# **EXTERIOR LIGHTING SYSTEM**

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[XENON TYPE]

# BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

### Work Flow

INFOID:000000005254537





# DETAILED FLOW

**1.**INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >	[XENON TYPE]
>> GO TO 2.	
2.SYMPTOM CHECK	
Check the symptom from the customer's information.	
>> GO TO 3.	
3.BASIC INSPECTION	
Check the operation of each part. Check that any symptom occurs other than the int	erviewed 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 10 6.	
J. IROUBLE DIAGNOSIS BY DTC	
Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning part.	
>> GO 10 9. <b>6</b> FAUL CAFE ACTIVATION CHECK	
Check that the symptom is applied to the fail-safe activation.	
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.	
<b>10.</b> REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT-III)	
Perform the self-diagnosis with CONSULT-III. Check that any DTC is not detected detected before the repair. Check that DTC is not detected again.	ed. Erase DTC if DTC is
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	

INFOID:000000005254538

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

## System Diagram



## System Description

INFOID:000000005254539

### 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.

# **HEADLAMP SYSTEM**

### < SYSTEM DESCRIPTION >

# **Component Parts Location**

# [XENON TYPE]



Part	Description
BCM	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges that the headlamp is turned ON according to the vehicle condition.</li> <li>Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication).</li> <li>Requests the high beam indicator lamp ON to the combination meter (with CAN communication).</li> </ul>
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-9, "System Diagram"</u> .
Combination meter (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 u • Xenon bulb	nit Refer to <u>EXL-34, "Description"</u> .

# FRONT FOG LAMP SYSTEM

### < SYSTEM DESCRIPTION >

# FRONT FOG LAMP SYSTEM



### System Diagram



### System Description

INFOID:000000005254543

### 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.

# FRONT FOG LAMP SYSTEM

### < SYSTEM DESCRIPTION >

# **Component Parts Location**

### [XENON TYPE]

INFOID:000000005254544

А



Part	Description	
BCM	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges the front fog lamp ON/OFF status according to the vehicle condition.</li> <li>Requests the front fog lamp relay ON to IPDM E/R (with CAN communication).</li> </ul>	N
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).	Ν
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-9, "System Diagram"</u> .	0

Ρ

### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

### < SYSTEM DESCRIPTION >

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

### System Diagram



### System Description

INFOID:000000005254547

[XENON TYPE]

INFOID:000000005254546

### 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.

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

### < SYSTEM DESCRIPTION >

# **Component Parts Location**

INFOID:000000005254548

А



# Component Description

Part	Description
BCM	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks.</li> <li>Requests the turn signal indicator lamp blink to the combination meter (with CAN communication).</li> </ul>
Combination switch (Lighting & turn signal switch)	Refer to BCS-9, "System Diagram".
Hazard switch	Inputs the hazard switch ON/OFF signal to BCM.
Combination meter (Turn signal indicator lamp & buzzer)	Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM (with CAN communication).

### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

### < SYSTEM DESCRIPTION >

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

### System Diagram



### System Description

INFOID:000000005254551

[XENON TYPE]

### OUTLINE

Parking<sup>\*</sup>, license plate and tail<sup>\*</sup> 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.

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

### < SYSTEM DESCRIPTION >

## **Component Parts Location**

### INFOID:000000005254552

А

[XENON TYPE]



# **Component Description**

4.

7.

Part	Description	
ВСМ	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges the ON/OFF status of the parking, license plate and tail lamps according to the vehicle condition.</li> <li>Requests the tail lamp relay ON to IPDM E/R (with CAN communication).</li> <li>Requests the tail lamp indicator lamp ON to the combination meter (with CAN communication).</li> </ul>	
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).	(
Combination switch (Lighting & turn signal switch)	Refer to BCS-9, "System Diagram".	I
Combination meter (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 DESCRIPTION >

# EXTERIOR LAMP BATTERY SAVER SYSTEM

System Diagram



## System Description

INFOID:000000005254555

### 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  $\rightarrow$  OFF with the exterior lamps ON.

### NOTE:

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

# EXTERIOR LAMP BATTERY SAVER SYSTEM

### < SYSTEM DESCRIPTION >

# **Component Parts Location**

# [XENON TYPE]



А



# **Component Description**

INFOID:000000005254557

Part	Description
BCM	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Activates the battery saver to turn the exterior lamps OFF according to the vehicle condition.</li> <li>Requests each relay OFF to IPDM E/R (with CAN communication).</li> </ul>
IPDM E/R	Controls the integrated relay according to the request from BCM (with CAN communi- cation).
Combination switch (Lighting & turn signal switch)	Refer to BCS-9, "System Diagram".

Ρ

# DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:000000005575140

### 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	<ul><li>Read and save the vehicle specification.</li><li>Write the vehicle specification when replacing BCM.</li></ul>
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.

 $\times$ : Applicable item

Sustam	CONSULT-III	Diagnosis mode		
System	sub system selection item	Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp 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 <sup>*</sup>			
TPMS	TPMS (AIR PRESSURE MONITOR)	×	×	×
Panic alarm system	PANIC ALARM			×

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

# **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

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

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[XENON TYPE]

### WORK SUPPORT

Service item	Setting item	Setting	
	On <sup>*</sup>	With the exterior lamp battery saver function	
DATIENT GAVEN GET	Off	Without the exterior lamp battery saver function	(
	MODE 1		
	MODE 2		
	MODE 3		I
	MODE 4	NOTE:	
ILL DELAT SET	MODE 5	The item is indicated, but not operate	
	MODE 6		
	MODE 7		
	MODE 8		

\*: Factory setting

### DATA MONITOR

Monitor item [Unit]	Description	
IGN ON SW [On/Off]	Ignition switch (ON) status judged from IGN signal (ignition power supply)	П
ACC SW [On/Off]	Ignition switch (ACC) status judged from ACC signal (ACC power supply)	
HI BEAM SW [On/Off]		
HEAD LAMP SW1 [On/Off]		J
HEAD LAMP SW2 [On/Off]	Each switch status that PCM judges from the combination switch reading function	K
LIGHT SW 1ST [On/Off]		
PASSING SW [On/Off]		EX
FR FOG SW [On/Off]		M
AUTO LIGHT SW [On/Off]	NOTE:	
RR FOG SW [On/Off]	The item is indicated, but not monitored	Ν
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)	0
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	Ρ
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	

# **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

[XENON TYPE]

Monitor item [Unit]	Description	
TURN SIGNAL R [On/Off]	Each switch status that PCM 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 commu- nication	
CARGO LAMP SW [On/Off]	NOTE:	
OPTICAL SENSOR [V]	The item is indicated, but not monitored	

### ACTIVE TEST

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

# FLASHER

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

INFOID:000000005254560

### 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 PCM 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

# **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

### [XENON TYPE]

Test item	Operation	Description	A
	RH	Outputs the voltage to turn the right side turn signal lamps ON.	_
FLASHER	LH	Outputs the voltage to turn the left side turn signal lamps ON.	_
	Off	Stops the voltage to turn the turn signal lamps OFF.	6

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# **Diagnosis Description**

Auto active test

Description

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

- Oil pressure warning lamp
- 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 the 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 the 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 $\rightarrow$ HI for 5 seconds
3	<ul> <li>Parking lamps</li> <li>License plate lamps</li> <li>Tail lamps</li> <li>Front fog lamps</li> <li>Headlamps HI (daytime running light operation)*</li> </ul>	10 seconds
4	Headlamps	$LO \Leftrightarrow HI 5 times$
5	A/C compressor (magnet clutch)	$ON \Leftrightarrow OFF 5 times$
6	Cooling fan	LO for 5 seconds $\rightarrow$ MID for 3 seconds $\rightarrow$ HI for 2 seconds

### NOTE:

\*: With daytime running light system

### < SYSTEM DESCRIPTION >

### [XENON TYPE]

Concept of auto active test



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

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause	Н
		YES	BCM signal input circuit	
Rear window defogger does not operate	Perform auto active test. Does the rear window defog- ger operate?	NO	<ul> <li>Rear window defogger</li> <li>Rear window defogger ground circuit</li> <li>Harness or connector between IPDM E/R and rear window defogger</li> <li>IPDM E/R</li> </ul>	l J
Any of the following components do not operate		YES	BCM signal input circuit	
<ul> <li>Parking lamps</li> <li>License plate lamps</li> <li>Tail lamps</li> <li>Front fog lamps</li> <li>Headlamps (HI, LO)</li> <li>Front wiper (HI, LO)</li> </ul>	Perform auto active test. Does the applicable system operate?	NO	<ul> <li>Lamp or motor</li> <li>Lamp or motor ground circuit</li> <li>Harness or connector between IPDM E/R and applicable system</li> <li>IPDM E/R</li> </ul>	K
Headlamps HI (daytime running light operation) do	Perform auto active test. Do headlamps HI (daytime	YES	<ul> <li>CAN communication signal between ECM and BCM</li> <li>CAN communication signal between combination meter and BCM</li> <li>BCM signal input circuit</li> </ul>	M
not operate	running light operation) oper- ate?	NO	<ul> <li>Daytime running light relay power supply circuit</li> <li>Harness or connector between IPDM E/R and daytime running light relay</li> <li>Daytime running light relay</li> </ul>	N
A/C compressor does not operate	Perform auto active test. Does the magnet clutch oper-	YES	<ul> <li>BCM signal input circuit</li> <li>CAN communication signal between BCM and ECM</li> <li>CAN communication signal between ECM and IPDM E/R</li> </ul>	P
	ate?	NO	<ul> <li>Magnet clutch</li> <li>Harness or connector between IPDM E/R and magnet clutch</li> <li>IPDM E/R</li> </ul>	

### < SYSTEM DESCRIPTION >

### [XENON TYPE]

Symptom	Inspection contents		Possible cause
	Perform auto active test.	YES	<ul> <li>Harness or connector between IPDM E/R and oil pressure switch</li> <li>Oil pressure switch</li> <li>IPDM E/R</li> </ul>
Oil pressure warning lamp does not operate	Does the oil pressure warning lamp blink?	NO	<ul> <li>CAN communication signal between IPDM E/R and BCM</li> <li>CAN communication signal between BCM and combination meter</li> <li>Combination meter</li> </ul>
		YES	<ul> <li>ECM signal input circuit</li> <li>CAN communication signal between ECM and IPDM E/R</li> </ul>
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	NO	<ul> <li>Cooling fan motor-2 power supply circuit</li> <li>Cooling fan motor-1 ground circuit</li> <li>Cooling fan relay-4 or cooling fan relay-5 power supply circuit</li> <li>Cooling fan relay-5 ground circuit</li> <li>Harness or connector between IPDM E/R and cooling fan motor</li> <li>Harness or connector between IPDM E/R, and cooling fan relay-4 or cooling fan relay-5</li> <li>Harness or connector between cooling fan motor-2, and cooling fan relay-4 or cooling fan relay-5</li> <li>Cooling fan relay-4 or cooling fan relay-5</li> <li>Cooling fan relay-4 or cooling fan relay-5</li> <li>Cooling fan motor</li> <li>IPDM E/R</li> </ul>

# CONSULT-III Function (IPDM E/R)

### 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.
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 <u>EXL-105, "DTC Index"</u>.

### 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 commu- nication.	
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 com- munication.	
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN commu- nication.	

### < SYSTEM DESCRIPTION >

### [XENON TYPE]

Monitor Item [Unit]	MAIN SIGNALS	Description	
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN com- munication.	
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN com- munication. <b>NOTE:</b> This item is monitored only the vehicle with front fog lamp system.	B
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN com- munication.	C
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper stop position signal judged by IPDM E/R.	D
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.	F
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.	F
RR DEF REQ [Off/On]	×	Displays the status of the rear defogger request signal received from BCM via CAN com- munication.	0
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.	G
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication. <b>NOTE:</b> This item is monitored only the vehicle with daytime running light system.	Н
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R. <b>NOTE:</b> This item is monitored only the vehicle for Mexico.	I
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	
	Off	OFF	
REAR DEFOGGER	On	Operates the rear window defogger relay.	M
	Off	OFF	
FRONT WIPER	Lo	Operates the front wiper relay.	N
	Hi	Operates the front wiper relay and front wiper high relay.	
	1	OFF	
	2	Operates the cooling fan relay (LO operation).	0
MOTOR FAN	3	Operates the cooling fan relay (MID operation).	
	4	Operates the cooling fan relay (HI operation).	P

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### < SYSTEM DESCRIPTION >

### [XENON TYPE]

Test item	Operation	Description			
	Off	OFF			
	TAIL Operates the tail lamp relay and the daytime running light relay. NOTE: Daytime running light relay is with daytime running light system or				
EXTERNAL LAMPS	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. <b>NOTE:</b> This item can test only the vehicle with front fog lamp system.			
HORN	On	Operates horn relay for 20 ms.			

		POV	VER SU	PPLY A	AND G	ROUND CIRCUIT
< DTC/CIF	RCUIT DIA	GNOSIS :	>			[XENON TYPE]
DTC/0	CIRCL	JIT DI	AGNC	DSIS		
POWER	R SUPP	LY AND			IRCU	م IT
BCM (B	ODY CC	NTROL	MODU	JLE)		
BCM (BC		NTROL	MODUI	E) : Dia	aanosi	B Procedure
<b>1.</b> снеск	FUSES A	ND FUSIB	LE LINK			
Check that	the followi	ing fuses a	nd fusible	link are n	ot fusing	 ·
		Signal nam	ie			Fuses and fusible link No.
	Ba	attery power s	supply			10
						E
	A	ACC power su				20
ls the fuse	fusina?		որին			
YES >:	> Replace	the blown	fuse or fus	sible link a	after rep	airing the affected circuit if a fuse or fusible link is
NO >:	> GO TO 2					C
2.снеск		SUPPLY C	IRCUIT			
1. Turn th 2. Discor	ne ignition s nnect BCM	switch OFF connectors	S.	aannaat	ar and th	- around
5. Check	voltage be		vi namess	connect	or and tr	giouna.
	Terminals		- Igniti	on switch p	osition	
	+)					_
Connector	Terminal	(-)	OFF	ACC	ON	
	70		Batterv	Batterv	Battery	_
M67	57	-	voltage	voltage	voltage	
	11	Ground	Approx. 0 V	Battery voltage	Battery voltage	
IVI65	38	-	Approx. 0 V	Approx. 0 V	Battery voltage	
Is the mea	surement v	alue norm	al?			-
YES >:	> GO TO 3			4 <b>a</b> a		
	> Kepair th		or connec	tor.		
			<b>b</b> a w		a a -1 (1	
Check con	unuity betw	veen BCM	namess c	onnector	and the	jiouna.
	BCM					-
Connect	or Te	erminal	Ground	C	ontinuity	
M67		67		I	Existed	_
Does conti	nuity exist?	?				-
YES >:	> INSPECT			4 <b>a</b> a		
	> κераir th / <b>₽ (ΙΝΙΤ⊏</b>			נסז. ורח FP/		
	דאוו) אי					UTION WODULE ENGINE ROOW)

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

## EXL-27

# POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

### agnosis Procedure

[XENON TYPE]

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# **1.**CHECK FUSIBLE LINK

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

Signal name	Fusible link No.
	С
Battery power supply	E
	К

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 the ignition switch OFF.

2. Disconnect IPDM E/R connectors.

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

(	+)	()	Voltage	
IPDN	/I E/R	(-)	(Approx.)	
Connector	Terminal			
EQ	1	Ground		
E9	2	2 Ground		
E10	6	*		

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

# 3. CHECK GROUND CIRCUIT

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

IPDN	/I E/R		Continuity
Connector	Terminal	Ground	Continuity
E11	11	Glound	Evict
E13	25	*	EXIST

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

# **EXTERIOR LAMP FUSE**

# < DTC/CIRCUIT DIAGNOSIS >

# **EXTERIOR LAMP FUSE**

# Description

Fuse list

Stop lamp

Back-up lamp

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В

С

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F

[XENON TYPE]

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se 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
<ul><li>Tail lamp</li><li>License plate lamp</li><li>Each illumination</li></ul>	IPDM E/R	#45	10 A

#11

#60

FUSE BLOCK (J/B)

IPDM E/R

### **Diagnosis Procedure**

# 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
<ul><li>Tail lamp</li><li>License plate lamp</li><li>Each illumination</li></ul>	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. 10 A

10 A

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< DTC/CIRCUIT DIAGNOSIS >

# HEADLAMP (HI) CIRCUIT

**Component Function Check** 

**1.**CHECK HEADLAMP (HI) OPERATION

**®IPDM E/R AUTO ACTIVE TEST** 

1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".

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

(E)CONSULT-III ACTIVE TEST

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

2. With operating the test items, check that the headlamp (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

1.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

	Т	erminals	Test item		
(+)			(-)	iest item	Voltage
IPDM E/R				EXTERNAL	(Approx.)
Connector		Terminal		LAMPS	
RH	E12	22	Ground	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			Headlarr	Continuity	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E12	22	E75	1	Evisted
LH		21	E72	1	LAISteu

Does continuity exist?

YES >> GO TO 5.

# **HEADLAMP (HI) CIRCUIT**

[XENON TYPE] < DTC/CIRCUIT DIAGNOSIS > NO >> Repair the harnesses or connectors. 3. CHECK HEADLAMP (HI) FUSE А 1. Turn the ignition switch OFF. Check that the following fuses are not fusing. 2. В 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? D YES >> GO TO 4. NO >> Replace IPDM E/R. CHECK HEAD LAMP HIGH SHORT CIRCUIT Ε Disconnect IPDM E/R connector. 1. 2. Check continuity between the IPDM E/R harness connector terminal and the ground. F IPDM E/R Continuity Connector Terminal Ground RH 22 E12 Not existed LH 21 Does continuity exist? Н 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. Disconnect the headlamp high connector. 2. Check continuity between the headlamp high harness connector and the ground. 3. Headlamp high Continuity Κ Connector Terminal Ground RH E75 2 Existed LH E72 2 EXL Does continuity exist? YES >> Replace the headlamp (HI) bulb. (Bulb socket is abnormally.) NO >> Repair the harnesses or connectors. Μ Ν Ρ

# **HEADLAMP (LO) CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

# HEADLAMP (LO) CIRCUIT

### Description

Headlamp (LO) circuit is connected to HID control unit integrated in the headlamp. Headlamp (LO) circuit turns xenon headlamp ON.

For the details of HID control unit and the xenon headlamp, refer to EXL-34, "Description".

### **Component Function Check**

### **1.**CHECK HEADLAMP (LO) OPERATION

### ⑧IPDM 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.
- (P)CONSULT-III ACTIVE TEST
- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. With operating the test items, check that the headlamp (LO) is turned ON.

### Lo : Headlamp (LO) ON

### Off : Headlamp (LO) OFF

### Is the headlamp (LO) turned ON?

- YES >> Headlamp (LO) is normal.
- NO >> Refer to EXL-32, "Diagnosis Procedure".

### Diagnosis Procedure

# 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 LAMPS" of IPDM E/R active test item.
- 5. With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

Terminals				Test item		
(+)			(–)	iest item	Voltage	
IPDM E/R			EXTERNAL	EXTERNAL	(Approx.)	
Connector Terminal		Terminal		LAMPS		
RH	E12	20	Ground	Lo	Battery volt- age	
LH		18		Off	0 V	

Is the measurement value normal?

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

 $\sim$  >> GO 10 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.

IPDN	/I E/R	Headla	Continuity	
Connector Terminal		Connector	Terminal	Continuity

INFOID:000000005254570

INFOID:000000005254569

# **HEADLAMP (LO) CIRCUIT**

< DTC/	CIRCU	IT DIAGI	NOSIS	>			[XENON TYPE]
RH	E10	20	E7	74	1	Evictoria	
LH	EIZ	18	E7	71	1	Existed	
YES NO CHE	ontinuity >> GC >> Re CK HE	<u>' exist?</u> ) TO 5. pair the h ADLAMP	narness (LO) F	ses or c USE	onnectors	5.	_
. Tur . Che	n the ig eck that	nition sw the follo	itch OF wing fu	F. ses are	not fusin	g.	
	Unit		Lo	otion	Fuse N	lo. Capacity	<b>-</b>
Headlar	mp LO (Lł	H)	IPD	M E/R	#49	15 A	
Headlar	mp LO (R	H)	IPD	M E/R	#50	15 A	_
<u>s the fu</u> YES NO <b>1.</b> CHE	<u>use fusir</u> >> GC >> Re CK HE	<u>ng?</u> ) TO 4. place IPI ADLAMP	DM E/R (LO) S	 Hort	CIRCUIT		
. Dis 2. Cho	connect eck con	t IPDM E	/R conr tween t	nector. the IPD	M E/R ha	rness conne	ctor and the ground.
	IPDI	M E/R				Continuity	
Conr	nector	Term	inal	Gro	ound		_
RH	E12	20	)			Not existed	
	ontinuity		)				-
YES NO D.CHE	>> Re >> Re >> Re	pair the h place the ADLAMP	narness e fuse. ( (LO) G	es or c (Replac GROUN	onnectors e IPDM E D OPEN	s. And then r E/R if the fuse CIRCUIT	eplace the fuse. e is fusing again.)
. Tur . Dis 5. Cho	n the ig connect eck con	nition sw t the head tinuity be	itch OF dlamp l tween t	F. ow con the hea	nector. dlamp lov	w harness co	nnector and the ground.
Conr	Headla nector	amp low Term	inal	Gro	ound	Continuity	_
	E74 E71	2				Existed	
<u>Does co</u> YES NO	ontinuity >> Pe >> Re	<u>exist?</u> rform the pair the h	xenon narness	headla ses or c	mp diagn	osis. Refer to 3.	= p <u>EXL-34, "Description"</u> .

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# < DTC/CIRCUIT DIAGNOSIS > XENON HEADLAMP

# Description

### OUTLINE

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

### ILLUMINATION PRINCIPLE

- 1. Discharging starts in high voltage pulse between bulb electrodes.
- 2. Xenon gas is activated by current between electrodes. Pale light is emitted.
- 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**

# 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. <u>Is the headlamp turned ON?</u>



### **EXL-34**

INFOID:000000005254573

. Halide

Quartz glass

 $M \oplus H$ 

Tungsten électrode

INFOID:000000005254572

JPLIA0421GB

# **XENON HEADLAMP**

### [XENON TYPE]

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NO >> Xenon headlamp is normal. Check the headlamp control system.

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< DTC/CIRCUIT DIAGNOSIS >

# FRONT FOG LAMP CIRCUIT

Component Function Check

**1.**CHECK FRONT FOG LAMP OPERATION

**®IPDM E/R AUTO ACTIVE TEST** 

1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".

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

CONSULT-III ACTIVE TEST

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

Fog : Front fog lamp ON

### Off : Front fog lamp OFF

Is the front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.

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

### Diagnosis Procedure

### **1.**CHECK FRONT FOG LAMP FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuse is not fusing.

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#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				Continuity
Con	nector	Terminal	Ground	Continuity
RH	E12	17	Giodila	Not oxisted
LH		16		NUL EXISTED

### Does continuity exist?

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

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

### 3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

### Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

### **4.**CHECK FRONT FOG LAMP OUTPUT VOLTAGE

### CONSULT-III ACTIVE TEST

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

INFOID:000000005254574
# FRONT FOG LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

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

	Т	erminals		Test item			
	(+)		(–)	Test item	Voltage		
	IPDM E	/R		EXTERNAL	(Approx.)		
Co	nnector	Terminal		LAMPS			
RH	E12	17	Ground	Fog	Battery voltage		
LH	-	16		Off	0 V		
is the i	measurer	nent value	normal?				
YES NO	>> GO >> Rep	TO 5. blace IPDM	E/R.				
<b>D.</b> CH	ECK FRC	NT FOG L	AMP OPE	N CIRCUIT			
2. Di 3. Ch	sconnect neck cont	IPDM E/R	connector. een the IPE Front	DM E/R harne	ess connec	or and the front fog lamp harnes	ss connector.
Со	nnector	Terminal	Connector	Terminal	- Continuity		
RH		17	E48	2			
LH	_ E12	16	E30	2	- Existed		
Does o	continuity	exist?					
YES NO 6.сн	>> GO >> Rep ECK FRC	TO 6. Dair the har	nesses or o	connectors.		RCUIT	
						r and the ground	
Check	continuity	y between		y lamp harne	ess connec	r and the ground.	
	Front f	og lamp					
	· · · · · · · · · · · · · · · · · · ·	 Tormi	nal		Continuity		

LH E30		1		LAISteu
RH E48		1	Ground	Existed
Connector		Terminal	Ground	

Does continuity exist?

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YES >> Replace the front fog lamp.

NO >> Repair the harnesses or connectors.

