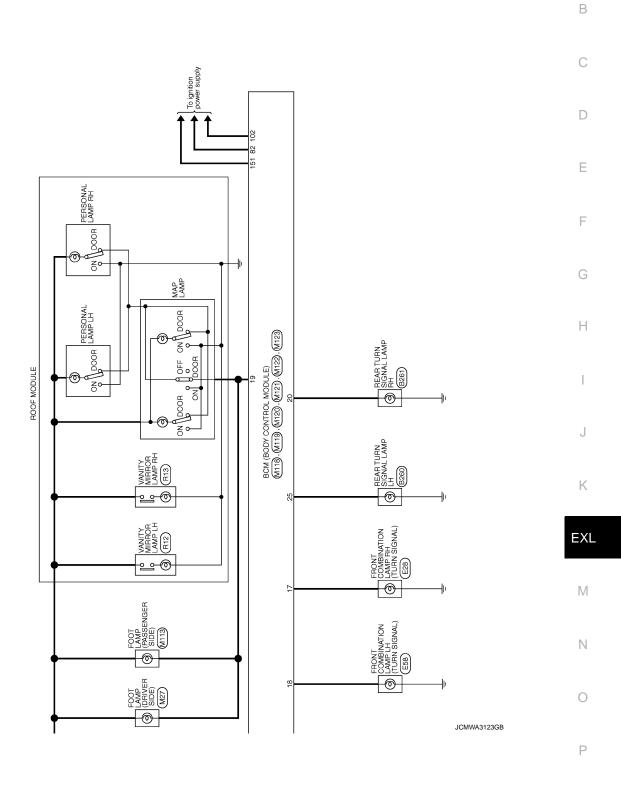








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BCM (BODY CONTROL MODULE)				-
Connector Name COMBINATION SWITCH	Connector Name	BCM (BODY CONTROL MODULE)	Connector Name BCM (BODY CONTROL MODULE)	19 V ROOM LAMP TIMER CONTROL
Connector Type TH16FW-NH	Connector Type	e M03FB-LC	Connector Type NS16FW-CS	
E E	Œ	[Œ	
7 8 9 10 11 2 13 14 5 6 7 8 9 10 11 12 13 14	K.	113	4 5 6 7 3 9 10 11 12 13 14 15 16 17 18 19	
<u>a</u>	la l	Color Signal Name [Specification]	le le	
No. of Wire	No.	of Wire	No. of Wire	
	H	H		
8 O OUTPUT 5	2	COWER WINDOW POWER SUPPLICARY	8 V ALL DOOR, FUEL LID LOCK OUTPUT	
>-			G DRIVE	
10 R INPUT 4			10 BR REAR DOOR UNLOCK OUTPUT	
2 4			: 00	
BR			W PUSH-BUTTO	
14 G OUTPUT 2			>	
			17 W TURN SIGNAL RH (FRONT)	
Connector No. M120	Connector No.	M121	68 BR REAR BH DOOR SW	
Connector Name BCM (BODY CONTROL MODULE)	Connector Name	BCM (BODY CONTROL MODULE)		
Connector Type NS12FW-CS	Connector Type	e TH40FGY-NH		
	1			
co.	S			
20 21 22 23	51 50	49 48 47 46 45 44 43 42 41 40 39 38 37 36 35		
[15] 25 [27] 28 [28] 21]		69 68 67 68 65 64 63 62 61 60 59 58 57 56 55 54 53 52		
Ē	- E	lor Signal Name [Specification]		
NO. OF WIFE 20 V TIBN SIGNAL BH (PEAR)	34 01	SB I IIGGAGE BOOM ANT-		
	ł			
_	H	B BACK DOOR ANT-		
26 G REAR WIPER OUTPUT	$^{+}$	W BACK DOOR ANT+		
	50	Y IGN RELAY (IPDM E/R) CONT SB STADTED DELAY CONT		
	\vdash	╀		
	64	V I–KEY WARN BUZZER (ENG ROOM)		
	+	R BACK DOOR SW		
	Н	BAC		

JCMWA3124GB

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

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138 Y RECENTER SCHOOM 139 L THEE PRESSINE RECENTER COMM 140 GR SECURITY NIPO UTPUT 142 O COMBIS WINDTH 1 C COMBIS WOUTPUT COMBIS	
Connector No. M.23	
KEVIESS BITRY RECHER COMMING COMBISW INPUT 5 COMBISW INPUT 5 COMBISW INPUT 6 CAN-I	
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	
M 122 BOM (BODY CONTROL MODULE) TH40FB-4NH FOR ANTT- FORM ANTT-	
Commetter No.	
Connecton Connec	JCMWA3125GB

Fail-safe

FAIL-SAFE CONTROL BY DTC

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

EXL-319 Revision: 2010 March 2009 EX35

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INFOID:0000000004927459

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 → OFF
B2557: VEHICLE SPEED	Inhibit steering lock	When normal vehicle speed signals are received from ABS actuator and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	 500 ms after the following CAN signal communication status becomes 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]

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Display contents of CONSULT	Fail-safe	Cancellation		
B2607: S/L RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status comes 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 cranking Inhibit 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 fulfilled • Power position changes to ACC • Receives 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 becomes normal		
B2619: BCM	Inhibit engine cranking	1 second after the steering lock unit power supply output control inside BCM becomes normal		
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization		
B26E9: S/L STATUS • Inhibit engine cranking • Inhibit 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.
- Turn rear wiper switch OFF.
- 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.

