# SECTION EXL
# EXTERIOR LIGHTING SYSTEM

## CONTENTS

### XENON TYPE

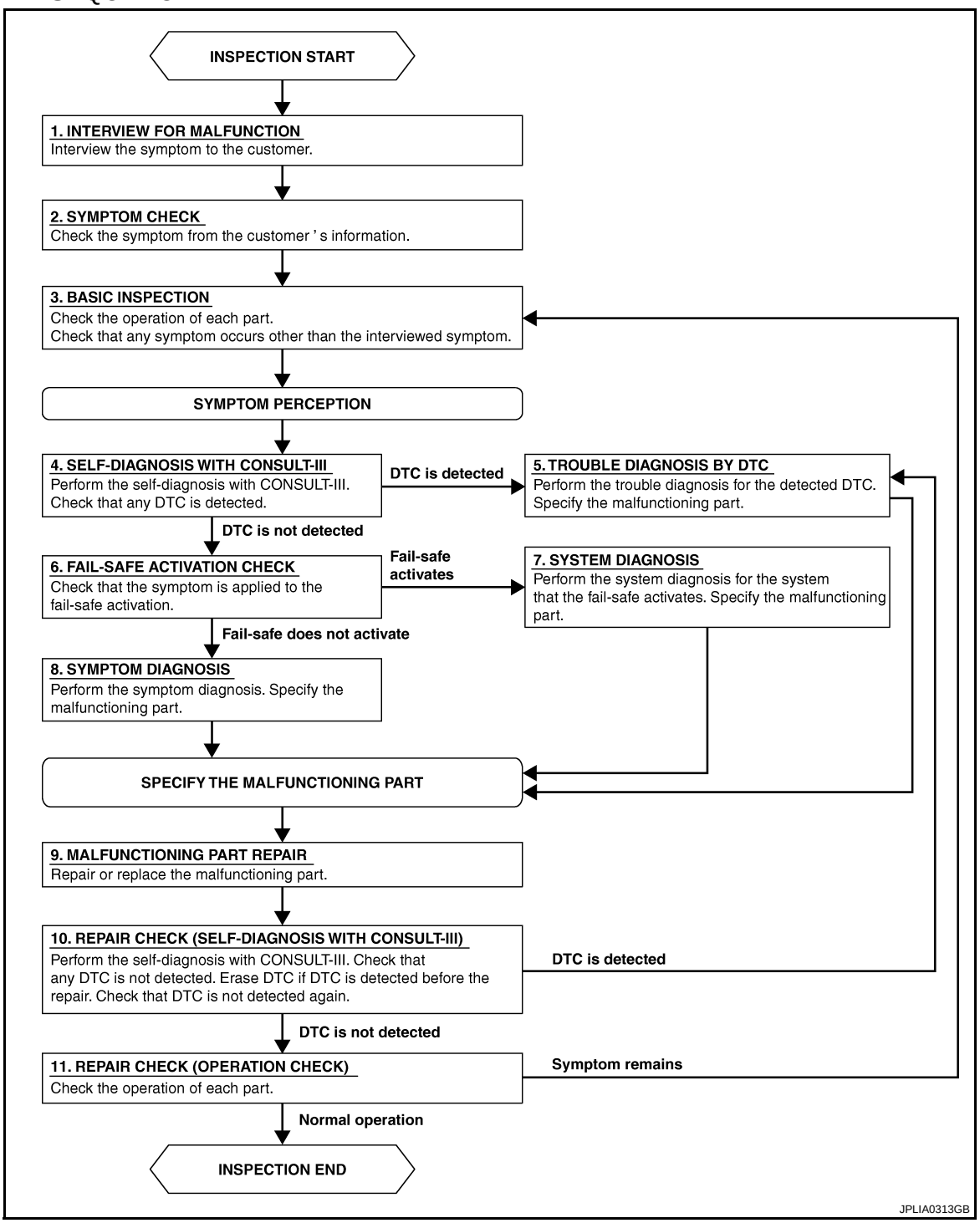
# BASIC INSPECTION

## DIAGNOSIS AND REPAIR WORKFLOW

### Work Flow

INFOID:0000000001716312

#### OVERALL SEQUENCE




#### DETAILED FLOW

### 1.INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

>> 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?

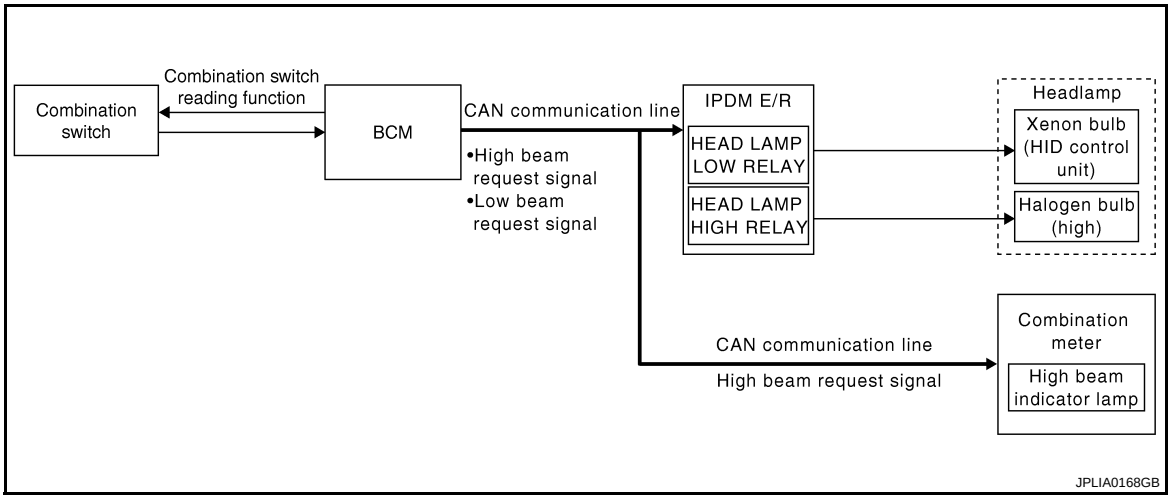
YES >> INSPECTION END
NO >> GO TO 3.

# FUNCTION DIAGNOSIS

## HEADLAMP SYSTEM

### System Diagram

INFOID:0000000001720618




### System Description

INFOID:0000000001720619

#### 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

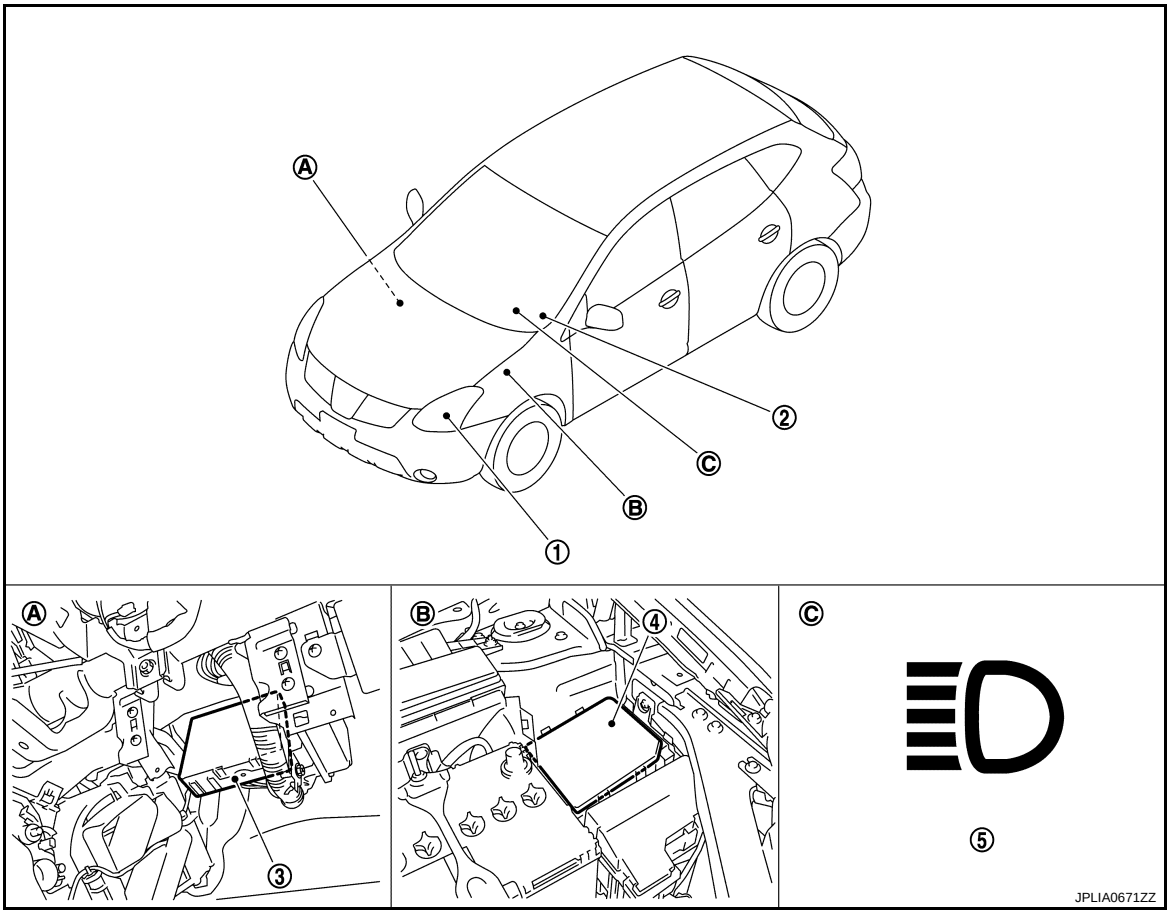
- BCM transmits the high beam request signal to IPDM E/R and the combination meter with CAN communication according to the headlamp (HI) ON condition.

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.

## Component Parts Location

INFOID:0000000001720620




1. Headlamp
2. Combination switch
3. BCM
4. IPDM E/R
5. High beam indicator lamp
A. Over the glove box
B. Engine room (LH)
C. On the combination meter

## Component Description

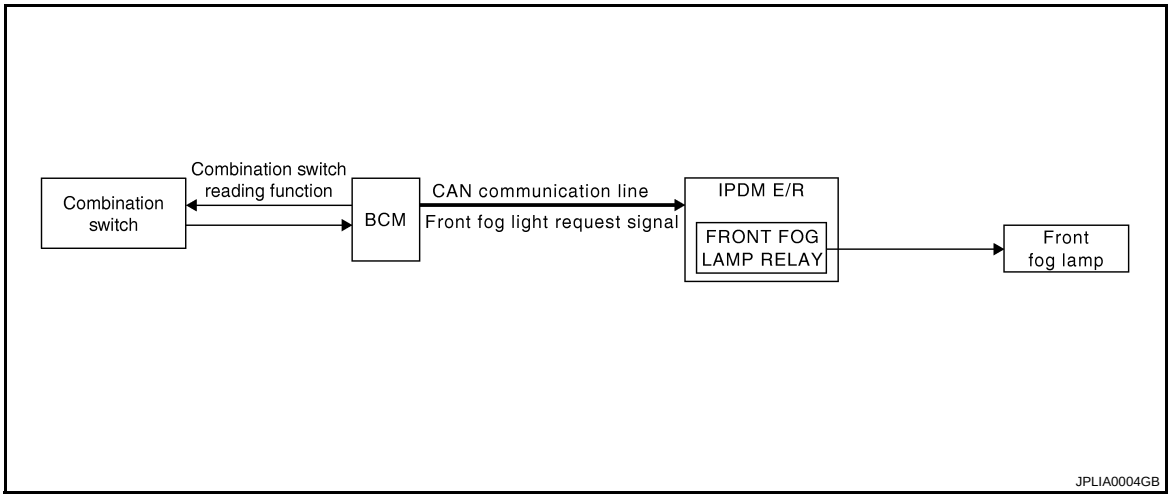
INFOID:0000000001720621

| Part | | Description |
|---|---|---|
| BCM | | • Detects each switch condition by the combination switch reading function.<br>• Judges that the headlamp is turned ON according to the vehicle condition.<br>- Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication).<br>- 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<br>(Lighting & turn signal switch) | | Refer to BCS-9, "System Diagram". |
| Combination meter<br>(High beam indicator lamp) | | Turns the high beam indicator lamp ON according to the request from BCM (with CAN communication). |
| Front combination lamp assembly | • HID control unit<br>• Xenon bulb | Refer to EXL-34, "Description". |

# FRONT FOG LAMP SYSTEM

## System Diagram

INFOID:0000000001716335




## System Description

INFOID:0000000001716336

### OUTLINE

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

### FRONT FOG LAMP OPERATION

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

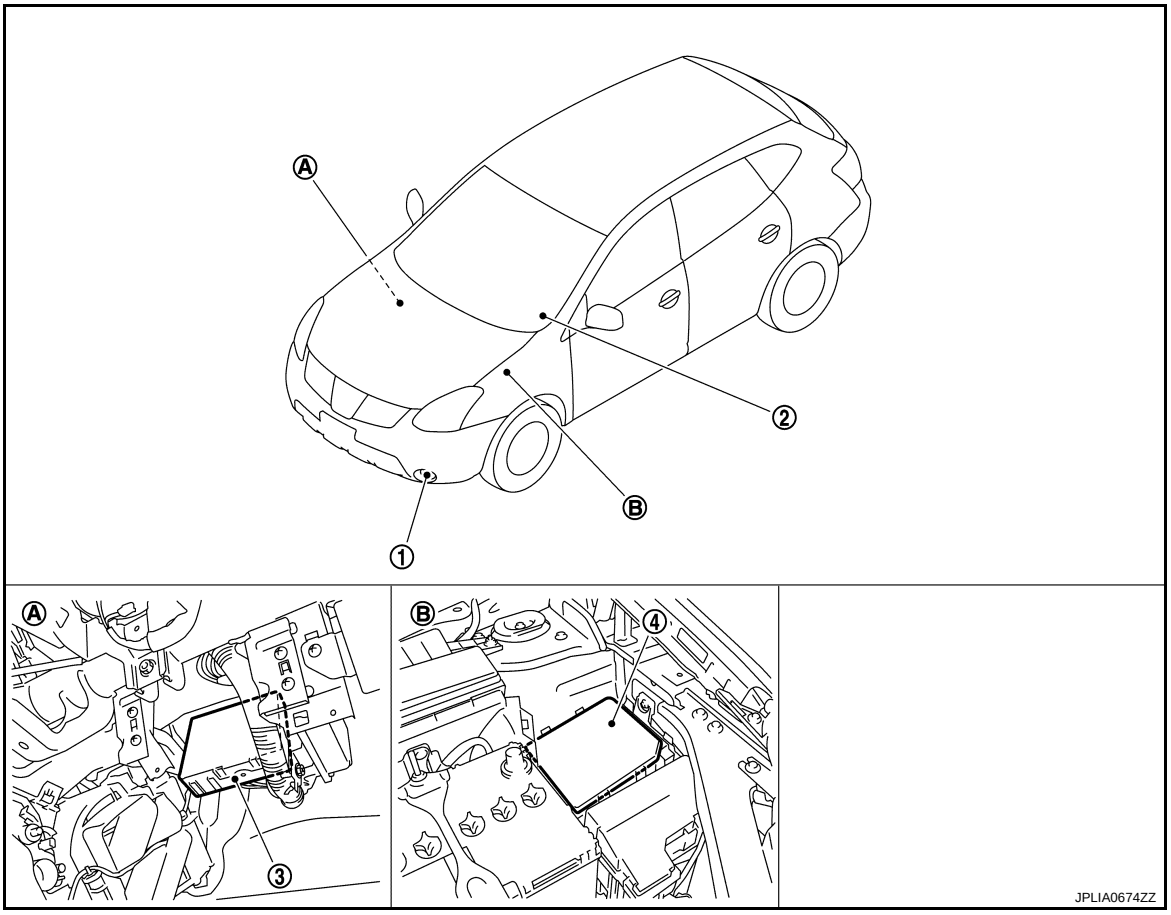
Front fog lamp ON condition

- Front fog lamp switch ON with 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.

## Component Parts Location

INFOID:0000000001716337




1. Front fog lamp
2. Combination switch
3. BCM
4. IPDM E/R
A. Over the glove box
B. Engine room (LH)

## Component Description

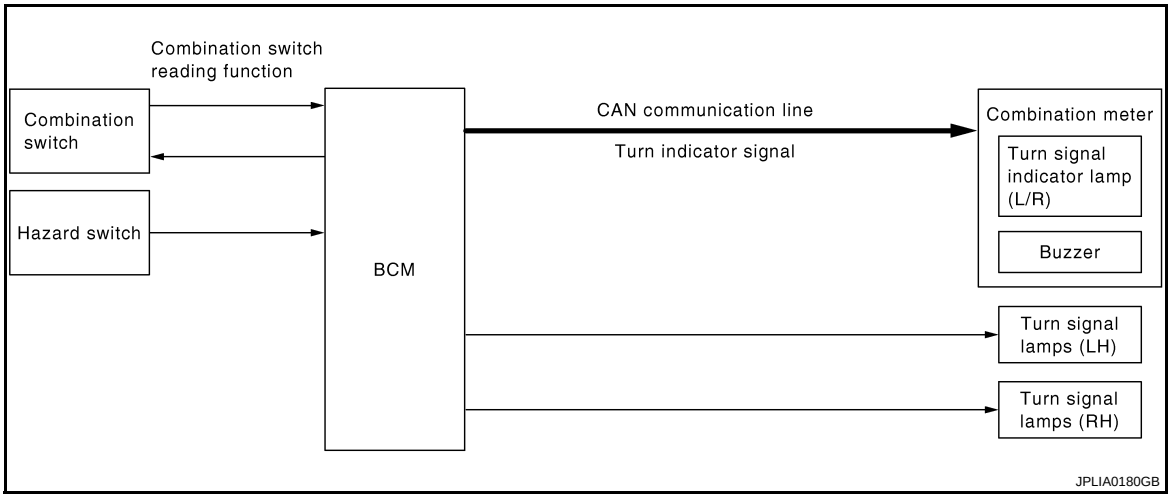
INFOID:0000000001716338

| Part | Description |
|---|---|
| BCM | • Detects each switch condition by the combination switch reading function.<br>• Judges the front fog lamp ON/OFF status according to the vehicle condition.<br>- 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<br>(Lighting & turn signal switch) | Refer to BCS-9, "System Diagram". |

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

## System Diagram

INFOID:0000000001716339




## System Description

INFOID:0000000001716340

### OUTLINE

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

### TURN SIGNAL LAMP OPERATION

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

### HAZARD WARNING LAMP OPERATION

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

### TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

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

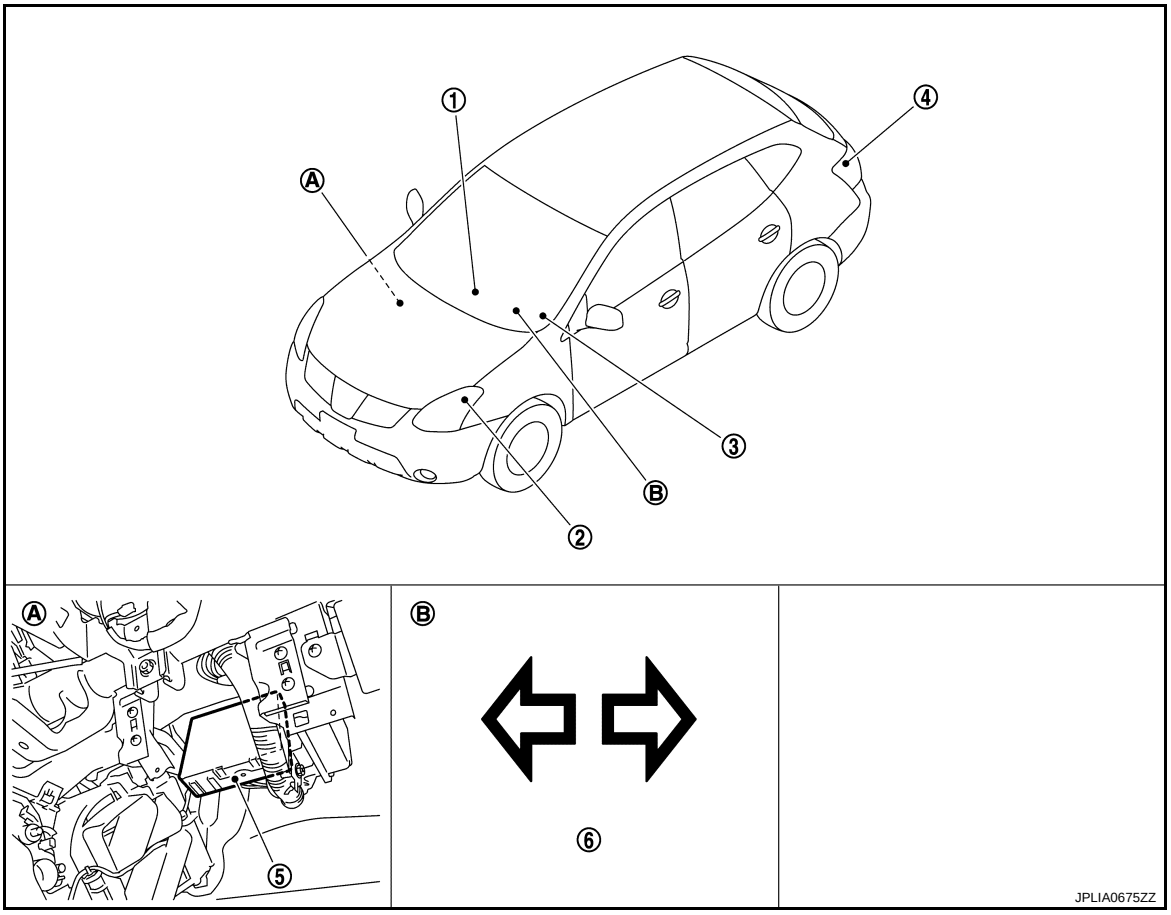
### HIGH FLASHER OPERATION (FAIL-SAFE)

- BCM detects the turn signal lamp circuit status by the terminal 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:0000000001716341




1. Hazard switch
2. Front turn signal lamp
3. Combination switch
4. Rear turn signal lamp
5. BCM
6. Turn signal indicator lamp
A. Over the glove box
B. On the combination meter

## Component Description

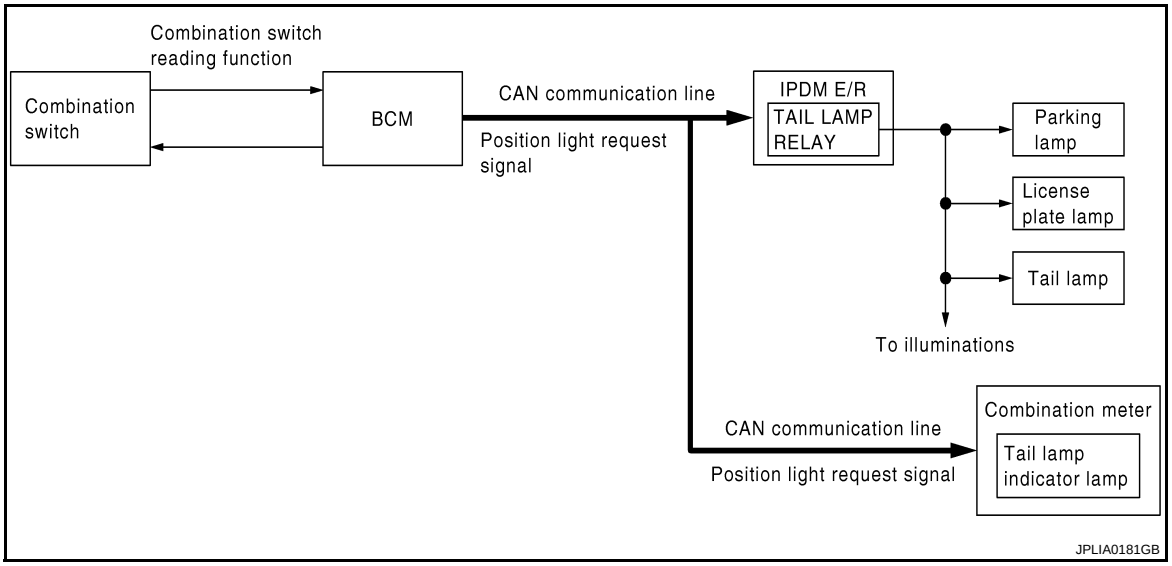
INFOID:0000000001716342

| Part | Description |
|---|---|
| BCM | • Detects each switch condition by the combination switch reading function.<br>• Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks.<br>• Requests the turn signal indicator lamp blink to the combination meter (with CAN communication). |
| Combination switch<br>(Lighting & turn signal switch) | Refer to BCS-9, "System Diagram". |
| Hazard switch | Inputs the hazard switch ON/OFF signal to BCM. |
| Combination meter<br>(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). |

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

## System Diagram

INFOID:0000000001722045




## System Description

INFOID:0000000001722046

### OUTLINE

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

### PARKING, LICENSE PLATE AND TAIL LAMPS OPERATION

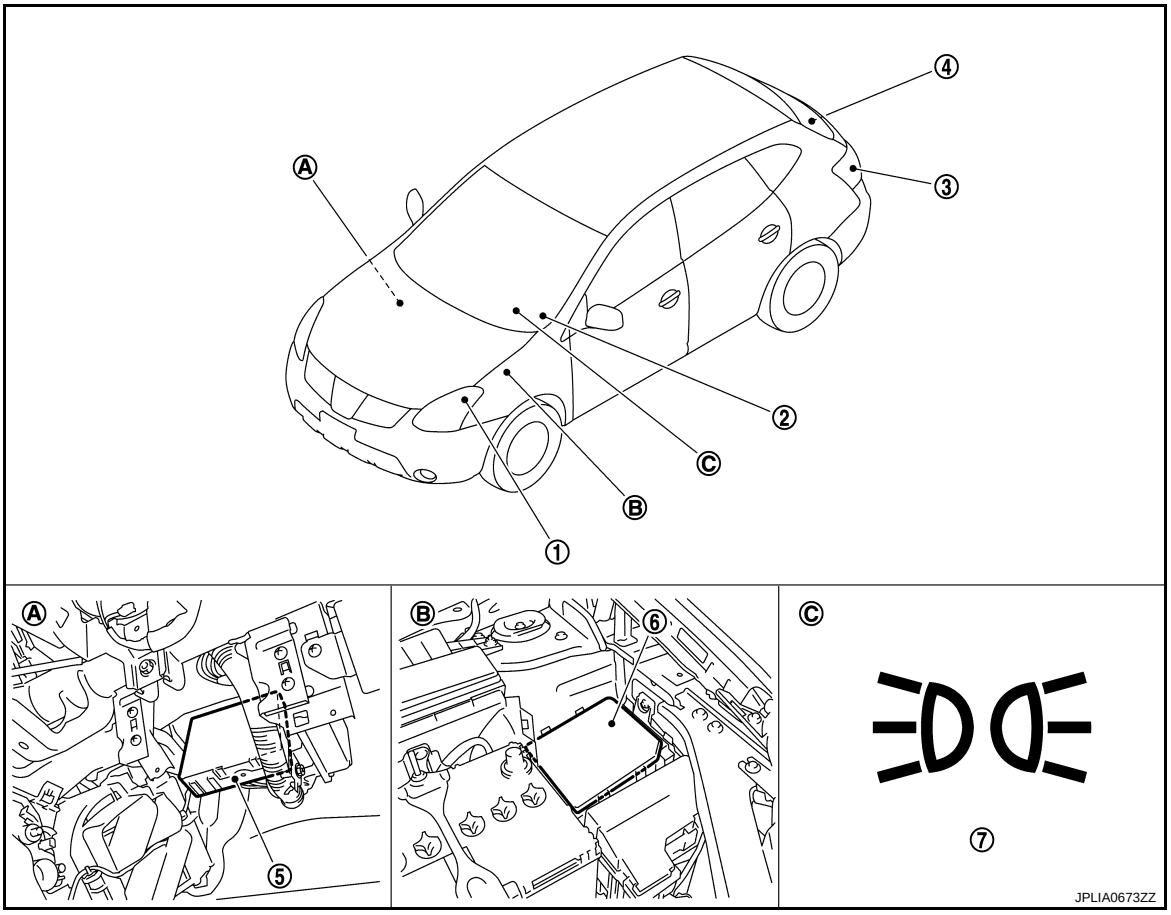
- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the position light request signal to IPDM E/R and the combination meter with CAN communication according to the ON/OFF condition of the parking, license plate and tail lamps.

Parking, license plate and tail lamps ON condition
- Lighting switch 1ST
- Lighting switch 2ND

- IPDM E/R turns the integrated tail lamp relay ON and turns the parking lamp, the license plate 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:0000000001722047




1. Parking lamp (Side marker lamp)
2. Combination switch
3. Tail lamp (Side marker lamp)
4. License plate lamp
5. BCM
6. IPDM E/R
7. Tail lamp indicator lamp

A. Over the glove box
B. Engine room (LH)
C. On the combination meter

## Component Description

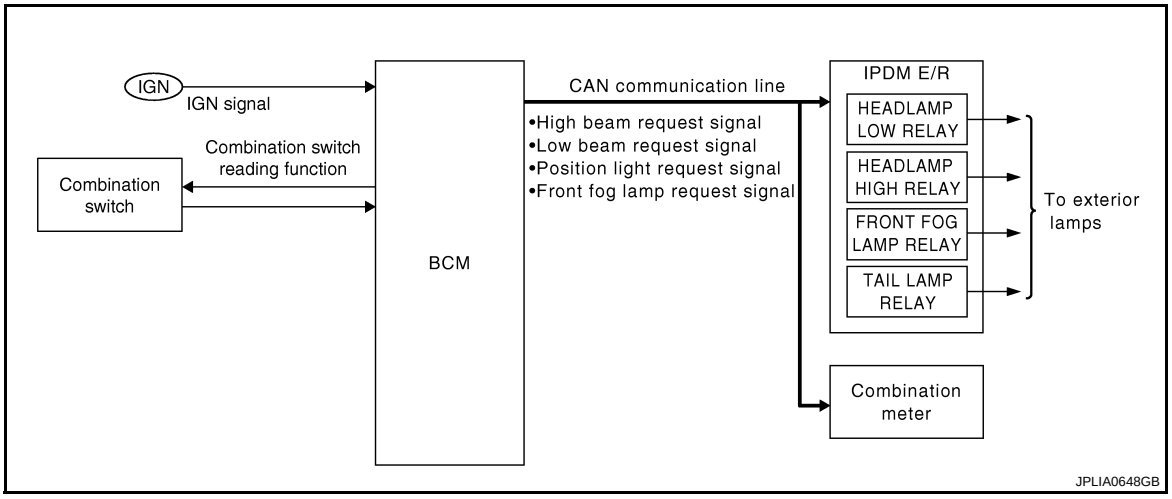
INFOID:0000000001722048

| Part | Description |
|---|---|
| BCM | • Detects each switch condition by the combination switch reading function.<br>• Judges the ON/OFF status of the parking, license plate and tail lamps according to the vehicle condition.<br>- Requests the tail lamp relay ON to IPDM E/R (with CAN communication).<br>- Requests the tail lamp 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<br>(Lighting & turn signal switch) | Refer to BCS-9, "System Diagram". |
| Combination meter<br>(Tail lamp indicator lamp) | Turns the tail lamp indicator lamp ON according to the request from BCM (with CAN communication). |

# EXTERIOR LAMP BATTERY SAVER SYSTEM

## System Diagram

INFOID:0000000001722568




## System Description

INFOID:0000000001722577

### 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, license plate lamp and front fog lamp

### EXTERIOR LAMP BATTERY SAVER ACTIVATION

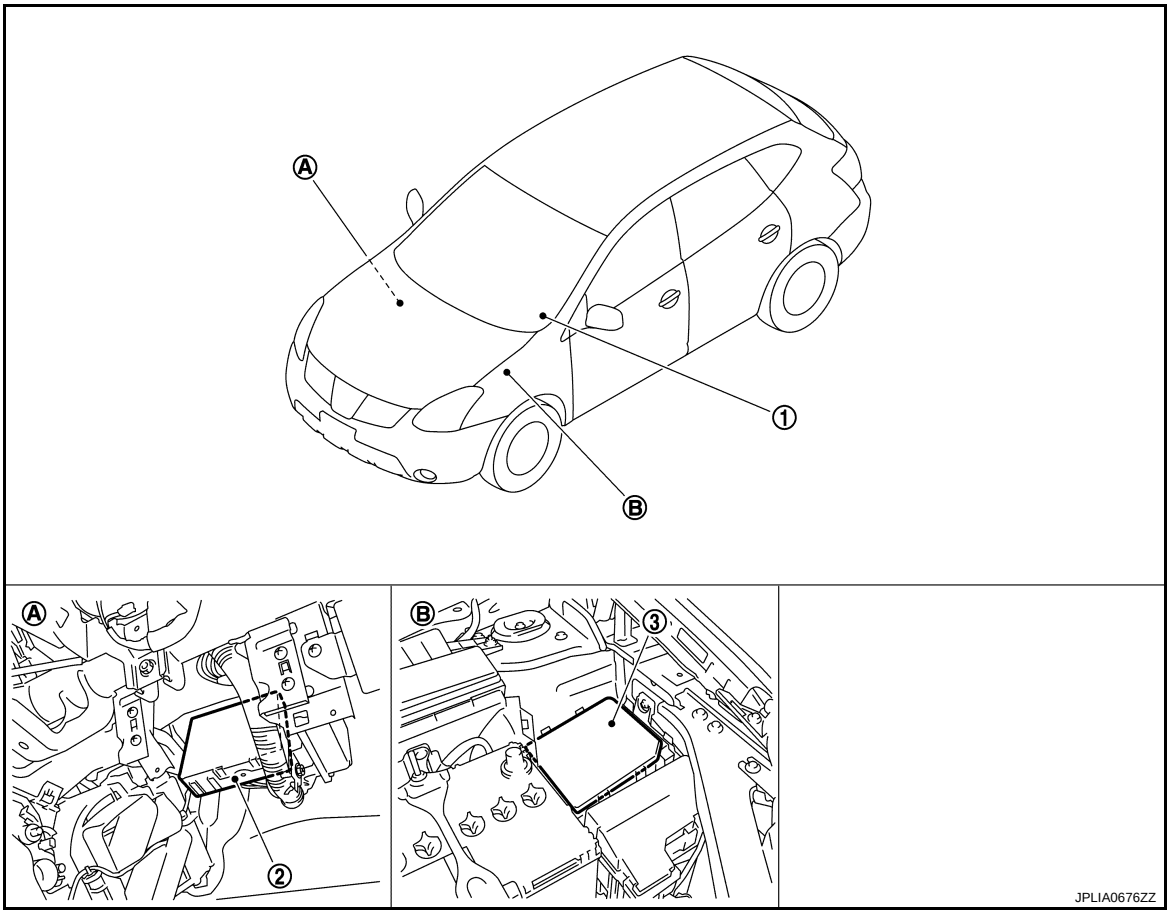
BCM activates the timer and turns the exterior lamp OFF 5 minutes after the ignition switch is turned from ON → OFF with the exterior lamps ON.

**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.

## Component Parts Location

INFOID:0000000001722570




1. Combination switch
2. BCM
3. IPDM E/R
A. Over the glove box
B. Engine room (LH)

## Component Description

INFOID:0000000001722571

| Part | Description |
|---|---|
| BCM | • Detects each switch condition by the combination switch reading function.<br>• Activates the battery saver to turn the exterior lamps OFF according to the vehicle condition.<br>- 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<br>(Lighting & turn signal switch) | Refer to BCS-9, "System Diagram". |

# DIAGNOSIS SYSTEM (BCM)
## COMMON ITEM
### COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)

INFOID:0000000003049960

#### APPLICATION ITEM
CONSULT-III can display each diagnostic item using the diagnostic test modes shown following.

| Diagnosis mode | Function description |
|---|---|
| ECU Identification | BCM part number is displayed. |
| Self-Diagnostic Result | Displays the diagnosis results judged by BCM. Refer to EXL-93, "DTC Index". |
| Data Monitor | BCM input/output signals are displayed. |
| Active Test | The signals used to activate each device are forcibly supplied from BCM. |
| Work Support | Changes the setting for each system function. |
| Configuration | • Read and save the vehicle specification.<br>• Write the vehicle specification when replacing BCM. |
| CAN Diag Support Monitor | Monitors the reception status of CAN communication viewed from 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 | CONSULT-III sub system selection item | Diagnosis mode | | |
|---|---|---|---|---|
| | | Work Support | Data Monitor | Active Test |
| Door lock | DOOR LOCK | × | × | × |
| Rear window defogger | REAR DEFOGGER | | × | × |
| Warning chime | BUZZER | | × | × |
| Interior room lamp control | INT LAMP | × | × | × |
| Remote keyless entry system | MULTI REMOTE ENT | × | × | × |
| Exterior lamp | HEAD LAMP | × | × | × |
| Wiper and washer | WIPER | × | × | × |
| Turn signal and hazard warning lamps | FLASHER | | × | × |
| Air conditioner | AIR CONDITONER | | × | |
| Intelligent Key system | INTELLIGENT KEY | | × | |
| Combination switch | COMB SW | | × | |
| — | BCM | × | | |
| Immobilizer | IMMU | | × | × |
| Interior room lamp battery saver | BATTERY SAVER | × | × | × |
| Back door open | TRUNK | | × | × |
| Vehicle security system | THEFT ALM | × | × | × |
| RAP system | RETAINED PWR | × | × | × |
| Signal buffer system | SIGNAL BUFFER | | × | × |
| — | FUEL LID* | | | |
| TPMS | TPMS (AIR PRESSURE MONITOR) | × | × | × |
| Panic alarm system | PANIC ALARM | | | × |

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

## HEADLAMP

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

INFOID:0000000001716356

## 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 |
| ILL DELAY SET | MODE 1 | **NOTE:**<br>The item is indicated, but not operate |
| | MODE 2 | |
| | MODE 3 | |
| | MODE 4 | |
| | MODE 5 | |
| | MODE 6 | |
| | MODE 7 | |
| | MODE 8 | |

*: Initial setting

## DATA MONITOR

| Monitor item [Unit] | Description |
|---|---|
| IGN ON SW [On/Off] | Ignition switch (ON) status judged from IGN signal (ignition power supply) |
| ACC SW [On/Off] | Ignition switch (ACC) status judged from ACC signal (ACC power supply) |
| HI BEAM SW [On/Off] | Each switch status that BCM judges from the combination switch reading function |
| HEAD LAMP SW1 [On/Off] | |
| HEAD LAMP SW2 [On/Off] | |
| LIGHT SW 1ST [On/Off] | |
| PASSING SW [On/Off] | |
| FR FOG SW [On/Off] | |
| AUTO LIGHT SW [On/Off] | **NOTE:**<br>The item is indicated, but not monitored |
| RR FOG SW [On/Off] | |
| 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) |
| 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 |
| BACK DOOR SW [On/Off] | The switch status input from back door switch |

| Monitor item [Unit] | Description |
|---|---|
| TURN SIGNAL R [On/Off] | Each switch status that BCM judges from the combination switch reading function |
| TURN SIGNAL L [On/Off] | |
| ENGINE RUNNING [On/Off] | The engine status received from ECM with CAN communication |
| PKB SW [On/Off] | The parking brake switch status received from combination meter with CAN communication |
| CARGO LAMP SW [On/Off] | **NOTE:** The item is indicated, but not monitored |
| OPTICAL SENSOR [V] | |

ACTIVE TEST

| Test item | Operation | Description |
|---|---|---|
| TAIL LAMP | On | Transmits the position light request signal to IPDM E/R with CAN communication to turn the tail lamp ON. |
| | Off | Stops the tail lamp request signal transmission. |
| HEAD LAMP | Hi | Transmits the high beam request signal with CAN communication to turn the headlamp (HI). |
| | Lo | Transmits the low beam request signal with CAN communication to turn the headlamp (LO). |
| | Off | Stops the high & low beam request signal transmission. |
| FR FOG LAMP | On | Transmits the front fog lights request signal to IPDM E/R with CAN communication to turn the front fog lamp ON. |
| | Off | Stops the front fog lights request signal transmission. |
| DAYTIME RUNNING LIGHT | On | **NOTE:** The item indicated, but not operate |
| | Off | |

# FLASHER

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

INFOID:0000000001716357

### DATA MONITOR

| Monitor item [Unit] | Description |
|---|---|
| IGN ON SW [On/Off] | Ignition switch (ON) status judged from IGN signal (ignition power supply) |
| HAZARD SW [On/Off] | The switch status input from the hazard switch |
| TURN SIGNAL R [On/Off] | Each switch condition that BCM judges from the combination switch reading function |
| TURN SIGNAL L [On/Off] | |
| BRAKE SW [On/Off] | The switch status input from the stop lamp switch |

### ACTIVE TEST

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

# DIAGNOSIS SYSTEM (IPDM E/R)

## Diagnosis Description

INFOID:0000000003049963

### Auto active test

Description

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

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

Operation procedure

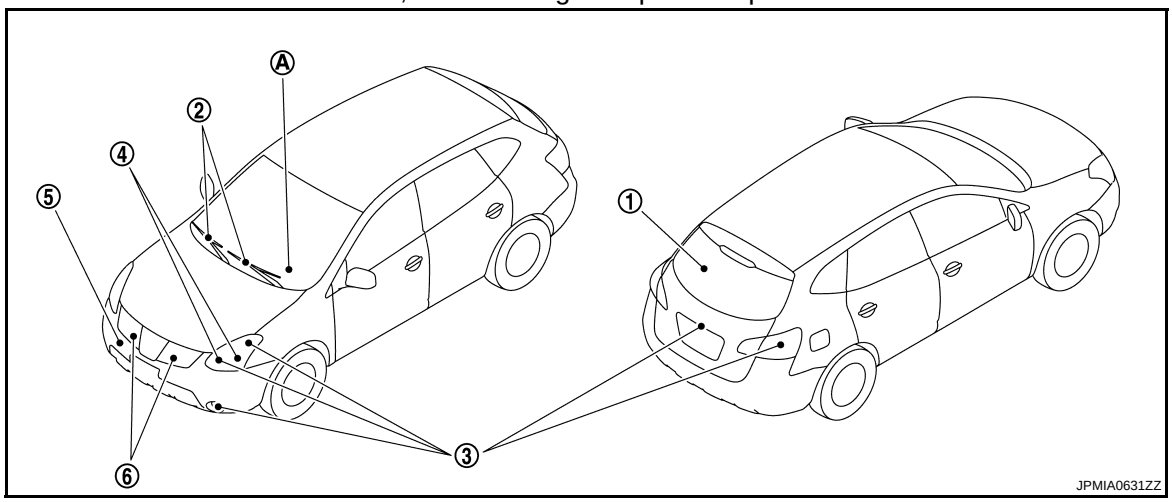
1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)
   **NOTE:**
   When auto active test is performed with hood opened, sprinkle water on windshield beforehand.
2. Turn ignition switch OFF.
3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.
   **CAUTION:**
   **Close passenger door.**
4. Turn the ignition switch ON within 10 seconds. Then the horn sounds once and the auto active test starts.
   **NOTE:**
   Only a vehicle with the vehicle security system, the horn sounds.
5. The oil pressure warning lamp starts blinking when the auto active test starts.
6. After a series of the following operations is repeated 3 times, auto active test is completed.

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

**CAUTION:**
- **If auto active test mode cannot be actuated, check door switch system.**
- **Never start the engine.**

Inspection in auto active test mode

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

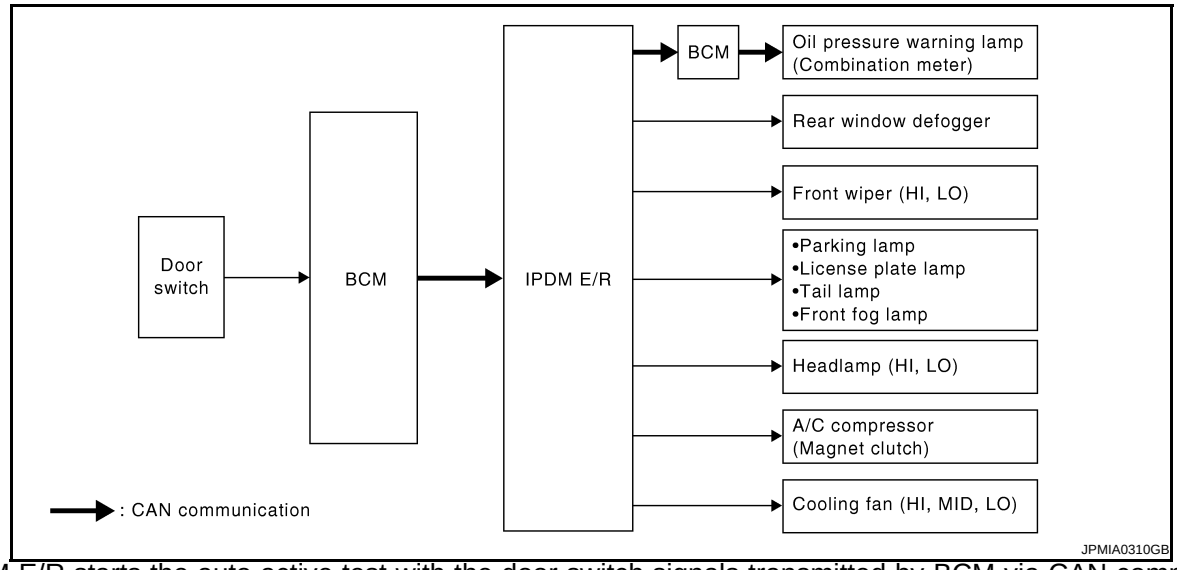


| Operation sequence | Inspection location | Operation |
|---|---|---|
| A | Oil pressure warning lamp | Blinks continuously during operation of auto active test. |
| 1 | Rear window defogger | 10 seconds |
| 2 | Front wiper | LO for 5 seconds → HI for 5 seconds |
| 3 | • Parking lamps<br>• License plate lamps<br>• Tail lamps<br>• Front fog lamps<br>• Headlamps HI (daytime running light operation)* | 10 seconds |
| 4 | Headlamps | LO ⇔ HI 5 times |
| 5 | A/C compressor (magnet clutch) | ON ⇔ OFF 5 times |
| 6 | Cooling fan | LO for 5 seconds → MID for 3 seconds → HI for 2 seconds |

**NOTE:**

*: With daytime running light system

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 |
|---|---|---|---|
| Rear window defogger does not operate | Perform auto active test. Does the rear window defogger operate? | YES | BCM signal input circuit |
| | | NO | • Rear window defogger<br>• Rear window defogger ground circuit<br>• Harness or connector between IPDM E/R and rear window defogger<br>• IPDM E/R |
| Any of the following components do not operate<br>• Parking lamps<br>• License plate lamps<br>• Tail lamps<br>• Front fog lamps<br>• Headlamps (HI, LO)<br>• Front wiper (HI, LO) | Perform auto active test. Does the applicable system operate? | YES | BCM signal input circuit |
| | | NO | • Lamp or motor<br>• Lamp or motor ground circuit<br>• Harness or connector between IPDM E/R and applicable system<br>• IPDM E/R |

| Symptom | Inspection contents | | Possible cause |
|---|---|---|---|
| Headlamps HI (daytime running light operation) do not operate | Perform auto active test. Do headlamps HI (daytime running light operation) operate? | YES | • CAN communication signal between ECM and BCM<br>• CAN communication signal between combination meter and BCM<br>• BCM signal input circuit |
| | | NO | • Daytime running light relay power supply circuit<br>• Harness or connector between IPDM E/R and daytime running light relay<br>• Daytime running light relay |
| A/C compressor does not operate | Perform auto active test. Does the magnet clutch operate? | YES | • BCM signal input circuit<br>• CAN communication signal between BCM and ECM<br>• CAN communication signal between ECM and IPDM E/R |
| | | NO | • Magnet clutch<br>• Harness or connector between IPDM E/R and magnet clutch<br>• IPDM E/R |
| Oil pressure warning lamp does not operate | Perform auto active test. Does the oil pressure warning lamp blink? | YES | • Harness or connector between IPDM E/R and oil pressure switch<br>• Oil pressure switch<br>• IPDM E/R |
| | | NO | • CAN communication signal between IPDM E/R and BCM<br>• CAN communication signal between BCM and combination meter<br>• Combination meter |
| Cooling fan does not operate | Perform auto active test. Does the cooling fan operate? | YES | • ECM signal input circuit<br>• CAN communication signal between ECM and IPDM E/R |
| | | NO | • Cooling fan motor-2 power supply circuit<br>• Cooling fan motor-1 ground circuit<br>• Cooling fan relay-4 or cooling fan relay-5 power supply circuit<br>• Cooling fan relay-5 ground circuit<br>• Harness or connector between IPDM E/R and cooling fan motor<br>• Harness or connector between IPDM E/R, and cooling fan relay-4 or cooling fan relay-5<br>• Harness or connector between cooling fan motor-2, and cooling fan relay-4 or cooling fan relay-5<br>• Cooling fan relay-4 or cooling fan relay-5<br>• Cooling fan motor<br>• IPDM E/R |

## CONSULT-III Function (IPDM E/R)

INFOID:0000000003049964

### APPLICATION ITEM

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

| Diagnosis mode | Description |
|---|---|
| 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. |

| Diagnosis mode | Description |
|---|---|
| Active Test | IPDM E/R can provide a drive signal to electronic components to check their operations. |
| CAN Diag Support Monitor | The results of transmit/receive diagnosis of CAN communication can be read. |

## SELF DIAGNOSTIC

Refer to EXL-105, "DTC Index".

## DATA MONITOR

Monitor item

| Monitor Item [Unit] | MAIN SIGNALS | Description |
|---|---|---|
| MOTOR FAN REQ [1 - 4] | × | Displays the value of the cooling fan speed signal received from ECM via CAN communication. |
| AC COMP REQ [Off/On] | × | Displays the status of the A/C compressor request signal received from ECM via CAN communication. |
| TAIL&CLR REQ [Off/On] | × | Displays the status of the position light request signal received from BCM via CAN communication. |
| HL LO REQ [Off/On] | × | Displays the status of the low beam request signal received from BCM via CAN communication. |
| HL HI REQ [Off/On] | × | Displays the status of the high beam request signal received from BCM via CAN communication. |
| FR FOG REQ [Off/On] | × | Displays the status of the front fog light request signal received from BCM via CAN communication.<br>**NOTE:**<br>This item is monitored only the vehicle with front fog lamp system. |
| 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. |
| ST RLY REQ [Off/On] | | Displays the status of the starter request signal. |
| IGN RLY [Off/On] | × | Displays the status of the ignition relay judged by IPDM E/R. |
| RR DEF REQ [Off/On] | × | Displays the status of the rear defogger request signal received from BCM via CAN communication. |
| OIL P SW [Open/Close] | | Displays the status of the oil pressure switch judged by IPDM E/R. |
| DTRL REQ [Off/On] | | Displays the status of the daytime running light request signal received from BCM via CAN communication.<br>**NOTE:**<br>This item is monitored only the vehicle with daytime running light system. |
| HOOD SW [Off/On] | | Displays the status of the hood switch judged by IPDM E/R.<br>**NOTE:**<br>This item is monitored only the vehicle for Mexico. |
| THFT HRN REQ [Off/On] | | Displays the status of the horn request signal by vehicle security system or panic alarm system received from BCM via CAN communication. |
| HORN CHIRP [Off/On] | | Displays the status of the horn request signal by key fob LOCK operation received from BCM via CAN communication. |

## ACTIVE TEST

Test item

| Test item | Operation | Description |
|---|---|---|
| REAR DEFOGGER | Off | OFF |
| | On | Operates the rear window defogger relay. |
| FRONT WIPER | Off | OFF |
| | Lo | Operates the front wiper relay. |
| | Hi | Operates the front wiper relay and front wiper high relay. |
| MOTOR FAN | 1 | OFF |
| | 2 | Operates the cooling fan relay (LO operation). |
| | 3 | Operates the cooling fan relay (MID operation). |
| | 4 | Operates the cooling fan relay (HI operation). |
| EXTERNAL LAMPS | Off | OFF |
| | TAIL | Operates the tail lamp relay and the daytime running light relay.<br>**NOTE:**<br>Daytime running light relay is with daytime running light system only. |
| | Lo | Operates the headlamp low relay. |
| | Hi | Operates the headlamp low relay and ON/OFF the headlamp high relay at 4 seconds intervals. |
| | Fog | Operates the front fog lamp relay.<br>**NOTE:**<br>This item can test only the vehicle with front fog lamp system. |
| HORN | On | Operates horn relay for 20 ms. |

# COMPONENT DIAGNOSIS

## POWER SUPPLY AND GROUND CIRCUIT

## BCM (BODY CONTROL MODULE)

### BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:0000000003049967

#### 1.CHECK FUSES AND FUSIBLE LINK

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

| Signal name | Fuses and fusible link No. |
|---|---|
| Battery power supply | 10 |
| | J |
| ACC power supply | 20 |
| Ignition power supply | 1 |

Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
NO >> GO TO 2.

#### 2.CHECK POWER SUPPLY CIRCUIT

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

| Terminals | | | Ignition switch position | | |
|---|---|---|---|---|---|
| (+) | | (–) | | | |
| BCM | | | OFF | ACC | ON |
| Connector | Terminal | | | | |
| M67 | 70 | Ground | Battery voltage | Battery voltage | Battery voltage |
| | 57 | | | | |
| M65 | 11 | | Approx. 0 V | Battery voltage | Battery voltage |
| | 38 | | Approx. 0 V | Approx. 0 V | Battery 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 | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M67 | 67 | | 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) : Di-

## agnosis Procedure

INFOID:0000000003049968

### 1.CHECK FUSIBLE LINK

Check that the following IPDM E/R fusible link is not blown.

| Signal name | Fusible link No. |
|---|---|
| Battery power supply | C |
| | E |
| | K |

Is the fusible link fusing?

YES >> Replace the blown fusible link after repairing the affected circuit if a fusible link is blown.
NO >> GO TO 2.

### 2.CHECK POWER SUPPLY CIRCUIT

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

| Terminals | | | Voltage (Approx.) |
|---|---|---|---|
| (+) | | (–) | |
| IPDM E/R | | | |
| Connector | Terminal | Ground | |
| E9 | 1 | | Battery voltage |
| | 2 | | |
| E10 | 6 | | |

Is the measurement value normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

### 3.CHECK GROUND CIRCUIT

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

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E11 | 11 | | Exist |
| E13 | 25 | | |

Does continuity exist?

YES >> INSPECTION END
NO >> Repair harness or connector.

# EXTERIOR LAMP FUSE

## Description

INFOID:0000000001716387

Fuse list

| Unit | Location | Fuse No. | Capacity |
|---|---|---|---|
| Headlamp HI (LH) | IPDM E/R | #44 | 10 A |
| Headlamp HI (RH) | IPDM E/R | #43 | 10 A |
| Headlamp LO (LH) | IPDM E/R | #49 | 15 A |
| Headlamp LO (RH) | IPDM E/R | #50 | 15 A |
| Front fog lamp | IPDM E/R | #65 | 15 A |
| Parking lamp | IPDM E/R | #46 | 10 A |
| • Tail lamp<br>• License plate lamp<br>• Each illumination | IPDM E/R | #45 | 10 A |
| Stop lamp | FUSE BLOCK (J/B) | #11 | 10 A |
| Back-up lamp | IPDM E/R | #60 | 10 A |

## Diagnosis Procedure

INFOID:0000000001716388

### 1.CHECK FUSE

Check that the following fuses are not fusing.

| Unit | Location | Fuse No. | Capacity |
|---|---|---|---|
| Headlamp HI (LH) | IPDM E/R | #44 | 10 A |
| Headlamp HI (RH) | IPDM E/R | #43 | 10 A |
| Headlamp LO (LH) | IPDM E/R | #49 | 15 A |
| Headlamp LO (RH) | IPDM E/R | #50 | 15 A |
| Front fog lamp | IPDM E/R | #65 | 15 A |
| Parking lamp | IPDM E/R | #46 | 10 A |
| • Tail lamp<br>• License plate lamp<br>• Each illumination | IPDM E/R | #45 | 10 A |
| Stop lamp | FUSE BLOCK (J/B) | #11 | 10 A |
| Back-up lamp | IPDM E/R | #60 | 10 A |

Is the fuse fusing?

YES >> Repair the applicable circuit. And then replace the fuse.
NO >> The fuse is normal.

# HEADLAMP (HI) CIRCUIT

## Component Function Check

INFOID:0000000001720622

### 1.CHECK HEADLAMP (HI) OPERATION

IPDM E/R AUTO ACTIVE TEST
1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the headlamp switches to the high beam.

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMP” 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-30, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000001720623

### 1.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST
1. Turn the ignition switch OFF.
2. Disconnect the headlamp high connector.
3. Turn the ignition switch ON.
4. Select “EXTERNAL LAMP” 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 | Voltage (Approx.) |
|---|---|---|---|---|---|
| (+) | | | (–) | | |
| IPDM E/R | | | Ground | External lamp | |
| Connector | | Terminal | | | |
| RH | E12 | 22 | | Hi | Battery voltage |
| LH | | 21 | | Off | 0 V |

Is the measurement value normal?

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

### 2.CHECK HEADLAMP (HI) OPEN CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between the IPDM E/R harness connector and the headlamp high harness connector.

| IPDM E/R | | | Headlamp high | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | E12 | 22 | E75 | 1 | Existed |
| LH | | 21 | E72 | 1 | |

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 (LH) | IPDM E/R | #44 | 10 A |
| Headlamp HI (RH) | IPDM E/R | #43 | 10 A |

Is the fuse fusing?

YES >> GO TO 4.
NO >> Replace IPDM E/R.

## 4.CHECK HEAD LAMP HIGH 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 | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E12 | 22 | | Not existed |
| LH | | 21 | | |

Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.
NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.)

## 5.CHECK HEAD LAMP (HI) GROUND OPEN CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the headlamp high connector.
3. Check continuity between the headlamp high harness connector and the ground.

| Headlamp high | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E75 | 2 | | Existed |
| LH | E72 | 2 | | |

Does continuity exist?

YES >> Replace the headlamp (HI) bulb. (Bulb socket is abnormally.)
NO >> Repair the harnesses or connectors.

# HEADLAMP (LO) CIRCUIT

## Description

INFOID:0000000001720624

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-34, "Description".

## Component Function Check

INFOID:0000000001720625

### 1.CHECK HEADLAMP (LO) OPERATION

IPDM E/R AUTO ACTIVE TEST
1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the headlamp is turned ON.

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMP” 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-32, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000001720626

### 1.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST
1. Turn the ignition switch OFF.
2. Disconnect the headlamp low connector.
3. Turn the ignition switch ON.
4. Select “EXTERNAL LAMP” 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 | Voltage (Approx.) |
|---|---|---|---|---|---|
| (+) | | | (–) | | |
| IPDM E/R | | | Ground | EXTERNAL LAMP | |
| Connector | | Terminal | | | |
| RH | E12 | 20 | | Lo | Battery voltage |
| LH | | 18 | | Off | 0 V |

Is the measurement value normal?

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

### 2.CHECK HEADLAMP (LO) OPEN CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between the IPDM E/R harness connector and the headlamp low harness connector.

| IPDM E/R | | Headlamp low | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |

| | | | | | |
|---|---|---|---|---|---|
| RH | E12 | 20 | E74 | 1 | Existed |
| LH | | 18 | E71 | 1 | |

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 (LH) | IPDM E/R | #49 | 15 A |
| Headlamp LO (RH) | IPDM E/R | #50 | 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 | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E12 | 20 | | Not existed |
| LH | | 18 | | |

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 headlamp low connector.
3. Check continuity between the headlamp low harness connector and the ground.

| Headlamp low | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E74 | 2 | | Existed |
| LH | E71 | 2 | | |

Does continuity exist?

YES >> Perform the xenon headlamp diagnosis. Refer to EXL-34, "Description".
NO >> Repair the harnesses or connectors.

# XENON HEADLAMP

## Description

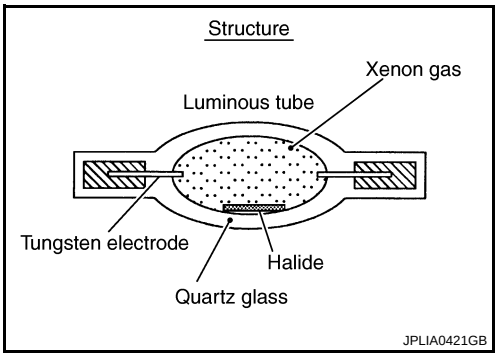
INFOID:0000000001838119

### OUTLINE

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

### ILLUMINATION PRINCIPLE

1. Discharging starts in high voltage pulse between bulb electrodes.
2. Xenon gas is activated by current between electrodes. Pale light is emitted.
3. 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 lighting switch.**
- **Never work with wet hands.**

**CAUTION:**

- **Never perform HID control unit circuit diagnosis with a circuit tester or an equivalent.**
- **Temporarily install the headlamps 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

INFOID:0000000001838120

### 1.CHECK XENON BULB

Install the normal bulb to the applicable headlamp. Check that the lighting switch is turned ON.

Is the headlamp turned ON?

YES >> Replace the xenon bulb.
NO >> GO TO 2.

### 2.CHECK HID CONTROL UNIT

Install the normal HID control unit to the applicable headlamp. Check that the lighting switch is turned ON.

Is the headlamp turned ON?

YES >> Replace HID control unit.
NO >> Xenon headlamp is normal. Check the headlamp control system.

# FRONT FOG LAMP CIRCUIT

## Component Function Check

INFOID:0000000001716402

### 1.CHECK FRONT FOG LAMP OPERATION

IPDM E/R AUTO ACTIVE TEST
1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the front fog lamp is turned ON.

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMP” 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-36, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000001716403

### 1.CHECK FRONT FOG LAMP FUSE

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

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

Is the fuse fusing?

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

### 2.CHECK FRONT FOG LAMP SHORT CIRCUIT

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

| IPDM E/R | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E12 | 17 | | Not existed |
| LH | | 16 | | |

Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.
NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.)

### 3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.
NO >> Replace the bulb.

### 4.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST
1. Disconnect the front fog lamp connector.
2. Turn the ignition switch ON.
3. Select “EXTERNAL LAMP” of IPDM E/R active test item.

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

| Terminals | | | | Test item | Voltage (Approx.) |
|---|---|---|---|---|---|
| (+) | | | (–) | | |
| IPDM E/R | | | Ground | EXTERNAL LAMP | |
| Connector | | Terminal | | | |
| RH | E12 | 17 | | Fog | Battery voltage |
| LH | | 16 | | Off | 0 V |

Is the measurement value normal?

YES >> GO TO 5.
NO >> Replace IPDM E/R.

## 5. CHECK FRONT FOG LAMP OPEN CIRCUIT

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

| IPDM E/R | | | Front fog lamp | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | E12 | 17 | E48 | 2 | Existed |
| LH | | 16 | E30 | 2 | |

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 | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E48 | 1 | | Existed |
| LH | E30 | 1 | | |

Does continuity exist?

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

# PARKING LAMP CIRCUIT

## Component Function Check

INFOID:0000000001716407

### 1.CHECK PARKING LAMP OPERATION

IPDM E/R AUTO ACTIVE TEST
1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the parking lamp is turned ON.

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMP” 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-38, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000001716408

### 1.CHECK PARKING LAMP FUSE

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

| Unit | Location | Fuse No. | Capacity |
|---|---|---|---|
| Parking lamp | IPDM E/R | #46 | 10 A |

Is the fuse fusing?

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

### 2.CHECK PARKING LAMP SHORT CIRCUIT

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

| IPDM E/R | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E14 | 39 | | Not existed |
| LH | | 38 | | |

Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.
NO >> Replace the fuse. (Replace IPDM E/R if fusing is found again.)

### 3.CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.
NO >> Replace the bulb.

### 4.CHECK PARKING LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST
1. Disconnect the parking lamp connector.
2. Turn the ignition switch ON.
3. Select “EXTERNAL LAMP” of IPDM E/R active test item.

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

| Terminals | | | | Test item | Voltage (Approx.) |
|---|---|---|---|---|---|
| (+) | | | (–) | | |
| IPDM E/R | | | Ground | EXTERNAL LAMP | |
| Connector | | Terminal | | | |
| RH | E14 | 39 | | TAIL | Battery voltage |
| LH | | 38 | | Off | 0 V |

Is the measurement value normal?

YES >> GO TO 5.
NO >> Replace IPDM E/R.

## 5. CHECK PARKING LAMP OPEN CIRCUIT

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

| IPDM E/R | | | Parking lamp | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | E14 | 39 | E46 | 1 | Existed |
| LH | | 38 | E27 | 1 | |

Does continuity exist?

YES >> GO TO 6.
NO >> Repair the harnesses or connectors.

## 6. CHECK PARKING LAMP GROUND OPEN CIRCUIT

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

| Parking lamp | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E46 | 2 | | Existed |
| LH | E27 | 2 | | |

Does continuity exist?

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

# TURN SIGNAL LAMP CIRCUIT

## Description

INFOID:0000000001716411

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

**NOTE:**

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

## Component Function Check

INFOID:0000000001716412

### 1.CHECK TURN SIGNAL LAMP

CONSULT-III ACTIVE TEST

1. Select “FLASHER” of BCM (FLASHER) active test item.
2. With operating the test items, check that the turn signal lamp is turned ON.

**LH : Turn signal lamps (LH) ON**
**RH : Turn signal lamps (RH) ON**
**Off : Turn signal lamps OFF**

Is the turn signal lamp turned ON?

YES >> Turn signal lamp circuit is normal.
NO >> Refer to EXL-40, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000001716413

### 1.CHECK TURN SIGNAL LAMP BULB

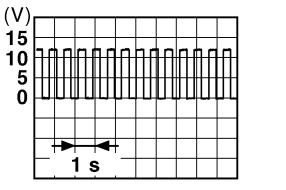
Check the applicable lamp bulb.

Is the bulb normal?

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

### 2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

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

| Terminals | | | | Condition | Voltage (Approx.) |
|---|---|---|---|---|---|
| (+) | | | (–) | | |
| BCM | | | | Turn signal switch | |
| Connector | | Terminal | | | |
| RH | M67 | 61 | Ground | LH or RH |   PKID0926E |
| LH | | 60 | | | |
| | | | | OFF | 0 V |

Is the measurement value normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-67, "Exploded View".

## 3.CHECK TURN SIGNAL LAMP OPEN CIRCUIT

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

Front turn signal lamp

| BCM | | | Front turn signal lamp | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | M67 | 61 | E46 | 3 | Existed |
| LH | | 60 | E27 | | |

Rear turn signal lamp

| BCM | | | Rear combination lamp | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | M67 | 61 | B59 | 3 | Existed |
| LH | | 60 | B80 | | |

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 | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | M67 | 61 | | Not existed |
| LH | | 60 | | |

Does continuity exist?

YES >> Repair the harnesses or connectors.
NO >> GO TO 5.

## 5.CHECK TURN SIGNAL LAMP GROUND OPEN CIRCUIT

Check continuity between the front turn signal lamp, or the rear combination lamp and the ground.

Front turn signal lamp

| Front turn signal lamp | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E46 | 2 | | Existed |
| LH | E27 | | | |

Rear turn signal lamp

| Rear combination lamp | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | B59 | 4 | | Existed |
| LH | B80 | | | |

Does continuity exist?

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

# HAZARD SWITCH

## Component Function Check

INFOID:0000000001716417

### 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 switch | ON | On |
| | | OFF | Off |

Is the item status normal?

