SECTION EXE

CONTENTS

XENON TYPE

BASIC INSPECTION7
DIAGNOSIS AND REPAIR WORK FLOW
INSPECTION AND ADJUSTMENT10
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT)
scription
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR)
LEVELIZER ADJUSTMENT
SYSTEM DESCRIPTION12
HEADLAMP SYSTEM12System Diagram12System Description12Component Parts Location13Component Description14
AUTO LIGHT SYSTEM

Component Parts Location	
DAYTIME RUNNING LIGHT SYSTEM 18 System Diagram 18 System Description 18 Component Parts Location 19	3 3 9
)
ACTIVE ADAPTIVE FRONT-LIGHTING SYS- TEM21	l i
System Diagram 21 System Description 21 Component Parts Location 23 Component Description 23	 }
FRONT FOG LAMP SYSTEM25	5
System Diagram25System Description25Component Parts Location26Component Description26	5 K
TURN SIGNAL AND HAZARD WARNING	
LAMP SYSTEM 27 System Diagram 27 System Description 27 Component Parts Location 28 Component Description 28 Component Description 28	7 M 7 3
PARKING, LICENSE PLATE AND TAIL	
LAMPS SYSTEM 29 System Diagram 29 System Description 29 Component Parts Location 30 Component Description 30)))
EXTERIOR LAMP BATTERY SAVER SYS-	
TEM 31 System Diagram 31 System Description 31 Component Parts Location 32 Component Description 32	 2



D

Е

COMMON ITEM 33 COMMON ITEM : CONSULT Function (BCM - COMMON ITEM) 33 HEADLAMP 34 HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (Xenon Type) 34 FLASHER 36 FLASHER : CONSULT Function (BCM - FLASH- ER) (Xenon Type) 36 DIAGNOSIS SYSTEM (IPDM E/R) 38 Diagnosis Description 38 CONSULT Function (IPDM E/R) 40 DIAGNOSIS SYSTEM (AFS) 43 CONSULT Function (ADAPTIVE LIGHT) 43 DTC/CIRCUIT DIAGNOSIS 45 B2503, B2504 SWIVEL ACTUATOR 45 DTC Logic 45
HEADLAMP 34 HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (Xenon Type) 34 FLASHER 36 FLASHER : CONSULT Function (BCM - FLASH- ER) (Xenon Type) 36 DIAGNOSIS SYSTEM (IPDM E/R) 38 Diagnosis Description 38 CONSULT Function (IPDM E/R) 40 DIAGNOSIS SYSTEM (AFS) 43 CONSULT Function (IPDM E/R) 43 DTC/CIRCUIT DIAGNOSIS 45 B2503, B2504 SWIVEL ACTUATOR 45 DTC Logic 45
HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (Xenon Type) 34 FLASHER 36 FLASHER : CONSULT Function (BCM - FLASH- ER) (Xenon Type) 36 DIAGNOSIS SYSTEM (IPDM E/R) 38 Diagnosis Description 38 CONSULT Function (IPDM E/R) 40 DIAGNOSIS SYSTEM (AFS) 40 DIAGNOSIS SYSTEM (AFS) 43 CONSULT Function (ADAPTIVE LIGHT) 43 DTC/CIRCUIT DIAGNOSIS 45 B2503, B2504 SWIVEL ACTUATOR 45 DTC Logic 45
FLASHER : CONSULT Function (BCM - FLASH- ER) (Xenon Type) 36 DIAGNOSIS SYSTEM (IPDM E/R) 38 Diagnosis Description 38 CONSULT Function (IPDM E/R) 40 DIAGNOSIS SYSTEM (AFS) 43 CONSULT Function (ADAPTIVE LIGHT) 43 DTC/CIRCUIT DIAGNOSIS 45 B2503, B2504 SWIVEL ACTUATOR 45 DTC Logic 45
FLASHER : CONSULT Function (BCM - FLASH- ER) (Xenon Type) 36 DIAGNOSIS SYSTEM (IPDM E/R) 38 Diagnosis Description 38 CONSULT Function (IPDM E/R) 40 DIAGNOSIS SYSTEM (AFS) 43 CONSULT Function (ADAPTIVE LIGHT) 43 DTC/CIRCUIT DIAGNOSIS 45 B2503, B2504 SWIVEL ACTUATOR 45 DTC Logic 45
Diagnosis Description 38 CONSULT Function (IPDM E/R) 40 DIAGNOSIS SYSTEM (AFS) 43 CONSULT Function (ADAPTIVE LIGHT) 43 DTC/CIRCUIT DIAGNOSIS 45 B2503, B2504 SWIVEL ACTUATOR 45 DEScription 45 DTC Logic 45
CONSULT Function (IPDM E/R) 40 DIAGNOSIS SYSTEM (AFS) 43 CONSULT Function (ADAPTIVE LIGHT) 43 DTC/CIRCUIT DIAGNOSIS 45 B2503, B2504 SWIVEL ACTUATOR 45 DEscription 45 DTC Logic 45
DIAGNOSIS SYSTEM (AFS) 43 CONSULT Function (ADAPTIVE LIGHT) 43 DTC/CIRCUIT DIAGNOSIS 45 B2503, B2504 SWIVEL ACTUATOR 45 DEscription 45 DTC Logic 45
CONSULT Function (ADAPTIVE LIGHT)
DTC/CIRCUIT DIAGNOSIS 45 B2503, B2504 SWIVEL ACTUATOR 45 Description 45 DTC Logic 45
B2503, B2504 SWIVEL ACTUATOR
Description
DTC Logic 45
Diagnosis Procedure 46
Component Inspection 49
B2514 HEIGHT SENSOR UNUSUAL [RR] 51
Description51
DTC Logic
Diagnosis Procedure
B2516 SHIFT SIGNAL [P, R]
Description
DTC Logic
Diagnosis Procedure54
B2517 VEHICLE SPEED SIGNAL 55
Description
DTC Logic
5
B2519 LEVELIZER CALIBRATION
Description
Diagnosis Procedure
B2521 ECU CIRCUIT
Description
DTC Logic 57
DIC Logic
Diagnosis Procedure
Diagnosis Procedure
Diagnosis Procedure
Diagnosis Procedure

33	Description
33	DTC Logic61 Diagnosis Procedure61
33	U1000 CAN COMM CIRCUIT 62
34	Description
34	Diagnosis Procedure
36	U1010 CONTROL UNIT (CAN) 63 DTC Logic
36	Diagnosis Procedure
38	POWER SUPPLY AND GROUND CIRCUIT 64
38 40	BCM (BODY CONTROL MODULE)
43 43	IPDM E/R (INTELLIGENT POWER DISTRIBU-
45 45	TION MODULE ENGINE ROOM)
45 45	AFS CONTROL UNIT65
46 49	AFS CONTROL UNIT : Diagnosis Procedure 65
51 51	HEADLAMP (HI) CIRCUIT
51 51 53 54	HEADLAMP (LO) CIRCUIT69Description69Component Function Check69Diagnosis Procedure69
54 54 54 55	XENON HEADLAMP71Description71Diagnosis Procedure71
55 55 55	HEADLAMP LEVELIZER CIRCUIT72Description72Component Function Check72Diagnosis Procedure72
56 56 56 56	FRONT FOG LAMP CIRCUIT 74 Component Function Check 74 Diagnosis Procedure 74
57 57 57	PARKING LAMP CIRCUIT 76 Component Function Check 76 Diagnosis Procedure 76
57 60 60 60	TURN SIGNAL LAMP CIRCUIT78Description78Component Function Check78Diagnosis Procedure78
60 60	OPTICAL SENSOR 80 Description 80 Component Function Check 80

Diagnosis Procedure80
HAZARD SWITCH
TAIL LAMP CIRCUIT85Component Function Check85Diagnosis Procedure85
LICENSE PLATE LAMP CIRCUIT
HEADLAMP SYSTEM
AUTO LIGHT SYSTEM93 Wiring Diagram - AUTO LIGHT SYSTEM93
DAYTIME RUNNING LIGHT SYSTEM
FRONT FOG LAMP SYSTEM104 Wiring Diagram - FRONT FOG LAMP104
TURN SIGNAL AND HAZARD WARNINGLAMP SYSTEM108Wiring Diagram - TURN AND HAZARD WARN- ING LAMPS
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM
STOP LAMP
BACK-UP LAMP
ECU DIAGNOSIS INFORMATION129
BCM (BODY CONTROL MODULE)129Reference Value129Wiring Diagram - BCM -153Fail-safe167DTC Inspection Priority Chart168DTC Index169
IPDM E/R (INTELLIGENT POWER DISTRI- BUTION MODULE ENGINE ROOM)172Reference Value172Wiring Diagram - IPDM E/R -179Fail-safe182DTC Index184
AFS CONTROL UNIT185

Fail-safe	A
SYMPTOM DIAGNOSIS198	В
EXTERIOR LIGHTING SYSTEM SYMPTOMS. 198 Symptom Table	
NORMAL OPERATING CONDITION	С
BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON	D
BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON	E
PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON	G
BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON	1
PRECAUTION 205	J
PRECAUTIONS 205Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER"205Precaution for Procedure without Cowl Top Cover. 205205Precautions For Xenon Headlamp Service205Precautions for Removing Battery Terminal206	K
PERIODIC MAINTENANCE	M
HEADLAMP AIMING ADJUSTMENT 207 Description 207 Aiming Adjustment Procedure 208	N
FRONT FOG LAMP AIMING ADJUSTMENT . 209 Description 209 Aiming Adjustment Procedure 209	0
REMOVAL AND INSTALLATION	
FRONT COMBINATION LAMP211Exploded View211Removal and Installation212Replacement212Disassembly and Assembly213FRONT FOG LAMP214	Ρ
Exploded View	