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< ECU DIAGNOSIS INFORMATION >

1 B2562: LOW VOLTAGE • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN) • B2190: NATS ANTENNA AMP • B2191: DIFFERENCE OF KEY 3 • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM • B2195: ANTI SCANNING • B2013: ID DISCORD BCM-S/L
U1010: CONTROL UNIT (CAN) B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI SCANNING
B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI SCANNING
B2013: ID DISCORD BCM-S/L

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Priority	DTC	_
	C1704: LOW PRESSURE FL	- A
	C1705: LOW PRESSURE FR	
	C1706: LOW PRESSURE RR	
	C1707: LOW PRESSURE RL	В
	C1708: [NO DATA] FL	
	C1709: [NO DATA] FR	
	C1710: [NO DATA] RR	
	C1711: [NO DATA] RL	С
	C1712: [CHECKSUM ERR] FL	
	C1713: [CHECKSUM ERR] FR	
	C1714: [CHECKSUM ERR] RR	
	C1715: [CHECKSUM ERR] RL	D
5	C1716: [PRESSDATA ERR] FL	
	C1717: [PRESSDATA ERR] FR	
	C1718: [PRESSDATA ERR] RR	Е
	C1719: [PRESSDATA ERR] RL	
	C1720: [CODE ERR] FL	
	C1721: [CODE ERR] FR	
	C1722: [CODE ERR] RR	F
	C1723: [CODE ERR] RL	1
	C1724: [BATT VOLT LOW] FL	
	C1725: [BATT VOLT LOW] FR	
	C1726: [BATT VOLT LOW] RR	G
	C1727: [BATT VOLT LOW] RL	
	C1734: CONTROL UNIT	
	B2621: INSIDE ANTENNA	Н
6	B2622: INSIDE ANTENNA	
	B2623: INSIDE ANTENNA	

DTC Index

NOTE:

The details of time display are as follows.

- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to EXL-228. "COM-MON ITEM: CONSULT-III Function (BCM - COMMON ITEM)".

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	_	_
U1000: CAN COMM CIRCUIT	_	_	_	_	BCS-37
U1010: CONTROL UNIT (CAN)	_	_	_	_	BCS-38
U0415: VEHICLE SPEED SIG	_	_	_	_	BCS-39
B2013: ID DISCORD BCM-S/L	×	×	_	_	SEC-48
B2014: CHAIN OF S/L-BCM	×	×	_	_	SEC-49
B2190: NATS ANTENNA AMP	×	_	_	_	SEC-41
B2191: DIFFERENCE OF KEY	×	_	_	_	SEC-44
B2192: ID DISCORD BCM-ECM	×	_	_	_	SEC-45
B2193: CHAIN OF BCM-ECM	×	_	_	_	SEC-46
B2195: ANTI SCANNING	×	_	_	_	SEC-47
B2553: IGNITION RELAY	_	×	_	_	PCS-49

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CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2555: STOP LAMP	_	×	_	_	SEC-52
B2556: PUSH-BTN IGN SW	_	×	×	_	SEC-54
B2557: VEHICLE SPEED	×	×	×	_	SEC-56
B2560: STARTER CONT RELAY	×	×	×	_	<u>SEC-57</u>
B2562: LOW VOLTAGE	_	×	_	_	BCS-40
B2601: SHIFT POSITION	×	×	×	_	SEC-58
B2602: SHIFT POSITION	×	×	×	_	SEC-61
B2603: SHIFT POSI STATUS	×	×	×	_	SEC-63
B2604: PNP SW	×	×	×	_	SEC-66
B2605: PNP SW	×	×	×	_	SEC-68
B2606: S/L RELAY	×	×	×	_	SEC-70
B2607: S/L RELAY	×	×	×	_	SEC-71
B2608: STARTER RELAY	×	×	×	_	SEC-73
B2609: S/L STATUS	×	×	×	_	SEC-75
B260A: IGNITION RELAY	×	×	×	_	PCS-51
B260B: STEERING LOCK UNIT	_	×	×	_	SEC-79
B260C: STEERING LOCK UNIT	_	×	×	_	SEC-80
B260D: STEERING LOCK UNIT	_	×	×	_	SEC-81
B260F: ENG STATE SIG LOST	×	×	×	_	SEC-82
B2612: S/L STATUS	×	×	×	_	SEC-86
B2614: ACC RELAY CIRC	_	×	×	_	PCS-53
B2615: BLOWER RELAY CIRC	_	×	×	_	PCS-56
B2616: IGN RELAY CIRC	_	×	×	_	PCS-59
B2617: STARTER RELAY CIRC	×	×	×	_	SEC-90
B2618: BCM	×	×	×	_	PCS-62
B2619: BCM	×	×	×	_	SEC-92
B261A: PUSH-BTN IGN SW	_	×	×	_	SEC-93
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	×	×	×	_	SEC-83
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		_	_	×	<u>WT-17</u>
C1706: LOW PRESSURE RR	_	_	_	×	<u>vv 1-17</u>
C1707: LOW PRESSURE RL	_	_	_	×	

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	A B
C1708: [NO DATA] FL	_	_	_	×		
C1709: [NO DATA] FR	_	_	_	×	W/T 40	С
C1710: [NO DATA] RR	_	_	_	×	<u>WT-19</u>	
C1711: [NO DATA] RL	_	_	_	×		
C1712: [CHECKSUM ERR] FL	_	_	_	×		D
C1713: [CHECKSUM ERR] FR	_	_	_	×	WT 00	
C1714: [CHECKSUM ERR] RR	_	_	_	×	<u>WT-22</u>	Е
C1715: [CHECKSUM ERR] RL	_	_	_	×		
C1716: [PRESSDATA ERR] FL	_	_	_	×		
C1717: [PRESSDATA ERR] FR	_	_	_	×	WT-25	F
C1718: [PRESSDATA ERR] RR	_	_	_	×	<u>VV 1-25</u>	
C1719: [PRESSDATA ERR] RL	_	_	_	×		
C1720: [CODE ERR] FL	_	_	_	×		G
C1721: [CODE ERR] FR	_	_	_	×	WT-27	
C1722: [CODE ERR] RR	_	_	_	×	<u>VV 1-27</u>	Н
C1723: [CODE ERR] RL	_	_	_	×		
C1724: [BATT VOLT LOW] FL	_	_	_	×		
C1725: [BATT VOLT LOW] FR	_	_	_	×	WT-30	
C1726: [BATT VOLT LOW] RR	_	_	_	×	<u>vv 1-30</u>	
C1727: [BATT VOLT LOW] RL	_	_	_	×		J
C1729: VHCL SPEED SIG ERR	_	_	_	×	<u>WT-33</u>	
C1734: CONTROL UNIT	_	_	_	×	<u>WT-34</u>	