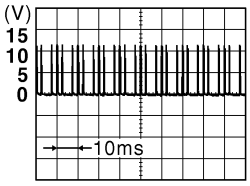
YES >> Hazard switch circuit is normal.
NO >> Refer to EXL-42, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000001716418

### 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.) |
|---|---|---|---|---|
| (+) | | (–) | | |
| BCM | | | Hazard switch | |
| Connector | Terminal | | | |
| M65 | 29 | Ground | ON | 0 V |
| | | | OFF |  |



JPMIA0154GB

Is the measurement value normal?

YES >> Replace BCM. Refer to BCS-67, "Exploded View".
NO >> GO TO 2.

### 2.CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

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

| Hazard switch | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M45 | 2 | M65 | 29 | 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 hazard switch harness connector and the ground.

| Hazard switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M45 | 2 | | 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 hazard switch harness connector and the ground.

| Hazard switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M45 | 1 | | Existed |

Does continuity exist?

YES >> Replace the hazard switch.
NO >> Repair the harnesses or connectors.

# TAIL LAMP CIRCUIT

## Component Function Check

INFOID:0000000001716419

**NOTE:**
Check the license plate lamp circuit if the tail lamp and the license plate lamp are not turned ON. Refer to EXL-46, "Component Function Check".

### 1.CHECK TAIL LAMP OPERATION

IPDM E/R AUTO ACTIVE TEST
1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the tail lamp is turned ON.

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMP” of IPDM E/R active test item.
2. With operating the test items, check that the tail lamp is turned ON.

**TAIL : Tail Lamp ON**
**Off : Tail lamp OFF**

Is the tail lamp turned ON?

YES >> Tail lamp circuit is normal.
NO >> Refer to EXL-44, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000001716420

### 1.CHECK TAIL LAMP FUSE

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

| Unit | Location | Fuse No. | Capacity |
|---|---|---|---|
| Tail lamp | IPDM E/R | #45 | 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 LAMP” of IPDM E/R active test item.
4. With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

| Terminals | | | Test item | Voltage (Approx.) |
|---|---|---|---|---|
| (+) | | (–) | | |
| IPDM E/R | | Ground | EXTERNAL LAMP | |
| Connector | Terminal | | | |
| E14 | 37 | | 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.
3. Check continuity between the IPDM E/R harness connector and the rear combination lamp harness connector.

| IPDM E/R | | | Rear combination lamp | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | E14 | 37 | B59 | 1 | Existed |
| LH | | | B80 | 1 | |

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 combination lamp | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | B59 | 4 | | Existed |
| LH | B80 | 4 | | |

Does continuity exist?

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

# LICENSE PLATE LAMP CIRCUIT

## Component Function Check

INFOID:0000000001716423

### 1.CHECK LICENSE PLATE LAMP OPERATION

IPDM E/R AUTO ACTIVE TEST
1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the license plate lamp is turned ON.

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMP” 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-46, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000001716424

### 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.

| IPDM E/R | | | License plate lamp | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | E14 | 37 | D196 | 1 | Existed |
| LH | | | D195 | 1 | |

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 | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | D196 | 2 | | Existed |
| LH | D195 | 2 | | |

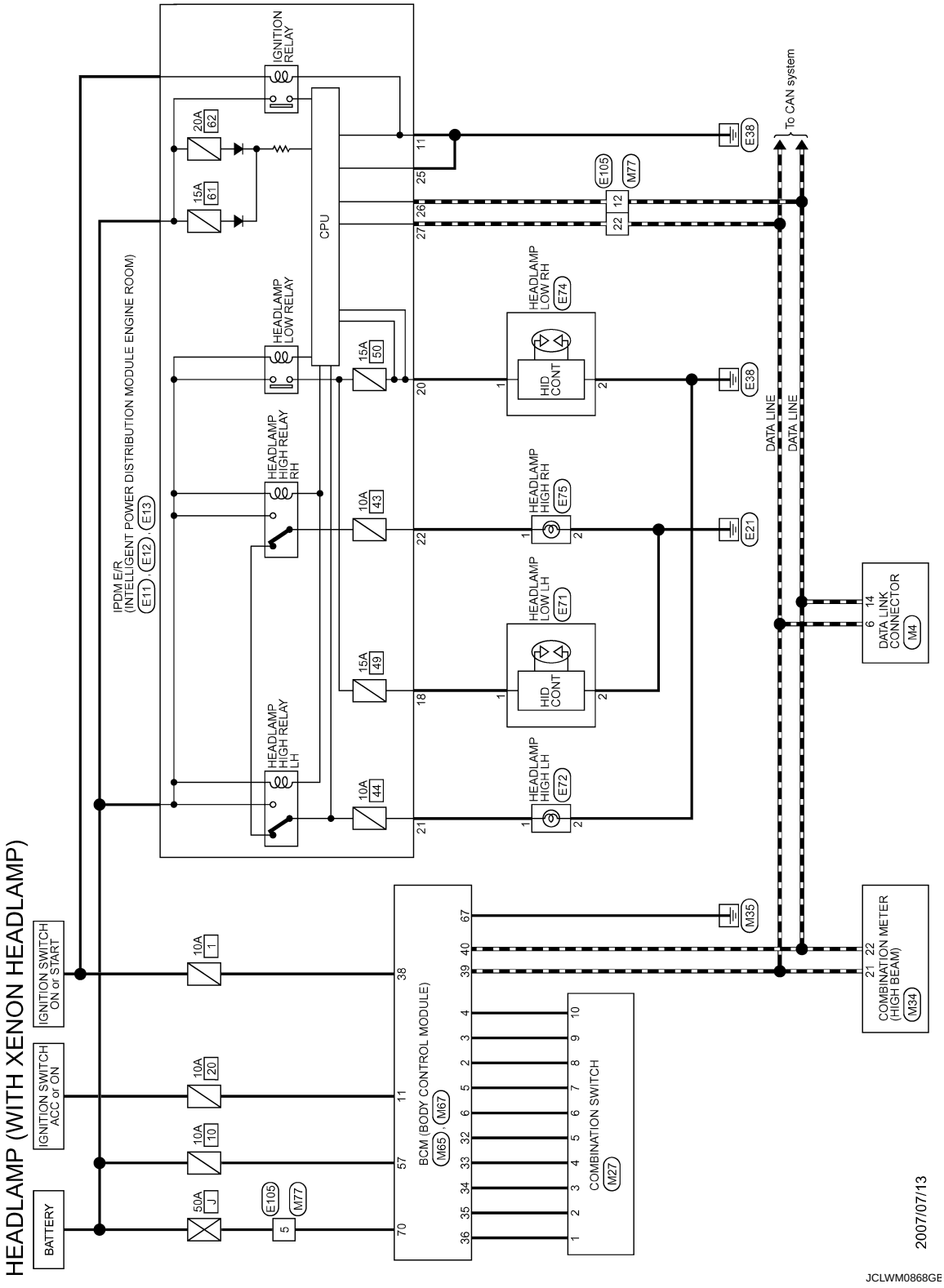
Does continuity exist?

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

# HEADLAMP SYSTEM

## Wiring Diagram - HEADLAMP -

INFOID:0000000001719617



HEADLAMP (WITH XENON HEADLAMP)

| Connector No. | E11 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | M06FB-LC |




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 11 | B | – |

| Connector No. | E12 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | NS08FBR-CS |




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 18 | L | – |
| 20 | SB | – |
| 21 | G | – |
| 22 | LG | – |

| Connector No. | E13 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH12FW-NH |




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 25 | B | – |
| 26 | P | – |
| 27 | L | – |

| Connector No. | E71 |
|---|---|
| Connector Name | HEADLAMP LOW LH |
| Connector Type | E02FGY-RS |




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | L | – |
| 2 | B | – |

| Connector No. | E72 |
|---|---|
| Connector Name | HEADLAMP HIGH LH |
| Connector Type | U02FB |




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | G | – |
| 2 | B | – |

| Connector No. | E74 |
|---|---|
| Connector Name | HEADLAMP LOW RH |
| Connector Type | E02FGY-RS |




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | SB | – |
| 2 | B | – |

| Connector No. | E75 |
|---|---|
| Connector Name | HEADLAMP HIGH RH |
| Connector Type | U02FB |




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | LG | – |
| 2 | B | – |

| Connector No. | E105 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 22 | L | – |

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HEADLAMP (WITH XENON HEADLAMP)

| Connector No. | M4 |
|---|---|
| Connector Name | DATA LINK CONNECTOR |
| Connector Type | BD16FW |

H.S.

| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | L | – |
| 14 | P | – |

| Connector No. | M27 |
|---|---|
| Connector Name | COMBINATION SWITCH |
| Connector Type | TK16FW |

H.S.

| 12 | 13 | 10 | 9 | 8 | 7 |
|---|---|---|---|---|---|
| 14 | 11 | 1 | 2 | 3 | 4 | 5 | 6 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | V | INPUT 1 |
| 2 | B | INPUT 2 |
| 3 | L | INPUT 3 |
| 4 | GR | INPUT 4 |
| 5 | BR | INPUT 5 |
| 6 | P | OUTPUT 1 |
| 7 | R | OUTPUT 2 |
| 8 | G | OUTPUT 5 |
| 9 | Y | OUTPUT 4 |
| 10 | W | OUTPUT 3 |

| Connector No. | M34 |
|---|---|
| Connector Name | COMBINATION METER |
| Connector Type | SAB40FW |

H.S.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 21 | L | CAN-H |
| 22 | P | CAN-L |

| Connector No. | M67 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FB-FHA6-SA |

H.S.

| 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
|---|---|---|---|---|---|---|---|---|
| 65 | 66 | 67 | 68 | 69 | 70 | | | |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 57 | G | BAT FUSE |
| 67 | B | GND |
| 70 | Y | BAT FL |

| Connector No. | M77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

H.S.

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 22 | L | – |

| Connector No. | M65 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FW |

H.S.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | G | INPUT 5 |
| 3 | Y | INPUT 4 |
| 4 | W | INPUT 3 |
| 5 | R | INPUT 2 |
| 6 | P | INPUT 1 |
| 11 | SB | ACC |
| 32 | BR | OUTPUT 5 |
| 33 | GR | OUTPUT 4 |
| 34 | L | OUTPUT 3 |
| 35 | B | OUTPUT 2 |
| 36 | V | OUTPUT 1 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 38 | G | IGN |
| 39 | L | CAN-H |
| 40 | P | CAN-L |

JCLWM0870GE

# HEADLAMP AIMING CONTROL SYSTEM (MANUAL)

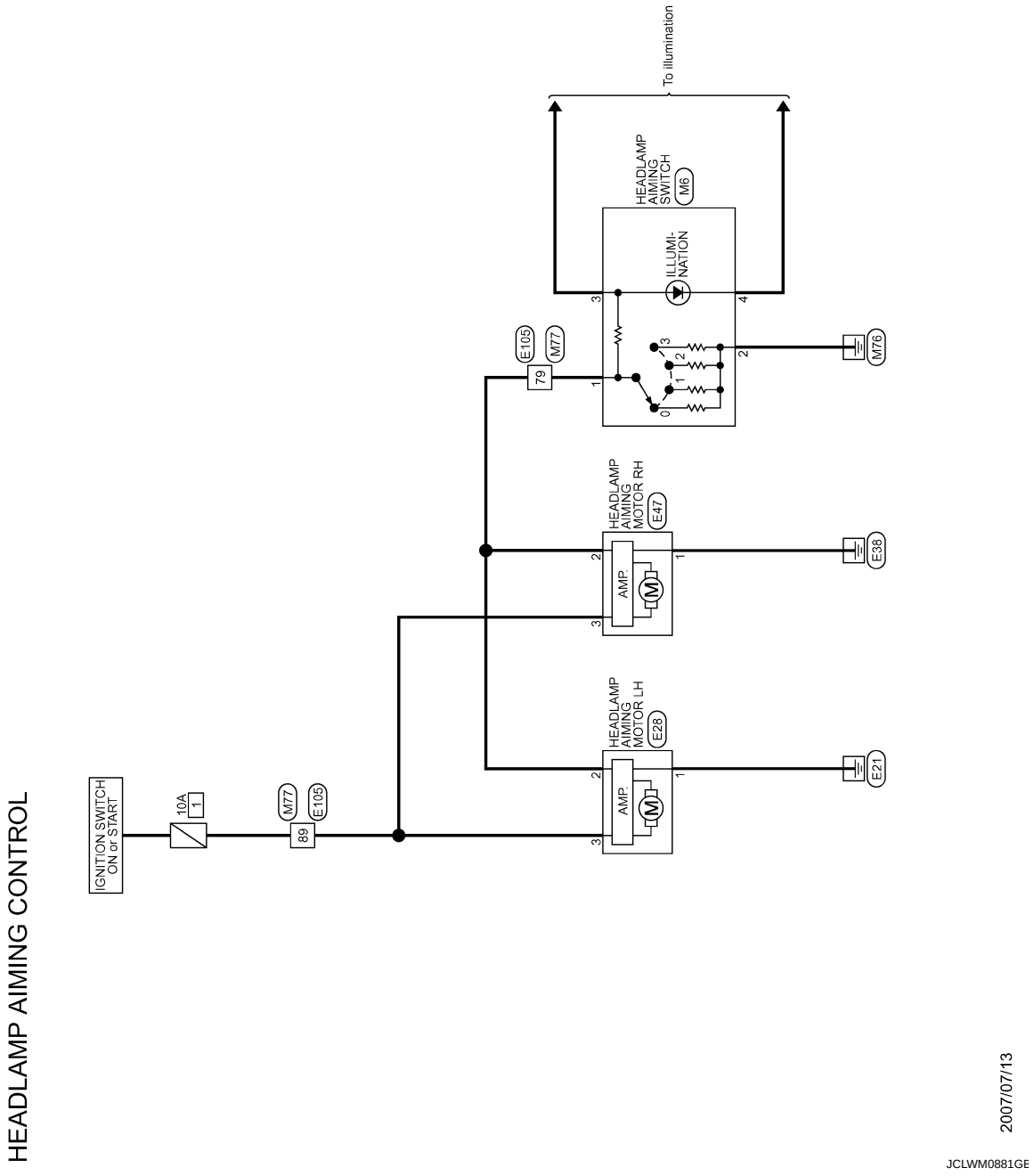
## Description

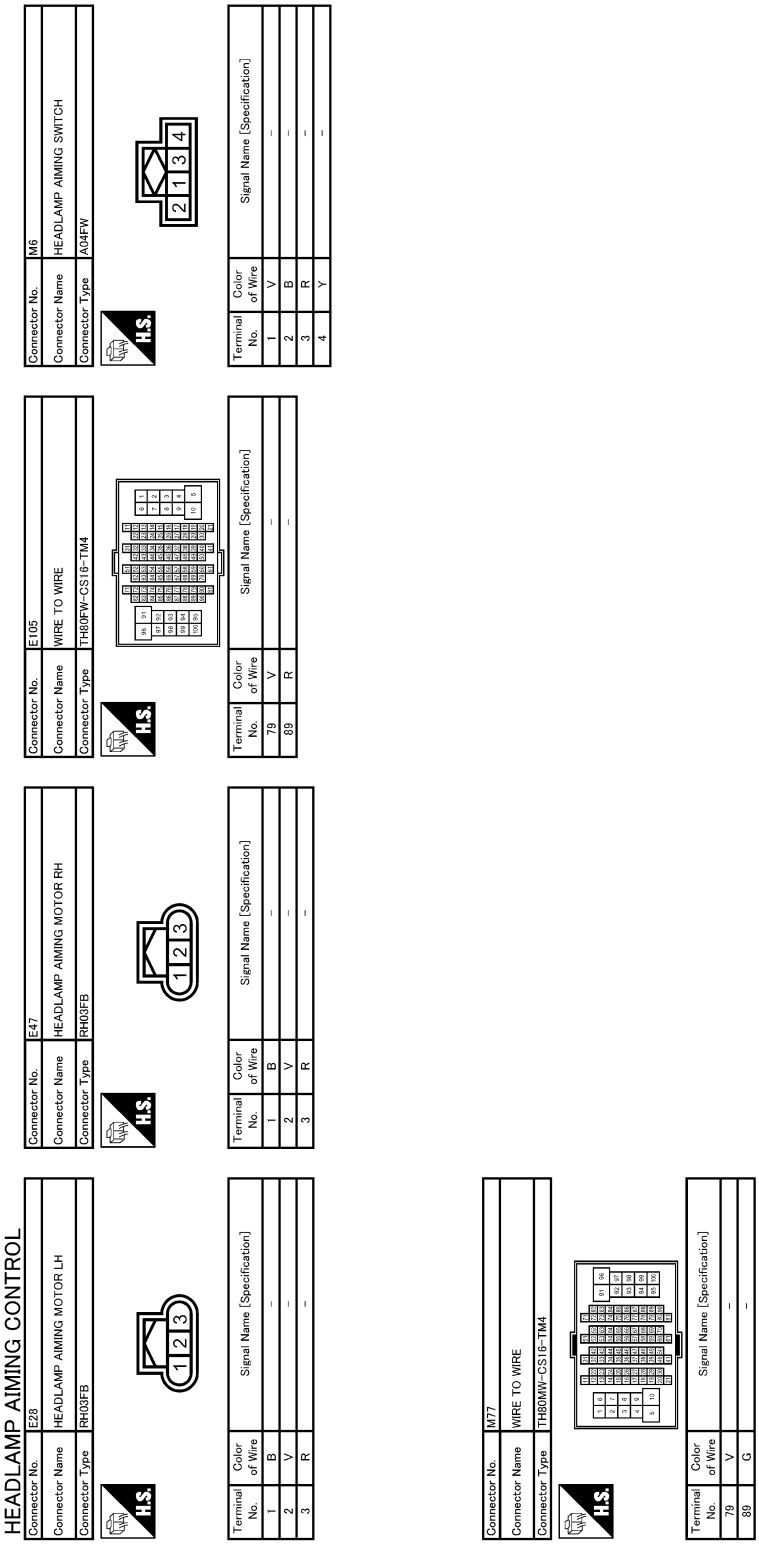
INFOID:0000000001720226

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

## Wiring Diagram - HEADLAMP AIMING CONTROL SYSTEM (MANUAL) -

INFOID:0000000001720229






JCLWM0882GE

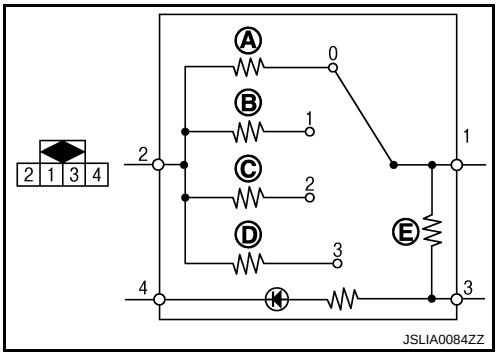
## Component Inspection

INFOID:0000000001720228

### 1. CHECK HEADLAMP AIMING SWITCH

1. Remove the headlamp aiming switch.

2. Check the resistance among each headlamp aiming switch terminal.




| Headlamp aiming switch | | Condition | Resistance (Approx.) |
|---|---|---|---|
| Terminal | | Switch position | |
| 1 | 2 | 0 | A: 160 Ω |
| | | 1 | B: 249 Ω |
| | | 2 | C: 464 Ω |
| | | 3 | D: 887 Ω |
| | 3 | — | E: 412 Ω |

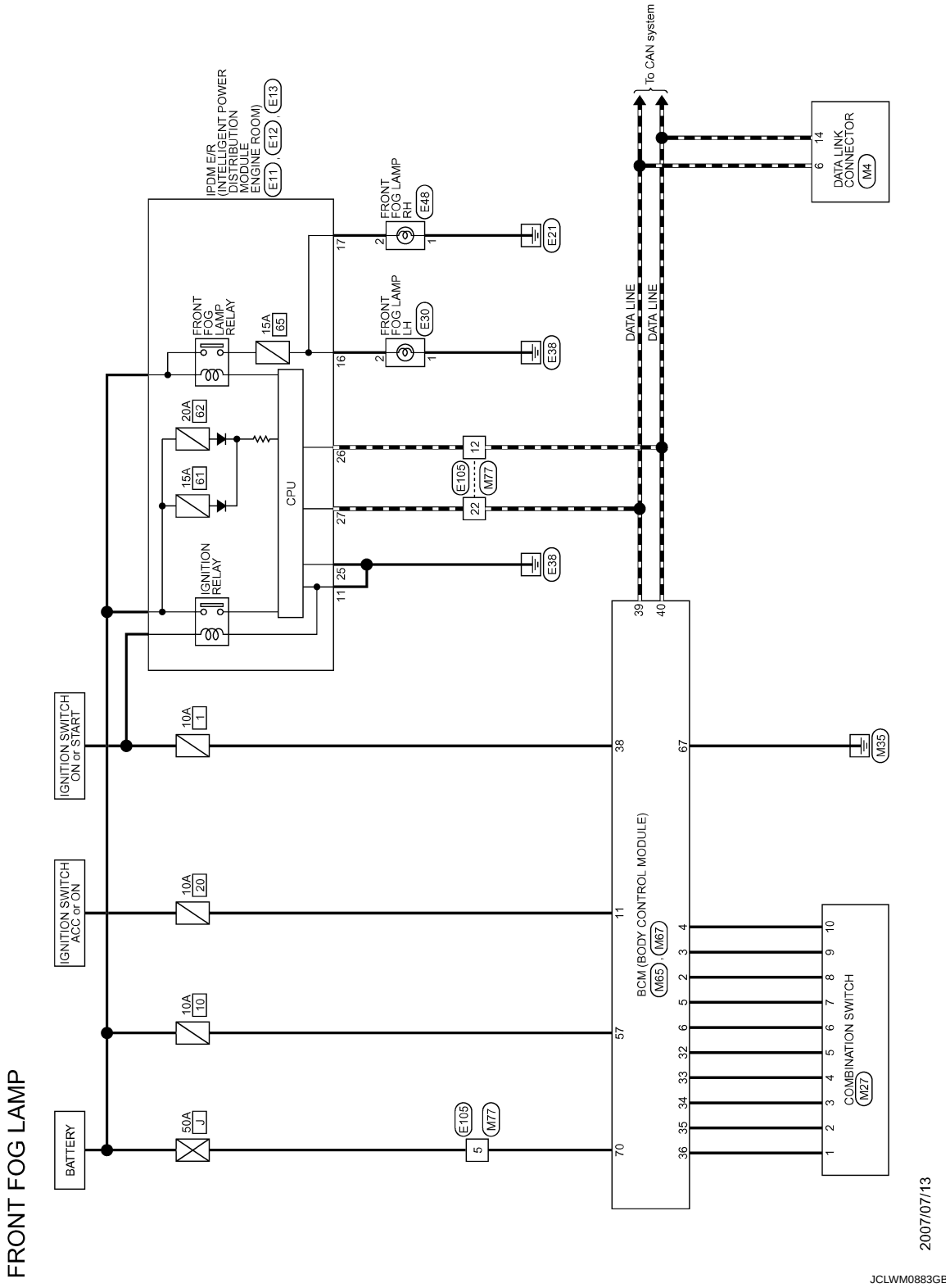
Is the measurement value normal?

YES >> Headlamp aiming switch is normal.
NO >> Replace the headlamp aiming switch.

# FRONT FOG LAMP SYSTEM

## Wiring Diagram - FRONT FOG LAMP -

INFOID:0000000001720202



FRONT FOG LAMP

| Connector No. | E11 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | M06FB-LC |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 11 | B | – |

| Connector No. | E12 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | NS08FBR-CS |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 16 | Y | – |
| 17 | W | – |

| Connector No. | E13 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH12FW-NH |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 25 | B | – |
| 26 | P | – |
| 27 | L | – |

| Connector No. | E30 |
|---|---|
| Connector Name | FRONT FOG LAMP LH |
| Connector Type | FHZ02FB |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | B | – |
| 2 | Y | – |

| Connector No. | E48 |
|---|---|
| Connector Name | FRONT FOG LAMP RH |
| Connector Type | FHZ02FB |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | B | – |
| 2 | W | – |

| Connector No. | E105 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 22 | L | – |

| Connector No. | M4 |
|---|---|
| Connector Name | DATA LINK CONNECTOR |
| Connector Type | BD16FW |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | L | – |
| 14 | P | – |

| Connector No. | M27 |
|---|---|
| Connector Name | COMBINATION SWITCH |
| Connector Type | TK16FW |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | V | INPUT 1 |
| 2 | B | INPUT 2 |
| 3 | L | INPUT 3 |
| 4 | GR | INPUT 4 |
| 5 | BR | INPUT 5 |
| 6 | P | OUTPUT 1 |
| 7 | R | OUTPUT 2 |
| 8 | G | OUTPUT 5 |
| 9 | Y | OUTPUT 4 |
| 10 | W | OUTPUT 3 |

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FRONT FOG LAMP

| Connector No. | M65 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FW |

H.S.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | G | INPUT 5 |
| 3 | Y | INPUT 4 |
| 4 | W | INPUT 3 |
| 5 | R | INPUT 2 |
| 6 | P | INPUT 1 |
| 11 | SB | ACC |
| 32 | BR | OUTPUT 5 |
| 33 | GR | OUTPUT 4 |
| 34 | L | OUTPUT 3 |
| 35 | B | OUTPUT 2 |
| 36 | V | OUTPUT 1 |

| 38 | G | IGN |
|---|---|---|
| 39 | L | CAN-H |
| 40 | P | CAN-L |

| Connector No. | M67 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FB-FHA6-SA |

H.S.

| 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
|---|---|---|---|---|---|---|---|---|
| 65 | 66 | 67 | 68 | 69 | 70 | | | |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 57 | G | BAT FUSE |
| 67 | B | GND |
| 70 | Y | BAT FL |

| Connector No. | M77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

H.S.

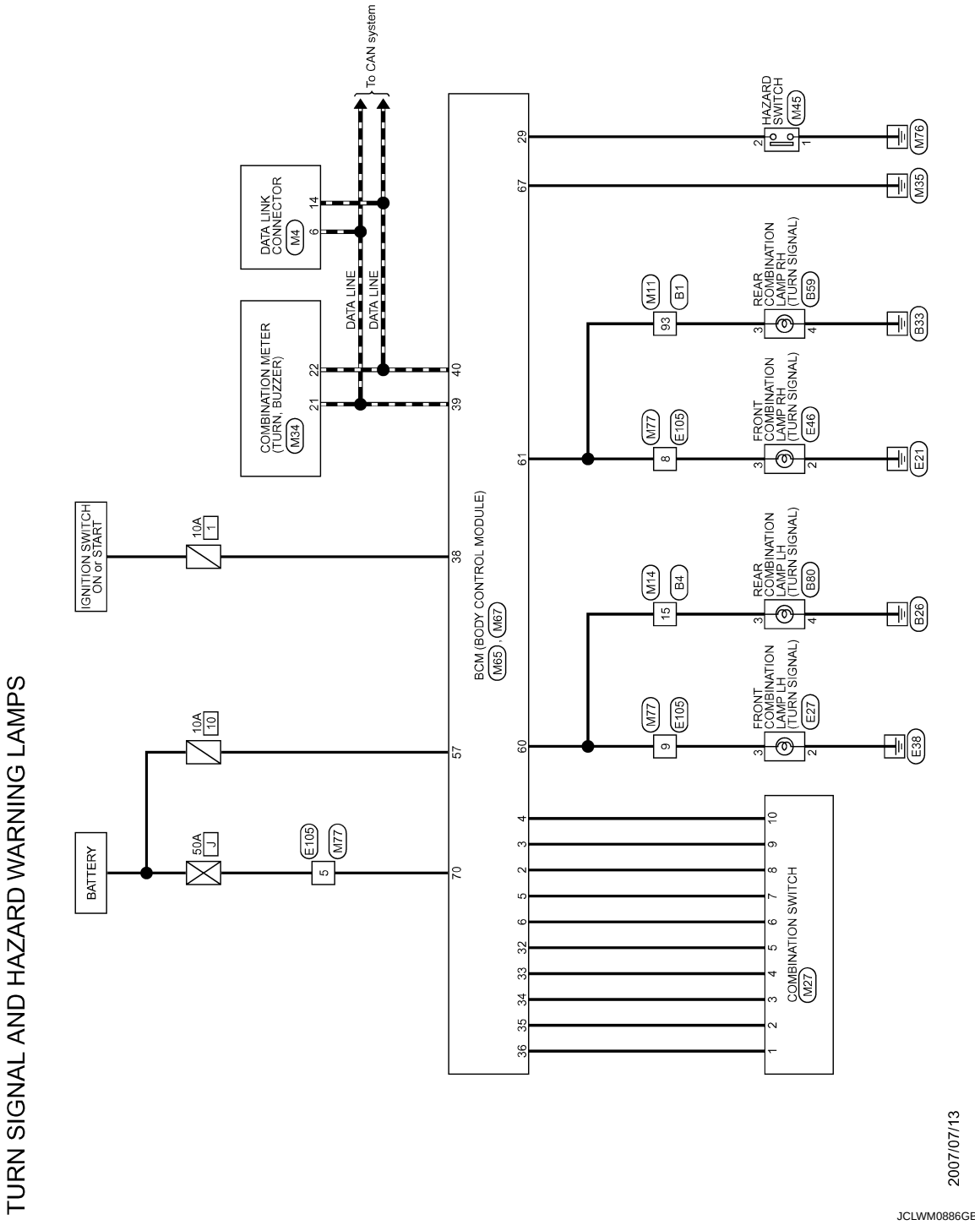
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 22 | L | – |

JCLWM0885GE

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

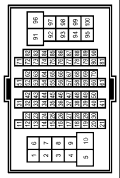
## Wiring Diagram - TURN AND HAZARD WARNING LAMPS -

INFOID:0000000001720203



TURN SIGNAL AND HAZARD WARNING LAMPS

| Connector No. | B1 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 93 | W | – |

| Connector No. | B4 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS16MW-CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 15 | BR | – |

| Connector No. | B59 |
|---|---|
| Connector Name | REAR COMBINATION LAMP RH |
| Connector Type | NS04MW-CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | W | – |
| 4 | B | – |

| Connector No. | B80 |
|---|---|
| Connector Name | REAR COMBINATION LAMP LH |
| Connector Type | NS04MW-CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | BR | – |
| 4 | B | – |

| Connector No. | E27 |
|---|---|
| Connector Name | FRONT COMBINATION LAMP LH |
| Connector Type | Z03FGY |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | B | – |
| 3 | BR | – |

| Connector No. | E46 |
|---|---|
| Connector Name | FRONT COMBINATION LAMP RH |
| Connector Type | Z03FGY |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | B | – |
| 3 | GR | – |

| Connector No. | E105 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 8 | GR | – |
| 9 | BR | – |

| Connector No. | M4 |
|---|---|
| Connector Name | DATA LINK CONNECTOR |
| Connector Type | BD16FW |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | L | – |
| 14 | P | – |

JCLWM0887GE

TURN SIGNAL AND HAZARD WARNING LAMPS

| Connector No. | M11 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 93 | GR | – |

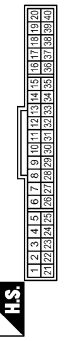
| Connector No. | M14 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS16FW-CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 15 | BR | – |

| Connector No. | M27 |
|---|---|
| Connector Name | COMBINATION SWITCH |
| Connector Type | TK16FW |

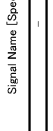
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | V | INPUT 1 |
| 2 | B | INPUT 2 |
| 3 | L | INPUT 3 |
| 4 | GR | INPUT 4 |
| 5 | BR | INPUT 5 |
| 6 | P | OUTPUT 1 |
| 7 | R | OUTPUT 2 |
| 8 | G | OUTPUT 5 |
| 9 | Y | OUTPUT 4 |
| 10 | W | OUTPUT 3 |

| Connector No. | M34 |
|---|---|
| Connector Name | COMBINATION METER |
| Connector Type | SAB40FW |



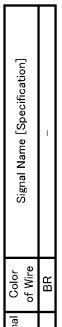
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 21 | L | CAN-H |
| 22 | P | CAN-L |

| Connector No. | M45 |
|---|---|
| Connector Name | HAZARD SWITCH |
| Connector Type | TK04FW |



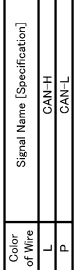
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | B | – |
| 2 | W | – |

| Connector No. | M65 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FW |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | G | INPUT 5 |
| 3 | Y | INPUT 4 |
| 4 | W | INPUT 3 |
| 5 | R | INPUT 2 |
| 6 | P | INPUT 1 |
| 29 | W | HAZARD SW |
| 32 | BR | OUTPUT 5 |
| 33 | GR | OUTPUT 4 |
| 34 | L | OUTPUT 3 |
| 35 | B | OUTPUT 2 |
| 36 | V | OUTPUT 1 |

| Connector No. | M67 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FB-FHA6-SA |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 57 | G | BAT FUSE |
| 60 | BR | FLASHER OUT PUT (LEFT) |
| 61 | GR | FLASHER OUT PUT (RIGHT) |
| 67 | B | GND |
| 70 | Y | BAT FL |

| Connector No. | M24 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 38 | G | IGN |
| 39 | L | CAN-H |
| 40 | P | CAN-L |

| Connector No. | M67 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FB-FHA6-SA |

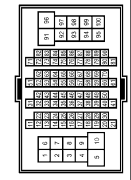


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 57 | G | BAT FUSE |
| 60 | BR | FLASHER OUT PUT (LEFT) |
| 61 | GR | FLASHER OUT PUT (RIGHT) |
| 67 | B | GND |
| 70 | Y | BAT FL |

JCLWM0888GE

TURN SIGNAL AND HAZARD WARNING LAMPS

| Connector No. | M77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |



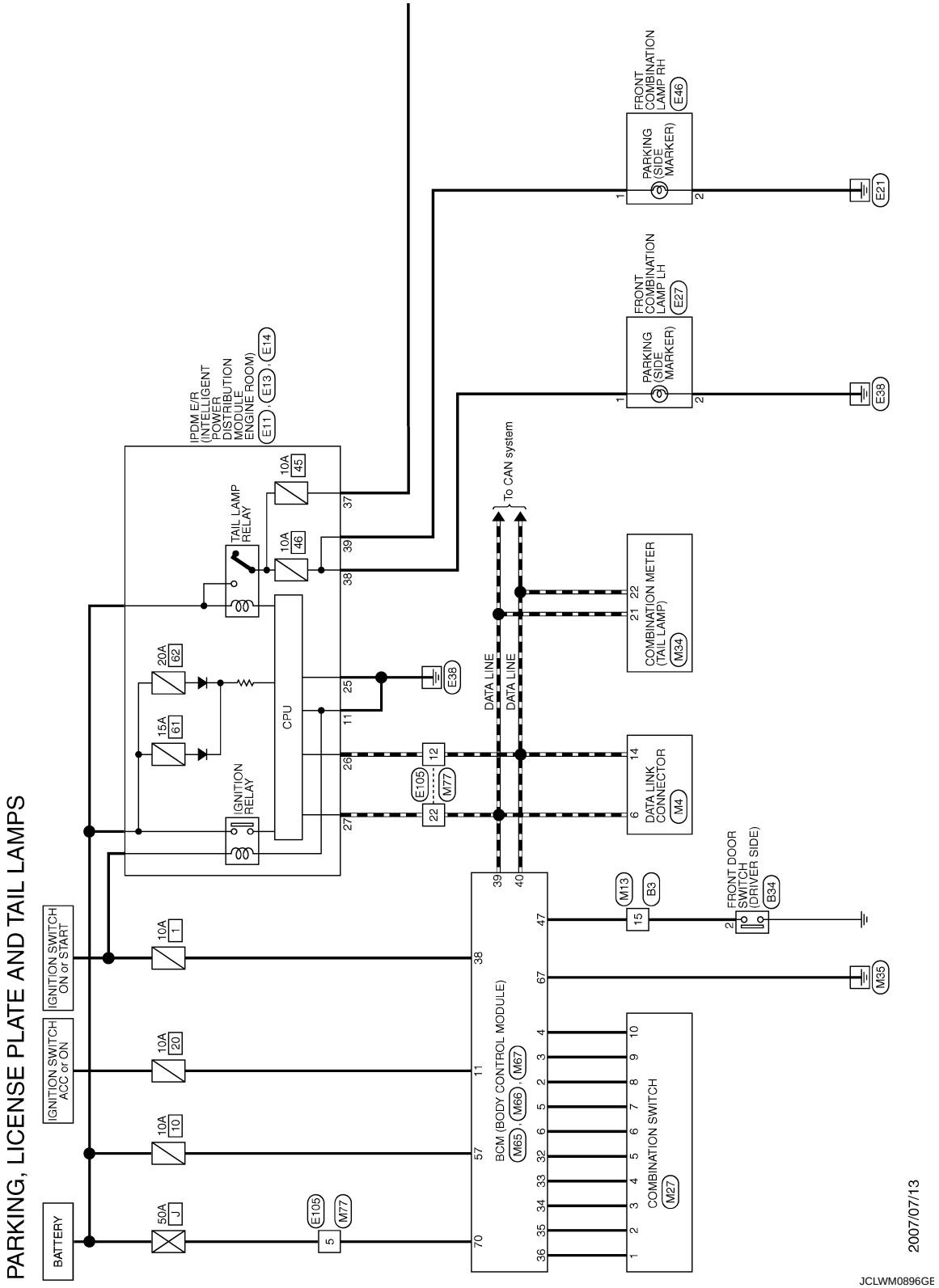
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 8 | GR | – |
| 9 | BR | – |

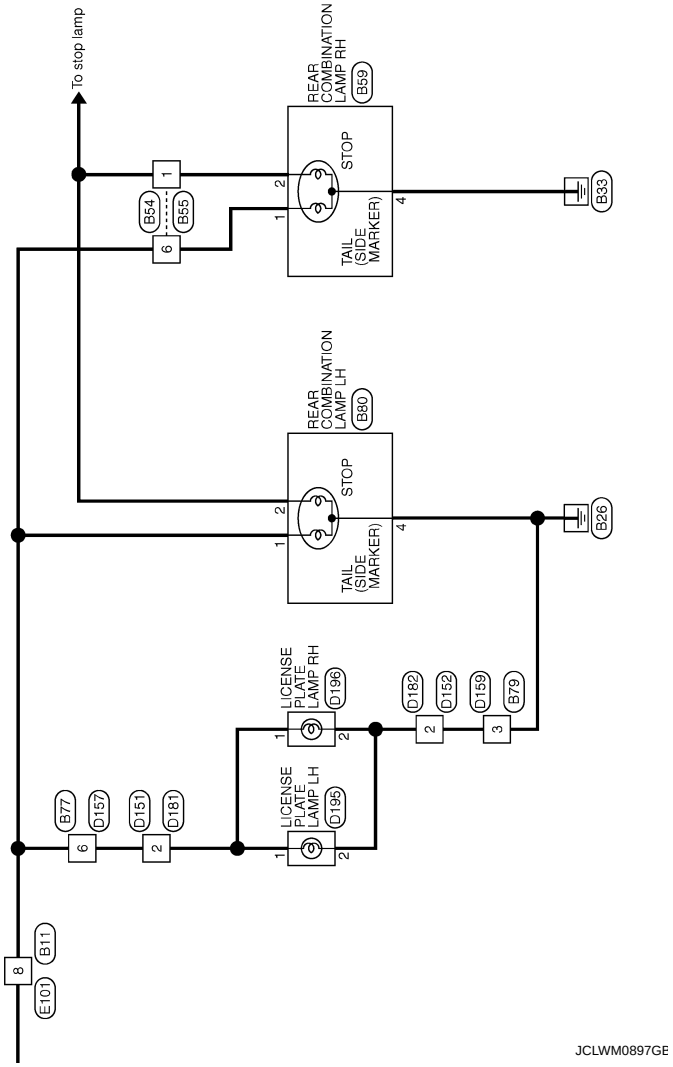
JCLWM0889GE

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

## Wiring Diagram - PARKING, LICENSE PLATE AND TAIL LAMPS -

INFOID:0000000001720204




To stop lamp
REAR COMBINATION LAMP RH
B59
STOP
TAIL (SIDE MARKER)
B54
B55
B33
REAR COMBINATION LAMP LH
B80
B26
LICENSE PLATE LAMP RH
D196
LICENSE PLATE LAMP LH
D195
D182
D152
D159
B79
B77
D157
D151
D181
B11
E101
JCLWM0897GE

PARKING, LICENSE PLATE AND TAIL LAMPS

| Connector No. | B3 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH32MW-NH |

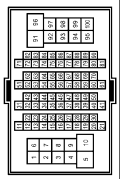
H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 15 | P | – |

| Connector No. | B11 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

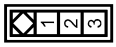
H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 8 | R | – |

| Connector No. | B34 |
|---|---|
| Connector Name | FRONT DOOR SWITCH (DRIVER SIDE) |
| Connector Type | A03FW |

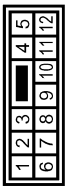
H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | P | – |

| Connector No. | B54 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS12MW-CS |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 6 | R | – |

| Connector No. | B55 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS12FW-CS |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 6 | R | – |

| Connector No. | B59 |
|---|---|
| Connector Name | REAR COMBINATION LAMP RH |
| Connector Type | NS04MW-CS |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | Y | – |
| 4 | B | – |

| Connector No. | B77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10MW-CS |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | R | – |

| Connector No. | B79 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M04MW-LC |

H.S.

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | B | – |

JCLWM0898GE

PARKING, LICENSE PLATE AND TAIL LAMPS

| Connector No. | B80 |
|---|---|
| Connector Name | REAR COMBINATION LAMP LH |
| Connector Type | NS04MW-CS |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | Y | – |
| 4 | B | – |

| Connector No. | D151 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08FBR-CS |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | R | – |

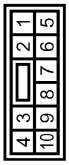
| Connector No. | D152 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M02FW-GY-LC |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | B | – |

| Connector No. | D157 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10FW-CS |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | R | – |

| Connector No. | D159 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M04FW-LC |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | B | – |

| Connector No. | D181 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08MBR-CS |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | R | – |

| Connector No. | D182 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M02MW-GY-LC |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | B | – |

| Connector No. | D195 |
|---|---|
| Connector Name | LICENSE PLATE LAMP LH |
| Connector Type | TK02FBR |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | B | – |

JCLWM0899GE

PARKING, LICENSE PLATE AND TAIL LAMPS

| Connector No. | D196 |
|---|---|
| Connector Name | LICENSE PLATE LAMP RH |
| Connector Type | TK02FBR |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | B | – |

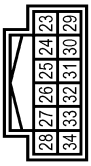
| Connector No. | E11 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | M06FB-LC |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 11 | B | – |

| Connector No. | E13 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH12FW-NH |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 25 | B | – |
| 26 | P | – |
| 27 | L | – |

| Connector No. | E14 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | NS12FBR-CS |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 37 | R | – |
| 38 | R | – |
| 39 | GR | – |

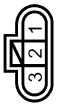
| Connector No. | E27 |
|---|---|
| Connector Name | FRONT COMBINATION LAMP LH |
| Connector Type | Z03FGY |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | B | – |

| Connector No. | E46 |
|---|---|
| Connector Name | FRONT COMBINATION LAMP RH |
| Connector Type | Z03FGY |

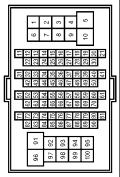
H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | GR | – |
| 2 | B | – |

| Connector No. | E101 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

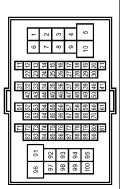
H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 8 | R | – |

| Connector No. | E105 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 22 | L | – |

JCLWM0900GE

PARKING, LICENSE PLATE AND TAIL LAMPS

| Connector No. | M4 |
|---|---|
| Connector Name | DATA LINK CONNECTOR |
| Connector Type | BD16FW |

H.S.

| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | L | – |
| 14 | P | – |

| Connector No. | M13 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH32FW-NH |

H.S.

| 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 15 | W | – |

| Connector No. | M27 |
|---|---|
| Connector Name | COMBINATION SWITCH |
| Connector Type | TK16FW |

H.S.

| 12 | 13 | 10 | 9 | 8 | 7 |
|---|---|---|---|---|---|
| 14 | 11 | 1 | 2 | 3 | 4 | 5 | 6 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | V | INPUT 1 |
| 2 | B | INPUT 2 |
| 3 | L | INPUT 3 |
| 4 | GR | INPUT 4 |
| 5 | BR | INPUT 5 |
| 6 | P | OUTPUT 1 |
| 7 | R | OUTPUT 2 |
| 8 | G | OUTPUT 5 |
| 9 | Y | OUTPUT 4 |
| 10 | W | OUTPUT 3 |

| Connector No. | M34 |
|---|---|
| Connector Name | COMBINATION METER |
| Connector Type | SAB40FW |

H.S.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 21 | L | CAN-H |
| 22 | P | CAN-L |

| Connector No. | M65 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FW |

H.S.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | G | INPUT 5 |
| 3 | Y | INPUT 4 |
| 4 | W | INPUT 3 |
| 5 | R | INPUT 2 |
| 6 | P | INPUT 1 |
| 11 | SB | ACC |
| 32 | BR | OUTPUT 5 |
| 33 | GR | OUTPUT 4 |
| 34 | L | OUTPUT 3 |
| 35 | B | OUTPUT 2 |
| 36 | V | OUTPUT 1 |

| 38 | G | IGN |
|---|---|---|
| 39 | L | CAN-H |
| 40 | P | CAN-L |

| Connector No. | M66 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FW-FHA6-SA |

H.S.

| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 |
|---|---|---|---|---|---|---|---|---|
| 50 | 51 | 52 | 53 | 54 | 55 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 47 | W | DR SW DR |

| Connector No. | M67 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FB-FHA6-SA |

H.S.

| 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
|---|---|---|---|---|---|---|---|---|
| 65 | 66 | 67 | 68 | 69 | 70 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 57 | G | BAT FUSE |
| 67 | B | GND |
| 70 | Y | BAT FL |

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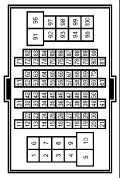
PARKING, LICENSE PLATE AND TAIL LAMPS

| Connector No. | M77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

H.S.



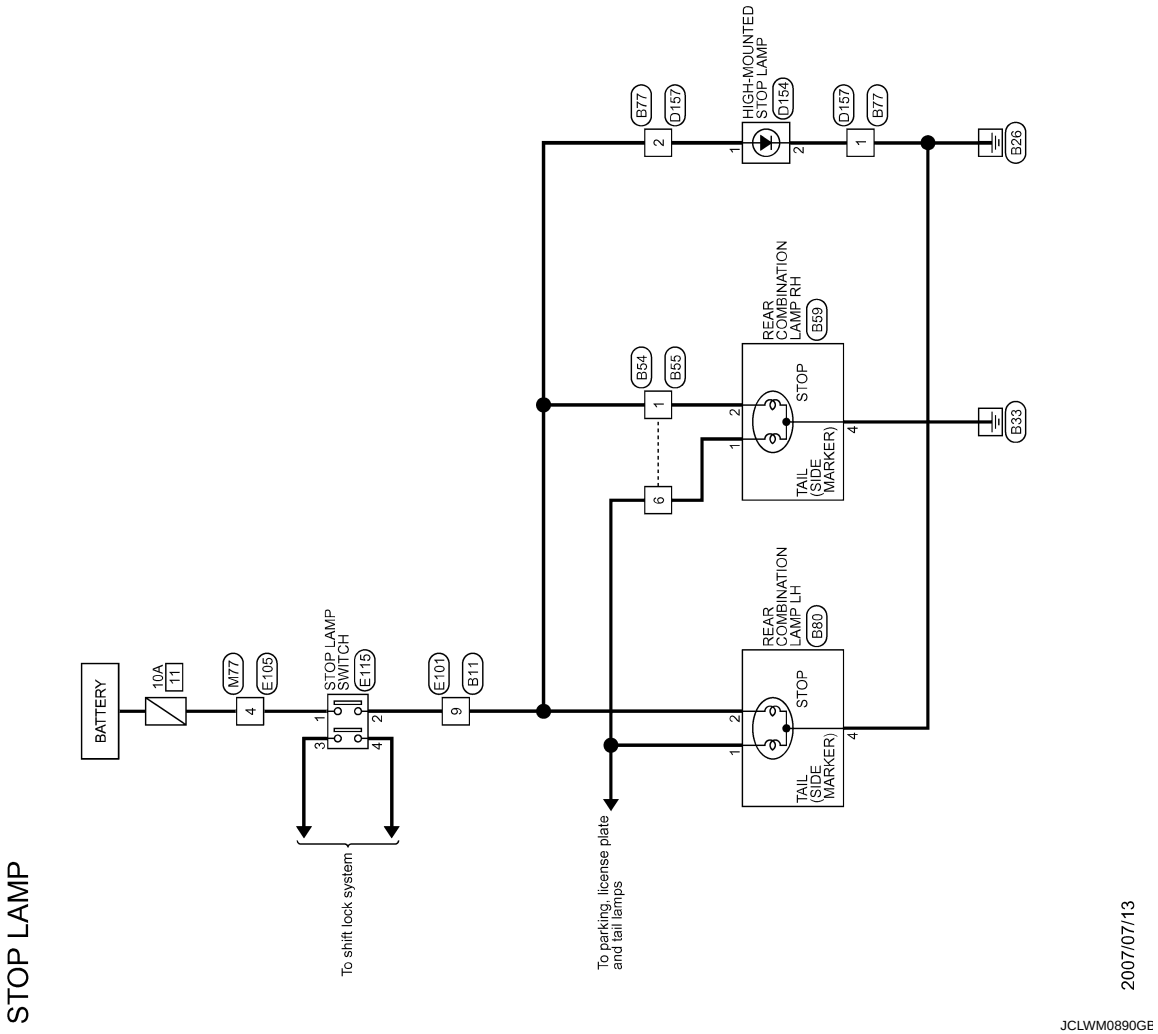
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 22 | L | – |

JCLWM0902GE

# STOP LAMP

## Wiring Diagram - STOP LAMP -

INFOID:0000000001720205

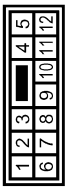


STOP LAMP

| Connector No. | B11 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 9 | Y | – |

| Connector No. | B54 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS12MW-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 6 | R | – |

| Connector No. | B55 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS12FW-CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 6 | R | – |

| Connector No. | B59 |
|---|---|
| Connector Name | REAR COMBINATION LAMP RH |
| Connector Type | NS04MW-CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | Y | – |
| 4 | B | – |

| Connector No. | B77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10MW-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | B | – |
| 2 | Y | – |

| Connector No. | B80 |
|---|---|
| Connector Name | REAR COMBINATION LAMP LH |
| Connector Type | NS04MW-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | Y | – |
| 4 | B | – |

| Connector No. | D154 |
|---|---|
| Connector Name | HIGH-MOUNTED STOP LAMP |
| Connector Type | TK02FW |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 2 | B | – |

| Connector No. | D157 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10FW-CS |



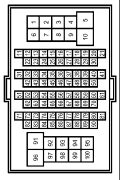
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | B | – |
| 2 | Y | – |

JCLWM0891GE

STOP LAMP

| Connector No. | E101 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

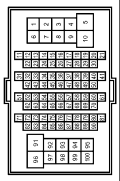
H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 9 | Y | – |

| Connector No. | E105 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

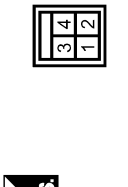
H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 4 | V | – |

| Connector No. | E115 |
|---|---|
| Connector Name | STOP LAMP SWITCH |
| Connector Type | M04FW-LC |

H.S.

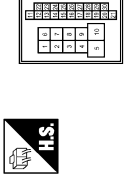





| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | V | – |
| 2 | Y | – |
| 3 | G | – |
| 4 | L | – |

| Connector No. | M77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

H.S.



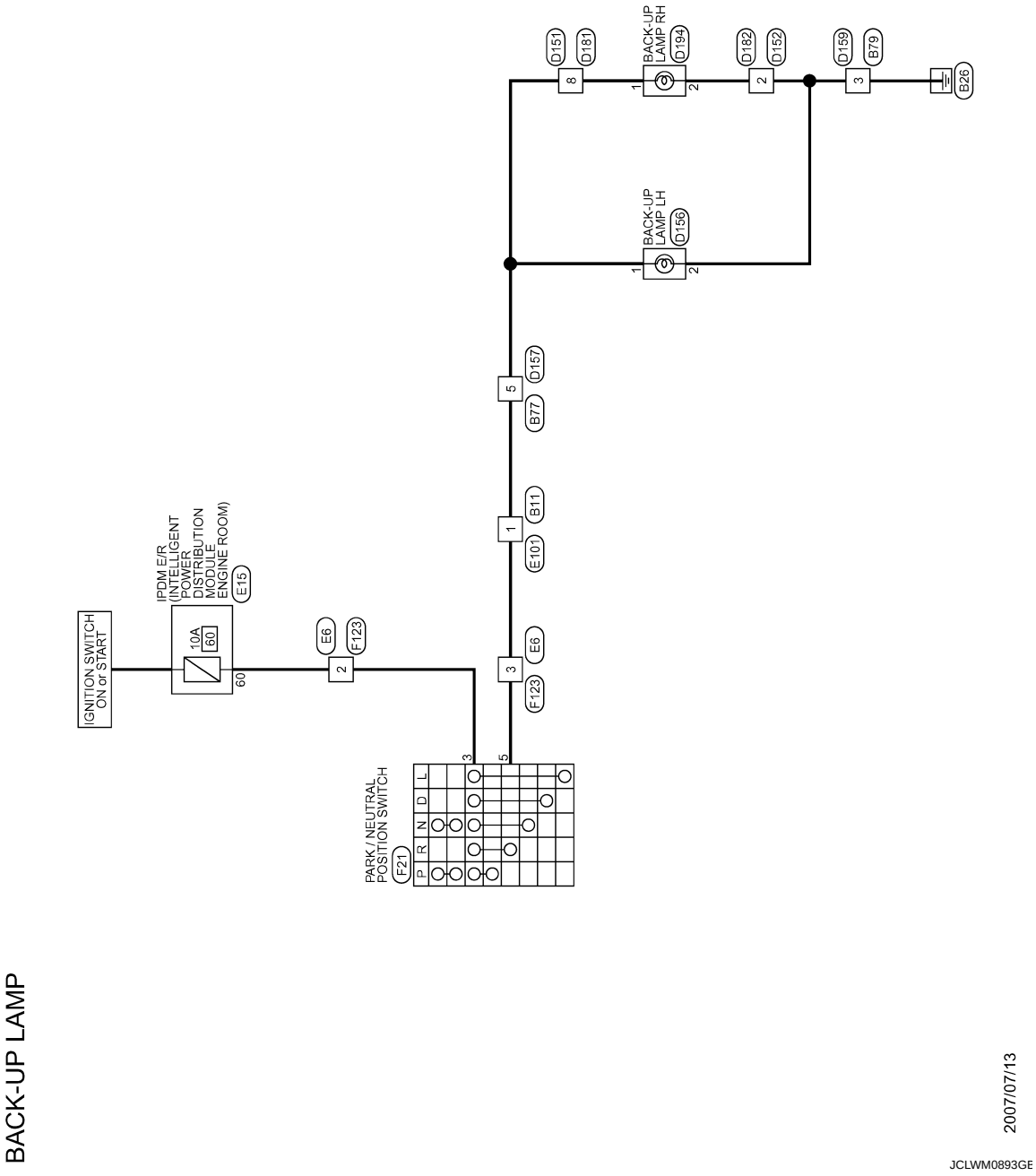
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 4 | Y | – |

JCLWM0892GE

# BACK-UP LAMP

## Wiring Diagram - BUCK-UP LAMP -

INFOID:0000000001720206




BACK-UP LAMP

2007/07/13

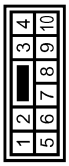
JCLWM0893GE

BACK–UP LAMP

| Connector No. | B11 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW–CS16–TM4 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | G | – |

| Connector No. | B77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10MW–CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | G | – |

| Connector No. | B79 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M04MW–LC |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | B | – |

| Connector No. | D151 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08FBR–CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 8 | G | – |

| Connector No. | D152 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M02FW–GY–LC |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | B | – |

| Connector No. | D156 |
|---|---|
| Connector Name | BACK–UP LAMP LH |
| Connector Type | NS02FW–CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 2 | B | – |

| Connector No. | D157 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10FW–CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | G | – |

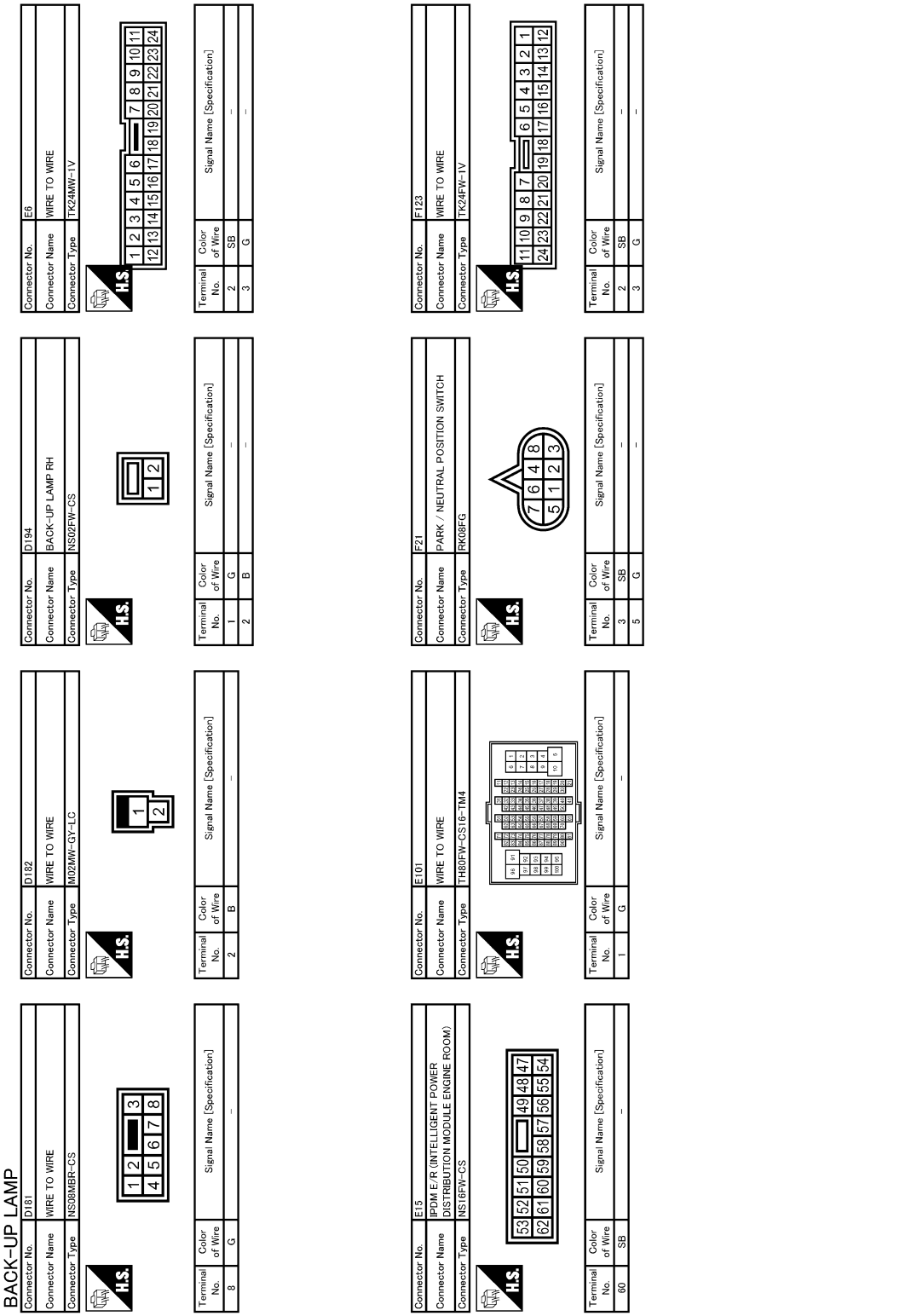
| Connector No. | D159 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M04FW–LC |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | B | – |

JCLWM0894GE

BACK–UP LAMP




JCLWM0895GE

# ECU DIAGNOSIS

## BCM (BODY CONTROL MODULE)

### Reference Value

INFOID:0000000003049971

VALUES ON THE DIAGNOSIS TOOL

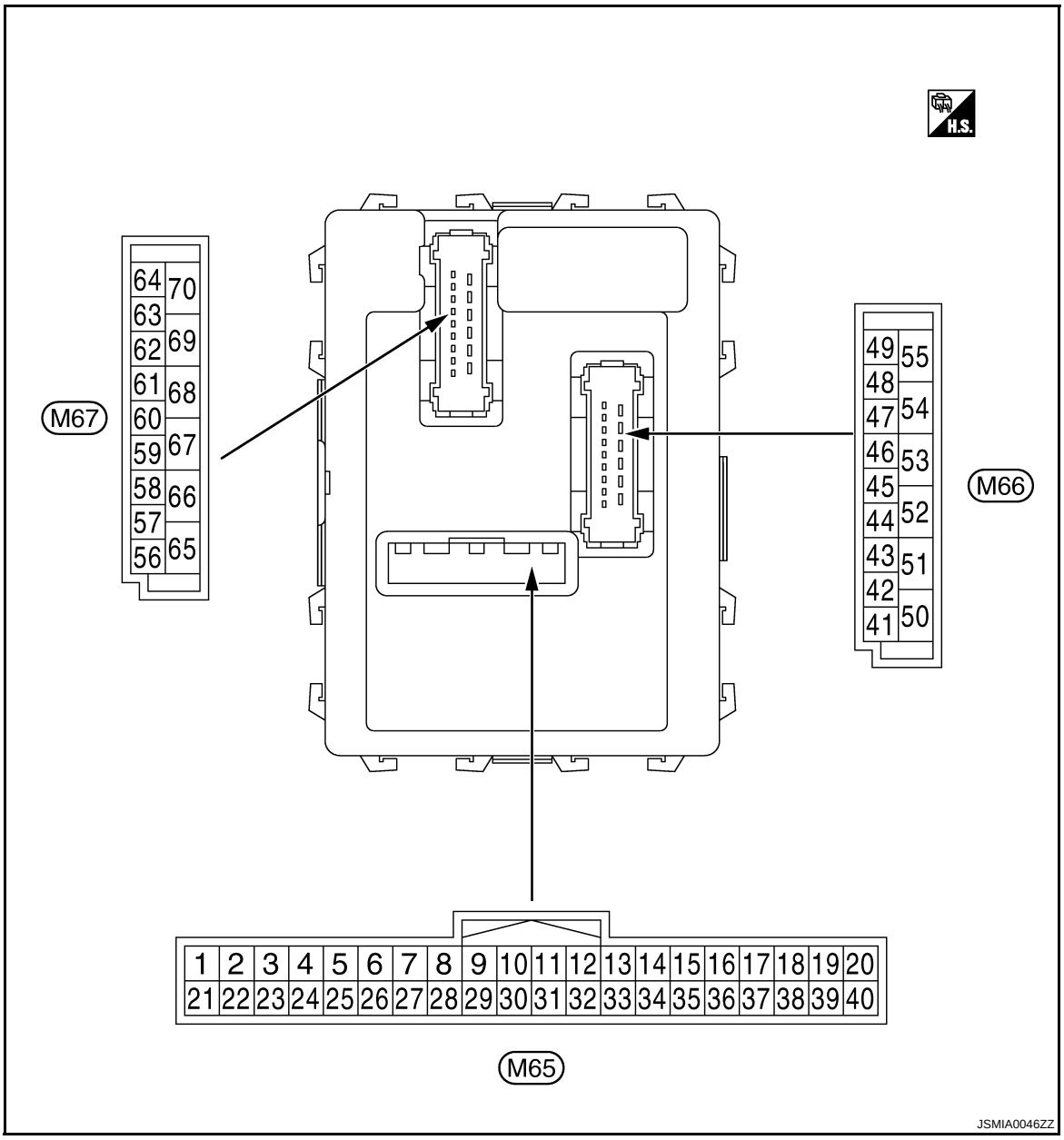
| Monitor Item | Condition | Value/Status |
|---|---|---|
| IGN ON SW | Ignition switch OFF or ACC | Off |
| | Ignition switch ON | On |
| KEY ON SW | Mechanical key is removed from key cylinder | Off |
| | Mechanical key is inserted to key cylinder | On |
| CDL LOCK SW | Door lock/unlock switch does not operate | Off |
| | Press door lock/unlock switch to the lock side | On |
| CDL UNLOCK SW | Door lock/unlock switch does not operate | Off |
| | Press door lock/unlock switch to the unlock side | On |
| DOOR SW-DR | Driver's door closed | Off |
| | Driver's door opened | On |
| DOOR SW-AS | Passenger door closed | Off |
| | Passenger door opened | On |
| DOOR SW-RR | Rear RH door closed | Off |
| | Rear RH door opened | On |
| DOOR SW-RL | Rear LH door closed | Off |
| | Rear LH door opened | On |
| BACK DOOR SW | Back door closed | Off |
| | Back door opened | On |
| KEY CYL LK-SW | Other than driver door key cylinder LOCK position | Off |
| | Driver door key cylinder LOCK position | On |
| KEY CYL UN-SW | Other than driver door key cylinder UNLOCK position | Off |
| | Driver door key cylinder UNLOCK position | On |
| KEYLESS LOCK | “LOCK” button of key fob is not pressed | Off |
| | “LOCK” button of key fob is pressed | On |
| KEYLESS UNLOCK | “UNLOCK” button of key fob is not pressed | Off |
| | “UNLOCK” button of key fob is pressed | On |
| I-KEY LOCK | “LOCK” button of Intelligent Key or door request switch are not pressed | Off |
| | “LOCK” button of Intelligent Key or door request switch are pressed | On |
| I-KEY UNLOCK | “UNLOCK” button of Intelligent Key or door request switch are not pressed | Off |
| | “UNLOCK” button of Intelligent Key or door request switch are pressed | On |
| ACC ON SW | Ignition switch OFF | Off |
| | Ignition switch ACC or ON | On |
| REAR DEF SW | Rear window defogger switch OFF | Off |
| | Rear window defogger switch ON | On |
| LIGHT SW 1ST | Lighting switch OFF | Off |
| | Lighting switch 1ST | On |

| Monitor Item | Condition | Value/Status |
|---|---|---|
| BUCKLE SW | The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF] | Off |
| | The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON] | On |
| KEYLESS PANIC | PANIC button of key fob is not pressed | Off |
| | PANIC button of key fob is pressed | On |
| KEYLESS TRUNK | **NOTE:** The item is indicated, but not monitored. | Off |
| TRNK OPN MNTR | **NOTE:** The item is indicated, but not monitored. | Off |
| RKE LCK-UNLCK | LOCK/UNLOCK button of key fob is not pressed and held simultaneously | Off |
| | LOCK/UNLOCK button of key fob is pressed and held simultaneously | On |
| RKE KEEP UNLK | UNLOCK button of key fob is not pressed | Off |
| | UNLOCK button of key fob is pressed and held | On |
| HI BEAM SW | Lighting switch OFF | Off |
| | Lighting switch HI | On |
| HEAD LAMP SW 1 | Lighting switch OFF | Off |
| | Lighting switch 2ND | On |
| HEAD LAMP SW 2 | Lighting switch OFF | Off |
| | Lighting switch 2ND | On |
| AUTO LIGHT SW | **NOTE:** The item is indicated, but not monitored. | Off |
| PASSING SW | Other than lighting switch PASS | Off |
| | Lighting switch PASS | On |
| FR FOG SW | Front fog lamp switch OFF | Off |
| | Front fog lamp switch ON | On |
| RR FOG SW | **NOTE:** The item is indicated, but not monitored. | Off |
| TURN SIGNAL R | Turn signal switch OFF | Off |
| | Turn signal switch RH | On |
| TURN SIGNAL L | Turn signal switch OFF | Off |
| | Turn signal switch LH | On |
| ENGINE RUN | Engine stopped | Off |
| | Engine running | On |
| PKB SW | Parking brake switch is OFF | Off |
| | Parking brake switch is ON | On |
| CARGO LAMP SW | **NOTE:** The item is indicated, but not monitored. | Off |
| OPTICAL SENSOR | **NOTE:** The item is indicated, but not monitored. | 0 V |
| IGN SW CAN | Ignition switch OFF or ACC | Off |
| | Ignition switch ON | On |
| FR WIPER HI | Front wiper switch OFF | Off |
| | Front wiper switch HI | On |
| FR WIPER LOW | Front wiper switch OFF | Off |
| | Front wiper switch LO | On |

| Monitor Item | Condition | Value/Status |
|---|---|---|
| FR WIPER INT | Front wiper switch OFF | Off |
| | Front wiper switch INT | On |
| FR WASHER SW | Front washer switch OFF | Off |
| | Front washer switch ON | On |
| INT VOLUME | Wiper intermittent dial is in a dial position 1 - 7 | 1 - 7 |
| FR WIPER STOP | Any position other than front wiper stop position | Off |
| | Front wiper stop position | On |
| VEHICLE SPEED | While driving | Equivalent to speedometer reading |
| RR WIPER ON | Rear wiper switch OFF | Off |
| | Rear wiper switch ON | On |
| RR WIPER INT | Rear wiper switch OFF | Off |
| | Rear wiper switch INT | On |
| RR WASHER SW | Rear washer switch OFF | Off |
| | Rear washer switch ON | On |
| RR WIPER STOP | Rear wiper stop position | Off |
| | Other than rear wiper stop position | On |
| RR WIPER STP2 | **NOTE:**<br>The item is indicated, but not monitored. | Off |
| H/L WASH SW | **NOTE:**<br>The item is indicated, but not monitored. | Off |
| HAZARD SW | Hazard switch OFF | Off |
| | Hazard switch ON | On |
| BRAKE SW | Brake pedal is not depressed | Off |
| | Brake pedal is depressed | On |
| FAN ON SIG | Blower fan motor switch OFF | Off |
| | Blower fan motor switch ON (other than OFF) | On |
| AIR COND SW | Compressor ON is not requested from auto amp.<br>(A/C indicator OFF, blower fan motor switch OFF or etc.) | Off |
| | Compressor ON is requested from auto amp.<br>(A/C indicator ON and blower fan motor switch ON). | On |
| I-KEY TRUNK | **NOTE:**<br>The item is indicated, but not monitored. | Off |
| I-KEY PW DWN | UNLOCK button of Intelligent Key is not pressed | Off |
| | UNLOCK button of Intelligent Key is pressed and held | On |
| I-KEY PANIC | PANIC button of Intelligent Key is not pressed | Off |
| | PANIC button of Intelligent Key is pressed | On |
| PUSH SW | Return to ignition switch to “LOCK” position | Off |
| | Press ignition switch | On |
| TRNK OPNR SW | When back door opener switch is not pressed | Off |
| | When back door opener switch is pressed | On |
| TRUNK CYL SW | **NOTE:**<br>The item is indicated, but not monitored. | Off |
| HOOD SW | Close the hood<br>**NOTE:**<br>Vehicles of except for Mexico are OFF-fixed | Off |
| | Open the hood | On |

| Monitor Item | Condition | Value/Status |
|---|---|---|
| OIL PRESS SW | • Ignition switch OFF or ACC<br>• Engine running | Off |
| | Ignition switch ON | On |
| 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 of front LH tire transmitter is not registered | Yet |
| ID REGST FR1 | ID of front RH tire transmitter is registered | Done |
| | ID of front RH tire transmitter is not registered | Yet |
| ID REGST RR1 | ID of rear RH tire transmitter is registered | Done |
| | ID of rear RH tire transmitter is not registered | Yet |
| ID REGST RL1 | ID of rear LH tire transmitter is registered | Done |
| | ID of rear LH tire transmitter is not registered | Yet |
| WARNING LAMP | Tire pressure indicator OFF | Off |
| | Tire pressure indicator ON | On |
| BUZZER | Tire pressure warning alarm is not sounding | Off |
| | Tire pressure warning alarm is sounding | On |