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[XENON TYPE]

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< DTC/CIRCUIT DIAGNOSIS >

# PARKING LAMP CIRCUIT

# Component Function Check

**1.**CHECK PARKING LAMP OPERATION

**®**IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".

2. Check that the parking lamp is turned ON.

CONSULT-III ACTIVE TEST

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

## **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		Continuity
Con	nector	Terminal		Continuity
RH	E14	39	Ground	Not ovisted
LH	C14	38		NUL EXISTED

#### Does continuity exist?

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

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

### **3.**CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

#### Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

**4.**CHECK PARKING LAMP OUTPUT VOLTAGE

### CONSULT-III ACTIVE TEST

1. Disconnect the parking lamp connector.

2. Turn the ignition switch ON.

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

## **EXL-38**

INFOID:000000005254576

# PARKING LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

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

	Т	erminals	Toot itom		
	(+) (-)		(-)	iest lieni	Voltage
IPDM E/R		EXTERNAL	(Approx.)		
Connector Terminal		Terminal		LAMPS	
RH	E14	39	Ground	TAIL	Battery voltage
LH	214	38		Off	0 V
ls the n	neasuren	nent value i	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.

1	IPDM E	/R	Parking	Continuity	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E14	39	E46	1	Existed
LH		38	E27	1	LAISICU

#### Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

#### ${f 6}.$ CHECK PARKING LAMP GROUND OPEN CIRCUIT

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

	Parking la	mp		Continuity	
Connector		Terminal	Ground	Continuity	
RH	E46	2	Giouna	Existed	
LH E27 2			LAISteu		

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

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# **TURN SIGNAL LAMP CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

# TURN SIGNAL LAMP CIRCUIT

## Description

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

NOTE:

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

## Component Function Check

# **1.**CHECK TURN SIGNAL LAMP

(E)CONSULT-III ACTIVE TEST

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

**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	Voltago (Approx.)	
	BCM			Turn signal	Voliage (Applox.)	
Connector Terminal			switch			
RH		61				
LH	M67	60	Ground	LH or RH	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
				OFF	0 V	

Is the measurement value normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-67, "Exploded View"</u>.

# [XENON TYPE]

INFOID:000000005254578

INFOID:000000005254579	

# **TURN SIGNAL LAMP CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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#### 3. CHECK TURN SIGNAL LAMP OPEN CIRCUIT 1. Turn the ignition switch OFF. Disconnect BCM connector. 2. 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 61 E46 M67 Existed 3 E27 LH 60 Rear turn signal lamp BCM Rear combination lamp Continuity Connector Terminal Connector Terminal RH 61 B59 M67 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 Continuity Connector Terminal Ground RH 61 M67 Not existed LH 60 Does continuity exist? YES >> Repair the harnesses or connectors. NO >> GO TO 5. ${f 5.}$ 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 Continuity Connector Terminal Ground RH E46 2 Existed LH E27 Rear turn signal lamp Rear combination lamp Continuity Connector Terminal Ground 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.

# < DTC/CIRCUIT DIAGNOSIS >

# HAZARD SWITCH

# Component Function Check

# 1.CHECK HAZARD SWITCH SIGNAL BY CONSULT-III

CONSULT-III DATA MONITOR

1. Turn the ignition switch ON.

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

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

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

Is the item status normal?

YES >> Hazard switch circuit is normal.

NO >> Refer to EXL-42, "Diagnosis Procedure".

# **Diagnosis Procedure**

INFOID:000000005254582

# 1.CHECK HAZARD SWITCH SIGNAL INPUT

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



Is the measurement value normal?

YES >> Replace BCM. Refer to <u>BCS-67</u>, "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.

Hazaro	d switch	B	Continuity	
Connector	Terminal	Terminal Connector		Continuity
M45	2	M65	29	Existed

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

 $\mathbf{3.}$  CHECK HAZARD SWITCH SIGNAL SHORT CIRCUIT

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

# **EXL-42**

# **HAZARD SWITCH**

### < DTC/CIRCUIT DIAGNOSIS >

Hazard switch			Continuity	A
Connector Terminal   M45 2		Ground	Continuity	
			Not existed	В
Does continuity YES >> Ret	exist? pair the harne:	sses or connector	S.	
NO >> GO	TO 4.			С
4.CHECK HAZ	ZARD SWITCH	H GROUND OPEI	N CIRCUIT	-
Check continuit	y between the	hazard switch ha	rness connecto	or and the ground.
Hazard	switch			—
Connector	Terminal	Ground	Continuity	F
M45	1	_	Existed	ha
Does continuity	exist?	-	1	—
YES >> Rep	place the haza	ard switch.	-	F
NO >> Rep	bair the names	sses of connector	5.	
				G
				Н
				I
				J
				К
				FX
				M
				Ν
				0
				P

### < DTC/CIRCUIT DIAGNOSIS >

# TAIL LAMP CIRCUIT

### **Component Function Check**

#### NOTE:

Check the license plate lamp circuit if the tail lamp and the license plate lamp are not turned ON. Refer to <u>EXL-</u><u>46, "Component Function Check"</u>.

### **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.

(D)CONSULT-III ACTIVE TEST

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

TAIL : Tail Lamp ON

#### Off : Tail lamp OFF

#### Is the tail lamp turned ON?

YES >> Tail lamp circuit is normal.

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

### **Diagnosis** Procedure

# **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 LAMPS" of IPDM E/R active test item.
- 4. With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

Terminals			Tost itom		
(+)		(-)	iest item	Voltage	
IPDN	1 E/R		EXTERNAL	(Approx.)	
Connector	Terminal	Ground	LAMPS		
E14	37		TAIL	Battery volt- age	
		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.

# TAIL LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### 2. Disconnect IPDM E/R connector.

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

mp	ination lamp	Rear combi	IPDM E/R		
nal	Connector Terminal		Terminal	Connector	
Evi	1	B59	37	H E14	RH
	1	B80	57		LH

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TAIL LAMP GROUND OPEN CIRCUIT

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

	Rear combinat	tion lamp		Continuity
	Connector	Terminal	Ground	Continuity
RH	B59	4	Ground	Existed
LH	B80	4		Existed

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

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< DTC/CIRCUIT DIAGNOSIS >

# LICENSE PLATE LAMP CIRCUIT

**Component Function Check** 

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

### TAIL : License plate lamp ON

### Off : License plate lamp OFF

Is the license plate lamp turned ON?

YES >> License plate lamp circuit is normal.

NO >> Refer to <u>EXL-46, "Diagnosis Procedure"</u>.

### **Diagnosis Procedure**

**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.
- Check continuity between the IPDM E/R harness connector and the license plate lamp harness connector.

IPDM E/R		License p	Continuity		
С	onnector Terminal Connector Ter		Terminal	Continuity	
RH	E1/	27	D196	1	Evictod
LH E14	57	D195	1	LAISIEU	

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

 $\mathbf{3}$ . Check license plate lamp ground open circuit

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

License plate lamp				Continuity	
Connector		Terminal	Ground	Continuity	
RH	D196	2	Giouna	Evictod	
LH	D195	2	1	Existed	

Does continuity exist?

YES >> Replace the license plate lamp.

NO >> Repair the harnesses or connectors.

INFOID:000000005254585

Wiring Diagram - HEADLAMP -



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# **HEADLAMP SYSTEM**

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



JCLWM2510GE

# **HEADLAMP SYSTEM**



JCLWM2511GB

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# **HEADLAMP AIMING CONTROL SYSTEM (MANUAL)**

#### < DTC/CIRCUIT DIAGNOSIS >

# HEADLAMP AIMING CONTROL SYSTEM (MANUAL)

### Description

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) - INFOLD:00000005254589



# HEADLAMP AIMING CONTROL SYSTEM (MANUAL)

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



INFOID:000000005254590

# **Component Inspection**

1.CHECK HEADLAMP AIMING SWITCH

1. Remove the headlamp aiming switch.

# **HEADLAMP AIMING CONTROL SYSTEM (MANUAL)**

### < DTC/CIRCUIT DIAGNOSIS >

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

Headlamp a	Headlamp aiming switch		Resistance
Terminal		Switch position	(Approx.)
1	2	0	Α: 160 Ω
		1	Β: 249 Ω
	2	2	C: 464 Ω
		3	D: 887 Ω
	3	_	Ε: 412 Ω



[XENON TYPE]

Is the measurement value normal?

YES >> Headlamp aiming switch is normal.

NO >> Replace the headlamp aiming switch.

INFOID:000000005254591

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# FRONT FOG LAMP SYSTEM

Wiring Diagram - FRONT FOG LAMP -



# FRONT FOG LAMP SYSTEM

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



JCLWM2525GE

# FRONT FOG LAMP SYSTEM

### < DTC/CIRCUIT DIAGNOSIS >



### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

Wiring Diagram - TURN AND HAZARD WARNING LAMPS -



# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



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# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



JCLWM2529GE

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

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		G
		Η
		J
AMPS		K
	E	EXL
HAZARD V HAM (2001) HAM (200		Μ
SUAL AND WIRE TO WIRE Support		Ν
TURN SIC Connector Name Connector Na		0
	JCLWM2530GE	D





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# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



JCLWM2539GE

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



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JCLWM2540GE

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



JCLWM2541GE

### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM T DIAGNOSIS > [XENON TYPE]

#### < DTC/CIRCUIT DIAGNOSIS >



JCLWM2542GE

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JCLWM2543GE

# STOP LAMP

Wiring Diagram - STOP LAMP -



STOP LAMP

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JCLWM2531GE

# **STOP LAMP**

### < DTC/CIRCUIT DIAGNOSIS >



JCLWM2532GE





# BACK-UP LAMP

Wiring Diagram - BUCK-UP LAMP -

INFOID:000000005254595

[XENON TYPE]



# **BACK-UP LAMP**

### < DTC/CIRCUIT DIAGNOSIS >



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# **BACK-UP LAMP**

### < DTC/CIRCUIT DIAGNOSIS >





JCLWM2536GE
# ECU DIAGNOSIS INFORMATION BCM (BODY CONTROL MODULE)

## **Reference Value**

## VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status	
	Ignition switch OFF or ACC	Off	
IGN ON SW	Ignition switch ON	On	D
	Mechanical key is removed from key cylinder	Off	
KEY ON SW	Mechanical key is inserted to key cylinder	On	
	Door lock/unlock switch does not operate	Off	
CDL LOCK SW	Press door lock/unlock switch to the lock side	On	
	Door lock/unlock switch does not operate	Off	F
CDL UNLOCK SW	Press door lock/unlock switch to the unlock side	On	
	Driver's door closed	Off	
DOOR SW-DR	Driver's door opened	On	G
	Passenger door closed	Off	
DOOR SW-AS	Passenger door opened	On	H
	Rear RH door closed	Off	
DOOR SW-RR	Rear RH door opened	On	
	Rear LH door closed	Off	
DOOR SW-RL	Rear LH door opened	On	
	Back door closed	Off	
BACK DOOR SW	Back door opened	On	0
	Other than driver door key cylinder LOCK position	Off	
KEY CYL LK-SW	Driver door key cylinder LOCK position	On	K
	Other than driver door key cylinder UNLOCK position	Off	
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On	
	"LOCK" button of key fob is not pressed	Off	
KEYLESS LOCK	"LOCK" button of key fob is pressed	On	
	"UNLOCK" button of key fob is not pressed	Off	N
KETLESS UNLOCK	"UNLOCK" button of key fob is pressed	On	
I-KEY LOCK	"LOCK" button of Intelligent Key or door request switch are not pressed	Off	N
	"LOCK" button of Intelligent Key or door request switch are pressed	On	
	"UNLOCK" button of Intelligent Key or door request switch are not pressed	Off	С
I-RET UNLOCK	"UNLOCK" button of Intelligent Key or door request switch are pressed	On	
	Ignition switch OFF	Off	P
ACC ON SW	Ignition switch ACC or ON	On	
	Rear window defogger switch OFF	Off	
REAR DEF 3W	Rear window defogger switch ON	On	
	Lighting switch OFF	Off	
LIGHT SW 191	Lighting switch 1ST	On	

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INFOID:000000005575143

## < ECU DIAGNOSIS INFORMATION >

## [XENON TYPE]

Monitor Item	Condition	Value/Status
	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF]	Off
BUCKLE SW	The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON]	On
	PANIC button of key fob is not pressed	Off
KEYLESS PANIC	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
	LOCK/UNLOCK button of key fob is not pressed and held simulta- neously	Off
KKE LON-UNLOK	LOCK/UNLOCK button of key fob is pressed and held simulta- neously	On
	UNLOCK button of key fob is not pressed	Off
KKE KEEF UNLK	UNLOCK button of key fob is pressed and held	On
	Lighting switch OFF	Off
	Lighting switch HI	On
	Lighting switch OFF	Off
HEAD LAMP SW 1	Lighting switch 2ND	On
	Lighting switch OFF	Off
HEAD LAWP SW 2	Lighting switch 2ND	On
AUTO LIGHT SW	NOTE: The item is indicated, but not monitored.	Off
	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
	Front fog lamp switch OFF	Off
FR FUG SW	Front fog lamp switch ON	On
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off
	Turn signal switch OFF	Off
TURN SIGNAL R	Turn signal switch RH	On
	Turn signal switch OFF	Off
TURN SIGNAL L	Turn signal switch LH	On
	Engine stopped	Off
ENGINE RUN	Engine running	On
	Parking brake switch is OFF	Off
PKD SW	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
	Ignition switch OFF or ACC	Off
IGN SVV CAN	Ignition switch ON	On
	Front wiper switch OFF	Off
FK WIPEK HI	Front wiper switch HI	On
	Front wiper switch OFF	Off
FR WIPER LOW	Front wiper switch LO	On

Revision: 2009 October

## < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
	Front wiper switch OFF	Off	А
FR WIPER IN I	Front wiper switch INT	On	
	Front washer switch OFF	Off	В
FR WASHER SW	Front washer switch ON	On	
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7	
	Any position other than front wiper stop position	Off	С
FR WIPER STOP	Front wiper stop position	On	
VEHICLE SPEED	While driving	Equivalent to speedometer reading	D
	Rear wiper switch OFF	Off	
RR WIPER ON	Rear wiper switch ON	On	
	Rear wiper switch OFF	Off	E
	Rear wiper switch INT	On	
	Rear washer switch OFF	Off	_
RR WASHER SW	Rear washer switch ON	On	Г
	Rear wiper stop position	Off	
RR WIPER STOP	Other than rear wiper stop position	On	G
RR WIPER STP2	<b>NOTE:</b> The item is indicated, but not monitored.	Off	
H/L WASH SW	NOTE: The item is indicated, but not monitored.	Off	Н
	Hazard switch OFF	Off	
HAZARD SW	Hazard switch ON	On	I
	Brake pedal is not depressed	Off	
BRAKE SW	Brake pedal is depressed	On	.1
	Blower fan motor switch OFF	Off	0
FAN ON SIG	Blower fan motor switch ON (other than OFF)	On	
	Compressor ON is not requested from auto amp. (A/C indicator OFF, blower fan motor switch OFF or etc.)	Off	Κ
AIR COND SW	Compressor ON is requested from auto amp. (A/C indicator ON and blower fan motor switch ON).	On	EXI
I-KEY TRUNK	NOTE: The item is indicated, but not monitored.	Off	
	UNLOCK button of Intelligent Key is not pressed	Off	M
	UNLOCK button of Intelligent Key is pressed and held	On	
	PANIC button of Intelligent Key is not pressed	Off	NI
I-RET PANIC	PANIC button of Intelligent Key is pressed	On	IN
	Return to ignition switch to "LOCK" position	Off	
PUSH 3W	Press ignition switch	On	0
	When back door opener switch is not pressed	Off	
I KINK OPINK SVI	When back door opener switch is pressed	On	
TRUNK CYL SW	NOTE: The item is indicated, but not monitored.	Off	Р
HOOD SW	Close the hood <b>NOTE:</b> Vehicles of except for Mexico are OFF-fixed	Off	
	Open the hood	On	

## < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status			
OIL PRESS SW	<ul><li>Ignition switch OFF or ACC</li><li>Engine running</li></ul>	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	AIR PRESS RL Ignition switch ON (Only when the signal from the transmitter is received)				
	ID of front LH tire transmitter is registered	Done			
	ID of front LH tire transmitter is not registered	Yet			
	ID of front RH tire transmitter is registered	Done			
	ID of front RH tire transmitter is not registered	Yet			
	ID of rear RH tire transmitter is registered	Done			
	ID of rear RH tire transmitter is not registered	Yet			
	ID of rear LH tire transmitter is registered	Done			
	ID of rear LH tire transmitter is not registered	Yet			
	Tire pressure indicator OFF	Off			
	Tire pressure indicator ON	On			
BI 177ER	Tire pressure warning alarm is not sounding	Off			
	Tire pressure warning alarm is sounding	On			

#### < ECU DIAGNOSIS INFORMATION >

**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.
- Ν • 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-27, "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 0 Diagram".

Termi	nal No.	Description				\/alue	F
(Wire	color)	Signal name	Input/		Condition	(Approx.)	
+	-	Signal name	Output			(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1	Ground	Ignition key hole illu-	Output	Ignition key hole	OFF	Battery voltage	-
(V)	Gibunu	mination control	Output	illumination	ON	0 V	_

[XENON TYPE]

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## < ECU DIAGNOSIS INFORMATION >

Terminal No.		Description				Value	
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF	0 V	
					Turn signal switch RH		
					Lighting switch HI	(V) 15	
2 (G)	Ground	Combination switch INPUT 5	Input	Combination switch (Wiper intermit-	Lighting switch 1ST	10 5 0 • + 10ms 1.0 V	
				tent dial 4)	Lighting switch 2ND	(V) 15 0 0 + 10ms - + + 10ms - + + + 10ms - + + + + + + + + + + + + + + + + + + +	
				All switch OFF Turn signal switch LH Lighting switch PASS Lighting switch 2ND Combination switch (Wiper intermit- tent dial 4) Front fog lamp switch ON	All switch OFF	0 V	
		Fround Combination switch INPUT 4	Input		Turn signal switch LH		
					Lighting switch PASS	(V) 15	
3 (Y)	Ground				Lighting switch 2ND	10 5 0 ++10ms FKIB4959J 1.0 V	
					Front fog lamp switch ON	(V) 15 10 5 0 + 10ms PKIB4955J	
						0.8 V	
						U V	
						(V)	
4 (W)	Ground	Ground Combination switch Input	Combination switch (Wiper intermit- tent dial 4)	Front wiper switch INT	15 10 5 0 •••10ms •••10ms •••10ms •••10ms •••10ms •••10ms ••••10ms ••••10ms		

## < ECU DIAGNOSIS INFORMATION >

Termii	nal No.	Description				Value			
(Wire +	color)	Signal name	Input/ Output		Condition	Value (Approx.)	A		
					All switch OFF (Wiper intermittent dial 4)	0 V	В		
					Front washer switch (Wiper intermittent dial 4)		0		
					Rear washer ON (Wiper intermittent dial 4)		C		
5 (B)	Ground	Combination switch	Input	Combination	Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5	+ ←10ms + + + + + + + + + + + + + + + + + + +	D		
				Switch			E		
					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10	F		
						PKIB4955J	G		
					All switch OFF	0.8 V			
					(Wiper intermittent dial 4)	0 V	H		
					(Wiper intermittent dial 4) Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 5 0	I		
							Wiper intermittent dial 3 (All switch OFF)	++10ms ++10ms PKIB4959J	J
						1.0 V	K		
6 (P)	Ground	Combination switch INPUT 1	Input	Combination switch	Any of the condition below with all switch OFF • Wiper intermittent dial 1		EX		
							Wiper intermittent dial 2	• • • 10ms • • • • • • • • • • • • • • • • • • •	M
						(V) 15	Ν		
				Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7	10 5 0 • • • 10ms	0			
						рків4955 0.8 V	Ρ		

#### < ECU DIAGNOSIS INFORMATION >

Termir	nal No.	Description				Value
(Wire +	color) –	Signal name	Input/ Output		Condition	(Approx.)
7 (L)	Ground	Door key cylinder switch UNLOCK sig- nal	Input	Door key cylin- der switch	NEUTRAL position	(V) 15 10 5 0 • • 10ms JPMIA0587GB 8.0 - 8.5 V
8 (R)	Ground	Door key cylinder switch LOCK signal	Input	Door key cylin- der switch	NEUTRAL position	(V) 15 10 5 0 ••10ms JPMIA0587GB
					LOCK position	8.0 - 8.5 V
0				Stan Jamp	OFF (Brake pedal is not depressed)	0 V
9 (R)	Ground	Stop lamp switch	Input	switch	ON (Brake pedal is de- pressed)	Battery voltage
10	Ground	Rear window defog-	Input	Rear window	Not pressed	Battery voltage
(SB)	Ground	ger switch	input	defogger switch	Pressed	0 V
11	Ground	Ignition switch ACC	Input	Ignition switch OI	FF	0 V
(SB)	Ground	Ignition Switch ACC	input	Ignition switch A	CC or ON	Battery voltage
12 (P)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	(V) <sub>15</sub> 10 5 0 + 10ms 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)	(V) 15 10 5 0 + 10ms JPMIA0587GB 8.0 - 8.5 V
					ON (When rear door RH opened)	0 V

## < ECU DIAGNOSIS INFORMATION >

## [XENON TYPE]

Termir	nal No.	Description				مى الد/		
(Wire +	color) –	Signal name	Input/ Output		Condition	(Approx.)	A	
15 <sup>*</sup> (O)	Ground	Tire pressure warn- ing check switch	Input	Ignition switch O	FF	(V) <sub>15</sub> 10 5 0 ++10ms JPMIA0588GB 1.5 V	B C D	
18 <sup>*</sup> (O)	Ground	Remote keyless en- try receiver ground	Input	Ignition switch O	N	0 V	_	
				Without Intelli- gent Key sys- tem	At any condition	5 V	E	
19 <sup>*</sup> (V)	19 <sup>*</sup> (V) Ground try re- suppl	Remote keyless en- try receiver power supply	Input	Input With Intelligent	<ul> <li>Ignition switch OFF</li> <li>For 3 seconds after ignition switch OFF to ON</li> </ul>	0 V	F	
				Key system	3 seconds or later after ig- nition switch OFF to ON	5 V	G	
				Without Intelli- gent Key sys- tem	At any condition	(V) 15 10 5 0 <i>w P m m m m m m m m m m</i>	H I J	
						I he wave form changes accord- ing to signal-receiving condition.		
20 <sup>*</sup> (GR)	Ground	Remote keyless en- try receiver signal	Input		<ul> <li>Ignition switch OFF</li> <li>For 3 seconds after ignition switch OFF to ON</li> </ul>	0 V	K	
				With Intelligent		(V) <sub>15</sub> 10 5	EX	
				Ney System	3 seconds or later after ig- nition switch OFF to ON	++2ms :	M	
						JPMIA0589GB NOTE: The wave form changes accord- ing to signal-receiving condition.	Ν	
21 (G)	Ground	Immobilizer anten- na signal (Clock)	Input/ Output	Ignition switch O	FF	Battery voltage	0	

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#### < ECU DIAGNOSIS INFORMATION >

Termir	nal No.	Description				Value
(Wire +	color) –	Signal name	Input/ Output		Condition	(Approx.)
					ON	0 V
23 (B)	Ground	Security indicator signal	Input	Security indica- tor	Blinking (Ignition switch OFF)	(V) 15 10 5 0 ++15 JPMIA0590GB 12.0.V
					OFF	Battery voltage
25 (BR)	Ground	Immobilizer anten- na signal (Rx, Tx)	Input/ Output	Ignition switch O	FF	Battery voltage
				Ignition switch O	FF	
27 (Y)	Ground	A/C switch	Input	Ignition switch ON	A/C switch OFF	(V) <sub>15</sub> 10 5 0 •••10ms JPMIA0591GB 1.6 V
					A/C switch ON	0 V
				Ignition switch O	FF	
28 (LG)	Ground	Blower fan switch	Input	Ignition switch ON	Blower fan switch OFF	(V) <sub>15</sub> 10 5 0 ••10ms JPMIA0592GB 7.0 - 7.5 V
					Blower fan switch ON	0 V
29					OFF	Battery voltage
(W)	Ground	Hazard switch	Input	Hazard switch	ON	0 V
30	Ground	Back door opener	Input	Back door	Not pressed	Battery voltage
(G)	Ground	switch	input	opener switch	Pressed	0 V

## < ECU DIAGNOSIS INFORMATION >

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## [XENON TYPE]

Iermi	nai No.	Description				Value	
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)	ŀ
					All switch OFF (Wiper intermittent dial 4)	(V) 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
32 (BR)	Ground	Combination switch OUTPUT 5	Output	Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)	(1)	_
					Rear wiper switch ON (Wiper intermittent dial 4)		E
					Any of the condition below with all switch OFF • Wiper intermittent dial 1	0 tententententententententententententent	F
				<ul> <li>Wiper intermittent dial 2</li> <li>Wiper intermittent dial 6</li> <li>Wiper intermittent dial 7</li> </ul>	стороди и странати и стр 1.0 V	0	
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0	F
						► + 10ms =	I
33 (GR)	Ground	Combination switch OUTPUT 4	Output	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V)	
					Rear wiper switch INT (Wiper intermittent dial 4)		k
				Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	с на	EX	