Removal and Installation214 Replacement214	
OPTICAL SENSOR 216	
Exploded View	
Removal and Installation216	
LIGHTING AND TURN SIGNAL SWITCH 217 Exploded View	
HAZARD SWITCH	
AFS CONTROL UNIT 219	,
Exploded View	
Removal and Installation219)
STEERING ANGLE SENSOR 220)
Removal and Installation220	
HEIGHT SENSOR 221	
Exploded View221	
Removal and Installation221	I
REAR COMBINATION LAMP 222	2
Exploded View222	
Removal and Installation222	2
REAR TURN SIGNAL LAMP 223	3
Exploded View223	
Removal and Installation	
Replacement223	3
HIGH-MOUNTED STOP LAMP 224	
Exploded View224	
Removal and Installation224	ŀ
BACK-UP LAMP 225	5
Exploded View	
Removal and Installation225	5
Replacement225	5
LICENSE PLATE LAMP 226	3
Exploded View	
Removal and Installation	
Replacement226	
SERVICE DATA AND SPECIFICATIONS	
(SDS)227	7
SERVICE DATA AND SPECIFICATIONS	
(SDS) 227	7
Bulb Specifications227	
HALOGEN TYPE	
BASIC INSPECTION228	
DIAGNOSIS AND REPAIR WORK FLOW 228 Work Flow	
SYSTEM DESCRIPTION	1

HEADLAMP SYSTEM	
	231
System Diagram	
System Description	
Component Parts Location	
Component Description	233
AUTO LIGHT SYSTEM	
System Diagram	
System Description	234
Component Parts Location	235
Component Description	236
DAYTIME RUNNING LIGHT SYSTEM	237
System Diagram	237
System Description	237
Component Parts Location	
Component Description	
	200
FRONT FOG LAMP SYSTEM	240
System Diagram	
System Description	
Component Parts Location	
•	
Component Description	241
TURN SIGNAL AND HAZARD WARNING	
	~ ~ ~
LAMP SYSTEM	
System Diagram	
System Description	
Component Parts Location	
Component Description	243
PARKING, LICENSE PLATE AND TAIL	
LAMPS SYSTEM	244
System Diagram	244
System Description	
Component Parts Location	
Component Description	
	210
EXTERIOR LAMP BATTERY SAVER SYS-	
ТЕМ	246
System Diagram	
System Description	
Company Dorto Lagotion	
Component Parts Location	
Component Parts Location Component Description	
Component Description	247
	247
Component Description	247 248
Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM	247 248
Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT Function (BCM -	247 248 248
Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM	247 248 248
Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)	247 248 248 248
Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT Function (BCM - COMMON ITEM) HEADLAMP	247 248 248 248
Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT Function (BCM - COMMON ITEM) HEADLAMP HEADLAMP : CONSULT Function (BCM - HEAD	247 248 248 248 248 249
Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT Function (BCM - COMMON ITEM) HEADLAMP	247 248 248 248 248 249
Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT Function (BCM - COMMON ITEM) HEADLAMP HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (Halogen Type)	247 248 248 248 248 249 249
Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT Function (BCM - COMMON ITEM) HEADLAMP HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (Halogen Type) FLASHER	247 248 248 248 248 249 249
Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT Function (BCM - COMMON ITEM) HEADLAMP HEADLAMP HEADLAMP (Halogen Type) FLASHER FLASHER : CONSULT Function (BCM - FLASH-	247 248 248 248 249 249 251
Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT Function (BCM - COMMON ITEM) HEADLAMP HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (Halogen Type) FLASHER	247 248 248 248 249 249 251
Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT Function (BCM - COMMON ITEM) HEADLAMP HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (Halogen Type) FLASHER FLASHER : CONSULT Function (BCM - FLASH- ER) (Halogen Type)	247 248 248 248 249 249 251 251
Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT Function (BCM - COMMON ITEM) HEADLAMP HEADLAMP HEADLAMP (Halogen Type) FLASHER FLASHER : CONSULT Function (BCM - FLASH-	247 248 248 248 248 249 249 251 251 251

CONSULT Function (IPDM E/R)	255
DTC/CIRCUIT DIAGNOSIS	258
POWER SUPPLY AND GROUND CIRCUIT	258
BCM (BODY CONTROL MODULE) BCM (BODY CONTROL MODULE) : Diagnosis Procedure	
IPDM E/R (INTELLIGENT POWER DISTRIBU- TION MODULE ENGINE ROOM) IPDM E/R (INTELLIGENT POWER DISTRIBU- TION MODULE ENGINE ROOM) : Diagnosis Pro- cedure	
HEADLAMP (HI) CIRCUIT Component Function Check Diagnosis Procedure	260
HEADLAMP (LO) CIRCUIT Component Function Check Diagnosis Procedure	262
FRONT FOG LAMP CIRCUIT Component Function Check Diagnosis Procedure	264
PARKING LAMP CIRCUIT Component Function Check Diagnosis Procedure	266
TURN SIGNAL LAMP CIRCUIT Description Component Function Check Diagnosis Procedure	268 268
OPTICAL SENSOR Description Component Function Check Diagnosis Procedure	270 270
HAZARD SWITCH Description Component Function Check Diagnosis Procedure	273 273
TAIL LAMP CIRCUIT Component Function Check Diagnosis Procedure	275
LICENSE PLATE LAMP CIRCUIT Component Function Check Diagnosis Procedure	277
HEADLAMP SYSTEM Wiring Diagram - HEADLAMP	
AUTO LIGHT SYSTEM Wiring Diagram - AUTO LIGHT SYSTEM	
DAYTIME RUNNING LIGHT SYSTEM Wiring Diagram - DAYTIME LIGHT SYSTEM	

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)

EXI
М
IVI

Ν

Ρ

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В

D

Ε

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 TURNED ON
 378

 Description
 378

 Diagnosis Procedure
 378

 TURNED ON
 379

 Description
 379

 Diagnosis Procedure
 379

BOTH SIDE HEADLAMPS (HI) ARE NOT

BOTH SIDE HEADLAMPS (LO) ARE NOT

PARKING, LICENSE PLATE AND TAIL

TURN SIGNAL AND HAZARD WARNING

PARKING, LICENSE PLATE AND TAIL

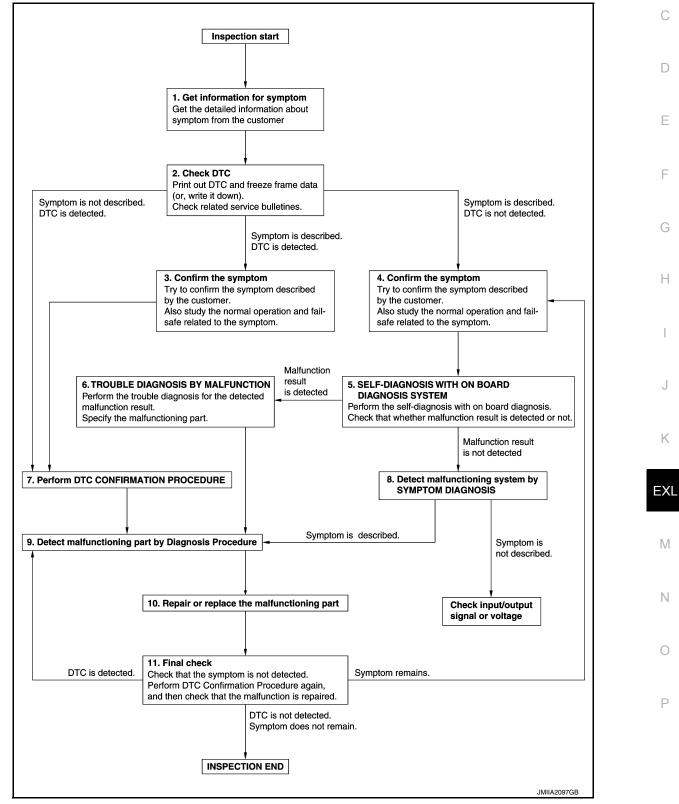
Diagnosis Procedure	1
PRECAUTION	2
PRECAUTIONS	
SIONER"	2
Precautions for Removing Battery Terminal	
PERIODIC MAINTENANCE	4
HEADLAMP AIMING ADJUSTMENT	4
Description	
Aiming Adjustment Procedure	5
FRONT FOG LAMP AIMING ADJUSTMENT . 386 Description	
Aiming Adjustment Procedure	
REMOVAL AND INSTALLATION	8
FRONT COMBINATION LAMP 388	8
Exploded View	
Removal and Installation	
Replacement	
FRONT FOG LAMP 391 Exploded View	
Removal and Installation	
Replacement	
OPTICAL SENSOR 393	3
Exploded View	
Removal and Installation	3

LIGHTING AND TURN SIGNAL SWITCH 394 Exploded View
HAZARD SWITCH
REAR COMBINATION LAMP
REAR TURN SIGNAL LAMP
HIGH-MOUNTED STOP LAMP
BACK-UP LAMP399Exploded View399Removal and Installation399Replacement399
LICENSE PLATE LAMP400Exploded View400Removal and Installation400Replacement400
SERVICE DATA AND SPECIFICATIONS (SDS)401
SERVICE DATA AND SPECIFICATIONS (SDS)

BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

OVERALL SEQUENCE



Revision: February 2015

INFOID:000000010599014

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< BASIC INSPECTION >

1.GET INFORMATION FOR SYMPTOM

- 1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).
- 2. Check operation condition of the function that is malfunctioning.

>> GO TO 2.

2.CHECK DTC

- 1. Check DTC.
- 2. Perform the following procedure if DTC is detected.
- Record DTC and freeze frame data (Print them out using CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- 3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3. Symptom is described, DTC is not detected>>GO TO 4. Symptom is not described, DTC is detected>>GO TO 7.

3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Also study the normal operation and fail-safe related to the symptom. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 7.

4.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Also study the normal operation and fail-safe related to the symptom. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

5.self-diagnosis with on board diagnosis system

Perform the self-diagnosis with on board diagnosis. Check that whether malfunction result is detected or not. <u>Is malfunction result detected?</u>

YES >> GO TO 6. NO >> GO TO 8.

6. TROUBLE DIAGNOSIS BY MALFUNCTION

Perform the trouble diagnosis for the detected malfunction result. Specify the malfunctioning part.

>> GO TO 9.

7.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to DTC INSPECTION PRIORITY CHART, and determine trouble diagnosis order.

NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.

If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR-MATION PROCEDURE.

Is DTC detected?