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< ECU DIAGNOSIS INFORMATION >

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

Reference Value INFOID:0000000004927462

VALUES ON THE DIAGNOSIS TOOL

Monitor Item		Condition		
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	
TAIL OCLD DEC	Lighting switch OFF		Off	
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On	
HL LO REQ	Lighting switch OFF		Off	
HL LO REQ	Lighting switch 2ND HI or AUTO	(Light is illuminated)	On	
UL UL DEO	Lighting switch OFF		Off	
HL HI REQ	Lighting switch HI		On	
		Front fog lamp switch OFF	Off	
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	Front fog lamp switch ON Daytime running light activated (Only for Canada)	On	
FR WIP REQ		Front wiper switch OFF	Stop	
	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 operation	BLOCK	
IGN RLY1 -REQ	Ignition switch OFF or ACC		Off	
IGN INELT I -INEQ	Ignition switch ON		On	
IGN RLY	Ignition switch OFF or ACC		Off	
IGN KLI	Ignition switch ON		On	
PUSH SW	Release the push-button ignition	switch	Off	
FOSITOW	Press the push-button ignition sv	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	
OT INCLUDING	At engine cranking		On	
IHBT RLY -REQ	Ignition switch ON		Off	
IIIDI IVLI -NEV	At engine cranking		On	

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Cor	Value/Status			
	Ignition switch ON		Off		
	At engine cranking		$INHI\;ON\toST\;ON$		
ST/INHI RLY		control relay cannot be recognized by . when the starter relay is ON and the	UNKWN		
DETENT SW	Ignition switch ON	 Press the selector button with selector lever in P position Selector lever in any position other than P 	Off		
	Release the selector button with se	elector lever in P position	On		
	None of the conditions below are p	resent	Off		
S/L RLY -REQ	seconds)	Press the push-button ignition switch when the steering lock is activat-			
	Steering lock is activated	LOCK			
S/L STATE	L STATE Steering lock is deactivated		UNLOCK		
	[DTC: B210A] is detected	[DTC: B210A] is detected			
DTRL REQ	NOTE: The item is indicated, but not monit	NOTE: The item is indicated, but not monitored.			
OIL P SW	Ignition switch OFF, ACC or engine	running	Open		
OIL P SVV	Ignition switch ON		Close		
HOOD CW	Close the hood		Off		
HOOD SW	Open the hood		On		
HL WASHER REQ	NOTE: The item is indicated, but not monit	NOTE: The item is indicated, but not monitored.			
	Not operation	Off			
THFT HRN REQ	Panic alarm is activated Horn is activated with VEHICLE \$ TEM	On			
LIODN CHIDD	Not operating		Off		
HORN CHIRP	Door locking with Intelligent Key (he	ing with Intelligent Key (horn chirp mode)			
CRNRNG LMP REQ	NOTE: The item is indicated, but not monit	ored.	Off		

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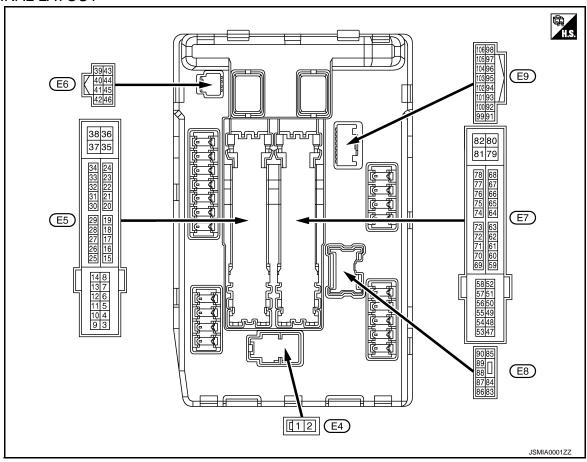
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< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT



PHYSICAL VALUES

	inal No.	Description		Condition		Value
+ (VVire	e color)	Signal name	Input/ Output			(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	Cround	Frant winer I O	Outrout	Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
5	Craund	Frant win or I II	Outrout	Ignition	Front wiper switch OFF	0 V
(L)	Ground	Front wiper HI	Output	switch ON	Front wiper switch HI	Battery voltage
7	Cround	Tail, license plate lamps &	Outrout	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 opening 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 swi	tch ACC or ON	0 V	
12 (B/W)	Ground	Ground	_	Ignition switch ON		0 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value		
+	e color)	Signal name	Input/ Output		Condition	(Approx.)		
13					ely 1 second or more after ignition switch ON	0 V		
(SB)	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	tch OFF	0 V		
(W)	0.00.10	igimien reidy perior cuppry		Ignition swi	tch ON	Battery voltage		
25	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V		
(G)	0.00.10	igimien reidy perior cuppry		Ignition swi	tch ON	Battery voltage		
26*	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V		
(R)		3		Ignition swi	tch ON	Battery voltage		
27	Ground	Ignition relay monitor	Input	Ignition swi	tch OFF or ACC	Battery voltage		
(O)	Orouna	iginaliti rolay mornion	niput	Ignition swi	tch ON	0 V		
28	Ground	Push-button ignition	Input	Press the p	ush-button ignition switch	0 V		
(L)	Oround	switch	при	Release the	e push-button ignition switch	Battery voltage		
30	Ground	Starter relay control	Starter relay control	Starter relay control	mer relay control I Inniit I -	Ignition	Selector lever in any position other than P or N	0 V
(GR)	GR)		· 	switch ON	Selector lever P or N	Battery voltage		
32	Craund	Steering lock unit condi-	lanut	Steering loa	ck is activated	0 V		
(L)	Ground	tion-1	Input	Steering loa	ck is deactivated	Battery voltage		
33	0	Steering lock unit condi-	la a cot	Steering lock is activated		Battery voltage		
(P)	Ground	tion-2	Input	Steering lock is deactivated		0 V		
36 (G)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage		
39 (P)	_	CAN-L	Input/ Output		_	_		
40 (L)	_	CAN-H	Input/ Output		_	_		
41 (B/W)	Ground	Ground	_	Ignition swi	tch ON	0 V		
42	Crownsi	Cooling for relay control	lnn::t	Ignition swi	tch OFF or ACC	0 V		
(Y)	Ground	Cooling fan relay control	Input	Ignition swi	tch ON	0.7 V		
43 (SB)	Ground	Control device (Detention switch)	Input	Ignition switch ON	 Press the selector button (Selector lever P) Selector lever in any position other than P 	Battery voltage		
. ,		,			Release the selector but- ton (selector lever P)	0 V		
44		Hama malay and the	Le contra	The horn is	deactivated	Battery voltage		
(W)	Ground	Horn relay control	Input	The horn is	activated	0 V		
45				The horn is	deactivated	Battery voltage		
(G)	Ground	Anti theft horn relay control	Input	The born is	activated	0 V		