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## < ECU DIAGNOSIS INFORMATION >

Termir	nal No.	Description				Value
(Wire +	color) –	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF (Wiper intermittent dial 4)	(V) 10 5 0 ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms •••••10ms •••••10ms ••••• 7.2 V
34 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	
					Lighting switch HI (Wiper intermittent dial 4)	(V) 15
					Rear washer switch ON (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	++10ms РКIВ4958J 1.2 V
		Combination switch OUTPUT 2	Output	Combination switch (Wiper intermit-	All switch OFF	(V) 10 50 •••••••••••••••••••••••••••••••••
35 (B)	Ground				Lighting switch 2ND	(V) 15 10 5
				tent dial 4)	Lighting switch PASS	
					Front wiper switch INT	
					Front wiper switch HI	0 ++10ms ++10ms 1.2 V
36		Combination quitab		Combination	All switch OFF	(V) 10 0 • • 10ms • • 10ms PKIB4960J 7.2 V
(V)	Cround	OUTPUT 1	Culput	(Wiper intermit-	Turn signal switch RH	
					Turn signal switch LH	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10
					Front wiper switch LO (Front wiper switch MIST)	
					Front washer switch ON	
						1.2 V

## < ECU DIAGNOSIS INFORMATION >

## [XENON TYPE]

Terminal No.		Description					-				
(Wire color)		<u>.</u>	Input/		Condition		А				
+	-	Signal name	Output			(Applox.)					
37	Ground	Key switch	Input	Insert mechanica der	al key into ignition key cylin-	Battery voltage	В				
(LG)	Cround		mput	Remove mechar cylinder	nical key from ignition key	0 V					
38	Ground	Ignition switch ON	Input	Ignition switch O	FF or ACC	0 V	С				
(G)	Ciouna	Ignition switch Or	mput	Ignition switch O	N or START	Battery voltage					
39 (L)	Ground	CAN-H	Input/ Output		_	_	D				
40 (P)	Ground	CAN-L	Input/ Output		_	_	F				
43 (V)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	(V) <sub>15</sub> 10 5 0 • 10ms JPMIA0593GB	F				
					ON (When back door opened)	9.5 - 10.0 V 0 V	Н				
					Rear wiper stop position	0 V					
44 (B)	Ground	Rear wiper auto stop	Input	ON	Any position other than rear wiper stop position	Battery voltage	I				
45	Ground	Door lock and unlock switch LOCK signal	Door lock and unlock	Door lock and unlock	Door lock and unlock	Door lock and unlock	Input	Door lock and NEUTRAL position unlock switch	NEUTRAL position		J
(P)	Croana		input	unlock switch	unlock switch	unlock switch	unlock switch		+ 10ms JPMIA0591GB	K	
						1.6 V	EXL				
					LOCK position	0 V					
46	Ground	Door lock and unlock	locut	Door lock and unlock switch	NEUTRAL position		M				
(BK)		nal				JPMIA0591GB	IN				
						0.V/	0				
					UNLOCK position	0 V					

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#### < ECU DIAGNOSIS INFORMATION >

Terminal No.		Description					
(Wire +	color) –	Signal name	Input/ Output		Condition	(Approx.)	
47 (W)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	(V) 15 10 0 • • 10ms 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)	(V) 15 10 5 0 + 10ms JPMIA0594GB 8.5 - 9.0 V	
					ON (When rear door LH opened)	0 V	
10	Ground	Back door lamp con- trol	Output	Back door lamp switch DOOR position	Back door is closed (Back door lamp turns OFF)	Battery voltage	
(L)					Back door is opened (Back door lamp turns ON)	0 V	
53	Ground	Back door open	Output	Back door	Not pressed (Back door actuator is ac- tivated)	0 V	
(V)	Ground	Back door open	Output	opener switch	Pressed (Back door actuator is ac- tivated)	Battery voltage	
55	Ground	Rear wiper motor	Output	Ignition switch	Rear wiper switch OFF	0 V	
(SB)	Croana		output	ON	Rear wiper switch ON	Battery voltage	
56	Ground	Interior room lamp	Output	After passing the saver operation t	interior room lamp battery ime	0 V	
(Y)		power supply		Any other time aft lamp battery save	ter passing the interior room er operation time	Battery voltage	
57 (G)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage	
59	Ground	Driver door UN-	Output	Driver door	UNLOCK (Actuator is activated)	Battery voltage	
(L)	e. sund	LOCK	put		Other then UNLOCK (Ac- tuator is not activated)	0 V	

## < ECU DIAGNOSIS INFORMATION >

## [XENON TYPE]

Terminal No. (Wire color) + –		Description				Value	
		Signal name	name Input/ Condition Output			value (Approx.)	A
					Turn signal switch OFF	0 V	В
60 (BR)	Ground	Turn signal LH	Output	out Ignition switch	Turn signal switch LH	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10	С
						E 18 PKIC6370E 6.0 V	D
					Turn signal switch OFF	0 V	F
61 (GR)	61 GR) Ground Turn signal RH		Output ON	Ignition switch ON	Turn signal switch RH		F
						на страната и страна С страната и с	G
63	Ground	Interior room lamp	Output	Interior room	OFF	Battery voltage	Н
(R)	Ciouna	timer control	Output	lamp	ON	0 V	
65	Ground	All doors I OCK	Output	All doors	LOCK (Actuator is activat- ed)	Battery voltage	I
(V)	Croana		Output		Other then LOCK (Actua- tor is not activated)	0 V	
66	Ground	Passenger door and	Output	Passenger door	UNLOCK (Actuator is activated)	Battery voltage	J
(G)	Ground	rear door UNLOCK	Output	and rear door	Other then UNLOCK (Ac- tuator is not activated)	0 V	K
67 (B)	Ground	Ground	Output	Ignition switch O	N	0 V	
68 (L)	Ground	P/W power supply (RAP)	Output	Ignition switch O	N	Battery voltage	EXI
69 (P)	Ground	P/W power supply (BAT)	Output	Ignition switch O	FF	Battery voltage	М
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage	1 4 1
*: Except	for Mexico	)					NI

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### < ECU DIAGNOSIS INFORMATION >





## [XENON TYPE]

## **BCM (BODY CONTROL MODULE)**

< ECU DIAGNOSIS INFORMATION >



#### < ECU DIAGNOSIS INFORMATION >



JCMWM2854G

INFOID:000000005575145

# REAR WIPER MOTOR PROTECTION

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

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

Condition of cancellation

Fail-safe

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<ol> <li>Pass more than 1 minute after the rear wiper stop.</li> <li>Turn the rear wiper switch OFF.</li> <li>Operate the rear wiper switch or rear washer switch.</li> </ol>	A
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.	B
<b>NOTE:</b> The blinking speed is normal while activating the hazard warning lamp.	С
DTC Inspection Priority Chart	146

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

Priority	DTC	
1	U1000: CAN COMM CIRCUIT	
2	C1735: IGN CIRCUIT OPEN	F
3	<ul> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> <li>C1711: [NO DATA] RL</li> <li>C1716: [PRESS DATA ERR] FL</li> <li>C1718: [PRESS DATA ERR] FR</li> <li>C1718: [PRESS DATA ERR] RR</li> <li>C1719: [PRESS DATA ERR] RL</li> <li>C1719: [PRESS DATA ERR] RL</li> <li>C1729: VHCL SPEED SIG ERR</li> </ul>	G H

#### DTC Index

#### NOTE:

Details of time display

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

CONSULT display	Tire pressure monitor warning Iamp ON	Reference	_
U1000: CAN COMM CIRCUIT	—	<u>BCS-34</u>	N
C1704: LOW PRESSURE FL	×		_
C1705: LOW PRESSURE FR	×	W/T 15	
C1706: LOW PRESSURE RR	×	<u></u>	0
C1707: LOW PRESSURE RL	×		
C1708: [NO DATA] FL	×		P
C1709: [NO DATA] FR	×	\\/T_17	
C1710: [NO DATA] RR	×	<u>vv1-17</u>	
C1711: [NO DATA] RL	×		

# ECU DIAGNOSIS INFORMATION >

#### Revision: 2009 October

[XENON TYPE]

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INFOID:000000005575147

## < ECU DIAGNOSIS INFORMATION >

CONSULT display	Tire pressure monitor warning lamp ON	Reference
C1716: [PRESS DATA ERR] FL	×	
C1717: [PRESS DATA ERR] FR	×	W/T-20
C1718: [PRESS DATA ERR] RR	×	<u></u>
C1719: [PRESS DATA ERR] RL	×	
C1729: VHCL SPEED SIG ERR	×	<u>WT-22</u>
C1735: IGN CIRCUIT OPEN	—	BCS-35

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

## **Reference Value**

INFOID:000000005575148

А

В

## VALUES ON THE DIAGNOSIS TOOL

Monitor Item		Value/Status	С		
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air condition- er operation status, vehicle speed, etc.	1 - 4	D	
		A/C switch OFF	Off	_	
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On	E	
	Lighting switch OFF		Off		
TAIL&CLR REQ	Lighting switch 1ST or 2	ND	On	F	
	Lighting switch OFF		Off	_	
HE LO REQ	Lighting switch 2ND		On	G	
	Lighting switch OFF		Off	0	
HL HI REQ	Lighting switch HI (Light	is illuminated)	On	_	
FR FOG REQ		Front fog lamp switch OFF	Off	H	
<b>NOTE:</b> This item is monitored only on the vehicle with front fog lamp.	Lighting switch 2ND	Front fog lamp switch ON	On	_	
		Front wiper switch OFF	Stop	_ 1	
	Institute switch ON	Front wiper switch INT	1LOW		
FR WIP REQ	Ignition switch ON	Front wiper switch LO	Low	J	
		Front wiper switch HI	Hi		
		Front wiper stop position	STOP P		
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P	- ĸ	
		Front wiper operates normally	Off	FX	
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe oper- ation	BLOCK		
ST RLY REQ NOTE:	When Intelligent Key is of is pushed	butside the vehicle, and the push switch	Off	M	
Vehicle without Intelligent Key system indi- cates only "ON", and it does not change.	When Intelligent Key is in pushed	On	N		
	Ignition switch OFF or A	nition switch OFF or ACC		- 11	
	Ignition switch ON		On	_	
		Rear window defogger switch OFF	Off	0	
RR DEF REQ	Ignition switch ON	Rear window defogger switch ON (Rear window defogger is operat- ing)	On	P	
	Ignition switch OFF, ACC	C or engine running	Open	_ '	
OIL P SW	Ignition switch ON		Close		
DTRL REQ	Daytime running light sy	stem is not operated.	Off		
<b>NOTE:</b> This item is monitored only on the vehicle with the daytime running light system.	Daytime running light sy	On	_		

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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

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

#### **TERMINAL LAYOUT**



#### PHYSICAL VALUES

Terminal No. (Wire color)		Description			Valuo	
		Signal name	Input/	Condition	(Approx.)	
+	_	oignaí name	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.		Description					_
(Wire +	color)	Signal name	Input/ Output	Condition		(Approx.)	А
3	<u> </u>		<u> </u>	When engine is clar	iking	Battery voltage	-
(O)	Ground	Starter relay power supply	Output	When engine is not	clanking	0 V	- B
4		Cooling fan relay-1 power		Cooling fan opera-	OFF	0 V	-
(W)	Ground	supply	Output	tion	MID or HI	Battery voltage	С
5				Ignition switch OFF,	ACC or ON	0 V	_
(R)	Ground	Ignition switch START	Input	Ignition switch STAF	RT	Battery voltage	-
6 (BR)	Ground	Battery power supply (Cooling fan relay)	Input	Ignition switch OFF		Battery voltage	D
7		Cooling fan motor-2 (HI)		Cooling fan opera-	OFF	Battery voltage	
(P)	Ground	ground	_	tion	н	0 V	- E
8	- ·	Cooling fan relav-2 power	• • •	Cooling fan opera-	OFF	0 V	-
(G)	Ground	supply	Output	tion	HI	Battery voltage	F
11 (B)	Ground	Ground	_	Ignition switch ON		0 V	_
12		Rear window defogger re-			Rear window defogger switch OFF	0 V	G
(O)	Ground	lay power supply	Output	Ignition switch ON	Rear window defogger switch ON	Battery voltage	H
15 <sup>*1</sup>	Crowned	Daytime running light relay	Output	Daytime running	Not operated	Battery voltage	-
(SB)	Ground	control	Output	light system	Operated	0 V	_
16 <sup>*2</sup>	16 <sup>*2</sup>		0.1.1	Lighting switch	Front fog lamp switch OFF	0 V	
(Y)	Ground	Front fog lamp (LH)	Output	2ND	Front fog lamp switch ON	Battery voltage	-
17 <sup>*2</sup>	17 <sup>*2</sup>	Frank (an Jama (DU))	Outraut	Lighting switch	Front fog lamp switch OFF	0 V	- . J
(W)	Ground	Front fog lamp (RH)	Output	2ND	Front fog lamp switch ON	Battery voltage	
18	Crownd		Output	Lighting switch OFF		0 V	_
(L)	Ground	пеацатр LO (LП)	Output	Lighting switch 2ND		Battery voltage	K
20	Crownd		Output	Lighting switch OFF		0 V	
(SB)	Ground	Headlamp LO (KH)	Output	Lighting switch 2ND		Battery voltage	ΕX
				Lighting switch OFF		0 V	
21 (G)	Ground	Headlamp HI (LH)	Output	<ul><li>Lighting switch 2ND and HI</li><li>Lighting switch PASS</li></ul>		Battery voltage	M
				Daytime running ligh	7.0 V	_	
				Lighting switch OFF		0 V	-
22 (LG)	Ground	Headlamp HI (RH)	Output	<ul> <li>Lighting switch 2ND and HI</li> <li>Lighting switch PASS</li> </ul>		Battery voltage	N
				Daytime running ligh	nt system Operated <sup>*1</sup>	7.0 V	_
23					Engine stopped	0 V	- 0
(W)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine running	Battery voltage	_
					Front wiper stop position	0 V	P
24 (Y)	Ground	Front wiper auto stop	Input	Ignition switch ON	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	_		_	-

Terminal No.		Description				Value
(Wire +	color)	Signal name	Input/ Output	(	Condition	(Approx.)
27 (L)	_	CAN-H	Input/ Output	_		_
31	Ground	Cooling for roley 4 control	Output	Cooling fan opera-	OFF	Battery voltage
(LG)	Ground	Cooling fan Telay-4 control	Output	tion	LO	0 - 1.0 V
32		Throttle control motor re-		After passing approx after turning the igni	kimately 2 seconds or more tion switch from ON to OFF	Battery voltage
(V)	Ground	lay control	Input	<ul> <li>Ignition switch ON</li> <li>For approximately tion switch from C</li> </ul>	I 2 seconds after turning igni- N to OFF	0 - 1.0 V
				Ignition switch OFF		0 V
33 (GR)	Ground	Fuel pump relay control	Input	Ignition owitch ON	Engine stopped	Battery voltage
(011)				Ignition switch ON	Engine running	0.8 V
34 <sup>*3</sup>	Ground		loout	Close the hood		Battery voltage
(W)	Ground	Hood Switch	Input	Open the hood		0 V
37	Oracial	Tail, license plate lamps	Outrast	Lighting switch OFF		0 V
(R)	Ground	and illuminations	Output	Lighting switch 1ST		Battery voltage
38	Oracial		Outrast	Lighting switch OFF		0 V
(R)	Ground	Parking lamp (LH)	Output	Lighting switch 1ST		Battery voltage
39	Ground	Derking lown (DLI)	Output	Lighting switch OFF Lighting switch 1ST		0 V
(GR)	Ground		Output			Battery voltage
40	Ground	lapition rolay power supply	Output	Ignition switch OFF	or ACC	0 V
(BR)	Ground		Output	Ignition switch ON		Battery voltage
41	Ground	lanition relay power supply	Output	Ignition switch OFF or ACC		0 V
(O)	Ground		Output	Ignition switch ON		Battery voltage
42	Ground	Front wiper HI	Output	Ignition switch ON	Front wiper switch OFF	0 V
(L)	Croana		Output	ignition of the	Front wiper switch HI	Battery voltage
43	Ground	Front wiper LO	Output	Ignition switch ON	Front wiper switch OFF	0 V
(G)	Croana		Output		Front wiper switch LO	Battery voltage
45					Selector lever "P" or "N"	Battery voltage
(Y)	Ground	Starter relay power supply	Input	Ignition switch ON	Selector lever in any posi- tion other than "P" or "N"	0 V
46	Ground	Fuel pump relay power	Output	<ul> <li>Ignition switch OFF or ACC</li> <li>After passing approximately 1 second or more after turning the ignition switch ON</li> </ul>		0 V
(W)	Ground	supply	Output	<ul> <li>For approximately 1 second after turning the ignition switch ON</li> <li>Engine running</li> </ul>		Battery voltage
47				After passing approx after turning the igni	kimately 4 seconds or more tion switch from ON to OFF	0 V
(BR)	Ground	ECM relay power supply	Output	<ul> <li>Ignition switch ON</li> <li>For approximately 4 seconds after turning ignition switch from ON to OFF</li> </ul>		Battery voltage
10				After passing approx after turning the igni	kimately 4 seconds or more tion switch from ON to OFF	0 V
40 (R)	Ground	Fround ECM relay power supply	Output	<ul> <li>Ignition switch ON</li> <li>For approximately 4 seconds after turning ignition switch from ON to OFF</li> </ul>		Battery voltage

Terminal No.		Description				Value	,								
(Wire	e color)	Signal name	Input/ Output	Condition		(Approx.)	F								
50	50 Ground Cooling for rolay 5 control Output Cooling fan opera		Cooling fan opera-	OFF	Battery voltage	-									
(G) Ground		Cooling fan relay-5 control	Output	tion	MID or HI	0 - 1.0 V	- 0								
54				After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF		Battery voltage	(								
(L) Grou	Ground	ECM relay control	Output	<ul> <li>Ignition switch ON</li> <li>For approximately 4 seconds after turning ignition switch from ON to OFF</li> </ul>		0 - 1.0 V									
				After passing approximately 2 seconds or more after turning the ignition switch from ON to OFF		0 V	- [								
(P) Grou	Ground	ound lay power supply	Output	<ul> <li>Ignition switch ON</li> <li>For approximately 2 seconds after turning ignition switch from ON to OFF</li> </ul>		Battery voltage									
				Engine stopped		0 V	_								
55		A/C relay power supply	Output		A/C switch OFF	0 V	-								
(O) Gro	Ground			Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Engine running	A/C switch ON (A/C compressor is oper- ating)
56	Ground	Ignition switch ON	Input	Ignition switch OFF or ACC		0 V	-								
(SB)	Ground		input	Ignition switch ON		Battery voltage	-								
57	Ground	Horn rolay control	Output	The horn is not activated		Battery voltage	- 1								
(V) Ground		Fiorm relay control	Output	The horn is activated		0 V	-								
58	Ground	Ignition rolay power supply	Output	Ignition switch OFF or ACC		0 V	-								
(LG)	Croana	ignition relay power supply	Output	Ignition switch ON		Battery voltage	_								
59 Ground			Output	Ignition switch OFF or ACC		0 V	_								
(BR)	Ground	ignition relay power supply	Output	Ignition switch ON		Battery voltage									
60	Ground		Output	Ignition switch OFF or ACC		0 V	_								
(SB)	Croand	.gon roldy power ouppry		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

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

## < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]



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INFOID:000000005575150

#### CAN COMMUNICATION CONTROL

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

If no CAN communication is available with ECM

Fail-safe

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

#### < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Control part	Fail-safe in operation		
Cooling fan	<ul> <li>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</li> <li>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</li> <li>Cooling fan relay-4 OFF</li> </ul>		
A/C compressor	A/C relay OFF		

#### If no CAN communication is available with BCM

Control part	Fail-safe in operation		
Headlamp	<ul> <li>The headlamp low relay turns ON when the ignition switch is turned ON</li> <li>The headlamp low relay turns OFF when the ignition switch is turned OFF</li> <li>Headlamp high relay OFF</li> </ul>		
<ul> <li>Parking lamps</li> <li>License plate lamps</li> <li>Tail lamps</li> <li>Illuminations</li> </ul>	<ul> <li>The tail lamp relay and the daytime running light relay* turn ON when the ignition switch is turned ON</li> <li>The tail lamp relay and the daytime running light relay* turn OFF when the ignition switch is turned OFF</li> </ul>		
Front wiper	<ul> <li>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.</li> <li>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.</li> </ul>		
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.

Dete	ection	IPDM E/P judgmont	
Ignition switch ON signal Ignition relay			Operation
ON	ON	Ignition relay normal	_
OFF	OFF	Ignition relay normal	_
OFF	ON	Ignition relay ON stuck	Turn on the tail lamp relay and daytime run- ning 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 stop position signal.

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

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

Ignition switch Front wiper switch Front wiper stop position signal А The front wiper stop position signal (stop OFF position) cannot be input for 10 seconds. ON В The front wiper stop position signal does ON 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 С "WIP PROT" while the wiper is stopped.

#### DTC Index

INFOID:000000005575151

CONSULT display	Fail-safe	Timir	Ig <sup>NOTE</sup>	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.

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## **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

# SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

## Symptom Table

INFOID:000000005254605

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

## **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

#### < SYMPTOM DIAGNOSIS >

## [XENON TYPE]

Symp	otom	Possible cause	Inspection item	
Tail lamp and the license p ON.	late lamp are not turned	<ul> <li>Fuse</li> <li>Harness between IPDM E/R and the rear combination lamp</li> <li>IPDM E/R</li> </ul>	License plate lamp circuit Refer to <u>EXL-46</u> .	
<ul> <li>Parking lamp, the tail lar lamp are not turned ON.</li> <li>Parking lamp, the tail lar lamp are not turned OFF (Each illumination is turned)</li> </ul>	np and the license plate np and the license plate : d ON/OFF.)	<b>Symptom diagnosis</b> "PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to <u>EXL-111</u> .		
Tail lamp indicator is not turned ON. (Parking, tail lamps are turned ON.)		Combination meter	<ul> <li>Combination meter Data monitor "LIGHT IND"</li> <li>BCM (HEAD LAMP) Active test "TAIL LAMP"</li> </ul>	
Turn signal lamp does not	Indicator lamp is nor- mal. (Applicable side per- forms the high flasher activation.)	<ul> <li>Harness between BCM and each turn signal lamp</li> <li>Turn signal lamp bulb</li> </ul>	Turn signal circuit Refer to <u>EXL-40</u> .	
UIIIK.	Indicator lamp is includ- ed.	<ul> <li>Combination switch</li> <li>Harness between the combination switch and BCM</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-41</u> .	
	One side	Combination meter	—	
Turn signal indicator lamp does not blink.	Both sides (Always)	<ul> <li>Turn signal indicator lamp signal</li> <li>BCM</li> <li>Combination meter</li> </ul>	<ul> <li>Combination meter Data monitor "TURN IND"</li> <li>BCM (FLASHER) Active test "FLASHER"</li> </ul>	
(Turn signal indicator lamp is normal.)	Both sides (Only when activating hazard warning lamp with the ignition switch OFF)	<ul> <li>Combination meter power supply and the ground circuit</li> <li>Combination meter</li> </ul>	Combination meter Power supply and the ground circuit Refer to <u>MWI-41</u> .	
<ul> <li>Hazard warning lamp does not activate.</li> <li>Hazard warning lamp continues activating. (Turn signal is normal.)</li> </ul>		<ul> <li>Hazard switch</li> <li>Harness between the hazard switch and BCM</li> <li>BCM</li> </ul>	Hazard switch Refer to <u>EXL-42</u> .	

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## NORMAL OPERATING CONDITION

## Description

[XENON TYPE]

INFOID:000000005254606

#### 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 [XENON TYPE] < SYMPTOM DIAGNOSIS > BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON А Description INFOID:000000005254607 Both side headlamps (HI) are not turned ON when setting to the lighting switch HI or PASS. В **Diagnosis** Procedure INFOID:000000005254608 1.COMBINATION SWITCH INSPECTION С Check the combination switch. Refer to BCS-66, "Symptom Table". Is the combination switch normal? D YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.check headlamp (hi) request signal input Е

#### OCNSULT-III DATA MONITOR

T. Select "HL HI REQ" of IPDM E/R data monitor item.

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

	0	P.C			
Monitor item	Con	dition	Monitor status		
	ighting switch	HI or PASS	On		
	2ND)	LO	Off		
Is the item status	normal?				
YES >> GO TO 3.					
NO >> Repla	ace BCM. Re	er to <u>BCS-67, "</u>	Exploded View		
3.HEADLAMP (F	HI) CIRCUIT	NSPECTION			
Check the headla	mp (HI) circu	it. Refer to <u>EXL</u>	-30, "Compone	t Function Check".	 
Is the headlamp (	HI) circuit noi	mal?			
YES >> Repla	ace IPDM E/F	<u>.</u>			
NO >> Repa	ir or replace t	he malfunctioni	ng part.		