TERMINAL LAYOUT

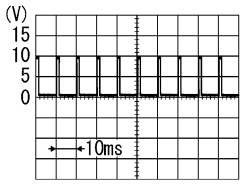
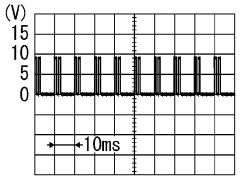
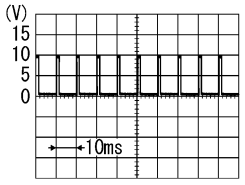
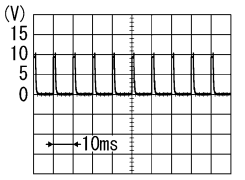
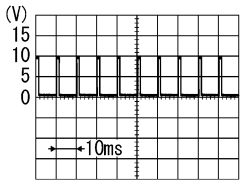


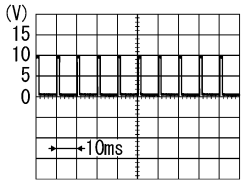
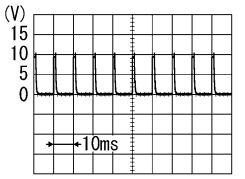
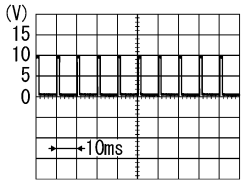
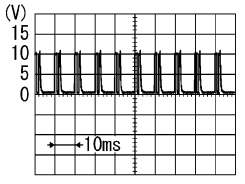
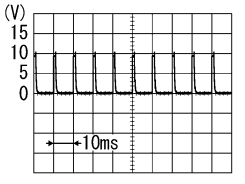

PHYSICAL VALUES

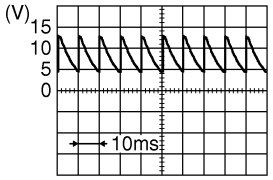
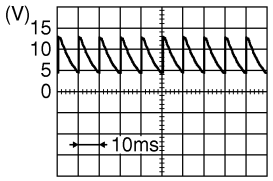
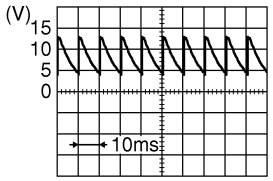
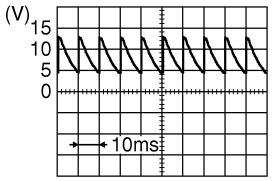
**CAUTION:**

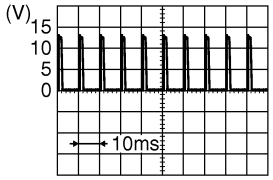
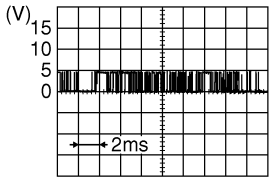
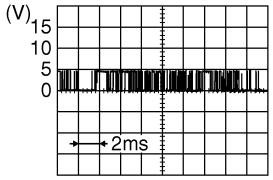
- **Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF is not to be fluctuated by being overloaded.**
- **Turn wiper intermittent dial position to 4 except when checking waveform or voltage of wiper intermittent dial position. Wiper intermittent dial position can be confirmed on CONSULT-III. Refer to BCS-26, "COMB SW : CONSULT-III Function (BCM - COMB SW)".**
- **BCM reads the status of the combination switch at 10 ms internal normally. Refer to BCS-9, "System Diagram".**

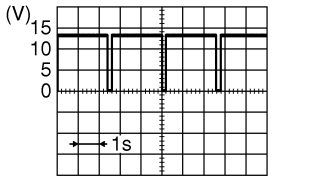
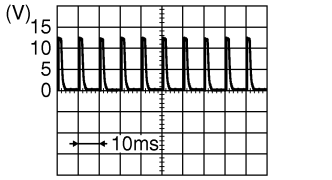
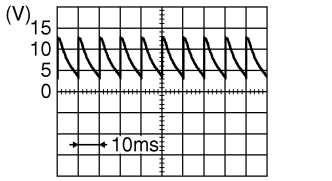
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 1 (V) | Ground | Ignition key hole illumination control | Output | Ignition key hole illumination | OFF | Battery voltage |
| | | | | | ON | 0 V |

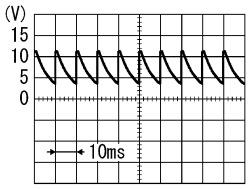
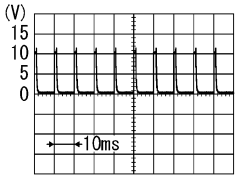
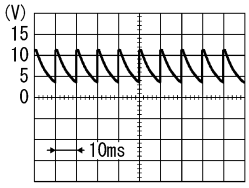
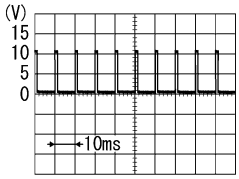
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 2 (G) | Ground | Combination switch INPUT 5 | Input | Combination switch (Wiper intermittent dial 4) | All switch OFF | 0 V |
| | | | | | Turn signal switch RH<br>Lighting switch HI<br>Lighting switch 1ST |  PKIB4959J 1.0 V |
| | | | | | Lighting switch 2ND |  PKIB4953J 2.0 V |
| 3 (Y) | Ground | Combination switch INPUT 4 | Input | Combination switch (Wiper intermittent dial 4) | All switch OFF | 0 V |
| | | | | | Turn signal switch LH<br>Lighting switch PASS<br>Lighting switch 2ND |  PKIB4959J 1.0 V |
| | | | | | Front fog lamp switch ON |  PKIB4955J 0.8 V |
| 4 (W) | Ground | Combination switch INPUT 3 | Input | Combination switch (Wiper intermittent dial 4) | All switch OFF | 0 V |
| | | | | | Front wiper switch LO<br>Front wiper switch MIST<br>Front wiper switch INT |  PKIB4959J 1.0 V |

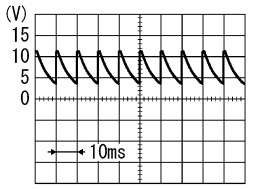
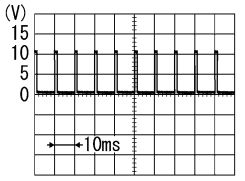
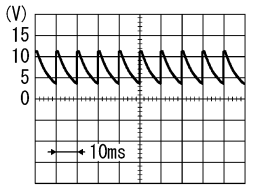
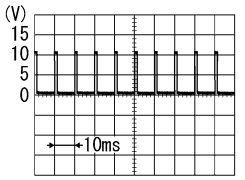
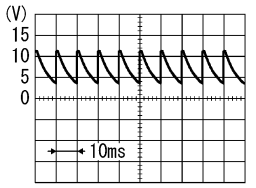
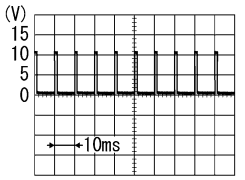
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 5 (R) | Ground | Combination switch INPUT 2 | Input | Combination switch | All switch OFF (Wiper intermittent dial 4) | 0 V |
| | | | | | Front washer switch (Wiper intermittent dial 4) |  PKIB4959J 1.0 V |
| | | | | | Rear washer ON (Wiper intermittent dial 4) | |
| | | | | | Any of the condition below with all switch OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 5<br>• Wiper intermittent dial 6 | |
| | | | | | Rear wiper switch ON (Wiper intermittent dial 4) |  PKIB4955J 0.8 V |
| 6 (P) | Ground | Combination switch INPUT 1 | Input | Combination switch | All switch OFF (Wiper intermittent dial 4) | 0 V |
| | | | | | Front wiper switch HI (Wiper intermittent dial 4) |  PKIB4959J 1.0 V |
| | | | | | Rear wiper switch INT (Wiper intermittent dial 4) | |
| | | | | | Wiper intermittent dial 3 (All switch OFF) | |
| | | | | | Any of the condition below with all switch OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 2 |  PKIB4952J 1.7 V |
| | | | | | Any of the condition below with all switch OFF<br>• Wiper intermittent dial 6<br>• Wiper intermittent dial 7 |  PKIB4955J 0.8 V |

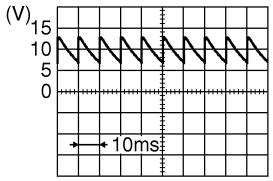
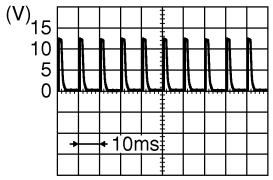
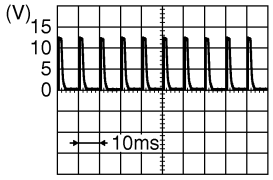
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 7 (L) | Ground | Door key cylinder switch UNLOCK signal | Input | Door key cylinder switch | NEUTRAL position |  JPMIA0587GB 8.0 - 8.5 V |
| | | | | | UNLOCK position | 0 V |
| 8 (R) | Ground | Door key cylinder switch LOCK signal | Input | Door key cylinder switch | NEUTRAL position |  JPMIA0587GB 8.0 - 8.5 V |
| | | | | | LOCK position | 0 V |
| 9 (R) | Ground | Stop lamp switch | Input | Stop lamp switch | OFF (Brake pedal is not depressed) | 0 V |
| | | | | | ON (Brake pedal is depressed) | Battery voltage |
| 10 (SB) | Ground | Rear window defogger switch | Input | Rear window defogger switch | Not pressed | Battery voltage |
| | | | | | Pressed | 0 V |
| 11 (SB) | Ground | Ignition switch ACC | Input | Ignition switch OFF | | 0 V |
| | | | | Ignition switch ACC or ON | | Battery voltage |
| 12 (P) | Ground | Passenger door switch | Input | Passenger door switch | OFF (When passenger door closed) |  JPMIA0586GB 7.5 - 8.0 V |
| | | | | | ON (When passenger door opened) | 0 V |
| 13 (LG) | Ground | Rear door switch RH | Input | Rear door switch RH | OFF (When rear door RH closed) |  JPMIA0587GB 8.0 - 8.5 V |
| | | | | | ON (When rear door RH opened) | 0 V |

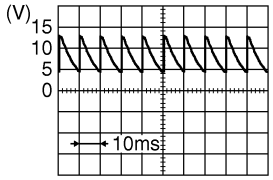
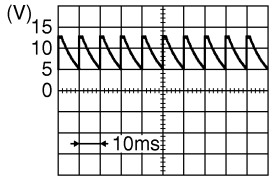
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 15*1 (O) | Ground | TPMS mode trigger switch | Input | Ignition switch OFF | |  JPMIA0588GB 1.5 V |
| 18*1 (O) | Ground | Remote keyless entry receiver ground | Input | Ignition switch ON | | 0 V |
| 19*1 (V) | Ground | Remote keyless entry receiver power supply | Input | Without Intelligent Key system | At any condition | 5 V |
| | | | | With Intelligent Key system | • Ignition switch OFF<br>• For 3 seconds after ignition switch OFF to ON | 0 V |
| | | | | | 3 seconds or later after ignition switch OFF to ON | 5 V |
| 20*1 (GR) | Ground | Remote keyless entry receiver signal | Input | Without Intelligent Key system | At any condition |  JPMIA0589GB **NOTE:** The wave form changes according to signal-receiving condition. |
| | | | | With Intelligent Key system | • Ignition switch OFF<br>• For 3 seconds after ignition switch OFF to ON | 0 V |
| | | | | | 3 seconds or later after ignition switch OFF to ON |  JPMIA0589GB **NOTE:** The wave form changes according to signal-receiving condition. |
| 21 (G) | Ground | Immobilizer antenna signal (Clock) | Input/ Output | Ignition switch OFF | | Battery voltage |

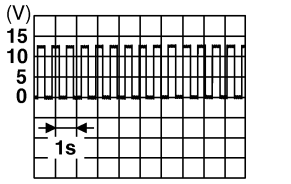
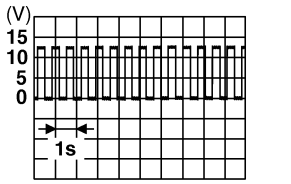
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 23 (B) | Ground | Security indicator signal | Input | Security indicator | ON | 0 V |
| | | | | | Blinking (Ignition switch OFF) |  JPMIA0590GB 12.0 V |
| | | | | | OFF | Battery voltage |
| 25 (BR) | Ground | Immobilizer antenna signal (Rx, Tx) | Input/ Output | Ignition switch OFF | | Battery voltage |
| 27 (Y) | Ground | A/C switch | Input | Ignition switch OFF | |  JPMIA0591GB 1.6 V |
| | | | | Ignition switch ON | A/C switch OFF | |
| | | | | | A/C switch ON | 0 V |
| 28 (LG) | Ground | Blower fan switch | Input | Ignition switch OFF | |  JPMIA0592GB 7.0 - 7.5 V |
| | | | | Ignition switch ON | Blower fan switch OFF | |
| | | | | | Blower fan switch ON | 0 V |
| 29 (W) | Ground | Hazard switch | Input | Hazard switch | OFF | Battery voltage |
| | | | | | ON | 0 V |
| 30 (G) | Ground | Back door opener switch | Input | Back door opener switch | Not pressed | Battery voltage |
| | | | | | Pressed | 0 V |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 32 (BR) | Ground | Combination switch OUTPUT 5 | Output | Combination switch | All switch OFF (Wiper intermittent dial 4) |  PKIB4960J 7.2 V |
| | | | | | Front fog lamp switch ON (Wiper intermittent dial 4) |  PKIB4956J 1.0 V |
| | | | | | Rear wiper switch ON (Wiper intermittent dial 4) | |
| | | | | | Any of the condition below with all switch OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 2<br>• Wiper intermittent dial 6<br>• Wiper intermittent dial 7 | |
| 33 (GR) | Ground | Combination switch OUTPUT 4 | Output | Combination switch | All switch OFF (Wiper intermittent dial 4) |  PKIB4960J 7.2 V |
| | | | | | Lighting switch 1ST (Wiper intermittent dial 4) |  PKIB4958J 1.2 V |
| | | | | | Rear wiper switch INT (Wiper intermittent dial 4) | |
| | | | | | Any of the condition below with all switch OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 5<br>• Wiper intermittent dial 6 | |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 34 (L) | Ground | Combination switch OUTPUT 3 | Output | Combination switch | All switch OFF (Wiper intermittent dial 4) |  PKIB4960J 7.2 V |
| | | | | | Lighting switch 2ND (Wiper intermittent dial 4) |  PKIB4958J 1.2 V |
| | | | | | Lighting switch HI (Wiper intermittent dial 4) | |
| | | | | | Rear washer switch ON (Wiper intermittent dial 4) | |
| | | | | | Any of the condition below with all switch OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 2<br>• Wiper intermittent dial 3 | |
| 35 (B) | Ground | Combination switch OUTPUT 2 | Output | Combination switch (Wiper intermittent dial 4) | All switch OFF |  PKIB4960J 7.2 V |
| | | | | | Lighting switch 2ND |  PKIB4958J 1.2 V |
| | | | | | Lighting switch PASS | |
| | | | | | Front wiper switch INT | |
| | | | | | Front wiper switch HI | |
| 36 (V) | Ground | Combination switch OUTPUT 1 | Output | Combination switch (Wiper intermittent dial 4) | All switch OFF |  PKIB4960J 7.2 V |
| | | | | | Turn signal switch RH |  PKIB4958J 1.2 V |
| | | | | | Turn signal switch LH | |
| | | | | | Front wiper switch LO (Front wiper switch MIST) | |
| | | | | | Front washer switch ON | |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 37 (LG) | Ground | Key switch | Input | Insert mechanical key into ignition key cylinder | | Battery voltage |
| | | | | Remove mechanical key from ignition key cylinder | | 0 V |
| 38 (G) | Ground | Ignition switch ON | Input | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON or START | | Battery voltage |
| 39 (L) | Ground | CAN-H | Input/ Output | — | | — |
| 40 (P) | Ground | CAN-L | Input/ Output | — | | — |
| 43 (V) | Ground | Back door switch | Input | Back door switch | OFF (When back door closed) |  JPMIA0593GB 9.5 - 10.0 V |
| | | | | | ON (When back door opened) | 0 V |
| 44 (B) | Ground | Rear wiper auto stop | Input | Ignition switch ON | Rear wiper stop position | 0 V |
| | | | | | Any position other than rear wiper stop position | Battery voltage |
| 45 (P) | Ground | Door lock and unlock switch LOCK signal | Input | Door lock and unlock switch | NEUTRAL position |  JPMIA0591GB 1.6 V |
| | | | | | LOCK position | 0 V |
| 46 (BR) | Ground | Door lock and unlock switch UNLOCK signal | Input | Door lock and unlock switch | NEUTRAL position |  JPMIA0591GB 1.6 V |
| | | | | | UNLOCK position | 0 V |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 47 (W) | Ground | Driver door switch | Input | Driver door switch | OFF (When driver door closed) |  JPMIA0587GB 8.0 - 8.5 V |
| | | | | | ON (When driver door opened) | 0 V |
| 48 (GR) | Ground | Rear door switch LH | Input | Rear door switch LH | OFF (When rear door LH closed) |  JPMIA0594GB 8.5 - 9.0 V |
| | | | | | ON (When rear door LH opened) | 0 V |
| 49 (L) | Ground | Back door lamp control | Output | Back door lamp switch DOOR position | Back door is closed (Back door lamp turns OFF) | Battery voltage |
| | | | | | Back door is opened (Back door lamp turns ON) | 0 V |
| 53 (V) | Ground | Back door open | Output | Back door opener switch | Not pressed (Back door actuator is activated) | 0 V |
| | | | | | Pressed (Back door actuator is activated) | Battery voltage |
| 55 (SB) | Ground | Rear wiper motor | Output | Ignition switch ON | Rear wiper switch OFF | 0 V |
| | | | | | Rear wiper switch ON | Battery voltage |
| 56 (Y) | Ground | Interior room lamp power supply | Output | After passing the interior room lamp battery saver operation time | | 0 V |
| | | | | Any other time after passing the interior room lamp battery saver operation time | | Battery voltage |
| 57 (G) | Ground | Battery power supply | Input | Ignition switch OFF | | Battery voltage |
| 59 (L) | Ground | Driver door UNLOCK | Output | Driver door | UNLOCK (Actuator is activated) | Battery voltage |
| | | | | | Other then UNLOCK (Actuator is not activated) | 0 V |

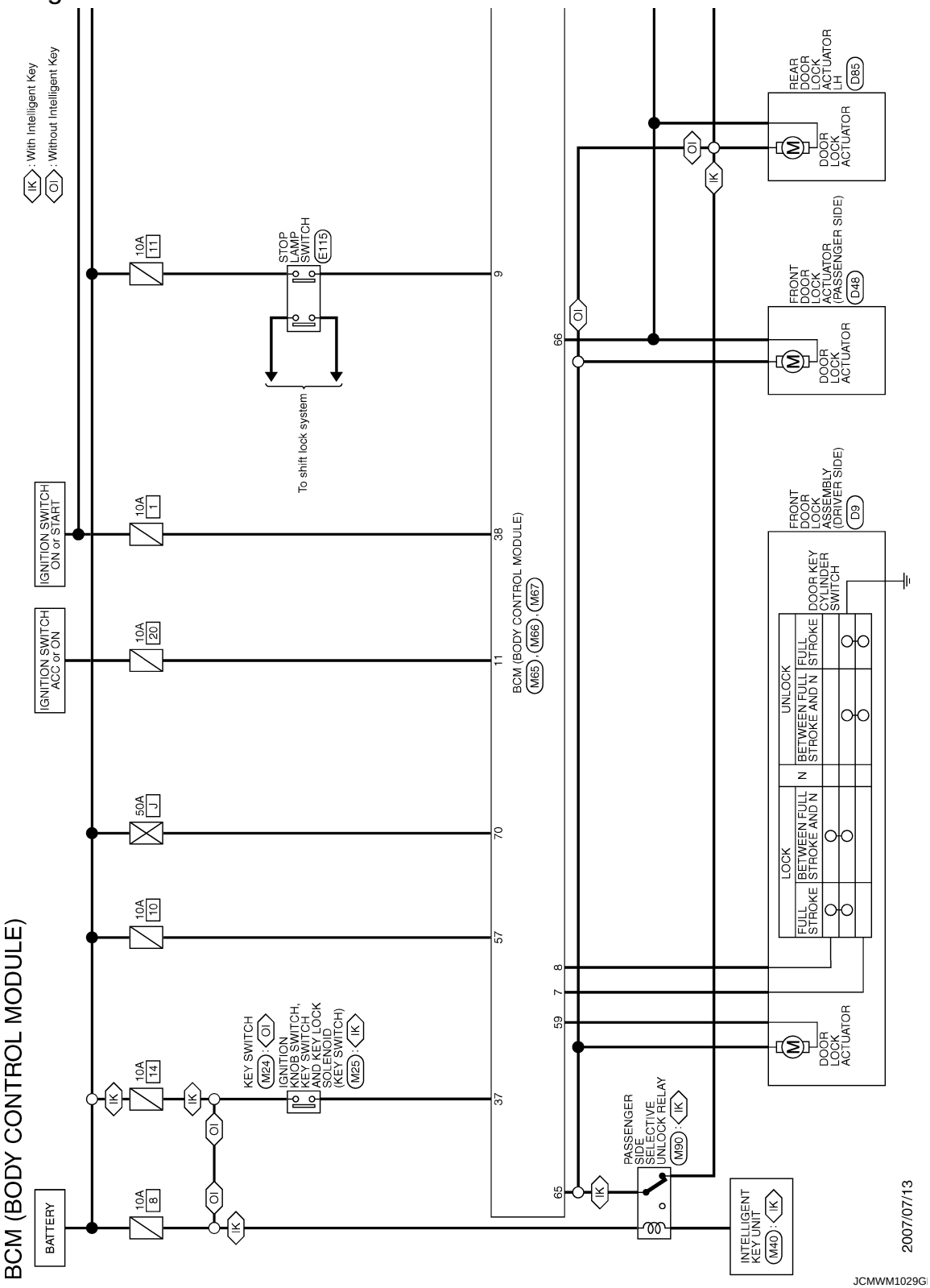
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 60 (BR) | Ground | Turn signal LH | Output | Ignition switch ON | Turn signal switch OFF | 0 V |
| | | | | | Turn signal switch LH |  PKIC6370E 6.0 V |
| 61 (GR) | Ground | Turn signal RH | Output | Ignition switch ON | Turn signal switch OFF | 0 V |
| | | | | | Turn signal switch RH |  PKIC6370E 6.0 V |
| 63 (R) | Ground | Interior room lamp timer control | Output | Interior room lamp | OFF | Battery voltage |
| | | | | | ON | 0 V |
| 65 (V) | Ground | All doors LOCK | Output | All doors | LOCK (Actuator is activated) | Battery voltage |
| | | | | | Other then LOCK (Actuator is not activated) | 0 V |
| 66 (G) | Ground | Passenger door and rear door UNLOCK | Output | Passenger door and rear door | UNLOCK (Actuator is activated) | Battery voltage |
| | | | | | Other then UNLOCK (Actuator is not activated) | 0 V |
| 67 (B) | Ground | Ground | Output | Ignition switch ON | | 0 V |
| 68 (L) | Ground | P/W power supply (RAP) | Output | Ignition switch ON | | Battery voltage |
| 69 (R)*2 (P)*3 | Ground | P/W power supply (BAT) | Output | Ignition switch OFF | | Battery voltage |
| 70 (Y) | Ground | Battery power supply | Input | Ignition switch OFF | | Battery voltage |

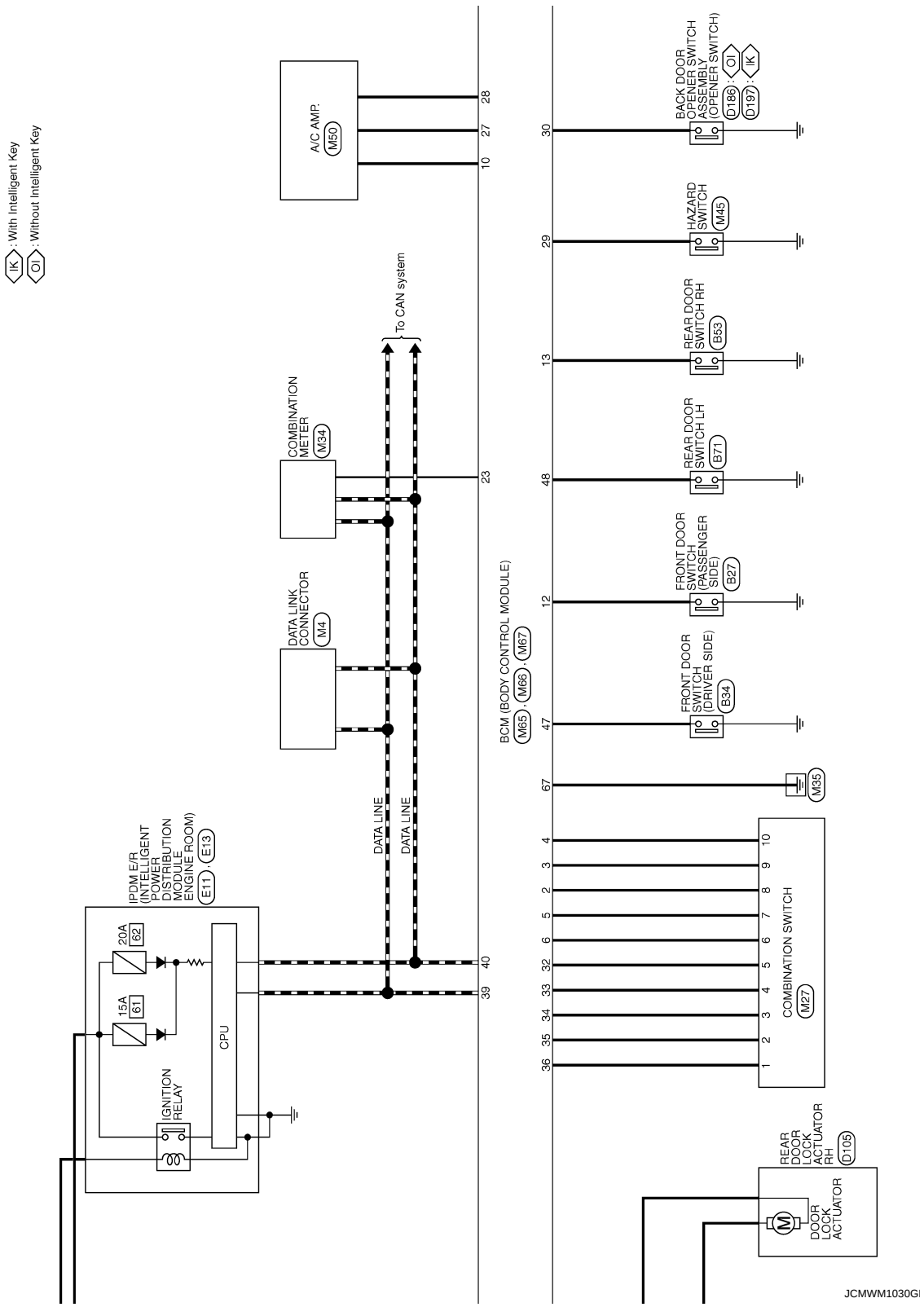
**NOTE:**

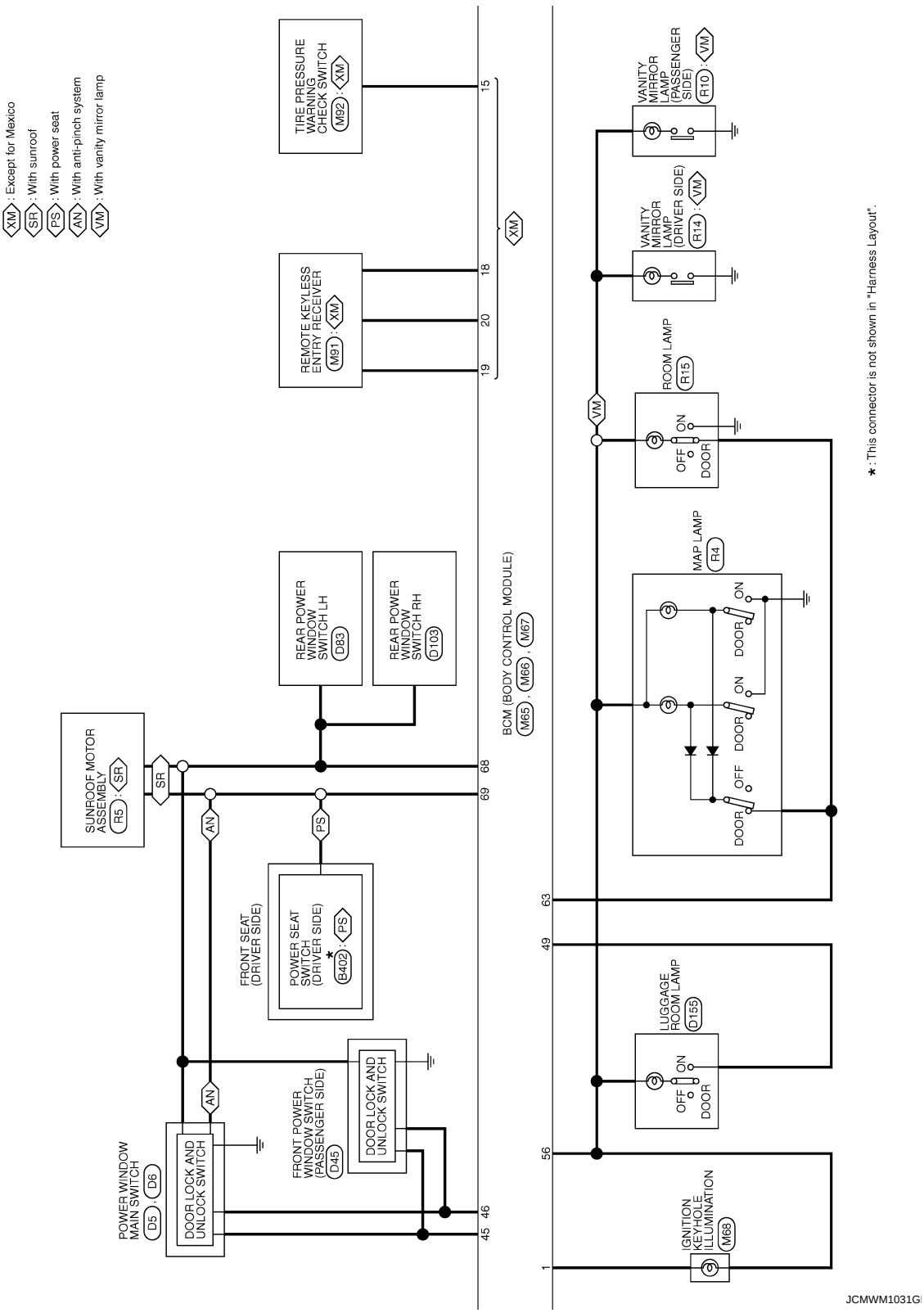
- *1: Except for Mexico
- *2: Without anti-pinch system
- *3: With anti-pinch system

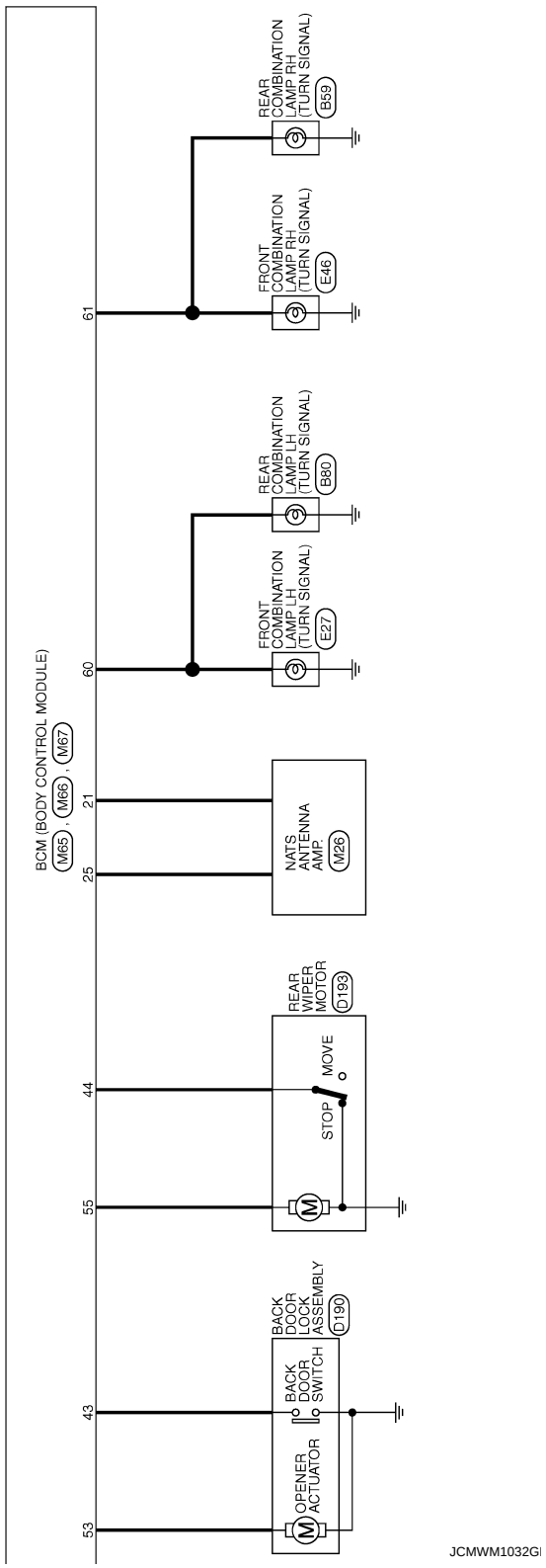
## Wiring Diagram - BCM -

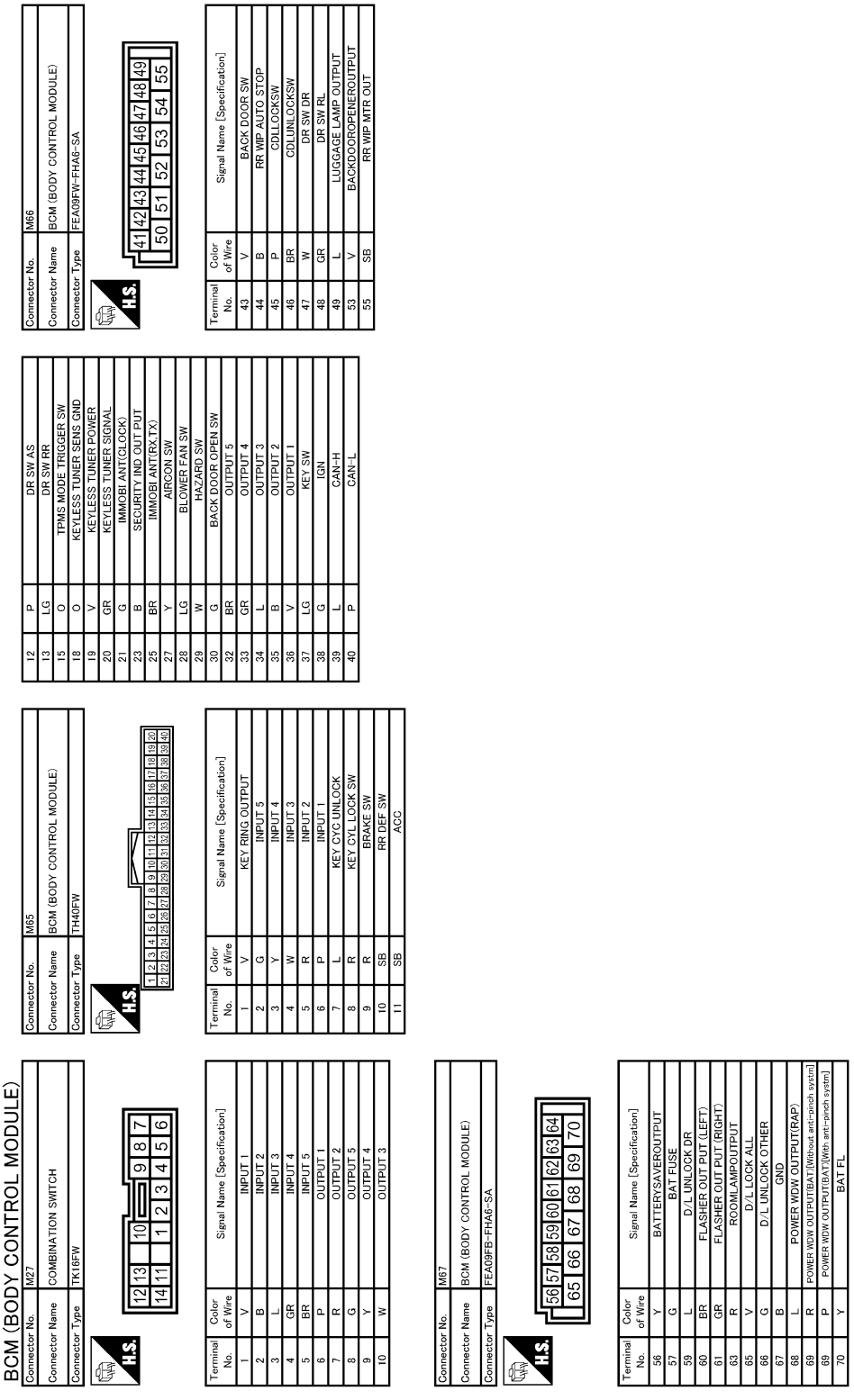
INFOID:0000000003049972




IK : With Intelligent Key
OI : Without Intelligent Key
A/C AMP.
M50
28
27
10
To CAN system
COMBINATION METER
M34
23
DATA LINK CONNECTOR
M4
DATA LINE
DATA LINE
40
39
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E11, E13
20A 62
15A 61
IGNITION RELAY
CPU
BCM (BODY CONTROL MODULE)
M65, M66, M67
30
BACK DOOR OPENER SWITCH ASSEMBLY (OPENER SWITCH)
D186: OI
D197: IK
29
HAZARD SWITCH
M45
13
REAR DOOR SWITCH RH
B53
48
REAR DOOR SWITCH LH
B71
12
FRONT DOOR SWITCH (PASSENGER SIDE)
B27
47
FRONT DOOR SWITCH (DRIVER SIDE)
B34
67
M35
4 3 2 5 6 32 33 34 35 36
10 9 8 7 6 5 4 3 2 1
COMBINATION SWITCH
M27
REAR DOOR LOCK ACTUATOR RH
D105
DOOR LOCK ACTUATOR
JCMWM1030GB


XM : Except for Mexico
SR : With sunroof
PS : With power seat
AN : With anti-pinch system
VM : With vanity mirror lamp
TIRE PRESSURE WARNING CHECK SWITCH M92 : XM
REMOTE KEYLESS ENTRY RECEIVER M91 : XM
REAR POWER WINDOW SWITCH LH D83
REAR POWER WINDOW SWITCH RH D103
SUNROOF MOTOR ASSEMBLY R5 : SR
BCM (BODY CONTROL MODULE) M65 , M66 , M67
POWER WINDOW MAIN SWITCH D5 , D6
DOOR LOCK AND UNLOCK SWITCH
FRONT POWER WINDOW SWITCH (PASSENGER SIDE) D45
DOOR LOCK AND UNLOCK SWITCH
FRONT SEAT (DRIVER SIDE)
POWER SEAT SWITCH (DRIVER SIDE) *B402 : PS
VANITY MIRROR LAMP (PASSENGER SIDE) R10 : VM
VANITY MIRROR LAMP (DRIVER SIDE) R14 : VM
ROOM LAMP R15
MAP LAMP R4
LUGGAGE ROOM LAMP D155
IGNITION KEYHOLE ILLUMINATION M68
ON
OFF
DOOR
*: This connector is not shown in "Harness Layout".
JCMWM1031G


BCM (BODY CONTROL MODULE)
(M65), (M66), (M67)
61
60
21
25
44
55
43
53
REAR COMBINATION LAMP RH (TURN SIGNAL)
B59
FRONT COMBINATION LAMP RH (TURN SIGNAL)
E46
REAR COMBINATION LAMP LH (TURN SIGNAL)
B80
FRONT COMBINATION LAMP LH (TURN SIGNAL)
E27
NATS ANTENNA AMP.
M26
REAR WIPER MOTOR
D193
MOVE
STOP
BACK DOOR LOCK ASSEMBLY
D190
BACK DOOR SWITCH
OPENER ACTUATOR
JCMWM1032GB




JCMWM1033G

## Fail Safe

INFOID:0000000003049973

### REAR WIPER MOTOR PROTECTION

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

Condition of cancellation

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

### 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.

## DTC Inspection Priority Chart

INFOID:0000000003049974

| Priority | DTC |
|---|---|
| 1 | U1000: CAN COMM CIRCUIT |
| 2 | C1735: IGN CIRCUIT OPEN |
| 3 | • C1704: LOW PRESSURE FL<br>• C1705: LOW PRESSURE FR<br>• C1706: LOW PRESSURE RR<br>• C1707: LOW PRESSURE RL<br>• C1708: [NO DATA] FL<br>• C1709: [NO DATA] FR<br>• C1710: [NO DATA] RR<br>• C1711: [NO DATA] RL<br>• C1712: [CHECKSUM ERR] FL<br>• C1713: [CHECKSUM ERR] FR<br>• C1714: [CHECKSUM ERR] RR<br>• C1715: [CHECKSUM ERR] RL<br>• C1716: [PRESS DATA ERR] FL<br>• C1717: [PRESS DATA ERR] FR<br>• C1718: [PRESS DATA ERR] RR<br>• C1719: [PRESS DATA ERR] RL<br>• C1720: [CODE ERR] FL<br>• C1721: [CODE ERR] FR<br>• C1722: [CODE ERR] RR<br>• C1723: [CODE ERR] RL<br>• C1724: [BATT VOLT LOW] FL<br>• C1725: [BATT VOLT LOW] FR<br>• C1726: [BATT VOLT LOW] RR<br>• C1727: [BATT VOLT LOW] RL<br>• C1729: VHCL SPEED SIG ERR |

## DTC Index

INFOID:0000000003049975

**NOTE:**
Details of time display
- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.
- 1 - 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch OFF → ON after returning to the normal condition if the malfunction is detected again.

| DTC | Tire pressure monitor warning lamp ON | Reference |
|---|---|---|
| U1000: CAN COMM CIRCUIT | — | BCS-35 |
| C1704: LOW PRESSURE FL | × | WT-14 |
| C1705: LOW PRESSURE FR | × | |
| C1706: LOW PRESSURE RR | × | |
| C1707: LOW PRESSURE RL | × | |

| DTC | Tire pressure monitor warning lamp ON | Reference |
|---|---|---|
| C1708: [NO DATA] FL | × | WT-16 |
| C1709: [NO DATA] FR | × | |
| C1710: [NO DATA] RR | × | |
| C1711: [NO DATA] RL | × | |
| C1712: [CHECKSUM ERR] FL | × | WT-19 |
| C1713: [CHECKSUM ERR] FR | × | |
| C1714: [CHECKSUM ERR] RR | × | |
| C1715: [CHECKSUM ERR] RL | × | |
| C1716: [PRESS DATA ERR] FL | × | WT-22 |
| C1717: [PRESS DATA ERR] FR | × | |
| C1718: [PRESS DATA ERR] RR | × | |
| C1719: [PRESS DATA ERR] RL | × | |
| C1720: [CODE ERR] FL | × | WT-24 |
| C1721: [CODE ERR] FR | × | |
| C1722: [CODE ERR] RR | × | |
| C1723: [CODE ERR] RL | × | |
| C1724: [BATT VOLT LOW] FL | — | WT-27 |
| C1725: [BATT VOLT LOW] FR | — | |
| C1726: [BATT VOLT LOW] RR | — | |
| C1727: [BATT VOLT LOW] RL | — | |
| C1729: VHCL SPEED SIG ERR | × | WT-30 |
| C1735: IGN CIRCUIT OPEN | — | BCS-36 |

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

## Reference Value

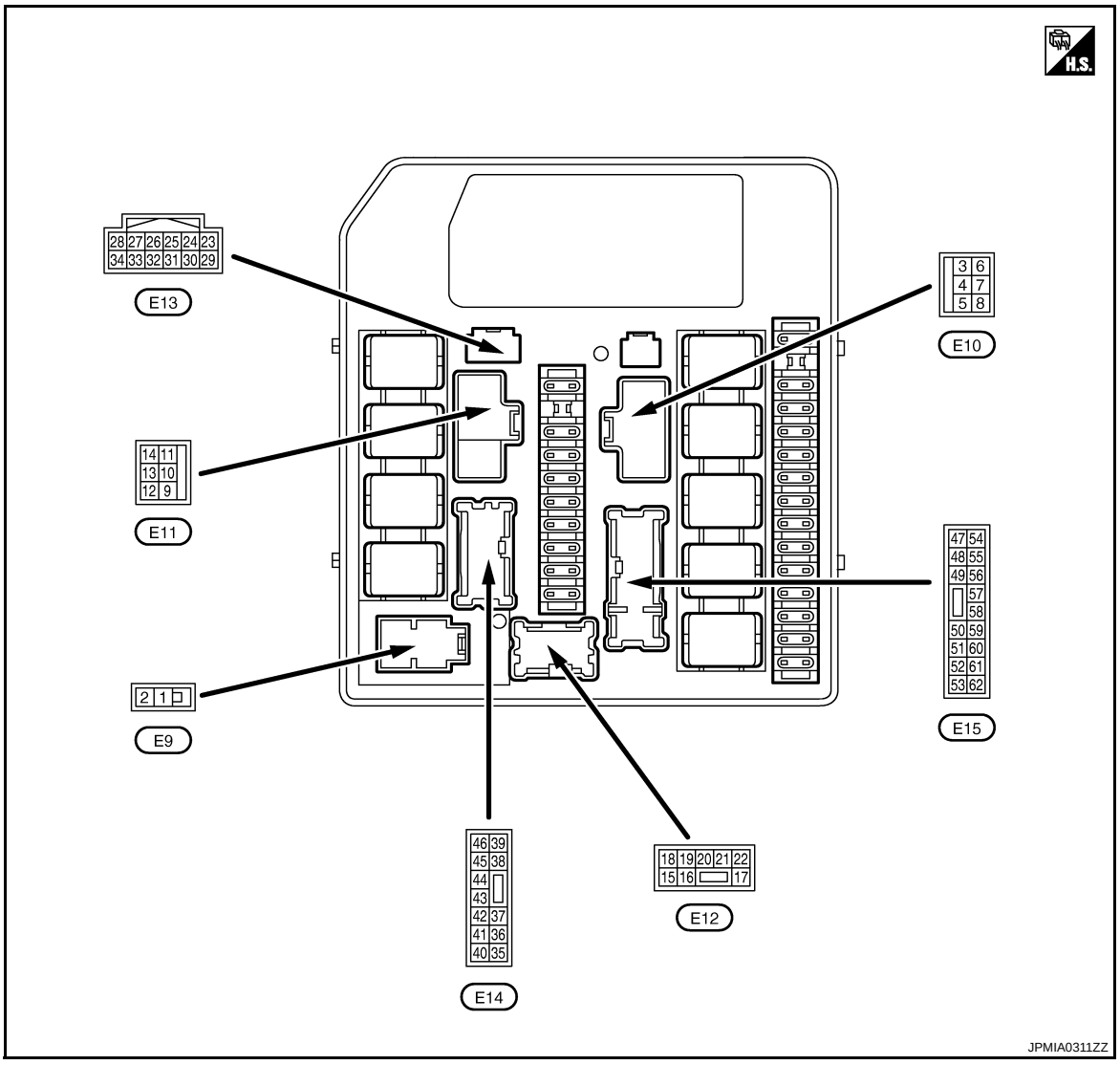
INFOID:0000000003049977

### VALUES ON THE DIAGNOSIS TOOL

| Monitor Item | Condition | | Value/Status |
|---|---|---|---|
| MOTOR FAN REQ | Engine idle speed | Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc. | 1 - 4 |
| AC COMP REQ | Engine running | A/C switch OFF | Off |
| | | A/C switch ON (Compressor is operating) | On |
| TAIL&CLR REQ | Lighting switch OFF | | Off |
| | Lighting switch 1ST or 2ND | | On |
| HL LO REQ | Lighting switch OFF | | Off |
| | Lighting switch 2ND | | On |
| HL HI REQ | Lighting switch OFF | | Off |
| | Lighting switch HI (Light is illuminated) | | On |
| FR FOG REQ<br>**NOTE:**<br>This item is monitored only on the vehicle with front fog lamp. | Lighting switch 2ND | Front fog lamp switch OFF | Off |
| | | Front fog lamp switch ON | On |
| FR WIP REQ | Ignition switch ON | Front wiper switch OFF | Stop |
| | | Front wiper switch INT | 1LOW |
| | | Front wiper switch LO | Low |
| | | Front wiper switch HI | Hi |
| WIP AUTO STOP | Ignition switch ON | Front wiper stop position | STOP P |
| | | Any position other than front wiper stop position | ACT P |
| WIP PROT | Ignition switch ON | Front wiper operates normally | Off |
| | | Front wiper stops at fail-safe operation | BLOCK |
| ST RLY REQ<br>**NOTE:**<br>Vehicle without Intelligent Key system indicates only “ON”, and it does not change. | When Intelligent Key is outside the vehicle, and the push switch is pushed | | Off |
| | When Intelligent Key is inside the vehicle, and the push switch is pushed | | On |
| IGN RLY | Ignition switch OFF or ACC | | Off |
| | Ignition switch ON | | On |
| RR DEF REQ | Ignition switch ON | Rear window defogger switch OFF | Off |
| | | Rear window defogger switch ON (Rear window defogger is operating) | On |
| OIL P SW | Ignition switch OFF, ACC or engine running | | Open |
| | Ignition switch ON | | Close |
| DTRL REQ<br>**NOTE:**<br>This item is monitored only on the vehicle with the daytime running light system. | Daytime running light system is not operated. | | Off |
| | Daytime running light system is operated. | | On |

| Monitor Item | Condition | Value/Status |
|---|---|---|
| HOOD SW<br>**NOTE:**<br>This item is monitored only the vehicle for Mexico. | Close the hood | Off |
| | Open the hood | On |
| THFT HRN REQ | Not operation | Off |
| | Horn is activated with vehicle security system or panic alarm system. | On |
| HORN CHIRP | Not operation | Off |
| | Horn is activated with key fob LOCK operation. | On |

TERMINAL LAYOUT




PHYSICAL VALUES

| Terminal No. (Wire color) | | Description | | Condition | Value (Approx.) |
|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | |
| 1 (R) | Ground | Battery power supply | Input | Ignition switch OFF | Battery voltage |
| 2 (G) | Ground | Battery power supply | Input | Ignition switch OFF | Battery voltage |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 3 (O) | Ground | Starter relay power supply | Output | When engine is clanking | | Battery voltage |
| | | | | When engine is not clanking | | 0 V |
| 4 (W) | Ground | Cooling fan relay-1 power supply | Output | Cooling fan operation | OFF | 0 V |
| | | | | | MID or HI | Battery voltage |
| 5 (R) | Ground | Ignition switch START | Input | Ignition switch OFF, ACC or ON | | 0 V |
| | | | | Ignition switch START | | Battery voltage |
| 6 (BR) | Ground | Battery power supply (Cooling fan relay) | Input | Ignition switch OFF | | Battery voltage |
| 7 (P) | Ground | Cooling fan motor-2 (HI) ground | — | Cooling fan operation | OFF | Battery voltage |
| | | | | | HI | 0 V |
| 8 (G) | Ground | Cooling fan relay-2 power supply | Output | Cooling fan operation | OFF | 0 V |
| | | | | | HI | Battery voltage |
| 11 (B) | Ground | Ground | — | Ignition switch ON | | 0 V |
| 12 (O) | Ground | Rear window defogger relay power supply | Output | Ignition switch ON | Rear window defogger switch OFF | 0 V |
| | | | | | Rear window defogger switch ON | Battery voltage |
| 15*1 (SB) | Ground | Daytime running light relay control | Output | Daytime running light system | Not operated | Battery voltage |
| | | | | | Operated | 0 V |
| 16*2 (Y) | Ground | Front fog lamp (LH) | Output | Lighting switch 2ND | Front fog lamp switch OFF | 0 V |
| | | | | | Front fog lamp switch ON | Battery voltage |
| 17*2 (W) | Ground | Front fog lamp (RH) | Output | Lighting switch 2ND | Front fog lamp switch OFF | 0 V |
| | | | | | Front fog lamp switch ON | Battery voltage |
| 18 (L) | Ground | Headlamp LO (LH) | Output | Lighting switch OFF | | 0 V |
| | | | | Lighting switch 2ND | | Battery voltage |
| 20 (SB) | Ground | Headlamp LO (RH) | Output | Lighting switch OFF | | 0 V |
| | | | | Lighting switch 2ND | | Battery voltage |
| 21 (G) | Ground | Headlamp HI (LH) | Output | Lighting switch OFF | | 0 V |
| | | | | • Lighting switch 2ND and HI<br>• Lighting switch PASS | | Battery voltage |
| 22 (LG) | Ground | Headlamp HI (RH) | Output | Lighting switch OFF | | 0 V |
| | | | | • Lighting switch 2ND and HI<br>• Lighting switch PASS | | Battery voltage |
| 23 (W) | Ground | Oil pressure switch | Input | Ignition switch ON | Engine stopped | 0 V |
| | | | | | Engine running | Battery voltage |
| 24 (Y) | Ground | Front wiper auto stop | Input | Ignition switch ON | Front wiper stop position | 0 V |
| | | | | | Any position other than front wiper stop position | Battery voltage |
| 25 (B) | Ground | Ground | — | Ignition switch ON | | 0 V |
| 26 (P) | — | CAN-L | Input/ Output | — | | — |
| 27 (L) | — | CAN-H | Input/ Output | — | | — |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 31 (LG) | Ground | Cooling fan relay-4 control | Output | Cooling fan operation | OFF | Battery voltage |
| | | | | | LO | 0 - 1.0 V |
| 32 (V) | Ground | ETC relay control | Input | After passing approximately 2 seconds or more after turning the ignition switch from ON to OFF | | Battery voltage |
| | | | | • Ignition switch ON<br>• For approximately 2 seconds after turning ignition switch from ON to OFF | | 0 - 1.0 V |
| 33 (GR) | Ground | Fuel pump relay control | Input | Ignition switch OFF | | 0 V |
| | | | | Ignition switch ON | Engine stopped | Battery voltage |
| | | | | | Engine running | 0.8 V |
| 34*3 (W) | Ground | Hood switch | Input | Close the hood | | Battery voltage |
| | | | | Open the hood | | 0 V |
| 37 (R) | Ground | Tail, license plate lamps and illuminations | Output | Lighting switch OFF | | 0 V |
| | | | | Lighting switch 1ST | | Battery voltage |
| 38 (R) | Ground | Parking lamp (LH) | Output | Lighting switch OFF | | 0 V |
| | | | | Lighting switch 1ST | | Battery voltage |
| 39 (GR) | Ground | Parking lamp (RH) | Output | Lighting switch OFF | | 0 V |
| | | | | Lighting switch 1ST | | Battery voltage |
| 40 (BR) | Ground | Ignition relay power supply | Output | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 41 (O) | Ground | Ignition relay power supply | Output | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 42 (L) | Ground | Front wiper HI | Output | Ignition switch ON | Front wiper switch OFF | 0 V |
| | | | | | Front wiper switch HI | Battery voltage |
| 43 (G) | Ground | Front wiper LO | Output | Ignition switch ON | Front wiper switch OFF | 0 V |
| | | | | | Front wiper switch LO | Battery voltage |
| 45 (Y) | Ground | Starter relay power supply | Input | Ignition switch ON | Selector lever “P” or “N” | Battery voltage |
| | | | | | Selector lever in any position other than “P” or “N” | 0 V |
| 46 (W) | Ground | Fuel pump relay power supply | Output | • Ignition switch OFF or ACC<br>• After passing approximately 1 second or more after turning the ignition switch ON | | 0 V |
| | | | | • For approximately 1 second after turning the ignition switch ON<br>• Engine running | | Battery voltage |
| 47 (BR) | Ground | ECM relay power supply | Output | After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF | | 0 V |
| | | | | • Ignition switch ON<br>• For approximately 4 seconds after turning ignition switch from ON to OFF | | Battery voltage |
| 48 (R) | Ground | ECM relay power supply | Output | After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF | | 0 V |
| | | | | • Ignition switch ON<br>• For approximately 4 seconds after turning ignition switch from ON to OFF | | Battery voltage |
| 50 (G) | Ground | Cooling fan relay-5 control | Output | Cooling fan operation | OFF | Battery voltage |
| | | | | | MID or HI | 0 - 1.0 V |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 51 (L) | Ground | ECM relay control | Output | After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF | | Battery voltage |
| | | | | • Ignition switch ON<br>• For approximately 4 seconds after turning ignition switch from ON to OFF | | 0 - 1.0 V |
| 52 (P) | Ground | ETC relay power supply | Output | After passing approximately 2 seconds or more after turning the ignition switch from ON to OFF | | 0 V |
| | | | | • Ignition switch ON<br>• For approximately 2 seconds after turning ignition switch from ON to OFF | | Battery voltage |
| 55 (O) | Ground | A/C relay power supply | Output | Engine stopped | | 0 V |
| | | | | Engine running | A/C switch OFF | 0 V |
| | | | | | A/C switch ON (A/C compressor is operating) | Battery voltage |
| 56 (L) | Ground | Ignition switch ON | Input | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 57 (V) | Ground | Horn relay control | Output | The horn is not activated | | Battery voltage |
| | | | | The horn is activated | | 0 V |
| 58 (LG) | Ground | Ignition relay power supply | Output | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 59 (BR) | Ground | Ignition relay power supply | Output | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 60 (SB) | Ground | Ignition relay power supply | Output | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 61 (R) | Ground | ECM power supply | Output | Ignition switch OFF | | Battery voltage |