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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description			0 1111	Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
46 (R)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any position other than P or N	0 V
(11)				SWILCH OIV	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 operating)	Battery voltage
49				Ignition swi (More than ignition swi	a few seconds after turning	0 V
(R)	Ground	ECM relay power supply	Output	Ignition sIgnition s(For a fe tion switch	witch OFF w seconds after turning igni-	Battery voltage
51	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(G)	Giodila	ignition relay power suppry	Output	Ignition swi	tch ON	Battery voltage
53				Ignition swi (More than ignition swi	a few seconds after turning	0 V
(W)	Ground	ECM relay power supply	Output	Ignition sIgnition s(For a fetion switch	witch OFF w seconds after turning igni-	Battery voltage
54		Throttle control motor re-		Ignition swi (More than ignition swi	a few seconds after turning	0 V
54 (LG)	Ground	lay power supply	Output	Ignition s	w seconds after turning igni-	Battery voltage
55 (BR)	Ground	ECM power supply	Output	Ignition swi	tch OFF	Battery voltage
56	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(V)	Ground	ignition relay power suppry	Output	Ignition swi	tch ON	Battery voltage
57	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(SB)	Ciodila	ignition relay power suppry		Ignition swi	tch ON	Battery voltage
58	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(P)	Ciodila	ignition rolay power supply	Output	Ignition swi	tch ON	Battery voltage
69				Ignition swi (More than ignition swi	a few seconds after turning	Battery voltage
(W)	Ground	ECM relay control	Output	Ignition s	w seconds after turning igni-	0 – 1.5 V
						0 – 1.0 V
70 (O)	Ground	Throttle control motor re- lay control	Output	Ignition swi	$tch ON \rightarrow OFF$	↓ Battery voltage ↓
` '						0 V
				Ignition swi	tch ON	0 – 1.0 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value		
(Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)		
74	Cround	lanition relevance or annual	Outrut	Ignition swi	tch OFF	0 V		
(P)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage		
75	Ground	Oil pressure switch	Innut	Ignition	Engine stopped	0 V		
(Y)	Ground	Oil pressure switch	Input	switch ON	Engine running	Battery voltage		
				Ignition swi	tch ON	(V) 6 4 2 0 2 2 ms JPMIA0001GB		
76 (V)	Ground	Power generation command signal	Output		on "ACTIVE TEST", "AL- R DUTY" of "ENGINE"	(V) 6 4 2 0 2ms JPMIA0002GB 3.8 V		
						80% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 2 2ms JPMIA0003GB 1.4 V
77 (L)	Ground	Fuel pump relay control	Output		nately 1 second after turning on switch ON unning	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 of		Battery voltage		
83	Ground	Headlamp LO (RH)	Output	Ignition	Lighting switch OFF	0 V		
(O)	2.34.14		- Suput	switch ON	Lighting switch 2ND	Battery voltage		
84	Ground	Headlamp LO (LH)	Output	Ignition	Lighting switch OFF	0 V		
(V)	O. Suria		Caipai	switch ON	Lighting switch 2ND	Battery voltage		
					Front fog lamp switch OFF	0 V		
86 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	 Front fog lamp switch ON Daytime running light activated (Only for Canada) 	Battery voltage		