Revision: February 2015

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION > [XENON TYPE] YES >> GO TO 9. NO >> Check according to GI-45, "Intermittent Incident". 8.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in ster 4, and determine the trouble diagnosis order based on possible causes and symptom.
NO >> Check according to <u>GI-45, "Intermittent Incident"</u> . 8. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in ste
8.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in ste
Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in ste
Is the symptom described?
 YES >> GO TO 9. NO >> Monitor input data from related sensors or check voltage of related module terminals using CON SULT.
9. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE
Inspect according to Diagnosis Procedure of the system.
Is malfunctioning part detected?
YES >> GO TO 10.
NO >> Check according to <u>GI-45, "Intermittent Incident"</u> .
10. REPAIR OR REPLACE THE MALFUNCTIONING PART
1. Repair or replace the malfunctioning part.
2. Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replace
ment. 3. Check DTC. If DTC is detected, erase it.
>> GO TO 11.
11.FINAL CHECK
When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the
malfunction is repaired securely.
When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, and check that the
symptom is not detected.
Is DTC detected and does symptom remain?
YES-1 >> DTC is detected: GO TO 9. YES-2 >> Symptom remains: GO TO 4.
NO >> Before returning the vehicle to the customer, always erase DTC.

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INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT)

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT) : Description INFOID:000000010599015

Perform levelizer adjustment when replacing the AFS control unit. (For details, refer to EXL-10, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT) : Special Repair Requirement".)

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT) : Special Repair Requirement INFOID:000000010599016

1.LEVELIZER ADJUSTMENT

Perform levelizer adjustment. Refer to EXL-10, "LEVELIZER ADJUSTMENT : Description".

>> WORK END

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SEN-SOR)

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR) : Description INFOID:000000010599017

Perform levelizer adjustment when replacing the height sensor. (For details, refer to EXL-10, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR) : Special Repair Requirement".)

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR) : Special Repair Requirement INFOID:000000010599018

1.LEVELIZER ADJUSTMENT

Perform levelizer adjustment. Refer to EXL-10, "LEVELIZER ADJUSTMENT : Description".

>> WORK END LEVELIZER ADJUSTMENT

LEVELIZER ADJUSTMENT : Description

Perform levelizer adjustment when the following operation is performed. (For details, refer to EXL-10, "LEVEL-IZER ADJUSTMENT : Special Repair Requirement".)

Replacing AFS control unit

Removing, installing or replacing height sensor

Adjusting, removing, installing or replacing suspension components

LEVELIZER ADJUSTMENT : Special Repair Requirement

1.CHECK VEHICLE CONDITION

- 1. Park the vehicle in the straight-forward position.
- Unload the vehicle (no passenger aboard). 2.

>> GO TO 2.

2.LEVELIZER ADJUSTMENT

(P)CONSULT WORK SUPPORT

1. Select "LEVELIZER ADJUSTMENT" of ADAPTIVE LIGHT work support item.

2. Select "START".

EXL-10

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INFOID:000000010599020

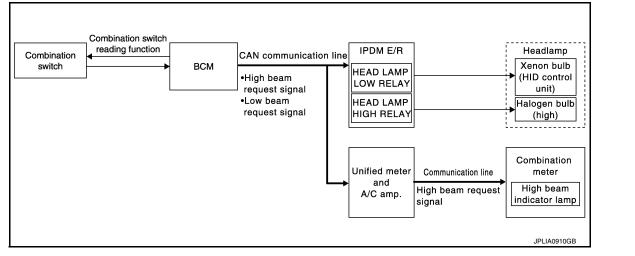
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< BASIC INSPECTION >	[/=•=]
3. When "ADJUSTMENT IS COMPLETED", select "END".	
CAUTION: If "CAN NOT BE TESTED" is indicated, AFS control unit de changes. The levelizer adjustment is cancelled. In this case, vent the vehicle from the height change. Perform the levelizer	turn the ignition switch OFF to pre-
Is the levelizer adjustment completed?	
YES >> GO TO 3.	
NO >> Perform the levelizer adjustment again.	
3. SELF-DIAGNOSIS RESULT CHECK	
Perform self-diagnosis with CONSULT. Check that any DTC is not dete	cted.
Is any DTC detected?	
YES >> GO TO 2. NO >> WORK END	

INFOID:000000010599021

SYSTEM DESCRIPTION HEADLAMP SYSTEM

System Diagram



System Description

INFOID:000000010599022

OUTLINE

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

HEADLAMP (LO) OPERATION

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

Headlamp (LO) ON condition

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

HEADLAMP (HI) OPERATION

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

Headlamp (HI) ON condition

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

HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

[XENON TYPE]

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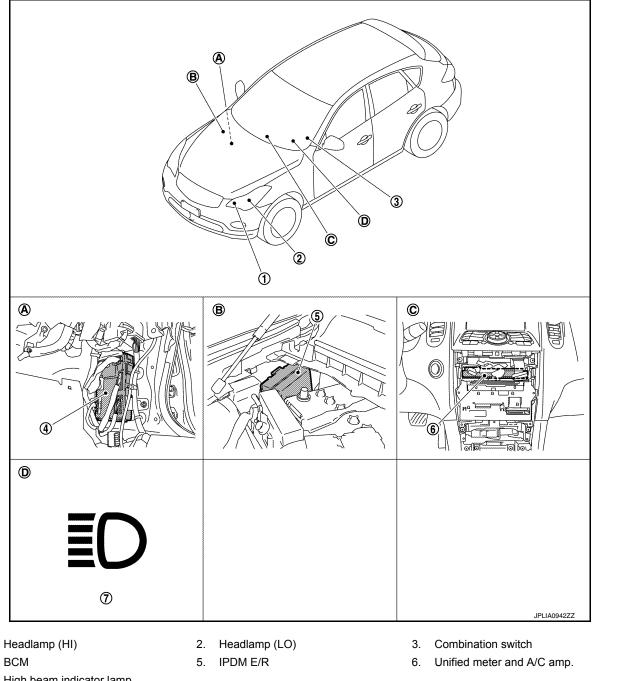
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7. High beam indicator lamp

1.

4.

- A. Dash side lower (Passenger side)
- D. On the combination meter
- B. Engine room dash panel (RH)
- C. Behind the cluster lid C

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HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Description

INFOID:000000010599024

[XENON TYPE]

Part	Description
BCM	 Detects each switch condition by the combination switch reading function. Judges that the headlamp is turned ON according to the vehicle condition. Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication). Requests the high beam indicator lamp ON to the combination meter [with CAN communication (through unified meter and A/C amp.)].
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-11, "System Diagram".
Combination meter (High beam indicator lamp)	Turns the high beam indicator lamp ON according to the request from BCM [with CAN communication (through unified meter and A/C amp.)].
Front combination lamp assembly• HID control unit • Xenon bulb	Refer to EXL-71, "Description".

AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

AUTO LIGHT SYSTEM

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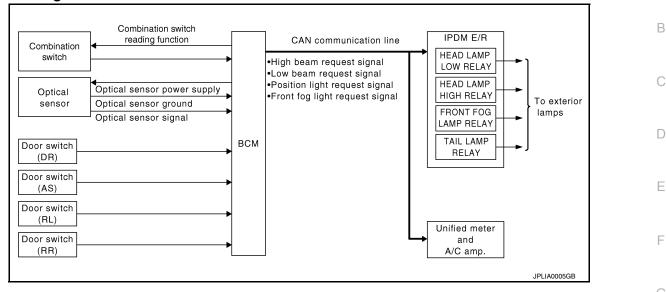
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System Diagram



System Description

OUTLINE

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

Control by BCM

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

Control by IPDM E/R

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

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

AUTO LIGHT FUNCTION

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

NOTE:

ON/OFF timing differs based on the sensitivity from the setting. The setting can be set by CONSULT. Refer to <u>EXL-34</u>, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (Xenon Type)".

DELAY TIMER FUNCTION

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

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

AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

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

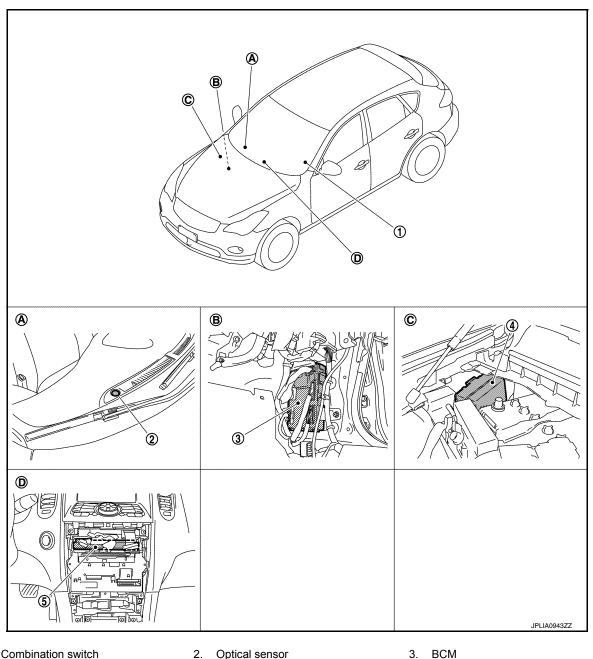
*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to EXL-34, "HEAD-LAMP : CONSULT Function (BCM - HEAD LAMP) (Xenon Type)".

NOTE:

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

Component Parts Location

INFOID:000000010599027



- 1. Combination switch
- IPDM E/R 4.
- Instrument upper panel (RH) Α.
- D. Behind the cluster lid C
- Optical sensor 2.

5.

- Unified meter and A/C amp.
- B. Dash side lower (Passenger side)
- C. Engine room dash panel (RH)

AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

Component Description

INFOID:000000010599028

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[XENON TYPE]

Part	Description
BCM	 Judges each switch condition by the combination switch reading function. Judges the outside brightness from the optical sensor signal. Judges the OFF timing according to the vehicle condition. Judges the ON/OFF status of the exterior lamp and each illumination according to the outside brightness and the vehicle condition. Requests ON/OFF of each relay to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-11, "System Diagram"</u> .
Optical sensor	Refer to EXL-80, "Description".