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# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

#### < SYMPTOM DIAGNOSIS >

# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

#### Description

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

#### **Diagnosis** Procedure

**1.**CHECK COMBINATION SWITCH

Check the combination switch. Refer to <u>BCS-66, "Symptom Table"</u>.

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	Con	Monitor status	
	Lighting switch	2ND	On
HL LO REQ	Lighting Switch	OFF	Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-67, "Exploded View"</u>.

 $\mathbf{3}$ .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.

Revision: 2009 October

[XENON TYPE]

INFOID:000000005254609

#### PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON [XENON TYPE] < SYMPTOM DIAGNOSIS >

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

# Description

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

The parking, lice	ense plate, tail	amps an	d each illu	imination are not turned	d ON in any conditio	on.	В
Diagnosis P	rocedure					INFOID:000000005254612	
1.CHECK FUS	SE						С
Check that the	following fuse is	s fusing.					
Unit	Lo	cation	Fuse No.	Capacity			D
Parking lamp			#46	10 A			
<ul><li>Tail lamp</li><li>License plate la</li></ul>	IPD	M E/R	#45	10 A			Е
Is the fuse fusin YES >> Rep NO >> GO 2.COMBINATI	i <u>g?</u> pair the applica TO 2. ON SWITCH IN	ble circuit	t. And the ON	n replace the fuse.			F
Check the com	pination switch.	Refer to	BCS-66,	Symptom Table".			G
Is the combinat YES >> GO NO >> Rep <b>3.</b> CHECK TAIL	ion switch norm TO 3. pair or replace t LAMP RELAY	i <u>al?</u> he malfu REQUE	nctioning ST SIGN/	part. AL INPUT			Н
CONSULT-III 1. Select "TAI 2. With operation	DATA MONITO	DR of IPDM	E/R data	nonitor item.			I
	ang the lighting	Switch, C					J
Monitor item	Con	dition	Ν	onitor status			
TAIL & CLR REQ	Lighting switch	1ST OFI	F	On Off			Κ
Is the item statu YES >> GO NO >> Rep 4.TAIL LAMP (	<u>is normal?</u> TO 4. blace BCM. Ref CIRCUIT INSPI	er to <u>BC:</u> ECTION	<u>S-67, "Ex</u> ţ	bloded View".			EXI
Check the tail la	amp circuit. Ref	er to <u>EXL</u>	44, "Con	ponent Function Chec	<u></u>		M
Is the tail lamp of YES >> Rep NO >> Rep	<u>circuit normal?</u> blace IPDM E/F bair or replace t	t. he malfu	nctioning	part.			Ν
							0

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# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

#### < SYMPTOM DIAGNOSIS >

# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

### Description

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

#### **Diagnosis Procedure**

1.CHECK FUSE

Check that the following fuse is fusing.

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

#### Is the fuse fusing?

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

NO >> GO TO 2.

2.combination switch inspection

Check the combination switch. Refer to <u>BCS-66, "Symptom Table"</u>.

Is the combination switch normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning part.

3.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

#### ONSULT-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	ON	On
	(With lighting switch 1ST)	OFF	Off

Is the item status normal?

YES >> GO TO 4.

NO >> Replace BCM. Refer to <u>BCS-67, "Exploded View"</u>.

**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.

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INFOID:000000005254616

# < PRECAUTION > PRECAUTION PRECAUTIONS FOR USA AND CANADA

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

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

#### WARNING:

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

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

#### WARNING:

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

FOR USA AND CANADA : Precautions For Xenon Headlamp Service

#### 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

# PRECAUTIONS

#### < PRECAUTION >

#### "SEAT BELT PRE-TENSIONER"

INFOID:000000005254617

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

#### WARNING:

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

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

#### WARNING:

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

FOR MEXICO : Precautions For Xenon Headlamp Service

INFOID:000000005254618

#### WARNING:

Comply with the following warnings to prevent any serious accident.

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

#### CAUTION:

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

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

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# < PERIODIC MAINTENANCE > PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

# Description

#### PREPARATION BEFORE ADJUSTING

#### NOTE:

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

#### Before performing aiming adjustment, check the following.

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

C: Vehicle center

# HEADLAMP AIMING ADJUSTMENT

#### < PERIODIC MAINTENANCE >

[XENON TYPE]

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

## Aiming Adjustment Procedure

INFOID:000000005254620

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

Low beam distribution on the screen



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

unit:	mm	(in)
-------	----	------

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





< PERIODIC MAINTENANCE >		[XENON TYPE]
Distance between the headlamp center and the screen (L)	: 10 m (32.8 ft)	A
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		С

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< PERIODIC MAINTENANCE >

# FRONT FOG LAMP AIMING ADJUSTMENT

# Description

# 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.

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

• Ride alone on the driver seat.

#### AIMING ADJUSTMENT SCREW

• Turn the aiming adjusting screw for adjustment.

A: UP

B: DOWN

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

#### NOTE:

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



INFOID:000000005254622

# Aiming Adjustment Procedure

#### 1. Place the screen.

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



# FRONT FOG LAMP AIMING ADJUSTMENT

<	PERIODIC	MAINTENANCE >	
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[XENON TYPE]

1	4	: Cutoff line	А
I	3	: High illuminance area	
I	Н	: Horizontal center line of front fog lamp	
v	V	: Vertical center line of front fog lamp	В
2	X	: Cutoff line height	
			С
			D
			F
			G
			Н

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# < REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION FRONT COMBINATION LAMP

**Exploded View** 

#### REMOVAL

INFOID:000000005254623

[XENON TYPE]



1. Front combination lamp

#### DISASSEMBLY



- 1. Front turn signal/parking (side marker) 2. lamp bulb
- 4. Seal packing
- 7. Retaining spring
- 10. HID control unit (Inverter)

Front turn signal/parking (side marker) 3. lamp bulb socket

- 5. Xenon bulb socket (Starter)
- 8. Headlamp aiming motor
- 11. Halogen bulb (HI)

- . Resin cap
- 6. Xenon bulb (LO)
- 9. Seal packing
- 12. Headlamp housing assembly

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

TION >

# FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >	[XENON TYPE]
Removal and Installation	INFOID:00000005254624
REMOVAL	~
CAUTION: Disconnect the battery negative terminal or the fuse.	В
1. Remove front bumper fascia. Refer to <u>EXT-13. "Exploded View"</u> .	
<ol> <li>Remove the headlamp mounting bolts and nuts.</li> <li>Remove the mounting stud of the headlamp outside from front fonder.</li> </ol>	C
<ol> <li>Yell out the headlamp assembly forward the vehicle.</li> </ol>	
5. Disconnect the connector before removing the headlamp assembly.	D
INSTALLATION	
NOTE:	E
Replacement	<u>, 11</u> .
	INFOID:000000005254625
<ul> <li>• Disconnect the battery negative terminal or the fuse.</li> <li>• After installing the bulb, install the resin cap and the bulb socket set</li> </ul>	curely for watertightness.
HEADLAMP BULB (LO)	
<ol> <li>Remove the air duct*. Keep a service area.</li> <li>*When replace a left.</li> </ol>	Н
<ol> <li>Rotate the resin cap counterclockwise and unlock it.</li> <li>Botate the bulb socket counterclockwise and unlock it</li> </ol>	
4. Unlock the retaining spring. And remove the bulb from the head-	
lamp housing assembly. CAUTION:	
Never break the xenon bulb ceramic tube when replacing the bulb.	
	JPLIA0651ZZ
HEADLAMP BULB (HI)	
<ol> <li>Rotate the bulb socket counterclockwise and unlock it.</li> <li>Disconnect the connector. And remove the bulb.</li> </ol>	M
FRONT TURN SIGNAL/PARKING (SIDE MARKER) LAMP BULB	
1. Rotate the bulb socket counterclockwise and unlock it.	Ν
2. Remove the bulb from the bulb socket.	
Disassembly and Assembly	INFOID:00000005254626
DISASSEMBLY	
<ol> <li>Rotate the resin cap counterclockwise and unlock it.</li> <li>Rotate the xenon bulb socket counterclockwise and unlock it.</li> </ol>	Р
3. Unlock the retaining spring. And remove the xenon bulb (LO).	
<ol> <li>Remove the HID control unit installation screw.</li> <li>Remove the screw. Disconnect the connector from HID control unit.</li> </ol>	
<ol> <li>Remove the xenon bulb socket from headlamp housing assembly.</li> </ol>	
7. Rotate the halogen bulb (HI) counterclockwise and unlock it.	



# FRONT COMBINATION LAMP

#### < REMOVAL AND INSTALLATION >

- 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**

# < REMOVAL AND INSTALLATION >

# FRONT FOG LAMP

# **Exploded View**

INFOID:000000005254627

[XENON TYPE]



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# LIGHTING & TURN SIGNAL SWITCH

# < REMOVAL AND INSTALLATION >

# LIGHTING & TURN SIGNAL SWITCH

# Exploded View

INFOID:000000005254630



- 1. Lighting & turn signal switch
- A. Pawl

# Removal and Installation

#### 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**

# < REMOVAL AND INSTALLATION >

# HAZARD SWITCH

# Exploded View

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JPLIA0655ZZ	F
1. Hazard switch A. Pawls	G
Removal and Installation	<sub>5254633</sub> H
REMOVAL	

Remove the cluster lid C. Refer to IP-12, "Exploded View". 1.

2. Push the pawl. And remove the hazard switch.

#### **INSTALLATION**

Install in the reverse order of removal.

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# **HEADLAMP AIMING SWITCH**

# < REMOVAL AND INSTALLATION >

# HEADLAMP AIMING SWITCH

# Exploded View

INFOID:000000005254634



- 1. Headlamp aiming switch
- A. Pawls

# Removal and Installation

#### 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**

# < REMOVAL AND INSTALLATION >

# **REAR COMBINATION LAMP**

# **Exploded View**

### REMOVAL

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1. Seal packing 2. Rear combination lamp

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

#### DISASSEMBLY



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

# **Removal and Installation**

#### **CAUTION:**

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

#### REMOVAL

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

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# **REAR COMBINATION LAMP**

#### < REMOVAL AND INSTALLATION >

#### [XENON TYPE]

- 3. Remove rear combination lamp mounting bolts (A).
- 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:000000005254638

#### 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**

# < REMOVAL AND INSTALLATION >

# HIGH-MOUNTED STOP LAMP

# Exploded View

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[XENON TYPE]



#### 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.

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# < REMOVAL AND INSTALLATION >

# BACK-UP LAMP

Exploded View

INFOID:000000005254641

[XENON TYPE]



1. Seal packing2. Back-up lampRefer to GI-4. "Components" for symbols in the figure.

# Removal and Installation

#### **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

#### **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) counterclockwise and unlock it.
- 3. Remove the bulb (2) from the socket.



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# < REMOVAL AND INSTALLATION >

# LICENSE PLATE LAMP

# **Exploded View**

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# Removal and Installation

#### **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

#### 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".

INFOID:000000005254646

[XENON TYPE]

# LICENSE PLATE LAMP

#### < REMOVAL AND INSTALLATION >

#### 2. Turn the bulb socket (1) counterclockwise and unlock it.

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

# 

### [XENON TYPE]

# SERVICE DATA AND SPECIFICATIONS (SDS)

### < SERVICE DATA AND SPECIFICATIONS (SDS)

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

# **Bulb Specifications**

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Item		Туре	Wattage (W)	
	Headlamp (HI)	HB3	60	
Front combination lamp	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	_	

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[XENON TYPE]

# BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

#### Work Flow

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# DETAILED FLOW

**1.**INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >	[HALOGEN TYPE]
>> GO TO 2.	
2.SYMPTOM CHECK	
Check the symptom from the customer's information.	
>> GO TO 3.	
<b>3.</b> 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.	
<b>D.</b> TROUBLE DIAGNOSIS BY DTC	
Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning pa	rt.
>> 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.	
$\mathbf{N} = \mathbf{V} = $	
I.SYSTEM DIAGNOSIS	
Perform the system diagnosis for the system that the fail-safe activates. Specify th	e 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 dete detected before the repair. Check that DTC is not detected again.	cted. Erase DTC if DTC is
Is any DTC detected?	
YES >> GO TO 5. NO >> GO TO 11.	
11. REPAIR CHECK (OPERATION CHECK)	
Check the operation of each part.	
Does it operate normally?	
YES >> INSPECTION END	

Revision: 2009 October

NO >> GO TO 3.

INFOID:000000005254649

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

# System Diagram



# System Description

INFOID:000000005254650

#### 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.

# **HEADLAMP SYSTEM**

#### < SYSTEM DESCRIPTION >

# **Component Parts Location**

### [HALOGEN TYPE]

INFOID:000000005254651

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Part	Description	
BCM	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges that the headlamp is turned ON according to the vehicle condition.</li> <li>Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication).</li> <li>Requests the high beam indicator lamp ON to the combination meter (with CAN communication).</li> </ul>	M
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).	
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-9, "System Diagram"</u> .	0
Combination meter (High beam indicator lamp)	Turns the high beam indicator lamp ON according to the request from BCM (with CAN communication).	P

# DAYTIME RUNNING LIGHT SYSTEM

#### < SYSTEM DESCRIPTION >

# DAYTIME RUNNING LIGHT SYSTEM

#### System Diagram



# System Description

INFOID:000000005254654

#### 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

- Éngine 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.

# DAYTIME RUNNING LIGHT SYSTEM

#### < SYSTEM DESCRIPTION >

# **Component Parts Location**

#### [HALOGEN TYPE]

#### INFOID:000000005254655

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INFOID:000000005254656

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

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**EXL-139** 

# DAYTIME RUNNING LIGHT SYSTEM

#### < SYSTEM DESCRIPTION >

#### [HALOGEN TYPE]

Part	Description
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-9, "System Diagram"</u> .
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 DESCRIPTION >

# [HALOGEN TYPE]

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# FRONT FOG LAMP SYSTEM



#### System Diagram



# System Description

INFOID:000000005254658

#### 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.

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# **FRONT FOG LAMP SYSTEM**

### < SYSTEM DESCRIPTION >

# **Component Parts Location**

INFOID:000000005254659

[HALOGEN TYPE]



1. Front fog lamp

2. Combination switch

- 4. IPDM E/R
- A. Over the glove box
- B. Engine room (LH)

# **Component Description**

Part	Description
BCM	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges the front fog lamp ON/OFF status according to the vehicle condition.</li> <li>Requests the front fog lamp relay ON to IPDM E/R (with CAN communication).</li> </ul>
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-9, "System Diagram".

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

#### < SYSTEM DESCRIPTION >

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

#### System Diagram



# System Description

INFOID:000000005254662

[HALOGEN TYPE]

INFOID:000000005254661

#### 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 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.

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#### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM [HALOGEN TYPE]

#### < SYSTEM DESCRIPTION >

# **Component Parts Location**

INFOID:000000005254663



- 4. Rear turn signal lamp
- A. Over the glove box

**Component Description** 

2. Front turn signal lamp

B. On the combination meter

5.

BCM

- - 6. Turn signal indicator lamp

Part	Description
BCM	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks.</li> <li>Requests the turn signal indicator lamp blink to the combination meter (with CAN communication).</li> </ul>
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-9, "System Diagram"</u> .
Hazard switch	Inputs the hazard switch ON/OFF signal to BCM.
Combination meter (Turn signal indicator lamp & buzzer)	Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM (with CAN communication).
### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

### < SYSTEM DESCRIPTION >

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

### System Diagram



## System Description

INFOID:000000005254666

[HALOGEN TYPE]

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### OUTLINE

Parking<sup>\*</sup>, license plate and tail<sup>\*</sup> 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
   K ON according to the position light request signal.
- Combination meter turns the tail lamp indicator lamp ON according to the position light request signal.

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## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

## < SYSTEM DESCRIPTION >

### **Component Parts Location**

INFOID:000000005254667

[HALOGEN TYPE]



- 7. Tail lamp indicator lamp

**Component Description** 

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

INFOID:000000005254668

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

## EXTERIOR LAMP BATTERY SAVER SYSTEM

### < SYSTEM DESCRIPTION >

# EXTERIOR LAMP BATTERY SAVER SYSTEM

System Diagram



## System Description

INFOID:000000005254670

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[HALOGEN TYPE]

INFOID:000000005254669

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### OUTLINE

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

Control by BCM

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

#### Control by IPDM E/R

- Relay control function
- BCM turns the exterior lamp\* OFF after a period of time to prevent the battery from over-discharge when the ignition switch is turned OFF with the exterior lamp ON.
- \*: Headlamp (LO/HI), parking lamp, tail lamp, 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  $\rightarrow$  OFF with the exterior lamps ON.

#### NOTE:

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

# **EXTERIOR LAMP BATTERY SAVER SYSTEM**

### < SYSTEM DESCRIPTION >

# **Component Parts Location**

INFOID:000000005254671

[HALOGEN TYPE]



- 1. Combination switch
- A. Over the glove box
- 2. BCM
- B. Engine room (LH)

# **Component Description**

INFOID:000000005254672

Part	Description		
BCM	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Activates the battery saver to turn the exterior lamps OFF according to the vehicle condition.</li> <li>Requests each relay OFF to IPDM E/R (with CAN communication).</li> </ul>		
IPDM E/R	Controls the integrated relay according to the request from BCM (with CAN communi- cation).		
Combination switch (Lighting & turn signal switch)	Refer to BCS-9, "System Diagram".		

# < SYSTEM DESCRIPTION > **DIAGNOSIS SYSTEM (BCM) COMMON ITEM**

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

В

С

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## **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-230, "DTC Index".	D
Data Monitor	BCM input/output signals are displayed.	
Active Test	The signals used to activate each device are forcibly supplied from BCM.	E
Work Support	Changes the setting for each system function.	
Configuration	<ul><li>Read and save the vehicle specification.</li><li>Write the vehicle specification when replacing BCM.</li></ul>	F
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.

				$\times$ : Applicable item	H
Curetore:	CONSULT-III	Diagnosis mode			
System	sub system selection item	Work Support	Data Monitor	Active Test	I
Door lock	DOOR LOCK	×	×	×	
Rear window defogger	REAR DEFOGGER		×	×	
Warning chime	BUZZER		×	×	J
Interior room lamp control	INT LAMP	×	×	×	
Remote keyless entry system	MULTI REMOTE ENT	×	×	×	K
Exterior lamp	HEAD LAMP	×	×	×	
Wiper and washer	WIPER	×	×	×	
Turn signal and hazard warning lamps	FLASHER		×	×	EXI
Air conditioner	AIR CONDITONER		×		
Intelligent Key system	INTELLIGENT KEY		×		М
Combination switch	COMB SW		×		IVI
_	BCM	×			
Immobilizer	IMMU		×	×	Ν
Interior room lamp battery saver	BATTERY SAVER	×	×	×	
Back door open	TRUNK		×	×	0
Vehicle security system	THEFT ALM	×	×	×	0
RAP system	RETAINED PWR	×	×	×	
Signal buffer system	SIGNAL BUFFER		×	×	Ρ
_	FUEL LID <sup>*</sup>				
TPMS	TPMS (AIR PRESSURE MONITOR)	×	×	×	
Panic alarm system	PANIC ALARM			×	

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

### HEADLAMP

А

[HALOGEN TYPE]

INFOID:000000005575160

## < SYSTEM DESCRIPTION >

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

[HALOGEN TYPE]

### WORK SUPPORT

Service item	Setting item	Setting
	On <sup>*</sup>	With the exterior lamp battery saver function
BATTERT GAVER GET	Off	Without the exterior lamp battery saver function
	MODE 1	
	MODE 2	
	MODE 3	
	MODE 4	NOTE:
	MODE 5	The item is indicated, but not operate
	MODE 6	
	MODE 7	
	MODE 8	

\*: Factory setting

### DATA MONITOR

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

### < SYSTEM DESCRIPTION >

### [HALOGEN TYPE]

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

### ACTIVE TEST

Test item	Operation	Description		
TAIL LAMP	On	Transmits the position light request signal to IPDM E/R with CAN com- munication to turn the tail lamp ON.		
	Off	Stops the tail lamp request signal transmission.		
	Hi	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).		
HEAD LAMP	Lo	Transmits the low beam request signal with CAN communication to turn the headlamp (LO).		
	Off	Stops the high & low beam request signal transmission.		
FR FOG LAMP	On	Transmits the front fog lights request signal to IPDM E/R with CAN com- munication 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:000000005254675

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### 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 quitch condition that PCM judges from the combination quitch reading function	
TURN SIGNAL L [On/Off]		
BRAKE SW [On/Off]	The switch status input from the stop lamp switch	

### ACTIVE TEST

### < SYSTEM DESCRIPTION >

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

#### А **Diagnosis Description** INFOID:000000005575161 Auto active test В Description In auto active test mode, the IPDM E/R sends a drive signal to the following systems to check their operation. Oil pressure warning lamp Rear window defogger Front wiper (LO, HI) Parking lamps D License plate lamps Tail lamps Front fog lamps Е Headlamps (LO, HI) A/C compressor (magnet clutch) Cooling fan (LO, MID, HI) F Operation procedure 1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation) NOTE: When auto active test is performed with hood opened, sprinkle water on windshield beforehand. 2. Turn the ignition switch OFF. Н 3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF. CAUTION: Close passenger door. Turn the ignition switch ON within 10 seconds. 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: Κ When auto active test mode has to be cancelled halfway through test, turn the ignition switch OFF. CAUTION: If auto active test mode cannot be actuated, check door switch system. EXL 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	N
A	Oil pressure warning lamp	Blinks continuously during operation of auto active test.	IN
1	Rear window defogger	10 seconds	
2	Front wiper	LO for 5 seconds $\rightarrow$ HI for 5 seconds	С
3	<ul> <li>Parking lamps</li> <li>License plate lamps</li> <li>Tail lamps</li> <li>Front fog lamps</li> <li>Headlamps HI (daytime running light operation)*</li> </ul>	10 seconds	Ρ
4	Headlamps	LO ⇔ HI 5 times	
5	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times	
6	Cooling fan	LO for 5 seconds $\rightarrow$ MID for 3 seconds $\rightarrow$ HI for 2 seconds	

#### NOTE:

\*: With daytime running light system

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### < SYSTEM DESCRIPTION >

#### Concept of auto active test



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

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause
		YES	BCM signal input circuit
Rear window defogger does not operate	Perform auto active test. Does the rear window defog- ger operate?	NO	<ul> <li>Rear window defogger</li> <li>Rear window defogger ground circuit</li> <li>Harness or connector between IPDM E/R and rear window defogger</li> <li>IPDM E/R</li> </ul>
Any of the following components do not operate		YES	BCM signal input circuit
<ul> <li>Parking lamps</li> <li>License plate lamps</li> <li>Tail lamps</li> <li>Front fog lamps</li> <li>Headlamps (HI, LO)</li> <li>Front wiper (HI, LO)</li> </ul>	Perform auto active test. Does the applicable system operate?	NO	<ul> <li>Lamp or motor</li> <li>Lamp or motor ground circuit</li> <li>Harness or connector between IPDM E/R and applicable system</li> <li>IPDM E/R</li> </ul>
Headlamps HI (daytime running light operation) do	Perform auto active test. Do headlamps HI (daytime	YES	<ul> <li>CAN communication signal between ECM and BCM</li> <li>CAN communication signal between combination meter and BCM</li> <li>BCM signal input circuit</li> </ul>
not operate	running light operation) oper- ate?	NO	<ul> <li>Daytime running light relay power supply circuit</li> <li>Harness or connector between IPDM E/R and daytime running light relay</li> <li>Daytime running light relay</li> </ul>
A/C compressor does not operate	Perform auto active test. Does the magnet clutch oper-	YES	<ul> <li>BCM signal input circuit</li> <li>CAN communication signal between BCM and ECM</li> <li>CAN communication signal between ECM and IPDM E/R</li> </ul>
	ate?	NO	<ul> <li>Magnet clutch</li> <li>Harness or connector between IPDM E/R and magnet clutch</li> <li>IPDM E/R</li> </ul>

### < SYSTEM DESCRIPTION >

### [HALOGEN TYPE]

Symptom	Inspection contents		Possible cause	
	YES		<ul> <li>Harness or connector between IPDM E/R and oil pressure switch</li> <li>Oil pressure switch</li> <li>IPDM E/R</li> </ul>	B
Oil pressure warning lamp does not operate	Does the oil pressure warning lamp blink?	NO	<ul> <li>CAN communication signal between IPDM E/R and BCM</li> <li>CAN communication signal between BCM and combination meter</li> <li>Combination meter</li> </ul>	С
		YES	<ul> <li>ECM signal input circuit</li> <li>CAN communication signal between ECM and IPDM E/R</li> </ul>	D
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	NO	<ul> <li>Cooling fan motor-2 power supply circuit</li> <li>Cooling fan motor-1 ground circuit</li> <li>Cooling fan relay-4 or cooling fan relay-5 power supply circuit</li> <li>Cooling fan relay-5 ground circuit</li> <li>Harness or connector between IPDM E/R and cooling fan motor</li> <li>Harness or connector between IPDM E/R, and cooling fan relay-4 or cooling fan relay-5</li> <li>Harness or connector between cooling fan motor-2, and cooling fan relay-4 or cooling fan relay-5</li> <li>Cooling fan relay-4 or cooling fan relay-5</li> <li>Cooling fan relay-4 or cooling fan relay-5</li> <li>Cooling fan motor</li> <li>IPDM E/R</li> </ul>	E F G H

# CONSULT-III Function (IPDM E/R)

### APPLICATION ITEM

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

		K
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.	EX
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.	N

### SELF DIAGNOSTIC Refer to EXL-242, "DTC Index".

#### DATA MONITOR Monitor item

10101	nitor	nem	

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 commu- nication.	
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 com- munication.	
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN commu- nication.	