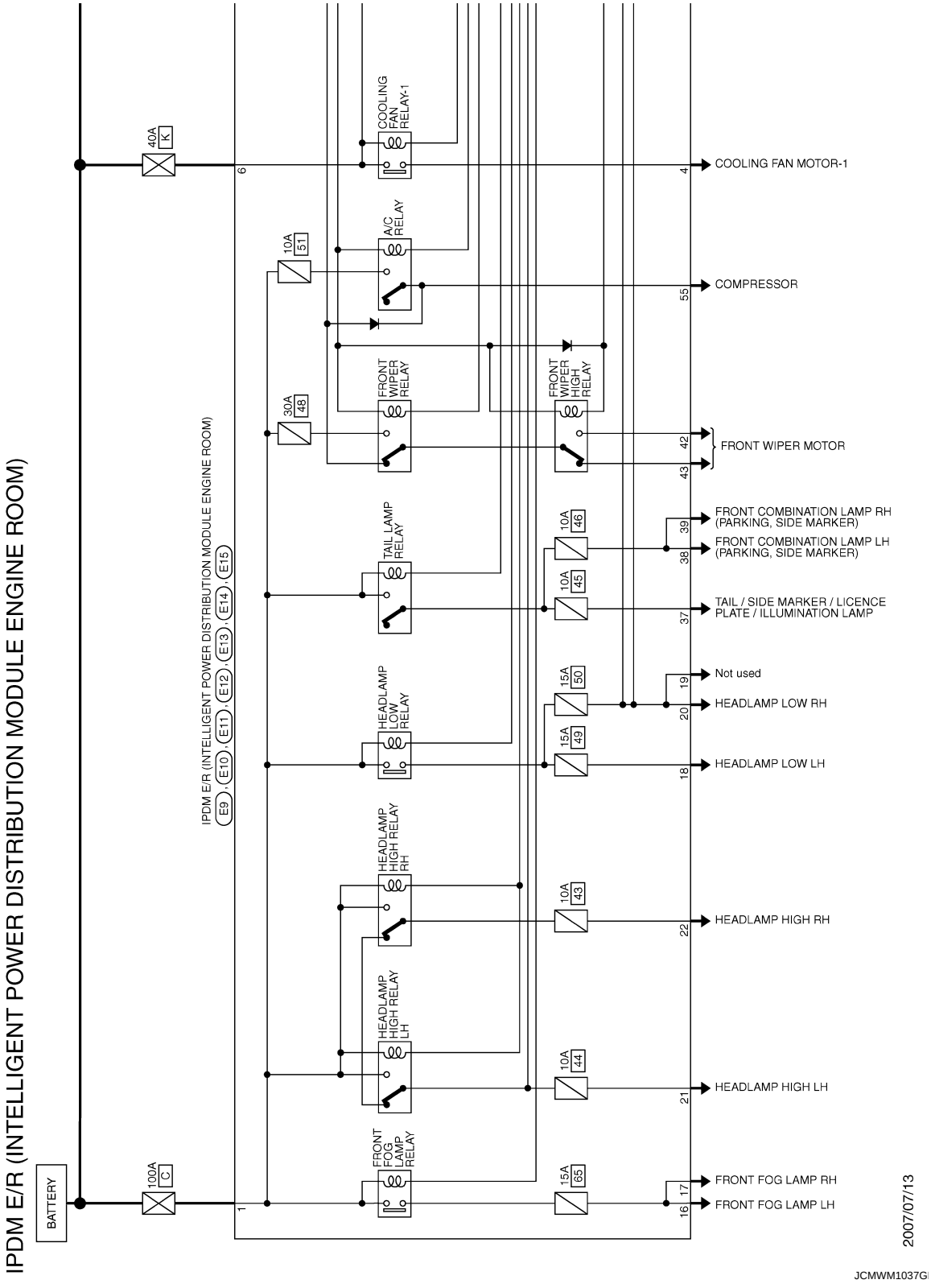
*1: With daytime running light system

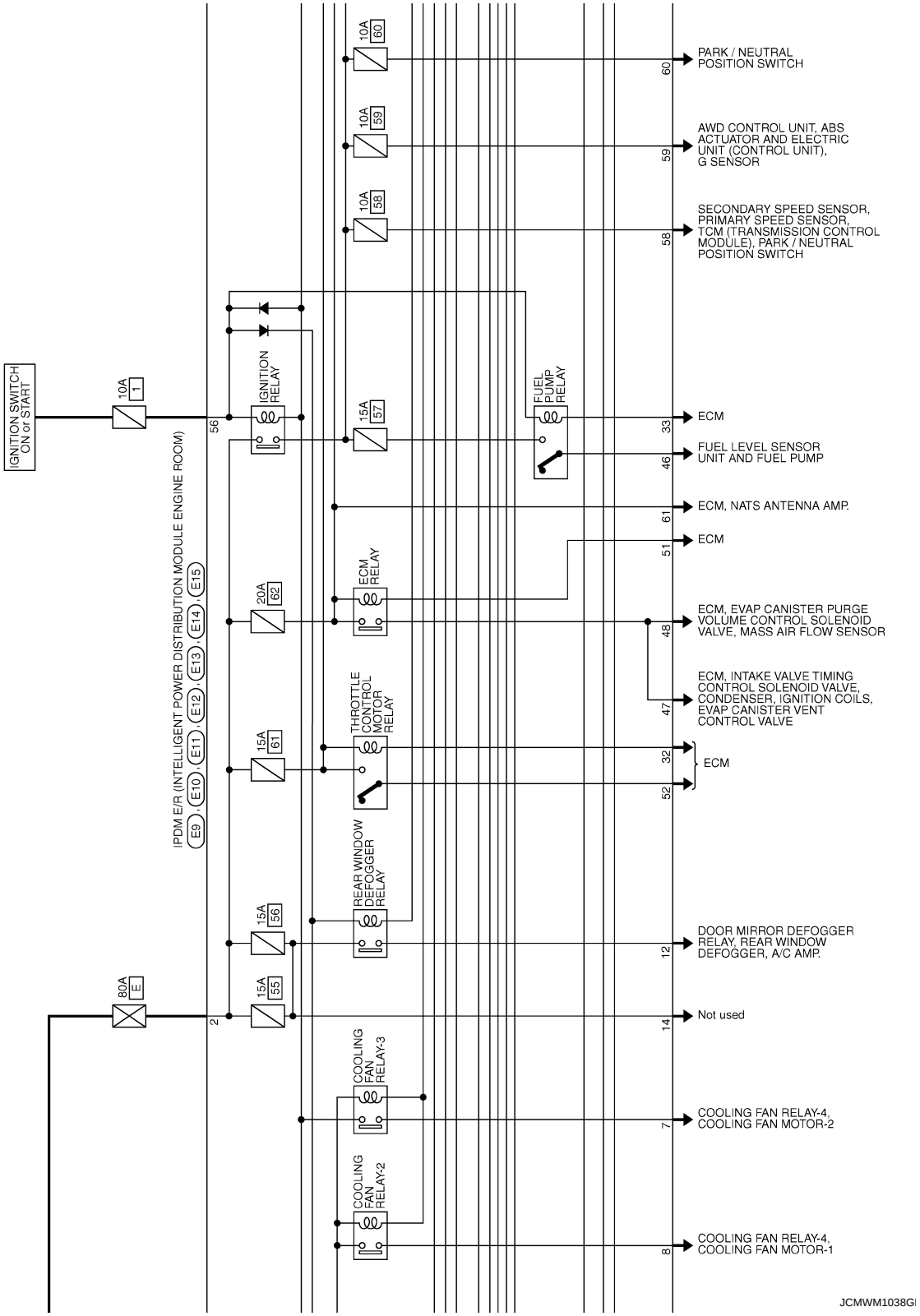
*2: With front fog lamp system

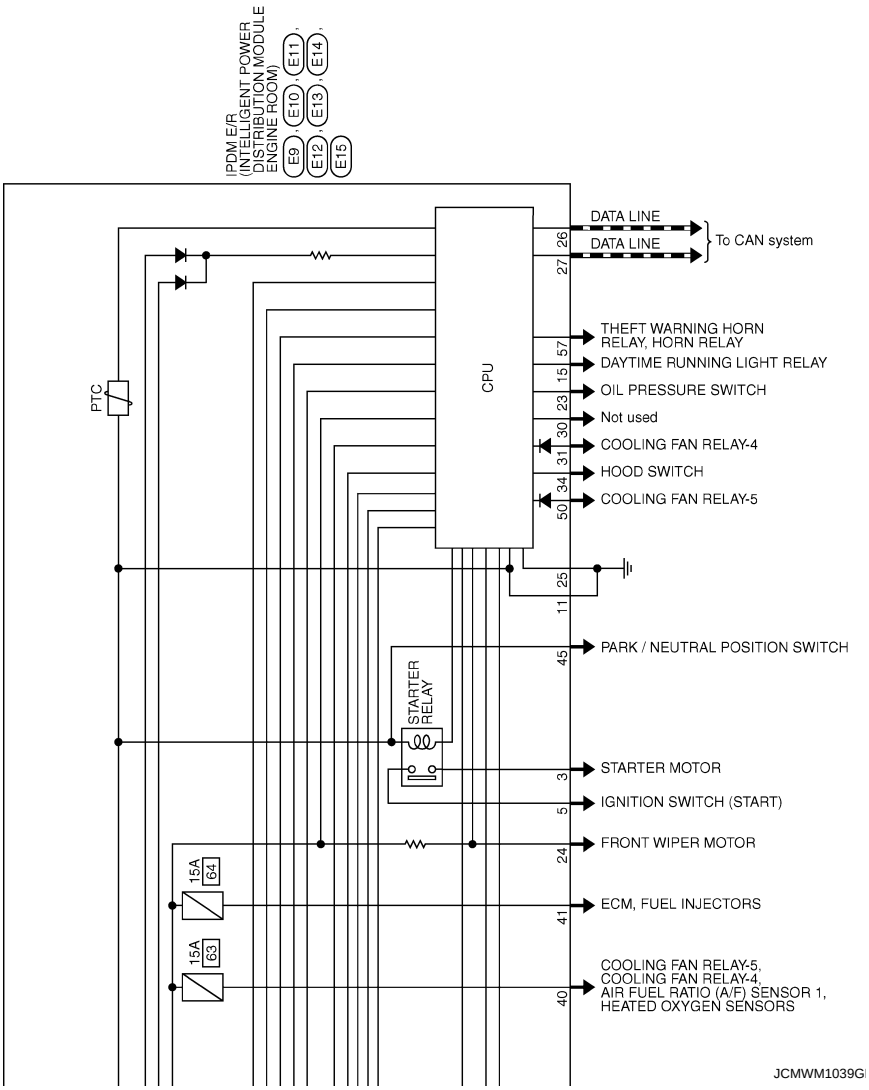
*3: For Mexico

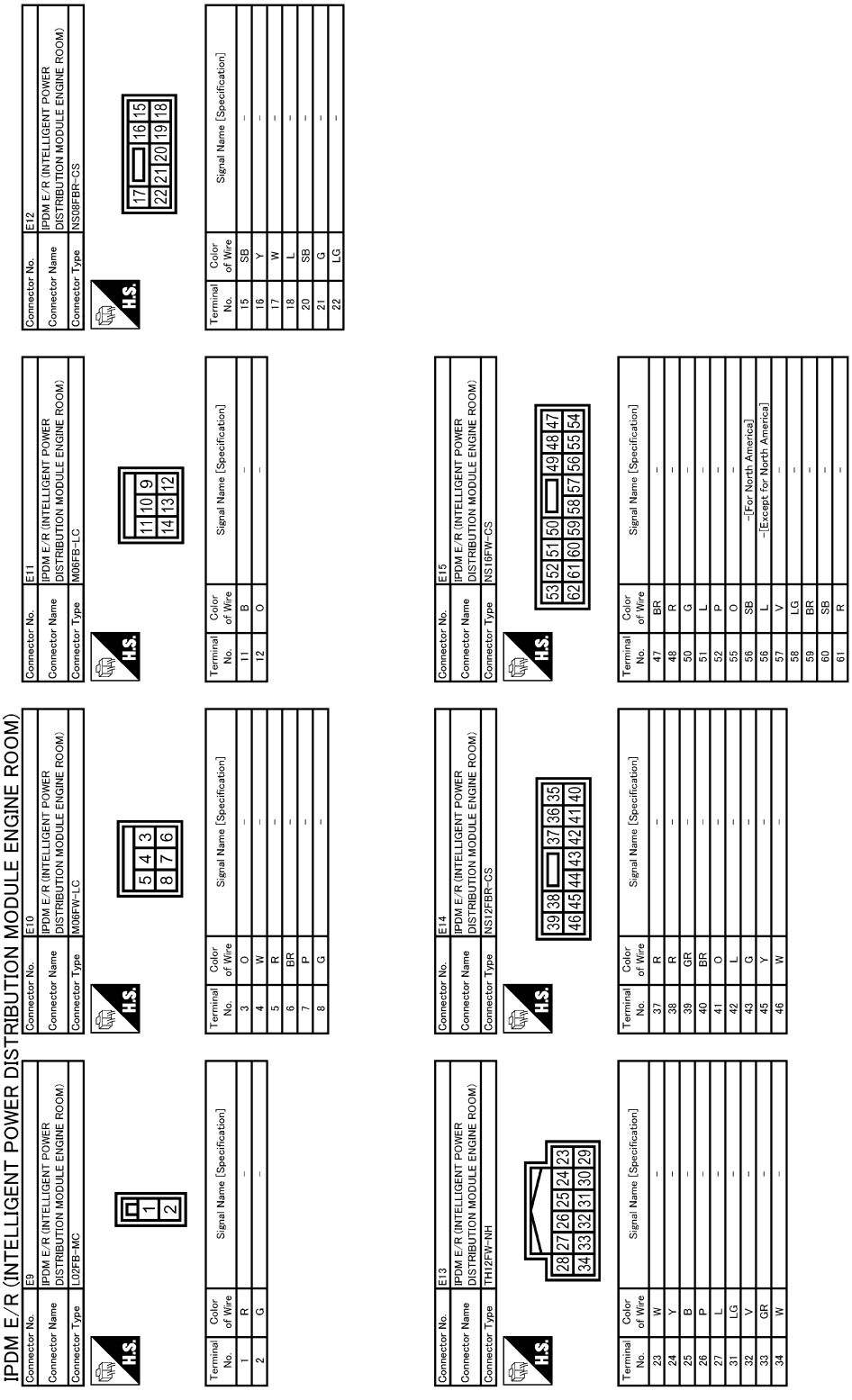
## Wiring Diagram - IPDM E/R -

INFOID:0000000003049978




IGNITION SWITCH ON or START
10A 1
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
(E9), (E10), (E11), (E12), (E13), (E14), (E15)
56
IGNITION RELAY
80A E
2
10A 60
10A 59
10A 58
15A 57
20A 62
15A 61
15A 56
15A 55
ECM RELAY
THROTTLE CONTROL MOTOR RELAY
REAR WINDOW DEFOGGER RELAY
COOLING FAN RELAY-3
COOLING FAN RELAY-2
FUEL PUMP RELAY
60 PARK / NEUTRAL POSITION SWITCH
59 AWD CONTROL UNIT, ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT), G SENSOR
58 SECONDARY SPEED SENSOR, PRIMARY SPEED SENSOR, TCM (TRANSMISSION CONTROL MODULE), PARK / NEUTRAL POSITION SWITCH
33 ECM
46 FUEL LEVEL SENSOR UNIT AND FUEL PUMP
61 ECM, NATS ANTENNA AMP.
51 ECM
48 ECM, EVAP CANISTER PURGE VOLUME CONTROL SOLENOID VALVE, MASS AIR FLOW SENSOR
47 ECM, INTAKE VALVE TIMING CONTROL SOLENOID VALVE, CONDENSER, IGNITION COILS, EVAP CANISTER VENT CONTROL VALVE
32
52
ECM
12 DOOR MIRROR DEFOGGER RELAY, REAR WINDOW DEFOGGER, A/C AMP.
14 Not used
7 COOLING FAN RELAY-4, COOLING FAN MOTOR-2
8 COOLING FAN RELAY-4, COOLING FAN MOTOR-1
JCMWM1038GI


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E9, E10, E11, E12, E13, E14, E15
CPU
PTC
DATA LINE
DATA LINE
To CAN system
26
27
THEFT WARNING HORN RELAY, HORN RELAY
DAYTIME RUNNING LIGHT RELAY
OIL PRESSURE SWITCH
Not used
COOLING FAN RELAY-4
HOOD SWITCH
COOLING FAN RELAY-5
57
15
23
30
31
34
50
25
11
PARK / NEUTRAL POSITION SWITCH
45
STARTER RELAY
STARTER MOTOR
IGNITION SWITCH (START)
3
5
FRONT WIPER MOTOR
24
15A 64
ECM, FUEL INJECTORS
41
15A 63
COOLING FAN RELAY-5, COOLING FAN RELAY-4, AIR FUEL RATIO (A/F) SENSOR 1, HEATED OXYGEN SENSORS
40
JCMWM1039GB




JCMWM1040GI

## Fail Safe

INFOID:0000000003049979

### CAN COMMUNICATION CONTROL

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

If no CAN communication is available with ECM

| Control part | Fail-safe in operation |
|---|---|
| Cooling fan | • The cooling fan relay-1, the cooling fan relay-2, the cooling fan relay-3 and the cooling fan relay-5 turn ON when the ignition switch is turned ON<br>• The cooling fan relay-1, the cooling fan relay-2, the cooling fan relay-3 and the cooling fan relay-5 turn OFF when the ignition switch is turned OFF<br>• Cooling fan relay-4 OFF |
| A/C compressor | A/C relay OFF |

If no CAN communication is available with BCM

| Control part | Fail-safe in operation |
|---|---|
| Headlamp | • The headlamp low relay turns ON when the ignition switch is turned ON<br>• The headlamp low relay turns OFF when the ignition switch is turned OFF<br>• Headlamp high relay OFF |
| • Parking lamps<br>• License plate lamps<br>• Tail lamps<br>• Illuminations | • The tail lamp relay and the daytime running light relay* turn ON when the ignition switch is turned ON<br>• The tail lamp relay and the daytime running light relay* turn OFF 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.<br>• The front 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 |
| Starter motor | Starter relay OFF |
| Rear window defogger | Rear window defogger relay OFF |
| Horn | Horn relay OFF |

**NOTE:**

*: With daytime running light system

## IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors status of ignition relay by the voltage at ignition relay contact circuit inside it.
- IPDM E/R judges that the ignition relay is error, if status of the ignition relay and ignition switch ON signal (CAN).
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay and daytime running light relay* for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

| Detection | | IPDM E/R judgment | Operation |
|---|---|---|---|
| Ignition switch ON signal | Ignition relay | | |
| ON | ON | Ignition relay normal | — |
| OFF | OFF | Ignition relay normal | — |
| OFF | ON | Ignition relay ON stuck | Turn on the tail lamp relay and daytime running light relay* for 10 minutes |
| ON | OFF | Ignition relay OFF stuck | Detect DTC "B2099: IGN RELAY OFF" |

**NOTE:**

*: With daytime running light system

## FRONT WIPER CONTROL

IPDM E/R detects the front wiper stop position with the front wiper auto stop signal.
When the front wiper auto stop signal is in the conditions listed below, IPDM E/R repeats a front wiper 10 seconds operation and 20 seconds stop five times.

| Ignition switch | Front wiper switch | Front wiper auto stop signal |
|---|---|---|
| ON | OFF | The front wiper auto stop signal (stop position) cannot be input for 10 seconds. |
| | ON | The front wiper auto stop 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.

## DTC Index

INFOID:0000000003049980

| CONSULT display | Fail-safe | Timing[NOTE] | | Reference page |
|---|---|---|---|---|
| No DTC is detected. further testing may be required. | — | — | — | — |
| U1000: CAN COMM CIRCUIT | × | CRNT | PAST | PCS-13 |
| B2099: IGN RELAY OFF | — | CRNT | PAST | PCS-14 |

**NOTE:**
The details of time display are as follows.

- CRNT: The malfunctions that are detected now.
- PAST: The number is indicated when it is normal at present and a malfunction was detected in the past.

# SYMPTOM DIAGNOSIS

## EXTERIOR LIGHTING SYSTEM SYMPTOMS

### Symptom Table

INFOID:0000000001722042

**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<br>• Halogen bulb (HI)<br>• Harness between IPDM E/R and the headlamp high<br>• IPDM E/R | Headlamp (HI) circuit<br>Refer to EXL-30. |
| | Both sides | **Symptom diagnosis**<br>"BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON"<br>Refer to EXL-109. | |
| Headlamp (HI) is not turned OFF. | When ignition switch is turned ON. | | |
| | When ignition switch is turned OFF. | IPDM E/R | — |
| High beam indicator lamp is not turned ON.<br>[The headlamp (HI) is turned ON.] | | Combination meter | • Combination meter<br>Data monitor "HI-BEAM IND"<br>• BCM (HEAD LAMP)<br>Active test "HEADLAMP" |
| Headlamp (LO) is not turned ON. | One side | • Fuse<br>• Xenon bulb (LO)<br>• Harness between IPDM E/R and the headlamp low<br>• IPDM E/R | Headlamp (LO) circuit<br>Refer to EXL-32. |
| | Both sides | **Symptom diagnosis**<br>"BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON"<br>Refer to EXL-110. | |
| Headlamp (LO) is not turned OFF. | When ignition switch is turned ON. | | |
| | When ignition switch is turned OFF. | IPDM E/R | — |
| Front fog lamp is not turned ON. | One side | • Front fog lamp bulb<br>• Harness between IPDM E/R and the front fog lamp<br>• Front fog lamp<br>• IPDM E/R | Front fog lamp circuit<br>Refer to EXL-36. |
| | Both sides | **Symptom diagnosis**<br>"BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON"<br>Refer to EXL-112. | |
| Front fog lamp is not turned ON. | | | |
| Parking lamp is not turned ON. | | • Parking lamp bulb<br>• Harness between IPDM E/R and the front combination lamp<br>• Front combination lamp<br>• IPDM E/R | Parking lamp circuit<br>Refer to EXL-38. |
| Tail lamp is not turned ON. | | • Tail lamp bulb<br>• Harness between IPDM E/R and the rear combination lamp<br>• Rear combination lamp | Tail lamp circuit<br>Refer to EXL-44. |
| License plate lamp is not turned ON. | | • License plate lamp bulb<br>• Harness between IPDM E/R and the license plate lamp<br>• License plate lamp | License plate lamp circuit<br>Refer to EXL-46. |

| Symptom | | Possible cause | Inspection item |
|---|---|---|---|
| Tail lamp and the license plate lamp are not turned ON. | | • Fuse<br>• Harness between IPDM E/R and the rear combination lamp<br>• IPDM E/R | License plate lamp circuit<br>Refer to EXL-46. |
| • Parking lamp, the tail lamp and the license plate lamp are not turned ON.<br>• Parking lamp, the tail lamp and the license plate lamp are not turned OFF.<br>(Each illumination is turned ON/OFF.) | | **Symptom diagnosis**<br>“PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON”<br>Refer to EXL-111. | |
| Tail lamp indicator is not turned ON.<br>(Parking, tail lamps are turned ON.) | | Combination meter | • Combination meter<br>Data monitor “LIGHT IND”<br>• BCM (HEAD LAMP)<br>Active test “TAIL LAMP” |
| Turn signal lamp does not blink. | Indicator lamp is normal.<br>(Applicable side performs the high flasher activation.) | • Harness between BCM and each turn signal lamp<br>• Turn signal lamp bulb | Turn signal circuit<br>Refer to EXL-40. |
| | Indicator lamp is included. | • Combination switch<br>• Harness between the combination switch and BCM<br>• BCM | Combination switch<br>Refer toBCS-42. |
| Turn signal indicator lamp does not blink.<br>(Turn signal indicator lamp is normal.) | One side | Combination meter | — |
| | Both sides<br>(Always) | • Turn signal indicator lamp signal<br>- BCM<br>• Combination meter | • Combination meter<br>Data monitor “TURN IND”<br>• BCM (FLASHER)<br>Active test “FLASHER” |
| | Both sides<br>(Only when activating hazard warning lamp with the ignition switch OFF) | • Combination meter power supply and the ground circuit<br>• Combination meter | Combination meter<br>Power supply and the ground circuit<br>Refer to MWI-41. |
| • Hazard warning lamp does not activate.<br>• Hazard warning lamp continues activating.<br>(Turn signal is normal.) | | • Hazard switch<br>• Harness between the hazard switch and BCM<br>• BCM | Hazard switch<br>Refer to EXL-42. |

# NORMAL OPERATING CONDITION

## Description

INFOID:0000000001720630

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.

# BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

## Description

INFOID:0000000001720631

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

## Diagnosis Procedure

INFOID:0000000001720632

### 1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-66, "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

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-67, "Exploded View".

### 3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-30, "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

## Description

INFOID:0000000001720633

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

## Diagnosis Procedure

INFOID:0000000001720634

### 1.CHECK COMBINATION SWITCH

Check the combination switch. Refer to BCS-66, "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
1. Select “HL LO REQ” of IPDM E/R data monitor item.
2. With operating the lighting switch, check the monitor status.

| Monitor item | Condition | | Monitor status |
|---|---|---|---|
| HL LO REQ | Lighting switch | 2ND | On |
| | | OFF | Off |

Is the item status normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-67, "Exploded View".

### 3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-32, "Component Function Check".

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R.
NO >> Repair or replace the malfunctioning part.

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

## Description

INFOID:0000000001722049

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

## Diagnosis Procedure

INFOID:0000000001722050

### 1.CHECK FUSE

Check that the following fuse is fusing.

| Unit | Location | Fuse No. | Capacity |
|---|---|---|---|
| Parking lamp | IPDM E/R | #46 | 10 A |
| • Tail lamp<br>• License plate lamp | | #45 | 10 A |

Is the fuse fusing?

YES >> Repair the applicable circuit. And then replace the fuse.
NO >> GO TO 2.

### 2.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-66, "Symptom Table".

Is the combination switch normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

### 3.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

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

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

Is the item status normal?

YES >> GO TO 4.
NO >> Replace BCM. Refer to BCS-67, "Exploded View".

### 4.TAIL LAMP CIRCUIT INSPECTION

Check the tail lamp circuit. Refer to EXL-44, "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

## Description

INFOID:0000000001716469

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

## Diagnosis Procedure

INFOID:0000000001716470

### 1.CHECK FUSE

Check that the following fuse is fusing.

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

Is the fuse fusing?

YES >> Repair the applicable circuit. And then replace the fuse.
NO >> GO TO 2.

### 2.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-66, "Symptom Table".

Is the combination switch normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

### 3.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

CONSULT-III DATA MONITOR

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

| Monitor item | Condition | | Monitor status |
|---|---|---|---|
| FR FOG REQ | Front fog lamp switch (With lighting switch 1ST) | ON | On |
| | | OFF | Off |

Is the item status normal?

YES >> GO TO 4.
NO >> Replace BCM. Refer to BCS-67, "Exploded View".

### 4.FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-36, "Component Function Check".

Is the front fog lamp circuit normal?

YES >> Replace IPDM E/R.
NO >> Repair or replace the malfunctioning part.

# PRECAUTION

## PRECAUTIONS

### FOR USA AND CANADA

#### FOR USA AND CANADA : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000003248992

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 AIRBAG” and “SEAT BELT” of this Service Manual.

**WARNING:**

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the “SRS AIRBAG”.**
- **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.**

#### FOR USA AND CANADA : Precautions For Xenon Headlamp Service

INFOID:0000000001716471

**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.).**

### FOR MEXICO

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

INFOID:0000000003248993

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. Information necessary to service the system safely is included in the “SRS AIRBAG” and “SEAT BELT” of this Service Manual.

**WARNING:**

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**

- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the "SRS AIRBAG".**
- **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.**

## FOR MEXICO : Precautions For Xenon Headlamp Service

INFOID:0000000003248994

**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.).**

# ON-VEHICLE MAINTENANCE

## HEADLAMP AIMING ADJUSTMENT

### Description

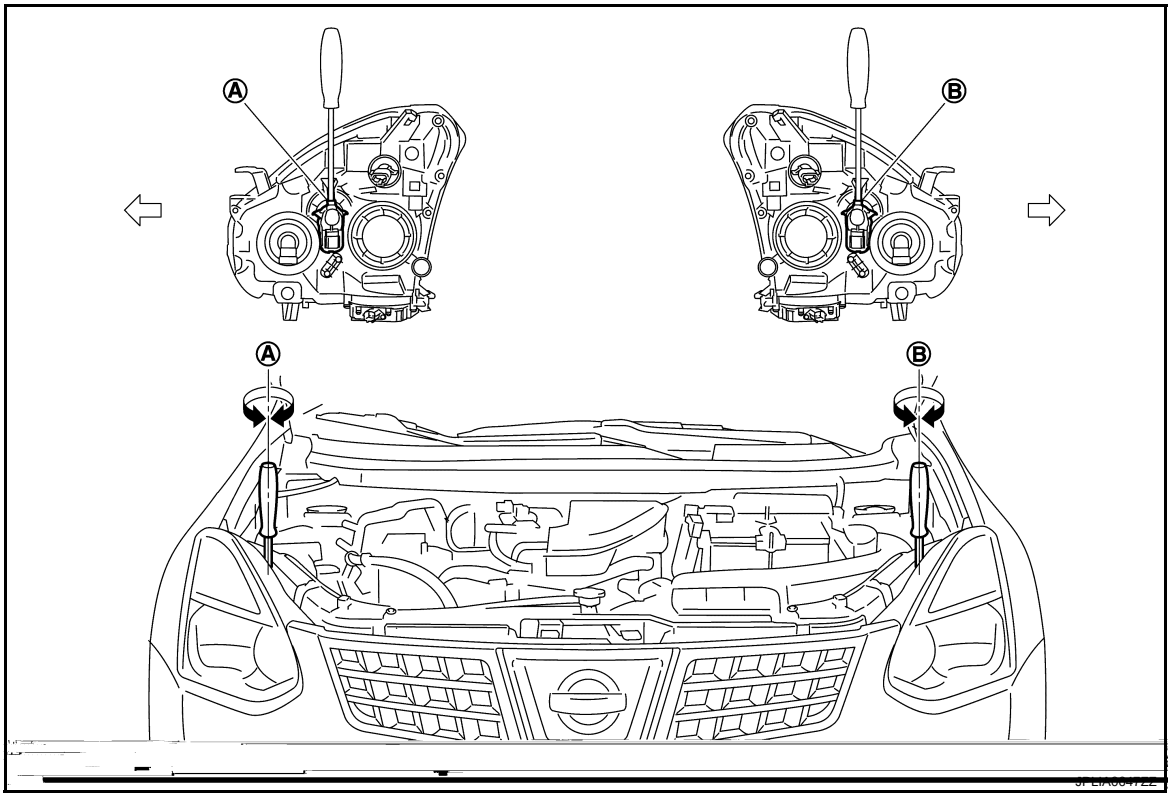
INFOID:0000000001716472

#### 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 luggage 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.
- Headlamp aiming switch sets to “0”.

#### AIMING ADJUSTMENT SCREW




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

⇦: Vehicle center

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

## Aiming Adjustment Procedure

INFOID:0000000001888445

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 bulb 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 ± 175 mm (13.78 ± 6.89 in)**

Low beam distribution on the screen

5. 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)

Side view

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

# FRONT FOG LAMP AIMING ADJUSTMENT

## Description

INFOID:0000000001716475

### PREPARATION BEFORE ADJUSTING

**NOTE:**

- For details, refer to the regulations in your own country.

Before performing aiming adjustment, check the following.

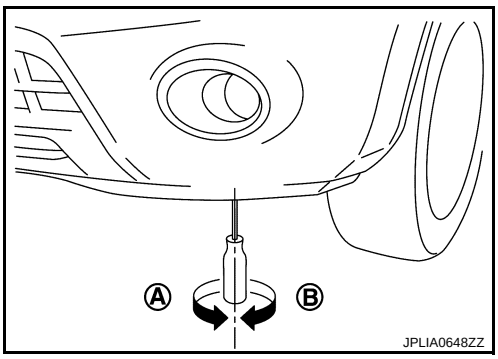
- Adjust the tire pressure to the specification.
- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the luggage room.)
  **NOTE:**
  Do not remove the temporary tire, jack and on-vehicle tool.
- Wipe out dirt on the headlamp.
  **CAUTION:**
  **Never use organic solvent (thinner, gasoline etc.)**
- Ride alone on the driver seat.

### AIMING ADJUSTMENT SCREW

- Turn the aiming adjusting screw for adjustment.

  A: UP

  B: DOWN



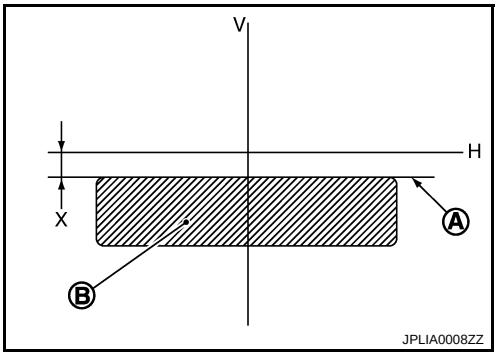

- For the position and direction of the adjusting screw, refer to the figure.
  **NOTE:**
  A screwdriver or hexagonal wrench [6 mm (0.24 in)] can be used for adjustment.

## Aiming Adjustment Procedure

INFOID:0000000001716476

1. Place the screen.
   **NOTE:**
   - Stop the vehicle facing the wall.
   - Place the board on a plain road vertically.
2. Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the front fog lamp center and the screen.
3. Start the engine. Illuminate the front fog lamp.
   **CAUTION:**
   **Never cover the lens surface with a tape etc. The lens is made of resin.**
   **NOTE:**
   Shut off the headlamp light with the board to prevent from illuminating the adjustment screen.
4. Adjust the cutoff line height (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 130 mm (5.12 in).

Front fog lamp light distribution on the screen



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

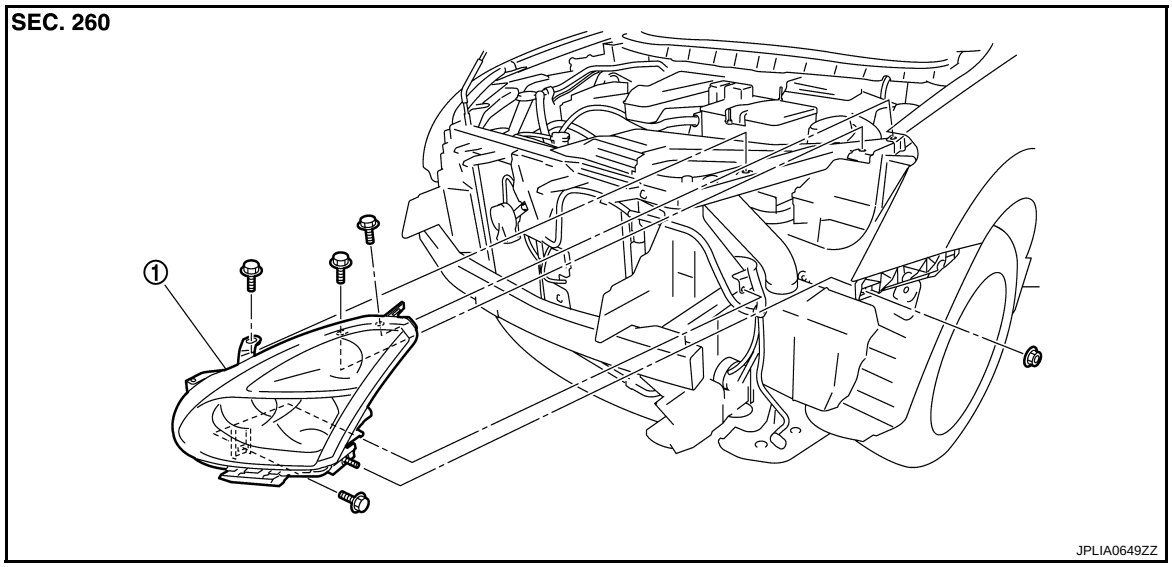
# ON-VEHICLE REPAIR

## FRONT COMBINATION LAMP

### Exploded View

INFOID:0000000001716479

REMOVAL




1. Front combination lamp

DISASSEMBLY


| | | | | | |
|---|---|---|---|---|---|
| 1. | Front turn signal/parking (side marker) lamp bulb | 2. | Front turn signal/parking (side marker) lamp bulb socket | 3. | Resin cap |
| 4. | Seal packing | 5. | Xenon bulb socket (Starter) | 6. | Xenon bulb (LO) |
| 7. | Retaining spring | 8. | Headlamp aiming motor | 9. | Seal packing |
| 10. | HID control unit (Inverter) | 11. | Halogen bulb (HI) | 12. | Headlamp housing assembly |

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

## Removal and Installation

INFOID:0000000001716480

### REMOVAL

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

1. Remove front bumper fascia. Refer to EXT-13, "Exploded View".
2. Remove the headlamp mounting bolts and nuts.
3. Remove the mounting stud of the headlamp outside from front fender.
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-115, "Description".

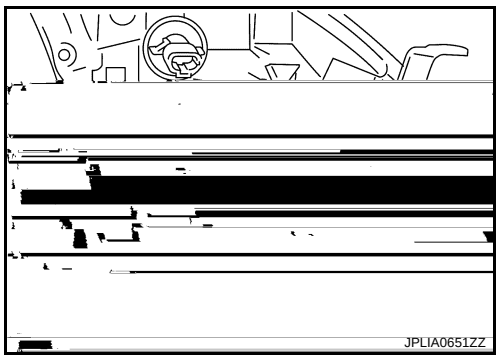
## Replacement

INFOID:0000000001716481

**CAUTION:**
- **Disconnect the battery negative terminal or the fuse.**
- **After installing the bulb, install the resin cap and the bulb socket securely for watertightness.**

### HEADLAMP BULB (LO)

1. Remove the air duct*. Keep a service area.
   *When replace a left.
2. Rotate the resin cap counterclockwise and unlock it.
3. Rotate the bulb socket counterclockwise and unlock it.
4. Unlock the retaining spring. And remove the bulb from the headlamp housing assembly.
   **CAUTION:**
   **Never break the xenon bulb ceramic tube when replacing the bulb.**




### HEADLAMP BULB (HI)

1. Rotate the bulb socket counterclockwise and unlock it.
2. Disconnect the connector. And remove the bulb.

### FRONT TURN SIGNAL/PARKING (SIDE MARKER) LAMP BULB

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

## Disassembly and Assembly

INFOID:0000000001716482

### DISASSEMBLY

1. Rotate the resin cap counterclockwise and unlock it.
2. Rotate the xenon bulb socket counterclockwise and unlock it.
3. Unlock the retaining spring. And remove the xenon bulb (LO).
4. Remove the HID control unit installation screw.
5. Remove the screw. Disconnect the connector from HID control unit.
6. Remove the xenon bulb socket from headlamp housing assembly.
7. Rotate the halogen bulb (HI) counterclockwise and unlock it.

8. Remove the halogen bulb from headlamp housing assembly.
9. Rotate the front turn signal/parking (side marker) lamp bulb socket counterclockwise and unlock it.
10. Remove the bulb from the front turn signal/parking (side marker) lamp bulb socket.

## ASSEMBLY

Assemble in the reverse order of disassembly.

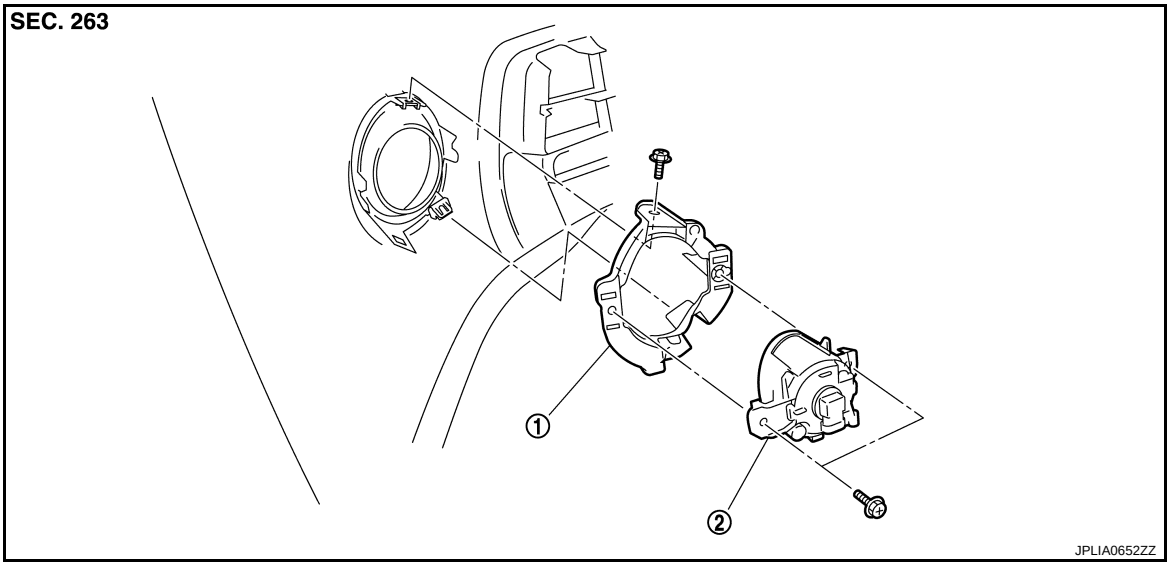
**CAUTION:**

- **Install HID control unit securely.**
- **After installing the bulb, install the resin cap and the bulb socket securely for watertightness.**

# FRONT FOG LAMP

## Exploded View

INFOID:0000000001716483




1. Front fog lamp bracket
2. Front fog lamp

## Removal and Installation

INFOID:0000000001716484

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

REMOVAL

1. Remove the front fender protector. Keep a service area. Refer to EXT-22, "Exploded View".
2. Remove the front fog lamp connector.
3. Remove the screw. And remove the front fog lamp.
4. Remove the screw. And remove the front fog lamp bracket.

INSTALLATION

Installation is the reverse order of removal.

**NOTE:**
After installation, perform aiming adjustment. Refer to EXL-118, "Description"

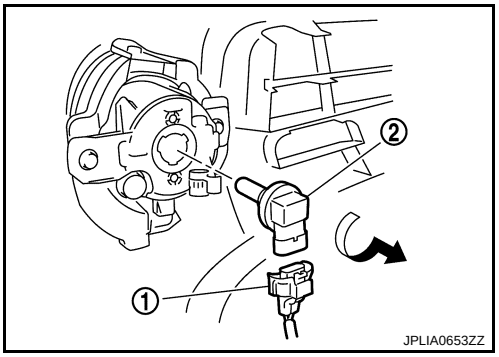
## Replacement

INFOID:0000000001716485

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

FRONT FOG LAMP BULB

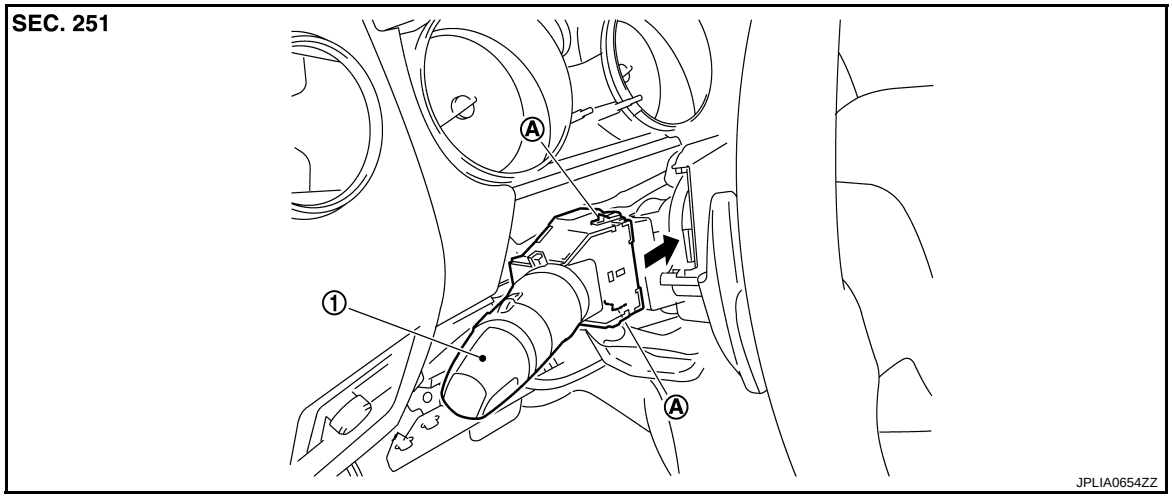
1. Remove the front fender protector. Keep the service area. Refer to EXT-22, "Exploded View".
2. Remove the front fog lamp bulb connector (1).
3. Rotate the bulb (2) counterclockwise and unlock it.



# LIGHTING & TURN SIGNAL SWITCH

## Exploded View

INFOID:0000000001716491




1. Lighting & turn signal switch
A. Pawl

## Removal and Installation

INFOID:0000000001716492

### REMOVAL

1. Remove steering column cover. Refer to IP-12, "Exploded View".
2. While pressing pawls, pull the lighting & turn signal switch. And disconnect from the switch base.

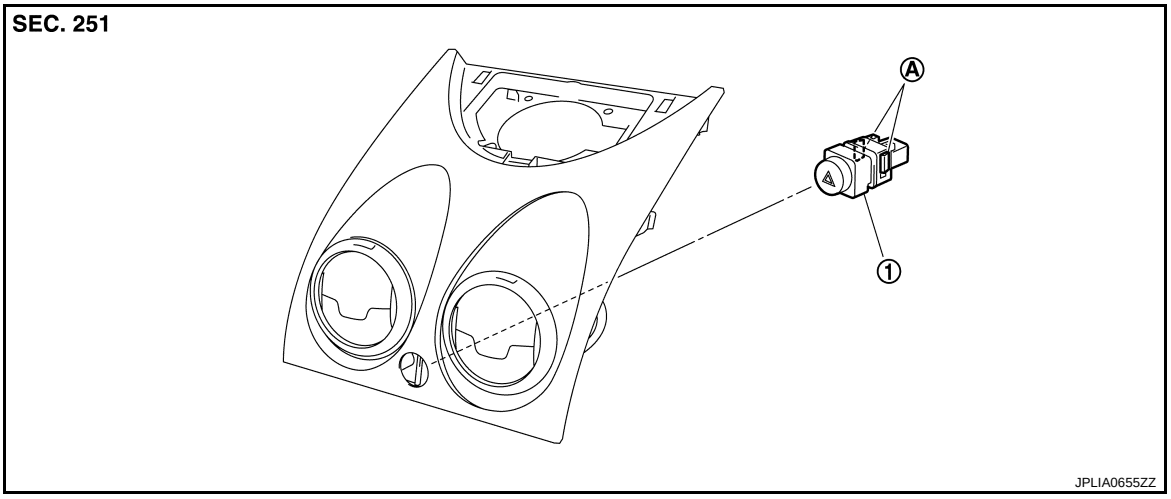
### INSTALLATION

Installation is the reverse order of removal.

# HAZARD SWITCH

## Exploded View

INFOID:0000000001716496




1. Hazard switch
A. Pawls

## Removal and Installation

INFOID:0000000001716497

### REMOVAL

1. Remove the cluster lid C. Refer to IP-12, "Exploded View".
2. Push the pawl. And remove the hazard switch.

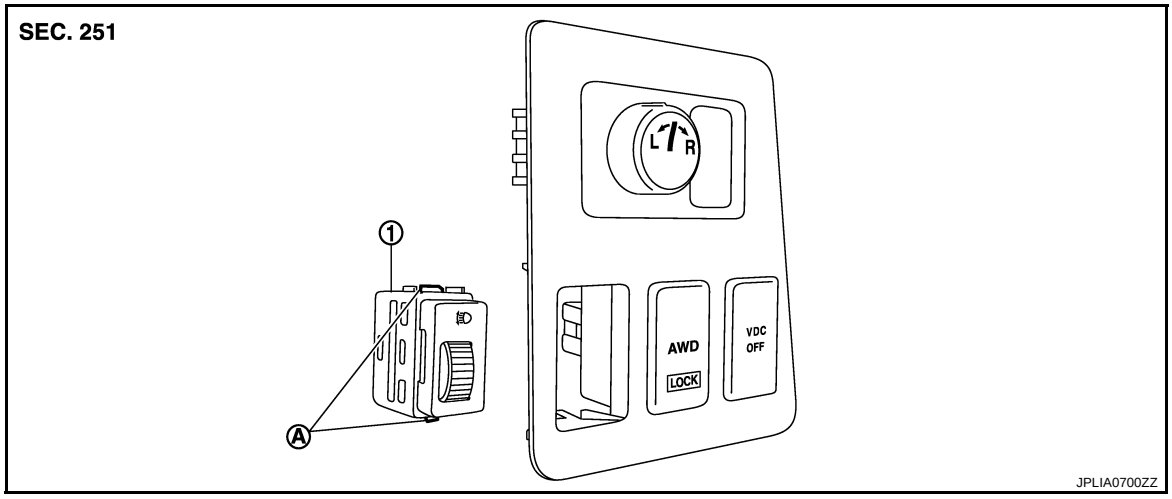
### INSTALLATION

Install in the reverse order of removal.

# HEADLAMP AIMING SWITCH

## Exploded View

INFOID:0000000001716709




1. Headlamp aiming switch

A. Pawls

## Removal and Installation

INFOID:0000000001716710

### REMOVAL

1. Remove the switch panel. Refer to IP-12, "Exploded View".
2. Widen the pawl. And remove the headlamp aiming switch.

### INSTALLATION

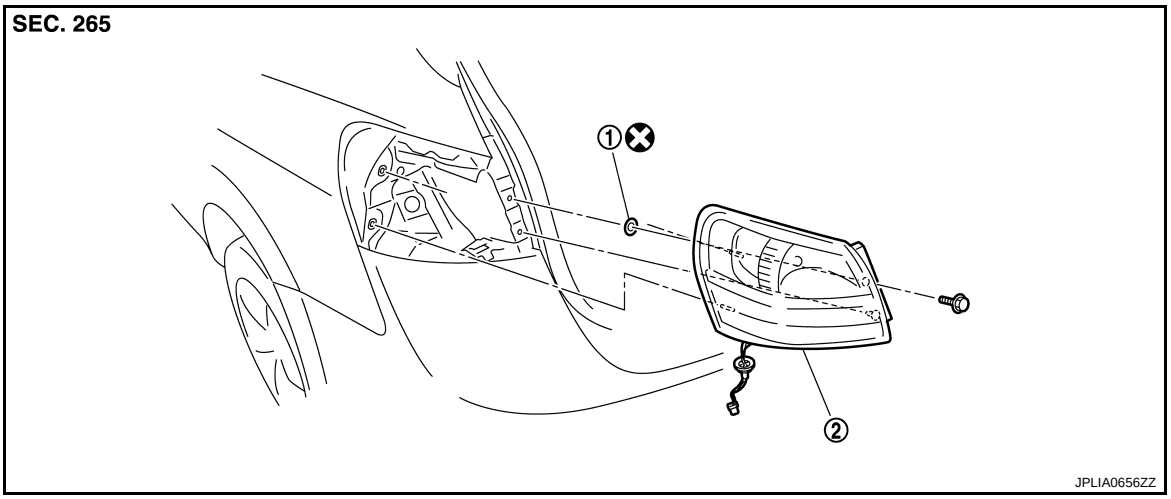
Install in the reverse order of removal.

# REAR COMBINATION LAMP

## Exploded View

INFOID:0000000001716502

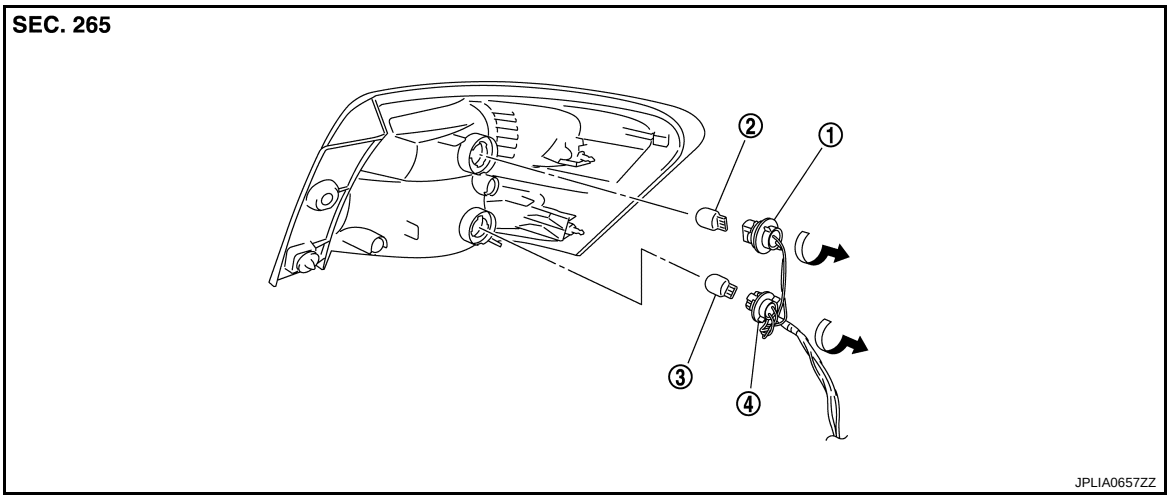
### REMOVAL




1. Seal packing
2. Rear combination lamp

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

### DISASSEMBLY




1. Rear turn signal lamp bulb socket
2. Rear turn signal lamp bulb
3. Stop/tail (side marker lamp) bulb
4. Stop/tail (side marker lamp) bulb socket

## Removal and Installation

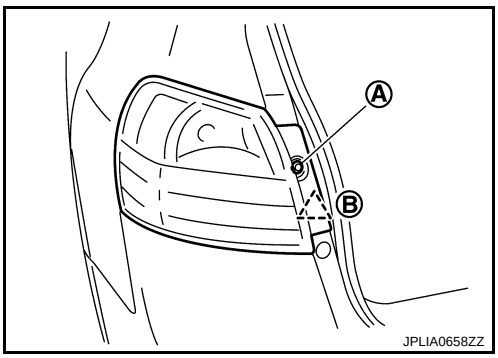
INFOID:0000000001716503

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

### REMOVAL

1. Remove the luggage side lower finisher. Refer to INT-31, "Exploded View".
2. Disconnect rear combination lamp connector.

3. Remove rear combination lamp mounting bolts (A).
4. Turn up the back door weather strip, insert an appropriate tool between rear combination lamp and vehicles and remove a clip (B).
5. Pull the rear combination lamp toward rear of the vehicle. Remove the rear combination lamp.




INSTALLATION

Install in the reverse order of removal.

## Replacement

INFOID:0000000001716504

**CAUTION:**

**Disconnect the battery negative terminal or the fuse.**

### STOP/TAIL (SIDE MARKER) LAMP BULB

1. Remove rear combination lamp. Refer to EXL-127, "Exploded View".
2. Rotate the stop/tail (side marker lamp) bulb socket counterclockwise, and unlock it.
3. Remove bulb from the bulb socket.

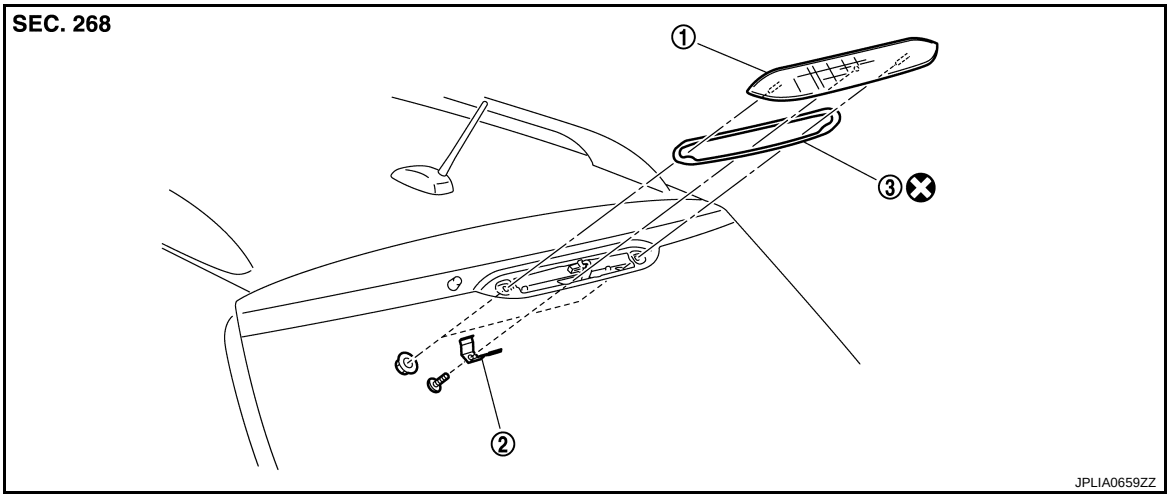
### REAR TURN SIGNAL LAMP BULB

1. Remove rear combination lamp. Refer to EXL-127, "Exploded View".
2. Rotate the rear turn signal lamp bulb socket counterclockwise, and unlock it.
3. Remove bulb from the bulb socket.

# HIGH-MOUNTED STOP LAMP

## Exploded View

INFOID:0000000001716505




1. High-mounted stop lamp
2. Clip
3. Seal packing

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

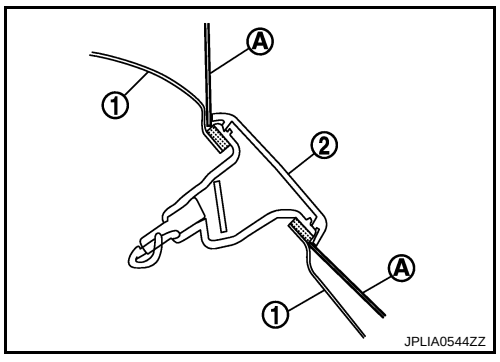
## Removal and Installation

INFOID:0000000001716506

**CAUTION:**
**Disconnect battery negative terminal or remove the fuse.**

REMOVAL

1. Remove the back door trim finisher upper. Refer to INT-34, "Exploded View".
2. Remove the mounting nuts and clips.
3. Cut the seal packing by the thin plate (A).




1. Back door panel
2. High-mounted stop lamp

4. Pull the high-mounted stop lamp toward rear of the vehicle. Remove the high-mounted stop lamp.
5. Disconnect the high-mounted stop lamp connector.

INSTALLATION

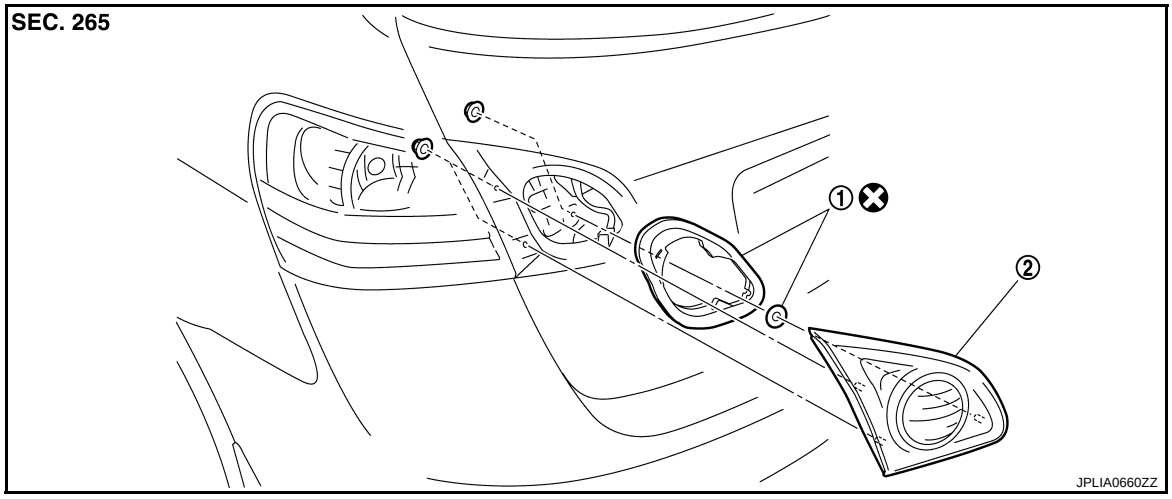
Install in the reverse order of removal.

**CAUTION:**
**Seal packing cannot be reused.**

# BACK-UP LAMP

## Exploded View

INFOID:0000000001716507




1. Seal packing
2. Back-up lamp

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

## Removal and Installation

INFOID:0000000001716508

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

REMOVAL

1. Remove the back door mask. Refer to INT-34, "Exploded View".
2. Remove back-up lamp mounting nuts.
3. Disconnect back-up lamp connector. And remove the back-up lamp.

INSTALLATION

Install in the reverse order of removal.

**CAUTION:**
**Seal packing cannot be reused.**

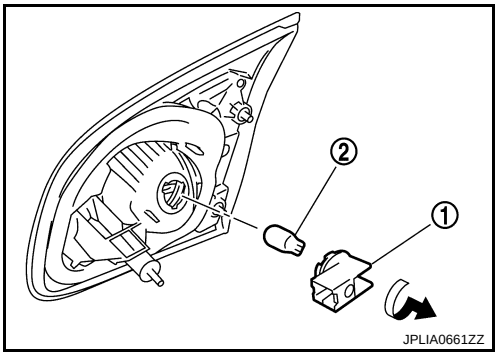
## Replacement

INFOID:0000000001716509

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

BACK-UP LAMP BULB

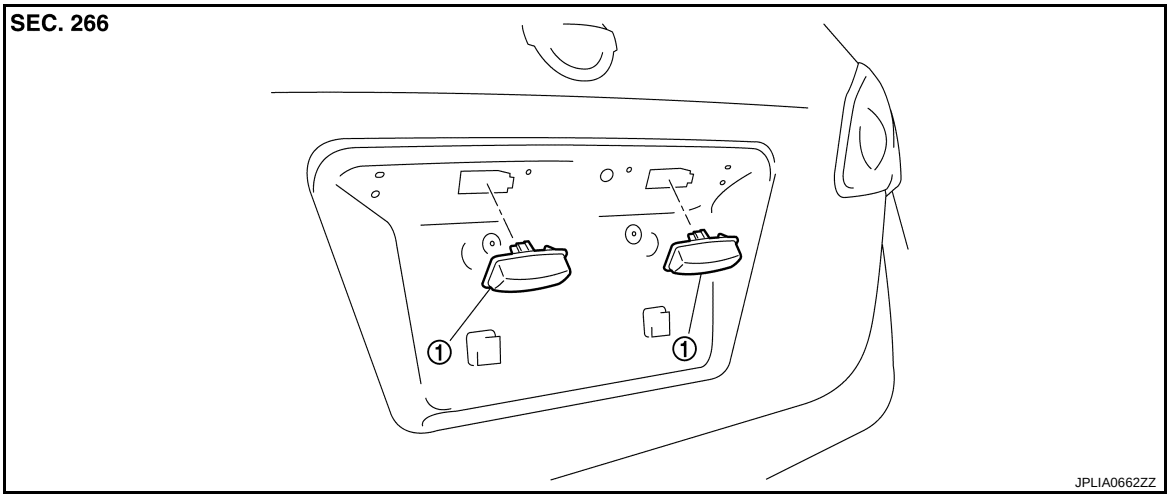
1. Remove the back-up lamp. Refer to EXL-130, "Exploded View".
2. Disconnect the connector, rotate the bulb socket (1) counter-clockwise and unlock it.
3. Remove the bulb (2) from the socket.



# LICENSE PLATE LAMP

## Exploded View

INFOID:0000000001716510




1. License plate lamp

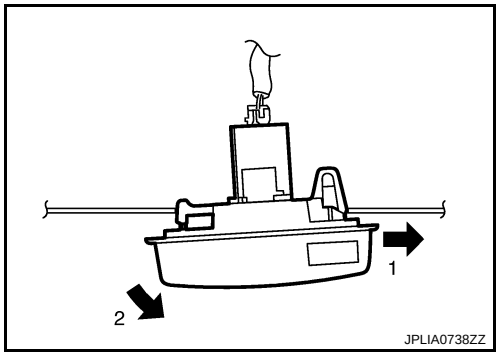
## Removal and Installation

INFOID:0000000001716511

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

REMOVAL

1. Remove back door trim finisher lower. Refer to INT-34, "Exploded View".
2. Remove back door finisher.Refer to INT-34, "Exploded View".
3. Remove the license plate lamp in numerical order shown in the figure.
4. Disconnect the license plate lamp connector.




INSTALLATION

1. Connect the license plate lamp connector.
2. Fix the pawl-side behind the license plate lamp housing first, then push the resin clip-side.

## Replacement

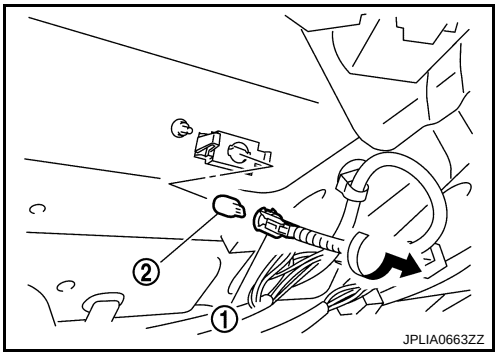
INFOID:0000000001716512

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

LICENSE PLATE LAMP BULB

1. Remove back door trim finisher lower. Refer to INT-34, "Exploded View".

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



# SERVICE DATA AND SPECIFICATIONS (SDS)

## SERVICE DATA AND SPECIFICATIONS (SDS)

### Bulb Specifications

INFOID:0000000001716516

| Item | | Type | Wattage (W) |
|---|---|---|---|
| Front combination lamp | Headlamp (HI) | HB3 | 60 |
| | Headlamp (LO) | D2S (XENON) | 35 |
| | Front turn signal/parking (side marker) lamp | S25 (Amber) | 27/8 |
| Front fog lamp | | H11 | 55 |
| Rear combination lamp | Stop/tail (side marker) lamp | W21/5W | 21/5 |
| | Rear turn signal lamp | W21W | 21 |
| | Back-up lamp | W16W | 16 |
| License plate lamp | | W5W | 5 |
| High-mounted stop lamp | | LED | — |

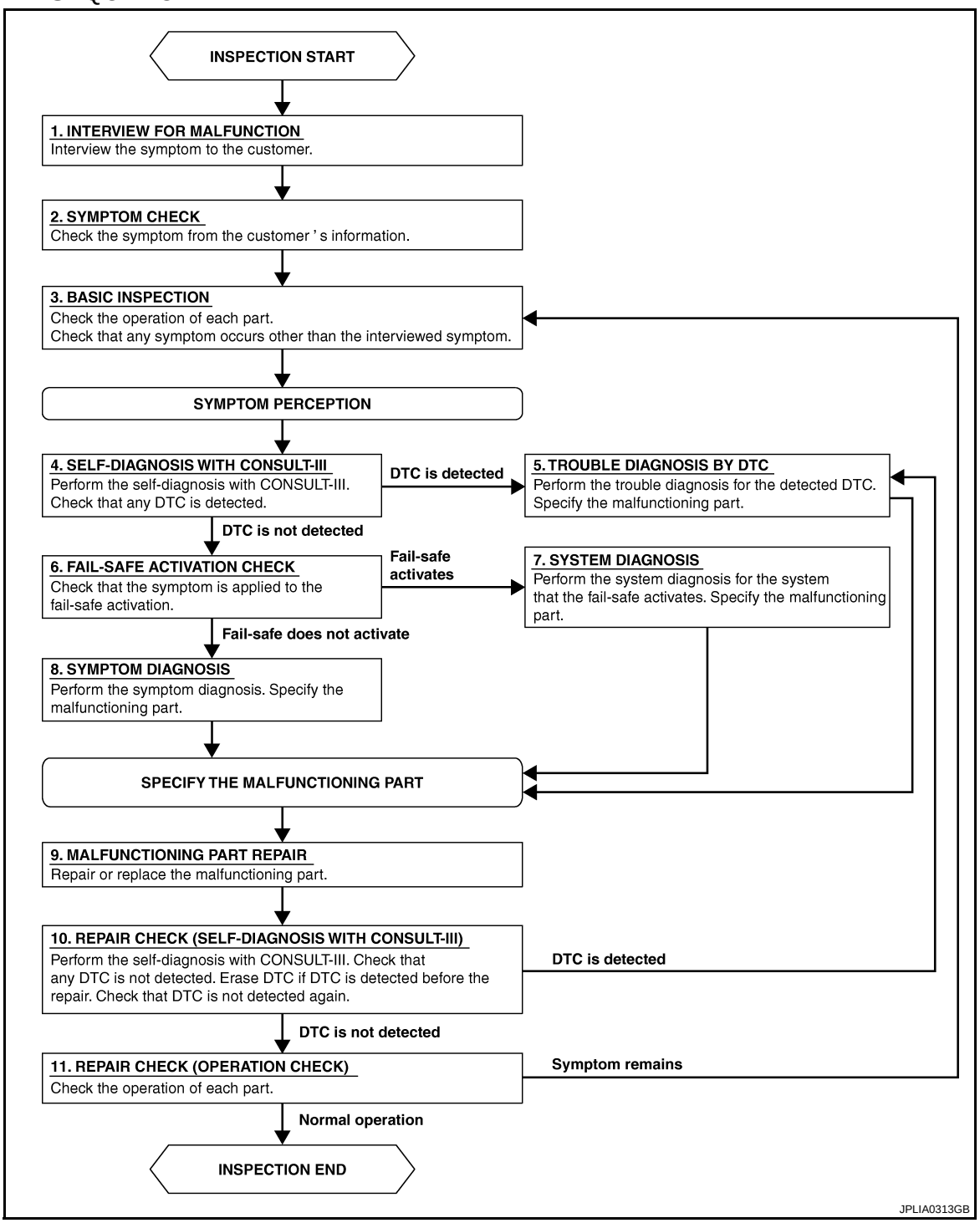
# BASIC INSPECTION

## DIAGNOSIS AND REPAIR WORKFLOW

### Work Flow

INFOID:0000000001716543

#### OVERALL SEQUENCE




#### DETAILED FLOW

### 1.INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

>> 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?

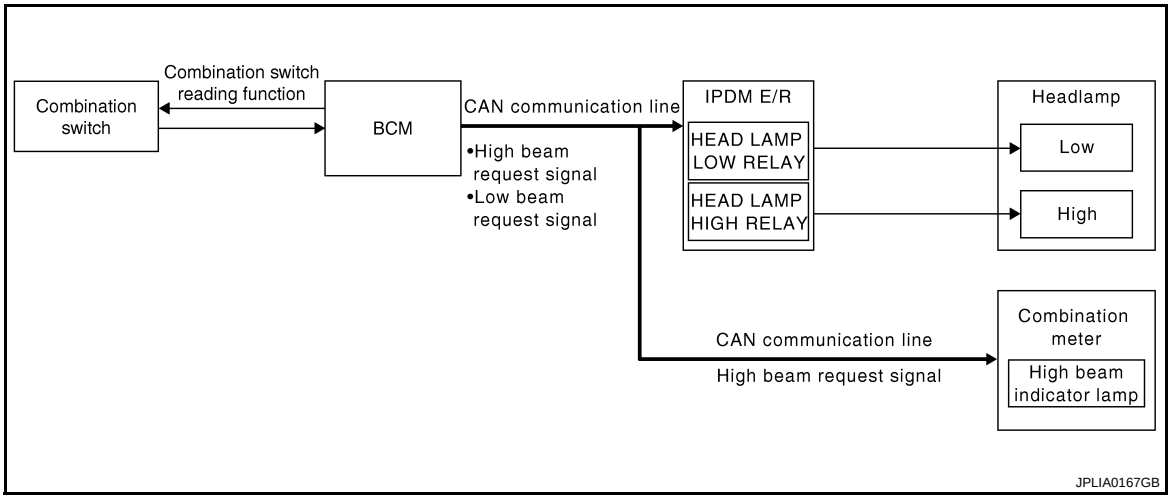
YES >> INSPECTION END
NO >> GO TO 3.