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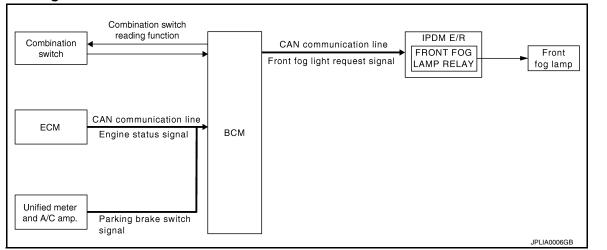
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DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

DAYTIME RUNNING LIGHT SYSTEM

System Diagram



System Description

INFOID:000000010599030

OUTLINE

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

DAYTIME RUNNING LIGHT OPERATION

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

Daytime running light ON condition

- While the engine running with the parking brake released

Daytime running light OFF condition

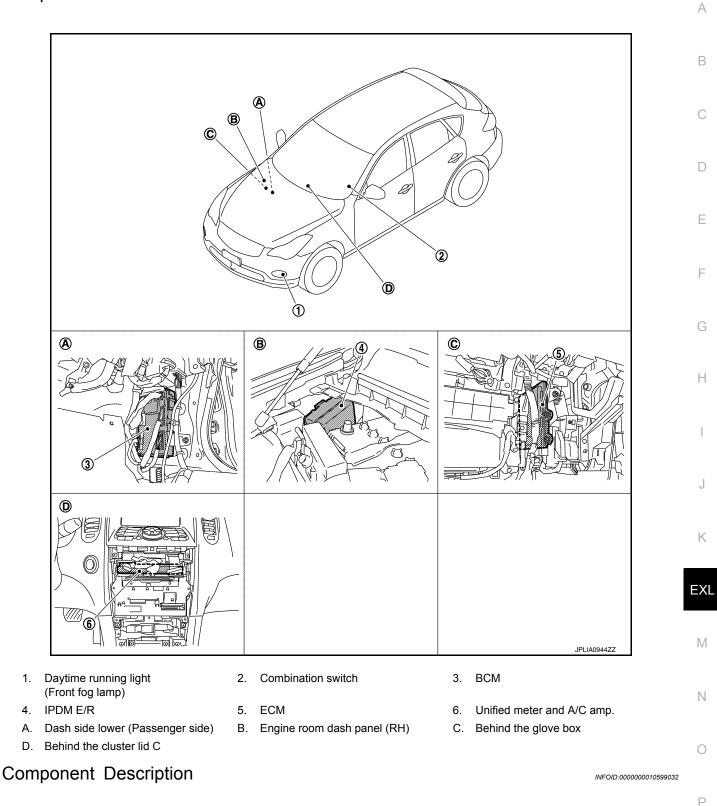
- Engine stopped
- Headlamp ON (Passing included)
- IPDM E/R turns the integrated front fog lamp relay ON and turns the front fog lamp ON according to the front fog light request signal.

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

[XENON TYPE]



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

EXL-19

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

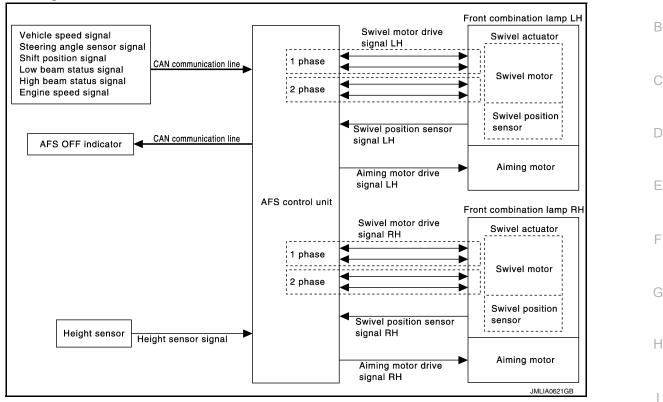
[XENON TYPE]

Part	Description
Combination switch (Lighting & turn signal switch)	Refer to BCS-11, "System Diagram".
ECM	Transmits the engine condition signal to BCM with CAN communication.
Unified meter and A/C amp.	Transmits the parking brake switch signal to BCM with CAN communication.

< SYSTEM DESCRIPTION >

ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

System Diagram



System Description

OUTLINE

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

AFS (ADAPTIVE FRONT-LIGHTING SYSTEM)

AFS Control Description

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

AFS operation condition

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

Swivel Actuator Initialization

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

Revision: February 2015

EXL-21

[XENON TYPE

INFOID:000000010599033

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< SYSTEM DESCRIPTION >

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

Swivel Operation

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

The steering angle differs between right turn and left turn.

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

AFS OFF Indicator Lamp

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

NOTE:

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

HEADLAMP AUTO AIMING

Headlamp Auto Aiming Control Description

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

Headlamp auto aiming operation condition

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

Headlamp Auto Aiming Operation

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

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

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

Revision: February 2015

EXL-22

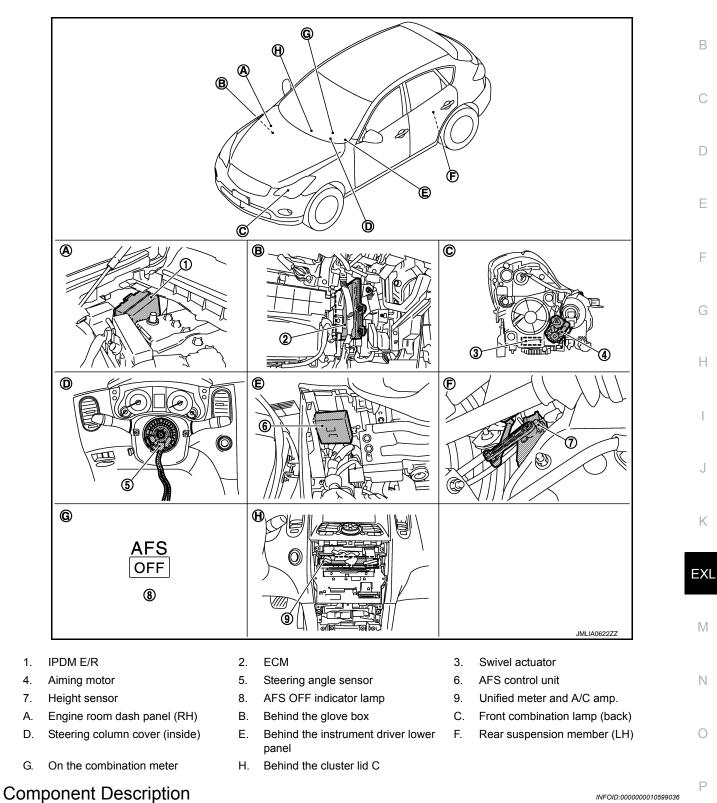
< SYSTEM DESCRIPTION >

Component Parts Location

[XENON TYPE]

INFOID:000000010599035

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INFOID:000000010599036

Part	Description
AFS control unit	Refer to EXL-57, "Description".
Swivel actuator	Refer to EXL-45, "Description".

Revision: February 2015

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EXL-23

< SYSTEM DESCRIPTION >

[XENON TYPE]

Part	Description
Aiming motor	Refer to EXL-72, "Description".
Height sensor	Refer to EXL-51, "Description".
Steering angle sensor	Refer to EXL-60, "Description".
IPDM E/R	Transmits the headlamp (LO) ON signal and the headlamp (HI) ON signal to AFS control unit with CAN communication.
ECM	Transmits the engine speed signal to AFS control unit with CAN communication.
ТСМ	Refer to EXL-54, "Description".
Unified meter and A/C amp.	Refer to EXL-55, "Description".
Combination meter	Turns AFS OFF indicator lamp ON/OFF/blinking according to AFS control unit request [with CAN communication (through unified meter and A/C amp.)].

FRONT FOG LAMP SYSTEM

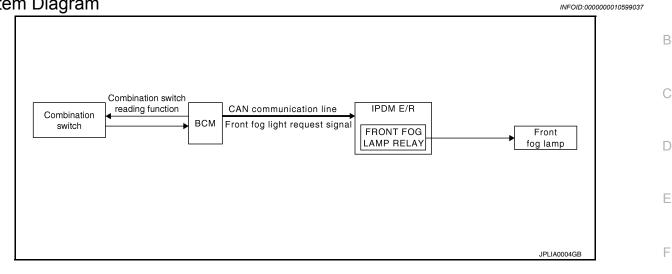
< SYSTEM DESCRIPTION >

FRONT FOG LAMP SYSTEM



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System Diagram



System Description

INFOID:000000010599038

OUTLINE

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

NOTE:

For Canada models, the front fog lamp is turned ON as the daytime running light. Refer to <u>EXL-18</u>, <u>"System</u> <u>Diagram"</u> for the detail.

FRONT FOG LAMP OPERATION

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

Front fog lamp ON condition

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

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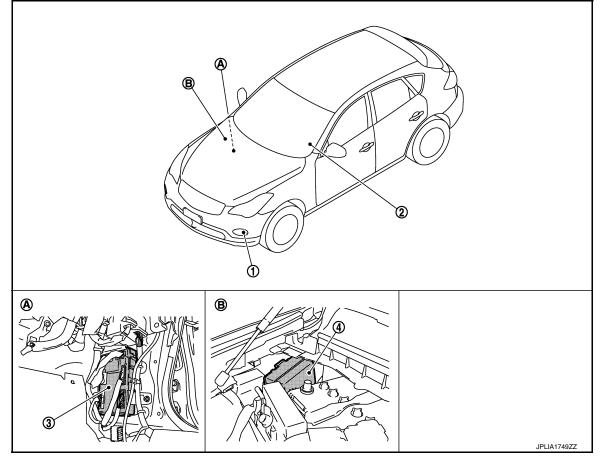
FRONT FOG LAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000010599039

[XENON TYPE]



1. Front fog lamp

2. Combination switch 3. BCM

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

Component Description

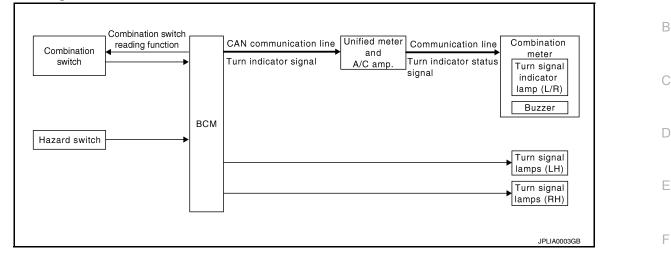
Part	Description
BCM	 Judges each switch condition by the combination switch reading function. Judges the front fog lamp ON/OFF status according to the vehicle condition. Requests the front fog lamp relay ON to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-11. "System Diagram"</u> .