INFOID:000000005575162

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### < SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Monitor Item [Unit]	MAIN SIGNALS	Description
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN com- munication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN com- munication. <b>NOTE:</b> 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 com- munication.
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper stop position 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 com- munication.
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. <b>NOTE:</b> 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. <b>NOTE:</b> 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	
	Off	OFF	
REAR DEI OGGER	On	Operates the rear window defogger relay.	
	Off	OFF	
FRONT WIPER	Lo	Operates the front wiper relay.	
	Hi	Operates the front wiper relay and front wiper high relay.	
	1	OFF	
	2	Operates the cooling fan relay (LO operation).	
MOTORTAN	3	Operates the cooling fan relay (MID operation).	
	4	Operates the cooling fan relay (HI operation).	

### < SYSTEM DESCRIPTION >

## [HALOGEN TYPE]

Test item	Operation	Description
	Off	OFF
	TAIL	Operates the tail lamp relay and the daytime running light relay. NOTE: Daytime running light relay is with daytime running light system only.
EXTERNAL LAMPS	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. <b>NOTE:</b> This item can test only the vehicle with front fog lamp system.
HORN	On	Operates horn relay for 20 ms.

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## POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

# DTC/CIRCUIT DIAGNOSIS

# POWER SUPPLY AND GROUND CIRCUIT

BCM (BODY CONTROL MODULE)

## BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:000000005254678

## **1.**CHECK FUSES AND FUSIBLE LINK

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

Signal name	Fuses and fusible link No.	
Batteny power supply	10	
Dattery power suppry	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 the ignition switch OFF.
- 2. Disconnect BCM connectors.
- 3. Check voltage between BCM harness connector and the ground.

Terminals		Ignition switch position					
(+)					5511011		
B	CM	(–)					ON
Connector	Terminal		OFF	700	ON		
M67	70		Battery	attery Battery oltage voltage	Battery voltage		
WO7	57		voltage				
M65	11	Ground	Ground Approx. 0 V		Battery voltage		
MOS	38		Approx. 0 V	Approx. 0 V	Battery voltage		

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

 ${
m 3.}$ CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and the ground.

B	CM		Continuity
Connector	Connector Terminal		Continuity
M67	M67 67		Existed

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

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

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

## **EXL-158**

# POWER SUPPLY AND GROUND CIRCUIT

anosis Pro	cedure			INIEO/ID:ຄຸດຄຸດຄຸດຄຸດຄຸຮອຮ/ຮຽ
4				IN CL.000000023407
CHECK FU	SIBLE LINK			
Check that the	following IPDM	E/R fusible lin	k is not blown.	
	Signal name			Fusible link No.
				С
I	Battery power supp	ly		E
				К
s the fusible lir	nk fusing?			
CHECK PO	WER SUPPLY	CIRCUIT		
. Turn the ig 2. Disconnec 3. Check volt	nition switch OF t IPDM E/R con age between IP Terminals	F. nectors. DM E/R harne	ss connectors an	d the ground.
. Turn the ig 2. Disconnec 3. Check volt ( IPDI	nition switch OF t IPDM E/R con age between IP Terminals (+) M E/R	FF. nectors. DM E/R harne: (-)	Voltage (Approx.)	d the ground.
. Turn the ig Disconnec Check volt	nition switch OF t IPDM E/R con age between IP Terminals (+) M E/R Terminal	FF. nectors. DM E/R harnes (-)	SS CONNECTORS AN	d the ground.
. Turn the ig Disconnec Check volt	nition switch OF t IPDM E/R con age between IP Terminals (+) M E/R Terminal 1	FF. nectors. DM E/R harne: (-)	Voltage (Approx.)	d the ground.
Turn the ig     Disconnec     Disconnec     Check volt     (     IPDI     Connector     E9	nition switch OF t IPDM E/R con age between IP Terminals (+) M E/R Terminal 1 2	FF. nectors. DM E/R harnes (-) Ground	SS CONNECTORS AN Voltage (Approx.) Battery voltage	d the ground.
I. Turn the ig 2. Disconnec 3. Check volt ( IPDI Connector E9 E10	nition switch OF t IPDM E/R con age between IP Terminals (+) M E/R Terminal 1 2 6	FF. nectors. DM E/R harne: (-) Ground	SS CONNECTORS AN	d the ground.
I. Turn the ig 2. Disconnec 3. Check volt ( IPDI Connector E9 E10 s the measure	nition switch OF t IPDM E/R con age between IP Terminals (+) M E/R Terminal 1 2 6 ment value norr	FF. nectors. DM E/R harnes (-) Ground	SS CONNECTORS AN Voltage (Approx.) Battery voltage	d the ground.
1. Turn the ig 2. Disconnec 3. Check volt ( IPDI Connector E9 E10 <u>s the measure</u> YES >> GC NO >> Re	nition switch OF t IPDM E/R con age between IP Terminals (+) M E/R Terminal 1 2 6 ment value norr O TO 3. epair the harness	FF. nectors. DM E/R harnes (-) Ground <u>mal?</u> s or connector.	SS CONNECTORS AN	d the ground.

IPDN	/I E/R		Continuity
Connector Terminal		Ground	Continuity
E11	11	Ground	Exict
E13	25		EXISt

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

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## < DTC/CIRCUIT DIAGNOSIS >

# EXTERIOR LAMP FUSE

# Description

INFOID:000000005254680

[HALOGEN TYPE]

ise 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
<ul><li>Tail lamp</li><li>License plate lamp</li><li>Each illumination</li></ul>	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**

# 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
<ul><li>Tail lamp</li><li>License plate lamp</li><li>Each illumination</li></ul>	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.

INFOID:000000005254681

# **HEADLAMP (HI) CIRCUIT**

HEADLAM	P (HI) C	IRCUIT	•			Δ
Component	Function	Check			INFOID:00000005254682	~
1.снеск не	ADLAMP (H	II) OPERAT	TON			В
<ul> <li>IPDM E/R AU</li> <li>Activate IP</li> <li>Check that</li> <li>CONSULT-II</li> <li>Select "EX"</li> </ul>	JTO ACTIV DM E/R aut the headlan ACTIVE T TERNAL LA	E TEST to active tes mp switche EST AMPS" of IF	st. Refer to P s to the high	CS-8, "Dia beam. ive test iter	ignosis Description". n.	С
2. With opera	ting the test	t items, che	CK that the h	eadlamp (	HI) is turned ON.	D
Hi Off	: Headlai : Headlai	mp (HI) ON mp (HI) OF	F			E
NOTE: ON/OFF is Is the headlam YES >> He	repeated 1 <u>o (HI) turne</u> adlamp (HI)	second ea <u>d ON?</u> ) circuit is n	ch. ormal.			F
NO >> Re	fer to <u>EXL-1</u>	<u>161, "Diagn</u>	osis Procedu	<u>ure"</u> .		G
	locedule	;			INFO/D:00000005254683	
			T VOLTAGE			Н
<ul> <li>CONSULT-II</li> <li>1. Turn the ig</li> <li>2. Disconnect</li> <li>3. Turn the ig</li> <li>4. Soloot "EX"</li> </ul>	nition switch the headla nition switch	EST h OFF. Imp high co h ON.	nnector.	ivo tost ito	~	
5. With opera	iting the te	st items, c	heck the vo	ltage betw	een the IPDM E/R harness connector and the	J
·	Terminals		Toot itom			
(+)		(-)	Test item	Voltage		K
IPDM I	E/R	-	EXTERNAL	(Approx.)		
Connector	Terminal	Ground	LAMP5	Battery		EXI
RH E12	22	_	Hi	voltage		
LH	21		Off	0 V		M
Is the measured YES >> GC NO >> GC 2.CHECK HEA	<u>ment value</u> ) TO 2. ) TO 3. \DLAMP (H	<u>normal?</u> II) OPEN C	IRCUIT			Ν
<ol> <li>Turn the ig</li> <li>Disconnect</li> <li>Check cont</li> </ol>	nition switch IPDM E/R tinuity betwo	h OFF. connector. een the IPD	DM E/R harne	ess connec	ctor and the headlamp high harness connector.	0
IPDM F	E/R	Headl	amp high		-	Ρ
Connector	Terminal	Connector	Terminal	Continuity		
RH	22	E43	1	<b>_</b>	-	
E12	21	E24	1	- Existed		
Does continuity	exist?				-	
YES (Without	daytime rur	nning light s	system)>>GC	D TO 5.		

< DTC/CIRCUIT DIAGNOSIS >

# **HEADLAMP (HI) CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

YES (With daytime running light system)>>GO TO 6.

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/	Ŕ		Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E12	22	Giouna	Not ovisted
LH		21		NUL EXISIEU

Does continuity exist?

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

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

**5.**CHECK 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		Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E43	2	Gibund	Evisted
LH	E24	2	*	LAISIEU

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

### $\mathbf{6}$ .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		Continuity
Conr	nector	Terminal	Ground	Existed
LH	E24	2	Ť	Existed

Does continuity exist?

YES >> GO TO 7.

NO >> Repair the harnesses or connectors.

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

1. Remove daytime running light relay.

## EXL-162

# **HEADLAMP (HI) CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

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

	Headlamp	high	Daytime runni	ng light relay	Continuity
Con	nector	Terminal	Connector	Terminal	Eviptod
RH	E43	2	E65	3	Existed
Does co	ontinuity	exist?			
YES	>> GO	TO 8.			
NO	>> Rep	pair the har	ness or conn	ector.	
8.CHE	CK THE	DAYTIME	RUNNING L	IGHT REL	
Check of	continuity	/ between	daytime runn	ing light re	lay harness
	-		-		-
Day	/time runni	ng light relay			Continuity
Co	nnector	Termin	al Gro	ound	<b>F</b> 1.4.1
	E65	4			Existed
Does co	ontinuity	exist?			
YES	>> GO	TO 9.			
NO	>> Rep	air the har	ness or conn	ector.	
9.CHE	CK THE	DAYTIME	RUNNING L	IGHT REL	AY
Check	daytime i	running ligt	nt relay. Refe	r to <u>EXL-1</u>	<u>69, "Compo</u>
Is the d	avtime ru	unning ligh	t relav norma	l?	
YES	>> Rep	blace the h	eadlamp (HI)	bulb. (Bul	b socket is a
NO	>> Rep	lace the d	aytime runnin	g light rela	ay.

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[HALOGEN TYPE]

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< DTC/CIRCUIT DIAGNOSIS >

# HEADLAMP (LO) CIRCUIT

Component Function Check

**1.**CHECK HEADLAMP (LO) OPERATION

**®IPDM E/R AUTO ACTIVE TEST** 

1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".

2. Check that the headlamp is turned ON.

**CONSULT-III ACTIVE TEST** 

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. With operating the test items, check that the 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:000000005254685

## **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 LAMPS" of IPDM E/R active test item.
- 5. With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

		Terminals		Tost itom	
	(	+)	(-)	iest item	Voltage
	IPDN	/I E/R		EXTERNAL	(Approx.)
Conr	nector	Terminal		LAMPS	
RH	E12	20	Ground	LO	Battery volt- age
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.

	IPDN	/I E/R	Headla	amp low	Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E12	20	E45	1	Evictod
LH		18	E26	1	LAISIGU

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

## EXL-164

INFOID:000000005254684

# **HEADLAMP (LO) CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

# **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				
Conr	nector	Terminal	Ground	Continuity	
RH	E12	20	Ground	Not ovisted	
LH		18		NOL EXISTED	

#### Does continuity exist?

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

# 5. CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT

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

	Headla	amp low		Continuity	
Connector Terminal		Terminal	Ground	Continuity	
RH	E45	2	Ground	Existed	
LH	E26	2		LAISIEU	

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

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< DTC/CIRCUIT DIAGNOSIS >

# FRONT FOG LAMP CIRCUIT

Component Function Check

**1.**CHECK FRONT FOG LAMP OPERATION

**®**IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".

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

CONSULT-III ACTIVE TEST

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

Fog : Front fog lamp ON

### Off : Front fog lamp OFF

Is the front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.

NO >> Refer to <u>EXL-166</u>, "Diagnosis Procedure".

## Diagnosis Procedure

## **1.**CHECK FRONT FOG LAMP FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuse is not fusing.

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#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		Continuity
Con	nector	Terminal	Ground	Continuity
RH	E12	17	Giodila	Not oxisted
LH		16		NUL EXISTED

### Does continuity exist?

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

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

## 3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

### Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

**4.**CHECK FRONT FOG LAMP OUTPUT VOLTAGE

### CONSULT-III ACTIVE TEST

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

# EXL-166

INFOID:000000005254686

INFOID:000000005254687

# FRONT FOG LAMP CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

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

gro	und.					
	Т	erminals				
	(+)		(-)	Test item	Voltage	
	IPDM E	/R		EXTERNAL	(Approx.)	
Con	nector	Terminal		LAMPS		
RH	E12	17	Ground	Fog	Battery voltage	
LH		16		Off	0 V	
YES NO <b>5.</b> CHE	>> GO >> Rep CK FRO	TO 5. Nace IPDM	E/R.			
1. Tur 2. Dis 3. Ch	n the ign connect eck conti	ition switch IPDM E/R nuity betwo	n OFF. connector. een the IPD	M E/R harn	ess connec	tor and the front fog lamp harness connector.
	IPDM E	′R	Front f	og lamp	Continuity	
Con	nector	Terminal	Connector	Terminal	Continuity	
RH	F12	17	E48	2	Existed	
LH		16	E30	2		
YES NO <b>6.</b> CHE Check	>> GO >> Rep CK FRO continuity	TO 6. Pair the har NT FOG L between t	nesses or c AMP GROI the front fog	onnectors. JND CIRCU I lamp harne	IT OPEN C ess connec	IRCUIT or and the ground.
Cr		Termi	nal		Continuity	
RH	E48	1		Ground		
LH	E30	1			Existed	
Does c	ontinuity	exist?				
YES	>> Rep	lace the fro	ont fog lamp	). onnectors		

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[HALOGEN TYPE]

## < DTC/CIRCUIT DIAGNOSIS >

# DAYTIME RUNNING LIGHT RELAY CIRCUIT

## **Component Function Check**

**1.**CHECK DAYTIME RUNNING LIGHT OPERATION

### CONSULT-III ACTIVE TEST

1. Select "EXTERNAL LAMPS" 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 <u>EXL-168</u>, "Diagnosis Procedure".

### Diagnosis Procedure

INFOID:000000005254689

# 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 (Ap-				
Daytime runr	ning light relay		prox.)				
Connector	Terminal	Ground					
EGE	1	Glound	Detterrustione				
E03	5	-	Ballery Vollage				

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.

## EXL-168

INFOID:000000005254688

## DAYTIME RUNNING LIGHT RELAY CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

	Terminals		Tast itom		
(	+)	(-)	iest item	Voltage (Ap-	
IPD	M E/R		DAYTIME	prox.)	
Connector	Terminal		RUNNING LIGHT		
		Ground	On	0 V	
E12	15		Off	Battery volt- age	
the meas	urement valu	ie normal?			
ES >>	Check daytii	me running l	ight relay cir	cuit. 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.

IPDN	/I E/R	Daytime runr	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
E12	15	E65	2	Existed

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

O.CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL SHORT CIRCUIT

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

IPDN	M E/R		Continuity
Connector	Terminal	Ground	Continuity
E12	15		Not existed
Does continuity	<u>exist?</u>		
VES >> Re	nair the harnes	ses or connecto	ors

NO >> Replace IPDM E/R.

## Component Inspection

# 1.CHECK DAYTIME RUNNING LIGHT RELAY

- 1. Turn the ignition switch OFF.
- Remove daytime running light relay. 2.

3. Apply battery voltage to daytime running light relay between terminals 1 and 2.

4. Check continuity of daytime running light relay.

Daytime runn	Condition	Continuity	
Terr	Voltage	Continuity	
5		Apply	Existed
5	2	Not Apply	Not existed
1	5	Apply	Not existed
4		Not Apply	Existed

Does continuity exist?

Μ

Ν

Ρ

INFOID:000000005254690

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## DAYTIME RUNNING LIGHT RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

## PARKING LAMP CIRCUIT

PARKING LAMP	CIRCUIT					Δ
Component Function	on Check				INFOID:000000005254691	A
1.CHECK PARKING L	AMP OPERATIO	ON				В
<ul> <li>IPDM E/R AUTO ACT</li> <li>Activate IPDM E/R</li> <li>Check that the park</li> <li>CONSULT-III ACTIVE</li> <li>Select "EXTERNAL</li> </ul>	TIVE TEST auto active test. ing lamp is turne TEST LAMPS" of IPD	Refer to <u>F</u> ed ON.	PCS-8, "Dia	gnosis Description".		С
2. With operating the t	est items, check	k that the p	parking lamp	b is turned ON.		D
TAIL : Park Off : Park	ing lamp ON ing lamp OFF					Е
YES >> Parking lamp turn NO >> Refer to EX	ed ON? p circuit is norm L-171, "Diagnos	nal. sis Proced	ure".			F
Diagnosis Procedu	ire				INFOID:000000005254692	
1. CHECK PARKING L	AMP FUSE					G
<ol> <li>Turn the ignition sw</li> <li>Check that the follow</li> </ol>	itch OFF. wing fuses are r	not fusing.				Н
Unit	Location	Fuse No.	Capacity			
Parking lamp	IPDM E/R	#46	10 A			
$\frac{\text{Is the fuse fusing?}}{\text{YES} >> \text{GO TO 2.}}$ $\frac{\text{NO} >> \text{GO TO 3.}}{\text{2.CHECK PARKING L}}$	AMP SHORT CI	RCUIT	ing lamp co	nnector		J
<ol> <li>Check continuity be</li> </ol>	tween the IPDN	1 E/R harn	ess connec	tor and the ground.		K
IPDM E/R Connector Terr	minal Gro	und	Continuity			EXI
RH         E14         3           LH         3         3	39 38		Not existed			M
<u>Does continuity exist?</u> YES >> Repair the h NO >> Replace the <b>3.</b> CHECK PARKING LA	narnesses or co e fuse. (Replace AMP BULB	nnectors. / IPDM E/F	And then re t if fusing is	place the fuse. found again.)		Ν
Check the applicable la	mp bulb.					0
Is the bulb normal? YES >> GO TO 4. NO >> Replace the 4.CHECK PARKING LA	e bulb. AMP OUTPUT \	/OLTAGE				Ρ
CONSULT-III ACTIVE Disconnect the park Turn the ignition sw Select "EXTERNAL	TEST king lamp conne itch ON. LAMPS" of IPD	ctor. M E/R act	ive test iten	٦.		

< DTC/CIRCUIT DIAGNOSIS >

# PARKING LAMP CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

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

	Т	erminals	Test item		
(+)			(–)	leschem	Voltage
IPDM E/R				EXTERNAL	(Approx.)
Connector Termin		Terminal		LAMPS	
RH	E14	39	Ground	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	Continuity	
Con	nector	Terminal	Connector	Terminal	Continuity
RH	E14	39	E46	1	Existed
LH	L 14	38	E27	1	LAISIEU

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

### **6.**CHECK PARKING LAMP GROUND OPEN CIRCUIT

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

Parking lamp				Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E46	2	Giodila	Evictod
LH	E27	2		LAISIEU

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

[HALOGEN TYPE]

## **TURN SIGNAL LAMP CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >	[HALOGEN TYPE]
TURN SIGNAL LAMP CIRCUIT	
Description	INFOID:000000005254693
BCM performs the high flasher operation (fail-safe) if any bulb or harness of the turn open. <b>NOTE:</b> The turn signal lamp blinks at normal speed when using the hazard warning lamp.	signal lamp circuit is
Component Function Check	INFOID:000000005254694
1.CHECK TURN SIGNAL LAMP	
<ol> <li>CONSULT-III ACTIVE TEST</li> <li>Select "FLASHER" of BCM (FLASHER) active test item.</li> <li>With operating the test items, check that the turn signal lamp is turned ON.</li> </ol>	
LH : Turn signal lamps (LH) ON RH : Turn signal lamps (RH) ON Off : Turn signal lamps OFF	
<u>Is the turn signal lamp turned ON?</u> YES >> Turn signal lamp circuit is normal. NO >> Refer to <u>EXL-173, "Diagnosis Procedure"</u> .	
Diagnosis Procedure	INFOID:000000005254695
1.CHECK TURN SIGNAL LAMP BULB	
Check the applicable lamp bulb. Is the bulb normal? XES >> GO TO 2	
NO >> Replace the bulb. 2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE	
<ol> <li>Turn the ignition switch OFF.</li> <li>Disconnect the front turn signal lamp connector or the rear combination lamp connect</li> <li>Turn the ignition switch ON.</li> <li>With operating the turn signal switch, check the voltage between the BCM harnes</li> </ol>	ctor.

	Tei	minals		Condition		
	(+)		(–)	Condition	Voltage (Approx.)	
	BCM			Turn signal	voltage (Approx.)	
Co	onnector	Terminal		switch		
RH		61				
LH	M67	60	Ground	LH or RH		
				OFF	0 V	

Is the measurement value normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-67</u>, "Exploded View".

### < DTC/CIRCUIT DIAGNOSIS >

# 3. CHECK TURN SIGNAL LAMP OPEN CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect BCM connector.
- 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	Continuity	
Co	nnector	Terminal	Connector	Terminal	Continuity
RH	Mez	61	E46	2	Evictod
LH		60	E27	- 3	EXISTED

Rear turn signal lamp

BCM			Rear comb	Continuity	
Co	nnector	Terminal	Connector	Terminal	Continuity
RH	M67	61	B59	S	Evistod
LH	IVIO7	60	B80	3	Existed

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

### **4.**CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between the BCM harness connector and the ground.

	BCM		Continuity		
Connector		Terminal	Ground	Continuity	
RH	Mez	61	Ground	Not ovisted	
LH	IVIO7	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				Continuity	
Connector		Terminal	Ground	Continuity	
RH	E46	2	Ground	Existed	
LH	E27	2		LAISIEU	

Rear turn signal lamp

Rear combination lamp				Continuity
Connector		Terminal	Ground	Continuity
RH	B59	1	Ground	Existed
LH	B80	4		Existed

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

# HAZARD SWITCH

# [HALOGEN TYPE]

HAZARD	) SWITC	H					Λ
Compone	ent Function	on Check				INFOID:000000005254696	A
<b>1.</b> CHECK	HAZARD SV	VITCH SIGI	NAL BY CON	SULT-III			В
CONSUL 1. Turn the 2. Select " 3. With op	T-III DATA M ignition swi HAZARD S\ erating the h	IONITOR itch ON. W" of BCM ( nazard switc	(FLASHER) d h, check the	ata monitor monitor state	item. JS.		С
Monitor iter	n	Condition	Ν	Monitor status	-		D
	Hazard s	witch	ON	On	-		
	Tiazaiù S	witch	OFF	Off	-		Е
Is the item s	tatus norma	<u> ?</u>					
YES >> NO >>	Refer to <u>EX</u>	ch circuit is <u>L-175, "Dia</u>	normal. <u>gnosis Procec</u>	dure".			E
Diagnosis	s Procedu	re	-			INEQID:00000005254697	Г
1							
	HAZARD SV	VITCH SIG	NAL INPUT				G
With operati	ng the haza	rd switch, c	heck the volta	ige between	the BCM harness c	onnector and the ground.	
	Terminals						Н
(+	+)	(-)	Condition	Condition			
BC	CM		11 1	Voltage (Approx.)			
Connector	Terminal		Hazard Switch	1			
			ON		0 V		
M65	29	Ground	OFF	(V) 15 10 5 0	↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓		K
Is the measu	urement valu	ue normal?					
YES >>	Replace BC	M. Refer to	BCS-67, "Ex	ploded View	<u>"</u> .		M
NO >>	GO TO 2.						
			NAL OPEN C	IRCUIT			N
<ol> <li>Turn the ignition switch OFF.</li> <li>Disconnect the hazard switch connector and BCM connector.</li> <li>Check continuity between the hazard switch harness connector and the BCM harness connector.</li> </ol>							
Hazaro	d switch	E	ВСМ	Continuity	-		
Connector	Terminal	Connector	Terminal	Continuity	-		П
M45	2	M65	29	Existed	-		Γ=
Does contin	uity exist?						