# FUNCTION DIAGNOSIS

## HEADLAMP SYSTEM

### System Diagram

INFOID:0000000001720635




### System Description

INFOID:0000000001720636

#### 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

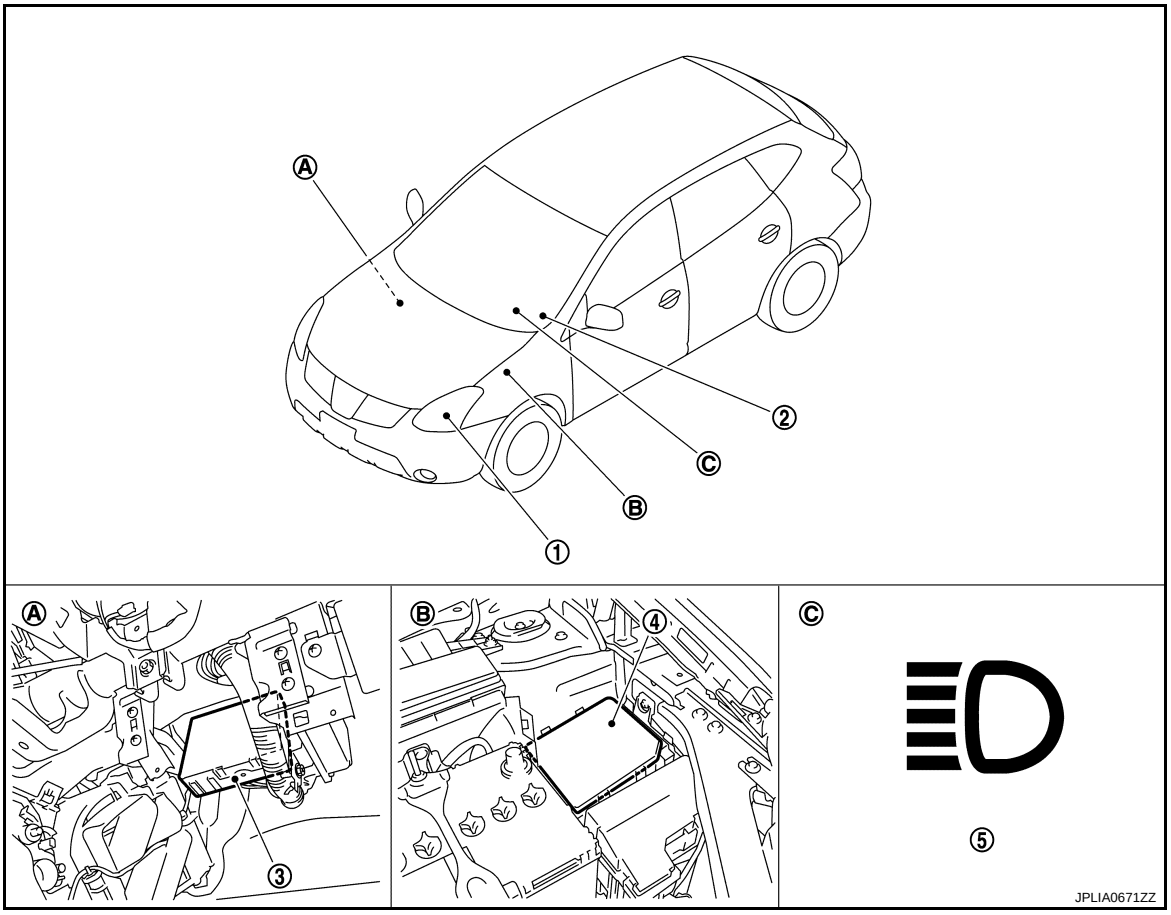
- BCM transmits the high beam request signal to IPDM E/R and the combination meter with CAN communication according to the headlamp (HI) ON condition.

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.

## Component Parts Location

INFOID:0000000001720637




1. Headlamp
2. Combination switch
3. BCM
4. IPDM E/R
5. High beam indicator lamp
A. Over the glove box
B. Engine room (LH)
C. On the combination meter

## Component Description

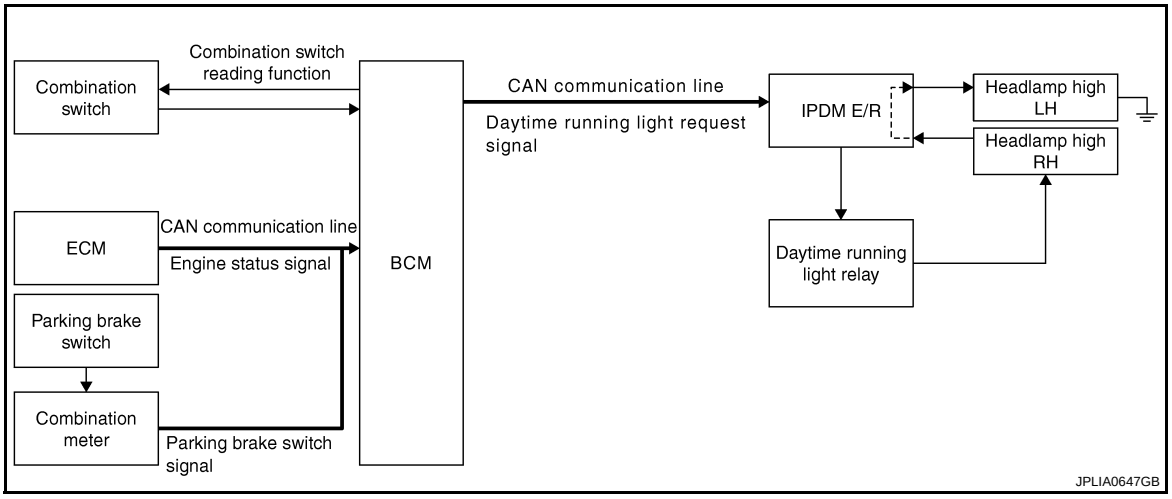
INFOID:0000000001720638

| Part | Description |
|---|---|
| BCM | • Detects each switch condition by the combination switch reading function.<br>• Judges that the headlamp is turned ON according to the vehicle condition.<br>- Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication).<br>- 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<br>(Lighting & turn signal switch) | Refer to BCS-9, "System Diagram". |
| Combination meter<br>(High beam indicator lamp) | Turns the high beam indicator lamp ON according to the request from BCM (with CAN communication). |

# DAYTIME RUNNING LIGHT SYSTEM

## System Diagram

INFOID:0000000001716323




## System Description

INFOID:0000000001716324

### OUTLINE

- Turns the headlamp high ON (high beam at approximately half illumination) 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

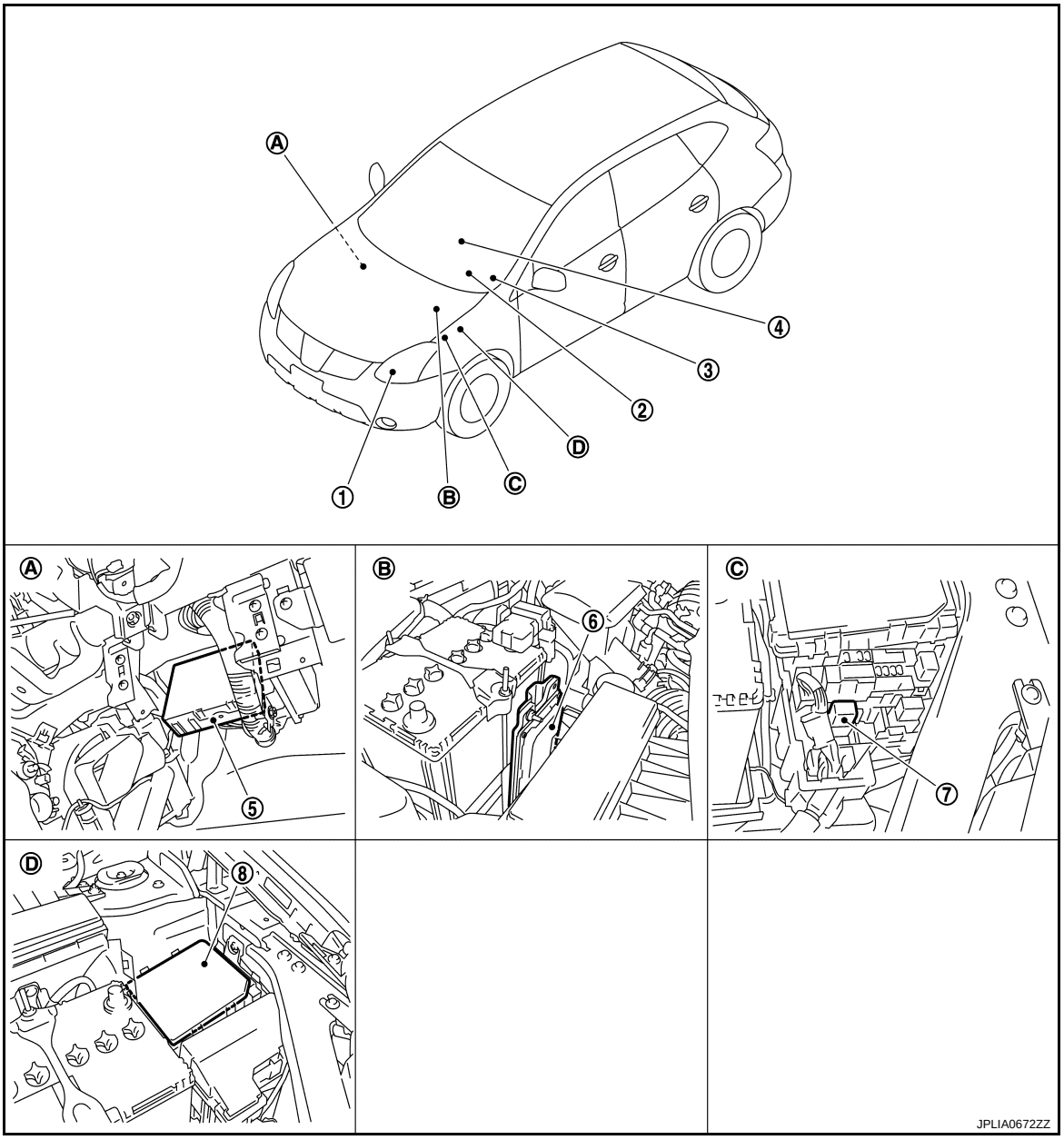
- BCM detects the combination switch condition by the combination switch reading function.
- BCM detects the engine condition by the engine status signal received from ECM with CAN communication.
- BCM detects the parking brake condition by the parking brake switch signal received from combination meter with CAN communication.
- BCM transmits the daytime running light request signal to IPDM E/R with CAN communication according to the daytime running light ON condition.

Daytime running light ON condition
- Engine running
- Lighting switch OFF or 1ST
- Parking brake OFF
- Ignition switch ON

- IPDM E/R controls the daytime running light relay (ground-side) to turn ON according to the daytime running light request signal.
- Power is supplied from the daytime running light relay through headlamp high (RH) and IPDM E/R to headlamp high (LH). And high beam headlamps are illuminated (approximately half illumination) as the daytime running light.

## Component Parts Location

INFOID:0000000001716325




1. Headlamp (HI)
2. Combination meter
3. Combination switch
4. Parking brake
5. BCM
6. ECM
7. Daytime running light relay
8. IPDM E/R
- A. Over the glove box
- B. Engine room (LH)
- C. Fuse and fusible link box
- D. Engine room (LH)

## Component Description

INFOID:0000000001716326

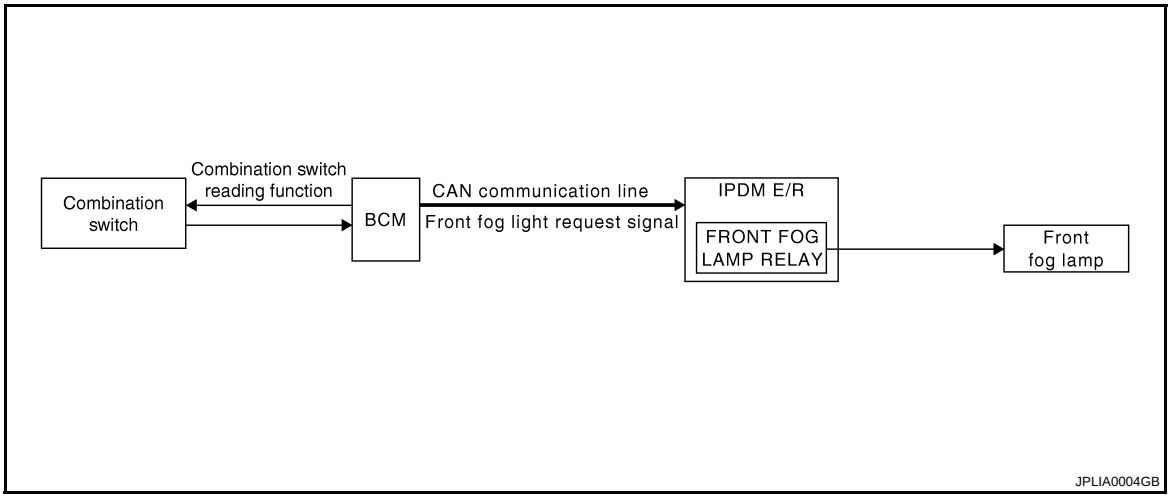
| Part | Description |
|---|---|
| BCM | • Detects each switch condition with the combination switch reading function.<br>• Judges each lamps ON/OFF condition according to the vehicle condition. Requests the each relay ON to IPDM E/R (with CAN communication). |
| IPDM E/R | Controls the relay and supplies voltage to the load according to the request from BCM (with CAN communication). |

| Part | Description |
|---|---|
| Combination switch<br>(Lighting & turn signal switch) | Refer to BCS-9, "System Diagram". |
| ECM | Transmits the engine status signal to BCM with CAN communication. |
| Combination meter | Transmits the parking brake switch signal to BCM with CAN communication. |

# FRONT FOG LAMP SYSTEM

## System Diagram

INFOID:0000000003049934




## System Description

INFOID:0000000003049935

### OUTLINE

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

### FRONT FOG LAMP OPERATION

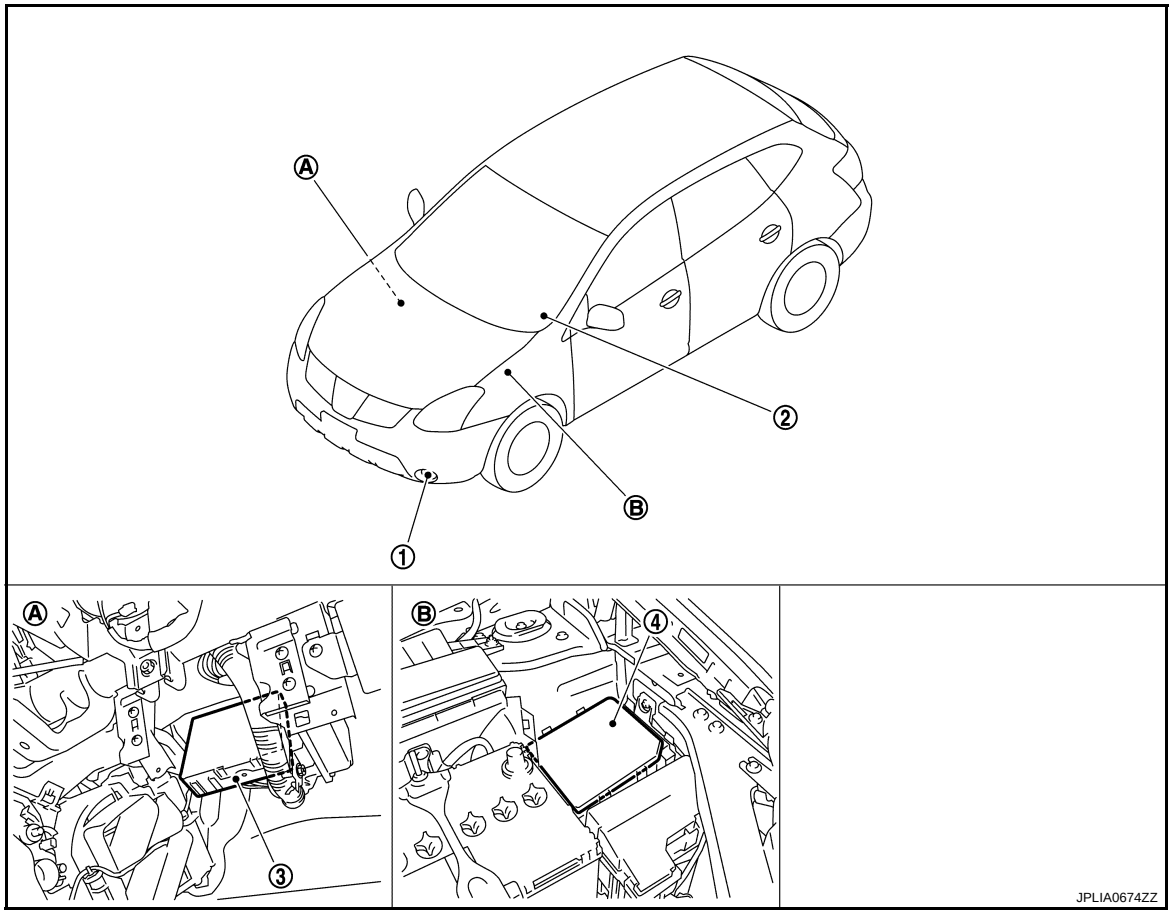
- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the front fog light request signal to IPDM E/R with CAN communication according to the front fog lamp ON condition.

Front fog lamp ON condition

- Front fog lamp switch ON with 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.

## Component Parts Location

INFOID:0000000003049936




1. Front fog lamp
2. Combination switch
3. BCM
4. IPDM E/R
A. Over the glove box
B. Engine room (LH)

## Component Description

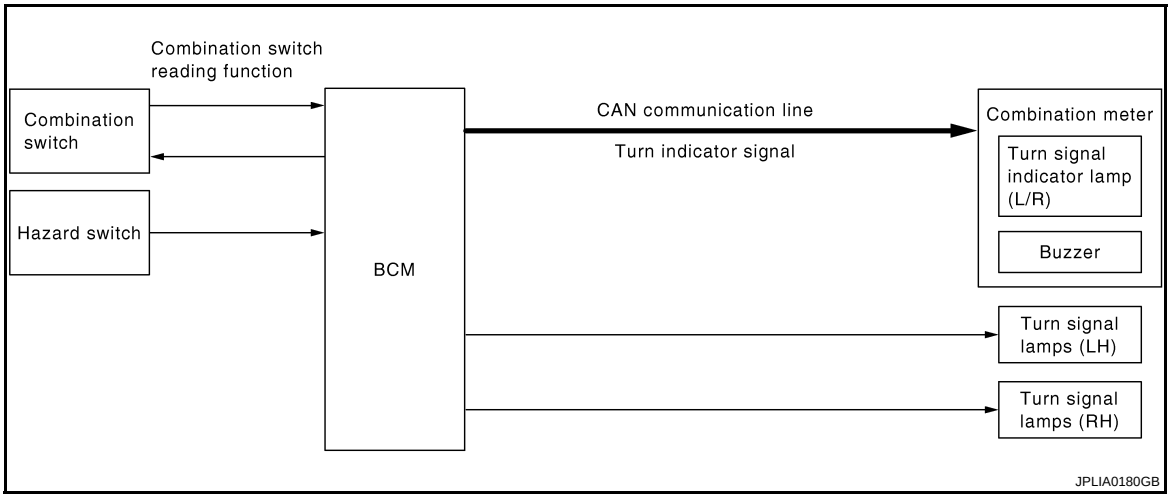
INFOID:0000000003049937

| Part | Description |
|---|---|
| BCM | • Detects each switch condition by the combination switch reading function.<br>• Judges the front fog lamp ON/OFF status according to the vehicle condition.<br>- 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<br>(Lighting & turn signal switch) | Refer to BCS-9, "System Diagram". |

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

## System Diagram

INFOID:0000000003049940




## System Description

INFOID:0000000003049941

### OUTLINE

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

### TURN SIGNAL LAMP OPERATION

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

### HAZARD WARNING LAMP OPERATION

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

### TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

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

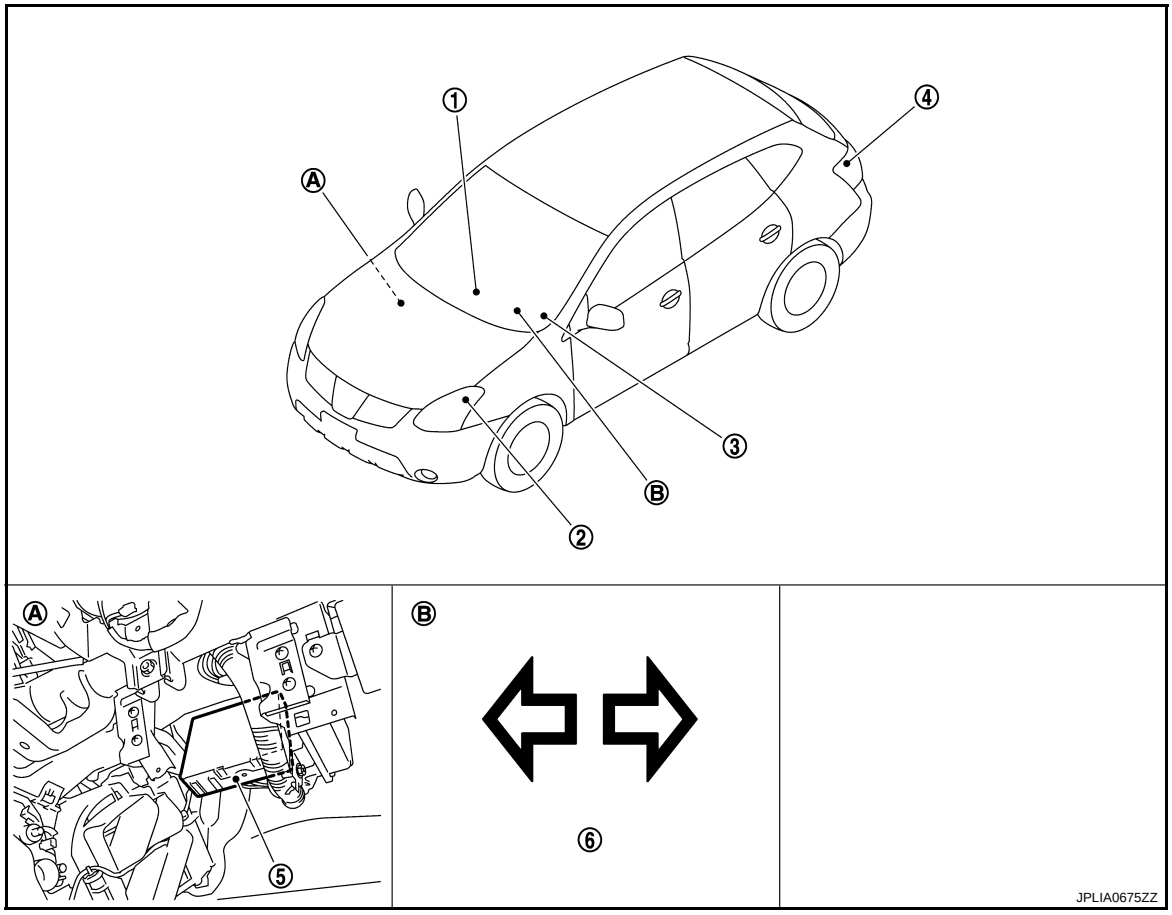
### HIGH FLASHER OPERATION (FAIL-SAFE)

- BCM detects the turn signal lamp circuit status by the terminal 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:0000000003049942




1. Hazard switch
2. Front turn signal lamp
3. Combination switch
4. Rear turn signal lamp
5. BCM
6. Turn signal indicator lamp
A. Over the glove box
B. On the combination meter

## Component Description

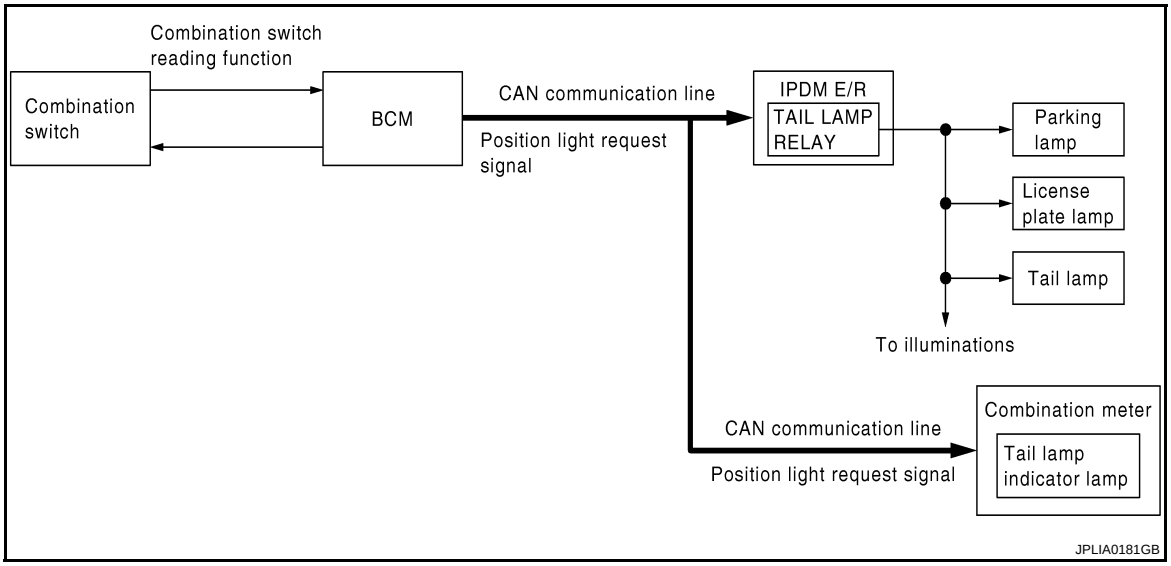
INFOID:0000000003049943

| Part | Description |
|---|---|
| BCM | • Detects each switch condition by the combination switch reading function.<br>• Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks.<br>• Requests the turn signal indicator lamp blink to the combination meter (with CAN communication). |
| Combination switch<br>(Lighting & turn signal switch) | Refer to BCS-9, "System Diagram". |
| Hazard switch | Inputs the hazard switch ON/OFF signal to BCM. |
| Combination meter<br>(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). |

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

## System Diagram

INFOID:0000000003049946




## System Description

INFOID:0000000003049947

### OUTLINE

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

### PARKING, LICENSE PLATE AND TAIL LAMPS OPERATION

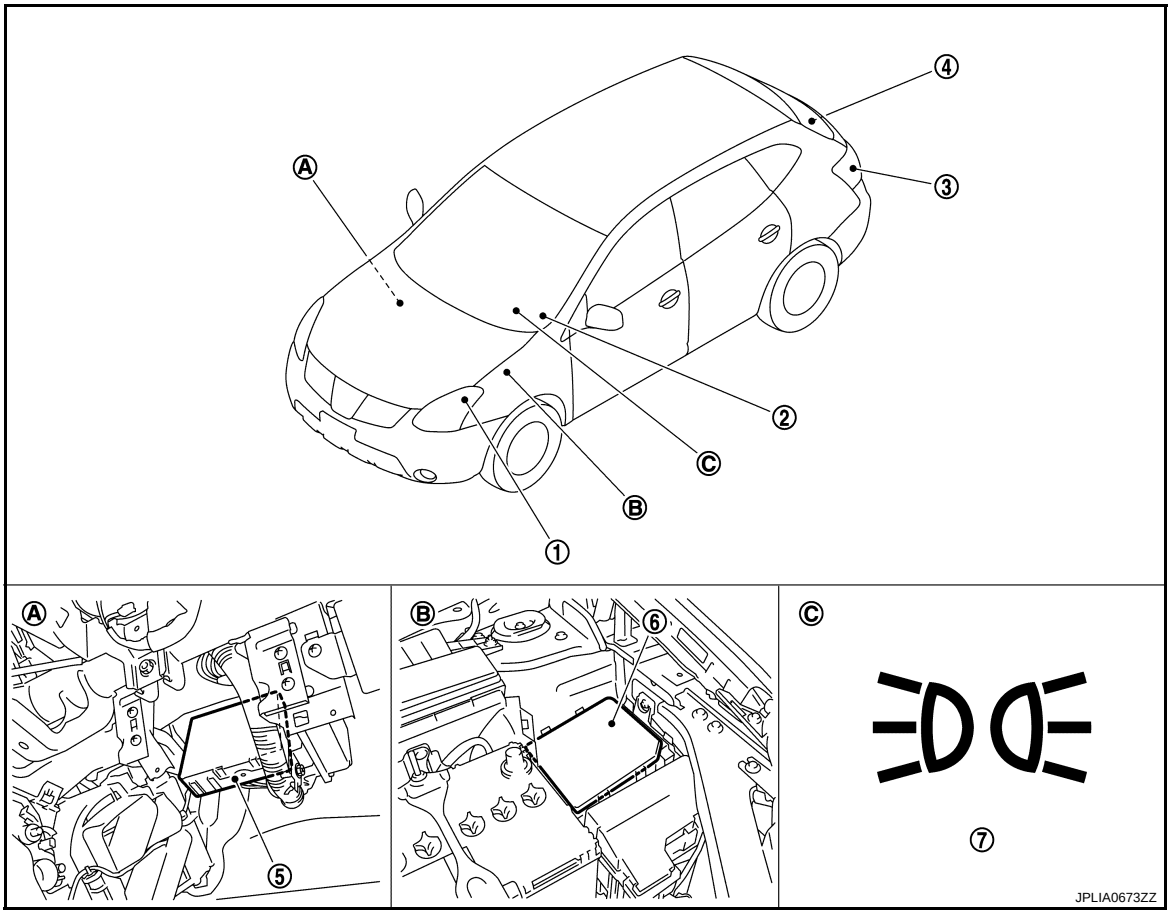
- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the position light request signal to IPDM E/R and the combination meter with CAN communication according to the ON/OFF condition of the parking, license plate and tail lamps.

Parking, license plate and tail lamps ON condition
- Lighting switch 1ST
- Lighting switch 2ND

- IPDM E/R turns the integrated tail lamp relay ON and turns the parking lamp, the license plate 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:0000000003049948




1. Parking lamp (Side marker lamp)
2. Combination switch
3. Tail lamp (Side marker lamp)
4. License plate lamp
5. BCM
6. IPDM E/R
7. Tail lamp indicator lamp

A. Over the glove box
B. Engine room (LH)
C. On the combination meter

## Component Description

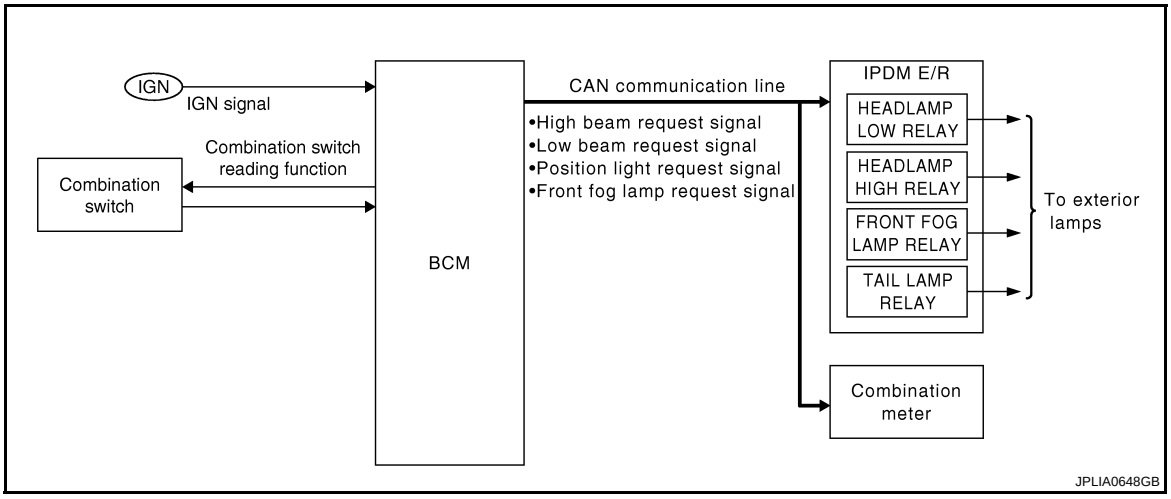
INFOID:0000000003049949

| Part | Description |
|---|---|
| BCM | • Detects each switch condition by the combination switch reading function.<br>• Judges the ON/OFF status of the parking, license plate and tail lamps according to the vehicle condition.<br>- Requests the tail lamp relay ON to IPDM E/R (with CAN communication).<br>- Requests the tail lamp 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<br>(Lighting & turn signal switch) | Refer to BCS-9, "System Diagram". |
| Combination meter<br>(Tail lamp indicator lamp) | Turns the tail lamp indicator lamp ON according to the request from BCM (with CAN communication). |

# EXTERIOR LAMP BATTERY SAVER SYSTEM

## System Diagram

INFOID:0000000003049950




## System Description

INFOID:0000000003049951

### 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, license plate lamp and front fog lamp

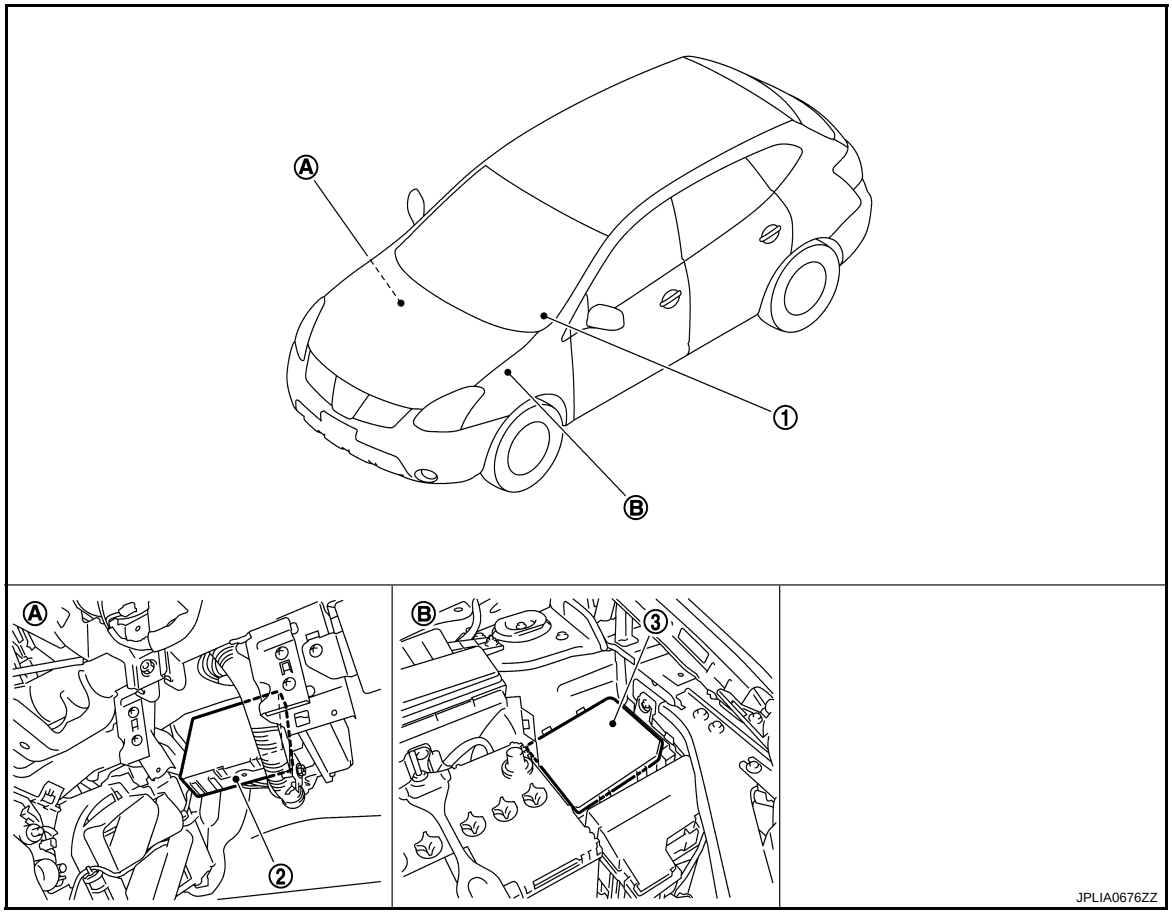
### EXTERIOR LAMP BATTERY SAVER ACTIVATION

BCM activates the timer and turns the exterior lamp OFF 5 minutes after the ignition switch is turned from ON → 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.

## Component Parts Location

INFOID:0000000003049953




1. Combination switch
2. BCM
3. IPDM E/R
A. Over the glove box
B. Engine room (LH)

## Component Description

INFOID:0000000003049954

| Part | Description |
|---|---|
| BCM | • Detects each switch condition by the combination switch reading function.<br>• Activates the battery saver to turn the exterior lamps OFF according to the vehicle condition.<br>- 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<br>(Lighting & turn signal switch) | Refer to BCS-9, "System Diagram". |

# DIAGNOSIS SYSTEM (BCM)
## COMMON ITEM
### COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)

INFOID:0000000003049962

#### APPLICATION ITEM
CONSULT-III can display each diagnostic item using the diagnostic test modes shown following.

| Diagnosis mode | Function description |
|---|---|
| ECU Identification | BCM part number is displayed. |
| Self-Diagnostic Result | Displays the diagnosis results judged by BCM. Refer to EXL-93, "DTC Index". |
| Data Monitor | BCM input/output signals are displayed. |
| Active Test | The signals used to activate each device are forcibly supplied from BCM. |
| Work Support | Changes the setting for each system function. |
| Configuration | • Read and save the vehicle specification.<br>• Write the vehicle specification when replacing BCM. |
| CAN Diag Support Monitor | Monitors the reception status of CAN communication viewed from 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 | CONSULT-III sub system selection item | Diagnosis mode | | |
|---|---|---|---|---|
| | | Work Support | Data Monitor | Active Test |
| Door lock | DOOR LOCK | × | × | × |
| Rear window defogger | REAR DEFOGGER | | × | × |
| Warning chime | BUZZER | | × | × |
| Interior room lamp control | INT LAMP | × | × | × |
| Remote keyless entry system | MULTI REMOTE ENT | × | × | × |
| Exterior lamp | HEAD LAMP | × | × | × |
| Wiper and washer | WIPER | × | × | × |
| Turn signal and hazard warning lamps | FLASHER | | × | × |
| Air conditioner | AIR CONDITONER | | × | |
| Intelligent Key system | INTELLIGENT KEY | | × | |
| Combination switch | COMB SW | | × | |
| — | BCM | × | | |
| Immobilizer | IMMU | | × | × |
| Interior room lamp battery saver | BATTERY SAVER | × | × | × |
| Back door open | TRUNK | | × | × |
| Vehicle security system | THEFT ALM | × | × | × |
| RAP system | RETAINED PWR | × | × | × |
| Signal buffer system | SIGNAL BUFFER | | × | × |
| — | FUEL LID* | | | |
| TPMS | TPMS (AIR PRESSURE MONITOR) | × | × | × |
| Panic alarm system | PANIC ALARM | | | × |

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

## HEADLAMP

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

INFOID:0000000002993009

## 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 |
| ILL DELAY SET | MODE 1 | **NOTE:**<br>The item is indicated, but not operate |
| | MODE 2 | |
| | MODE 3 | |
| | MODE 4 | |
| | MODE 5 | |
| | MODE 6 | |
| | MODE 7 | |
| | MODE 8 | |

*: Initial setting

## DATA MONITOR

| Monitor item<br>[Unit] | Description |
|---|---|
| IGN ON SW<br>[On/Off] | Ignition switch (ON) status judged from IGN signal (ignition power supply) |
| HI BEAM SW<br>[On/Off] | Each switch status that BCM judges from the combination switch reading function |
| HEAD LAMP SW1<br>[On/Off] | |
| HEAD LAMP SW2<br>[On/Off] | |
| LIGHT SW 1ST<br>[On/Off] | |
| PASSING SW<br>[On/Off] | |
| FR FOG SW<br>[On/Off] | |
| AUTO LIGHT SW<br>[On/Off] | **NOTE:**<br>The item is indicated, but not monitored |
| RR FOG SW<br>[On/Off] | |
| DOOR SW-DR<br>[On/Off] | The switch status input from front door switch (driver side) |
| DOOR SW-AS<br>[On/Off] | The switch status input from front door switch (passenger side) |
| DOOR SW-RR<br>[On/Off] | The switch status input from rear door switch RH |
| DOOR SW- RL<br>[On/Off] | The switch status input from rear door switch LH |
| BACK DOOR SW<br>[On/Off] | The switch status input from back door switch |

| Monitor item [Unit] | Description |
|---|---|
| TURN SIGNAL R [On/Off] | Each switch status that BCM judges from the combination switch reading function |
| TURN SIGNAL L [On/Off] | |
| ENGINE RUNNING [On/Off] | The engine status received from ECM with CAN communication |
| PKB SW [On/Off] | The parking brake switch status received from combination meter with CAN communication |
| CARGO LAMP SW [On/Off] | **NOTE:** The item is indicated, but not monitored |
| OPTICAL SENSOR [V] | |

ACTIVE TEST

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

# FLASHER

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

INFOID:0000000003049961

### DATA MONITOR

| Monitor item [Unit] | Description |
|---|---|
| IGN ON SW [On/Off] | Ignition switch (ON) status judged from IGN signal (ignition power supply) |
| HAZARD SW [On/Off] | The switch status input from the hazard switch |
| TURN SIGNAL R [On/Off] | Each switch condition that BCM judges from the combination switch reading function |
| TURN SIGNAL L [On/Off] | |
| BRAKE SW [On/Off] | The switch status input from the stop lamp switch |

### ACTIVE TEST

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

# DIAGNOSIS SYSTEM (IPDM E/R)

## Diagnosis Description

INFOID:0000000003049965

### Auto active test

Description

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

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

Operation procedure

1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)
   **NOTE:**
   When auto active test is performed with hood opened, sprinkle water on windshield beforehand.
2. Turn ignition switch OFF.
3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.
   **CAUTION:**
   **Close passenger door.**
4. Turn the ignition switch ON within 10 seconds. Then the horn sounds once and the auto active test starts.
   **NOTE:**
   Only a vehicle with the vehicle security system, the horn sounds.
5. The oil pressure warning lamp starts blinking when the auto active test starts.
6. After a series of the following operations is repeated 3 times, auto active test is completed.

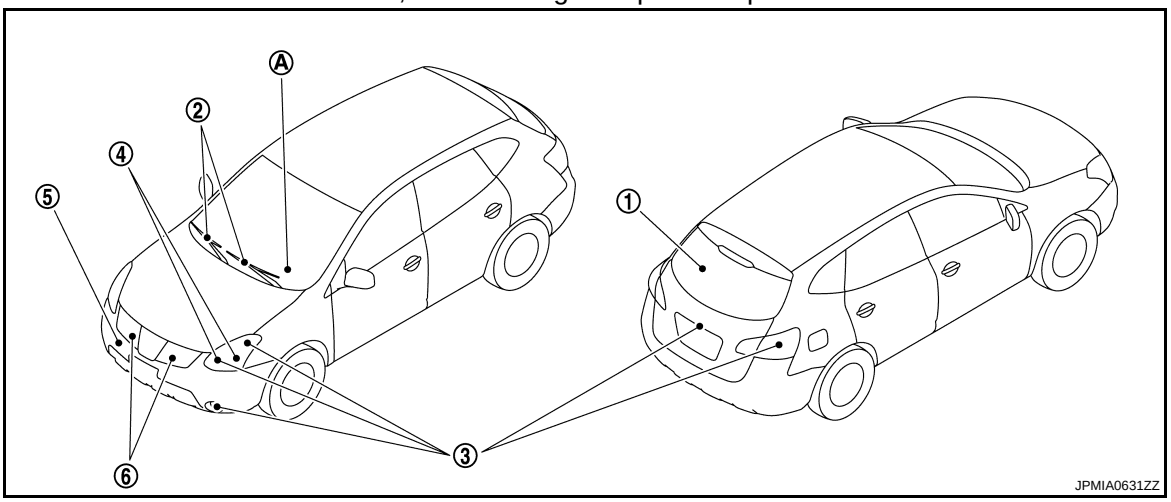
**NOTE:**
When auto active test mode has to be cancelled halfway through test, turn ignition switch OFF.

**CAUTION:**

- **If auto active test mode cannot be actuated, check door switch system.**
- **Never start the engine.**

Inspection in auto active test mode

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

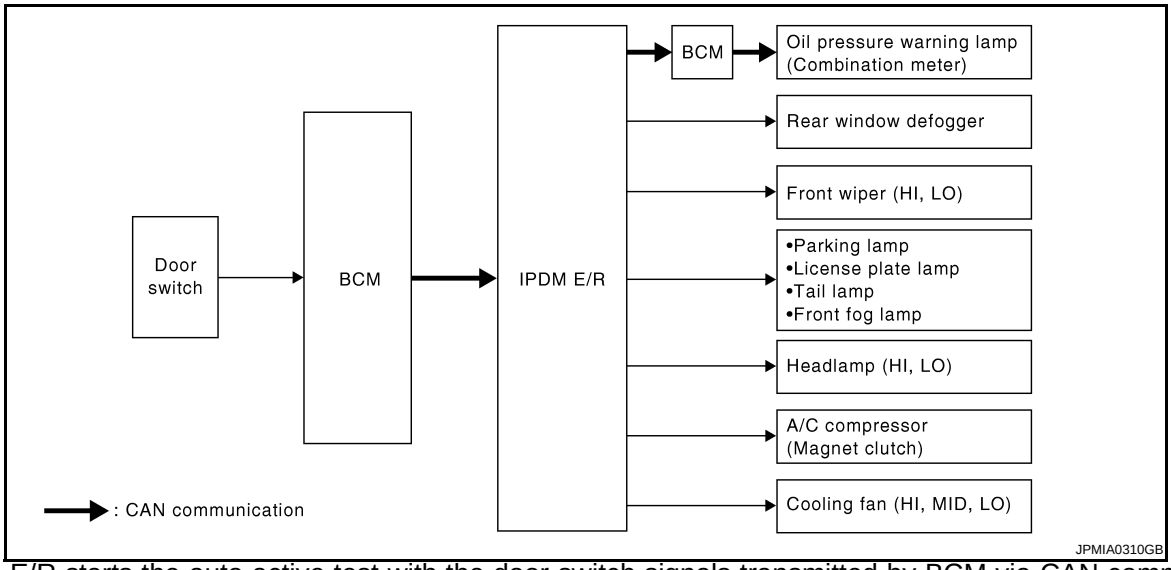


| Operation sequence | Inspection location | Operation |
|---|---|---|
| A | Oil pressure warning lamp | Blinks continuously during operation of auto active test. |
| 1 | Rear window defogger | 10 seconds |
| 2 | Front wiper | LO for 5 seconds → HI for 5 seconds |
| 3 | • Parking lamps<br>• License plate lamps<br>• Tail lamps<br>• Front fog lamps<br>• Headlamps HI (daytime running light operation)* | 10 seconds |
| 4 | Headlamps | LO ⇔ HI 5 times |
| 5 | A/C compressor (magnet clutch) | ON ⇔ OFF 5 times |
| 6 | Cooling fan | LO for 5 seconds → MID for 3 seconds → HI for 2 seconds |

**NOTE:**

*: With daytime running light system

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 |
|---|---|---|---|
| Rear window defogger does not operate | Perform auto active test. Does the rear window defogger operate? | YES | BCM signal input circuit |
| | | NO | • Rear window defogger<br>• Rear window defogger ground circuit<br>• Harness or connector between IPDM E/R and rear window defogger<br>• IPDM E/R |
| Any of the following components do not operate<br>• Parking lamps<br>• License plate lamps<br>• Tail lamps<br>• Front fog lamps<br>• Headlamps (HI, LO)<br>• Front wiper (HI, LO) | Perform auto active test. Does the applicable system operate? | YES | BCM signal input circuit |
| | | NO | • Lamp or motor<br>• Lamp or motor ground circuit<br>• Harness or connector between IPDM E/R and applicable system<br>• IPDM E/R |

| Symptom | Inspection contents | | Possible cause |
|---|---|---|---|
| Headlamps HI (daytime running light operation) do not operate | Perform auto active test. Do headlamps HI (daytime running light operation) operate? | YES | • CAN communication signal between ECM and BCM<br>• CAN communication signal between combination meter and BCM<br>• BCM signal input circuit |
| | | NO | • Daytime running light relay power supply circuit<br>• Harness or connector between IPDM E/R and daytime running light relay<br>• Daytime running light relay |
| A/C compressor does not operate | Perform auto active test. Does the magnet clutch operate? | YES | • BCM signal input circuit<br>• CAN communication signal between BCM and ECM<br>• CAN communication signal between ECM and IPDM E/R |
| | | NO | • Magnet clutch<br>• Harness or connector between IPDM E/R and magnet clutch<br>• IPDM E/R |
| Oil pressure warning lamp does not operate | Perform auto active test. Does the oil pressure warning lamp blink? | YES | • Harness or connector between IPDM E/R and oil pressure switch<br>• Oil pressure switch<br>• IPDM E/R |
| | | NO | • CAN communication signal between IPDM E/R and BCM<br>• CAN communication signal between BCM and combination meter<br>• Combination meter |
| Cooling fan does not operate | Perform auto active test. Does the cooling fan operate? | YES | • ECM signal input circuit<br>• CAN communication signal between ECM and IPDM E/R |
| | | NO | • Cooling fan motor-2 power supply circuit<br>• Cooling fan motor-1 ground circuit<br>• Cooling fan relay-4 or cooling fan relay-5 power supply circuit<br>• Cooling fan relay-5 ground circuit<br>• Harness or connector between IPDM E/R and cooling fan motor<br>• Harness or connector between IPDM E/R, and cooling fan relay-4 or cooling fan relay-5<br>• Harness or connector between cooling fan motor-2, and cooling fan relay-4 or cooling fan relay-5<br>• Cooling fan relay-4 or cooling fan relay-5<br>• Cooling fan motor<br>• IPDM E/R |

## CONSULT-III Function (IPDM E/R)

INFOID:0000000003049966

### APPLICATION ITEM

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

| Diagnosis mode | Description |
|---|---|
| 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. |

| Diagnosis mode | Description |
|---|---|
| Active Test | IPDM E/R can provide a drive signal to electronic components to check their operations. |
| CAN Diag Support Monitor | The results of transmit/receive diagnosis of CAN communication can be read. |

## SELF DIAGNOSTIC

Refer to EXL-105, "DTC Index".

## DATA MONITOR

Monitor item

| Monitor Item [Unit] | MAIN SIGNALS | Description |
|---|---|---|
| MOTOR FAN REQ [1 - 4] | × | Displays the value of the cooling fan speed signal received from ECM via CAN communication. |
| AC COMP REQ [Off/On] | × | Displays the status of the A/C compressor request signal received from ECM via CAN communication. |
| TAIL&CLR REQ [Off/On] | × | Displays the status of the position light request signal received from BCM via CAN communication. |
| HL LO REQ [Off/On] | × | Displays the status of the low beam request signal received from BCM via CAN communication. |
| HL HI REQ [Off/On] | × | Displays the status of the high beam request signal received from BCM via CAN communication. |
| FR FOG REQ [Off/On] | × | Displays the status of the front fog light request signal received from BCM via CAN communication.<br>**NOTE:**<br>This item is monitored only the vehicle with front fog lamp system. |
| 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. |
| ST RLY REQ [Off/On] | | Displays the status of the starter request signal. |
| IGN RLY [Off/On] | × | Displays the status of the ignition relay judged by IPDM E/R. |
| RR DEF REQ [Off/On] | × | Displays the status of the rear defogger request signal received from BCM via CAN communication. |
| OIL P SW [Open/Close] | | Displays the status of the oil pressure switch judged by IPDM E/R. |
| DTRL REQ [Off/On] | | Displays the status of the daytime running light request signal received from BCM via CAN communication.<br>**NOTE:**<br>This item is monitored only the vehicle with daytime running light system. |
| HOOD SW [Off/On] | | Displays the status of the hood switch judged by IPDM E/R.<br>**NOTE:**<br>This item is monitored only the vehicle for Mexico. |
| THFT HRN REQ [Off/On] | | Displays the status of the horn request signal by vehicle security system or panic alarm system received from BCM via CAN communication. |
| HORN CHIRP [Off/On] | | Displays the status of the horn request signal by key fob LOCK operation received from BCM via CAN communication. |

## ACTIVE TEST

Test item

| Test item | Operation | Description |
|---|---|---|
| REAR DEFOGGER | Off | OFF |
| | On | Operates the rear window defogger relay. |
| FRONT WIPER | Off | OFF |
| | Lo | Operates the front wiper relay. |
| | Hi | Operates the front wiper relay and front wiper high relay. |
| MOTOR FAN | 1 | OFF |
| | 2 | Operates the cooling fan relay (LO operation). |
| | 3 | Operates the cooling fan relay (MID operation). |
| | 4 | Operates the cooling fan relay (HI operation). |
| EXTERNAL LAMPS | Off | OFF |
| | TAIL | Operates the tail lamp relay and the daytime running light relay.<br>**NOTE:**<br>Daytime running light relay is with daytime running light system only. |
| | Lo | Operates the headlamp low relay. |
| | Hi | Operates the headlamp low relay and ON/OFF the headlamp high relay at 4 seconds intervals. |
| | Fog | Operates the front fog lamp relay.<br>**NOTE:**<br>This item can test only the vehicle with front fog lamp system. |
| HORN | On | Operates horn relay for 20 ms. |

# COMPONENT DIAGNOSIS

## POWER SUPPLY AND GROUND CIRCUIT

## BCM (BODY CONTROL MODULE)

### BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:0000000003049994

#### 1.CHECK FUSES AND FUSIBLE LINK

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

| Signal name | Fuses and fusible link No. |
|---|---|
| Battery power supply | 10 |
| | J |
| ACC power supply | 20 |
| Ignition power supply | 1 |

Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
NO >> GO TO 2.

#### 2.CHECK POWER SUPPLY CIRCUIT

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

| Terminals | | | Ignition switch position | | |
|---|---|---|---|---|---|
| (+) | | (–) | | | |
| BCM | | | OFF | ACC | ON |
| Connector | Terminal | | | | |
| M67 | 70 | Ground | Battery voltage | Battery voltage | Battery voltage |
| | 57 | | | | |
| M65 | 11 | | Approx. 0 V | Battery voltage | Battery voltage |
| | 38 | | Approx. 0 V | Approx. 0 V | Battery 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 | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M67 | 67 | | 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) : Di-

## agnosis Procedure

INFOID:0000000003049997

### 1.CHECK FUSIBLE LINK

Check that the following IPDM E/R fusible link is not blown.

| Signal name | Fusible link No. |
|---|---|
| Battery power supply | C |
| | E |
| | K |

Is the fusible link fusing?

YES >> Replace the blown fusible link after repairing the affected circuit if a fusible link is blown.
NO >> GO TO 2.

### 2.CHECK POWER SUPPLY CIRCUIT

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

| Terminals | | | Voltage (Approx.) |
|---|---|---|---|
| (+) | | (–) | |
| IPDM E/R | | | |
| Connector | Terminal | | |
| E9 | 1 | Ground | Battery voltage |
| | 2 | | |
| E10 | 6 | | |

Is the measurement value normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

### 3.CHECK GROUND CIRCUIT

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

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E11 | 11 | | Exist |
| E13 | 25 | | |

Does continuity exist?

YES >> INSPECTION END
NO >> Repair harness or connector.

# EXTERIOR LAMP FUSE

## Description

INFOID:0000000001716583

Fuse list

| Unit | Location | Fuse No. | Capacity |
|---|---|---|---|
| Headlamp HI (LH) | IPDM E/R | #44 | 10 A |
| Headlamp HI (RH) | IPDM E/R | #43 | 10 A |
| Headlamp LO (LH) | IPDM E/R | #49 | 15 A |
| Headlamp LO (RH) | IPDM E/R | #50 | 15 A |
| Daytime running light | FUSE AND FUSIBLE LINK BLOCK | #33 | 10 A |
| Front fog lamp | IPDM E/R | #65 | 15 A |
| Parking lamp | IPDM E/R | #46 | 10 A |
| • Tail lamp<br>• License plate lamp<br>• Each illumination | IPDM E/R | #45 | 10 A |
| Stop lamp | FUSE BLOCK (J/B) | #11 | 10 A |
| Back-up lamp | IPDM E/R | #60 | 10 A |

## Diagnosis Procedure

INFOID:0000000001716584

### 1.CHECK FUSE

Check that the following fuses are not fusing.

| Unit | Location | Fuse No. | Capacity |
|---|---|---|---|
| Headlamp HI (LH) | IPDM E/R | #44 | 10 A |
| Headlamp HI (RH) | IPDM E/R | #43 | 10 A |
| Headlamp LO (LH) | IPDM E/R | #49 | 15 A |
| Headlamp LO (RH) | IPDM E/R | #50 | 15 A |
| Daytime running light | FUSE AND FUSIBLE LINK BLOCK | #33 | 10 A |
| Front fog lamp | IPDM E/R | #65 | 15 A |
| Parking lamp | IPDM E/R | #46 | 10 A |
| • Tail lamp<br>• License plate lamp<br>• Each illumination | IPDM E/R | #45 | 10 A |
| Stop lamp | FUSE BLOCK (J/B) | #11 | 10 A |
| Back-up lamp | IPDM E/R | #60 | 10 A |

Is the fuse fusing?

YES >> Repair the applicable circuit. And then replace the fuse.
NO >> The fuse is normal.

# HEADLAMP (HI) CIRCUIT

## Component Function Check

INFOID:0000000001720639

### 1.CHECK HEADLAMP (HI) OPERATION

IPDM E/R AUTO ACTIVE TEST
1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the headlamp switches to the high beam.

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMP” 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-161, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000001720640

### 1.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST
1. Turn the ignition switch OFF.
2. Disconnect the headlamp high connector.
3. Turn the ignition switch ON.
4. Select “EXTERNAL LAMP” 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 | Voltage (Approx.) |
|---|---|---|---|---|---|
| (+) | | | (–) | | |
| IPDM E/R | | | Ground | External lamp | |
| Connector | | Terminal | | | |
| RH | E12 | 22 | | Hi | Battery voltage |
| LH | | 21 | | Off | 0 V |

Is the measurement value normal?

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

### 2.CHECK HEADLAMP (HI) OPEN CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between the IPDM E/R harness connector and the headlamp high harness connector.

| IPDM E/R | | | Headlamp high | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | E12 | 22 | E43 | 1 | Existed |
| LH | | 21 | E24 | 1 | |

Does continuity exist?

YES >> • GO TO 5. (Without daytime running light system)

• GO TO 6. (With daytime running light system)

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 (LH) | IPDM E/R | #44 | 10 A |
| Headlamp HI (RH) | IPDM E/R | #43 | 10 A |

Is the fuse fusing?

YES >> GO TO 4.
NO >> Replace IPDM E/R.

## 4.CHECK HEADLAMP HIGH (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 | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E12 | 22 | | Not existed |
| LH | | 21 | | |

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

1. Turn the ignition switch OFF.
2. Disconnect the headlamp high connector.
3. Check continuity between the headlamp high harness connector and ground.

| Headlamp high | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E43 | 2 | | Existed |
| LH | E24 | 2 | | |

Does continuity exist?

YES >> Replace the headlamp (HI) bulb. (Bulb socket is abnormally.)
NO >> Repair the harnesses or connectors.

## 6.CHECK HEADLAMP (HI) GROUND OPEN CIRCUIT (LH SIDE)

1. Turn the ignition switch OFF.
2. Disconnect the headlamp high connector.
3. Check continuity between the headlamp high harness connector and ground.

| Headlamp high | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | Existed |
| LH | E24 | 2 | | |

Does continuity exist?

YES >> GO TO 7.
NO >> Repair the harnesses or connectors.

## 7.CHECK CONTINUITY BETWEEN HEADLAMP HIGH (RH) AND DAYTIME RUNNING LIGHT RELAY

1. Remove daytime running light relay.

2. Check continuity between headlamp high RH harness connector and daytime running light relay harness connector.

| Headlamp high | | | Daytime running light relay | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | E43 | 2 | E65 | 3 | Existed |

Does continuity exist?

YES >> GO TO 8.
NO >> Repair the harness or connector.

## 8. CHECK THE DAYTIME RUNNING LIGHT RELAY GROUND OPEN CIRCUIT

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

| Daytime running light relay | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E65 | 4 | | Existed |

Does continuity exist?

YES >> GO TO 9.
NO >> Repair the harness or connector.

## 9. CHECK THE DAYTIME RUNNING LIGHT RELAY

Check daytime running light relay. Refer to EXL-169, "Component Inspection".

Is the daytime running light relay normal?

YES >> Replace the headlamp (HI) bulb. (Bulb socket is abnormally.)
NO >> Replace the daytime running light relay.

# HEADLAMP (LO) CIRCUIT

## Component Function Check

INFOID:0000000001720641

### 1.CHECK HEADLAMP (LO) OPERATION

IPDM E/R AUTO ACTIVE TEST
1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the headlamp is turned ON.

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMP” 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-164, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000001720642

### 1.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST
1. Turn the ignition switch OFF.
2. Disconnect the headlamp low connector.
3. Turn the ignition switch ON.
4. Select “EXTERNAL LAMP” 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 | Voltage (Approx.) |
|---|---|---|---|---|---|
| (+) | | | (–) | | |
| IPDM E/R | | | Ground | External lamp | |
| Connector | | Terminal | | | |
| RH | E12 | 20 | | LO | Battery voltage |
| LH | | 18 | | OFF | 0 V |

Is the measurement value normal?

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

### 2.CHECK HEADLAMP (LO) OPEN CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between the IPDM E/R harness connector and the headlamp low harness connector.

| IPDM E/R | | | Headlamp low | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | E12 | 20 | E45 | 1 | Existed |
| LH | | 18 | E26 | 1 | |

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 (LH) | IPDM E/R | #49 | 15 A |
| Headlamp LO (RH) | IPDM E/R | #50 | 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 | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E12 | 20 | | Not existed |
| LH | | 18 | | |

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 headlamp low connector.
3. Check continuity between the headlamp low harness connector and ground.

| Headlamp low | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E45 | 2 | | Existed |
| LH | E26 | 2 | | |

Does continuity exist?

YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)
NO >> Repair the harnesses or connectors.

# FRONT FOG LAMP CIRCUIT

## Component Function Check

INFOID:0000000003050001

### 1.CHECK FRONT FOG LAMP OPERATION

IPDM E/R AUTO ACTIVE TEST
1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the front fog lamp is turned ON.

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMP” 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-166, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000003050002

### 1.CHECK FRONT FOG LAMP FUSE

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

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

Is the fuse fusing?

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

### 2.CHECK FRONT FOG LAMP SHORT CIRCUIT

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

| IPDM E/R | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E12 | 17 | | Not existed |
| LH | | 16 | | |

Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.
NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.)

### 3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.
NO >> Replace the bulb.

### 4.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST
1. Disconnect the front fog lamp connector.
2. Turn the ignition switch ON.
3. Select “EXTERNAL LAMP” of IPDM E/R active test item.

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

| Terminals | | | | Test item | Voltage (Approx.) |
|---|---|---|---|---|---|
| (+) | | | (–) | | |
| IPDM E/R | | | Ground | EXTERNAL LAMP | |
| Connector | | Terminal | | | |
| RH | E12 | 17 | | Fog | Battery voltage |
| LH | | 16 | | Off | 0 V |

Is the measurement value normal?

YES >> GO TO 5.
NO >> Replace IPDM E/R.

## 5. CHECK FRONT FOG LAMP OPEN CIRCUIT

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

| IPDM E/R | | | Front fog lamp | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | E12 | 17 | E48 | 2 | Existed |
| LH | | 16 | E30 | 2 | |

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 | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E48 | 1 | | Existed |
| LH | E30 | 1 | | |

Does continuity exist?

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

# DAYTIME RUNNING LIGHT RELAY CIRCUIT

## Component Function Check

INFOID:0000000001716404

### 1.CHECK DAYTIME RUNNING LIGHT OPERATION

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMP” of IPDM E/R active test item.
2. With operating the test item, check that daytime running light operation.

**TAIL : Daytime running light ON**
**Off : Daytime running light OFF**

Is the daytime running light turned ON?

YES >> Daytime running light relay circuit is normal.
NO >> Refer to EXL-168, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000001716405

### 1.CHECK DAYTIME RUNNING LIGHT RELAY FUSE

Check that the following fuse is not fusing.

| Unit | Location | Fuse No. | Capacity |
|---|---|---|---|
| Daytime running light relay | Fuse and fusible link block | #33 | 10A |

Is the fuse fusing?

YES >> Replace the fuse after repairing the applicable circuit.
NO >> GO TO 2.

### 2.CHECK DAYTIME RUNNING LIGHT RELAY POWER SUPPLY

1. Remove daytime running light relay.
2. Check voltage between daytime running light relay harness connector and ground.

| Terminals | | | Voltage (Approx.) |
|---|---|---|---|
| (+) | | (–) | |
| Daytime running light relay | | Ground | |
| Connector | Terminal | | |
| E65 | 1 | | Battery voltage |
| | 5 | | |

Is the measurement value normal?

YES >> GO TO 3.
NO >> Repair harnesses or connectors.

### 3.CHECK DAYTIME RUNNING LIGHT RELAY

Check daytime running light relay. Refer to EXL-169, "Component Inspection".

Is the daytime running light relay normal?

YES >> GO TO 4.
NO >> Replace daytime running light relay.

### 4.CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL OUTPUT

CONSULT-III ACTIVE TEST
1. Turn the ignition switch OFF.
2. Install daytime running light relay.
3. Turn the ignition switch ON.
4. Select “DAYTIME RUNNING LIGHT” of BCM (HEAD LAMP) active test item.
5. With operating the test item, check voltage between IPDM E/R harness connector and ground.

| Terminals | | | Test item | Voltage (Approx.) |
|---|---|---|---|---|
| (+) | | (–) | | |
| IPDM E/R | | Ground | DAYTIME RUNNING LIGHT | |
| Connector | Terminal | | | |
| E12 | 15 | | On | 0 V |
| | | | Off | Battery voltage |

Is the measurement value normal?

YES >> Check daytime running light relay circuit. Refer to EXL-168, "Diagnosis Procedure".
Fixed at 0 V >> GO TO 5.
Fixed at battery voltage >>Replace IPDM E/R.

## 5. CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL OPEN CIRCUIT

1. Remove daytime running light relay.
2. Disconnect IPDM E/R harness connector.
3. Check continuity between IPDM E/R harness connector and daytime running light relay harness connector.

| IPDM E/R | | Daytime running light relay | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E12 | 15 | E65 | 2 | Existed |

Does continuity exist?

YES >> GO TO 6.
NO >> Repair the harnesses or connectors.

## 6. CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL SHORT CIRCUIT

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

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E12 | 15 | | Not existed |

Does continuity exist?

YES >> Repair the harnesses or connectors.
NO >> Replace IPDM E/R.

# Component Inspection

INFOID:0000000001716406

## 1. CHECK DAYTIME RUNNING LIGHT RELAY

1. Turn the ignition switch OFF.
2. Remove daytime running light relay.
3. Apply battery voltage to daytime running light relay between terminals 1 and 2.
4. Check continuity of daytime running light relay.

| Daytime running light relay | | Condition | Continuity |
|---|---|---|---|
| Terminal | | Voltage | |
| 5 | 3 | Apply | Existed |
| | | Not Apply | Not existed |
| 4 | | Apply | Not existed |
| | | Not Apply | Existed |

Does continuity exist?

YES >> Daytime running light relay is normal.
NO >> Replace daytime running light relay.

# PARKING LAMP CIRCUIT

## Component Function Check

INFOID:0000000003050006

### 1.CHECK PARKING LAMP OPERATION

IPDM E/R AUTO ACTIVE TEST
1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the parking lamp is turned ON.

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMP” 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-171, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000003050007

### 1.CHECK PARKING LAMP FUSE

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

| Unit | Location | Fuse No. | Capacity |
|---|---|---|---|
| Parking lamp | IPDM E/R | #46 | 10 A |

Is the fuse fusing?

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

### 2.CHECK PARKING LAMP SHORT CIRCUIT

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

| IPDM E/R | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E14 | 39 | | Not existed |
| LH | | 38 | | |

Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.
NO >> Replace the fuse. (Replace IPDM E/R if fusing is found again.)

### 3.CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.
NO >> Replace the bulb.

### 4.CHECK PARKING LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST
1. Disconnect the parking lamp connector.
2. Turn the ignition switch ON.
3. Select “EXTERNAL LAMP” of IPDM E/R active test item.

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

| Terminals | | | | Test item | Voltage (Approx.) |
|---|---|---|---|---|---|
| (+) | | | (–) | | |
| IPDM E/R | | | Ground | EXTERNAL LAMP | |
| Connector | | Terminal | | | |
| RH | E14 | 39 | | TAIL | Battery voltage |
| LH | | 38 | | Off | 0 V |

Is the measurement value normal?

YES >> GO TO 5.
NO >> Replace IPDM E/R.