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< SYSTEM DESCRIPTION >

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

System Diagram



System Description

INFOID:000000010599042

OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

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

HIGH FLASHER OPERATION (FAIL-SAFE)

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

NOTE:

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

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[XENON TYPE]

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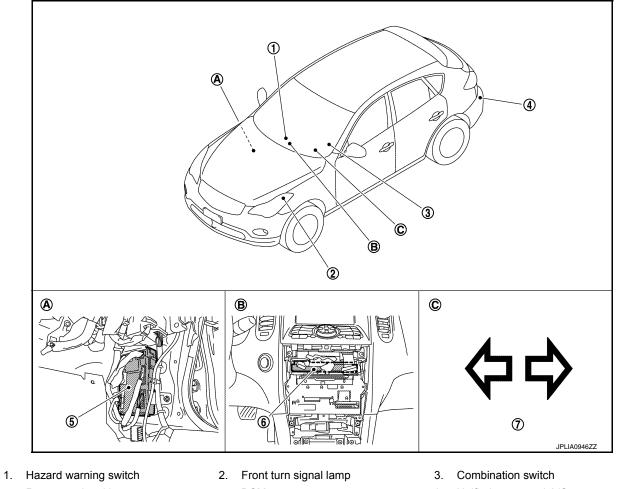
TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000010599043

[XENON TYPE]



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

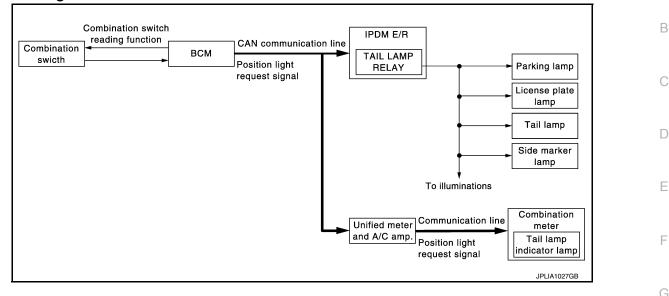
Part	Description
ВСМ	 Judges each switch condition by the combination switch reading function. Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks. Requests the turn signal indicator lamp blink to the combination meter (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-11, "System Diagram"</u> .
Hazard switch (Multifunction switch)	Refer to EXL-83, "Description".
Combination meter (Turn signal indicator lamp & buzzer)	Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM [with CAN communication (through unified meter and A/C amp.)].

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< SYSTEM DESCRIPTION >

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

System Diagram



System Description

INFOID:000000010599046

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OUTLINE

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

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS OPERATION

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

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

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

[XENON TYPE]

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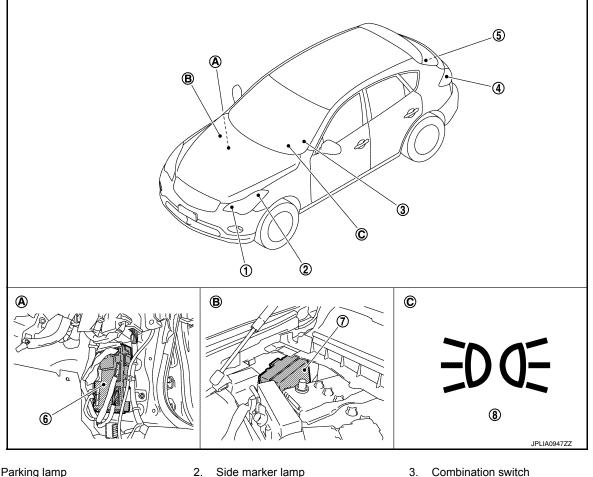
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000010599047

[XENON TYPE]



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

Component Description

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

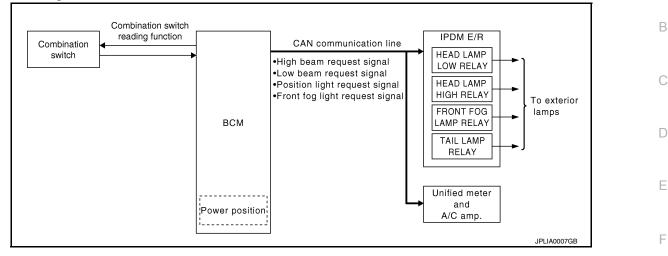
Part	Description	
BCM	 Judges each switch condition by the combination switch reading function. Judges the ON/OFF status of the clearance, license plate, side marker and tail lamps according to the vehicle condition. Requests the tail lamp relay ON to IPDM E/R (with CAN communication). 	
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the require from BCM (with CAN communication).	
Combination switch (Lighting & turn signal switch)	Refer to BCS-11, "System Diagram".	
Combination meter (Tail lamp indicator lamp)	Turns the tail lamp indicator lamp ON according to the request from BCM [with CAN communication (through the unified meter and A/C amp.)].	

EXTERIOR LAMP BATTERY SAVER SYSTEM

< SYSTEM DESCRIPTION >

EXTERIOR LAMP BATTERY SAVER SYSTEM

System Diagram



System Description

INFOID:000000010599050

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OUTLINE

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

Control by BCM

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

Control by IPDM E/R

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

When the lighting switch is turned AUTO, the exterior lamp battery saver switches to the auto light system. Refer to <u>EXL-15. "System Description"</u>.

EXTERIOR LAMP BATTERY SAVER ACTIVATION

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

NOTE:

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

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[XENON TYPE]

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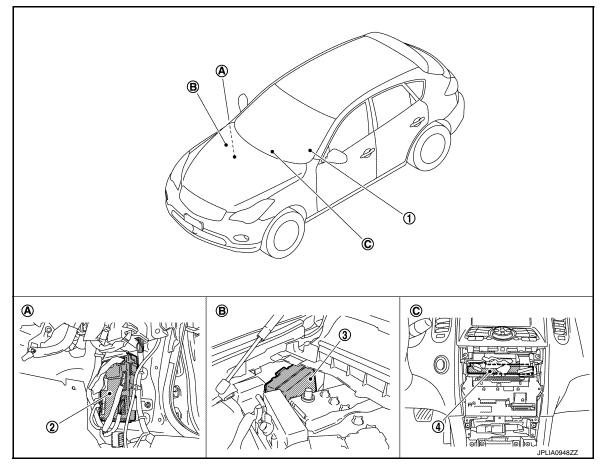
EXTERIOR LAMP BATTERY SAVER SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000010599051

[XENON TYPE]



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

Component Description

Part	Description	
BCM	 Judges each switch condition by the combination switch reading function. Judges the exterior lamp OFF according to the vehicle condition. Requests each relay OFF to IPDM E/R (with CAN communication). 	
IPDM E/R	Controls the integrated relay according to the request from BCM (with CAN comparison).	
Combination switch (Lighting & turn signal switch)	Refer to BCS-11, "System Diagram".	

< SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000011018842

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

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

NOTE:

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

FREEZE FRAME DATA (FFD)

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

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< SYSTEM DESCRIPTION >

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

NOTE:

*: Power supply position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met.

- · Closing door
- · Opening door
- · Door is locked using door request switch
- Door is locked using Intelligent Key

The power supply position shifts to "ACC" when the push-button ignition switch (push switch) is pushed at "LOCK".

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (Xenon Type)

INFOID:000000010599054

WORK SUPPORT

< SYSTEM DESCRIPTION >

[XENON TYPE]

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

*: Initial setting

DATA MONITOR

NOTE:

Н The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Unit]	Description Indicates [ON/OFF] condition of push-button ignition switch.	
PUSH SW [On/Off]		
ENGINE STATE [Stop/Stall/Crank/Run]	Indicates [STOP/START/CRANK/RUN] condition of engine states.	
VEH SPEED 1 [km/h]	Display the vehicle speed signal received from unified meter and A/C amp. by numer- ical value [Km/h].	
KEY SW-SLOT [On/Off]	Indicates [ON/OFF] condition of key slot.	
TURN SIGNAL R [On/Off]		
TURN SIGNAL L [On/Off]		
TAIL LAMP SW [On/Off]		
HI BEAM SW [On/Off]		
HEAD LAMP SW1 [On/Off]	Each switch status that BCM judges from the combination switch reading function	
HEAD LAMP SW2 [On/Off]		
PASSING SW [On/Off]		
AUTO LIGHT SW [On/Off]		
FR FOG SW [On/Off]		

< SYSTEM DESCRIPTION >

Monitor item [Unit]	Description	
RR FOG SW [On/Off]	NOTE: The item is indicated, but not monitored.	
DOOR SW-DR [On/Off]	Indicated [ON/OFF] condition of front door switch (driver side).	
DOOR SW-AS [On/Off]	Indicated [ON/OFF] condition of front door switch (passenger side).	
DOOR SW-RR [On/Off]	Indicated [ON/OFF] condition of rear door switch RH.	
DOOR SW- RL [On/Off]	Indicated [ON/OFF] condition of rear door switch LH.	
DOOR SW-BK [On/Off]	Indicated [ON/OFF] condition of back door switch.	
OPTICAL SENSOR [V]	The value of exterior brightness voltage input from the optical sensor	

ACTIVE TEST

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

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER) (Xenon Type)

INFOID:000000010599055

WORK SUPPORT

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



DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[XENON TYPE]

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*: Initial setting

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Unit]	Description	
REQ SW-DR [On/Off]	Indicated [ON/OFF] condition of door request switch (driver side).	
REQ SW-AS [On/Off]	Indicated [ON/OFF] condition of door request switch (passenger side).	
PUSH SW [On/Off]	Indicates [ON/OFF] condition of push-button ignition switch.	
TURN SIGNAL R [On/Off]		
TURN SIGNAL L [On/Off]	Each switch condition that BCM judges from the combination switch reading function	
HAZARD SW [On/Off]	The switch status input from the hazard switch	
RKE-LOCK [On/Off]	Indicates [ON/OFF] condition of LOCK signal from Intelligent Key.	
RKE-UNLOCK [On/Off]	Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key.	
RKE-PANIC [On/Off]	Indicates [ON/OFF] condition of PANIC button of Intelligent Key.	

ACTIVE TEST

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

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Diagnosis Description

AUTO ACTIVE TEST

Description

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

- Oil pressure warning lamp
- Front wiper (LO, HI)
- Parking lamps
- License plate lamps
- Side maker lamps
- Tail lamps
- Front fog lamps
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan (cooling fan control module)

Operation Procedure

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

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

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

Close passenger door.

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

NOTE:

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

• If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-63</u>, <u>"Component Function Check"</u>.

Do not start the engine.