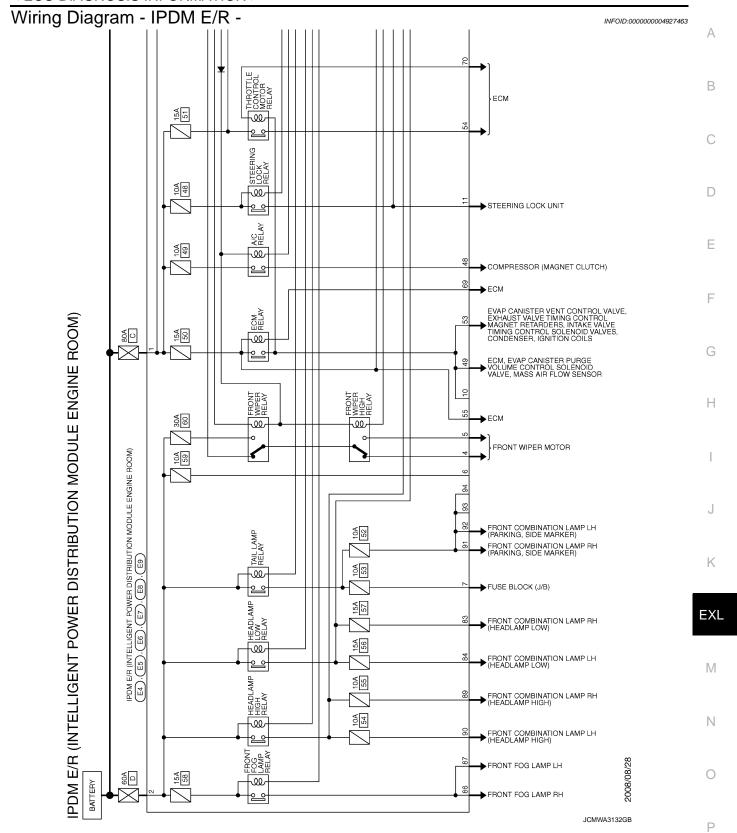
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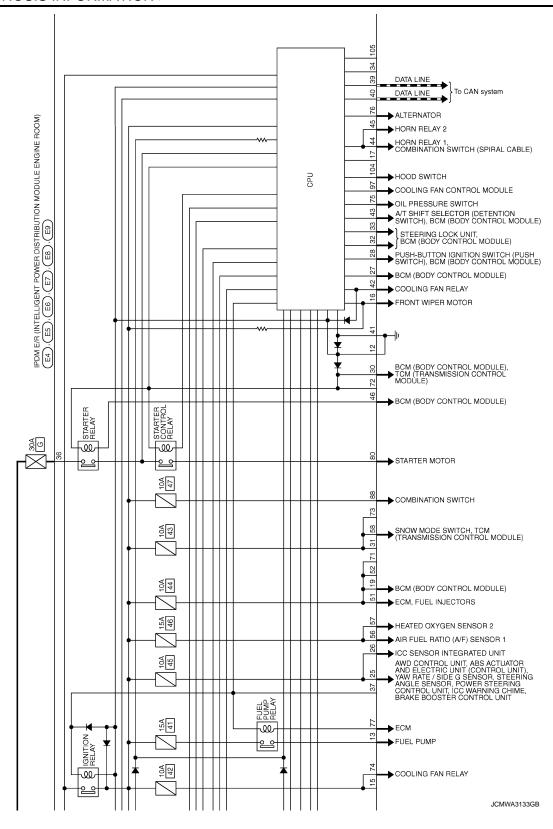
< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
	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 Canada)	Battery voltage
88 (GR)	Ground	Washer pump power supply	Output	Ignition switch ON		Battery voltage
90				Ignition	Lighting switch OFF	0 V
89 (BR)	Ground	Headlamp HI (RH)	Output	Output Ignition switch ON	Lighting switch HI Lighting switch PASS	Battery voltage
90				Ignition	Lighting switch OFF	0 V
90 (P)	Ground	Headlamp HI (LH)	Output	switch ON	Lighting switch HI Lighting switch PASS	Battery voltage
91	Ground	Parking lamp (RH)	Output	Ignition	Lighting switch OFF	0 V
(P)	Giodila	Faiking lamp (KH)	Output	switch ON	Lighting switch 1ST	Battery voltage
92	Ground	Parking lamp (LH)	Output	Ignition	Lighting switch OFF	0 V
(O)	Giodila	raiking lamp (LH)	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 h	nood	Battery voltage
(LG)	Giodila	HOOG SWILCH	input	Open the h	ood	0 V

^{*:} Only for the models with ICC system

< ECU DIAGNOSIS INFORMATION >

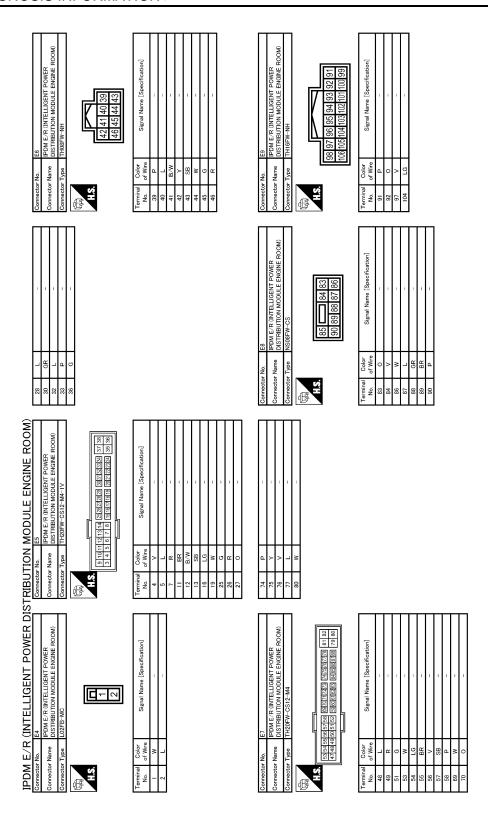




IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < ECU DIAGNOSIS INFORMATION > [HALOGEN TYPE]

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< ECU DIAGNOSIS INFORMATION >



JCMWA3135GB

Fail-safe

INFOID:0000000004927464

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

< 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 lampsLicense plate lampsSide maker lampsIlluminationsTail 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.

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

FRONT WIPER CONTROL

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

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

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< 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	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 INFOID:0000000004927465

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 ightarrow 2 \cdots 38 ightarrow 39 after returning to the normal condition whenever IGN OFF ightarrow
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

v. Applicable

x: Ap		
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	_	SEC-106
B210F: INTRLCK/PNP SW ON	_	SEC-108
B2110: INTRLCK/PNP SW OFF	_	SEC-110

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[HALOGEN TYPE]

INFOID:0000000004347272

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SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

CAUTION:

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

Symptom		Possible cause	Inspection item
Headlamp (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-241</u> .
	Both sides	Symptom diagnosis	
Headlamp (HI) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (HI) A Refer to <u>EXL-342</u> .	RE NOT TURNED ON"
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_
High beam indicator lam		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 EXL-243.
	Both sides	Symptom diagnosis	
Headlamp (LO) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-343.	
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_
Headlamp is not turned (DN/OFF with the lighting	Combination switch Harness between the combination switch and BCM BCM	Combination switch Refer to BCS-83.
switch AUTO.		Optical sensor Harness between the optical sensor and BCM BCM	Optical sensor Refer to EXL-251.
Front fog lamp is not turned ON. One side Both 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-245</u> .
		Symptom diagnosis	
Front fog lamp is not turned ON.		"BOTH SIDE FRONT FOG LAMPS Refer to <u>EXL-345</u> .	S AKE NOT TURNED ON"
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-247</u> .