## 5. CHECK PARKING LAMP OPEN CIRCUIT

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

| IPDM E/R | | | Parking lamp | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | E14 | 39 | E46 | 1 | Existed |
| LH | | 38 | E27 | 1 | |

Does continuity exist?

YES >> GO TO 6.
NO >> Repair the harnesses or connectors.

## 6. CHECK PARKING LAMP GROUND OPEN CIRCUIT

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

| Parking lamp | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E46 | 2 | | Existed |
| LH | E27 | 2 | | |

Does continuity exist?

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

# TURN SIGNAL LAMP CIRCUIT

## Description

INFOID:0000000003050010

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

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

## Component Function Check

INFOID:0000000003050011

### 1.CHECK TURN SIGNAL LAMP

CONSULT-III ACTIVE TEST
1. Select “FLASHER” of BCM (FLASHER) active test item.
2. With operating the test items, check that the turn signal lamp is turned ON.

**LH : Turn signal lamps (LH) ON**
**RH : Turn signal lamps (RH) ON**
**Off : Turn signal lamps OFF**

Is the turn signal lamp turned ON?

YES >> Turn signal lamp circuit is normal.
NO >> Refer to EXL-173, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000003050012

### 1.CHECK TURN SIGNAL LAMP BULB

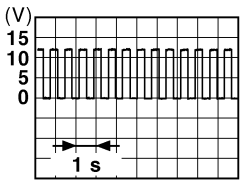
Check the applicable lamp bulb.

Is the bulb normal?

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

### 2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

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

| Terminals | | | | Condition | Voltage (Approx.) |
|---|---|---|---|---|---|
| (+) | | | (–) | | |
| BCM | | | | Turn signal switch | |
| Connector | | Terminal | | | |
| RH | M67 | 61 | Ground | LH or RH |  PKID0926E |
| LH | | 60 | | | |
| | | | | OFF | 0 V |

Is the measurement value normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-67, "Exploded View".

## 3.CHECK TURN SIGNAL LAMP OPEN CIRCUIT

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

Front turn signal lamp

| BCM | | | Front turn signal lamp | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | M67 | 61 | E46 | 3 | Existed |
| LH | | 60 | E27 | | |

Rear turn signal lamp

| BCM | | | Rear combination lamp | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | M67 | 61 | B59 | 3 | Existed |
| LH | | 60 | B80 | | |

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 | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | M67 | 61 | | Not existed |
| LH | | 60 | | |

Does continuity exist?

YES >> Repair the harnesses or connectors.
NO >> GO TO 5.

## 5.CHECK TURN SIGNAL LAMP GROUND OPEN CIRCUIT

Check continuity between the front turn signal lamp, or the rear combination lamp and the ground.

Front turn signal lamp

| Front turn signal lamp | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | E46 | 2 | | Existed |
| LH | E27 | | | |

Rear turn signal lamp

| Rear combination lamp | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | B59 | 4 | | Existed |
| LH | B80 | | | |

Does continuity exist?

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

# HAZARD SWITCH

## Component Function Check

INFOID:0000000003050013

### 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 switch | ON | On |
| | | OFF | Off |

Is the item status normal?

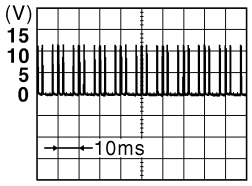
YES >> Hazard switch circuit is normal.
NO >> Refer to EXL-175, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000003050014

### 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.) |
|---|---|---|---|---|
| (+) | | (–) | | |
| BCM | | | Hazard switch | |
| Connector | Terminal | | | |
| M65 | 29 | Ground | ON | 0 V |
| | | | OFF |  |



JPMIA0154GB

Is the measurement value normal?

YES >> Replace BCM. Refer to BCS-67, "Exploded View".
NO >> GO TO 2.

### 2.CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

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

| Hazard switch | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M45 | 2 | M65 | 29 | 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 hazard switch harness connector and the ground.

| Hazard switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M45 | 2 | | 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 hazard switch harness connector and the ground.

| Hazard switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M45 | 1 | | Existed |

Does continuity exist?

YES >> Replace the hazard switch.
NO >> Repair the harnesses or connectors.

# TAIL LAMP CIRCUIT

## Component Function Check

INFOID:0000000003050015

**NOTE:**
Check the license plate lamp circuit if the tail lamp and the license plate lamp are not turned ON. Refer to EXL-179, "Component Function Check".

### 1.CHECK TAIL LAMP OPERATION

IPDM E/R AUTO ACTIVE TEST
1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the tail lamp is turned ON.

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMP” of IPDM E/R active test item.
2. With operating the test items, check that the tail lamp is turned ON.

**TAIL : Tail Lamp ON**
**Off : Tail lamp OFF**

Is the tail lamp turned ON?

YES >> Tail lamp circuit is normal.
NO >> Refer to EXL-177, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000003050016

### 1.CHECK TAIL LAMP FUSE

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

| Unit | Location | Fuse No. | Capacity |
|---|---|---|---|
| Tail lamp | IPDM E/R | #45 | 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 LAMP” of IPDM E/R active test item.
4. With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

| Terminals | | | Test item | Voltage (Approx.) |
|---|---|---|---|---|
| (+) | | (–) | | |
| IPDM E/R | | Ground | EXTERNAL LAMP | |
| Connector | Terminal | | | |
| E14 | 37 | | 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.
3. Check continuity between the IPDM E/R harness connector and the rear combination lamp harness connector.

| IPDM E/R | | | Rear combination lamp | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | E14 | 37 | B59 | 1 | Existed |
| LH | | | B80 | 1 | |

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 combination lamp | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | B59 | 4 | | Existed |
| LH | B80 | 4 | | |

Does continuity exist?

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

# LICENSE PLATE LAMP CIRCUIT

## Component Function Check

INFOID:0000000003050019

### 1.CHECK LICENSE PLATE LAMP OPERATION

IPDM E/R AUTO ACTIVE TEST
1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the license plate lamp is turned ON.

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMP” 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-179, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000003050020

### 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.

| IPDM E/R | | | License plate lamp | | Continuity |
|---|---|---|---|---|---|
| Connector | | Terminal | Connector | Terminal | |
| RH | E14 | 37 | D196 | 1 | Existed |
| LH | | | D195 | 1 | |

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 | | | Ground | Continuity |
|---|---|---|---|---|
| Connector | | Terminal | | |
| RH | D196 | 2 | | Existed |
| LH | D195 | 2 | | |

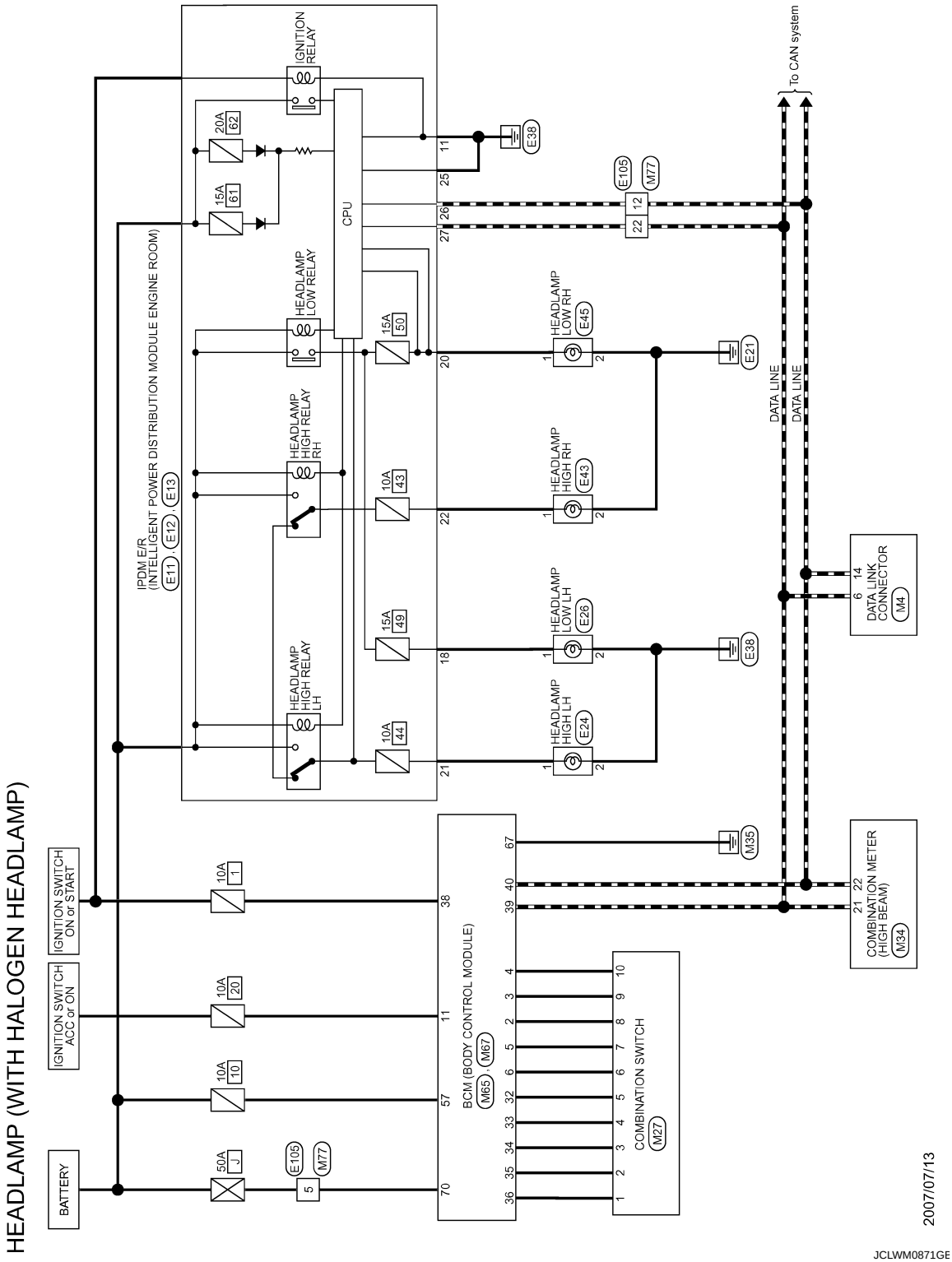
Does continuity exist?

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

# HEADLAMP SYSTEM

## Wiring Diagram - HEADLAMP -

INFOID:0000000001722065



HEADLAMP (WITH HALOGEN HEADLAMP)

| Connector No. | E11 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | M06FB-LC |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 11 | B | – |

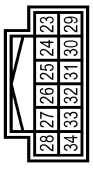
| Connector No. | E12 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | NS08FBR-CS |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 18 | L | – |
| 20 | SB | – |
| 21 | G | – |
| 22 | LG | – |

| Connector No. | E13 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH12FW-NH |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 25 | B | – |
| 26 | P | – |
| 27 | L | – |

| Connector No. | E24 |
|---|---|
| Connector Name | HEADLAMP HIGH LH |
| Connector Type | U02FB |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | G | – |
| 2 | B | – |

| Connector No. | E26 |
|---|---|
| Connector Name | HEADLAMP LOW LH |
| Connector Type | FHZ02FB |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | L | – |
| 2 | B | – |

| Connector No. | E43 |
|---|---|
| Connector Name | HEADLAMP HIGH RH |
| Connector Type | U02FB |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | LG | – |
| 2 | B | –[Without daytime running light system] |

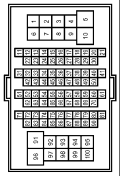
| Connector No. | E45 |
|---|---|
| Connector Name | HEADLAMP LOW RH |
| Connector Type | FHZ02FB |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | SB | – |
| 2 | B | – |

| Connector No. | E105 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 22 | L | – |

JCLWM0872GE

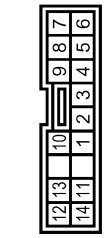
HEADLAMP (WITH HALOGEN HEADLAMP)

| Connector No. | M4 |
|---|---|
| Connector Name | DATA LINK CONNECTOR |
| Connector Type | BD16FW |



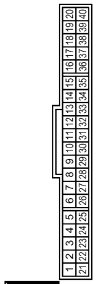
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | L | – |
| 14 | P | – |

| Connector No. | M27 |
|---|---|
| Connector Name | COMBINATION SWITCH |
| Connector Type | TK16FW |



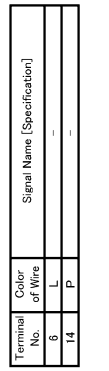
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | V | INPUT 1 |
| 2 | B | INPUT 2 |
| 3 | L | INPUT 3 |
| 4 | GR | INPUT 4 |
| 5 | BR | INPUT 5 |
| 6 | P | OUTPUT 1 |
| 7 | R | OUTPUT 2 |
| 8 | G | OUTPUT 5 |
| 9 | Y | OUTPUT 4 |
| 10 | W | OUTPUT 3 |

| Connector No. | M34 |
|---|---|
| Connector Name | COMBINATION METER |
| Connector Type | SAB40FW |



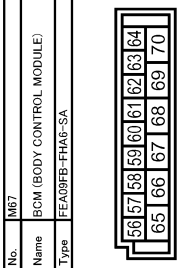
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 21 | L | CAN-H |
| 22 | P | CAN-L |

| Connector No. | M65 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FW |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | G | INPUT 5 |
| 3 | Y | INPUT 4 |
| 4 | W | INPUT 3 |
| 5 | R | INPUT 2 |
| 6 | P | INPUT 1 |
| 11 | SB | ACC |
| 32 | BR | OUTPUT 5 |
| 33 | GR | OUTPUT 4 |
| 34 | L | OUTPUT 3 |
| 35 | B | OUTPUT 2 |
| 36 | V | OUTPUT 1 |

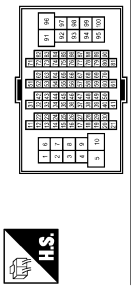
| Connector No. | M67 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FB-FHA6-SA |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 38 | G | IGN |
| 39 | L | CAN-H |
| 40 | P | CAN-L |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 57 | G | BAT FUSE |
| 67 | B | GND |
| 70 | Y | BAT FL |

| Connector No. | M77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |



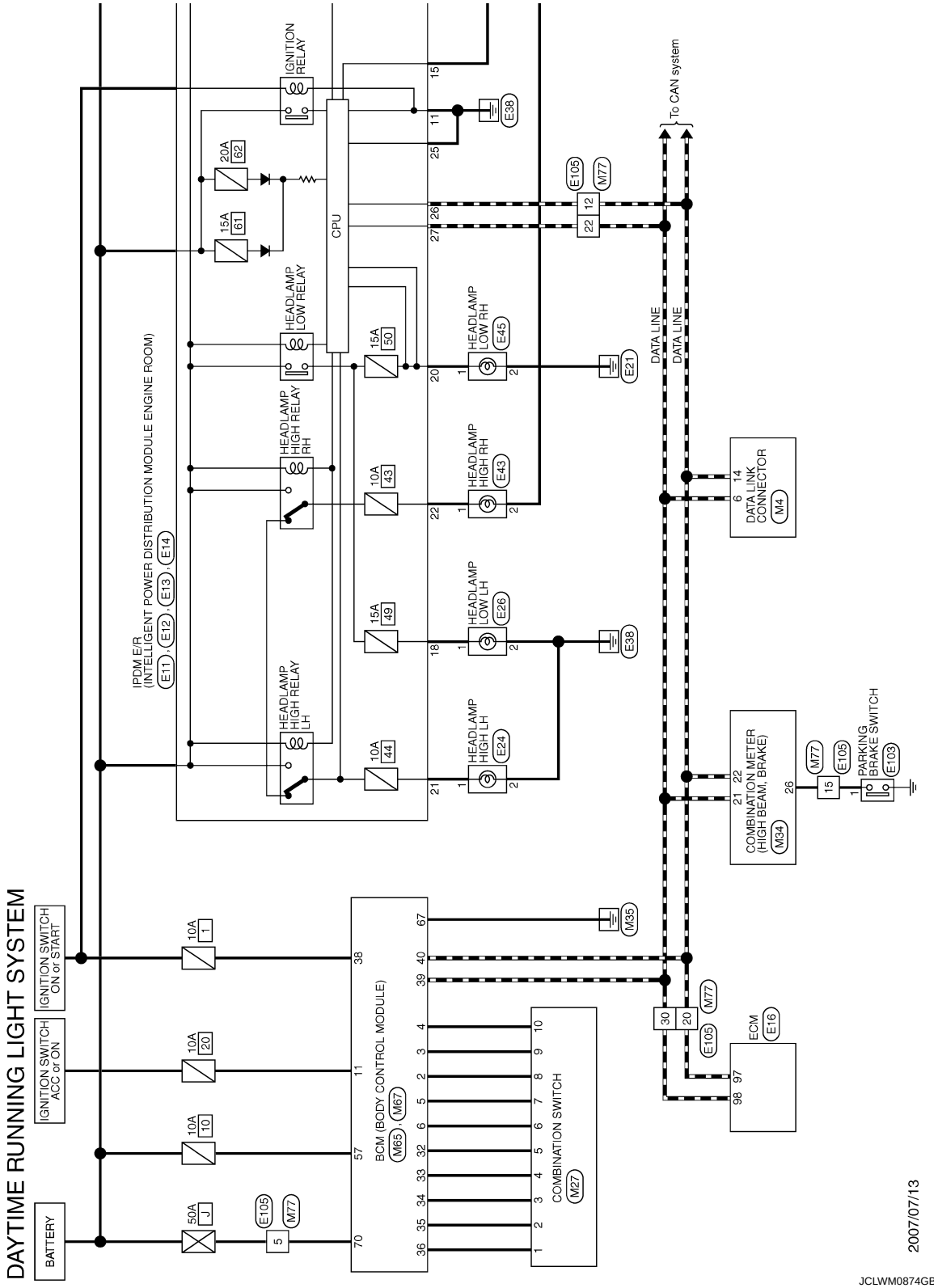
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 22 | L | – |

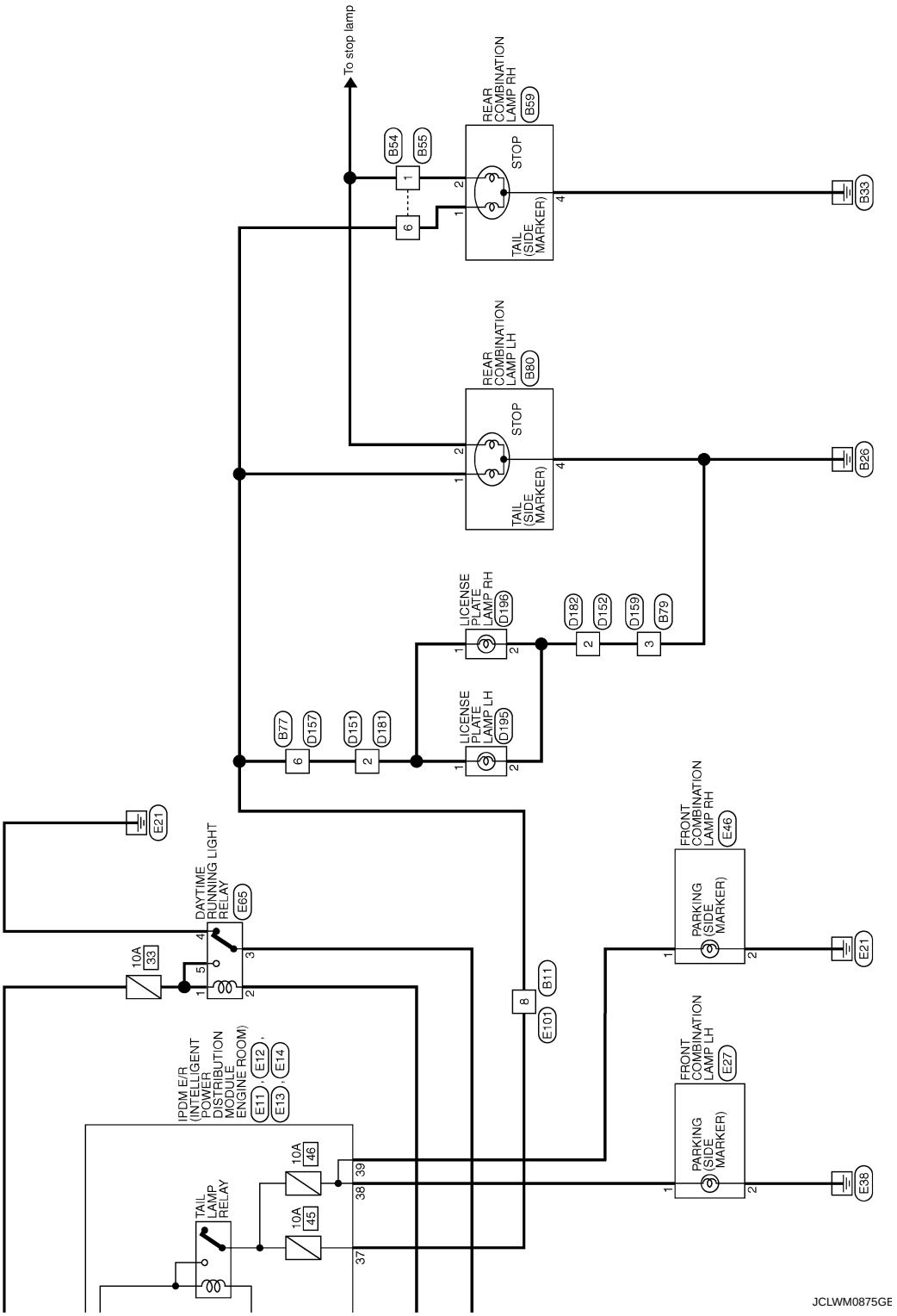
JCLWM0873GE

# DAYTIME RUNNING LIGHT SYSTEM

## Wiring Diagram - DAYTIME RUNNING LIGHT SYSTEM -

INFOID:0000000001720201



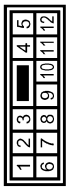

To stop lamp
REAR COMBINATION LAMP RH
B59
B54
B55
STOP
TAIL (SIDE MARKER)
B33
REAR COMBINATION LAMP LH
B80
B26
LICENSE PLATE LAMP RH
D196
LICENSE PLATE LAMP LH
D195
D182
D152
D159
B79
B77
D157
D151
D181
E21
DAYTIME RUNNING LIGHT RELAY
E65
10A 33
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E11, E12, E13, E14
TAIL LAMP RELAY
10A 46
10A 45
B11
E101
FRONT COMBINATION LAMP RH
E46
FRONT COMBINATION LAMP LH
E27
PARKING (SIDE MARKER)
E38
JCLWM0875GE

DAYTIME RUNNING LIGHT SYSTEM

| Connector No. | B11 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

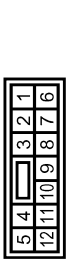
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 8 | R | – |

| Connector No. | B54 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS12MW-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 6 | R | – |

| Connector No. | B55 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS12FW-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 6 | R | – |

| Connector No. | B59 |
|---|---|
| Connector Name | REAR COMBINATION LAMP RH |
| Connector Type | NS04MW-CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | Y | – |
| 4 | B | – |

| Connector No. | B77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10MW-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | R | – |

| Connector No. | B79 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M04MW-LC |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | B | – |

| Connector No. | B80 |
|---|---|
| Connector Name | REAR COMBINATION LAMP LH |
| Connector Type | NS04MW-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | Y | – |
| 4 | B | – |

| Connector No. | D151 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08FBR-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | R | – |

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DAYTIME RUNNING LIGHT SYSTEM

| Connector No. | D152 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M02FW-GY-LC |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | B | – |

| Connector No. | D157 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10FW-CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | R | – |

| Connector No. | D159 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M04FW-LC |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | B | – |

| Connector No. | D181 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08MBR-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | R | – |

| Connector No. | D182 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M02MW-GY-LC |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | B | – |

| Connector No. | D195 |
|---|---|
| Connector Name | LICENSE PLATE LAMP LH |
| Connector Type | TK02FBR |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | B | – |

| Connector No. | D196 |
|---|---|
| Connector Name | LICENSE PLATE LAMP RH |
| Connector Type | TK02FBR |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | B | – |

| Connector No. | E11 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | M06FB-LC |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 11 | B | – |

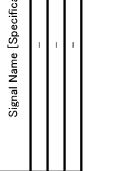
JCLWM0877GE

DAYTIME RUNNING LIGHT SYSTEM

| Connector No. | E12 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | NS08FBR-CS |


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 15 | SB | – |
| 18 | L | – |
| 20 | SB | – |
| 21 | G | – |
| 22 | LG | – |

| Connector No. | E13 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH12FW-NH |




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 25 | B | – |
| 26 | P | – |
| 27 | L | – |

| Connector No. | E14 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | NS12FBR-CS |


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 37 | R | – |
| 38 | R | – |
| 39 | GR | – |

| Connector No. | E16 |
|---|---|
| Connector Name | ECM |
| Connector Type | MAA24FB-MEA8-RH |




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 97 | P | VEHCAN-L |
| 98 | L | VEHCAN-H |

| Connector No. | E24 |
|---|---|
| Connector Name | HEADLAMP HIGH LH |
| Connector Type | U02FB |




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | G | – |
| 2 | B | – |

| Connector No. | E26 |
|---|---|
| Connector Name | HEADLAMP LOW LH |
| Connector Type | FHZ02FB |




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | L | – |
| 2 | B | – |

| Connector No. | E27 |
|---|---|
| Connector Name | FRONT COMBINATION LAMP LH |
| Connector Type | Z03FGY |




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | B | – |

| Connector No. | E43 |
|---|---|
| Connector Name | HEADLAMP HIGH RH |
| Connector Type | U02FB |




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | LG | – |
| 2 | R | –[With daytime running light system] |

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DAYTIME RUNNING LIGHT SYSTEM

| Connector No. | E45 |
|---|---|
| Connector Name | HEADLAMP LOW RH |
| Connector Type | FHZ02FB |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | SB | – |
| 2 | B | – |

| Connector No. | E46 |
|---|---|
| Connector Name | FRONT COMBINATION LAMP RH |
| Connector Type | Z03FGY |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | GR | – |
| 2 | B | – |

| Connector No. | E65 |
|---|---|
| Connector Name | DAYTIME RUNNING LIGHT RELAY |
| Connector Type | MS03FB-M2 |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 2 | SB | – |
| 3 | R | – |
| 4 | B | – |
| 5 | Y | – |

| Connector No. | E101 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 8 | R | – |

| Connector No. | E103 |
|---|---|
| Connector Name | PARKING BRAKE SWITCH |
| Connector Type | P01FB-A |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | V | – |

| Connector No. | E105 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 15 | V | – |
| 20 | P | – |
| 22 | L | – |
| 30 | L | – |

| Connector No. | M4 |
|---|---|
| Connector Name | DATA LINK CONNECTOR |
| Connector Type | BD16FW |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | L | – |
| 14 | P | – |

| Connector No. | M27 |
|---|---|
| Connector Name | COMBINATION SWITCH |
| Connector Type | TK16FW |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | V | INPUT 1 |
| 2 | B | INPUT 2 |
| 3 | L | INPUT 3 |
| 4 | GR | INPUT 4 |
| 5 | BR | INPUT 5 |
| 6 | P | OUTPUT 1 |
| 7 | R | OUTPUT 2 |
| 8 | G | OUTPUT 5 |
| 9 | Y | OUTPUT 4 |
| 10 | W | OUTPUT 3 |

JCLWM0879GE

DAYTIME RUNNING LIGHT SYSTEM

| Connector No. | M34 |
|---|---|
| Connector Name | COMBINATION METER |
| Connector Type | SAB40FW |

H.S.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 21 | L | CAN-H |
| 22 | P | CAN-L |
| 26 | V | PARKING BRAKE SW |

| Connector No. | M65 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FW |

H.S.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | G | INPUT 5 |
| 3 | Y | INPUT 4 |
| 4 | W | INPUT 3 |
| 5 | R | INPUT 2 |
| 6 | P | INPUT 1 |
| 11 | SB | ACC |
| 32 | BR | OUTPUT 5 |
| 33 | GR | OUTPUT 4 |
| 34 | L | OUTPUT 3 |
| 35 | B | OUTPUT 2 |
| 36 | V | OUTPUT 1 |

| 38 | G | IGN |
|---|---|---|
| 39 | L | CAN-H |
| 40 | P | CAN-L |

| Connector No. | M67 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FB-FHA6-SA |

H.S.

| 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
|---|---|---|---|---|---|---|---|---|
| 65 | 66 | 67 | 68 | 69 | 70 | | | |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 57 | G | BAT FUSE |
| 67 | B | GND |
| 70 | Y | BAT FL |

| Connector No. | M77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

H.S.

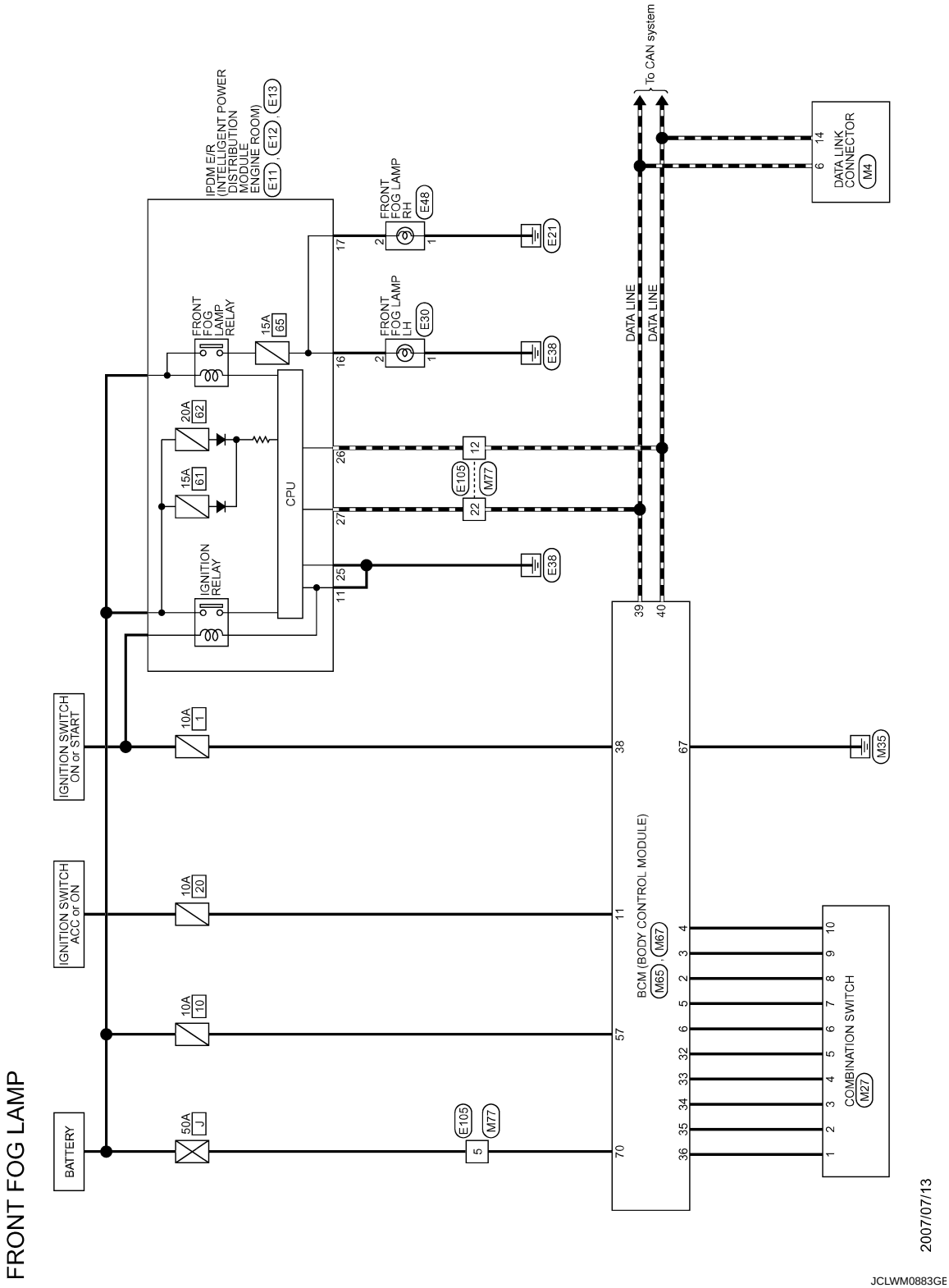
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 15 | V | – |
| 20 | P | – |
| 22 | L | – |
| 30 | L | – |

JCLWM0880GE

# FRONT FOG LAMP SYSTEM

## Wiring Diagram - FRONT FOG LAMP -

INFOID:0000000001720232



FRONT FOG LAMP

| Connector No. | E11 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | M06FB-LC |

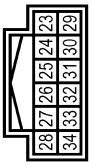


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 11 | B | – |

| Connector No. | E12 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | NS08FBR-CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 16 | Y | – |
| 17 | W | – |

| Connector No. | E13 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH12FW-NH |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 25 | B | – |
| 26 | P | – |
| 27 | L | – |

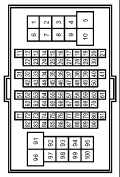
| Connector No. | E30 |
|---|---|
| Connector Name | FRONT FOG LAMP LH |
| Connector Type | FHZ02FB |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | B | – |
| 2 | Y | – |

| Connector No. | E48 |
|---|---|
| Connector Name | FRONT FOG LAMP RH |
| Connector Type | FHZ02FB |

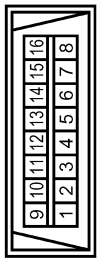
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | B | – |
| 2 | W | – |

| Connector No. | E105 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 22 | L | – |

| Connector No. | M4 |
|---|---|
| Connector Name | DATA LINK CONNECTOR |
| Connector Type | BD16FW |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | L | – |
| 14 | P | – |

| Connector No. | M27 |
|---|---|
| Connector Name | COMBINATION SWITCH |
| Connector Type | TK16FW |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | V | INPUT 1 |
| 2 | B | INPUT 2 |
| 3 | L | INPUT 3 |
| 4 | GR | INPUT 4 |
| 5 | BR | INPUT 5 |
| 6 | P | OUTPUT 1 |
| 7 | R | OUTPUT 2 |
| 8 | G | OUTPUT 5 |
| 9 | Y | OUTPUT 4 |
| 10 | W | OUTPUT 3 |

JCLWM0884GE

FRONT FOG LAMP

| Connector No. | M65 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FW |

H.S.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | G | INPUT 5 |
| 3 | Y | INPUT 4 |
| 4 | W | INPUT 3 |
| 5 | R | INPUT 2 |
| 6 | P | INPUT 1 |
| 11 | SB | ACC |
| 32 | BR | OUTPUT 5 |
| 33 | GR | OUTPUT 4 |
| 34 | L | OUTPUT 3 |
| 35 | B | OUTPUT 2 |
| 36 | V | OUTPUT 1 |

| 38 | G | IGN |
|---|---|---|
| 39 | L | CAN-H |
| 40 | P | CAN-L |

| Connector No. | M67 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FB-FHA6-SA |

H.S.

| 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
|---|---|---|---|---|---|---|---|---|
| 65 | 66 | 67 | 68 | 69 | 70 | | | |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 57 | G | BAT FUSE |
| 67 | B | GND |
| 70 | Y | BAT FL |

| Connector No. | M77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

H.S.

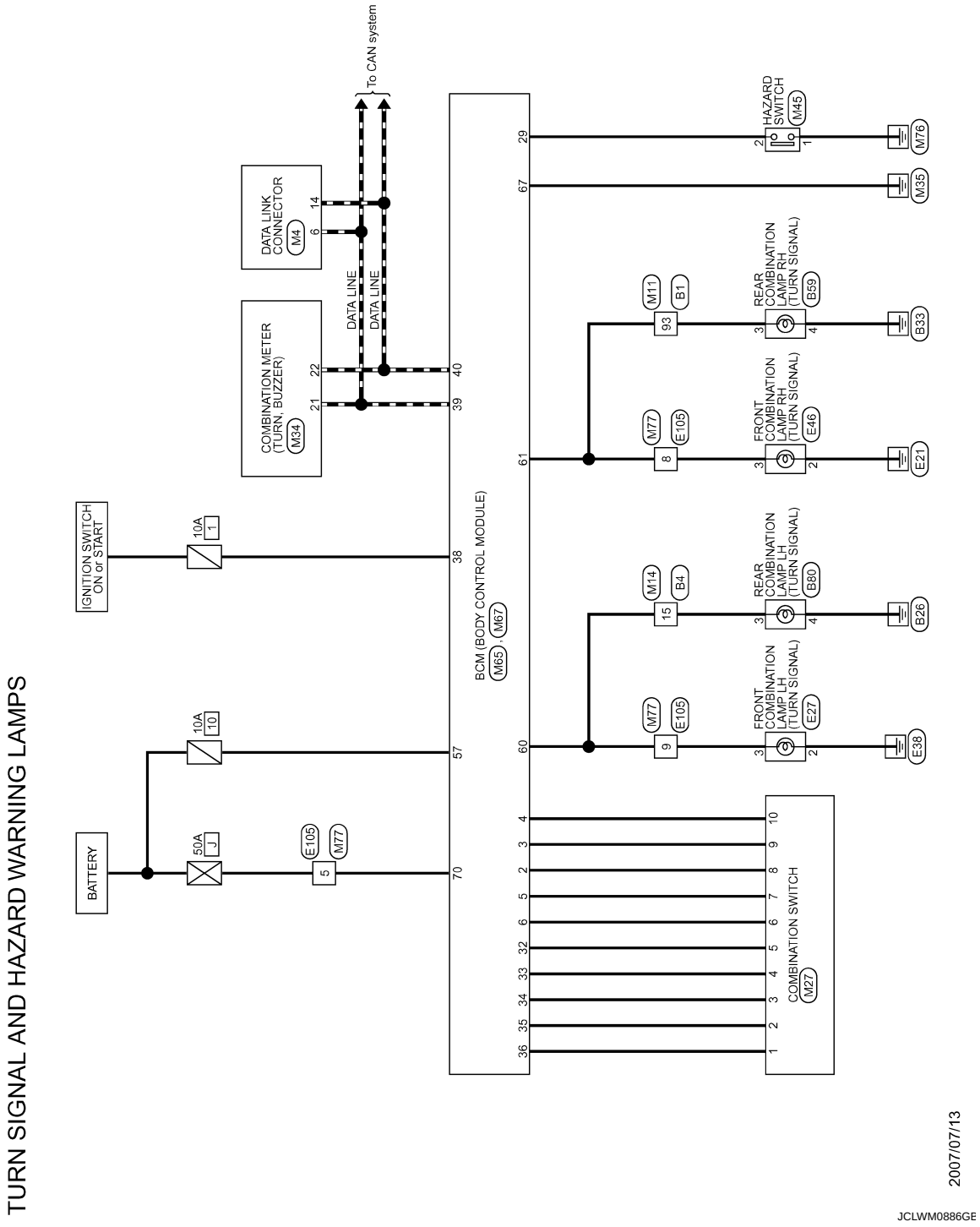
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 22 | L | – |

JCLWM0885GE

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

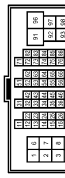
## Wiring Diagram - TURN AND HAZARD WARNING LAMPS -

INFOID:0000000001720233



TURN SIGNAL AND HAZARD WARNING LAMPS

| Connector No. | B1 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 93 | W | – |

| Connector No. | B4 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS16MW-CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 15 | BR | – |

| Connector No. | B59 |
|---|---|
| Connector Name | REAR COMBINATION LAMP RH |
| Connector Type | NS04MW-CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | W | – |
| 4 | B | – |

| Connector No. | B80 |
|---|---|
| Connector Name | REAR COMBINATION LAMP LH |
| Connector Type | NS04MW-CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | BR | – |
| 4 | B | – |

| Connector No. | E27 |
|---|---|
| Connector Name | FRONT COMBINATION LAMP LH |
| Connector Type | Z03FGY |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | B | – |
| 3 | BR | – |

| Connector No. | E46 |
|---|---|
| Connector Name | FRONT COMBINATION LAMP RH |
| Connector Type | Z03FGY |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | B | – |
| 3 | GR | – |

| Connector No. | E105 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 8 | GR | – |
| 9 | BR | – |

| Connector No. | M4 |
|---|---|
| Connector Name | DATA LINK CONNECTOR |
| Connector Type | BD16FW |



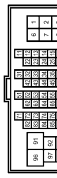
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | L | – |
| 14 | P | – |

JCLWM0887GE

TURN SIGNAL AND HAZARD WARNING LAMPS

| Connector No. | M11 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 93 | GR | – |

| Connector No. | M14 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS16FW-CS |

H.S.

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 15 | BR | – |

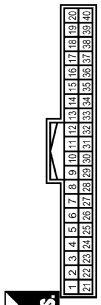
| Connector No. | M45 |
|---|---|
| Connector Name | HAZARD SWITCH |
| Connector Type | TK04FW |

H.S.

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | B | – |
| 2 | W | – |

| Connector No. | M65 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FW |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | G | INPUT 5 |
| 3 | Y | INPUT 4 |
| 4 | W | INPUT 3 |
| 5 | R | INPUT 2 |
| 6 | P | INPUT 1 |
| 29 | W | HAZARD SW |
| 32 | BR | OUTPUT 5 |
| 33 | GR | OUTPUT 4 |
| 34 | L | OUTPUT 3 |
| 35 | B | OUTPUT 2 |
| 36 | V | OUTPUT 1 |

| Connector No. | M27 |
|---|---|
| Connector Name | COMBINATION SWITCH |
| Connector Type | TK16FW |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | V | INPUT 1 |
| 2 | B | INPUT 2 |
| 3 | L | INPUT 3 |
| 4 | GR | INPUT 4 |
| 5 | BR | INPUT 5 |
| 6 | P | OUTPUT 1 |
| 7 | R | OUTPUT 2 |
| 8 | G | OUTPUT 5 |
| 9 | Y | OUTPUT 4 |
| 10 | W | OUTPUT 3 |

| Connector No. | M34 |
|---|---|
| Connector Name | COMBINATION METER |
| Connector Type | SAB40FW |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 21 | L | CAN-H |
| 22 | P | CAN-L |

| Connector No. | M67 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FB-FHA6-SA |

H.S.



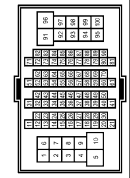
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 57 | G | BAT FUSE |
| 60 | BR | FLASHER OUT PUT (LEFT) |
| 61 | GR | FLASHER OUT PUT (RIGHT) |
| 67 | B | GND |
| 70 | Y | BAT FL |

| 38 | G | IGN |
|---|---|---|
| 39 | L | CAN-H |
| 40 | P | CAN-L |

JCLWM0888GE

TURN SIGNAL AND HAZARD WARNING LAMPS

| Connector No. | M77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |



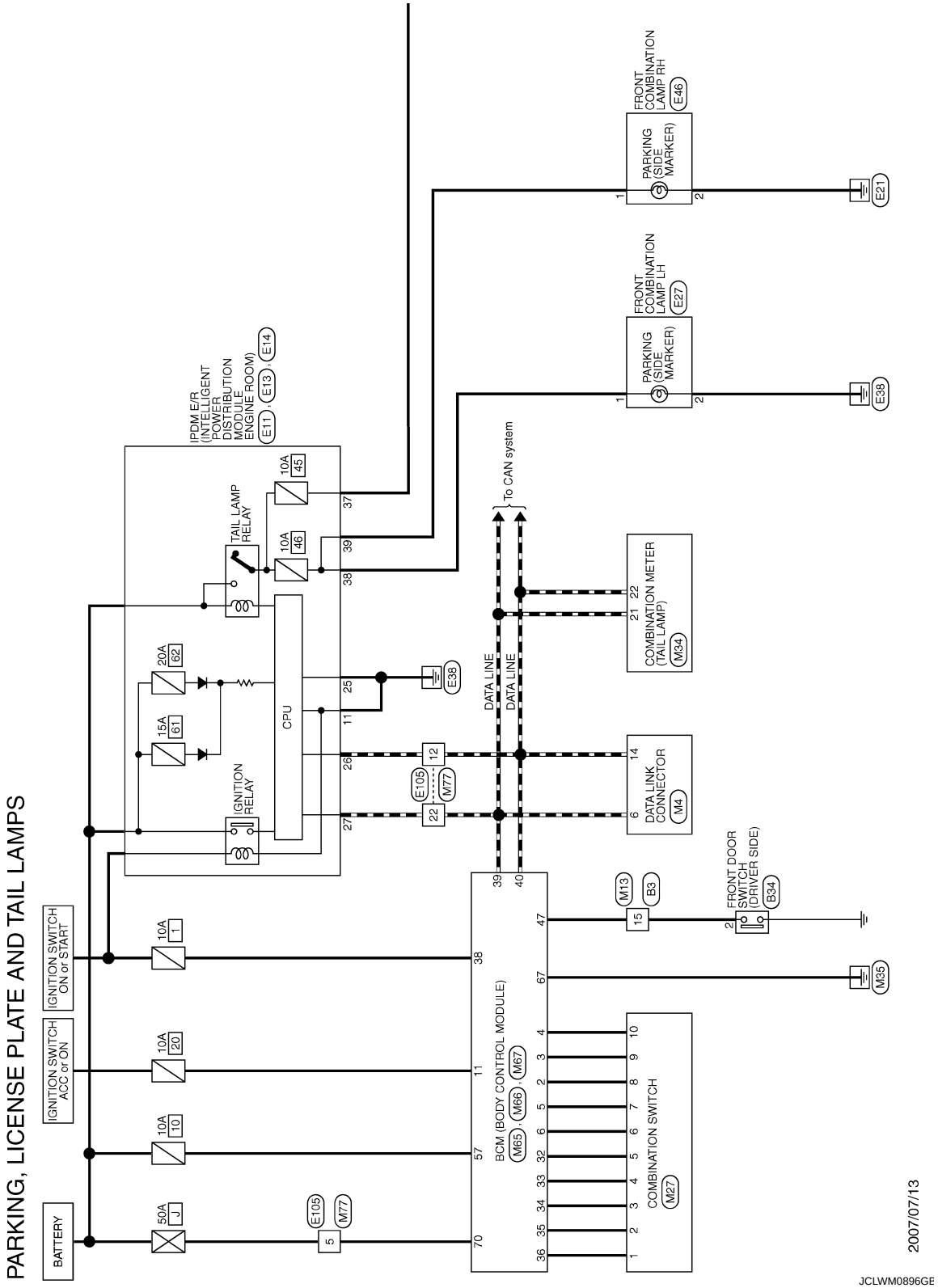
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 8 | GR | – |
| 9 | BR | – |

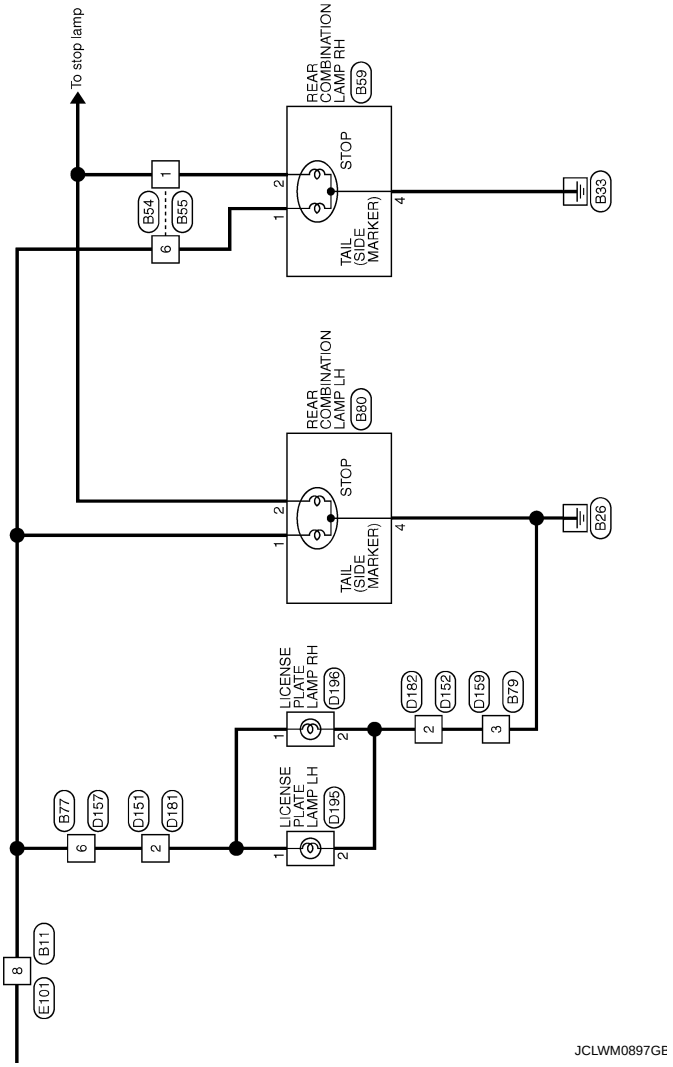
JCLWM0889GE

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

## Wiring Diagram - PARKING, LICENSE PLATE AND TAIL LAMPS -

INFOID:0000000001720234




To stop lamp
REAR COMBINATION LAMP RH
B59
STOP
TAIL (SIDE MARKER)
B54
B55
B33
REAR COMBINATION LAMP LH
B80
B26
LICENSE PLATE LAMP RH
D196
LICENSE PLATE LAMP LH
D195
D182
D152
D159
B79
B77
D157
D151
D181
B11
E101
JCLWM0897GE

PARKING, LICENSE PLATE AND TAIL LAMPS

| Connector No. | B3 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH32MW-NH |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 15 | P | – |

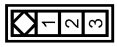
| Connector No. | B11 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

H.S.

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 8 | R | – |

| Connector No. | B34 |
|---|---|
| Connector Name | FRONT DOOR SWITCH (DRIVER SIDE) |
| Connector Type | A03FW |

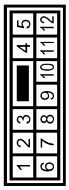
H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | P | – |

| Connector No. | B54 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS12MW-CS |

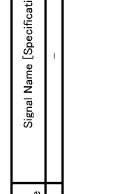
H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 6 | R | – |

| Connector No. | B55 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS12FW-CS |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 6 | R | – |

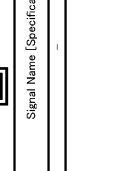
| Connector No. | B59 |
|---|---|
| Connector Name | REAR COMBINATION LAMP RH |
| Connector Type | NS04MW-CS |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | Y | – |
| 4 | B | – |

| Connector No. | B77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10MW-CS |

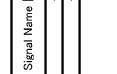
H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | R | – |

| Connector No. | B79 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M04MW-LC |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | B | – |

JCLWM0898GE

PARKING, LICENSE PLATE AND TAIL LAMPS

| Connector No. | B80 |
|---|---|
| Connector Name | REAR COMBINATION LAMP LH |
| Connector Type | NS04MW-CS |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | Y | – |
| 4 | B | – |

| Connector No. | D151 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08FBR-CS |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | R | – |

| Connector No. | D152 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M02FW-GY-LC |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | B | – |

| Connector No. | D157 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10FW-CS |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | R | – |

| Connector No. | D159 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M04FW-LC |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | B | – |

| Connector No. | D181 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08MBR-CS |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | R | – |

| Connector No. | D182 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M02MW-GY-LC |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | B | – |

| Connector No. | D195 |
|---|---|
| Connector Name | LICENSE PLATE LAMP LH |
| Connector Type | TK02FBR |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | B | – |

JCLWM0899GE

PARKING, LICENSE PLATE AND TAIL LAMPS

| Connector No. | D196 |
|---|---|
| Connector Name | LICENSE PLATE LAMP RH |
| Connector Type | TK02FBR |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | B | – |

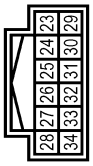
| Connector No. | E11 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | M06FB-LC |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 11 | B | – |

| Connector No. | E13 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH12FW-NH |

H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 25 | B | – |
| 26 | P | – |
| 27 | L | – |

| Connector No. | E14 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | NS12FBR-CS |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 37 | R | – |
| 38 | R | – |
| 39 | GR | – |

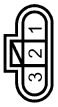
| Connector No. | E27 |
|---|---|
| Connector Name | FRONT COMBINATION LAMP LH |
| Connector Type | Z03FGY |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | B | – |

| Connector No. | E46 |
|---|---|
| Connector Name | FRONT COMBINATION LAMP RH |
| Connector Type | Z03FGY |

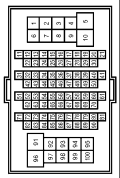
H.S.




| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | GR | – |
| 2 | B | – |

| Connector No. | E101 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

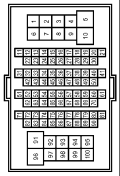
H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 8 | R | – |

| Connector No. | E105 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 22 | L | – |

JCLWM0900GE

PARKING, LICENSE PLATE AND TAIL LAMPS

| Connector No. | M4 |
|---|---|
| Connector Name | DATA LINK CONNECTOR |
| Connector Type | BD16FW |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6 | L | – |
| 14 | P | – |

| Connector No. | M13 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH32FW-NH |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 15 | W | – |

| Connector No. | M27 |
|---|---|
| Connector Name | COMBINATION SWITCH |
| Connector Type | TK16FW |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | V | INPUT 1 |
| 2 | B | INPUT 2 |
| 3 | L | INPUT 3 |
| 4 | GR | INPUT 4 |
| 5 | BR | INPUT 5 |
| 6 | P | OUTPUT 1 |
| 7 | R | OUTPUT 2 |
| 8 | G | OUTPUT 5 |
| 9 | Y | OUTPUT 4 |
| 10 | W | OUTPUT 3 |

| Connector No. | M34 |
|---|---|
| Connector Name | COMBINATION METER |
| Connector Type | SAB40FW |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 21 | L | CAN-H |
| 22 | P | CAN-L |

| Connector No. | M65 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FW |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | G | INPUT 5 |
| 3 | Y | INPUT 4 |
| 4 | W | INPUT 3 |
| 5 | R | INPUT 2 |
| 6 | P | INPUT 1 |
| 11 | SB | ACC |
| 32 | BR | OUTPUT 5 |
| 33 | GR | OUTPUT 4 |
| 34 | L | OUTPUT 3 |
| 35 | B | OUTPUT 2 |
| 36 | V | OUTPUT 1 |

| Connector No. | M66 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FW-FHA6-SA |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 38 | G | IGN |
| 39 | L | CAN-H |
| 40 | P | CAN-L |

| Connector No. | M67 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FB-FHA6-SA |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 47 | W | DR SW DR |

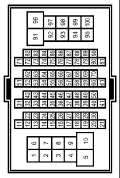
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 57 | G | BAT FUSE |
| 67 | B | GND |
| 70 | Y | BAT FL |

JCLWM0901GE

PARKING, LICENSE PLATE AND TAIL LAMPS

| Connector No. | M77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

H.S.



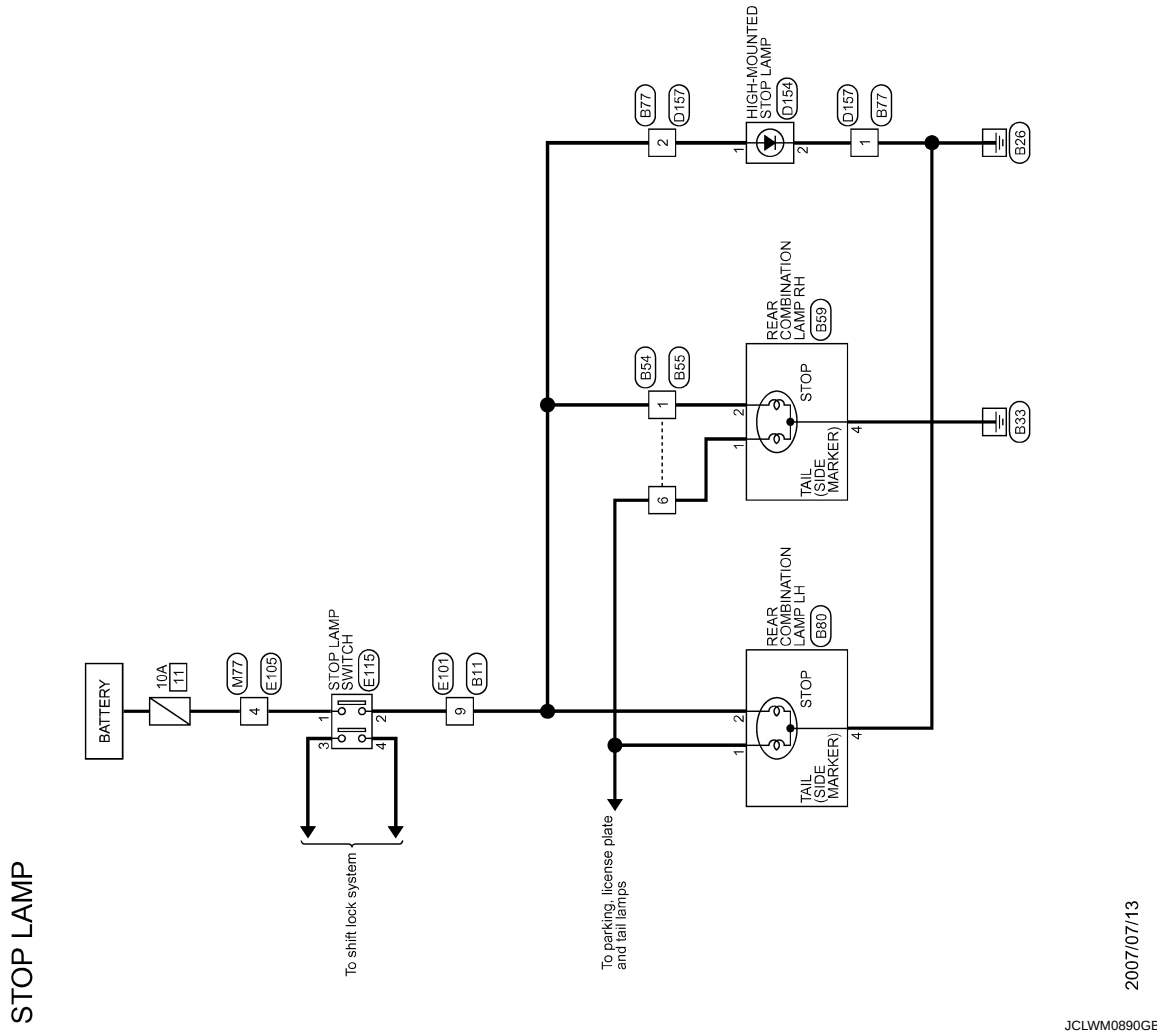
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | Y | – |
| 12 | P | – |
| 22 | L | – |

JCLWM0902GE

# STOP LAMP

## Wiring Diagram - STOP LAMP -

INFOID:0000000001720235



STOP LAMP

| Connector No. | B11 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

H.S.

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 9 | Y | – |

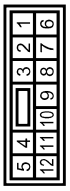
| Connector No. | B54 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS12MW-CS |

H.S.

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 6 | R | – |

| Connector No. | B55 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS12FW-CS |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 6 | R | – |

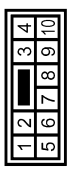
| Connector No. | B59 |
|---|---|
| Connector Name | REAR COMBINATION LAMP RH |
| Connector Type | NS04MW-CS |

H.S.

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | Y | – |
| 4 | B | – |

| Connector No. | B77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10MW-CS |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | B | – |
| 2 | Y | – |

| Connector No. | B80 |
|---|---|
| Connector Name | REAR COMBINATION LAMP LH |
| Connector Type | NS04MW-CS |

H.S.

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | – |
| 2 | Y | – |
| 4 | B | – |

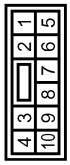
| Connector No. | D154 |
|---|---|
| Connector Name | HIGH-MOUNTED STOP LAMP |
| Connector Type | TK02FW |

H.S.

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 2 | B | – |

| Connector No. | D157 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10FW-CS |

H.S.



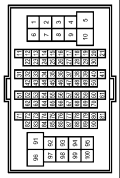
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | B | – |
| 2 | Y | – |

JCLWM0891GE

STOP LAMP

| Connector No. | E101 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

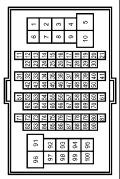
H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 9 | Y | – |

| Connector No. | E105 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

H.S.



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 4 | V | – |

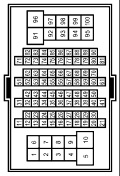
| Connector No. | E115 |
|---|---|
| Connector Name | STOP LAMP SWITCH |
| Connector Type | M04FW-LC |

H.S.


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | V | – |
| 2 | Y | – |
| 3 | G | – |
| 4 | L | – |

| Connector No. | M77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

H.S.



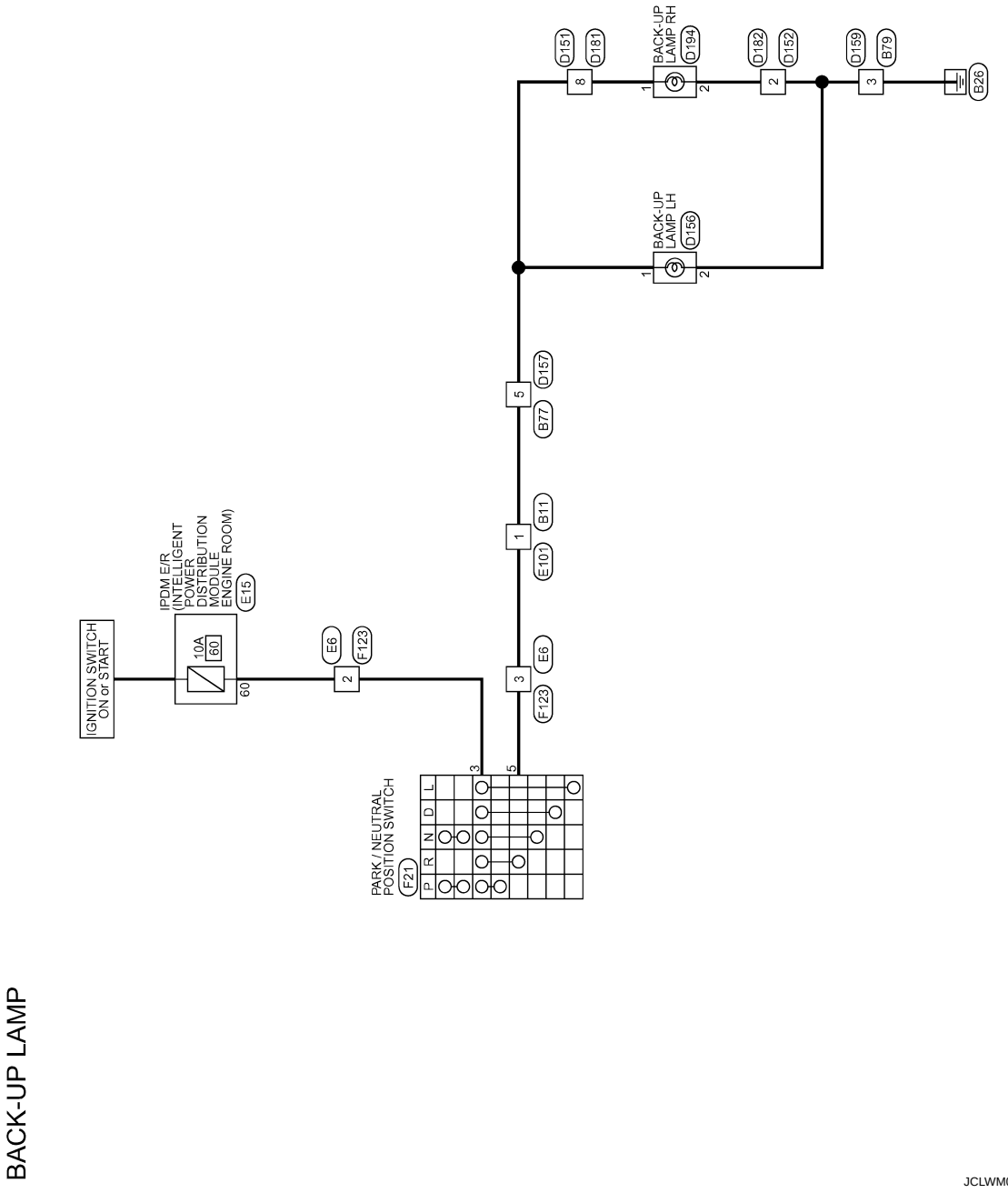
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 4 | Y | – |

JCLWM0892GE

# BACK-UP LAMP

## Wiring Diagram - BUCK-UP LAMP -

INFOID:0000000001720236

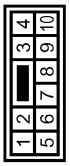


BACK–UP LAMP

| Connector No. | B11 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW–CS16–TM4 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | G | – |

| Connector No. | B77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10MW–CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | G | – |

| Connector No. | B79 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M04MW–LC |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | B | – |

| Connector No. | B151 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08FBR–CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 8 | G | – |

| Connector No. | D152 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M02FW–GY–LC |

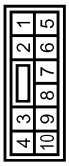


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | B | – |

| Connector No. | D156 |
|---|---|
| Connector Name | BACK–UP LAMP LH |
| Connector Type | NS02FW–CS |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | Y | – |
| 2 | B | – |

| Connector No. | D157 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS10FW–CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 5 | G | – |

| Connector No. | D159 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M04FW–LC |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | B | – |

JCLWM0894GE

BACK–UP LAMP

| Connector No. | D181 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08MBR-CS |

H.S.

| 1 | 2 | | 3 |
|---|---|---|---|
| 4 | 5 | 6 | 7 | 8 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 8 | G | – |

| Connector No. | D182 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | M02MW-GY-LC |

H.S.

| 1 |
|---|
| 2 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | B | – |

| Connector No. | D194 |
|---|---|
| Connector Name | BACK-UP LAMP RH |
| Connector Type | NS02FW-CS |

H.S.

| 1 | 2 |
|---|---|

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | G | – |
| 2 | B | – |

| Connector No. | E6 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TK24MW-1V |

H.S.

| 1 | 2 | 3 | 4 | 5 | 6 | | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | SB | – |
| 3 | G | – |

| Connector No. | E15 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | NS16FW-CS |

H.S.

| 53 | 52 | 51 | 50 | | 49 | 48 | 47 |
|---|---|---|---|---|---|---|---|
| 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 60 | SB | – |

| Connector No. | E101 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

H.S.