Inspection in Auto Active Test Mode

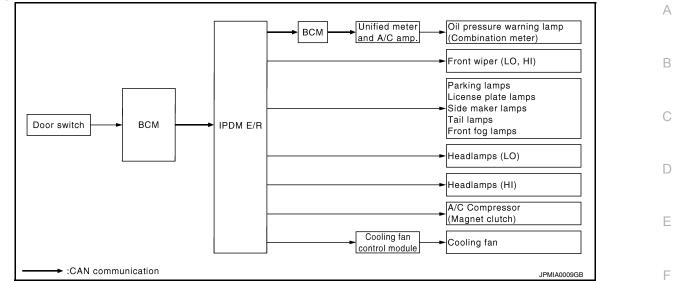
When auto active test mode is actuated, the following 6 steps are repeated 3 times.

Operation sequence	Inspection location	Operation
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test
2	Front wiper	LO for 5 seconds \rightarrow HI for 5 seconds
3	 Parking lamps License plate lamps Side maker lamps Tail lamps Front fog lamps 	10 seconds
4	Headlamps	 LO 10 seconds HI ON ⇔ OFF 5 times
5	A/C compressor (magnet clutch)	$ON \Leftrightarrow OFF 5 times$
6*	Cooling fan	MID for 5 seconds \rightarrow HI for 5 seconds

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

< SYSTEM DESCRIPTION >

Concept of auto active test



• IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.

• The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis chart in auto active test mode

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

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< SYSTEM DESCRIPTION >

[XENON TYPE]

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

CONSULT Function (IPDM E/R)

INFOID:000000011019124

APPLICATION ITEM

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

Diagnosis mode	Description
Ecu Identification	Allows confirmation of IPDM E/R part number.
Self Diagnostic Result	Displays the diagnosis results judged by IPDM E/R.
Data Monitor	Displays the real-time input/output data from IPDM E/R input/output data.
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.

SELF DIAGNOSTIC RESULT

Refer to PCS-32, "DTC Index".

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

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

< SYSTEM DESCRIPTION >

[XENON TYPE]

Monitor Item [Unit]	MAIN SIG- NALS	Description
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the shift position judged by IPDM E/R.
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN communication.
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW [Off/On]		Displays the status of the A/T shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay request received from BCM via CAN communication. NOTE: For models without steering lock unit, this item is not monitored.
S/L STATE [LOCK/UNLOCK/UNKWN]		Displays the status of the steering lock judged by IPDM E/R. NOTE: For models without steering lock unit, this item is not monitored.
DTRL REQ [Off/On]		NOTE: The item is indicated, but not monitored.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.
HL WASHER REQ [Off/On]		NOTE: The item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN com- munication.
CRNRNG LMP REQ [Off/On]		NOTE: The item is indicated, but not monitored.

ACTIVE TEST

Test item

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

< SYSTEM DESCRIPTION >

[XENON TYPE]

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

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (AFS)

CONSULT Function (ADAPTIVE LIGHT)

APPLICATION ITEM

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

WORK SUPPORT

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

*: Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to <u>BRC-8. "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair</u> <u>Requirement"</u>.

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

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

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

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DIAGNOSIS SYSTEM (AFS)

< SYSTEM DESCRIPTION >

ACTIVE TEST NOTE:

Start the engine when using "ACTIVE TEST".

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

NOTE:

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

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DTC/CIRCUIT DIAGNOSIS B2503, B2504 SWIVEL ACTUATOR

Description

SWIVEL ACTUATOR

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

SWIVEL MOTOR

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

SWIVEL POSITION SENSOR

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

DTC Logic

DTC DETECTION LOGIC

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

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

*: Initialization is not included.

DTC CONFIRMATION PROCEDURE

1.DTC ERASE

Erase the DTC memory of AFS with CONSULT.

>> GO TO 2.

\mathbf{n}	
	CONFIRMATION DTC SELECTION
~	CONFIRMATION DIC SELECTION

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

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

3.DTC CONFIRMATION (B2503)

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

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< DTC/CIRCUIT DIAGNOSIS >

Is "B2503" detected?

- YES >> Refer to EXL-46, "Diagnosis Procedure".
- NO >> Refer to GI-45, "Intermittent Incident".

4.DTC CONFIRMATION (B2504)

- 1. Steer to the straight-forward position.
- 2. Start the engine.
- 3. Turn the headlamp ON.
- 4. Drive at 25 km/h (15.5 MPH) or more.
- 5. Steer to the left. (Rotate it once or more.)
- 6. Stop the vehicle.
- 7. Perform the self-diagnosis with CONSULT.

Is "B2504" detected?

- YES >> Refer to EXL-46, "Diagnosis Procedure".
- NO >> Refer to <u>GI-45, "Intermittent Incident"</u>.

Diagnosis Procedure

INFOID:000000010599061

1. CHECK SWIVEL POSITION SENSOR SIGNAL INPUT

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

	Terminals					
	(+)		(-)	Voltage		
	AFS control	unit		(Approx.)		
C	Connector	Terminal	Ground			
RH	M16	9	Ground	0.05 4.75 \/		
LH	IVI I O	29		0.25 - 4.75 V		

Is the measurement value within the standard value?

```
YES >> GO TO 2.
```

Less than the standard value >>GO TO 6. Higher than the standard value>>GO TO 9.

2. CHECK SWIVEL MOTOR

Check the swivel motor. EXL-49, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the front combination lamp.

3.CHECK SWIVEL MOTOR OPEN CIRCUIT

1. Turn the ignition switch OFF.

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

B2503, B2504 SWIVEL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

	AFS contro	ol unit		np swivel uator	Continuity		А
Co	onnector	Terminal	Connector	Terminal			
		11		8			E
RH		13	E29	7			
КП		32	E29	3			(
	M16	34		4	Existed		
	MITO	15		3	Existed		
LH		17	E59	4			
LII		36	L39	8			
		38		7			E
	continuity	between t	R SHORT (irness conne	ector and the ground.	(
	AFS co	ntrol unit			Continuity		
	Connector	Term					ŀ
		1					
RH		1:					
		33	G	Ground	Not existed		
	M16	34					
		1					
LH		1					
		3	6				

Does continuity exist?

YES >> Repair the harnesses or connectors.

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NO >> GO TO 5.

5. CHECK SWIVEL MOTOR CIRCUIT VOLTAGE OUTPUT

1. Connect AFS control unit connector.

2. Turn the ignition switch ON.

3. Turn the headlamp ON.

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

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

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[XENON TYPE]

B2503, B2504 SWIVEL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Terminals		Condition				
	(+)		(-)	Condition	Voltage	
AFS control unit		ol unit		Swivel motor	(Approx.)	
Con	nector	Terminal		Swiver motor		
RH		11				
КП		32			(V) 15	
		15		10		
LH	M16	36	Ground	Active	0 + +100µs SKIB2408J 8 - 12 V	
пμ	RH 13 34 17	13				
		34		Stop	9.5 - 11.5 V	
LH		17		Stop		
	38					

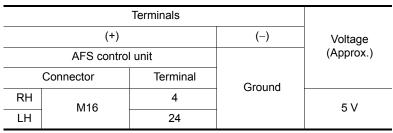
Is the measurement value within the standard value?

YES >> Replace the front combination lamp.

NO >> Replace AFS control unit.

 $\mathbf{6}$. CHECK SWIVEL POSITION SENSOR SIGNAL OUTPUT

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



Is the measurement value normal?

YES >> GO TO 7.

NO >> GO TO 9.

7. CHECK SWIVEL POSITION SENSOR POWER SUPPLY CIRCUIT INPUT VOLTAGE

1. Turn the ignition switch OFF.

2. Disconnect the headlamp swivel actuator connector.

3. Turn the ignition switch ON.

4. Check the voltage between the headlamp swivel actuator harness connector and the ground.

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

Is the measurement value normal?

YES >> GO TO 8.

NO >> Repair the harnesses or connectors.

f 8.CHECK SWIVEL POSITION SENSOR SIGNAL SHORT CIRCUIT

B2503, B2504 SWIVEL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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

	AFS contro	ol unit	Headlamp sv	wivel actuator	Continuity
Со	nnector	Terminal	Connector	Terminal	Continuity
RH	M16	9	E29	1	Existed
LH	WITO	29	E59	1	LAISteu

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

9. CHECK SWIVEL POSITION SENSOR GROUND CIRCUIT VOLTAGE OUTPUT

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

	Terminals					
	(+)		(-)	Voltage		
	AFS control	l unit		(Approx.)		
(Connector	Terminal	Ground			
RH	M16	2	Ground	0 V		
LH	INTO	27		0.0		

Is the measurement value normal?

YES >> GO TO 10.

NO >> Replace AFS control unit.

10. CHECK SWIVEL POSITION SENSOR SHORT GROUND CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect AFS control unit connector and the headlamp swivel actuator connector.

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

	AFS contr	ol unit	Headlamp swivel actuator		Continuity
Сс	onnector	Terminal	Connector Terminal		Continuity
RH	M16	2	E29	6	Existed
LH	NI TO	27	E59	6	Existed

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

Component Inspection

1.CHECK SWIVEL MOTOR SINGLE PART

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

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

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< DTC/CIRCUIT DIAGNOSIS >

Is the measurement value normal?