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EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[HALOGEN 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 EXL-256.
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 EXL-258.
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 EXL-256.
 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	"DADKING LICENSE DI ATE AND TAIL LAMPS ARE NOT TURN	
Turn signal lamp does not	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-249</u> .
blink.	Indicator lamp is included	Combination switch Harness between the combination switch and BCM BCM	Combination switch Refer to BCS-83.
	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 MWI-53.
 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-254</u> .

Symptom Table

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[HALOGEN TYPE]

NORMAL OPERATING CONDITION

Description INFOID:000000004347274

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 >

[HALOGEN TYPE]

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description INFOID:000000004347275

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

Diagnosis Procedure

INFOID:0000000004347276

1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-83, "Symptom Table".

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

(P)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
nl ni keQ	(2ND)	LO	Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-85, "Exploded View".

3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-241, "Component Function Check".

Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

[HALOGEN TYPE] < SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description INFOID:0000000004347277

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

Diagnosis Procedure

CHECK COMBINATION SWITCH

Check the combination switch. Refer to BCS-83, "Symptom Table".

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

©CONSULT-III DATA MONITOR

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

Monitor item	Condition		Monitor status
HL LO REQ	Lighting switch	2ND	On
HL LO KEQ	Lighting Switch	OFF	Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-85, "Exploded View".

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-243, "Component Function Check".

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

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INFOID:0000000004347278

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 INFOID:000000004347279

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

Diagnosis Procedure

INFOID:0000000004347280

1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-83, "Symptom Table".

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

(P)CONSULT-III DATA MONITOR

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

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

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

3. TAIL LAMP CIRCUIT INSPECTION

Check the tail lamp circuit. Refer to EXL-256, "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 DIAGNOSIS > [HALOGEN TYPE]

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description INFOID:0000000004347281

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

Diagnosis Procedure

INFOID:0000000004347282

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1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-83, "Symptom Table".

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

(P)CONSULT-III DATA MONITOR

- 1. Select "FR FOG REQ" of IPDM E/R data monitor item.
- 2. With operating the front fog lamp switch, check the monitor status.

Monitor item	Condition		Monitor status
ER EOG REO	FOG REQ Front fog lamp switch (Lighting switch 2ND)		On
TICTOOKEQ			Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

3. FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-245, "Component Function Check".

Is the front fog lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

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PRECAUTIONS

< PRECAUTION > [HALOGEN TYPE]

PRECAUTION

PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "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 that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal
 injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag
 Module, see 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.

[HALOGEN TYPE]

PERIODIC MAINTENANCE

HEADLAMP AIMING ADJUSTMENT

Description BINFOID:000000004347284

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.

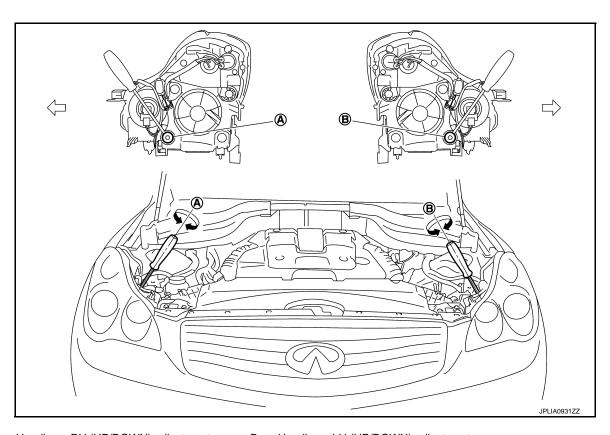
Wipe out dirt on the headlamp.

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.

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

Aiming Adjustment Procedure

INFOID:0000000004347285

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.

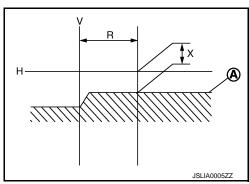
CAUTION:

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 mm (13.78 \pm 6.89 in)

Low beam distribution on the screen

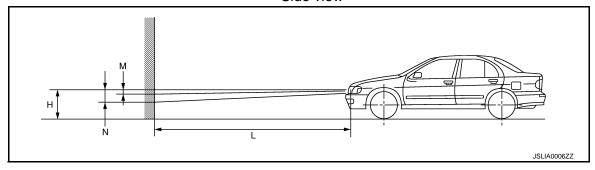


 Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

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)

Side view



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

FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN TYPE]

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FRONT FOG LAMP AIMING ADJUSTMENT

Description INFOID:0000000004347286

PREPARATION BEFORE ADJUSTING

- 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.

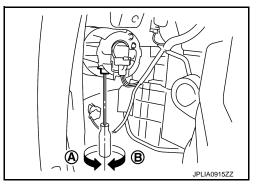
A: UP

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.