YES >> GO TO 3.

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair the harnesses or connectors.

**3.**CHECK HAZARD SWITCH SIGNAL SHORT CIRCUIT

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

## EXL-175

# HAZARD SWITCH

### < DTC/CIRCUIT DIAGNOSIS >

Hazaro	d switch		Continuity
Connector Terminal		Ground	Continuity
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.

Hazaro	d switch		Continuity	
Connector	Terminal	Ground	Continuity	
M45	1		Existed	

Does continuity exist?

YES >> Replace the hazard switch.

NO >> Repair the harnesses or connectors.

# **TAIL LAMP CIRCUIT**

	110313 >			
	CUIT			
Component Funct	ion Check			INF0/D:00000005254698
NOTE: Check the license plate 179, "Component Func CHECK TAIL LAMP	lamp circuit if tion Check". OPERATION	the tail lamp	and the license p	late lamp are not turned ON. Refer to <u>EXL</u> -
<ul> <li>IPDM E/R AUTO AC</li> <li>Activate IPDM E/R</li> <li>Check that the tail</li> <li>CONSULT-III ACTIV</li> <li>Select "EXTERNAI</li> <li>With operating the</li> </ul>	TIVE TEST auto active tes lamp is turned E TEST _ LAMPS" of IF test items, che	st. Refer to <u>F</u> ON. 2DM E/R ac eck that the f	PCS-8, "Diagnosi tive test item. tail lamp is turnec	<u>s Description"</u> . ON.
TAIL : Tail Off : Tail	Lamp ON lamp OFF			
YES >> Tail lamp c NO >> Refer to E	ircuit is normal <u>{L-177, "Diagn</u>	osis Proced	lure".	
LICHECK TAIL LAMP	FUSE			INFOID:0000000525469
<ol> <li>Turn the ignition sv</li> <li>Check that the following the following</li></ol>	vitch OFF. wing fuses are	e not fusing.		
Unit	Location	Fuse No.	. Capacity	
Tail lamp	IPDM E/R	#45	10 A	
<u>s the fuse fusing?</u> YES >> Repair the NO >> GO TO 2.	malfunctioning	part before	replacing the fus	е.
CONSULT-III ACTIV Disconnect the rea Turn the ignition sv Select "EXTERNAI With operating the	E TEST r combination l vitch ON. _ LAMPS" of IF 9 test items, c	amp conner 'DM E/R act heck the vo	ctor. tive test item. oltage between t	ne IPDM E/R harness connector and the
CONSULT-III ACTIV Disconnect the rea Turn the ignition sv Select "EXTERNAI With operating the ground.	E TEST r combination   vitch ON. _ LAMPS" of IF > test items, c	amp conne DM E/R ac heck the vo	ctor. tive test item. oltage between t	ne IPDM E/R harness connector and the
CONSULT-III ACTIV Disconnect the rea Turn the ignition sv Select "EXTERNAL With operating the ground.	E TEST r combination   vitch ON. _ LAMPS" of IF test items, c	amp conne PDM E/R ac heck the vo	ctor. tive test item. bltage between t	ne IPDM E/R harness connector and the
CONSULT-III ACTIV Disconnect the rea Turn the ignition sv Select "EXTERNAL With operating the ground. Terminals (+)	E TEST r combination   vitch ON. _ LAMPS" of IF test items, c	DM E/R ac DM E/R ac heck the vo	ctor. tive test item. bltage between t Voltage (Approx.)	ne IPDM E/R harness connector and the
CONSULT-III ACTIV Disconnect the rea Turn the ignition sv Select "EXTERNAI With operating the ground. Terminals (+) IPDM E/R Connector Terminal	E TEST r combination   vitch ON. _ LAMPS" of IF e test items, c	DM E/R ac DM E/R ac heck the vo Test item EXTERNAL LAMPS	ctor. tive test item. bltage between t Voltage (Approx.)	ne IPDM E/R harness connector and the
CONSULT-III ACTIV Disconnect the rea Turn the ignition sv Select "EXTERNAI With operating the ground. Terminals (+) IPDM E/R Connector Terminal E14 37	E TEST r combination   vitch ON. L LAMPS" of IF test items, c	amp conner DM E/R ac heck the vo Test item EXTERNAL LAMPS TAIL	ctor. tive test item. oltage between t Voltage (Approx.) Battery volt- age	ne IPDM E/R harness connector and the

**3.**CHECK TAIL LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.

# TAIL LAMP CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

### 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 comb	Continuity		
C	Connector	Terminal	Connector	Terminal	Continuity
RH	E1/	37	B59	1	Evistod
LH	L14	57	B80	1	LAISIEU

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TAIL LAMP GROUND OPEN CIRCUIT

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

	Rear combinat	ion lamp		Continuity
	Connector	Terminal	Ground	Continuity
RH	B59	4	Ground	Evictod
LH	B80	4		Existed

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

## LICENSE PLATE LAMP CIRCUIT

LICENSE PLATE LAMP CIRCUIT         Component Function Check         CHECK LICENSE PLATE LAMP OPERATION         Relevance of the set of the		DIAGNOS	SIS >			
Component Function Check       Anomalous and the second of t	LICENSE F	LATE L	AMP CIF	RCUIT		
CHECK LICENSE PLATE LAMP OPERATION         @IPDM E/R AUTO ACTIVE TEST         Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".         Check that the license plate lamp is turned ON.         CONSULT-III ACTIVE TEST         Select "EXTERNAL LAMPS" of IPDM E/R active test item.         With operating the lighting switch, check that the license plate lamp is turned ON.         TAIL       : License plate lamp ON         Off       : License plate lamp OFF         s the license plate lamp circuit is normal.         NO       >> Refer to EXL-179. "Diagnosis Procedure".         Diagnosis Procedure	Component I	Function	Check			INFOID:000000005254700
BIPDM E/R AUTO ACTIVE TEST         Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".         Check that the license plate lamp is turned ON.         CONSULT-III ACTIVE TEST         I Select "EXTERNAL LAMPS" of IPDM E/R active test item.         With operating the lighting switch, check that the license plate lamp is turned ON.         TAIL       : License plate lamp ON         Off       : License plate lamp OFF         sthe license plate lamp turned ON?         YES       >> Cleak that the license plate lamp circuit is normal.         NO       >> Refer to EXL-179. "Diagnosis Procedure".         Diagnosis Procedure	<b>1.</b> CHECK LICE	NSE PLATI		ERATION		
TAIL       : License plate lamp ON         Off       : License plate lamp OFF         sthe license plate lamp turned ON?         YES       >> License plate lamp circuit is normal.         NO       >> Refer to EXL-173. "Diagnosis Procedure".         Diagnosis Procedure	IPDM E/R AU Activate IPD Check that t CONSULT-III Select "EXT With operat	TO ACTIVE M E/R auto he license p ACTIVE TE ERNAL LAI ng the lighti	TEST active test. blate lamp is ST MPS" of IPD ng switch, c	Refer to <u>P(</u> turned ON M E/R activ heck that th	<u>CS-8, "Diagn</u> I. ve test item. ne license pla	osis Description". te lamp is turned ON.
Off : License plate lamp Urmed ON?         s the license plate lamp turned ON?         YES       > License plate lamp circuit is normal.         NO       >> Refer to EXL-179. "Diagnosis Procedure".         Diagnosis Procedure       ************************************	TAIL	: License	plate lamp	ON		
s the license plate lamp turned ON?         YES       >> License plate lamp circuit is normal.         NO       >> Refer to EXL-179. "Diagnosis Procedure".         Diagnosis Procedure       ************************************	Off	: License	plate lamp	OFF		
YES       >> License plate lamp circuit is normal.         NO       >> Refer to EXL-179. "Diagnosis Procedure".         Diagnosis Procedure       ************************************	s the license pla	ate lamp tur	ned ON?			
Diagnosis Procedure       Accelerate Long Diagnosis Procedure         1.cHECK LICENSE PLATE LAMP BULB         Check the applicable lamp bulb.         Stebulb 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.         To hear a connector Terminal Connector Terminal Connector Terminal Digs 1         Connector Terminal Connectors.         2.cHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT         Check continuity between the license plate lamp Arness connector and the ground.         Piss >> 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       Ground         License plate lamp       Ground         Existed       Existed	YES >> Lice	nse plate la	mp circuit is	normal.	ro"	
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.         Terminal       Connector         Terminal       Connector         RH       E14       37         D196       1       Existed         20ees continuity exist?       YES         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.         The plate lamp       Continuity         Connector       Terminal         RH       E14       37         D195       1       Existed	Diagnosis Pr	ocedure	19, Diagnos		<u>.</u> .	
Image: CHECK LICENSE PLATE LAMP BULB         Check the applicable lamp bulb.         S 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.         Terminal       Connector         Terminal       Connector         Connector       Terminal         Connector       Ground         Connector       Terminal         Connector       Terminal         Connector <td>2189110313 T T</td> <td>ocedure</td> <td></td> <td></td> <td></td> <td>INFOID:0000000525470</td>	2189110313 T T	ocedure				INFOID:0000000525470
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.         intermediation       Connector         IPDM E/R       License plate lamp         Connector       Terminal         Connector       Terminal         Connector       Terminal         Object continuity exist?       The sisted         2.CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT         2.CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT         2.Check continuity between the license plate lamp harness connector and the ground.         Image: Connector       Terminal         Ground       Continuity         Existed       Existed	1.CHECK LICE	NSE PLATI	E LAMP BUI	LB		
State Duils normal/ YES       >> GO TO 2. NO         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         RH       E14       37       D196       1       Existed         Does continuity exist?         YES       >> GO TO 3.         NO       >> Repair the harnesses or connectors.         3.CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT         Connector         Terminal         Continuity between the license plate lamp harness connector and the ground.         License plate lamp         Connector         Terminal         Continuity         Plate lamp         Continuity         Connector         Terminal         Continuity         License plate lamp     <	Check the applic	able lamp b	oulb.			
NO       >> Replace the bulb.         2.CHECK LICENSE PLATE LAMP OPEN CIRCUIT         I. 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 to control.         IPDM E/R       License plate lamp         Connector       Terminal         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         License plate lamp       Ground         License plate lamp       Existed	S the build norm	<u>al?</u> TO 2				
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         Connector       Terminal         Connector       Terminal         Connector       Terminal         Connector       Terminal         D196       1         LH       81         20ees 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         License plate lamp       Existed	1E5 >> GU	102. lace the bul	lle.			
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.         intervention	NU >> Rep	ומנב נווב טעו	D.			
1. Information of IPDM E/R connector and the license plate lamp connector.         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         Connector       Terminal         Connector       Terminal         Connector       Terminal         Connector       Terminal         Connector       Terminal         Connector       Terminal         Continuity       Existed         Does continuity exist?       PSS         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         Connector       Terminal         Ground       Continuity         Existed       Existed	NO >> Rep 2.CHECK LICE		d. E LAMP OPI	EN CIRCU	ІТ	
$\begin{tabular}{ c c c c c c } \hline & & & & & & & & & & & & & & & & & & $	2.CHECK LICE	INSE PLATI		EN CIRCU	IT	
$\begin{tabular}{ c c c c c c c } \hline \hline Connector & \hline Terminal & \hline Continuity & \hline $	2.CHECK LICE 1. Turn the ign 2. Disconnect 3. Check conti tor.	ition switch IPDM E/R c nuity betwe	D. E LAMP OPI OFF. connector an en the IPDM	EN CIRCU d the licens 1 E/R harne	IT se plate lamp ess connecto	connector. r and the license plate lamp harness connec-
$\begin{array}{c c c c c c c } \hline RH & E14 & 37 & \hline D196 & 1 & \\ \hline D195 & 1 & Existed & \\ \hline \hline Does \ continuity \ exist? \\ \hline YES \ >> GO TO 3. \\ \hline NO \ >> Repair the harnesses or connectors. \\ \hline S.CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT \\ \hline \hline Check \ continuity \ between the license plate lamp harness connector and the ground. \\ \hline \hline \hline License \ plate \ lamp & \\ \hline \hline \hline Connector \ \hline Terminal \\ \hline RH \ D196 \ 2 \\ \hline \hline H \ D195 \ 2 & \\ \hline \end{array} \begin{array}{c} \hline Continuity \\ \hline Continuity \\ \hline \hline Existed \\ \hline \hline \hline Existed \\ \hline \hline \hline \hline \hline \\ Existed \\ \hline $	2.CHECK LICE 1. Turn the ign 2. Disconnect 3. Check conti tor.	ition switch IPDM E/R c nuity betwe	D. E LAMP OPI OFF. connector an en the IPDM	EN CIRCU d the licens 1 E/R harne	IT se plate lamp ess connecto	connector. r and the license plate lamp harness connec-
LHE1437D1951ExistedDoes continuity exist?YES>> GO TO 3.NO>> Repair the harnesses or connectors.B.CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUITCheck continuity between the license plate lamp harness connector and the ground.License plate lampContinuityConnectorTerminalGroundExistedLicense plate lampGroundExisted	2.CHECK LICE 1. Turn the ign 2. Disconnect 3. Check conti tor. IPDM E Connector	ition switch IPDM E/R c nuity betwe	D. E LAMP OPI OFF. onnector an en the IPDN License p Connector	EN CIRCU d the licens 1 E/R harne	IT se plate lamp ess connecto - Continuity	connector. r and the license plate lamp harness connec-
Does continuity exist?         YES       >> GO TO 3.         NO       >> Repair the harnesses or connectors.         B.CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT         Check continuity between the license plate lamp harness connector and the ground.         License plate lamp         Connector       Terminal         Ground       Continuity         Existed	CHECK LICE  CHECK LICE  Check conting  Connector  RH	INSE PLATI	D. E LAMP OPI OFF. connector an en the IPDM License p Connector D196	EN CIRCU d the licens 1 E/R harns late lamp Terminal 1	IT se plate lamp ess connecto	connector. r and the license plate lamp harness connec-
$\begin{array}{c c} YES & >> GO TO 3. \\ NO & >> Repair the harnesses or connectors. \\ \hline \textbf{3.CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT} \\ \hline \textbf{Check continuity between the license plate lamp harness connector and the ground.} \\ \hline \hline \hline \textbf{License plate lamp} & \textbf{Continuity} \\ \hline \hline \hline \textbf{Connector} & \hline \textbf{Terminal} & \textbf{Ground} \\ \hline \hline \textbf{RH} & D196 & 2 & \textbf{Existed} \end{array}$	2.CHECK LICE 1. Turn the ign 2. Disconnect 3. Check conti tor. IPDM E Connector RH LH	INSE PLATI	D. E LAMP OPI OFF. connector an en the IPDM License p Connector D196 D195	EN CIRCU d the licens 1 E/R harne late lamp Terminal 1 1	IT se plate lamp ess connecto - Continuity - Existed	connector. r and the license plate lamp harness connec-
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.	INO     >> Rep       2.CHECK LICE       1.     Turn the ign       2.     Disconnect       3.     Check continuity       IPDM E       Connector       RH     E14       Does continuity	INSE PLATI	D. E LAMP OPI OFF. onnector an en the IPDN License p Connector D196 D195	EN CIRCU d the licens 1 E/R harne late lamp Terminal 1 1	IT se plate lamp ess connecto Continuity Existed	connector. r and the license plate lamp harness connec-
CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT         Check continuity between the license plate lamp harness connector and the ground.         License plate lamp         Continuity         Continuity         Continuity         Continuity         Existed	NO       >> Rep         2.CHECK LICE         1. Turn the ign         2. Disconnect         3. Check continity         IPDM E         Connector         RH         LH         Does continuity         YES	INSE PLATI	D. E LAMP OPI OFF. connector an en the IPDM License p Connector D196 D195	EN CIRCU d the licens 1 E/R harne late lamp Terminal 1 1	IT se plate lamp ess connecto Continuity Existed	connector. r and the license plate lamp harness connec-
Check continuity between the license plate lamp harness connector and the ground.         License plate lamp       Continuity         Connector       Terminal       Continuity         RH       D196       2       Existed	NO       >> Rep         2.CHECK LICE         1. Turn the ign         2. Disconnect         3. Check continuty         IPDM E         Connector         RH         LH         Does continuity         YES         NO         2. OUT OF CONTRACT	INSE PLATI	E LAMP OPI OFF. onnector an en the IPDN License p Connector D196 D195 esses or cor	EN CIRCU d the licens 1 E/R harne late lamp Terminal 1 1	IT se plate lamp ess connecto Continuity Existed	connector. r and the license plate lamp harness connec-
License plate lampConnectorTerminalRHD1962LHD1952	NO     >> Rep       2. CHECK LICE       1. Turn the ign       2. Disconnect       3. Check continuty       IPDM E       Connector       RH     E14       Does continuity       YES     >> GO       NO     >> Rep       3. CHECK LICE	INSE PLATI	E LAMP OPI OFF. connector an en the IPDM License p Connector D196 D195 esses or cor E LAMP GR	EN CIRCU d the licens 1 E/R harne late lamp Terminal 1 1 nnectors. OUND OPI	IT se plate lamp ess connecto Continuity Existed	connector. r and the license plate lamp harness connec-
Connector         Terminal         Continuity           RH         D196         2           LH         D195         2	NO       >> Rep         2.CHECK LICE         1. Turn the ign         2. Disconnect         3. Check continity         IPDM E         Connector         RH         LH         Does continuity         YES         YES         S.CHECK LICE         Check continuity	INSE PLATI	E LAMP OPI OFF. connector an en the IPDM License p Connector D196 D195 esses or cor E LAMP GRe	EN CIRCU d the licens 1 E/R harne late lamp Terminal 1 1 nnectors. OUND OPI ate lamp ha	IT se plate lamp ess connecto Continuity Existed EN CIRCUIT arness conne	connector. r and the license plate lamp harness connec-
RH         D196         2           LH         D195         2	NO       >> Rep         2.CHECK LICE         1. Turn the ign         2. Disconnect         3. Check continity         IPDM E         Connector         RH         LH         Does continuity         YES       >> GO         NO       >> Rep         3.CHECK LICE         Check continuity         License	INSE PLATI ition switch IPDM E/R c nuity betwe //R Terminal 37 exist? TO 3. air the harn INSE PLATI / between the plate lamp	D. E LAMP OPI OFF. connector an en the IPDM License p Connector D196 D195 esses or cor E LAMP GRe ne license pla	EN CIRCU d the licens 1 E/R harne late lamp Terminal 1 1 nnectors. OUND OPI ate lamp ha	IT se plate lamp ess connecto - Continuity - Existed EN CIRCUIT arness conne	connector. r and the license plate lamp harness connec-
LH D195 2 Existed	2. CHECK LICE 1. Turn the ign 2. Disconnect 3. Check continity IPDM E Connector RH E14 Does continuity YES >> GO NO >> Rep 3. CHECK LICE Check continuity License Connector	INSE PLATI ition switch IPDM E/R c nuity betwe //R Terminal 37 exist? TO 3. air the harn INSE PLATI / between the plate lamp Term	D. E LAMP OPI OFF. connector an en the IPDM License p Connector D196 D195 esses or cor E LAMP GR ne license pla	EN CIRCU d the licens 1 E/R harns late lamp Terminal 1 1 nnectors. OUND OPI ate lamp ha	IT se plate lamp ess connecto Continuity Existed EN CIRCUIT arness conne Continuity	connector. r and the license plate lamp harness connec-
	NO     >> Rep       2.CHECK LICE       1. Turn the ign       2. Disconnect       3. Check continity       IPDM E       Connector       RH       LH       Does continuity       YES       YES       S.CHECK LICE       Check continuity       License       Connector	INSE PLATI	D. E LAMP OPI OFF. connector an en the IPDM License p Connector D196 D195 esses or cor E LAMP GRe ne license pla	EN CIRCU d the licens 1 E/R harne late lamp Terminal 1 1 nnectors. OUND OPI ate lamp ha	IT Se plate lamp ess connecto Continuity EN CIRCUIT arness conne Continuity	connector. r and the license plate lamp harness connec-
Does continuity exist?	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	INSE PLATI	E LAMP OPI OFF. connector an en the IPDM License p Connector D196 D195 esses or cor E LAMP GR ne license pla	EN CIRCU d the licens 1 E/R harns late lamp Terminal 1 1 nnectors. OUND OPI ate lamp ha	IT Se plate lamp ess connecto Continuity Existed Continuity Existed	connector. r and the license plate lamp harness connec-
	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	INSE PLATI ition switch IPDM E/R c nuity betwe //R Terminal 37 exist? TO 3. air the harn INSE PLATI between the plate lamp Term 2 2 exist? lace the lice	E LAMP OPI OFF. connector an en the IPDM License p Connector D196 D195 esses or cor E LAMP GR ne license plate inal Gr	EN CIRCU d the licens 1 E/R harns late lamp Terminal 1 1 nnectors. OUND OPI ate lamp ha	IT se plate lamp ess connecto Continuity Existed EN CIRCUIT arness conne Continuity Existed	connector. r and the license plate lamp harness connec-

Wiring Diagram - HEADLAMP -

INFOID:000000005254702

[HALOGEN TYPE]



JCLWM2512GE
## **HEADLAMP SYSTEM**

#### < DTC/CIRCUIT DIAGNOSIS >



## **HEADLAMP SYSTEM**



JCLWM2514GE



< DTC/CIRCUIT DIAGNOSIS >



#### < DTC/CIRCUIT DIAGNOSIS >



=

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]



JCLWM2518GE

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]



#### < DTC/CIRCUIT DIAGNOSIS >

#### [HALOGEN TYPE]



JCLWM2520GE

#### < DTC/CIRCUIT DIAGNOSIS >



JCLWM2521GE

INFOID:000000005254704

## FRONT FOG LAMP SYSTEM

Wiring Diagram - FRONT FOG LAMP -

To CAN system IPDM E/R (INTELLIGENT POWER MODULE ENGINE ROOM) (E11) (E12) (E13) ≱ DATA LINK CONNECTOR M4 4 FRONT FOG LAMP RH E48 0 FRONT FOG LAMP LH E30 DATA LINE FRONT FOG LAMP RELAY 15A 65 DATA Þ <u>\_</u> ത 20A 62 ñ 26 15A 61 СРU 22 25 33 4 ത IGNITION SWITCH ON or START 40 F BCM (BODY CONTROL MODULE) (M65) , (M67) IGNITION SWITCH ACC or ON 10A 6 თ 4 5 6 7 8 COMBINATION SWITCH 10A FRONT FOG LAMP E105 BATTERY 2 2008/07/15 JCLWM2524GE

## FRONT FOG LAMP SYSTEM

#### < DTC/CIRCUIT DIAGNOSIS >



## FRONT FOG LAMP SYSTEM

#### < DTC/CIRCUIT DIAGNOSIS >



JCLWM2526GE



## TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]



JCLWM2528GE

#### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM T DIAGNOSIS > [HALOGEN TYPE]

#### < DTC/CIRCUIT DIAGNOSIS >



JCLWM2529GE



JCLWM2530GE





#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]



Signal Name [Specification]

Signal Name [Specification]

Signal Name [Specification]

irmina No.