B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

B2514 HEIGHT SENSOR UNUSUAL [RR]

Description

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

NOTE:

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

DTC Logic

DTC DETECTION LOGIC

[B2514] Height sensor unusual [RR]

.DTC ERASE rase the DTC memory of AFS with CONSULT. >> GO TO 2DTC CONFIRMATION Start the engine. Turn the headlamp ON. Select the self-diagnosis with CONSULT. Check the self-diagnosis result. Refer to EXL-197, "DTC Index". BE2514" detected? YES >> Refer to G1-45, "Intermittent Incident". Biagnosis Procedure .CHECK HEIGHT SENSOR POWER SUPPLY OUTPUT . Turn the ignition switch ON.		DTC detection c	ondition	[OTC erase condition	Possible cause
irrase the DTC memory of AFS with CONSULT. >> GO TO 2. 2.DTC CONFIRMATION Start the engine. Turn the headlamp ON. Select the self-diagnosis with CONSULT. Check the self-diagnosis result. Refer to EXL-197, "DTC Index". s "B2514" detected? YES >> Refer to EXL-51, "Diagnosis Procedure". NO >> Refer to GI-45, "Intermittent Incident". Diagnosis Procedure Intermittent Incident". Oiagnosis Procedure Intermittent Incident". Otheck the voltage between the AFS control unit harness connector and the ground. Image: the voltage between the AFS control unit harness connector and the ground. Image: the voltage between the AFS control unit harness connector and the ground.	 conditions is de The height se less. The height se 	etected continuous ensor power supply	ly for 2 seconds or r y is 6 V or more, or 4	more. 4 V or Ignitio	n switch OFF	Height sensorHarness and connector
>> GO TO 2. 2. DTC CONFIRMATION 1. Start the engine. 2. Turn the headlamp ON. 3. Select the self-diagnosis with CONSULT. 4. Check the self-diagnosis result. Refer to EXL-197. "DTC Index". <u>s "B2514" detected?</u> YES >> Refer to EXL-51. "Diagnosis Procedure". NO >> Refer to GL-45. "Intermittent Incident". Diagnosis Procedure MFOID.000000000000000000000000000000000000		MATION PRO	CEDURE			
2.DTC CONFIRMATION 1. Start the engine. 2. Turn the headlamp ON. 3. Select the self-diagnosis with CONSULT. 4. Check the self-diagnosis result. Refer to EXL-197. "DTC Index". Is "B2514" detected? YES >> Refer to EXL-51. "Diagnosis Procedure". NO >> Refer to GI-45. "Intermittent Incident". Diagnosis Procedure 1. CHECK HEIGHT SENSOR POWER SUPPLY OUTPUT 1. Turn the ignition switch ON. 2. Check the voltage between the AFS control unit harness connector and the ground. Terminals (+) (-) Voltage AFS control unit Ground	.DTC ERASE					
2.DTC CONFIRMATION 1. Start the engine. 2. Turn the headlamp ON. 3. Select the self-diagnosis with CONSULT. 4. Check the self-diagnosis result. Refer to EXL-197. "DTC Index". is "B2514" detected? YES >> Refer to EXL-51. "Diagnosis Procedure". NO >> Refer to GI-45. "Intermittent Incident". Diagnosis Procedure	Trase the DTC	memory of AFS	S with CONSUL	T.		
1. Start the engine. 2. Turn the headlamp ON. 3. Select the self-diagnosis with CONSULT. 4. Check the self-diagnosis result. Refer to EXL-197, "DTC Index". Is "B2514" detected? YES >> Refer to EXL-51, "Diagnosis Procedure". NO >> Refer to GI-45, "Intermittent Incident". Diagnosis Procedure 1. CHECK HEIGHT SENSOR POWER SUPPLY OUTPUT 1. Turn the ignition switch ON. 2. Check the voltage between the AFS control unit harness connector and the ground. Image: the voltage of		-				
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Is "B2514" detected? YES >> Refer to EXL-51, "Diagnosis Procedure". NO >> Refer to GI-45, "Intermittent Incident". Diagnosis Procedure Information of the second	 Turn the he Select the s 	adlamp ON. elf-diagnosis w		VI 107 "D	C Index"	
YES >> Refer to EXL-51, "Diagnosis Procedure". NO >> Refer to GI-45, "Intermittent Incident". Diagnosis Procedure Intermittent Incident". 1. CHECK HEIGHT SENSOR POWER SUPPLY OUTPUT Intermittent Incident Sensor Power Supply OUTPUT 1. Turn the ignition switch ON. Interminals Image: the voltage between the AFS control unit harness connector and the ground. Image: the voltage of the voltage between the AFS control unit harness connector and the ground. Image: the voltage of the voltage		•	esuit. Refer to <u>E</u>	<u>XL-197, D</u>	<u>IC Index</u> .	
Diagnosis Procedure INFOID:00000010598 1. CHECK HEIGHT SENSOR POWER SUPPLY OUTPUT 1. 1. Turn the ignition switch ON. 2. 2. Check the voltage between the AFS control unit harness connector and the ground. Terminals (+) (-) Voltage AFS control unit (Approx.)	YES >> Ref	er to <u>EXL-51,</u> "	Diagnosis Proce	<u>edure"</u> .		
1. CHECK HEIGHT SENSOR POWER SUPPLY OUTPUT 1. Turn the ignition switch ON. 2. Check the voltage between the AFS control unit harness connector and the ground. Image: Check the voltage between the AFS control unit harness connector and the ground. Image: Check the voltage between the AFS control unit harness connector and the ground. Image: Check the voltage between the AFS control unit harness connector and the ground. Image: Check the voltage between the AFS control unit harness connector and the ground. Image: Check the voltage between the AFS control unit for the provide the the the the provide the the the the the the the the the th	NO >> Ref	er to <u>GI-45, "In</u>	termittent Incide	<u>ent"</u> .		
1. Turn the ignition switch ON. 2. Check the voltage between the AFS control unit harness connector and the ground. Terminals (+) (-) Voltage AFS control unit Connector Terminal Ground	Diagnosis Pi	ocedure				INFOID:00000001059
2. Check the voltage between the AFS control unit harness connector and the ground. Terminals (+) (-) AFS control unit Voltage (Approx.) Connector Terminal		GHT SENSOR	POWER SUPP		Г	
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(+)(-)Voltage (Approx.)AFS control unit(Approx.)ConnectorTerminal	2. Check the v	voltage betweer	n the AFS contro	ol unit harne	ess connector and t	he ground.
AFS control unit (Approx.) Connector Terminal		Terminals				
AFS control unit (Approx.) Connector Terminal	(+	·)	(-)	Voltage		
	AFS control unit (A		0			
M16 6 5 V	Connector	Terminal	Ground			
	M16	6		5 V		
			rol unit			
YES >> GO TO 2.						
YES >> GO TO 2. NO >> Replace AFS control unit. 2.CHECK HEIGHT SENSOR POWER SUPPLY INPUT		GHT SENSOR	POWER SLIPP			

EXL-51

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INFOID:000000010599063

INFOID:000000010599064

B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

(*	+)	(-)	Voltage
AFS co	ntrol unit		(Approx.)
Connector Terminal		Ground	
M16	28	†	0.25 - 4.75 V

Is the measurement value within the standard value?

YES >> Replace AFS control unit.

Less than the standard value >>GO TO 3. Higher than the standard value>>GO TO 6.

$\mathbf{3}$. CHECK HEIGHT SENSOR POWER SUPPLY CIRCUIT OUTPUT VOLTAGE

1. Turn the ignition switch OFF.

2. Disconnect the height sensor connector.

3. Turn the ignition switch ON.

4. Check the voltage between the height sensor harness connector and the ground.

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

Is the measurement value within the standard value?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4.CHECK HEIGHT SENSOR SIGNAL OPEN CIRCUIT

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

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

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

5.CHECK HEIGHT SENSOR SIGNAL SHORT CIRCUIT

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

Height	sensor		Continuity
Connector	Terminal	Ground	Continuity
B32	2	Ť	Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace the height sensor.

6.CHECK HEIGHT SENSOR GROUND

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

B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

А Terminals (+) (-) Voltage (Approx.) AFS control unit В Connector Terminal Ground M16 8 0 V Is the measurement value within the standard value? YES >> GO TO 7. NO >> Replace AFS control unit. D 7. CHECK HEIGHT SENSOR GROUND CIRCUIT 1. Turn the ignition switch OFF. 2. Disconnect AFS control unit connector and the height sensor connector. Ε Check continuity between the AFS control unit harness connector and the height sensor harness connec-3. tor. F AFS control unit Height sensor Continuity Connector Terminal Connector Terminal M16 8 B32 3 Existed Does continuity exist? YES >> Replace the height sensor. >> Repair the harnesses or connectors. NO Н Component Inspection INFOID:000000010599066 1.CHECK HEIGHT SENSOR 1. Remove the height sensor (the height sensor connector is connected). 2. Start the engine. 3. Turn the light switch 2ND. Select "HI SEN OTP RR" of AFS data monitor item. 4. With moving the sensor lever, check the monitor status. 5. Κ Monitor status Monitor item Condition [Standard value (Approx.)] EXL Contact with 0.9 V stopper Μ Sensor lever po-Moving be-HI SEN OTP RR Smooth movesition tween two posiment tions 4.5 V 90° from stopper Ν Is the output value normal? YES >> Height sensor is normal. NO >> Replace the height sensor. Ρ

[XENON TYPE]

B2516 SHIFT SIGNAL [P, R]

Description

AFS control unit receives the shift position signal from TCM with CAN communication.

DTC Logic

INFOID:000000010599068

INFOID:000000010599067

DTC DETECTION LOGIC

[B2516] Shift signal [P, R]

DTC detection condition	DTC erase condition	Possible causes
The shift position signal is not received.	Ignition switch OFF	TCMAFS control unit

DTC CONFIRMATION PROCEDURE

1.DTC ERASE

Erase the DTC memory of AFS with CONSULT.

>> GO TO 2.

2.DTC CONFIRMATION

- 1. Turn ignition ON.
- 2. Select the self-diagnosis with CONSULT.
- 3. Check the self-diagnosis result. Refer to EXL-197, "DTC Index".

Is "B2516" detected?

- YES >> Refer to EXL-54, "Diagnosis Procedure".
- NO >> Refer to <u>GI-45. "Intermittent Incident"</u>.

Diagnosis Procedure

INFOID:000000010599069

1.TCM SELF-DIAGNOSIS

Check the self-diagnosis result with CONSULT. Check that TCM does not detect any DTCs.

Is any DTC detected?

YES >> Check TCM. Refer to TM-156, "DTC Index".

NO >> GO TO 2.

2.DTC ERASE

Erase the DTC memory of AFS with CONSULT.

Is the memory erased?

YES >> Inspection end.

NO >> Replace AFS control unit.

[XENON TYPE]

B2517 VEHICLE SPEED SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

B2517 VEHICLE SPEED SIGNAL

Description

AFS control unit receives the vehicle speed signal from the unified meter and A/C amp. with CAN communica-	B
tion.	