INFOID:0000000004347287

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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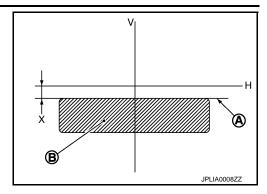
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FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN TYPE]

Front fog lamp light distribution on the screen



A : Cutoff line

B : High illuminance area

H : Horizontal center line of front fog lampV : Vertical center line of front fog lamp

X : Cutoff line height

[HALOGEN TYPE]

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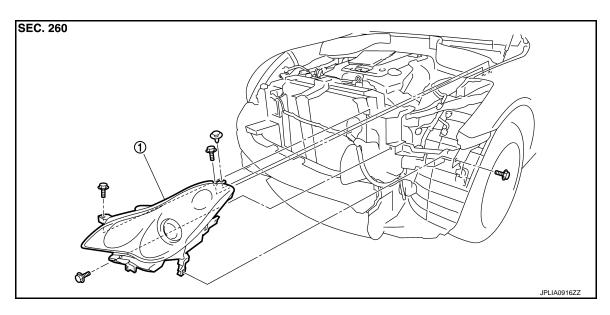
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REMOVAL AND INSTALLATION

FRONT COMBINATION LAMP

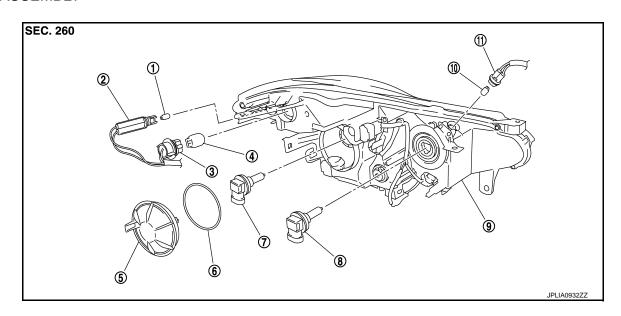
Exploded View

REMOVAL



1. Front combination lamp

DISASSEMBLY



- 1. Front side marker lamp bulb
- 4. Front turn signal lamp bulb
- 7. Halogen bulb (LO)
- 10. Parking lamp bulb

- 2. Front side marker lamp bulb socket
- 5. Resin cap
- 8. Halogen bulb (HI)
- 11. Parking lamp bulb socket
- 3. Front turn signal lamp bulb socket
- 6. Seal packing
- 9. Headlamp housing assembly

Removal and Installation

INFOID:0000000004347289

REMOVAL CAUTION:

FRONT COMBINATION LAMP

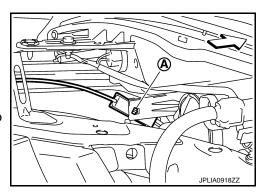
< REMOVAL AND INSTALLATION >

[HALOGEN TYPE]

Disconnect the battery negative terminal or remove the fuse.

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

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



INSTALLATION

Install in the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to EXL-347, "Description".

Replacement INFOID:000000004347290

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.
- Disconnect the headlamp (LO) bulb connector.
- 4. Rotate the bulb counterclockwise and unlock it.
- Remove the bulb from the headlamp housing assembly.

HEADLAMP BULB (HI)

- Remove the washer tank inlet^{*}. Refer to <u>WW-101, "Exploded View"</u>.
 *:When replace a right.
- 2. Disconnect the headlamp (HI) bulb connector.
- 3. Rotate the bulb socket counterclockwise and unlock it.
- 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.
- Rotate the bulb socket counterclockwise and unlock it.
- Remove the bulb from the bulb socket.

FRONT SIDE MARKER LAMP BULB

- 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 COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[HALOGEN TYPE]

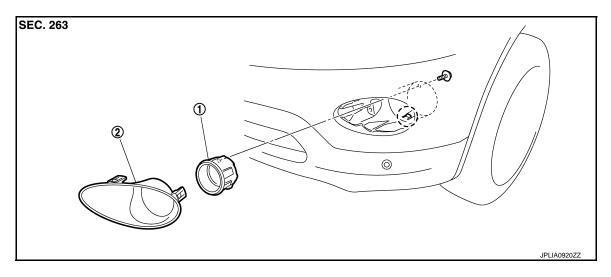
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< REMOVAL AND INSTALLATION >	[HALOGEN TYPE]	
Disassembly and Assembly	INFOID:000000004347291	
DISASSEMBLY		Α
Rotate the resin cap counterclockwise and unlock it.		
Disconnect the headlamp bulb (LO) connector.		В
Rotate the headlamp bulb (LO) counterclockwise and unlock it		
4. Remove the bulb from the headlamp housing assembly.		
5. Rotate the headlamp bulb (HI) counterclockwise and unlock it		С
6. Remove the bulb from the headlamp housing assembly.		
7. Rotate the parking lamp bulb socket counterclockwise and unlock it.		D
8. 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.		Е
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		F
Assemble in the reverse order of disassembly.		
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FRONT FOG LAMP

Exploded View



- Front fog lamp
- ' : Pawl

Front fog lamp finisher

Removal and Installation

INFOID:0000000004347293

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- Remove the front fender protector. Keep a service area. Refer to <u>EXT-25</u>, "<u>FENDER PROTECTOR</u>: Exploded View".
- 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-349, "Description"

Replacement INFOID:000000004347294

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

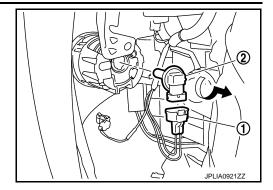
1. Remove the front fender protector. Keep the service area. Refer to EXT-25, "FENDER PROTECTOR: Exploded View".

FRONT FOG LAMP

< REMOVAL AND INSTALLATION >

[HALOGEN TYPE]

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



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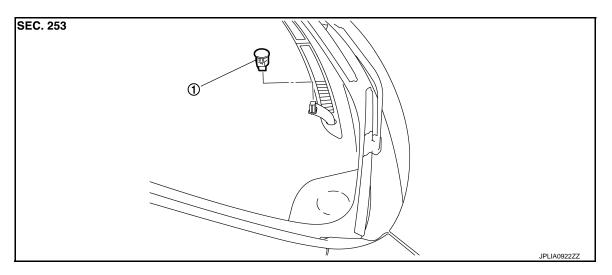
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OPTICAL SENSOR

Exploded View



1. Optical sensor

Removal and Installation

INFOID:0000000004347296

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.