Signal Name [Specification]

### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]



JCLWM2540GE

#### < DTC/CIRCUIT DIAGNOSIS >



#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]



JCLWM2542GE

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

		A
		В
		С
		D
		E
		F
		G
		Η
		J
S L		K
	E	EXL
		M
		Ν
PARKING Connector Name Connector Name Name Color Name Color Name Color Name Color Name Color Name Color Name Connector Name Connector Name Co		0
	JCLWM2543GE	D

# STOP LAMP

Wiring Diagram - STOP LAMP -



STOP LAMP

INFOID:000000005254707

21/20/8002 JCLWM2531GE

## **STOP LAMP**

#### < DTC/CIRCUIT DIAGNOSIS >





JCLWM2533GE

< DTC/CIRCUIT DIAGNOSIS >

## **BACK-UP LAMP**

Wiring Diagram - BUCK-UP LAMP -



BACK-UP LAMP

INFOID:000000005254708

А

В

## **BACK-UP LAMP**

#### < DTC/CIRCUIT DIAGNOSIS >



JCLWM2535GE

## **BACK-UP LAMP**

#### < DTC/CIRCUIT DIAGNOSIS >



# ECU DIAGNOSIS INFORMATION BCM (BODY CONTROL MODULE)

## **Reference Value**

## VALUES ON THE DIAGNOSIS TOOL

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

INFOID:000000005575163

Revision: 2009 October

## < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	-
	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF]	Off	- A
BUCKLE SW	The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON]	On	В
	PANIC button of key fob is not pressed	Off	
RETLESS FANIC	PANIC button of key fob is pressed	On	C
KEYLESS TRUNK	NOTE: The item is indicated, but not monitored.	Off	_ 0
TRNK OPN MNTR	NOTE: The item is indicated, but not monitored.	Off	D
	LOCK/UNLOCK button of key fob is not pressed and held simulta- neously	Off	F
KKE LOK-ONLOK	LOCK/UNLOCK button of key fob is pressed and held simulta- neously	On	- L
	UNLOCK button of key fob is not pressed	Off	F
KKE KEEF UNLK	UNLOCK button of key fob is pressed and held	On	
	Lighting switch OFF	Off	
	Lighting switch HI	On	G
	Lighting switch OFF	Off	_
HEAD LAIVIP SVV I	Lighting switch 2ND	On	
	Lighting switch OFF	Off	- П
HEAD LAIVIP SVV 2	Lighting switch 2ND	On	_
AUTO LIGHT SW	NOTE: The item is indicated, but not monitored.	Off	
DASSING SW	Other than lighting switch PASS	Off	_
FASSING SW	Lighting switch PASS	On	J
	Front fog lamp switch OFF	Off	_
FR FUG SW	Front fog lamp switch ON	On	
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off	- K
	Turn signal switch OFF	Off	EXI
I URIN SIGINAL R	Turn signal switch RH	On	
	Turn signal switch OFF	Off	_
TURN SIGNAL L	Turn signal switch LH	On	M
	Engine stopped	Off	
ENGINE RUN	Engine running	On	N
	Parking brake switch is OFF	Off	IN
PKB SW	Parking brake switch is ON	On	_
CARGO LAMP SW	NOTE: The item is indicated, but not monitored.	Off	0
OPTICAL SENSOR	NOTE: The item is indicated, but not monitored.	0 V	P
IGN SW CAN	Ignition switch OFF or ACC	Off	
	Ignition switch ON	On	
	Front wiper switch OFF	Off	
	Front wiper switch HI	On	
	Front wiper switch OFF	Off	
FR WIPER LOW	Front wiper switch LO	On	_

### < ECU DIAGNOSIS INFORMATION >

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

## < ECU DIAGNOSIS INFORMATION >

### [HALOGEN TYPE]

Monitor Item	Condition	Value/Status	٨
OIL PRESS SW	<ul><li>Ignition switch OFF or ACC</li><li>Engine running</li></ul>	Off	A
	Ignition switch ON	On	R
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire	D
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire	С
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	D
	ID of front LH tire transmitter is registered	Done	F
ID REGST FLT	ID of front LH tire transmitter is not registered	Yet	
	ID of front RH tire transmitter is registered	Done	
ID REGGI FRI	ID of front RH tire transmitter is not registered	Yet	F
	ID of rear RH tire transmitter is registered	Done	
ID REGGI KKI	ID of rear RH tire transmitter is not registered	Yet	
ID REGST RL1	ID of rear LH tire transmitter is registered	Done	G
	ID of rear LH tire transmitter is not registered	Yet	
WARNING LAMP	Tire pressure indicator OFF	Off	Н
	Tire pressure indicator ON	On	
BI 177ED	Tire pressure warning alarm is not sounding	Off	
BUZZEK	Tire pressure warning alarm is sounding	On	I

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#### < ECU DIAGNOSIS INFORMATION >

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 <u>BCS-27, "COMB SW : CONSULT-III Function (BCM - COMB SW)"</u>.
- BCM reads the status of the combination switch at 10 ms internal normally. Refer to <u>BCS-9, "System</u> <u>Diagram"</u>.

Terminal No.		Description				\/alue	
(Wire	color)	Signal namo	Input/		Condition	(Approx.)	
+	-	Signal hame	Output				
1	Ground	Ignition key hole illu-	ole illu-	Ignition key hole	OFF	Battery voltage	
(V)	Giouna	mination control	Output	illumination	ON	0 V	

### < ECU DIAGNOSIS INFORMATION >

Termir	nal No.	Description					
(Wire +	color)	Signal name	Input/ Output		Condition	value (Approx.)	А
					All switch OFF	0 V	
					Turn signal switch RH		В
					Lighting switch HI	(V) 15 10 5	С
2 (G)	Ground	Combination switch	Input	Combination switch (Wiper intermit-	Lighting switch 1ST	ч +10ms ++10ms РКIВ4959J 1.0 V	D
(-)				tent dial 4)		(V) 15	Е
					Lighting switch 2ND	10 5 0 → +10ms	F
						PKIB4953J 2.0 V	G
					All switch OFF	0 V	
					Turn signal switch LH	(1)	Н
3	Ground	Combination switch	Input	Combination switch	Lighting switch PASS	15 10 5 0 • +10ms PKIB4959J 1.0 V	l J
(Y)		INPUT 4		(vuper intermit- tent dial 4)	Front fog lamp switch ON	(V) 15 10 5 0 → +10ms	K
					рків4955J 0.8 V	M	
					All switch OFF	0 V	
					Front wiper switch LO	(V)	
4 (W)	Ground	Combination switch INPUT 3	Input	Combination switch (Wiper intermit- tent dial 4)	Front wiper switch MIST		N
					Front wiper switch in I	<u>+ +10ms</u> РКIВ4959Ј 1.0 V	P

#### < ECU DIAGNOSIS INFORMATION >

Termir	Terminal No. Description				Value	
(Wire +	color) –	Signal name	Input/ Output		Condition	(Approx.)
5 (R) Groun				Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V
					Front washer switch (Wiper intermittent dial 4) Rear washer ON	
	Ground	Combination switch INPUT 2	tion switch Input Combination switch Input Combination switch Rear wiper interm		<ul> <li>(Wiper intermittent dial 4)</li> <li>Any of the condition below with all switch OFF</li> <li>Wiper intermittent dial 1</li> <li>Wiper intermittent dial 5</li> <li>Wiper intermittent dial 6</li> </ul>	0 0 0 0 0 0 0 0 0 0 0 0 0 0
				Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 0 + 10ms + 10ms PKIB4955J	
					All switch OFF	0.8 V
		Ground Combination switch Input		Combination switch	(Wiper intermittent dial 4) Front wiper switch HI	
6 (P) Gro					(Wiper intermittent dial 4) Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 5 0
						Wiper intermittent dial 3 (All switch OFF)
	Ground		Input		Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2	(V) 15 0 10 5 0 10 10 10 10 10 10 10 10 10
				Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	
#### < ECU DIAGNOSIS INFORMATION >

Termir	nal No.	Description				Value		
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)	A	
7 (L)	Ground	Door key cylinder switch UNLOCK sig- nal	Input	Door key cylin- der switch	NEUTRAL position	(V) <sub>15</sub> 10 5 0 + 10ms JPMIA0587GB	B	
						8.0 - 8.5 V	D	
8 (R)	Ground	Door key cylinder switch LOCK signal	Input	Door key cylin- der switch	NEUTRAL position	(V) 15 10 5 0 + 10ms JPMIA0587GB	E	
						8.0 - 8.5 V	G	
					LOCK position	0 V		
9	Ground	Stop lamp switch	Input	Stop lamp switch	Stop lamp	OFF (Brake pedal is not depressed)	0 V	Н
(R)			•		ON (Brake pedal is de- pressed)	Battery voltage	I	
10	Ground	Rear window defog-	Input	Rear window	Not pressed	Battery voltage		
(58)		gerswitch	-	delogger switch	Pressed	0 V		
11 (SB)	Ground	Ignition switch ACC	Input	Ignition switch O			J	
(02)				Ignition switch At		Ballery vollage		
12 (P)	Ground	Passenger door switch	Input	Input Passenger door switch	OFF (When passenger door closed)	(V) 10 5 0 + 10ms JPMIA0586GB	K	
						7.5 - 8.0 V	M	
					ON (When passenger door opened)	0 V	Ν	
13 (LG)	Ground	Rear door switch RH	Input	Rear door switch RH	OFF (When rear door RH closed)	(V) <sub>15</sub> 10 5 0 • • 10ms JPMIA0587GB 8.0 - 8.5 V	O P	
					ON (When rear door RH opened)	0 V		

#### < ECU DIAGNOSIS INFORMATION >

Termi	nal No.	Description				) /- l		
(Wire	color)	Signal name	Input/ Output	Condition		value (Approx.)		
15 <sup>*</sup> (O)	Ground	Tire pressure warn- ing check switch	Input	Ignition switch OFF		Ignition switch OFF		(V) <sub>15</sub> 10 5 0 •••10ms JPMIA0588GB 1.5 V
18 <sup>*</sup> (O)	Ground	Remote keyless en- try receiver ground	Input	Ignition switch O	N	0 V		
				Without Intelli- gent Key sys- tem	At any condition	5 V		
19 <sup>*</sup> (V)	Ground	ound try receiver power supply	Input	With Intelligent	<ul> <li>Ignition switch OFF</li> <li>For 3 seconds after ignition switch OFF to ON</li> </ul>	0 V		
				rtey system	3 seconds or later after ig- nition switch OFF to ON	5 V		
				Without Intelli- gent Key sys- tem	At any condition	(V) <sub>15</sub> 10 5 0 ↓ ↓ 2ms ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓		
20 <sup>*</sup> (GR)	Ground	Remote keyless en- try receiver signal	Input		<ul> <li>Ignition switch OFF</li> <li>For 3 seconds after ignition switch OFF to ON</li> </ul>	0 V		
				With Intelligent Key system	3 seconds or later after ig- nition switch OFF to ON	(V) 15 10 5 0 •••2ms JPMIA0589GB MOTE: The wave form changes accord- ing to signal-receiving condition.		
21 (G)	Ground	Immobilizer anten- na signal (Clock)	Input/ Output	Ignition switch O	FF	Battery voltage		

#### < ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Termir	nal No.	Description	Description		) (a hua		
(Wire +	color)	Signal name	Input/ Output	Condition		value (Approx.)	A
					ON	0 V	B
23 (B) Ground		Security indicator signal	Input	Security indica- tor	Blinking (Ignition switch OFF)	(V) <sub>15</sub> 10 5 0 ++1s	C
						JPMIA0590GB 12.0 V	
					OFF	Battery voltage	E
25 (BR)	Ground	Immobilizer anten- na signal (Rx, Tx)	Input/ Output	Ignition switch O	FF	Battery voltage	
				Ignition switch O	FF		F
27 (Y)	Ground	A/C switch	Input	Ignition switch ON	A/C switch OFF	(V) <sub>15</sub> 10 5 0 + 10ms + 10ms JPMIA0591GB 1.6 V	G
					A/C switch ON	0 V	
				Ignition switch O	FF		
28 (LG) Grour	Ground	Ground Blower fan switch	Input	Ignition switch ON	Blower fan switch OFF	(V) <sub>15</sub> 10 5 0 + 10ms	J
						л.0 - 7.5 V	K
					Blower fan switch ON	0 V	
29	Ground	Hazard switch	Input	Hazard switch	OFF	Battery voltage	EXI
(W)	2.54114				ON	0 V	
30	Ground	Back door opener	Input	Back door	Not pressed	Battery voltage	М
(6)		SWITCH		opener switch	Pressed	0 V	1 1 1

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#### < ECU DIAGNOSIS INFORMATION >

Terminal No.		Description				Value
(vvire +		Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF (Wiper intermittent dial 4)	(V) 10 50 •••••••••••••••••••••••••••••••••
32 (BR)	Ground	Combination switch OUTPUT 5	Output	Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)	
					Rear wiper switch ON (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6	0 + +10ms + KIB4956J 1.0 V
33	Ground	Combination switch	Outout	Combination	All switch OFF (Wiper intermittent dial 4)	(V) 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
(GR)	Ground	OUTPUT 4	Output	switch	Lighting switch 1ST (Wiper intermittent dial 4)	
					Rear wiper switch INT (Wiper intermittent dial 4)	
					<ul> <li>Any of the condition below with all switch OFF</li> <li>Wiper intermittent dial 1</li> <li>Wiper intermittent dial 5</li> <li>Wiper intermittent dial 6</li> </ul>	• • • 10ms • • • • • • • • • • • • • • • • • • •

#### < ECU DIAGNOSIS INFORMATION >

## [HALOGEN TYPE]

Termi	nal No.	Description					
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)	A
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 • • 10ms PKIB4960J 7.2 V	B C D
34 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)		F
					Lighting switch HI (Wiper intermittent dial 4) Rear washer switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0	F
					<ul> <li>Any of the condition below with all switch OFF</li> <li>Wiper intermittent dial 1</li> <li>Wiper intermittent dial 2</li> <li>Wiper intermittent dial 3</li> </ul>	► +10ms РКIВ4958J 1.2 V	G
				Combination	All switch OFF	(V) 15 10 5 0 •••• 10ms PK/B49501	H
35 (B)	35 B) Ground Combination switch Output OUTPUT 2	Output	out switch (Wiper intermit- tent dial 4)	Lighting switch 2ND Lighting switch PASS Front wiper switch INT	7.2 V	J	
					Front wiper switch HI	с + +10ms → +10ms РКIВ4958J 1.2 V	EXI
		Ground Combination switch OUTPUT 1		Combination	All switch OFF	(V) 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N
(V)	Ground		Output	(Wiper intermit- tent dial 4)	Turn signal switch RH Turn signal switch LH Front wiper switch LO (Front wiper switch MIST)	(V) 15 10 5 0	Ρ
					Front washer switch ON	→ +10ms → +10ms PKIB4958J 1.2 V	

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2010 Rogue

# < ECU DIAGNOSIS INFORMATION >

Termir	nal No.	Description				Value	
(Wire +	color) –	Signal name	Input/ Output	Condition (Approx.)		(Approx.)	
37	Ground	Key switch	Input	Insert mechanical key into ignition key cylin- der		Battery voltage	
(LG)			·	Remove mechan cylinder	ical key from ignition key	0 V	
38	Ground	Ignition switch ON	Input	Ignition switch O	FF or ACC	0 V	
(G)		.g		Ignition switch O	N 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)	(V) 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
					ON (When back door opened)	0 V	
44			_	Ignition switch	Rear wiper stop position	0 V	
(B)	Ground	Rear wiper auto stop	Input	ŎN	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	(V) <sub>15</sub> 10 50 •••10ms •••10ms JPMIA0591GB 1.6 V	
					LOCK position	0 V	
46 (BR)	Ground	Door lock and unlock switch UNLOCK sig- nal	Input	Door lock and unlock switch	NEUTRAL position	(V) <sub>15</sub> 10 5 0 •••10ms •••10ms JPMIA0591GB 1.6 V	
					UNLOCK position	0 V	

#### < ECU DIAGNOSIS INFORMATION >

Termir	nal No.	Description								
(Wire +	color)	Signal name	Input/ Output		Condition	Value (Approx.)	А			
47 (W)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	(V) <sub>15</sub> 10 5 0 ••10ms	B			
					ON (When driver door opened)	JPMIA0587GB 8.0 - 8.5 V 0 V	D			
48 (GR)	Ground	Rear door switch LH	Input	Input Rear door switch LH	OFF (When rear door LH closed)	(V) <sub>15</sub> 10 5 0 • • 10ms	F			
					ON (When rear door LH opened)	8.5 - 9.0 V 0 V	Η			
49	Oracia	Back door lamp con-	Output	Back door lamp	Back door is closed (Back door lamp turns OFF)	Battery voltage	I			
(L)	Ground	trol		Ouput	position	position	position	Back door is opened (Back door lamp turns ON)	0 V	J
53	Ground	Back door open	Output	Back door	Not pressed (Back door actuator is ac- tivated)	0 V	K			
(V)	Ground		Odiput	opener switch	Pressed (Back door actuator is ac- tivated)	Battery voltage	EXL			
55 (SB)	Ground	Rear wiper motor	Output	Ignition switch	Rear wiper switch OFF	0 V	5.4			
(38)				After passing the	interior room lamp batterv	Battery voltage	IVI			
56	Ground Interior room lamp Output		saver operation t	ime	0 V	N				
(1)		power suppry		Any other time af lamp battery save	ter passing the interior room er operation time	Battery voltage	IN			
57 (G)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage	0			
59	Ground	Driver door UN-	Outout			UNLOCK (Actuator is activated)	Battery voltage			
(L)	Ground	LOCK	Output		Other then UNLOCK (Ac- tuator is not activated)	0 V	Ρ			

#### < ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Terminal No.		Description				Value	
(Wire +	color) _	Signal name	Input/ Output		Condition	(Approx.)	
			•		Turn signal switch OFF	0 V	
60 (BR)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch LH	(V) 15 0 5 0 15 15 15 15 15 15 15 15 15 15	
					Turn signal switch OFF	0 V	
61 (GR)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 	
62				Interior room	OFF	6.0 V Battery voltage	
(R)	Ground	timer control	Output	lamp	ON	0 V	
65	Ground		Output		LOCK (Actuator is activat- ed)	Battery voltage	
(V)	Ground		Output	All doors	Other then LOCK (Actua- tor is not activated)	0 V	
66	Ground	Passenger door and	Output	Passenger door	UNLOCK (Actuator is activated)	Battery voltage	
(G)	Ground	rear door UNLOCK	Output	and rear door	Other then UNLOCK (Ac- tuator is not activated)	0 V	
67 (B)	Ground	Ground	Output	Ignition switch OI	N	0 V	
68 (L)	Ground	P/W power supply (RAP)	Output	Ignition switch OI	N	Battery voltage	
69 (P)	Ground	P/W power supply (BAT)	Output	Ignition switch OI	FF	Battery voltage	
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage	

\*: Except for Mexico



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#### [HALOGEN TYPE]

< ECU DIAGNOSIS INFORMATION >



#### < ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]



#### Fail-safe

INFOID:000000005575165

#### REAR WIPER MOTOR PROTECTION

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

Condition of cancellation

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#### EXL-229

#### < ECU DIAGNOSIS INFORMATION >

- 1. Pass more than 1 minute after the rear wiper stop.
- 2. Turn the 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:000000005575166

INFOID:000000005575167

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

Priority	DTC
1	U1000: CAN COMM CIRCUIT
2	C1735: IGN CIRCUIT OPEN
3	<ul> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> <li>C1711: [NO DATA] RL</li> <li>C1716: [PRESS DATA ERR] FL</li> <li>C1717: [PRESS DATA ERR] FR</li> <li>C1718: [PRESS DATA ERR] RR</li> <li>C1719: [PRESS DATA ERR] RL</li> <li>C1729: VHCL SPEED SIG ERR</li> </ul>

#### DTC Index

#### NOTE:

Details of time display

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

CONSULT display	Tire pressure monitor warning Iamp ON	Reference
U1000: CAN COMM CIRCUIT	—	BCS-34
C1704: LOW PRESSURE FL	X	
C1705: LOW PRESSURE FR	×	WT-15
C1706: LOW PRESSURE RR	X	<u>WI-15</u>
C1707: LOW PRESSURE RL	X	
C1708: [NO DATA] FL	×	
C1709: [NO DATA] FR	X	\\/T_17
C1710: [NO DATA] RR	X	<u>vv i = 17</u>
C1711: [NO DATA] RL	×	

# < ECU DIAGNOSIS INFORMATION >

# [HALOGEN TYPE]

CONSULT display	Tire pressure monitor warning lamp ON	Reference	A
C1716: [PRESS DATA ERR] FL	×		
C1717: [PRESS DATA ERR] FR	×	W/T-20	R
C1718: [PRESS DATA ERR] RR	×	<u></u>	D
C1719: [PRESS DATA ERR] RL	×		
C1729: VHCL SPEED SIG ERR	×	<u>WT-22</u>	С
C1735: IGN CIRCUIT OPEN	_	BCS-35	

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Revision: 2009 October

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

# **Reference Value**

INFOID:000000005575168

#### VALUES ON THE DIAGNOSIS TOOL

Monitor Item		Condition	Value/Status
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air condition- er operation status, vehicle speed, etc.	1 - 4
		A/C switch OFF	Off
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On
	Lighting switch OFF		Off
TAIL&CLR REQ	Lighting switch 1ST or 2ND		On
	Lighting switch OFF		Off
HE LO REQ	Lighting switch 2ND		On
	Lighting switch OFF		Off
HL HI REQ	Lighting switch HI (Light is il	luminated)	On
FR FOG REQ		Front fog lamp switch OFF	Off
<b>NOTE:</b> This item is monitored only on the vehicle with front fog lamp.	Lighting switch 2ND	Front fog lamp switch ON	On
		Front wiper switch OFF	Stop
	Ignition switch ON	Front wiper switch INT	1LOW
FR WIF REQ		Front wiper switch LO	Low
		Front wiper switch HI	Hi
		Front wiper stop position	STOP P
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P
		Front wiper operates normally	Off
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe oper- ation	BLOCK
ST RLY REQ NOTE:	When Intelligent Key is outs is pushed	ide the vehicle, and the push switch	Off
Vehicle without Intelligent Key system indi- cates only "ON", and it does not change.	When Intelligent Key is insid pushed	e the vehicle, and the push switch is	On
	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
		Rear window defogger switch OFF	Off
RR DEF REQ	Ignition switch ON	Rear window defogger switch ON (Rear window defogger is operat- ing)	On
	Ignition switch OFF, ACC or	engine running	Open
	Ignition switch ON		Close
DTRL REQ	Daytime running light syster	n is not operated.	Off
This item is monitored only on the vehicle with the daytime running light system.	Daytime running light syster	n is operated.	On

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

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

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

#### **TERMINAL LAYOUT**



#### PHYSICAL VALUES

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

Termi	nal No.	Description				) (al. a
(Wire +	color)	Signal name	Input/ Output	Condition		Value (Approx.)
3	Oraciand	Otantan nalawa a swan awan ku	Outrast	When engine is clanking		Battery voltage
(O)	Ground	Starter relay power supply	Output	When engine is not	clanking	0 V
4	<u> </u>	Cooling fan relay-1 power	<b>.</b>	Cooling fan opera-	Cooling fan opera- OFF	
(W)	Ground	supply	Output	tion	MID or HI	Battery voltage
5	- ·			Ignition switch OFF,	ACC or ON	0 V
(R)	Ground	Ignition switch START	Input	Ignition switch STAF	T	Battery voltage
6 (BR)	Ground	Battery power supply (Cooling fan relay)	Input	Ignition switch OFF		Battery voltage
7	Ground	Cooling fan motor-2 (HI)		Cooling fan opera-	OFF	Battery voltage
(P)	Ground	ground	_	tion	Н	0 V
8	0	Cooling fan relay-2 power	0.1.1	Cooling fan opera-	OFF	0 V
(G)	Ground	supply	Output	tion	Н	Battery voltage
11 (B)	Ground	Ground	_	Ignition switch ON		0 V
12		Rear window defogger re-			Rear window defogger switch OFF	0 V
(O)	Ground	lay power supply	Output	Ignition switch ON	Rear window defogger switch ON	Battery voltage
15 <sup>*1</sup>	<u> </u>	Daytime running light relay	<u> </u>	Daytime running	Not operated	Battery voltage
(SB)	Ground	control	Output	light system	Operated	0 V
16 <sup>*2</sup>	<u> </u>		<b>.</b>	Lighting switch	Front fog lamp switch OFF	0 V
(Y)	Ground	Front tog lamp (LH)	Output	2ND Front fog lamp switch ON		Battery voltage
17 <sup>*2</sup>	Oracial	French for a larger (DU)	Outrast	Lighting switch	Front fog lamp switch OFF	0 V
(W)	Ground	Front log lamp (RH)	Output	2ND	Front fog lamp switch ON	Battery voltage
18	Cround	Headlamp I O (I H)	Quitout	Lighting switch OFF		0 V
(L)	Ground	Headlamp LO (LH)	Output	Lighting switch 2ND		Battery voltage
20	Cround	Headlamp I O (BH)	Quitout	Lighting switch OFF		0 V
(SB)	Ground		Output	Lighting switch 2ND		Battery voltage
				Lighting switch OFF		0 V
21 (G)	Ground	Headlamp HI (LH)	Output	<ul><li>Lighting switch 2N</li><li>Lighting switch PA</li></ul>	ID and HI ASS	Battery voltage
				Daytime running ligh	nt system Operated <sup>*1</sup>	7.0 V
				Lighting switch OFF	Lighting switch OFF	
22 (LG)	Ground	Headlamp HI (RH)	Output	<ul><li>Lighting switch 2ND and HI</li><li>Lighting switch PASS</li></ul>		Battery voltage
				Daytime running ligh	nt system Operated <sup>*1</sup>	7.0 V
23				Engine stopped		0 V
(W)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine running	Battery voltage
					Front wiper stop position	0 V
24 (Y)	Ground	Front wiper auto stop	Input	Ignition switch ON	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			_