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | G | – |

| Connector No. | F21 |
|---|---|
| Connector Name | PARK / NEUTRAL POSITION SWITCH |
| Connector Type | RK08FG |

H.S.

| 7 | 6 | 4 | 8 |
|---|---|---|---|
| 5 | 1 | 2 | 3 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3 | SB | – |
| 5 | G | – |

| Connector No. | F123 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TK24FW-1V |

H.S.

| 11 | 10 | 9 | 8 | 7 | | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | SB | – |
| 3 | G | – |

JCLWM0895GE

# ECU DIAGNOSIS

## BCM (BODY CONTROL MODULE)

### Reference Value

INFOID:0000000003050024

VALUES ON THE DIAGNOSIS TOOL

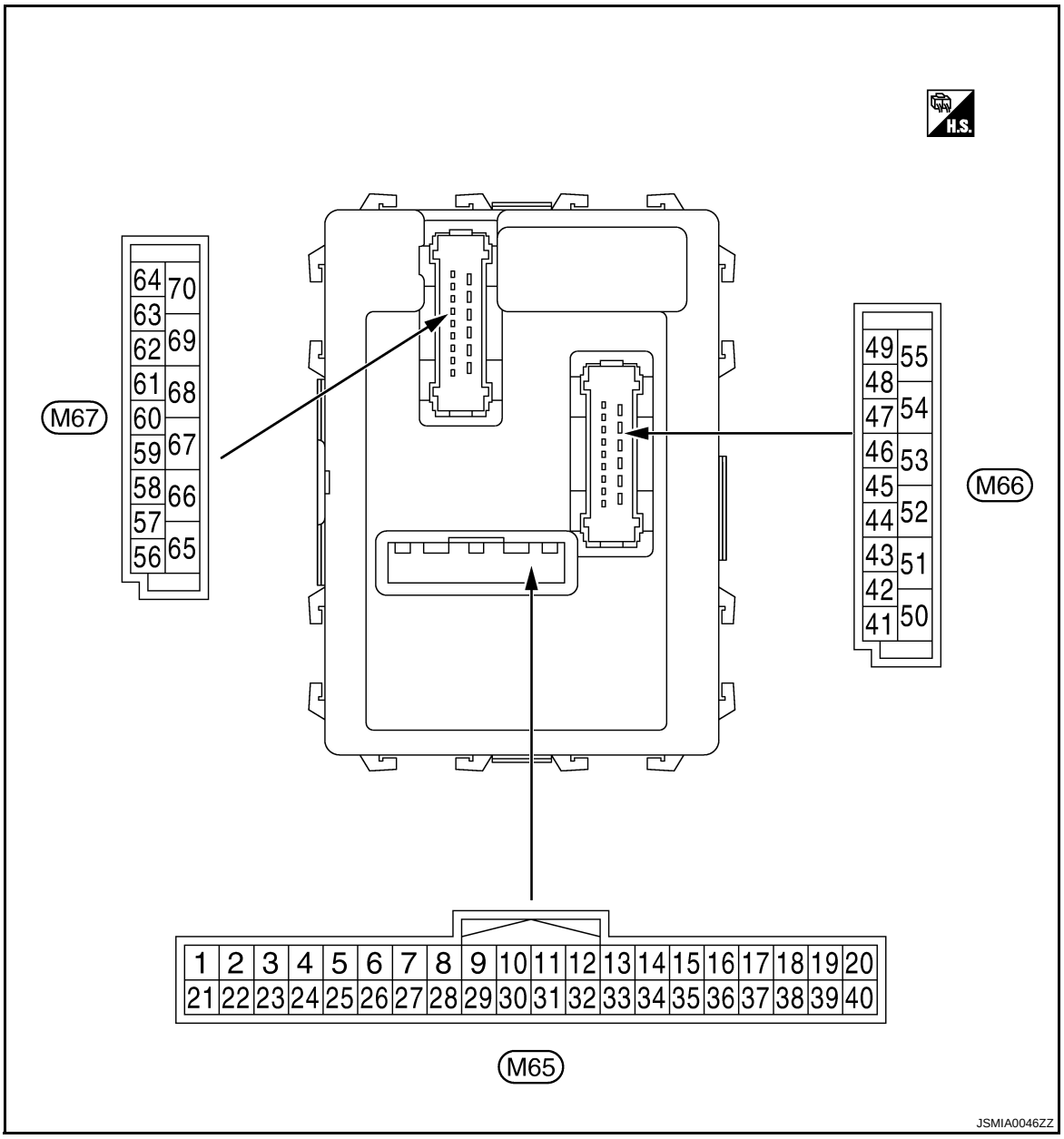
| Monitor Item | Condition | Value/Status |
|---|---|---|
| IGN ON SW | Ignition switch OFF or ACC | Off |
| | Ignition switch ON | On |
| KEY ON SW | Mechanical key is removed from key cylinder | Off |
| | Mechanical key is inserted to key cylinder | On |
| CDL LOCK SW | Door lock/unlock switch does not operate | Off |
| | Press door lock/unlock switch to the lock side | On |
| CDL UNLOCK SW | Door lock/unlock switch does not operate | Off |
| | Press door lock/unlock switch to the unlock side | On |
| DOOR SW-DR | Driver's door closed | Off |
| | Driver's door opened | On |
| DOOR SW-AS | Passenger door closed | Off |
| | Passenger door opened | On |
| DOOR SW-RR | Rear RH door closed | Off |
| | Rear RH door opened | On |
| DOOR SW-RL | Rear LH door closed | Off |
| | Rear LH door opened | On |
| BACK DOOR SW | Back door closed | Off |
| | Back door opened | On |
| KEY CYL LK-SW | Other than driver door key cylinder LOCK position | Off |
| | Driver door key cylinder LOCK position | On |
| KEY CYL UN-SW | Other than driver door key cylinder UNLOCK position | Off |
| | Driver door key cylinder UNLOCK position | On |
| KEYLESS LOCK | “LOCK” button of key fob is not pressed | Off |
| | “LOCK” button of key fob is pressed | On |
| KEYLESS UNLOCK | “UNLOCK” button of key fob is not pressed | Off |
| | “UNLOCK” button of key fob is pressed | On |
| I-KEY LOCK | “LOCK” button of Intelligent Key or door request switch are not pressed | Off |
| | “LOCK” button of Intelligent Key or door request switch are pressed | On |
| I-KEY UNLOCK | “UNLOCK” button of Intelligent Key or door request switch are not pressed | Off |
| | “UNLOCK” button of Intelligent Key or door request switch are pressed | On |
| ACC ON SW | Ignition switch OFF | Off |
| | Ignition switch ACC or ON | On |
| REAR DEF SW | Rear window defogger switch OFF | Off |
| | Rear window defogger switch ON | On |
| LIGHT SW 1ST | Lighting switch OFF | Off |
| | Lighting switch 1ST | On |

| Monitor Item | Condition | Value/Status |
|---|---|---|
| BUCKLE SW | The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF] | Off |
| | The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON] | On |
| KEYLESS PANIC | PANIC button of key fob is not pressed | Off |
| | PANIC button of key fob is pressed | On |
| KEYLESS TRUNK | **NOTE:** The item is indicated, but not monitored. | Off |
| TRNK OPN MNTR | **NOTE:** The item is indicated, but not monitored. | Off |
| RKE LCK-UNLCK | LOCK/UNLOCK button of key fob is not pressed and held simultaneously | Off |
| | LOCK/UNLOCK button of key fob is pressed and held simultaneously | On |
| RKE KEEP UNLK | UNLOCK button of key fob is not pressed | Off |
| | UNLOCK button of key fob is pressed and held | On |
| HI BEAM SW | Lighting switch OFF | Off |
| | Lighting switch HI | On |
| HEAD LAMP SW 1 | Lighting switch OFF | Off |
| | Lighting switch 2ND | On |
| HEAD LAMP SW 2 | Lighting switch OFF | Off |
| | Lighting switch 2ND | On |
| AUTO LIGHT SW | **NOTE:** The item is indicated, but not monitored. | Off |
| PASSING SW | Other than lighting switch PASS | Off |
| | Lighting switch PASS | On |
| FR FOG SW | Front fog lamp switch OFF | Off |
| | Front fog lamp switch ON | On |
| RR FOG SW | **NOTE:** The item is indicated, but not monitored. | Off |
| TURN SIGNAL R | Turn signal switch OFF | Off |
| | Turn signal switch RH | On |
| TURN SIGNAL L | Turn signal switch OFF | Off |
| | Turn signal switch LH | On |
| ENGINE RUN | Engine stopped | Off |
| | Engine running | On |
| PKB SW | Parking brake switch is OFF | Off |
| | Parking brake switch is ON | On |
| CARGO LAMP SW | **NOTE:** The item is indicated, but not monitored. | Off |
| OPTICAL SENSOR | **NOTE:** The item is indicated, but not monitored. | 0 V |
| IGN SW CAN | Ignition switch OFF or ACC | Off |
| | Ignition switch ON | On |
| FR WIPER HI | Front wiper switch OFF | Off |
| | Front wiper switch HI | On |
| FR WIPER LOW | Front wiper switch OFF | Off |
| | Front wiper switch LO | On |

| Monitor Item | Condition | Value/Status |
|---|---|---|
| FR WIPER INT | Front wiper switch OFF | Off |
| | Front wiper switch INT | On |
| FR WASHER SW | Front washer switch OFF | Off |
| | Front washer switch ON | On |
| INT VOLUME | Wiper intermittent dial is in a dial position 1 - 7 | 1 - 7 |
| FR WIPER STOP | Any position other than front wiper stop position | Off |
| | Front wiper stop position | On |
| VEHICLE SPEED | While driving | Equivalent to speedometer reading |
| RR WIPER ON | Rear wiper switch OFF | Off |
| | Rear wiper switch ON | On |
| RR WIPER INT | Rear wiper switch OFF | Off |
| | Rear wiper switch INT | On |
| RR WASHER SW | Rear washer switch OFF | Off |
| | Rear washer switch ON | On |
| RR WIPER STOP | Rear wiper stop position | Off |
| | Other than rear wiper stop position | On |
| RR WIPER STP2 | **NOTE:**<br>The item is indicated, but not monitored. | Off |
| H/L WASH SW | **NOTE:**<br>The item is indicated, but not monitored. | Off |
| HAZARD SW | Hazard switch OFF | Off |
| | Hazard switch ON | On |
| BRAKE SW | Brake pedal is not depressed | Off |
| | Brake pedal is depressed | On |
| FAN ON SIG | Blower fan motor switch OFF | Off |
| | Blower fan motor switch ON (other than OFF) | On |
| AIR COND SW | Compressor ON is not requested from auto amp.<br>(A/C indicator OFF, blower fan motor switch OFF or etc.) | Off |
| | Compressor ON is requested from auto amp.<br>(A/C indicator ON and blower fan motor switch ON). | On |
| I-KEY TRUNK | **NOTE:**<br>The item is indicated, but not monitored. | Off |
| I-KEY PW DWN | UNLOCK button of Intelligent Key is not pressed | Off |
| | UNLOCK button of Intelligent Key is pressed and held | On |
| I-KEY PANIC | PANIC button of Intelligent Key is not pressed | Off |
| | PANIC button of Intelligent Key is pressed | On |
| PUSH SW | Return to ignition switch to “LOCK” position | Off |
| | Press ignition switch | On |
| TRNK OPNR SW | When back door opener switch is not pressed | Off |
| | When back door opener switch is pressed | On |
| TRUNK CYL SW | **NOTE:**<br>The item is indicated, but not monitored. | Off |
| HOOD SW | Close the hood<br>**NOTE:**<br>Vehicles of except for Mexico are OFF-fixed | Off |
| | Open the hood | On |

| Monitor Item | Condition | Value/Status |
|---|---|---|
| OIL PRESS SW | • Ignition switch OFF or ACC<br>• Engine running | Off |
| | Ignition switch ON | On |
| 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 of front LH tire transmitter is not registered | Yet |
| ID REGST FR1 | ID of front RH tire transmitter is registered | Done |
| | ID of front RH tire transmitter is not registered | Yet |
| ID REGST RR1 | ID of rear RH tire transmitter is registered | Done |
| | ID of rear RH tire transmitter is not registered | Yet |
| ID REGST RL1 | ID of rear LH tire transmitter is registered | Done |
| | ID of rear LH tire transmitter is not registered | Yet |
| WARNING LAMP | Tire pressure indicator OFF | Off |
| | Tire pressure indicator ON | On |
| BUZZER | Tire pressure warning alarm is not sounding | Off |
| | Tire pressure warning alarm is sounding | On |

TERMINAL LAYOUT

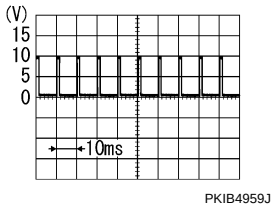
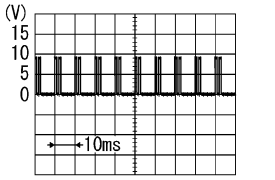
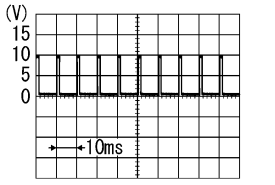
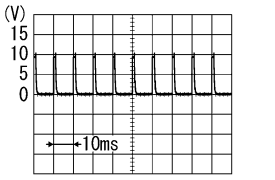
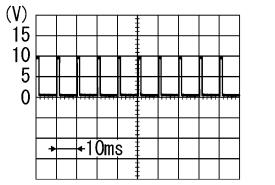


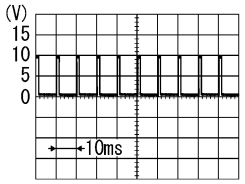
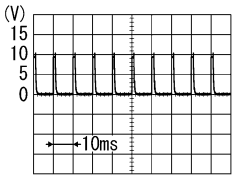
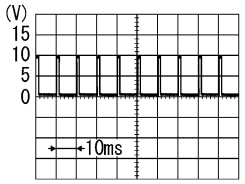
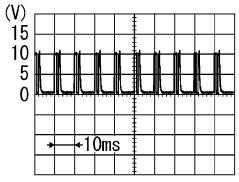
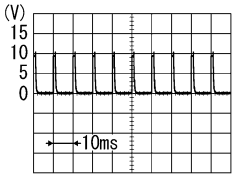

PHYSICAL VALUES

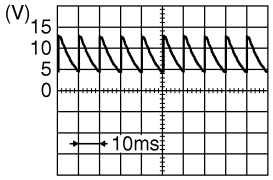
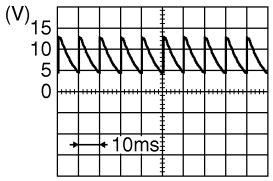
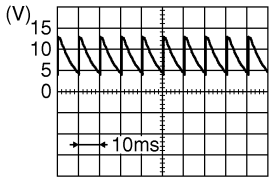
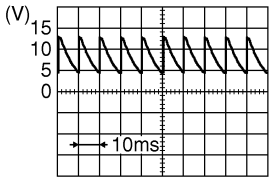
**CAUTION:**

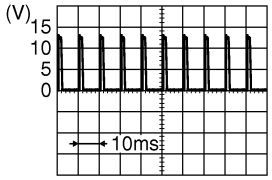
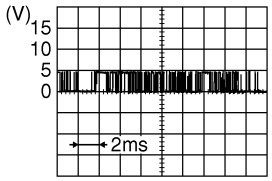
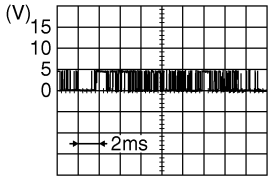
- **Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF is not to be fluctuated by being overloaded.**
- **Turn wiper intermittent dial position to 4 except when checking waveform or voltage of wiper intermittent dial position. Wiper intermittent dial position can be confirmed on CONSULT-III. Refer to BCS-26, "COMB SW : CONSULT-III Function (BCM - COMB SW)".**
- **BCM reads the status of the combination switch at 10 ms internal normally. Refer to BCS-9, "System Diagram".**

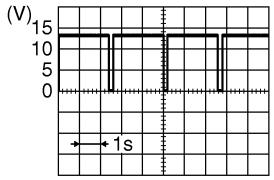
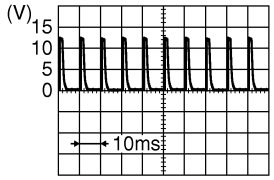
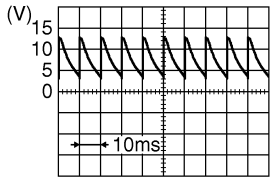
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 1 (V) | Ground | Ignition key hole illumination control | Output | Ignition key hole illumination | OFF | Battery voltage |
| | | | | | ON | 0 V |

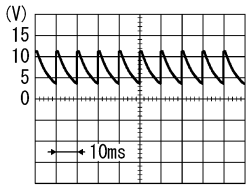
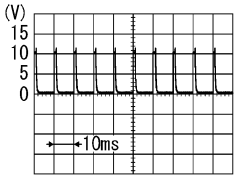
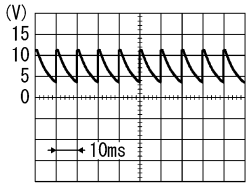
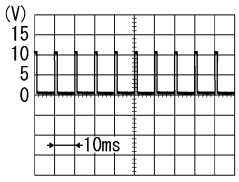
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 2 (G) | Ground | Combination switch INPUT 5 | Input | Combination switch (Wiper intermittent dial 4) | All switch OFF | 0 V |
| | | | | | Turn signal switch RH<br>Lighting switch HI<br>Lighting switch 1ST |  PKIB4959J 1.0 V |
| | | | | | Lighting switch 2ND |  PKIB4953J 2.0 V |
| 3 (Y) | Ground | Combination switch INPUT 4 | Input | Combination switch (Wiper intermittent dial 4) | All switch OFF | 0 V |
| | | | | | Turn signal switch LH<br>Lighting switch PASS<br>Lighting switch 2ND |  PKIB4959J 1.0 V |
| | | | | | Front fog lamp switch ON |  PKIB4955J 0.8 V |
| 4 (W) | Ground | Combination switch INPUT 3 | Input | Combination switch (Wiper intermittent dial 4) | All switch OFF | 0 V |
| | | | | | Front wiper switch LO<br>Front wiper switch MIST<br>Front wiper switch INT |  PKIB4959J 1.0 V |

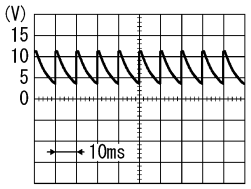
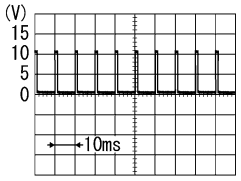
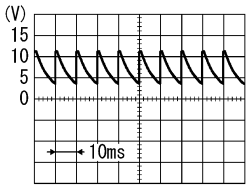
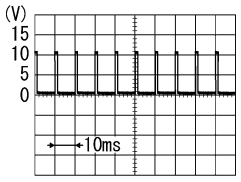
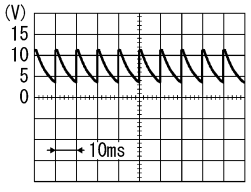
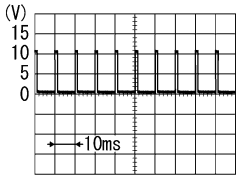
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 5 (R) | Ground | Combination switch INPUT 2 | Input | Combination switch | All switch OFF (Wiper intermittent dial 4) | 0 V |
| | | | | | Front washer switch (Wiper intermittent dial 4) |  PKIB4959J 1.0 V |
| | | | | | Rear washer ON (Wiper intermittent dial 4) | |
| | | | | | Any of the condition below with all switch OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 5<br>• Wiper intermittent dial 6 | |
| | | | | | Rear wiper switch ON (Wiper intermittent dial 4) |  PKIB4955J 0.8 V |
| 6 (P) | Ground | Combination switch INPUT 1 | Input | Combination switch | All switch OFF (Wiper intermittent dial 4) | 0 V |
| | | | | | Front wiper switch HI (Wiper intermittent dial 4) |  PKIB4959J 1.0 V |
| | | | | | Rear wiper switch INT (Wiper intermittent dial 4) | |
| | | | | | Wiper intermittent dial 3 (All switch OFF) | |
| | | | | | Any of the condition below with all switch OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 2 |  PKIB4952J 1.7 V |
| | | | | | Any of the condition below with all switch OFF<br>• Wiper intermittent dial 6<br>• Wiper intermittent dial 7 |  PKIB4955J 0.8 V |

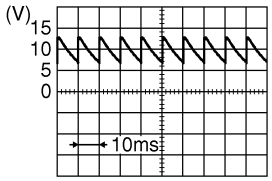
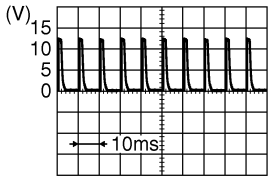
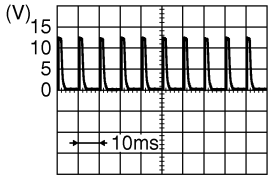
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 7 (L) | Ground | Door key cylinder switch UNLOCK signal | Input | Door key cylinder switch | NEUTRAL position |  JPMIA0587GB 8.0 - 8.5 V |
| | | | | | UNLOCK position | 0 V |
| 8 (R) | Ground | Door key cylinder switch LOCK signal | Input | Door key cylinder switch | NEUTRAL position |  JPMIA0587GB 8.0 - 8.5 V |
| | | | | | LOCK position | 0 V |
| 9 (R) | Ground | Stop lamp switch | Input | Stop lamp switch | OFF (Brake pedal is not depressed) | 0 V |
| | | | | | ON (Brake pedal is depressed) | Battery voltage |
| 10 (SB) | Ground | Rear window defogger switch | Input | Rear window defogger switch | Not pressed | Battery voltage |
| | | | | | Pressed | 0 V |
| 11 (SB) | Ground | Ignition switch ACC | Input | Ignition switch OFF | | 0 V |
| | | | | Ignition switch ACC or ON | | Battery voltage |
| 12 (P) | Ground | Passenger door switch | Input | Passenger door switch | OFF (When passenger door closed) |  JPMIA0586GB 7.5 - 8.0 V |
| | | | | | ON (When passenger door opened) | 0 V |
| 13 (LG) | Ground | Rear door switch RH | Input | Rear door switch RH | OFF (When rear door RH closed) |  JPMIA0587GB 8.0 - 8.5 V |
| | | | | | ON (When rear door RH opened) | 0 V |

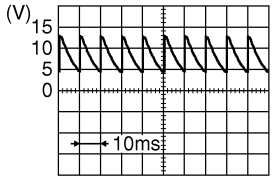
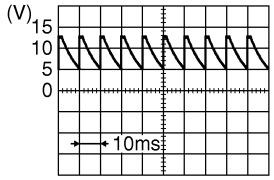
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 15*1 (O) | Ground | TPMS mode trigger switch | Input | Ignition switch OFF | |  JPMIA0588GB 1.5 V |
| 18*1 (O) | Ground | Remote keyless entry receiver ground | Input | Ignition switch ON | | 0 V |
| 19*1 (V) | Ground | Remote keyless entry receiver power supply | Input | Without Intelligent Key system | At any condition | 5 V |
| | | | | With Intelligent Key system | • Ignition switch OFF<br>• For 3 seconds after ignition switch OFF to ON | 0 V |
| | | | | | 3 seconds or later after ignition switch OFF to ON | 5 V |
| 20*1 (GR) | Ground | Remote keyless entry receiver signal | Input | Without Intelligent Key system | At any condition |  JPMIA0589GB **NOTE:** The wave form changes according to signal-receiving condition. |
| | | | | With Intelligent Key system | • Ignition switch OFF<br>• For 3 seconds after ignition switch OFF to ON | 0 V |
| | | | | | 3 seconds or later after ignition switch OFF to ON |  JPMIA0589GB **NOTE:** The wave form changes according to signal-receiving condition. |
| 21 (G) | Ground | Immobilizer antenna signal (Clock) | Input/ Output | Ignition switch OFF | | Battery voltage |

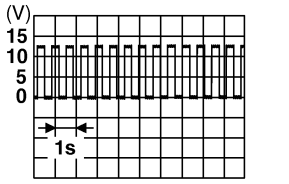
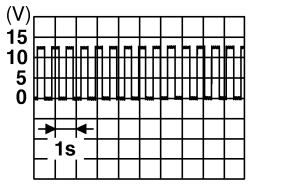
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 23 (B) | Ground | Security indicator signal | Input | Security indicator | ON | 0 V |
| | | | | | Blinking (Ignition switch OFF) |  JPMIA0590GB 12.0 V |
| | | | | | OFF | Battery voltage |
| 25 (BR) | Ground | Immobilizer antenna signal (Rx, Tx) | Input/ Output | Ignition switch OFF | | Battery voltage |
| 27 (Y) | Ground | A/C switch | Input | Ignition switch OFF | | |
| | | | | Ignition switch ON | A/C switch OFF |  JPMIA0591GB 1.6 V |
| | | | | | A/C switch ON | 0 V |
| 28 (LG) | Ground | Blower fan switch | Input | Ignition switch OFF | | |
| | | | | Ignition switch ON | Blower fan switch OFF |  JPMIA0592GB 7.0 - 7.5 V |
| | | | | | Blower fan switch ON | 0 V |
| 29 (W) | Ground | Hazard switch | Input | Hazard switch | OFF | Battery voltage |
| | | | | | ON | 0 V |
| 30 (G) | Ground | Back door opener switch | Input | Back door opener switch | Not pressed | Battery voltage |
| | | | | | Pressed | 0 V |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 32 (BR) | Ground | Combination switch OUTPUT 5 | Output | Combination switch | All switch OFF (Wiper intermittent dial 4) |  PKIB4960J 7.2 V |
| | | | | | Front fog lamp switch ON (Wiper intermittent dial 4)<br>Rear wiper switch ON (Wiper intermittent dial 4)<br>Any of the condition below with all switch OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 2<br>• Wiper intermittent dial 6<br>• Wiper intermittent dial 7 |  PKIB4956J 1.0 V |
| 33 (GR) | Ground | Combination switch OUTPUT 4 | Output | Combination switch | All switch OFF (Wiper intermittent dial 4) |  PKIB4960J 7.2 V |
| | | | | | Lighting switch 1ST (Wiper intermittent dial 4)<br>Rear wiper switch INT (Wiper intermittent dial 4)<br>Any of the condition below with all switch OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 5<br>• Wiper intermittent dial 6 |  PKIB4958J 1.2 V |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 34 (L) | Ground | Combination switch OUTPUT 3 | Output | Combination switch | All switch OFF (Wiper intermittent dial 4) |  PKIB4960J 7.2 V |
| | | | | | Lighting switch 2ND (Wiper intermittent dial 4) |  PKIB4958J 1.2 V |
| | | | | | Lighting switch HI (Wiper intermittent dial 4) | |
| | | | | | Rear washer switch ON (Wiper intermittent dial 4) | |
| | | | | | Any of the condition below with all switch OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 2<br>• Wiper intermittent dial 3 | |
| 35 (B) | Ground | Combination switch OUTPUT 2 | Output | Combination switch (Wiper intermittent dial 4) | All switch OFF |  PKIB4960J 7.2 V |
| | | | | | Lighting switch 2ND |  PKIB4958J 1.2 V |
| | | | | | Lighting switch PASS | |
| | | | | | Front wiper switch INT | |
| | | | | | Front wiper switch HI | |
| 36 (V) | Ground | Combination switch OUTPUT 1 | Output | Combination switch (Wiper intermittent dial 4) | All switch OFF |  PKIB4960J 7.2 V |
| | | | | | Turn signal switch RH |  PKIB4958J 1.2 V |
| | | | | | Turn signal switch LH | |
| | | | | | Front wiper switch LO (Front wiper switch MIST) | |
| | | | | | Front washer switch ON | |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 37 (LG) | Ground | Key switch | Input | Insert mechanical key into ignition key cylinder | | Battery voltage |
| | | | | Remove mechanical key from ignition key cylinder | | 0 V |
| 38 (G) | Ground | Ignition switch ON | Input | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON or START | | Battery voltage |
| 39 (L) | Ground | CAN-H | Input/ Output | — | | — |
| 40 (P) | Ground | CAN-L | Input/ Output | — | | — |
| 43 (V) | Ground | Back door switch | Input | Back door switch | OFF (When back door closed) |   JPMIA0593GB 9.5 - 10.0 V |
| | | | | | ON (When back door opened) | 0 V |
| 44 (B) | Ground | Rear wiper auto stop | Input | Ignition switch ON | Rear wiper stop position | 0 V |
| | | | | | Any position other than rear wiper stop position | Battery voltage |
| 45 (P) | Ground | Door lock and unlock switch LOCK signal | Input | Door lock and unlock switch | NEUTRAL position |   JPMIA0591GB 1.6 V |
| | | | | | LOCK position | 0 V |
| 46 (BR) | Ground | Door lock and unlock switch UNLOCK signal | Input | Door lock and unlock switch | NEUTRAL position |   JPMIA0591GB 1.6 V |
| | | | | | UNLOCK position | 0 V |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 47 (W) | Ground | Driver door switch | Input | Driver door switch | OFF (When driver door closed) |  JPMIA0587GB 8.0 - 8.5 V |
| | | | | | ON (When driver door opened) | 0 V |
| 48 (GR) | Ground | Rear door switch LH | Input | Rear door switch LH | OFF (When rear door LH closed) |  JPMIA0594GB 8.5 - 9.0 V |
| | | | | | ON (When rear door LH opened) | 0 V |
| 49 (L) | Ground | Back door lamp control | Output | Back door lamp switch DOOR position | Back door is closed (Back door lamp turns OFF) | Battery voltage |
| | | | | | Back door is opened (Back door lamp turns ON) | 0 V |
| 53 (V) | Ground | Back door open | Output | Back door opener switch | Not pressed (Back door actuator is activated) | 0 V |
| | | | | | Pressed (Back door actuator is activated) | Battery voltage |
| 55 (SB) | Ground | Rear wiper motor | Output | Ignition switch ON | Rear wiper switch OFF | 0 V |
| | | | | | Rear wiper switch ON | Battery voltage |
| 56 (Y) | Ground | Interior room lamp power supply | Output | After passing the interior room lamp battery saver operation time | | 0 V |
| | | | | Any other time after passing the interior room lamp battery saver operation time | | Battery voltage |
| 57 (G) | Ground | Battery power supply | Input | Ignition switch OFF | | Battery voltage |
| 59 (L) | Ground | Driver door UNLOCK | Output | Driver door | UNLOCK (Actuator is activated) | Battery voltage |
| | | | | | Other then UNLOCK (Actuator is not activated) | 0 V |

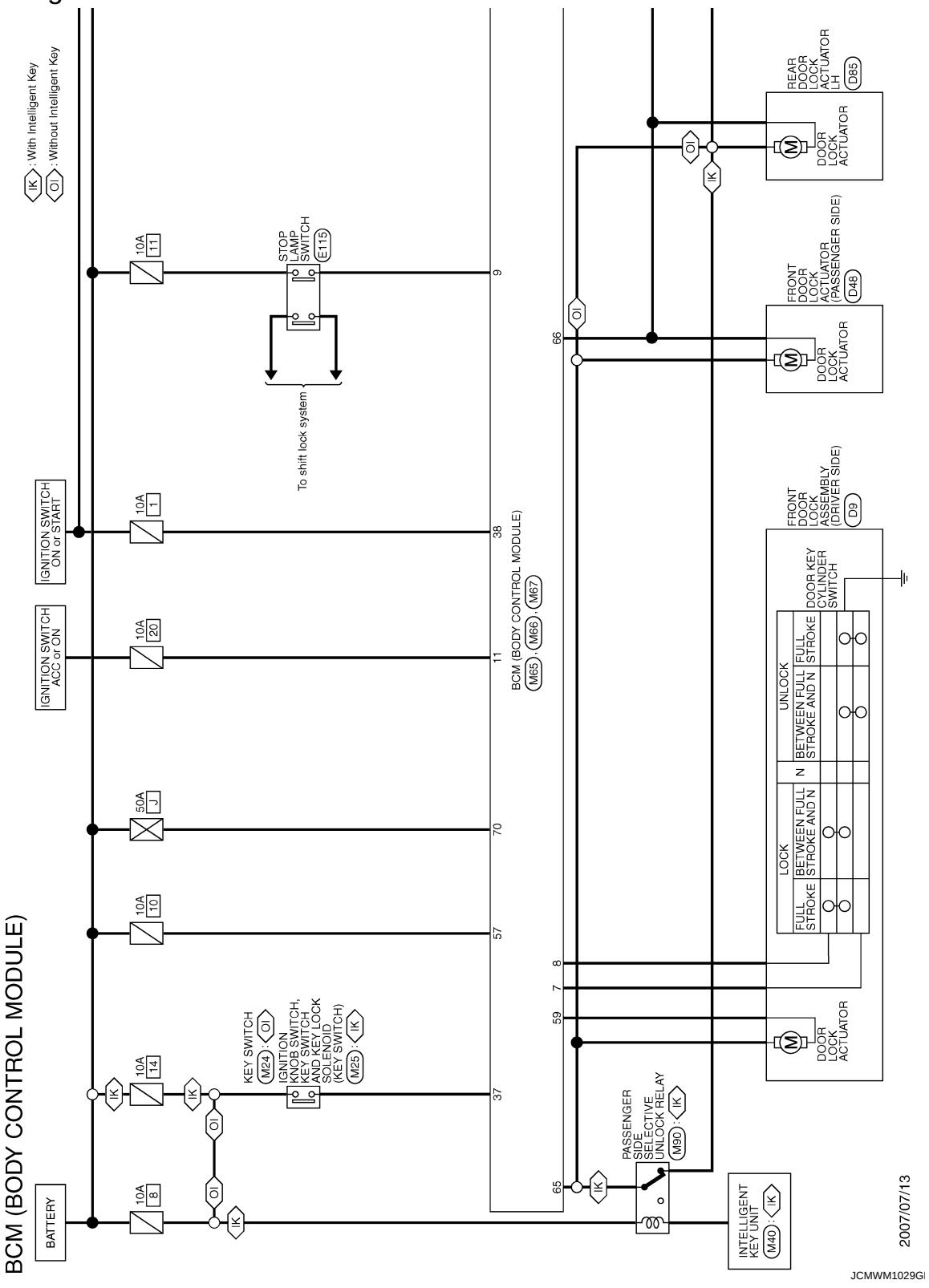
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 60 (BR) | Ground | Turn signal LH | Output | Ignition switch ON | Turn signal switch OFF | 0 V |
| | | | | | Turn signal switch LH |  PKIC6370E 6.0 V |
| 61 (GR) | Ground | Turn signal RH | Output | Ignition switch ON | Turn signal switch OFF | 0 V |
| | | | | | Turn signal switch RH |  PKIC6370E 6.0 V |
| 63 (R) | Ground | Interior room lamp timer control | Output | Interior room lamp | OFF | Battery voltage |
| | | | | | ON | 0 V |
| 65 (V) | Ground | All doors LOCK | Output | All doors | LOCK (Actuator is activated) | Battery voltage |
| | | | | | Other then LOCK (Actuator is not activated) | 0 V |
| 66 (G) | Ground | Passenger door and rear door UNLOCK | Output | Passenger door and rear door | UNLOCK (Actuator is activated) | Battery voltage |
| | | | | | Other then UNLOCK (Actuator is not activated) | 0 V |
| 67 (B) | Ground | Ground | Output | Ignition switch ON | | 0 V |
| 68 (L) | Ground | P/W power supply (RAP) | Output | Ignition switch ON | | Battery voltage |
| 69 (R)*2 (P)*3 | Ground | P/W power supply (BAT) | Output | Ignition switch OFF | | Battery voltage |
| 70 (Y) | Ground | Battery power supply | Input | Ignition switch OFF | | Battery voltage |

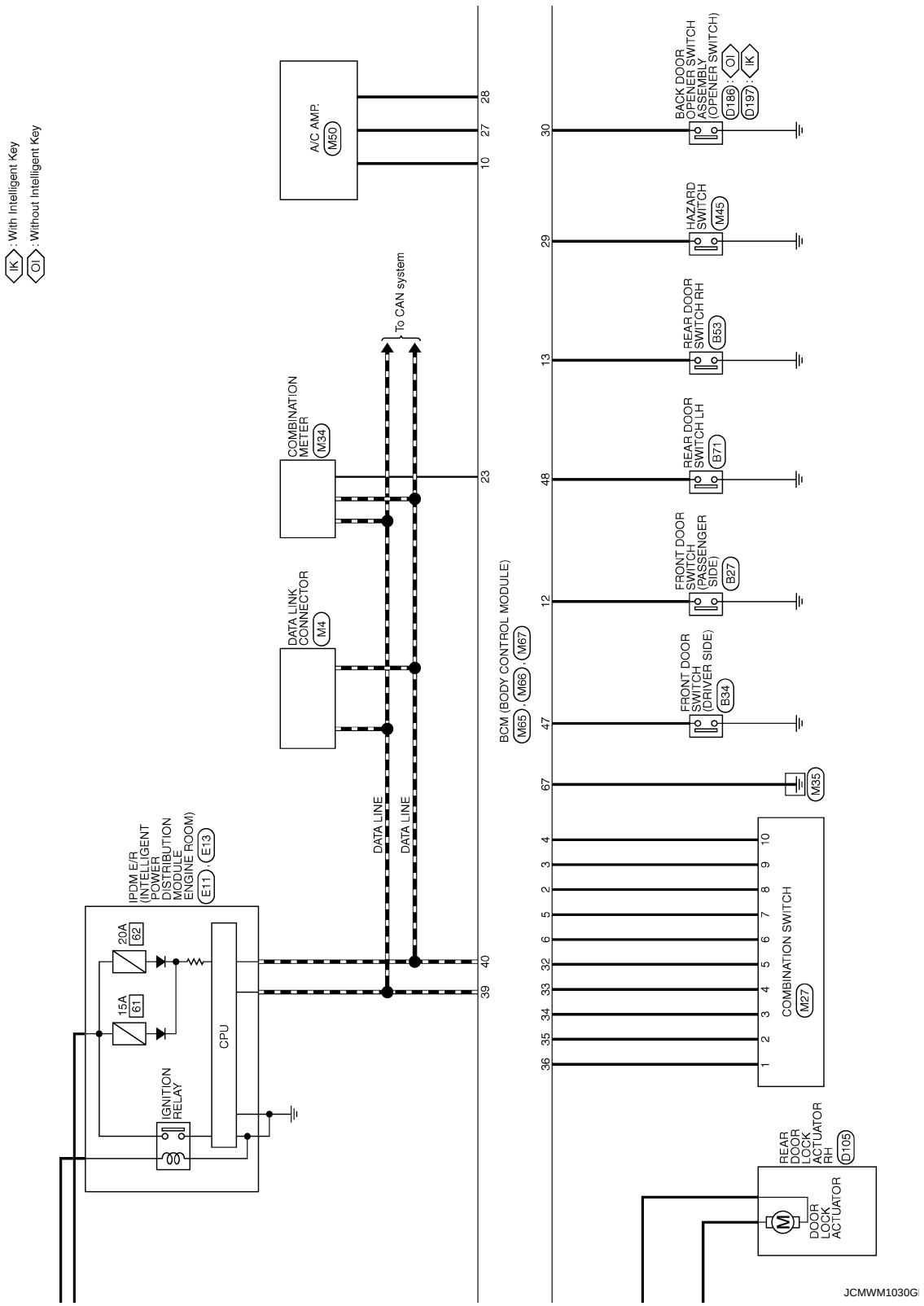
**NOTE:**

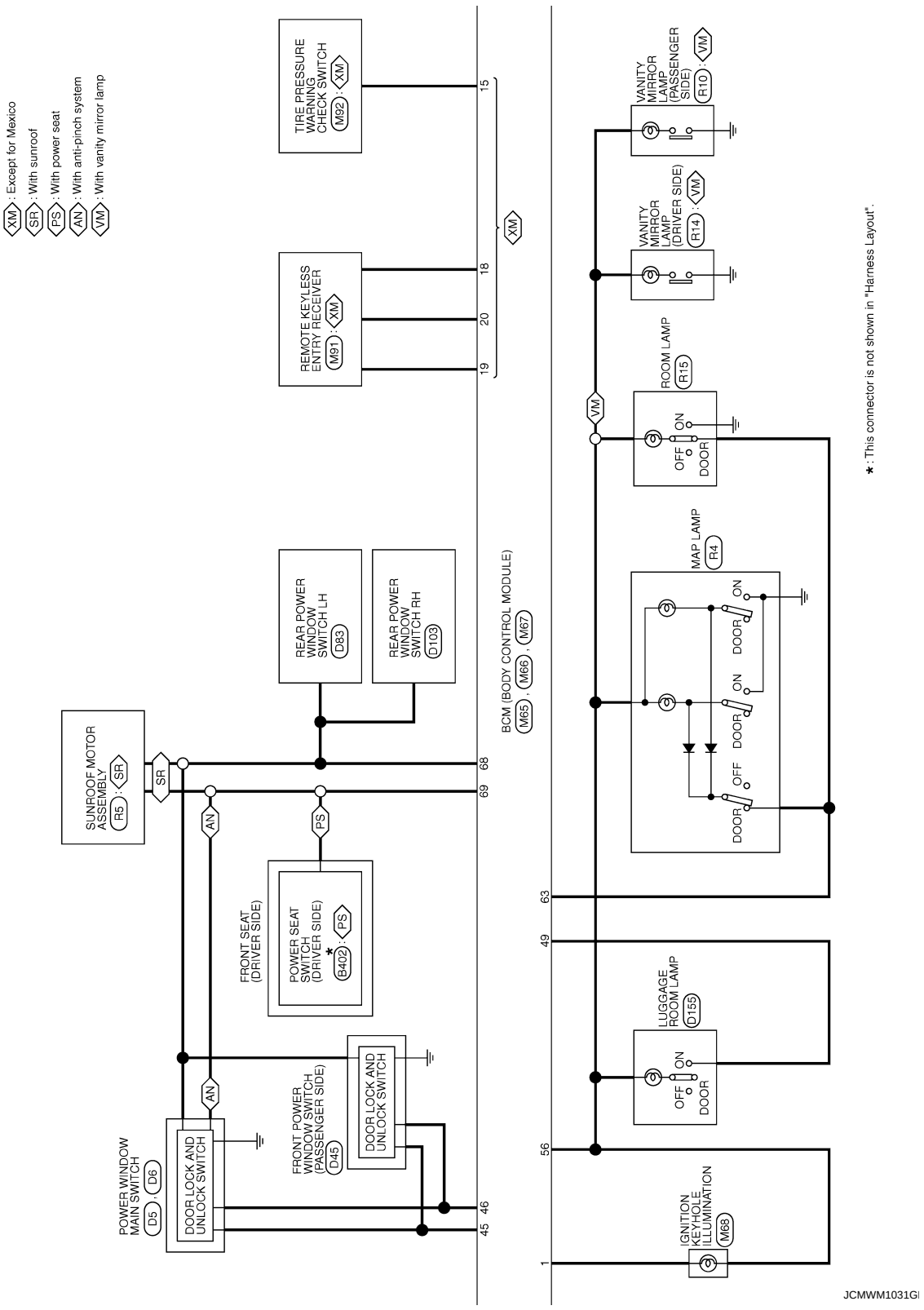
- *1: Except for Mexico
- *2: Without anti-pinch system
- *3: With anti-pinch system

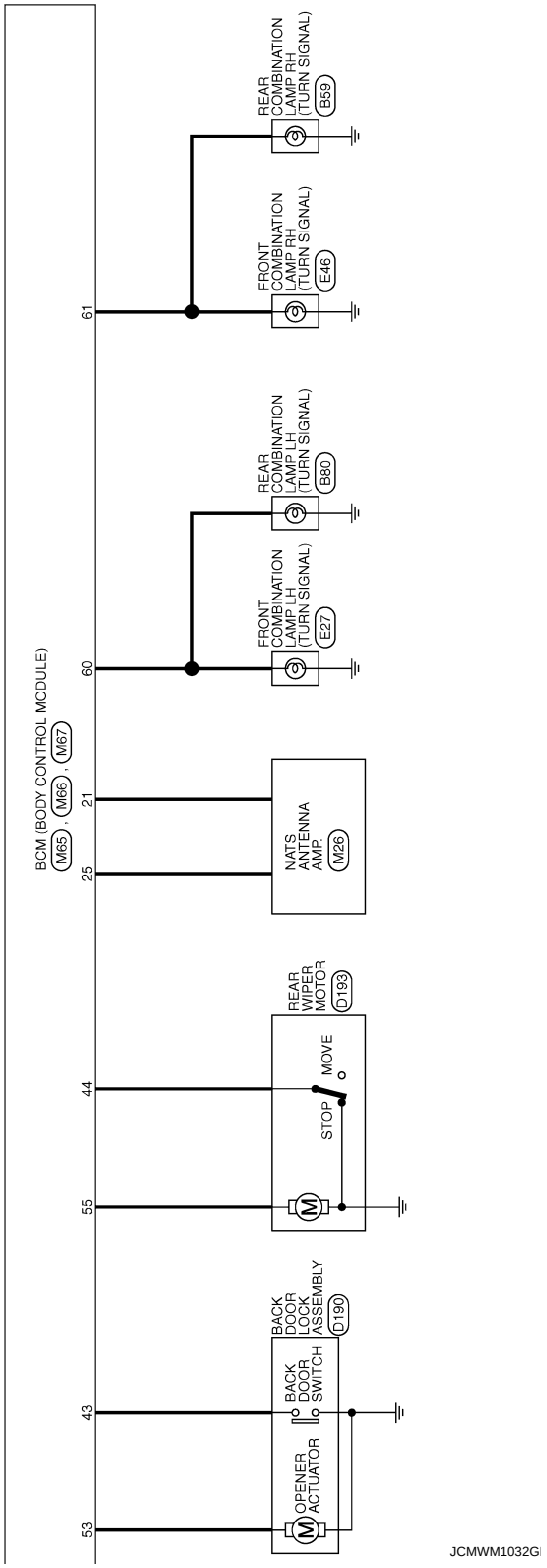
## Wiring Diagram - BCM -

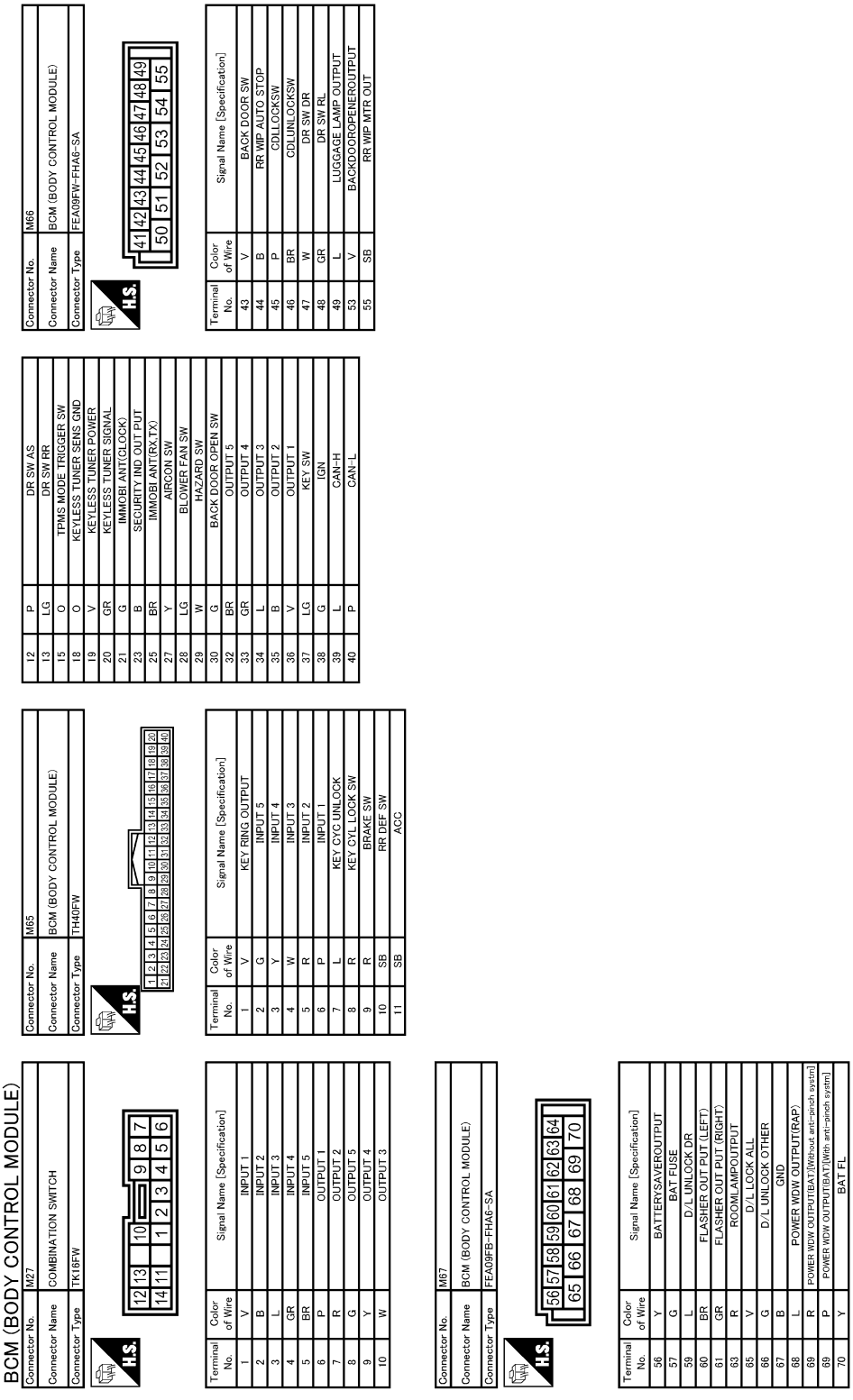
INFOID:0000000003050025




IK : With Intelligent Key
OI : Without Intelligent Key
A/C AMP. M50
28
27
10
To CAN system
COMBINATION METER M34
23
DATA LINK CONNECTOR M4
DATA LINE
DATA LINE
40
39
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E11, E13
20A 62
15A 61
CPU
IGNITION RELAY
BCM (BODY CONTROL MODULE) M65, M66, M67
30
29
13
48
12
47
67
BACK DOOR OPENER SWITCH ASSEMBLY (OPENER SWITCH) D186: OI D197: IK
HAZARD SWITCH M45
REAR DOOR SWITCH RH B53
REAR DOOR SWITCH LH B71
FRONT DOOR SWITCH (PASSENGER SIDE) B27
FRONT DOOR SWITCH (DRIVER SIDE) B34
M35
4 3 2 5 6 32 33 34 35 36
10 9 8 7 6 5 4 3 2 1
COMBINATION SWITCH M27
REAR DOOR LOCK ACTUATOR RH D105
DOOR LOCK ACTUATOR
JCMWM1030G


XM : Except for Mexico
SR : With sunroof
PS : With power seat
AN : With anti-pinch system
VM : With vanity mirror lamp
TIRE PRESSURE WARNING CHECK SWITCH M92 : XM
REMOTE KEYLESS ENTRY RECEIVER M91 : XM
REAR POWER WINDOW SWITCH LH D83
REAR POWER WINDOW SWITCH RH D103
SUNROOF MOTOR ASSEMBLY R5 : SR
POWER WINDOW MAIN SWITCH D5 , D6
DOOR LOCK AND UNLOCK SWITCH
FRONT POWER WINDOW SWITCH (PASSENGER SIDE) D45
DOOR LOCK AND UNLOCK SWITCH
FRONT SEAT (DRIVER SIDE)
POWER SEAT SWITCH (DRIVER SIDE) *1 B402 : PS
BCM (BODY CONTROL MODULE) M65 , M66 , M67
VANITY MIRROR LAMP (PASSENGER SIDE) R10 : VM
VANITY MIRROR LAMP (DRIVER SIDE) R14 : VM
ROOM LAMP R15
MAP LAMP R4
LUGGAGE ROOM LAMP D155
IGNITION KEYHOLE ILLUMINATION M68
ON
OFF
DOOR
*1 : This connector is not shown in "Harness Layout".
JCMWM1031GB


BCM (BODY CONTROL MODULE)
(M65), (M66), (M67)
61
60
21
25
44
55
43
53
REAR COMBINATION LAMP RH (TURN SIGNAL) B59
FRONT COMBINATION LAMP RH (TURN SIGNAL) E46
REAR COMBINATION LAMP LH (TURN SIGNAL) B80
FRONT COMBINATION LAMP LH (TURN SIGNAL) E27
NATS ANTENNA AMP. M26
REAR WIPER MOTOR D193
MOVE
STOP
BACK DOOR LOCK ASSEMBLY D190
BACK DOOR SWITCH
OPENER ACTUATOR
JCMWM1032G




JCMWM1033GI

## Fail Safe

INFOID:0000000003050026

### REAR WIPER MOTOR PROTECTION

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

Condition of cancellation

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

### 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.

## DTC Inspection Priority Chart

INFOID:0000000003050027

| Priority | DTC |
|---|---|
| 1 | U1000: CAN COMM CIRCUIT |
| 2 | C1735: IGN CIRCUIT OPEN |
| 3 | • C1704: LOW PRESSURE FL<br>• C1705: LOW PRESSURE FR<br>• C1706: LOW PRESSURE RR<br>• C1707: LOW PRESSURE RL<br>• C1708: [NO DATA] FL<br>• C1709: [NO DATA] FR<br>• C1710: [NO DATA] RR<br>• C1711: [NO DATA] RL<br>• C1712: [CHECKSUM ERR] FL<br>• C1713: [CHECKSUM ERR] FR<br>• C1714: [CHECKSUM ERR] RR<br>• C1715: [CHECKSUM ERR] RL<br>• C1716: [PRESS DATA ERR] FL<br>• C1717: [PRESS DATA ERR] FR<br>• C1718: [PRESS DATA ERR] RR<br>• C1719: [PRESS DATA ERR] RL<br>• C1720: [CODE ERR] FL<br>• C1721: [CODE ERR] FR<br>• C1722: [CODE ERR] RR<br>• C1723: [CODE ERR] RL<br>• C1724: [BATT VOLT LOW] FL<br>• C1725: [BATT VOLT LOW] FR<br>• C1726: [BATT VOLT LOW] RR<br>• C1727: [BATT VOLT LOW] RL<br>• C1729: VHCL SPEED SIG ERR |

## DTC Index

INFOID:0000000003050028

**NOTE:**
Details of time display
- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.
- 1 - 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch OFF → ON after returning to the normal condition if the malfunction is detected again.

| DTC | Tire pressure monitor warning lamp ON | Reference |
|---|---|---|
| U1000: CAN COMM CIRCUIT | — | BCS-35 |
| C1704: LOW PRESSURE FL | × | WT-14 |
| C1705: LOW PRESSURE FR | × | |
| C1706: LOW PRESSURE RR | × | |
| C1707: LOW PRESSURE RL | × | |

| DTC | Tire pressure monitor warning lamp ON | Reference |
|---|---|---|
| C1708: [NO DATA] FL | × | WT-16 |
| C1709: [NO DATA] FR | × | |
| C1710: [NO DATA] RR | × | |
| C1711: [NO DATA] RL | × | |
| C1712: [CHECKSUM ERR] FL | × | WT-19 |
| C1713: [CHECKSUM ERR] FR | × | |
| C1714: [CHECKSUM ERR] RR | × | |
| C1715: [CHECKSUM ERR] RL | × | |
| C1716: [PRESS DATA ERR] FL | × | WT-22 |
| C1717: [PRESS DATA ERR] FR | × | |
| C1718: [PRESS DATA ERR] RR | × | |
| C1719: [PRESS DATA ERR] RL | × | |
| C1720: [CODE ERR] FL | × | WT-24 |
| C1721: [CODE ERR] FR | × | |
| C1722: [CODE ERR] RR | × | |
| C1723: [CODE ERR] RL | × | |
| C1724: [BATT VOLT LOW] FL | — | WT-27 |
| C1725: [BATT VOLT LOW] FR | — | |
| C1726: [BATT VOLT LOW] RR | — | |
| C1727: [BATT VOLT LOW] RL | — | |
| C1729: VHCL SPEED SIG ERR | × | WT-30 |
| C1735: IGN CIRCUIT OPEN | — | BCS-36 |

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

## Reference Value

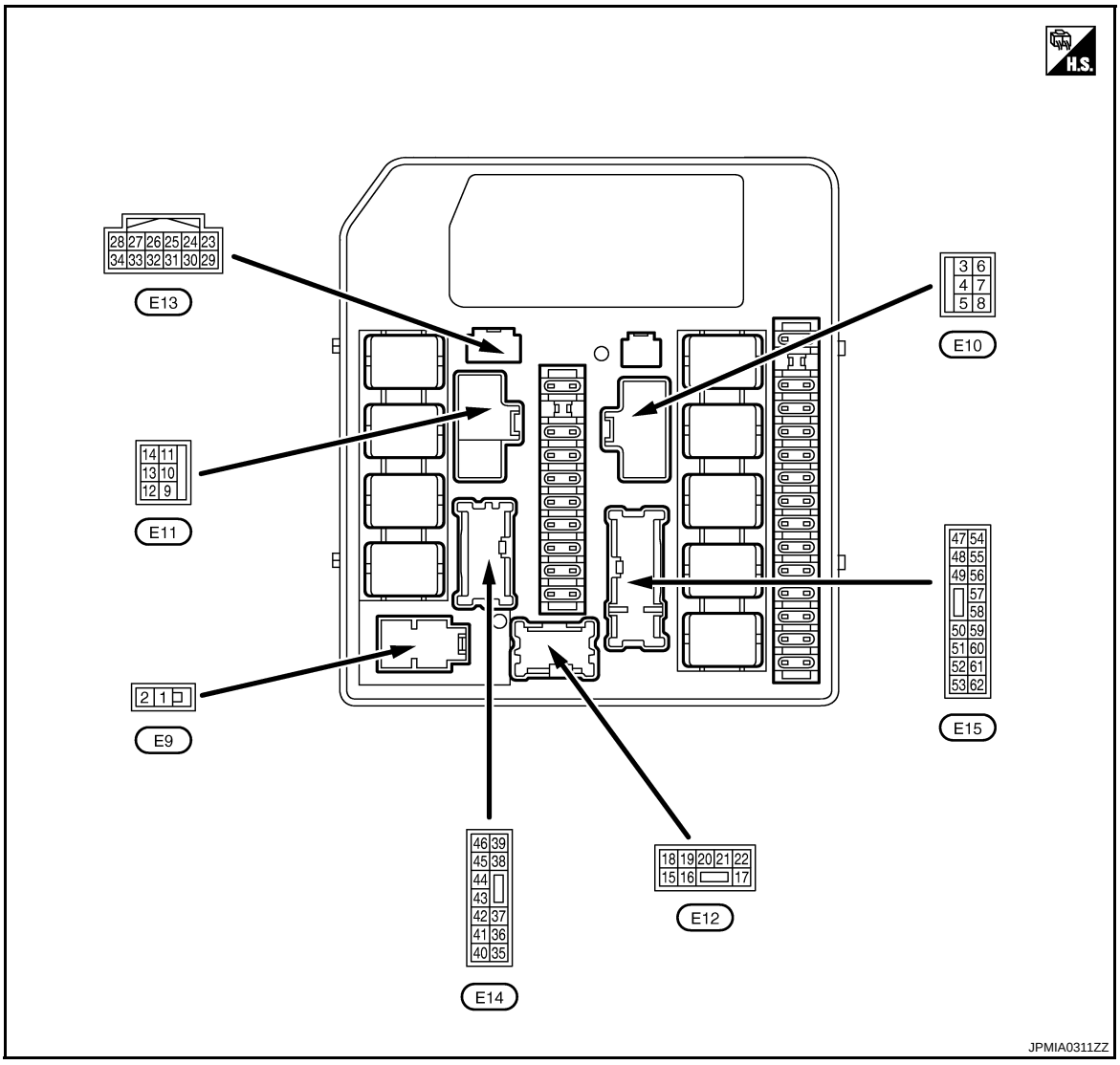
INFOID:0000000003050035

### VALUES ON THE DIAGNOSIS TOOL

| Monitor Item | Condition | | Value/Status |
|---|---|---|---|
| MOTOR FAN REQ | Engine idle speed | Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc. | 1 - 4 |
| AC COMP REQ | Engine running | A/C switch OFF | Off |
| | | A/C switch ON (Compressor is operating) | On |
| TAIL&CLR REQ | Lighting switch OFF | | Off |
| | Lighting switch 1ST or 2ND | | On |
| HL LO REQ | Lighting switch OFF | | Off |
| | Lighting switch 2ND | | On |
| HL HI REQ | Lighting switch OFF | | Off |
| | Lighting switch HI (Light is illuminated) | | On |
| FR FOG REQ<br>**NOTE:**<br>This item is monitored only on the vehicle with front fog lamp. | Lighting switch 2ND | Front fog lamp switch OFF | Off |
| | | Front fog lamp switch ON | On |
| FR WIP REQ | Ignition switch ON | Front wiper switch OFF | Stop |
| | | Front wiper switch INT | 1LOW |
| | | Front wiper switch LO | Low |
| | | Front wiper switch HI | Hi |
| WIP AUTO STOP | Ignition switch ON | Front wiper stop position | STOP P |
| | | Any position other than front wiper stop position | ACT P |
| WIP PROT | Ignition switch ON | Front wiper operates normally | Off |
| | | Front wiper stops at fail-safe operation | BLOCK |
| ST RLY REQ<br>**NOTE:**<br>Vehicle without Intelligent Key system indicates only “ON”, and it does not change. | When Intelligent Key is outside the vehicle, and the push switch is pushed | | Off |
| | When Intelligent Key is inside the vehicle, and the push switch is pushed | | On |
| IGN RLY | Ignition switch OFF or ACC | | Off |
| | Ignition switch ON | | On |
| RR DEF REQ | Ignition switch ON | Rear window defogger switch OFF | Off |
| | | Rear window defogger switch ON (Rear window defogger is operating) | On |
| OIL P SW | Ignition switch OFF, ACC or engine running | | Open |
| | Ignition switch ON | | Close |
| DTRL REQ<br>**NOTE:**<br>This item is monitored only on the vehicle with the daytime running light system. | Daytime running light system is not operated. | | Off |
| | Daytime running light system is operated. | | On |

| Monitor Item | Condition | Value/Status |
|---|---|---|
| HOOD SW<br>**NOTE:**<br>This item is monitored only the vehicle for Mexico. | Close the hood | Off |
| | Open the hood | On |
| THFT HRN REQ | Not operation | Off |
| | Horn is activated with vehicle security system or panic alarm system. | On |
| HORN CHIRP | Not operation | Off |
| | Horn is activated with key fob LOCK operation. | On |

## TERMINAL LAYOUT




## PHYSICAL VALUES

| Terminal No. (Wire color) | | Description | | Condition | Value (Approx.) |
|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | |
| 1 (R) | Ground | Battery power supply | Input | Ignition switch OFF | Battery voltage |
| 2 (G) | Ground | Battery power supply | Input | Ignition switch OFF | Battery voltage |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 3 (O) | Ground | Starter relay power supply | Output | When engine is clanking | | Battery voltage |
| | | | | When engine is not clanking | | 0 V |
| 4 (W) | Ground | Cooling fan relay-1 power supply | Output | Cooling fan operation | OFF | 0 V |
| | | | | | MID or HI | Battery voltage |
| 5 (R) | Ground | Ignition switch START | Input | Ignition switch OFF, ACC or ON | | 0 V |
| | | | | Ignition switch START | | Battery voltage |
| 6 (BR) | Ground | Battery power supply (Cooling fan relay) | Input | Ignition switch OFF | | Battery voltage |
| 7 (P) | Ground | Cooling fan motor-2 (HI) ground | — | Cooling fan operation | OFF | Battery voltage |
| | | | | | HI | 0 V |
| 8 (G) | Ground | Cooling fan relay-2 power supply | Output | Cooling fan operation | OFF | 0 V |
| | | | | | HI | Battery voltage |
| 11 (B) | Ground | Ground | — | Ignition switch ON | | 0 V |
| 12 (O) | Ground | Rear window defogger relay power supply | Output | Ignition switch ON | Rear window defogger switch OFF | 0 V |
| | | | | | Rear window defogger switch ON | Battery voltage |
| 15*1 (SB) | Ground | Daytime running light relay control | Output | Daytime running light system | Not operated | Battery voltage |
| | | | | | Operated | 0 V |
| 16*2 (Y) | Ground | Front fog lamp (LH) | Output | Lighting switch 2ND | Front fog lamp switch OFF | 0 V |
| | | | | | Front fog lamp switch ON | Battery voltage |
| 17*2 (W) | Ground | Front fog lamp (RH) | Output | Lighting switch 2ND | Front fog lamp switch OFF | 0 V |
| | | | | | Front fog lamp switch ON | Battery voltage |
| 18 (L) | Ground | Headlamp LO (LH) | Output | Lighting switch OFF | | 0 V |
| | | | | Lighting switch 2ND | | Battery voltage |
| 20 (SB) | Ground | Headlamp LO (RH) | Output | Lighting switch OFF | | 0 V |
| | | | | Lighting switch 2ND | | Battery voltage |
| 21 (G) | Ground | Headlamp HI (LH) | Output | Lighting switch OFF | | 0 V |
| | | | | • Lighting switch 2ND and HI<br>• Lighting switch PASS | | Battery voltage |
| 22 (LG) | Ground | Headlamp HI (RH) | Output | Lighting switch OFF | | 0 V |
| | | | | • Lighting switch 2ND and HI<br>• Lighting switch PASS | | Battery voltage |
| 23 (W) | Ground | Oil pressure switch | Input | Ignition switch ON | Engine stopped | 0 V |
| | | | | | Engine running | Battery voltage |
| 24 (Y) | Ground | Front wiper auto stop | Input | Ignition switch ON | Front wiper stop position | 0 V |
| | | | | | Any position other than front wiper stop position | Battery voltage |
| 25 (B) | Ground | Ground | — | Ignition switch ON | | 0 V |
| 26 (P) | — | CAN-L | Input/ Output | — | | — |
| 27 (L) | — | CAN-H | Input/ Output | — | | — |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 31 (LG) | Ground | Cooling fan relay-4 control | Output | Cooling fan operation | OFF | Battery voltage |
| | | | | | LO | 0 - 1.0 V |
| 32 (V) | Ground | ETC relay control | Input | After passing approximately 2 seconds or more after turning the ignition switch from ON to OFF | | Battery voltage |
| | | | | • Ignition switch ON<br>• For approximately 2 seconds after turning ignition switch from ON to OFF | | 0 - 1.0 V |
| 33 (GR) | Ground | Fuel pump relay control | Input | Ignition switch OFF | | 0 V |
| | | | | Ignition switch ON | Engine stopped | Battery voltage |
| | | | | | Engine running | 0.8 V |
| 34*3 (W) | Ground | Hood switch | Input | Close the hood | | Battery voltage |
| | | | | Open the hood | | 0 V |
| 37 (R) | Ground | Tail, license plate lamps and illuminations | Output | Lighting switch OFF | | 0 V |
| | | | | Lighting switch 1ST | | Battery voltage |
| 38 (R) | Ground | Parking lamp (LH) | Output | Lighting switch OFF | | 0 V |
| | | | | Lighting switch 1ST | | Battery voltage |
| 39 (GR) | Ground | Parking lamp (RH) | Output | Lighting switch OFF | | 0 V |
| | | | | Lighting switch 1ST | | Battery voltage |
| 40 (BR) | Ground | Ignition relay power supply | Output | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 41 (O) | Ground | Ignition relay power supply | Output | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 42 (L) | Ground | Front wiper HI | Output | Ignition switch ON | Front wiper switch OFF | 0 V |
| | | | | | Front wiper switch HI | Battery voltage |
| 43 (G) | Ground | Front wiper LO | Output | Ignition switch ON | Front wiper switch OFF | 0 V |
| | | | | | Front wiper switch LO | Battery voltage |
| 45 (Y) | Ground | Starter relay power supply | Input | Ignition switch ON | Selector lever “P” or “N” | Battery voltage |
| | | | | | Selector lever in any position other than “P” or “N” | 0 V |
| 46 (W) | Ground | Fuel pump relay power supply | Output | • Ignition switch OFF or ACC<br>• After passing approximately 1 second or more after turning the ignition switch ON | | 0 V |
| | | | | • For approximately 1 second after turning the ignition switch ON<br>• Engine running | | Battery voltage |
| 47 (BR) | Ground | ECM relay power supply | Output | After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF | | 0 V |
| | | | | • Ignition switch ON<br>• For approximately 4 seconds after turning ignition switch from ON to OFF | | Battery voltage |
| 48 (R) | Ground | ECM relay power supply | Output | After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF | | 0 V |
| | | | | • Ignition switch ON<br>• For approximately 4 seconds after turning ignition switch from ON to OFF | | Battery voltage |
| 50 (G) | Ground | Cooling fan relay-5 control | Output | Cooling fan operation | OFF | Battery voltage |
| | | | | | MID or HI | 0 - 1.0 V |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 51 (L) | Ground | ECM relay control | Output | After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF | | Battery voltage |
| | | | | • Ignition switch ON<br>• For approximately 4 seconds after turning ignition switch from ON to OFF | | 0 - 1.0 V |
| 52 (P) | Ground | ETC relay power supply | Output | After passing approximately 2 seconds or more after turning the ignition switch from ON to OFF | | 0 V |
| | | | | • Ignition switch ON<br>• For approximately 2 seconds after turning ignition switch from ON to OFF | | Battery voltage |
| 55 (O) | Ground | A/C relay power supply | Output | Engine stopped | | 0 V |
| | | | | Engine running | A/C switch OFF | 0 V |
| | | | | | A/C switch ON (A/C compressor is operating) | Battery voltage |
| 56 (L) | Ground | Ignition switch ON | Input | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 57 (V) | Ground | Horn relay control | Output | The horn is not activated | | Battery voltage |
| | | | | The horn is activated | | 0 V |
| 58 (LG) | Ground | Ignition relay power supply | Output | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 59 (BR) | Ground | Ignition relay power supply | Output | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 60 (SB) | Ground | Ignition relay power supply | Output | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 61 (R) | Ground | ECM power supply | Output | Ignition switch OFF | | Battery voltage |