LIGHTING AND TURN SIGNAL SWITCH

< REMOVAL AND INSTALLATION >

[HALOGEN TYPE]

LIGHTING AND TURN SIGNAL SWITCH

Exploded View

Lighting and turn signal switch is integrated in the combination switch. BCS-86, "Exploded View".

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HAZARD SWITCH

< REMOVAL AND INSTALLATION >

[HALOGEN TYPE]

HAZARD SWITCH

Exploded View

The hazard warning switch is integrated in the multifunction switch. Refer to AV-160, "Exploded View".

[HALOGEN TYPE]

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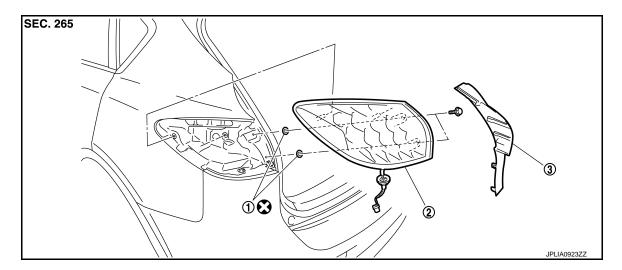
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INFOID:0000000004347300

REAR COMBINATION LAMP

Exploded View



Seal packing

- 2. Rear combination lamp
- 3. Rear combination lamp finisher

Refer to GI-4, "Components" for symbols in the figure.

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 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.

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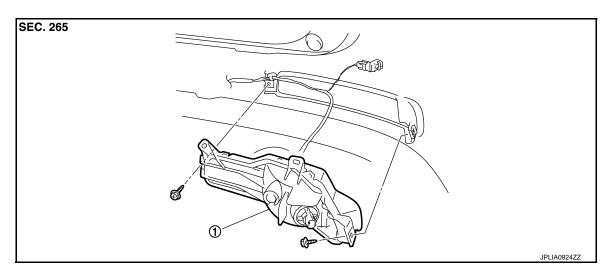
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REAR TURN SIGNAL LAMP

Exploded View



Rear turn signal lamp

Removal and Installation

INFOID:0000000004347302

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the rear bumper fascia. Refer to EXT-16, "Exploded View".
- Remove the rear turn signal lamp.

INSTALLATION

Install in the reverse order of removal.

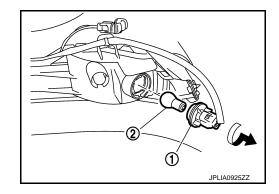
Replacement

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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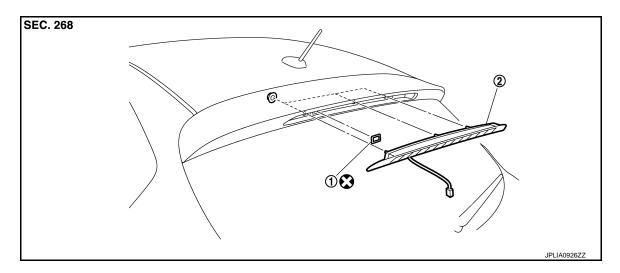
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HIGH-MOUNTED STOP LAMP

Exploded View



1. Seal packing

2. High-mounted stop lamp

Refer to GI-4, "Components" for symbols in the figure.

Removal and Installation

REMOVAL

- Remove the back door finisher inner. Refer to <u>INT-38</u>, "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.
- Remove the high-mounted stop lamp.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Seal packing cannot be reused.

INFOID:0000000004347305

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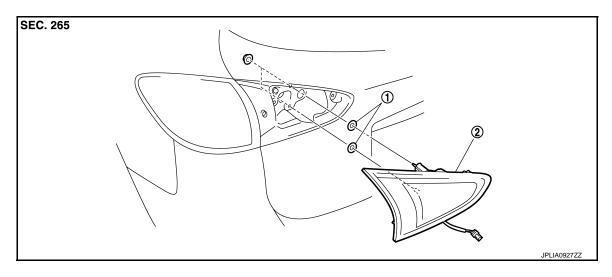
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BACK-UP LAMP

Exploded View



1. Seal packing

Back-up lamp

Removal and Installation

INFOID:0000000004347307

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- Remove the back door finisher inner. Refer to <u>INT-38</u>, "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.

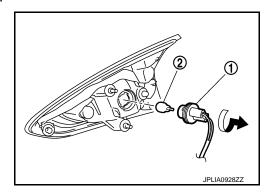
Replacement INFOID:000000004347308

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.

BACK-UP LAMP BULB

- 1. Remove the back-up lamp. Refer to EXL-362, "Exploded View".
- 2. Turn the bulb socket (1) counterclockwise and unlock it.
- Remove the bulb (2) from the socket.



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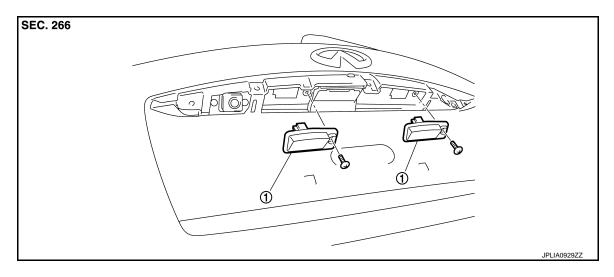
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LICENSE PLATE LAMP

Exploded View



License plate lamp

Removal and Installation

INFOID:0000000004347310

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.

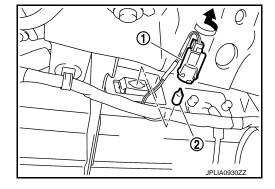
Replacement INFOID:0000000004347311

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.
- Remove the bulb (2) from the socket.



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SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[HALOGEN TYPE]

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Bulb Specifications

INFOID:0000000004347312

	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
Dear combination laws	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	_