Termi	nal No.	Description				Value	
(Wire +	color)	Signal name	Input/ Output	Condition		(Approx.)	А
27 (L)		CAN-H	Input/ Output	—		—	В
31	Cround	Cooling for roley 4 control	Output	Cooling fan opera-	OFF	Battery voltage	-
(LG)	Ground	Cooling fan Telay-4 control	Output	tion	LO	0 - 1.0 V	C
32		Throttle control motor re-		After passing approx after turning the ignit	kimately 2 seconds or more tion switch from ON to OFF	Battery voltage	
(V)	Ground	lay control	Input	<ul> <li>Ignition switch ON</li> <li>For approximately tion switch from O</li> </ul>	I 2 seconds after turning igni- N to OFF	0 - 1.0 V	D
				Ignition switch OFF		0 V	
33 (GR)	Ground	Fuel pump relay control	Input	Ignition quitab ON	Engine stopped	Battery voltage	- L
(City)				Ignition switch ON	Engine running	0.8 V	-
34 <sup>*3</sup>				Close the hood		Battery voltage	F
(W)	Ground	Hood switch	Input	Open the hood		0 V	-
37		Tail license plate lamps		Lighting switch OFF		0 V	-
(R)	Ground	and illuminations	Output	Lighting switch 1ST		Battery voltage	G
38				Lighting switch OFF		0 V	_
(R)	Ground	Parking lamp (LH)	Output	Lighting switch 1ST		Battery voltage	- Н
39			<u> </u>	Lighting switch OFF		0 V	_
(GR)	Ground	Parking lamp (RH)	Output	Lighting switch 1ST		Battery voltage	-
40	Oraciand		Outraut	Ignition switch OFF or ACC		0 V	-
(BR)	Ground	Ignition relay power supply	Output	Ignition switch ON		Battery voltage	_
41	Ground		Output	Ignition switch OFF or ACC		0 V	J
(O)	Ground	ignition relay power supply	Output	Ignition switch ON		Battery voltage	
42	Ground	Front winor HI	Output	Front wiper switch OFF		0 V	-
(L)	Giouna		Output	Ignition switch ON	Front wiper switch HI	Battery voltage	K
43	Ground	Front winor I.O.	Output	Ignition switch ON	Front wiper switch OFF	0 V	-
(G)	Giouna		Output	Ignition switch ON	Front wiper switch LO	Battery voltage	FX
45					Selector lever "P" or "N"	Battery voltage	
45 (Y)	Ground	Starter relay power supply	Input	Ignition switch ON	Selector lever in any posi- tion other than "P" or "N"	0 V	M
46		Fuel pump relay power	Output	<ul> <li>Ignition switch OFF or ACC</li> <li>After passing approximately 1 second or more after turning the ignition switch ON</li> </ul>		0 V	
(W)	Glound	supply	Output	<ul> <li>For approximately ignition switch ON</li> <li>Engine running</li> </ul>	1 second after turning the	Battery voltage	- 11
47				After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF		0 V	0
(BR)	Ground	ECM relay power supply	Output	<ul> <li>Ignition switch ON</li> <li>For approximately 4 seconds after turning ignition switch from ON to OFF</li> </ul>		Battery voltage	Р
19				After passing approx after turning the ignit	kimately 4 seconds or more tion switch from ON to OFF	0 V	_
40 (R)	Ground	ECM relay power supply	Output	<ul> <li>Ignition switch ON</li> <li>For approximately tion switch from O</li> </ul>	<ul> <li>Ignition switch ON</li> <li>For approximately 4 seconds after turning ignition switch from ON to OFF</li> </ul>		_

Termii	nal No.	Description				Value									
(Wire +	color)	Signal name	Input/ Output	Condition		(Approx.)									
50	Crownd	Cooling for roles / E control	Output	Cooling fan opera-	OFF	Battery voltage									
(G)	Ground	Cooling ian relay-5 control	Output	tion	MID or HI	0 - 1.0 V									
51				After passing approx after turning the igni	ximately 4 seconds or more tion switch from ON to OFF	Battery voltage									
(L)	Ground	ECM relay control	Output	<ul> <li>Ignition switch ON</li> <li>For approximately tion switch from C</li> </ul>	I / 4 seconds after turning igni- NN to OFF	0 - 1.0 V									
52		Throttle control motor ro		After passing approx after turning the igni	ximately 2 seconds or more tion switch from ON to OFF	0 V									
(P)	Ground	lay power supply	Output	<ul> <li>Ignition switch ON</li> <li>For approximately 2 seconds after turning ignition switch from ON to OFF</li> </ul>		Battery voltage									
				Engine stopped		0 V									
55	55		-		A/C switch OFF	0 V									
(O)	Ground	A/C relay power supply	Output	Output	Output	Output	Output	Output	Calput	Juput	Culput	Supur	Engine running	A/C switch ON (A/C compressor is oper- ating)	Battery voltage
56	Ground	Ignition switch ON	Input	Ignition switch OFF	or ACC	0 V									
(SB)	Giouna		input	Ignition switch ON		Battery voltage									
57	Ground	Horn rolay control	Output	The horn is not activ	vated	Battery voltage									
(V)	Giouna	nonnielay control	Output	The horn is activated		0 V									
58	Ground	lanition relay power supply	Output	Ignition switch OFF	or ACC	0 V									
(LG)	Cround	ignition relay power supply	Output	Ignition switch ON		Battery voltage									
59	Ground	lanition relay power supply	Output	Ignition switch OFF or ACC		0 V									
(BR)	Cround	ignition relay power supply	Output	Ignition switch ON		Battery voltage									
60	Ground	Ignition relay power supply	Output	Ignition switch OFF	or ACC	0 V									
(SB)	Cround	.gon roley power supply	Carpat	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







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

#### < ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]



JCMWM2861G

INFOID:000000005575170

# CAN COMMUNICATION CONTROL

Fail-safe

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

If no CAN communication is available with ECM

# **EXL-240**

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

#### < ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Control part	Fail-safe in operation	/
Cooling fan	<ul> <li>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</li> <li>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</li> <li>Cooling fan relay-4 OFF</li> </ul>	E
A/C compressor	A/C relay OFF	_

#### If no CAN communication is available with BCM

Control part	Fail-safe in operation
Headlamp	<ul> <li>The headlamp low relay turns ON when the ignition switch is turned ON</li> <li>The headlamp low relay turns OFF when the ignition switch is turned OFF</li> <li>Headlamp high relay OFF</li> </ul>
<ul> <li>Parking lamps</li> <li>License plate lamps</li> <li>Tail lamps</li> <li>Illuminations</li> </ul>	<ul> <li>The tail lamp relay and the daytime running light relay* turn ON when the ignition switch is turned ON</li> <li>The tail lamp relay and the daytime running light relay* turn OFF when the ignition switch is turned OFF</li> </ul>
Front wiper	<ul> <li>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.</li> <li>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.</li> </ul>
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.

Dete	ection	IPDM E/P judgment		
Ignition switch ON signal	Ignition relay		Operation	M
ON	ON	Ignition relay normal	_	
OFF	OFF	Ignition relay normal	_	N
OFF	ON	Ignition relay ON stuck	Turn on the tail lamp relay and daytime run- ning light relay* for 10 minutes	IN
ON	OFF	Ignition relay OFF stuck	Detect DTC "B2099: IGN RELAY OFF"	0

#### NOTE:

\*: With daytime running light system

#### FRONT WIPER CONTROL

IPDM E/R detects the front wiper stop position with the front wiper stop position signal.

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

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 Ignition switch
 Front wiper switch
 Front wiper stop position signal

 ON
 OFF
 The front wiper stop position signal (stop position) cannot be input for 10 seconds.

 ON
 ON
 The front wiper stop position signal does not change for 10 seconds.

#### NOTE:

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

#### DTC Index

INFOID:000000005575171

CONSULT display	Fail-safe	Timin	g <sup>NOTE</sup>	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	<u>PCS-14</u>

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.

# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

# < SYMPTOM DIAGNOSIS > SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

# Symptom Table

#### INFOID:000000005254718

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#### **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 One side turned ON.		<ul> <li>Fuse</li> <li>Halogen bulb (HI)</li> <li>Harness between IPDM E/R and the headlamp high</li> <li>Daytime running light relay (with daytime running light system)</li> <li>IPDM E/R</li> </ul>		
	Both sides	Symptom diagnosis	<u> </u>	
Headlamp (HI) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (HI) A Refer to <u>EXL-245</u> .	RE NOT TURNED ON"	
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_	
High beam indicator lamp [The headlamp (HI) is turr	is not turned ON. ned ON.]	Combination meter	<ul> <li>Combination meter Data monitor "HI-BEAM IND"</li> <li>BCM (HEAD LAMP) Active test "HEADLAMP"</li> </ul>	
Headlamp (LO) is not turned ON.	One side	<ul> <li>Fuse</li> <li>Halogen bulb (LO)</li> <li>Harness between IPDM E/R and the headlamp low</li> <li>IPDM E/R</li> </ul>	Headlamp (LO) circuit Refer to <u>EXL-164</u> .	
	Both sides	Symptom diagnosis		
Headlamp (LO) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-246</u> .		
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_	
Daytime running light is not turned ON.		<ul> <li>Fuse</li> <li>Halogen bulb (HI)</li> <li>Harness between IPDM E/R and the daytime running light relay</li> <li>Daytime running light relay</li> <li>IPDM E/R</li> <li>BCM</li> <li>ECM</li> <li>Combination meter</li> </ul>	<ul> <li>Daytime running light relay circuit Refer to <u>EXL-168</u>.</li> <li>BCM (HEAD LAMP) Data monitor "ENGINE RUN- NING" and "PKB SW"</li> <li>BCM (HEAD LAMP) Active test "DAYTIME RUNNING LIGHT"</li> </ul>	
Front fog lamp is not turned ON.	One side	<ul> <li>Front fog lamp bulb</li> <li>Harness between IPDM E/R and the front fog lamp</li> <li>Front fog lamp</li> <li>IPDM E/R</li> </ul>	Front fog lamp circuit Refer to <u>EXL-166</u> .	
	Both sides	Symptom diagnosis		
Front fog lamp is not turned ON.		"BOTH SIDE FRONT FOG LAMPS Refer to <u>EXL-248</u> .	S ARE NOT TURNED ON"	

# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

#### < SYMPTOM DIAGNOSIS >

Symp	otom	Possible cause	Inspection item	
Parking lamp is not turned	ON.	<ul> <li>Parking lamp bulb</li> <li>Harness between IPDM E/R and the front combination lamp</li> <li>Front combination lamp</li> <li>IPDM E/R</li> </ul>	Parking lamp circuit Refer to <u>EXL-171</u> .	
Tail lamp is not turned ON.		<ul> <li>Tail lamp bulb</li> <li>Harness between IPDM E/R and the rear combination lamp</li> <li>Rear combination lamp</li> </ul>	Tail lamp circuit Refer to <u>EXL-177</u> .	
License plate lamp is not t	urned ON.	<ul> <li>License plate lamp bulb</li> <li>Harness between IPDM E/R and the license plate lamp</li> <li>License plate lamp</li> </ul>	License plate lamp circuit Refer to <u>EXL-179</u> .	
Tail lamp and the license p ON.	late lamp are not turned	<ul> <li>Fuse</li> <li>Harness between IPDM E/R and the rear combination lamp</li> <li>IPDM E/R</li> </ul>	License plate lamp circuit Refer to <u>EXL-179</u> .	
<ul> <li>Parking lamp, the tail lamp and the license plate lamp are not turned ON.</li> <li>Parking lamp, the tail lamp and the license plate lamp are not turned OFF.</li> <li>(Each illumination is turned ON/OFF.)</li> </ul>		Symptom diagnosis "PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to <u>EXL-247</u> .		
Tail lamp indicator is not turned ON. (Parking, tail lamps are turned ON.)		Combination meter	<ul> <li>Combination meter Data monitor "LIGHT IND"</li> <li>BCM (HEAD LAMP) Active test "TAIL LAMP"</li> </ul>	
Turn signal lamp does not	Indicator lamp is nor- mal. (Applicable side per- forms the high flasher activation.)	<ul> <li>Harness between BCM and each turn signal lamp</li> <li>Turn signal lamp bulb</li> </ul>	Turn signal circuit Refer to <u>EXL-173</u> .	
DIRK.	Indicator lamp is includ- ed.	<ul> <li>Combination switch</li> <li>Harness between the combination switch and BCM</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-41</u> .	
	One side	Combination meter	_	
Turn signal indicator lamp does not blink.	Both sides (Always)	<ul> <li>Turn signal indicator lamp signal</li> <li>BCM</li> <li>Combination meter</li> </ul>	<ul> <li>Combination meter Data monitor "TURN IND"</li> <li>BCM (FLASHER) Active test "FLASHER"</li> </ul>	
(Turn signal Indicator lamp is normal.)	Both sides (Only when activating hazard warning lamp with the ignition switch OFF)	<ul><li>Combination meter power supply and the ground circuit</li><li>Combination meter</li></ul>	Combination meter Power supply and the ground circuit Refer to <u>MWI-41</u> .	
<ul> <li>Hazard warning lamp do</li> <li>Hazard warning lamp co</li> <li>(Turn signal is normal.)</li> </ul>	bes not activate. Intinues activating.	<ul> <li>Hazard switch</li> <li>Harness between the hazard switch and BCM</li> <li>BCM</li> </ul>	Hazard switch Refer to <u>EXL-175</u> .	

#### BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON [HALOGEN TYPE] < SYMPTOM DIAGNOSIS > BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON А Description INFOID:000000005254719 Both side headlamps (HI) are not turned ON when setting to the lighting switch HI or PASS. В **Diagnosis** Procedure INFOID:000000005254720 1.COMBINATION SWITCH INSPECTION Check the combination switch. Refer to BCS-66, "Symptom Table". Is the combination switch normal? D YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT Ε 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. F Monitor item Condition Monitor status HI or PASS On Lighting switch HL HI REQ (2ND) Off LO Is the item status normal? Н

YES >> GO TO 3. NO >> Replace BCM. Refer to B

NO >> Replace BCM. Refer to <u>BCS-67, "Exploded View"</u>. **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.

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# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

#### < SYMPTOM DIAGNOSIS >

# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

#### Description

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

#### **Diagnosis** Procedure

**1.**CHECK COMBINATION SWITCH

Check the combination switch. Refer to <u>BCS-66, "Symptom Table"</u>.

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	Con	Monitor status	
	Lighting switch	2ND	On
	Lighting Switch	OFF	Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-67, "Exploded View"</u>.

 $\mathbf{3}$ .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.

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#### PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON [HALOGEN TYPE] < SYMPTOM DIAGNOSIS >

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

# Description

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

The parking, lice	ense plate, tail	lamps an	id each illi	imination are not turn	ied ON in any con	dition.	В
Diagnosis P	rocedure					INFOID:000000005254724	
1.CHECK FUS	ε						С
Check that the f	ollowing fuse i	s fusing.					
Unit		ocation	Fuse No.	Capacity			D
Parking lamp			#46	10 A			
<ul><li>Tail lamp</li><li>License plate la</li></ul>	IPI mp	OM E/R	#45	10 A			Е
Is the fuse fusin YES >> Rep NO >> GO 2.COMBINATION	<u>g?</u> bair the applica TO 2. ON SWITCH II	Ible circui	t. And the ON	n replace the fuse.			F
Check the comb	pination switch	. Refer to	BCS-66,	<u>'Symptom Table"</u> .			G
Is the combination YES >> GO NO >> Rep <b>3.</b> CHECK TAIL	ion switch norr TO 3. pair or replace LAMP RELA	n <u>al?</u> the malfu ( REQUE	nctioning ST SIGN/	part. AL INPUT			Η
CONSULT-III 1. Select "TAII 2. With operat	DATA MONIT L & CLR REQ ing the lighting	OR of IPDM switch, c	E/R data	nonitor item. nonitor status.			
Monitor item	Cor	ndition	N	onitor status			J
TAIL & CLR		1S <sup>-</sup>	Т	On			
REQ	Lighting switch	OF	F	Off			K
Is the item statu YES >> GO NO >> Rep 4.TAIL LAMP (	<u>is normal?</u> TO 4. blace BCM. Re CIRCUIT INSP	fer to <u>BC</u> ECTION	<u>S-67. "Ex</u> j	bloded View".			EXI
Check the tail la	mp circuit. Re	fer to <u>EXL</u>	177, "Co	mponent Function Ch	heck".		M
Is the tail lamp of YES >> Rep NO >> Rep	circuit normal? blace IPDM E/l bair or replace	R. the malfu	nctioning	part.			Ν
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INFOID:000000005254723

# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

#### < SYMPTOM DIAGNOSIS >

# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

#### Description

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

#### **Diagnosis Procedure**

1.CHECK FUSE

Check that the following fuse is fusing.

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

#### Is the fuse fusing?

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

NO >> GO TO 2.

2.combination switch inspection

Check the combination switch. Refer to <u>BCS-66, "Symptom Table"</u>.

Is the combination switch normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning part.

3.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

#### ONSULT-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	
	Front fog lamp switch	ON	On
TRIOGREQ	(With lighting switch 1ST)	OFF	Off

Is the item status normal?

YES >> GO TO 4.

NO >> Replace BCM. Refer to <u>BCS-67, "Exploded View"</u>.

**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.

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# < PRECAUTION > PRECAUTION PRECAUTIONS FOR USA AND CANADA

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

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

#### WARNING:

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

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

#### WARNING:

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

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

#### WARNING:

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

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

#### WARNING:

• When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s)

#### EXL-249

with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.

• When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

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# < PERIODIC MAINTENANCE > PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

# Description

#### PREPARATION BEFORE ADJUSTING

#### NOTE:

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

Before performing aiming adjustment, check the following.

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



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

C: Vehicle center

# HEADLAMP AIMING ADJUSTMENT

#### < PERIODIC MAINTENANCE >

[HALOGEN TYPE]

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

# Aiming Adjustment Procedure

INFOID:000000005254730

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

Low beam distribution on the screen



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

unit: mm (in)

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




< PERIODIC MAINTENANCE >	[HALO

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

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## FRONT FOG LAMP AIMING ADJUSTMENT

## Description

## 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.

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

• Ride alone on the driver seat.

#### AIMING ADJUSTMENT SCREW

• Turn the aiming adjusting screw for adjustment.

A: UP

B: DOWN

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

#### NOTE:

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



INFOID:000000005254732

## Aiming Adjustment Procedure

#### 1. Place the screen.

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



### FRONT FOG LAMP AIMING ADJUSTMENT

#### < PERIODIC MAINTENANCE >

[HALOGEN TYPE]

А	: Cutoff line	А
В	: High illuminance area	
н	: Horizontal center line of front fog lamp	
V	: Vertical center line of front fog lamp	В
Х	: Cutoff line height	
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		D
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REMOVAL AND INSTALLATION FRONT COMBINATION LAMP

**Exploded View** 

#### REMOVAL

INFOID:000000005254733

[HALOGEN TYPE]



1. Front combination lamp

### DISASSEMBLY



- 1. Front turn signal/parking (side marker) 2. lamp bulb
- Front turn signal/parking (side marker) 3. Halogen bulb (LO) lamp bulb socket

- 4. Halogen bulb (HI)
- 5. Headlamp housing assembly

## Removal and Installation

# REMOVAL CAUTION:

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

1. Remove front bumper fascia. Refer to <u>EXT-13. "Exploded View"</u>.

## FRONT COMBINATION LAMP

FRONT COMBINATION LAWF		
< REMOVAL AND INSTALLATION >	[HALOGEN TYPE]	
2. Remove the headlamp mounting bolts and nuts.		
3. Remove the mounting stud of the headlamp outside from front fender.		А
4. Pull out the headlamp assembly forward the vehicle.		
5. Disconnect the connector before removing the headlamp assembly.		B
INSTALLATION		D
Install in the reverse order of removal.		
After installation, perform aiming adjustment. Refer to <u>EXL-251, "Description"</u> .		С
Replacement	INFOID:000000005254735	
		D
Disconnect the battery negative terminal or the fuse.		
• After installing the bulb, install the resin cap and the bulb socket securely for wa	tertightness.	
HEADLAMP BULB (LO)		
1. Remove the air duct <sup>*</sup> . Keep a service area.		
*When replace a left.		F
2. Rotate the bulb counterclockwise and unlock it.		
3. Disconnect the headlamp bulb connector.		0
4. Remove the bulb from the headlamp housing assembly.		G
HEADLAMP BULB (HI)		
<ol> <li>Remove the air duct<sup>*</sup>. Keep a service area.</li> <li>*When replace a left.</li> </ol>		Н
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
1. Rotate the bulb socket counterclockwise and unlock it.		0
2. Remove the bulb from the bulb socket.		
Disassembly and Assembly	INFOID:000000005254736	Κ
DISASSEMBLY		
1. Rotate the headlamp bulb (LO) counterclockwise and unlock it		EXL
2. Disconnect the headlamp bulb (LO) connector. And remove the bulb from the head bly.	lamp housing assem-	р. 4
3. Rotate the headlamp bulb (HI) counterclockwise and unlock it		IVI
4. Disconnect the headlamp bulb (HI) connector. And remove the bulb from the head bly.	lamp housing assem-	NI
5. Rotate the front turn signal/parking (side marker) lamp bulb socket counterclockwise	e and unlock it.	IN
6. Remove the bulb from the front turn signal/parking (side marker) lamp bulb socket.		
ASSEMBLY		0
Assemble in the reverse order of disassembly.		
		D

## FRONT FOG LAMP **Exploded View**

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1. Front fog lamp bracket

## Removal and Installation

#### **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.
- Remove the screw. And remove the front fog lamp bracket. 4.

#### INSTALLATION

Installation is the reverse order of removal.

NOTE:

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

2.

#### Replacement

#### 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.



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## LIGHTING & TURN SIGNAL SWITCH

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## < REMOVAL AND INSTALLATION >

## LIGHTING & TURN SIGNAL SWITCH

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## **Exploded View**

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2. While pressing pawls, pull the lighting & turn signal switch. And disconnect from the switch base.

Remove steering column cover. Refer to IP-12, "Exploded View".

### INSTALLATION

A. Pawl

REMOVAL

1.

Installation is the reverse order of removal.

1. Lighting & turn signal switch

**Removal and Installation** 

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## HAZARD SWITCH

## < REMOVAL AND INSTALLATION > HAZARD SWITCH

## Exploded View

INFOID:000000005254742



- 1. Hazard switch
- A. Pawls

## Removal and Installation

#### 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**

## < REMOVAL AND INSTALLATION >

## REAR COMBINATION LAMP

## **Exploded View**

### REMOVAL

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1. Seal packing 2. Rear combination lamp

Refer to <u>GI-4, "Components"</u> 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

#### 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.

## EXL-261

#### 2010 Rogue

## **REAR COMBINATION LAMP**

#### < REMOVAL AND INSTALLATION >

### [HALOGEN TYPE]

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- 3. Remove rear combination lamp mounting bolts (A).
- 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

**CAUTION:** 

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

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

- 1. Remove rear combination lamp. Refer to EXL-261, "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-261, "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**

## < REMOVAL AND INSTALLATION >

## HIGH-MOUNTED STOP LAMP

## Exploded View

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#### 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.

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# **BACK-UP LAMP**

## **Exploded View**



Seal packing 1. 2. Back-up lamp Refer to <u>GI-4, "Components"</u> for symbols in the figure.

## Removal and Installation

#### **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

#### **CAUTION:**

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

#### **BACK-UP LAMP BULB**

- 1. Remove the back-up lamp. Refer to EXL-264, "Exploded View".
- 2. Disconnect the connector, rotate the bulb socket (1) counterclockwise and unlock it.
- 3. Remove the bulb (2) from the socket.



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## LICENSE PLATE LAMP

## **Exploded View**

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## Removal and Installation

#### **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

Revision: 2009 October

#### 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".

### EXL-265

### 2010 Rogue

## LICENSE PLATE LAMP

### < REMOVAL AND INSTALLATION >

#### 2. Turn the bulb socket (1) counterclockwise and unlock it.

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

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[HALOGEN TYPE]

### SERVICE DATA AND SPECIFICATIONS (SDS)

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

## **Bulb Specifications**

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	Item	Туре	Wattage (W)
Front combination lamp	Headlamp (HI)	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	_

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