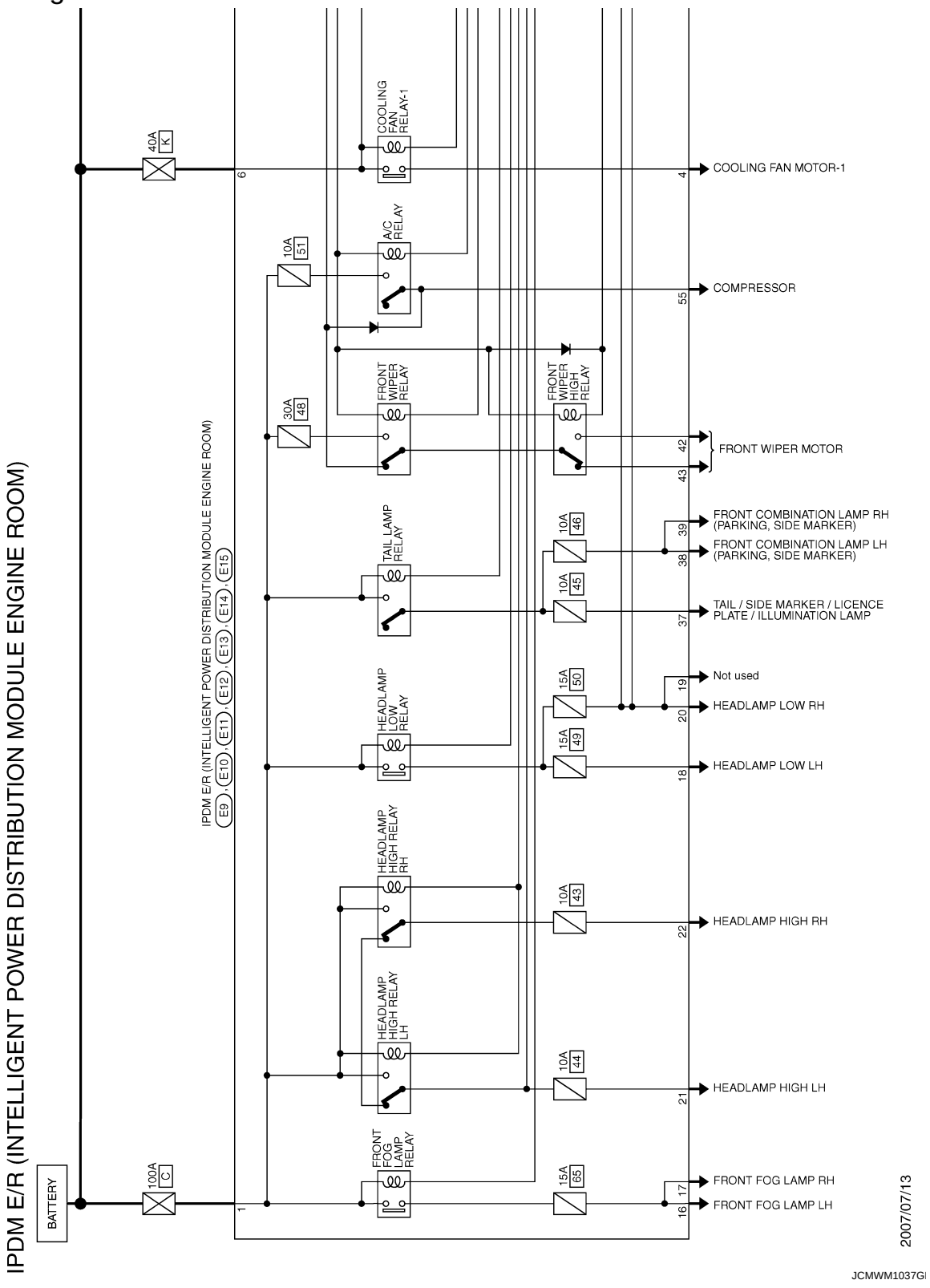
*1: With daytime running light system

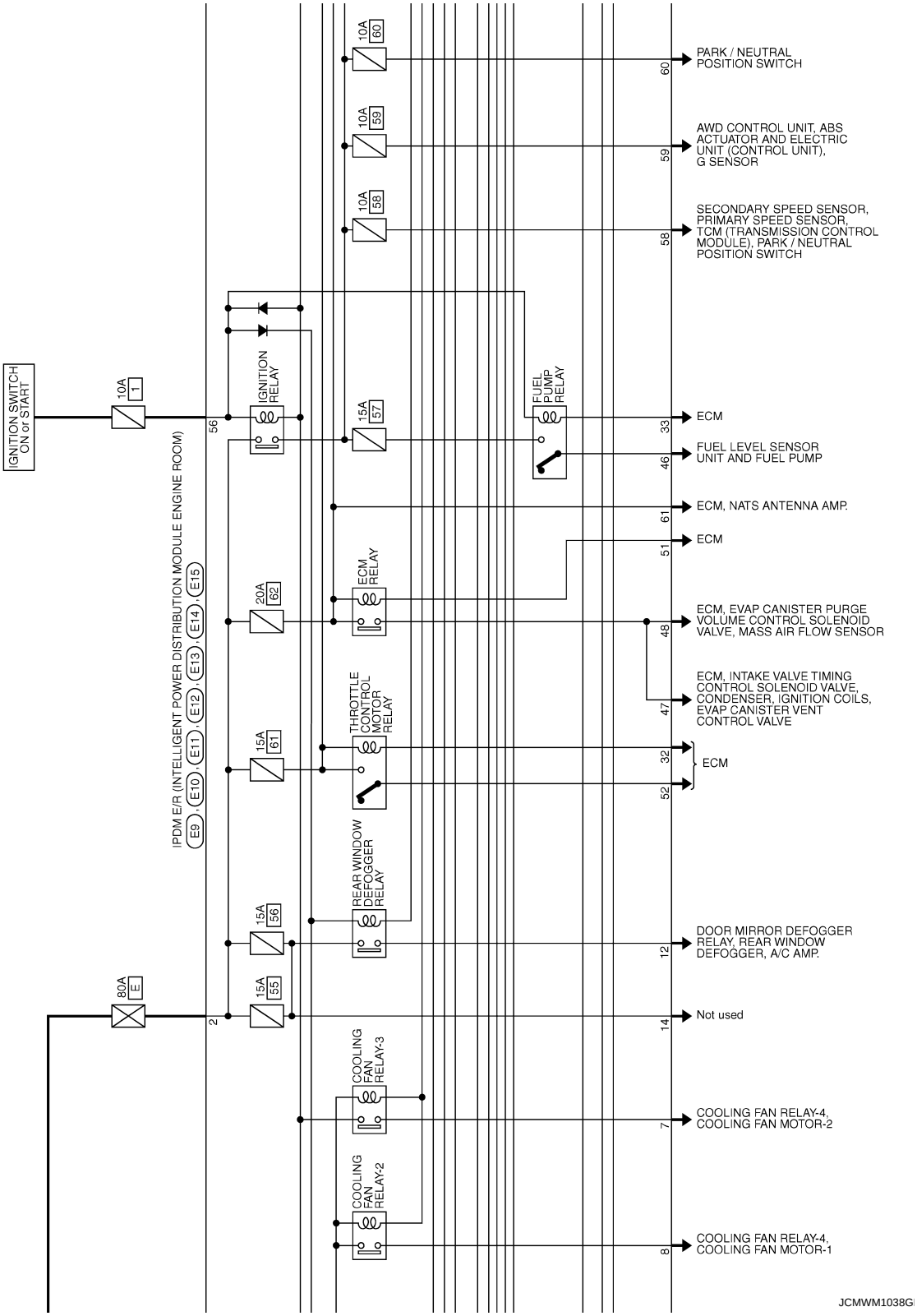
*2: With front fog lamp system

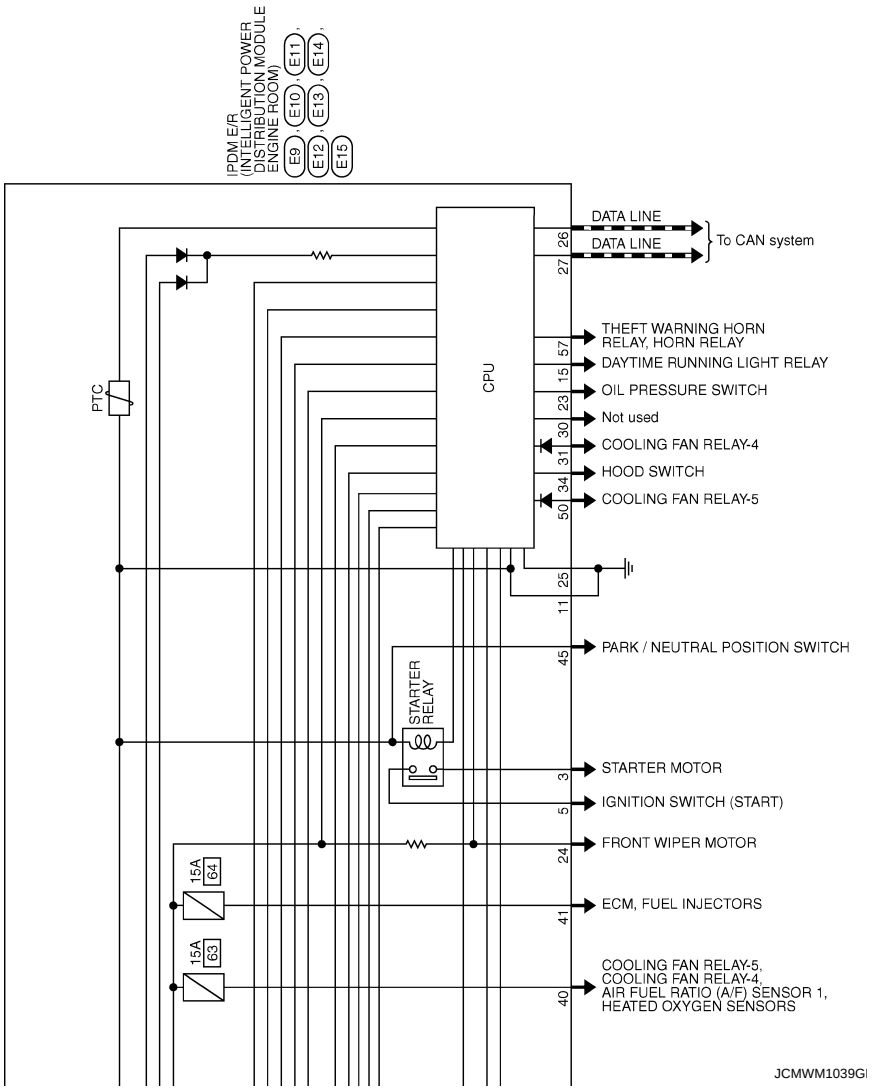
*3: For Mexico

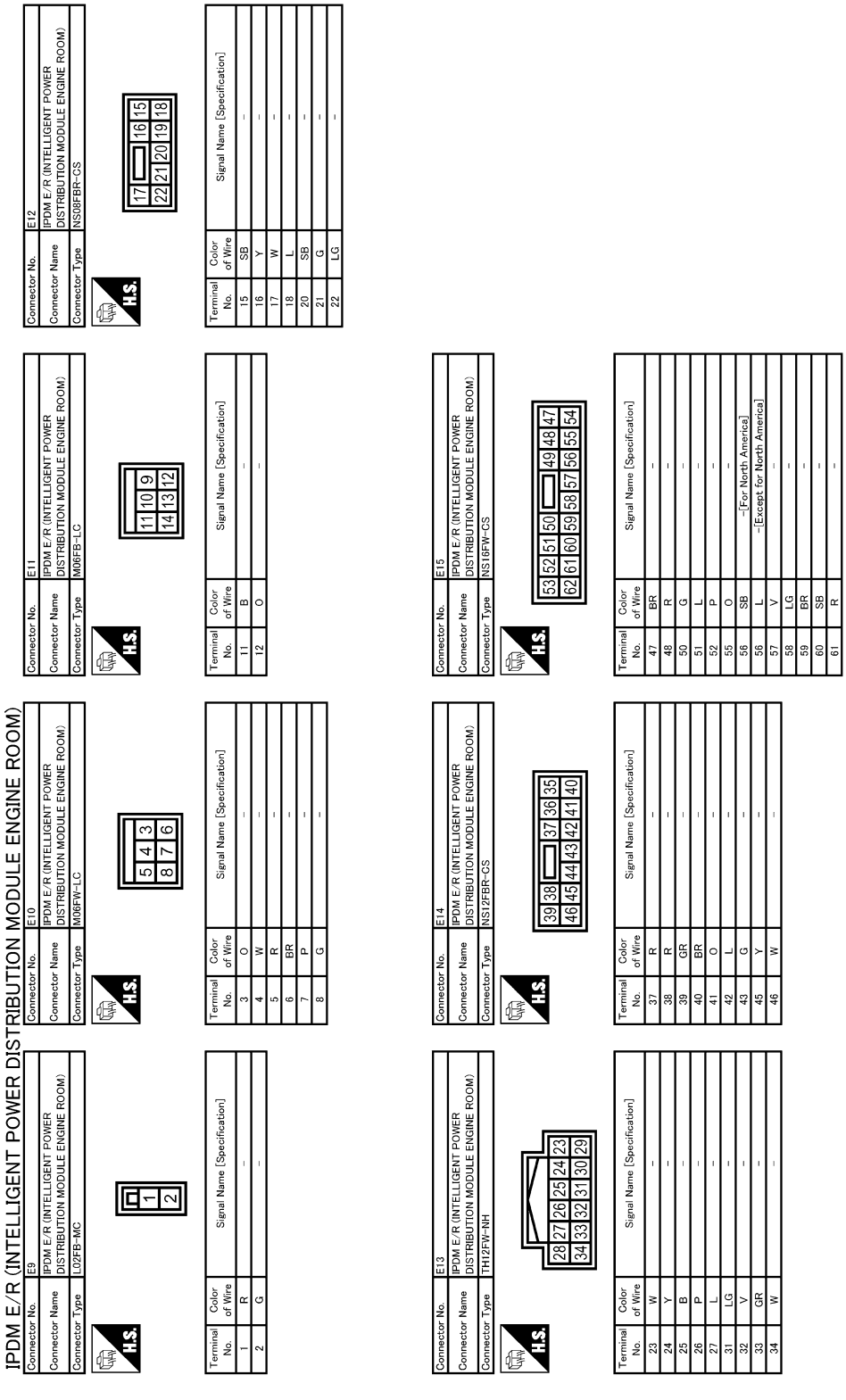
## Wiring Diagram - IPDM E/R -

INFOID:0000000003050036




IGNITION SWITCH ON or START
10A 1
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E9, E10, E11, E12, E13, E14, E15
56
IGNITION RELAY
80A E
2
10A 60
10A 59
10A 58
15A 57
20A 62
15A 61
15A 56
15A 55
FUEL PUMP RELAY
ECM RELAY
THROTTLE CONTROL MOTOR RELAY
REAR WINDOW DEFOGGER RELAY
COOLING FAN RELAY-3
COOLING FAN RELAY-2
60 PARK / NEUTRAL POSITION SWITCH
59 AWD CONTROL UNIT, ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT), G SENSOR
58 SECONDARY SPEED SENSOR, PRIMARY SPEED SENSOR, TCM (TRANSMISSION CONTROL MODULE), PARK / NEUTRAL POSITION SWITCH
33 ECM
46 FUEL LEVEL SENSOR UNIT AND FUEL PUMP
61 ECM, NATS ANTENNA AMP.
51 ECM
48 ECM, EVAP CANISTER PURGE VOLUME CONTROL SOLENOID VALVE, MASS AIR FLOW SENSOR
47 ECM, INTAKE VALVE TIMING CONTROL SOLENOID VALVE, CONDENSER, IGNITION COILS, EVAP CANISTER VENT CONTROL VALVE
32, 52 ECM
12 DOOR MIRROR DEFOGGER RELAY, REAR WINDOW DEFOGGER, A/C AMP.
14 Not used
7 COOLING FAN RELAY-4, COOLING FAN MOTOR-2
8 COOLING FAN RELAY-4, COOLING FAN MOTOR-1
JCMWM1038G


IPDM E/R
(INTELLIGENT POWER
DISTRIBUTION MODULE
ENGINE ROOM)
E9, E10, E11, E12, E13, E14, E15
PTC
CPU
DATA LINE
DATA LINE
To CAN system
26
27
THEFT WARNING HORN
RELAY, HORN RELAY
57
DAYTIME RUNNING LIGHT RELAY
15
OIL PRESSURE SWITCH
23
Not used
30
COOLING FAN RELAY-4
31
HOOD SWITCH
34
COOLING FAN RELAY-5
50
25
11
PARK / NEUTRAL POSITION SWITCH
45
STARTER
RELAY
STARTER MOTOR
3
IGNITION SWITCH (START)
5
FRONT WIPER MOTOR
24
15A
64
ECM, FUEL INJECTORS
41
15A
63
COOLING FAN RELAY-5,
COOLING FAN RELAY-4,
AIR FUEL RATIO (A/F) SENSOR 1,
HEATED OXYGEN SENSORS
40
JCMWM1039GI




## Fail Safe

INFOID:0000000003050037

### CAN COMMUNICATION CONTROL

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

If no CAN communication is available with ECM

| Control part | Fail-safe in operation |
|---|---|
| Cooling fan | • The cooling fan relay-1, the cooling fan relay-2, the cooling fan relay-3 and the cooling fan relay-5 turn ON when the ignition switch is turned ON<br>• The cooling fan relay-1, the cooling fan relay-2, the cooling fan relay-3 and the cooling fan relay-5 turn OFF when the ignition switch is turned OFF<br>• Cooling fan relay-4 OFF |
| A/C compressor | A/C relay OFF |

If no CAN communication is available with BCM

| Control part | Fail-safe in operation |
|---|---|
| Headlamp | • The headlamp low relay turns ON when the ignition switch is turned ON<br>• The headlamp low relay turns OFF when the ignition switch is turned OFF<br>• Headlamp high relay OFF |
| • Parking lamps<br>• License plate lamps<br>• Tail lamps<br>• Illuminations | • The tail lamp relay and the daytime running light relay* turn ON when the ignition switch is turned ON<br>• The tail lamp relay and the daytime running light relay* turn OFF 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.<br>• The front 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 |
| Starter motor | Starter relay OFF |
| Rear window defogger | Rear window defogger relay OFF |
| Horn | Horn relay OFF |

**NOTE:**

*: With daytime running light system

## IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors status of ignition relay by the voltage at ignition relay contact circuit inside it.
- IPDM E/R judges that the ignition relay is error, if status of the ignition relay and ignition switch ON signal (CAN).
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay and daytime running light relay* for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

| Detection | | IPDM E/R judgment | Operation |
|---|---|---|---|
| Ignition switch ON signal | Ignition relay | | |
| ON | ON | Ignition relay normal | — |
| OFF | OFF | Ignition relay normal | — |
| OFF | ON | Ignition relay ON stuck | Turn on the tail lamp relay and daytime running light relay* for 10 minutes |
| ON | OFF | Ignition relay OFF stuck | Detect DTC "B2099: IGN RELAY OFF" |

**NOTE:**

*: With daytime running light system

## FRONT WIPER CONTROL

IPDM E/R detects the front wiper stop position with the front wiper auto stop signal.
When the front wiper auto stop signal is in the conditions listed below, IPDM E/R repeats a front wiper 10 seconds operation and 20 seconds stop five times.

| Ignition switch | Front wiper switch | Front wiper auto stop signal |
|---|---|---|
| ON | OFF | The front wiper auto stop signal (stop position) cannot be input for 10 seconds. |
| | ON | The front wiper auto stop 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.

## DTC Index

INFOID:0000000003050038

| CONSULT display | Fail-safe | Timing[NOTE] | | Reference page |
|---|---|---|---|---|
| No DTC is detected. further testing may be required. | — | — | — | — |
| U1000: CAN COMM CIRCUIT | × | CRNT | PAST | PCS-13 |
| B2099: IGN RELAY OFF | — | CRNT | PAST | PCS-14 |

**NOTE:**
The details of time display are as follows.

- CRNT: The malfunctions that are detected now.
- PAST: The number is indicated when it is normal at present and a malfunction was detected in the past.

# SYMPTOM DIAGNOSIS

## EXTERIOR LIGHTING SYSTEM SYMPTOMS

### Symptom Table

INFOID:0000000001722044

**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<br>• Halogen bulb (HI)<br>• Harness between IPDM E/R and the headlamp high<br>• Daytime running light relay (with daytime running light system)<br>• IPDM E/R | Headlamp (HI) circuit<br>Refer to EXL-161. |
| | Both sides | **Symptom diagnosis**<br>"BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON"<br>Refer to EXL-245. | |
| Headlamp (HI) is not turned OFF. | When ignition switch is turned ON. | | |
| | When ignition switch is turned OFF. | IPDM E/R | — |
| High beam indicator lamp is not turned ON.<br>[The headlamp (HI) is turned ON.] | | Combination meter | • Combination meter<br>Data monitor "HI-BEAM IND"<br>• BCM (HEAD LAMP)<br>Active test "HEADLAMP" |
| Headlamp (LO) is not turned ON. | One side | • Fuse<br>• Halogen bulb (LO)<br>• Harness between IPDM E/R and the headlamp low<br>• IPDM E/R | Headlamp (LO) circuit<br>Refer to EXL-164. |
| | Both sides | **Symptom diagnosis**<br>"BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON"<br>Refer to EXL-246. | |
| Headlamp (LO) is not turned OFF. | When ignition switch is turned ON. | | |
| | When ignition switch is turned OFF. | IPDM E/R | — |
| Daytime running light is not turned ON. | | • Fuse<br>• Halogen bulb (HI)<br>• Harness between IPDM E/R and the daytime running light relay<br>• Daytime running light relay<br>• IPDM E/R<br>• BCM<br>• ECM<br>• Combination meter | • Daytime running light relay circuit<br>Refer to EXL-168.<br>• BCM (HEAD LAMP)<br>Data monitor "ENGINE RUNNING" and "PKB SW"<br>• BCM (HEAD LAMP)<br>Active test "DAYTIME RUNNING LIGHT" |
| Front fog lamp is not turned ON. | One side | • Front fog lamp bulb<br>• Harness between IPDM E/R and the front fog lamp<br>• Front fog lamp<br>• IPDM E/R | Front fog lamp circuit<br>Refer to EXL-166. |
| | Both sides | **Symptom diagnosis**<br>"BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON"<br>Refer to EXL-248. | |
| Front fog lamp is not turned ON. | | | |

| Symptom | | Possible cause | Inspection item |
|---|---|---|---|
| Parking lamp is not turned ON. | | • Parking lamp bulb<br>• Harness between IPDM E/R and the front combination lamp<br>• Front combination lamp<br>• IPDM E/R | Parking lamp circuit<br>Refer to EXL-171. |
| Tail lamp is not turned ON. | | • Tail lamp bulb<br>• Harness between IPDM E/R and the rear combination lamp<br>• Rear combination lamp | Tail lamp circuit<br>Refer to EXL-177. |
| License plate lamp is not turned ON. | | • License plate lamp bulb<br>• Harness between IPDM E/R and the license plate lamp<br>• License plate lamp | License plate lamp circuit<br>Refer to EXL-179. |
| Tail lamp and the license plate lamp are not turned ON. | | • Fuse<br>• Harness between IPDM E/R and the rear combination lamp<br>• IPDM E/R | License plate lamp circuit<br>Refer to EXL-179. |
| • Parking lamp, the tail lamp and the license plate lamp are not turned ON.<br>• Parking lamp, the tail lamp and the license plate lamp are not turned OFF.<br>(Each illumination is turned ON/OFF.) | | **Symptom diagnosis**<br>“PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON”<br>Refer to EXL-247. | |
| Tail lamp indicator is not turned ON.<br>(Parking, tail lamps are turned ON.) | | Combination meter | • Combination meter<br>Data monitor “LIGHT IND”<br>• BCM (HEAD LAMP)<br>Active test “TAIL LAMP” |
| Turn signal lamp does not blink. | Indicator lamp is normal.<br>(Applicable side performs the high flasher activation.) | • Harness between BCM and each turn signal lamp<br>• Turn signal lamp bulb | Turn signal circuit<br>Refer to EXL-173. |
| | Indicator lamp is included. | • Combination switch<br>• Harness between the combination switch and BCM<br>• BCM | Combination switch<br>Refer to BCS-42. |
| Turn signal indicator lamp does not blink.<br>(Turn signal indicator lamp is normal.) | One side | Combination meter | — |
| | Both sides<br>(Always) | • Turn signal indicator lamp signal<br>- BCM<br>• Combination meter | • Combination meter<br>Data monitor “TURN IND”<br>• BCM (FLASHER)<br>Active test “FLASHER” |
| | Both sides<br>(Only when activating hazard warning lamp with the ignition switch OFF) | • Combination meter power supply and the ground circuit<br>• Combination meter | Combination meter<br>Power supply and the ground circuit<br>Refer to MWI-41. |
| • Hazard warning lamp does not activate.<br>• Hazard warning lamp continues activating.<br>(Turn signal is normal.) | | • Hazard switch<br>• Harness between the hazard switch and BCM<br>• BCM | Hazard switch<br>Refer to EXL-175. |

# BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

## Description

INFOID:0000000001720645

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

## Diagnosis Procedure

INFOID:0000000001720646

### 1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-66, "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

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-67, "Exploded View".

### 3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-161, "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

## Description

INFOID:0000000001720647

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

## Diagnosis Procedure

INFOID:0000000001720648

### 1.CHECK COMBINATION SWITCH

Check the combination switch. Refer to BCS-66, "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

1. Select “HL LO REQ” of IPDM E/R data monitor item.
2. With operating the lighting switch, check the monitor status.

| Monitor item | Condition | | Monitor status |
|---|---|---|---|
| HL LO REQ | Lighting switch | 2ND | On |
| | | OFF | Off |

Is the item status normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-67, "Exploded View".

### 3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-164, "Component Function Check".

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R.
NO >> Repair or replace the malfunctioning part.

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

## Description

INFOID:0000000003050050

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

## Diagnosis Procedure

INFOID:0000000003050051

### 1.CHECK FUSE

Check that the following fuse is fusing.

| Unit | Location | Fuse No. | Capacity |
|---|---|---|---|
| Parking lamp | IPDM E/R | #46 | 10 A |
| • Tail lamp<br>• License plate lamp | | #45 | 10 A |

Is the fuse fusing?

YES >> Repair the applicable circuit. And then replace the fuse.
NO >> GO TO 2.

### 2.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-66, "Symptom Table".

Is the combination switch normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

### 3.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

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

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

Is the item status normal?

YES >> GO TO 4.
NO >> Replace BCM. Refer to BCS-67, "Exploded View".

### 4.TAIL LAMP CIRCUIT INSPECTION

Check the tail lamp circuit. Refer to EXL-177, "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

## Description

INFOID:0000000003050052

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

## Diagnosis Procedure

INFOID:0000000003050053

### 1.CHECK FUSE

Check that the following fuse is fusing.

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

Is the fuse fusing?

YES >> Repair the applicable circuit. And then replace the fuse.
NO >> GO TO 2.

### 2.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-66, "Symptom Table".

Is the combination switch normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

### 3.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

CONSULT-III DATA MONITOR

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

| Monitor item | Condition | | Monitor status |
|---|---|---|---|
| FR FOG REQ | Front fog lamp switch (With lighting switch 1ST) | ON | On |
| | | OFF | Off |

Is the item status normal?

YES >> GO TO 4.
NO >> Replace BCM. Refer to BCS-67, "Exploded View".

### 4.FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-166, "Component Function Check".

Is the front fog lamp circuit normal?

YES >> Replace IPDM E/R.
NO >> Repair or replace the malfunctioning part.

# PRECAUTION

## PRECAUTIONS

### FOR USA AND CANADA

#### FOR USA AND CANADA : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000003249001

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 AIRBAG” and “SEAT BELT” of this Service Manual.

**WARNING:**

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the “SRS AIRBAG”.**
- **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.**

### FOR MEXICO

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

INFOID:0000000003249003

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. Information necessary to service the system safely is included in the “SRS AIRBAG” and “SEAT BELT” of this Service Manual.

**WARNING:**

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the “SRS AIRBAG”.**
- **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.**

# ON-VEHICLE MAINTENANCE

## HEADLAMP AIMING ADJUSTMENT

### Description

INFOID:0000000001716660

PREPARATION BEFORE ADJUSTING

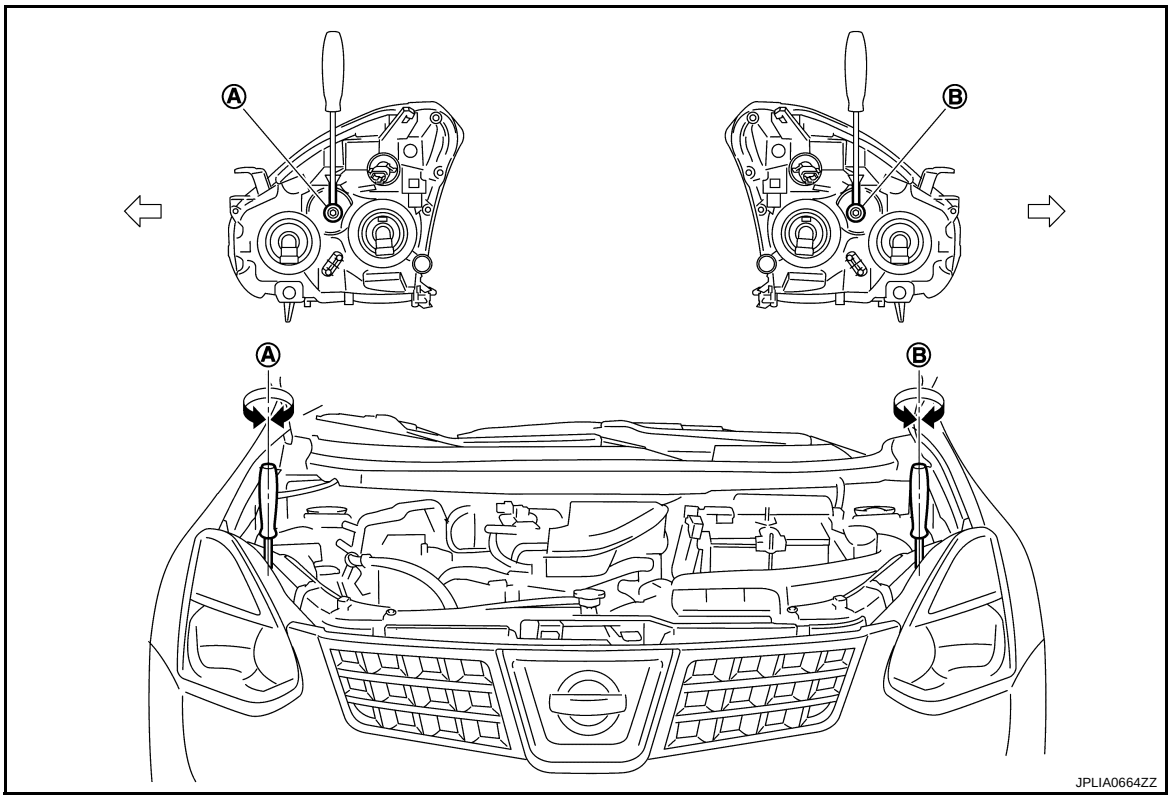
**NOTE:**

- 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 luggage 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

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

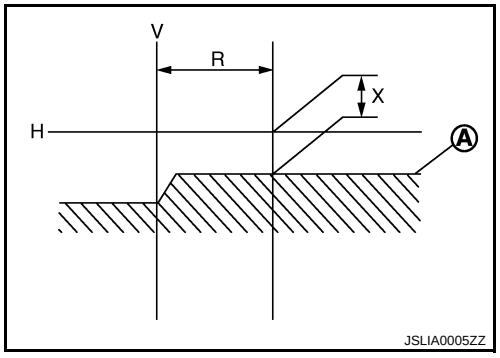
## Aiming Adjustment Procedure

INFOID:0000000002996045

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 bulb 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 ± 175 mm (13.78 ± 6.89 in)**

Low beam distribution on the screen

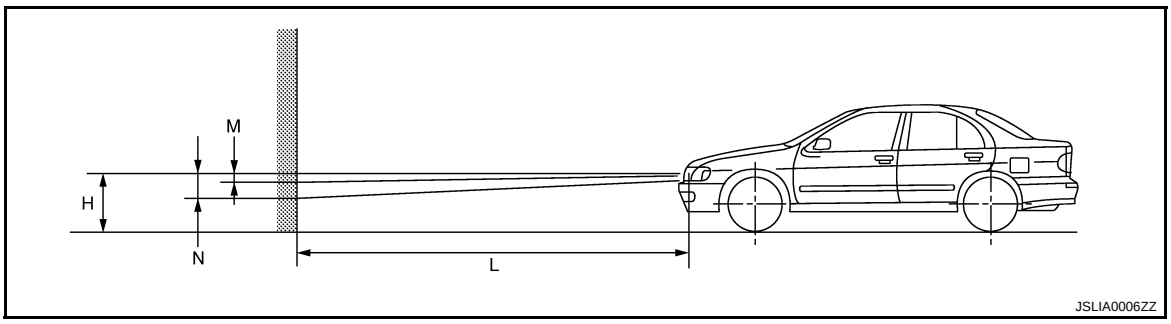



5. Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

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

## Description

INFOID:0000000003050055

### PREPARATION BEFORE ADJUSTING

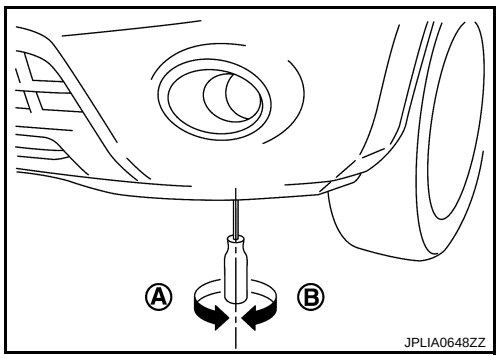
**NOTE:**
- For details, refer to the regulations in your own country.

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 luggage room.)
  **NOTE:**
  Do not remove the temporary tire, jack and on-vehicle tool.
- Wipe out dirt on the headlamp.
  **CAUTION:**
  **Never use organic solvent (thinner, gasoline etc.)**
- Ride alone on the driver seat.

### AIMING ADJUSTMENT SCREW

- Turn the aiming adjusting screw for adjustment.

  A: UP
  B: DOWN



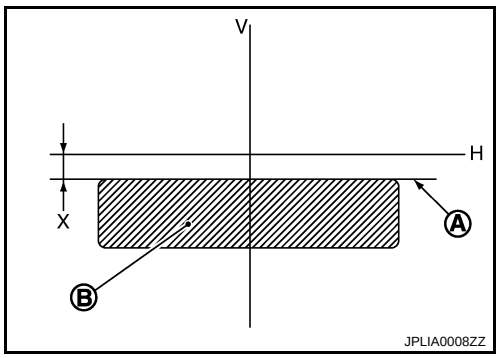

- For the position and direction of the adjusting screw, refer to the figure.
  **NOTE:**
  A screwdriver or hexagonal wrench [6 mm (0.24 in)] can be used for adjustment.

## Aiming Adjustment Procedure

INFOID:0000000003050056

1. Place the screen.
   **NOTE:**
   - Stop the vehicle facing the wall.
   - Place the board on a plain road vertically.
2. Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the front fog lamp center and the screen.
3. Start the engine. Illuminate the front fog lamp.
   **CAUTION:**
   **Never cover the lens surface with a tape etc. The lens is made of resin.**
   **NOTE:**
   Shut off the headlamp light with the board to prevent from illuminating the adjustment screen.
4. Adjust the cutoff line height (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 130 mm (5.12 in).

Front fog lamp light distribution on the screen



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

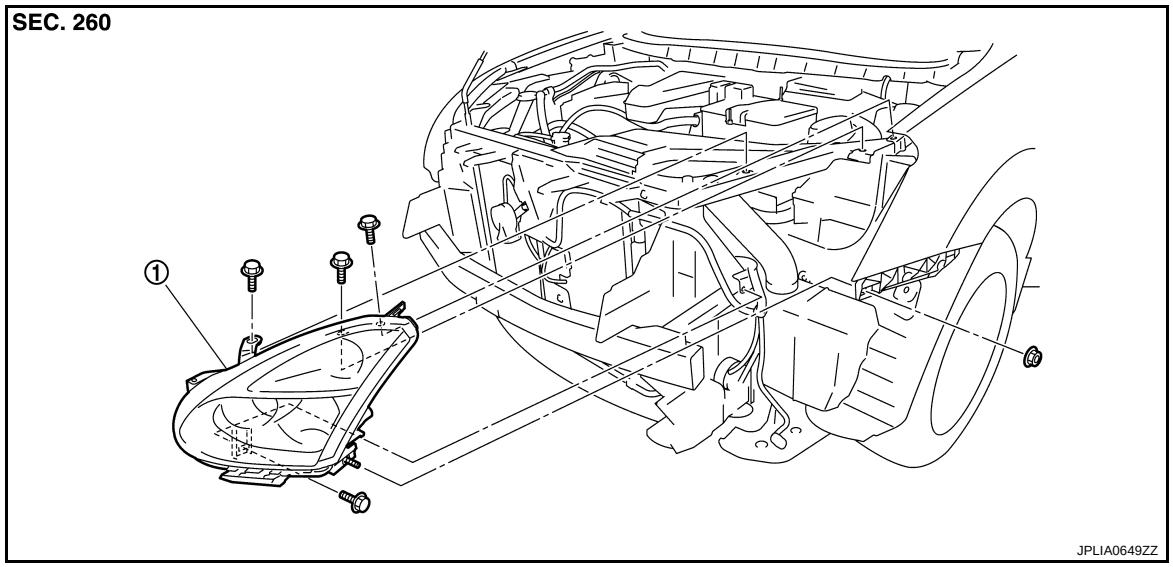
# ON-VEHICLE REPAIR

## FRONT COMBINATION LAMP

### Exploded View

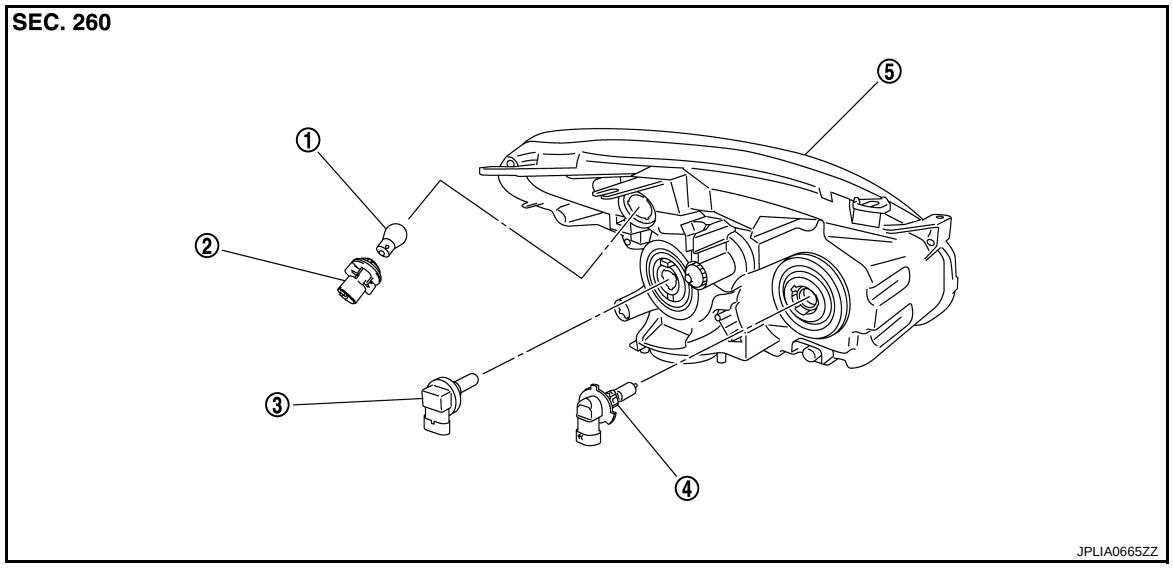
INFOID:0000000001716667

REMOVAL




1. Front combination lamp

DISASSEMBLY




1. Front turn signal/parking (side marker) lamp bulb
2. Front turn signal/parking (side marker) lamp bulb socket
3. Halogen bulb (LO)
4. Halogen bulb (HI)
5. Headlamp housing assembly

### Removal and Installation

INFOID:0000000001716668

REMOVAL

**CAUTION:**

**Disconnect the battery negative terminal or the fuse.**

1. Remove front bumper fascia. Refer to EXT-13, "Exploded View".

2. Remove the headlamp mounting bolts and nuts.
3. Remove the mounting stud of the headlamp outside from front fender.
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-250, "Description".

## Replacement

INFOID:0000000001716669

**CAUTION:**

- **Disconnect the battery negative terminal or the fuse.**
- **After installing the bulb, install the resin cap and the bulb socket securely for watertightness.**

### HEADLAMP BULB (LO)

1. Remove the air duct*. Keep a service area.
   *When replace a left.
2. Rotate the bulb counterclockwise and unlock it.
3. Disconnect the headlamp bulb connector.
4. Remove the bulb from the headlamp housing assembly.

### HEADLAMP BULB (HI)

1. Remove the air duct*. Keep a service area.
   *When replace a left.
2. Rotate the bulb counterclockwise and unlock it.
3. Disconnect the headlamp bulb connector.
4. Remove the bulb from the headlamp housing assembly.

### FRONT TURN SIGNAL/PARKING (SIDE MARKER) LAMP BULB

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

## Disassembly and Assembly

INFOID:0000000001716670

### DISASSEMBLY

1. Rotate the headlamp bulb (LO) counterclockwise and unlock it
2. Disconnect the headlamp bulb (LO) connector. And remove the bulb from the headlamp housing assembly.
3. Rotate the headlamp bulb (HI) counterclockwise and unlock it
4. Disconnect the headlamp bulb (HI) connector. And remove the bulb from the headlamp housing assembly.
5. Rotate the front turn signal/parking (side marker) lamp bulb socket counterclockwise and unlock it.
6. Remove the bulb from the front turn signal/parking (side marker) lamp bulb socket.

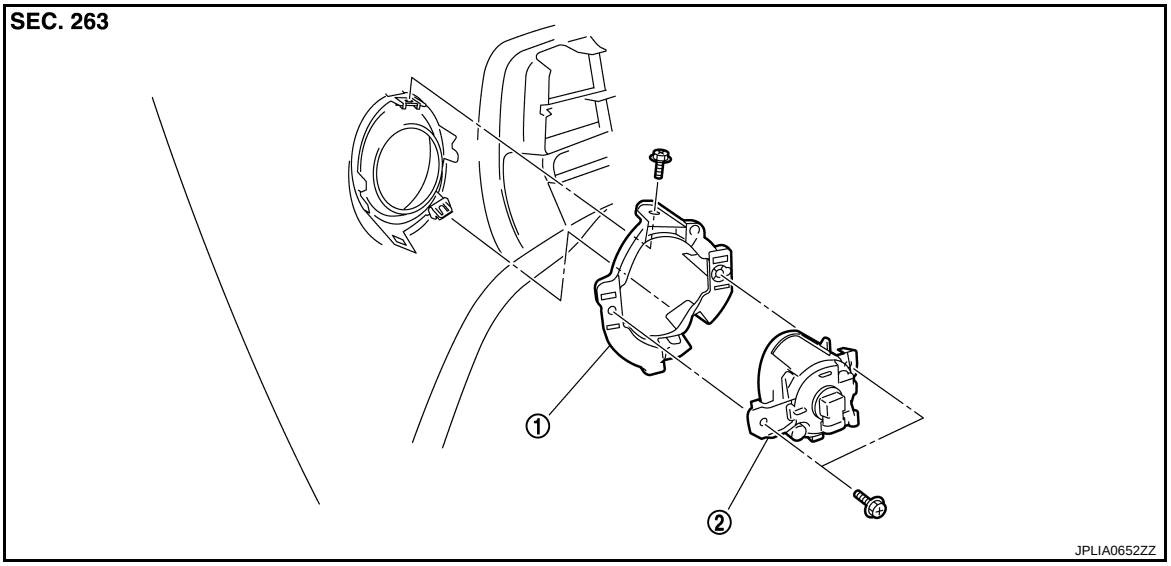
### ASSEMBLY

Assemble in the reverse order of disassembly.

# FRONT FOG LAMP

## Exploded View

INFOID:0000000003050057




1. Front fog lamp bracket
2. Front fog lamp

## Removal and Installation

INFOID:0000000003050058

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

REMOVAL

1. Remove the front fender protector. Keep a service area. Refer to EXT-22, "Exploded View".
2. Remove the front fog lamp connector.
3. Remove the screw. And remove the front fog lamp.
4. Remove the screw. And remove the front fog lamp bracket.

INSTALLATION

Installation is the reverse order of removal.

**NOTE:**
After installation, perform aiming adjustment. Refer to EXL-253, "Description"

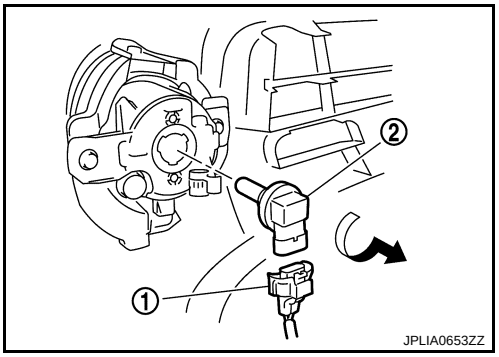
## Replacement

INFOID:0000000003050059

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

FRONT FOG LAMP BULB

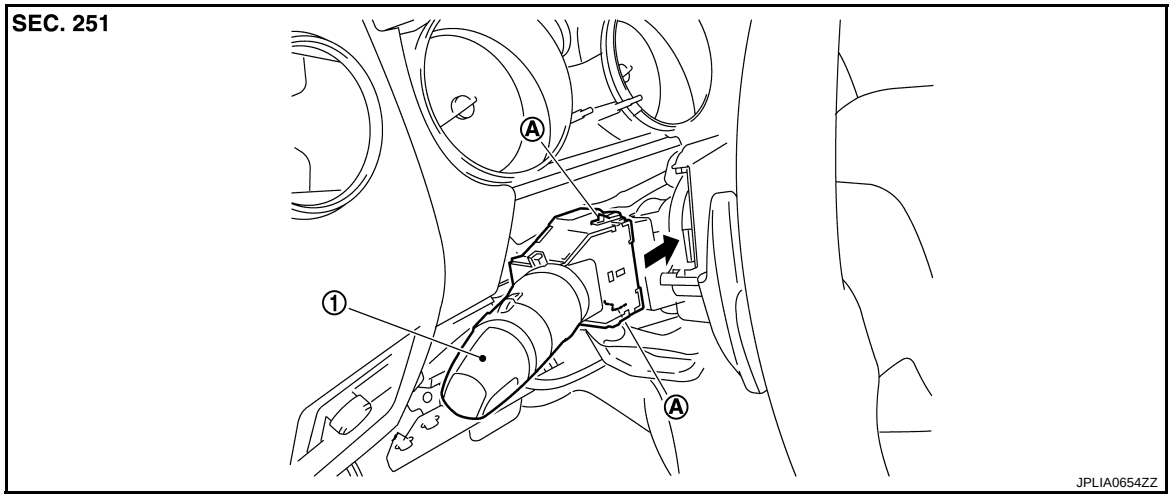
1. Remove the front fender protector. Keep the service area. Refer to EXT-22, "Exploded View".
2. Remove the front fog lamp bulb connector (1).
3. Rotate the bulb (2) counterclockwise and unlock it.



# LIGHTING & TURN SIGNAL SWITCH

## Exploded View

INFOID:0000000003050060




1. Lighting & turn signal switch
A. Pawl

## Removal and Installation

INFOID:0000000003050061

### REMOVAL

1. Remove steering column cover. Refer to IP-12, "Exploded View".
2. While pressing pawls, pull the lighting & turn signal switch. And disconnect from the switch base.

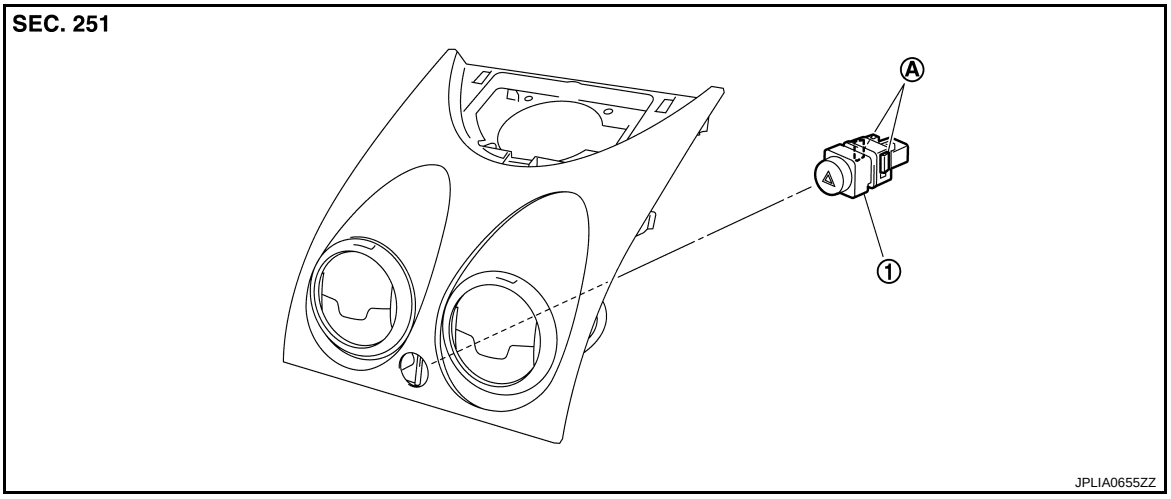
### INSTALLATION

Installation is the reverse order of removal.

# HAZARD SWITCH

## Exploded View

INFOID:0000000003050062




1. Hazard switch
A. Pawls

## Removal and Installation

INFOID:0000000003050063

### REMOVAL

1. Remove the cluster lid C. Refer to IP-12, "Exploded View".
2. Push the pawl. And remove the hazard switch.

### INSTALLATION

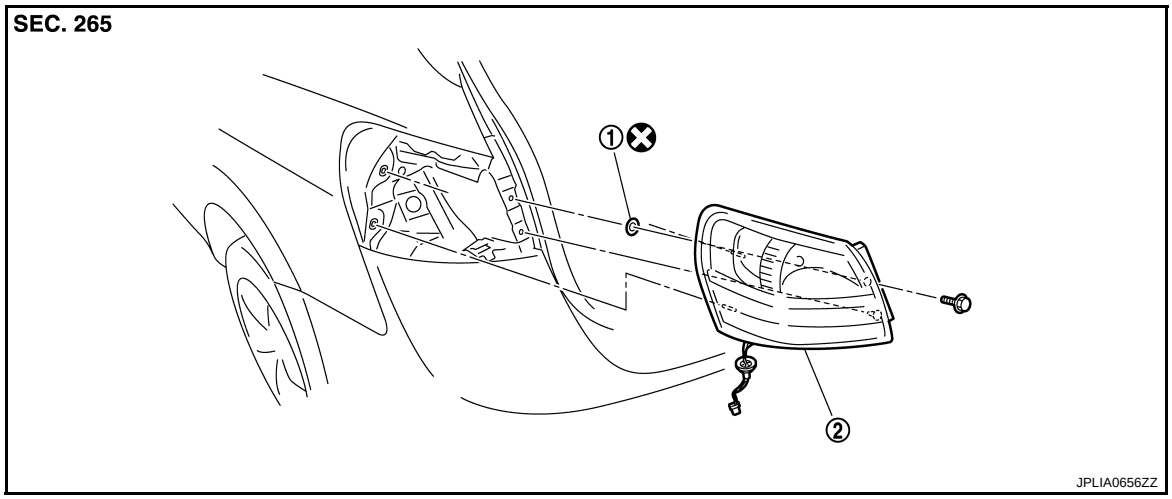
Install in the reverse order of removal.

# REAR COMBINATION LAMP

## Exploded View

INFOID:0000000003050064

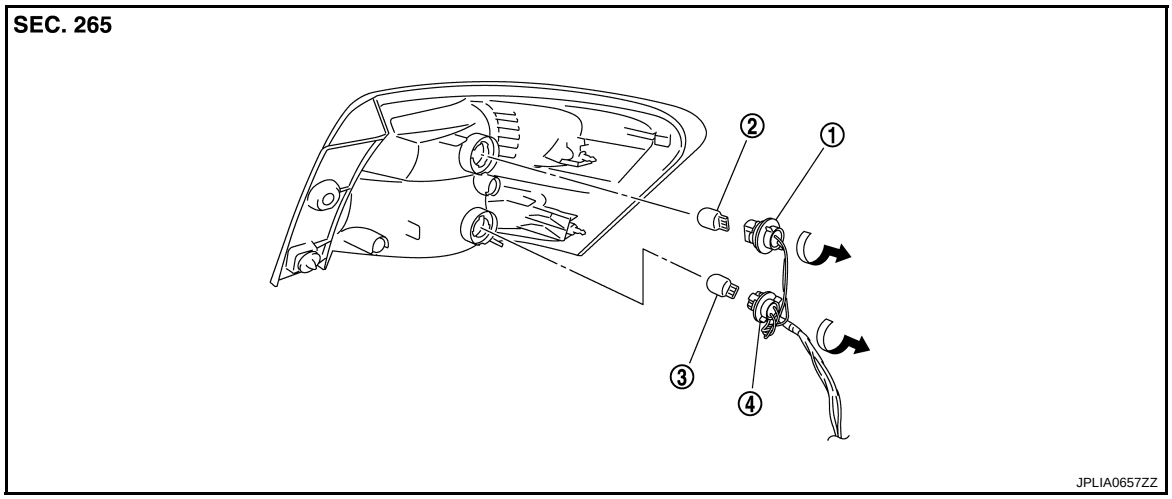
### REMOVAL




1. Seal packing
2. Rear combination lamp

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

### DISASSEMBLY




1. Rear turn signal lamp bulb socket
2. Rear turn signal lamp bulb
3. Stop/tail (side marker lamp) bulb
4. Stop/tail (side marker lamp) bulb socket

## Removal and Installation

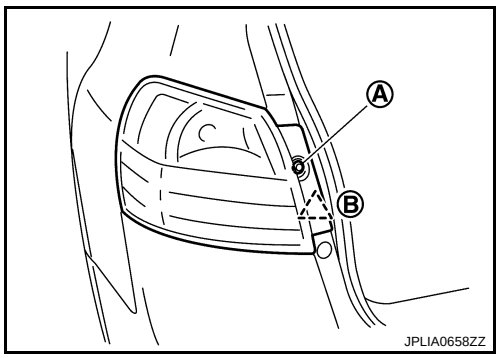
INFOID:0000000003050065

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

### REMOVAL

1. Remove the luggage side lower finisher. Refer to INT-31, "Exploded View".
2. Disconnect rear combination lamp connector.

3. Remove rear combination lamp mounting bolts (A).
4. Turn up the back door weather strip, insert an appropriate tool between rear combination lamp and vehicles and remove a clip (B).
5. Pull the rear combination lamp toward rear of the vehicle. Remove the rear combination lamp.




INSTALLATION

Install in the reverse order of removal.

## Replacement

INFOID:0000000003050066

**CAUTION:**

**Disconnect the battery negative terminal or the fuse.**

### STOP/TAIL (SIDE MARKER) LAMP BULB

1. Remove rear combination lamp. Refer to EXL-127, "Exploded View".
2. Rotate the stop/tail (side marker lamp) bulb socket counterclockwise, and unlock it.
3. Remove bulb from the bulb socket.

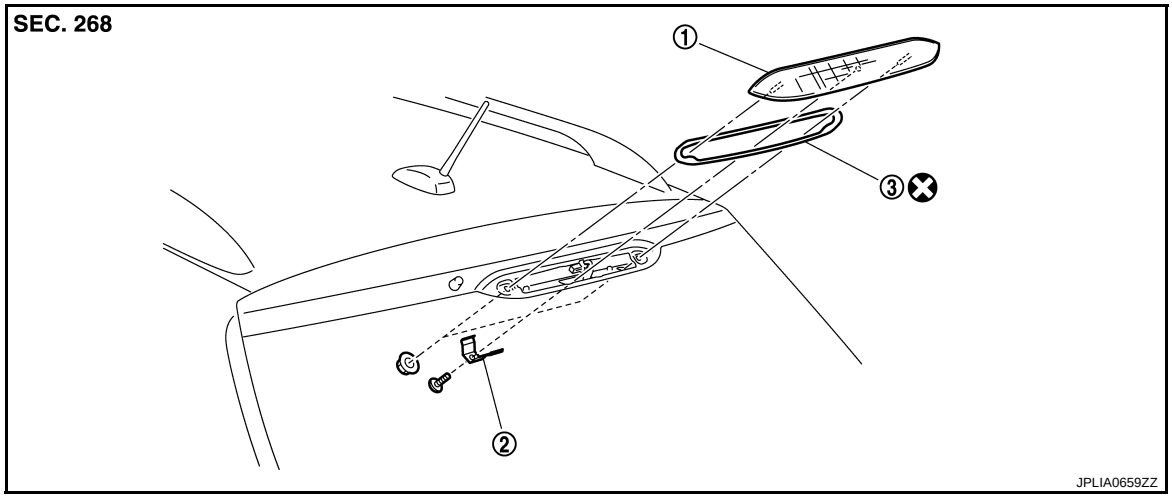
### REAR TURN SIGNAL LAMP BULB

1. Remove rear combination lamp. Refer to EXL-127, "Exploded View".
2. Rotate the rear turn signal lamp bulb socket counterclockwise, and unlock it.
3. Remove bulb from the bulb socket.

# HIGH-MOUNTED STOP LAMP

## Exploded View

INFOID:0000000003050067




1. High-mounted stop lamp
2. Clip
3. Seal packing

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

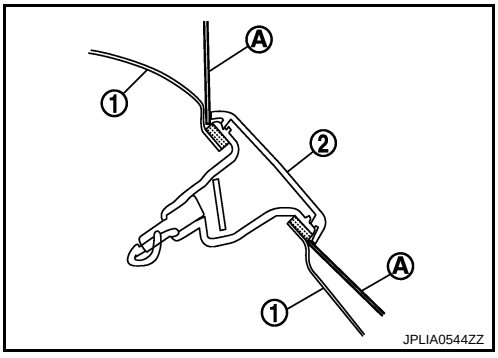
## Removal and Installation

INFOID:0000000003050068

**CAUTION:**
**Disconnect battery negative terminal or remove the fuse.**

REMOVAL

1. Remove the back door trim finisher upper. Refer to INT-34, "Exploded View".
2. Remove the mounting nuts and clips.
3. Cut the seal packing by the thin plate (A).




1. Back door panel
2. High-mounted stop lamp

4. Pull the high-mounted stop lamp toward rear of the vehicle. Remove the high-mounted stop lamp.
5. Disconnect the high-mounted stop lamp connector.

INSTALLATION

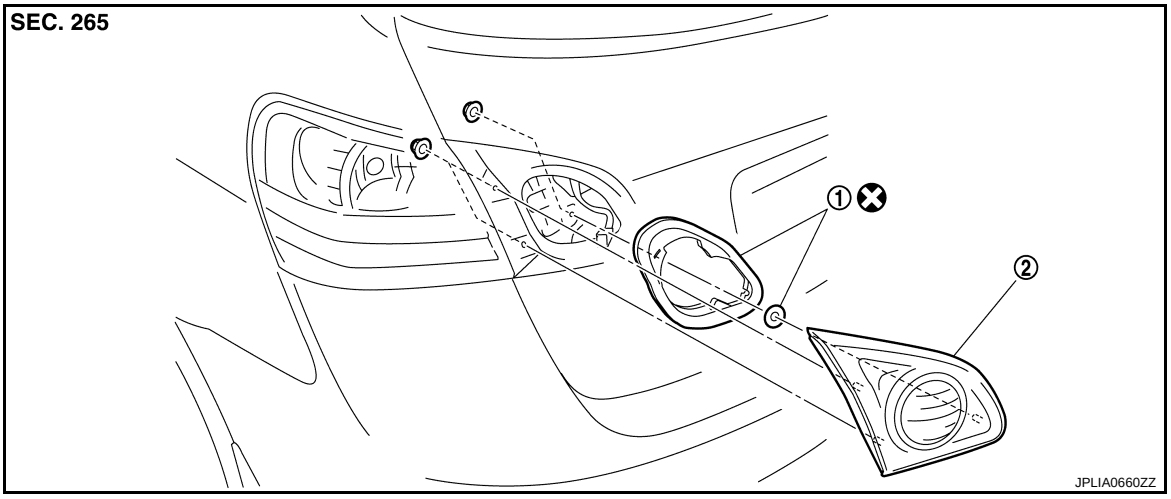
Install in the reverse order of removal.

**CAUTION:**
**Seal packing cannot be reused.**

# BACK-UP LAMP

## Exploded View

INFOID:0000000003050069




1. Seal packing
2. Back-up lamp

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

## Removal and Installation

INFOID:0000000003050070

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

REMOVAL

1. Remove the back door mask. Refer to INT-34, "Exploded View".
2. Remove back-up lamp mounting nuts.
3. Disconnect back-up lamp connector. And remove the back-up lamp.

INSTALLATION

Install in the reverse order of removal.

**CAUTION:**
**Seal packing cannot be reused.**

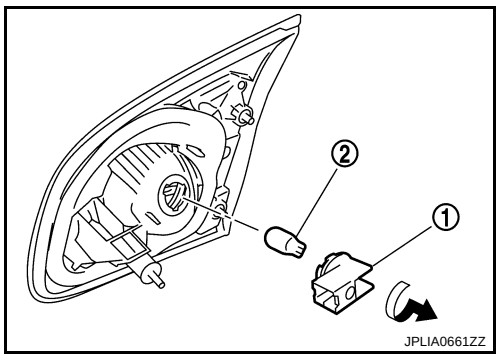
## Replacement

INFOID:0000000003050071

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

BACK-UP LAMP BULB

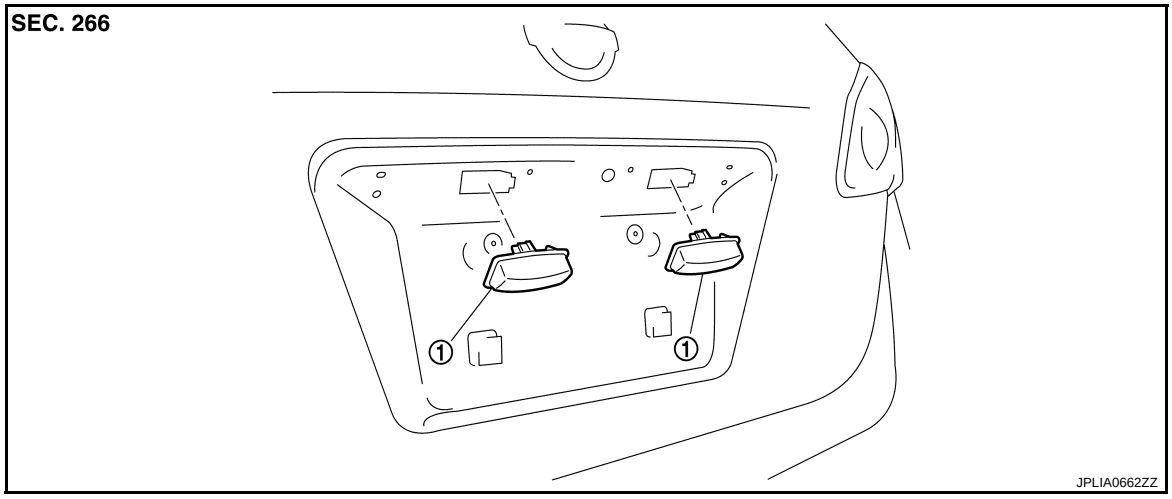
1. Remove the back-up lamp. Refer to EXL-130, "Exploded View".
2. Disconnect the connector, rotate the bulb socket (1) counter-clockwise and unlock it.
3. Remove the bulb (2) from the socket.



# LICENSE PLATE LAMP

## Exploded View

INFOID:0000000003050072




1. License plate lamp

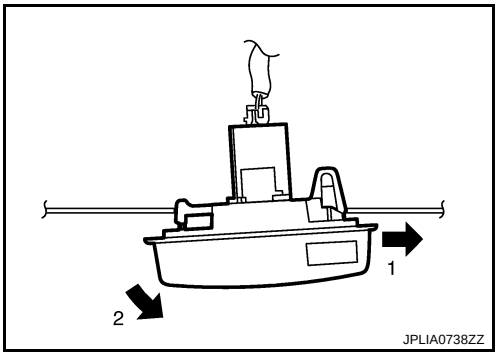
## Removal and Installation

INFOID:0000000003050073

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

REMOVAL

1. Remove back door trim finisher lower. Refer to INT-34, "Exploded View".
2. Remove back door finisher.Refer to INT-34, "Exploded View".
3. Remove the license plate lamp in numerical order shown in the figure.
4. Disconnect the license plate lamp connector.




INSTALLATION

1. Connect the license plate lamp connector.
2. Fix the pawl-side behind the license plate lamp housing first, then push the resin clip-side.

## Replacement

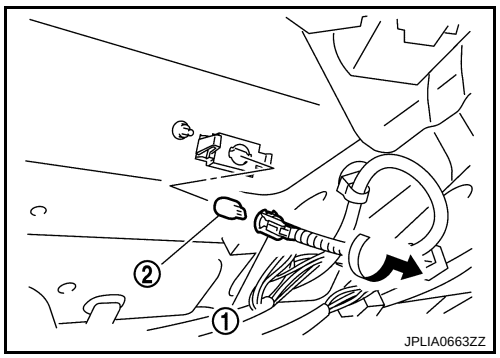
INFOID:0000000003050074

**CAUTION:**
**Disconnect the battery negative terminal or the fuse.**

LICENSE PLATE LAMP BULB

1. Remove back door trim finisher lower. Refer to INT-34, "Exploded View".

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



# SERVICE DATA AND SPECIFICATIONS (SDS)

## SERVICE DATA AND SPECIFICATIONS (SDS)

### Bulb Specifications

INFOID:0000000001722773

| Item | | Type | Wattage (W) |
|---|---|---|---|
| Front combination lamp | Headlamp (HI) | HB3 | 60 |
| | Headlamp (LO) | H11 | 55 |
| | Front turn signal/parking (side marker) lamp | S25 (Amber) | 27/8 |
| Front fog lamp | | H11 | 55 |
| Rear combination lamp | Stop/tail (side marker) lamp | W21/5W | 21/5 |
| | Rear turn signal lamp | W21W | 21 |
| | Back-up lamp | W16W | 16 |
| License plate lamp | | W5W | 5 |
| High-mounted stop lamp | | LED | — |