DTC Logic

DTC DETECTION LOGIC

[B2517] Vehicle speed signal

DTC detection condition	DTC erase condition	Possible causes
The vehicle speed signal is not received.	Ignition switch OFF	 Unified meter and A/C amp. AFS control unit
DTC CONFIRMATION PROCEDURE		
1 .DTC ERASE		
Erase the DTC memory of AFS with CONSULT.		
>> GO TO 2.		
2.DTC CONFIRMATION		
1. Turn ignition ON.		
 Select the self-diagnosis with CONSULT. Check the self-diagnosis result. Refer to <u>EXL-1</u> 	<u>97, "DTC Index"</u> .	
Is "B2517" detected?		
YES >> Refer to <u>EXL-55. "Diagnosis Procedure</u> NO >> Refer to <u>GI-45. "Intermittent Incident"</u> .		
Diagnosis Procedure		INFOID:000000010599072
1. UNIFIED METER AND A/C AMP. SELF-DIAGNO	DSIS	
Check the self-diagnosis result with CONSULT. Ch any DTCs.	neck that the unified meter and	d A/C amp. does not detect
Is any DTC detected?		
YES >> Check the unified meter and A/C amp. NO >> GO TO 2.	Refer to MWI-109, "DTC Index	<u><"</u> .
2. DTC ERASE		
Erase the DTC memory of AFS with CONSULT.		
Is the memory erased?		
YES >> Inspection end. NO >> Replace AFS control unit.		

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INFOID:000000010599070

INFOID:000000010599071

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С

< DTC/CIRCUIT DIAGNOSIS >

B2519 LEVELIZER CALIBRATION

Description

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

DTC Logic

[B2519] Levelizer calibration

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

Diagnosis Procedure

1.LEVELIZER ADJUSTMENT

Perform the levelizer adjustment.

>> Refer to EXL-10, "LEVELIZER ADJUSTMENT : Description".

INFOID:000000010599073

[XENON TYPE]

INFOID:000000010599074

INFOID:000000010599075

B2521 ECU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B2521 ECU CIRCUIT

Description

AFS control unit judges the vehicle condition from each signal. AFS control unit controls AFS function and the $$_{\rm B}$$ headlamp aiming.

DTC Logic

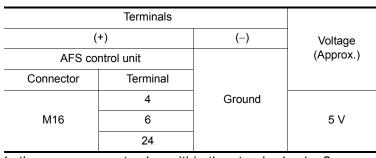
DTC DETECTION LOGIC

[B2521] ECU circuit

Error detection condition	DTC erase condition	Possible cause
 AFS control unit indicates an applicable DTC when detecting any of the following conditions continuously for 2 seconds or more. The swivel position sensor is shorted to the power supply or the ground. The swivel position sensor signal is shorted to the ground. The height sensor power supply is shorted to the power supply or the ground. The height sensor signal is shorted to the ground. AFS control unit RAM/ROM error 	Ignition switch OFF	Swivel position sensor • Swivel position sensor • Harness and connector • AFS control unit Height sensor • Height sensor • Harness and connector • AFS control unit AFS control unit • AFS control unit
1.DTC ERASE		
Erase the DTC memory of AFS with CONSULT.		
>> GO TO 2.		
2.DTC CONFIRMATION PROCEDURE		
1. Turn ignition ON.		
2. Select the self-diagnosis with CONSULT.		
 Check the self-diagnosis result. Refer to <u>EXL-1</u> "B2524" detected? 	<u>97, "DTC Index"</u> .	
<u>Is "B2521" detected?</u> YES >> Refer to <u>EXL-57, "Diagnosis Procedure</u> "		
NO >> Refer to <u>GI-45. "Intermittent Incident"</u> .	-	
Diagnosis Procedure		INFOID:0000000105990
		NN 012.000000010330
1.CHECK EACH SENSOR POWER SUPPLY		
1. Turn the ignition switch ON.		

1. Turn the ignition switch ON.

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



Is the measurement value within the standard value?

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

Revision: February 2015

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INEOID:0000000010599077

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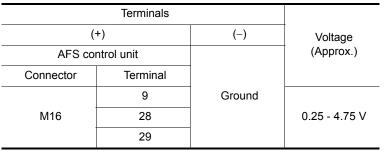
INFOID:000000010599076

B2521 ECU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

2. CHECK EACH SENSOR SIGNAL

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



Is the measurement value within the standard value?

YES >> Replace AFS control unit.

Less than the standard value >>GO TO 5.

Higher than the standard value>>GO TO 6.

${ m 3.}$ CHECK EACH SENSOR POWER SUPPLY SHORT CIRCUIT

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

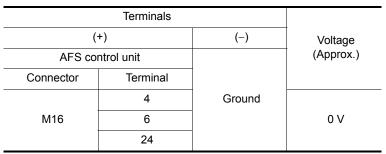
AFS co	AFS control unit		Continuity
Connector	Terminal	*	Continuity
	4	Ground	
M16	6		Not existed
	24		

Does continuity exist?

- YES >> Repair the harnesses or connectors.
- NO >> Replace AFS control unit.

4.CHECK EACH SENSOR POWER SUPPLY CIRCUIT

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



Is the measurement value normal?

- YES >> Replace AFS control unit.
- NO >> Repair the harnesses or connectors.

5.CHECK EACH SENSOR SIGNAL SHORT CIRCUIT

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

B2521 ECU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Connector Terminal 9 Ground M16 28 29 Not existed Des.continuity exist? YES >> Repair the harnesses or connectors. O >> Replace AFS control unit. .CHECK EACH SENSOR SIGNAL SHORT CIRCUIT Turn the ignition switch OFF. Disconnect AFS control unit connector. Turn the ignition switch ON. Check the voltage between the AFS control unit harness connector and the ground. (+) (-) (+) (-) (+) (-) (AFS control unit (Approx.) Connector Terminal 0 0 10 0 116 28 29 0 116 28 29 0 116 28 29 0 116 28 29 0 117 0 118 29 119 0 129 0	AFS cor	ntrol unit		Continuity		
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Turn the ignition switch OFF. Disconnect AFS control unit connector. Turn the ignition switch ON. Check the voltage between the AFS control unit harness connector and the ground. (+) (-) Voltage (AFS control unit (Approx.) (Approx.) (AFS control unit (AFS control unit) (AFS control unit) (AFS control unit) (AFS control unit) (AFS control unit) 	NO >> Re	place AFS cont	rol unit.			
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(+) (-) Voltage (Approx.) Connector Terminal (Approx.) 0 0 0 10 29 0 10 29 0 10 29 0 10 29 0	 Disconnect Turn the igr 	AFS control un nition switch ON	nit connector. N.	ol unit harness	connector and the ground.	
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9 Ground M16 28 0 V 29 0 V the measurement value normal? (FS) >> Replace AFS control unit. NO >> Repair the harnesses or connectors.	AFS cor	ntrol unit				
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29 the measurement value normal? YES >> Replace AFS control unit. NO >> Repair the harnesses or connectors.		9	Ground			
the measurement value normal? /ES >> Replace AFS control unit. NO >> Repair the harnesses or connectors.	M16	28		0 V		
 YES >> Replace AFS control unit. NO >> Repair the harnesses or connectors. 		29				
NO >> Repair the harnesses or connectors.	the measurer	<u>nent value norr</u>	<u>nal?</u>			
NO >> Repair the namesses of connectors.						
	NU >> Rep	Jair the names		JIS.		
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C0126 STEERING ANGLE SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

C0126 STEERING ANGLE SENSOR SIGNAL

Description

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

DTC Logic

DTC DETECTION LOGIC

[C0126] Steering angle sensor signal

DTC detection condition	DTC erase condition	Possible causes
 In any of the following conditions The steering angle sensor signal is not received. The steering angle sensor signal error is received. Out-of-standard signal (-900°- +900°) is received. 	The ignition switch OFF	Steering angle sensorAFS control unit

DTC CONFIRMATION PROCEDURE

1.DTC ERASE

Erase the DTC memory of AFS with CONSULT.

>> GO TO 2.

2.DTC CONFIRMATION

- 1. Start the engine.
- 2. Turn the steering wheel to the maximum right/left.
- 3. Select the self-diagnosis with CONSULT.
- 4. Check the self-diagnosis result. Refer to EXL-197, "DTC Index".

Is "C0126" detected?

- YES >> Refer to EXL-60, "Diagnosis Procedure".
- NO >> Refer to <u>GI-45, "Intermittent Incident"</u>.

Diagnosis Procedure

INFOID:000000010599081

1.ABS ACTUATOR AND ELECTRICAL UNIT (CONTROL UNIT) SELF-DIAGNOSIS

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

Is any DTC detected?

- YES >> Check ABS actuator and electrical unit (control unit).Refer to <u>BRC-140, "DTC No. Index"</u>.
- NO >> GO TO 2.

2.DTC ERASE

Erase DTC memory of AFS with CONSULT.

Is the memory erased?

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

INFOID:000000010599079

INFOID:0000000010599080

C0428 STEERING ANGLE SENSOR CALIBRATION

< DTC/CIRCUIT DIAGNOSIS >

C0428 STEERING ANGLE SENSOR CALIBRATION

Description

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

DTC Logic

[C0428] Steering angle sensor calibration

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

Diagnosis Procedure

1.STEERING ANGLE SENSOR NEUTRAL POSITION ADJUSTMENT

Perform the steering angle sensor neutral position adjustment.

CAUTION:

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

>> Refer to	BRC-8,	"ADJUSTMENT	OF	STEERING	ANGLE	SENSOR	NEUTRAL	POSITION :	H
Description	<u>on"</u> .								

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[XENON TYPE]

INFOID:000000010599082

INFOID:0000000010599083

INFOID:000000010599084

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С

F

U1000 CAN COMM CIRCUIT

Description

INFOID:000000010599085

[XENON TYPE]

CAN (Controller Area Network) is the serial transmission for real time application. CAN is the multiplex communication for the vehicle with superior data transmission speed and error detection ability. Many electronic control units are equipped on the vehicle. These control units do not operate individually, but associates with other control units by sharing information. In CAN communication, each control unit is connected with two communication lines (CAN-H and CAN-L). Much information is transmitted with fewer communication lines than before. Each control unit transmits/receives data and reads the necessary data only. CAN Communication Signal Chart. Refer to LAN-25, "CAN Communication Signal Chart".

DTC Logic

INFOID:000000010599086

INFOID:000000010599087

DTC DETECTION LOGIC

[U1000] CAN communication circuit

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

Diagnosis Procedure

1.PERFORM SELF DIAGNOSTIC

- 1. Turn ignition switch ON and wait for 2 seconds or more.
- 2. Check "Self Diagnostic Result".
- Is "CAN COMM CIRCUIT" displayed?
- YES >> Refer to LAN-16, "Trouble Diagnosis Flow Chart".
- NO >> Refer to GI-45, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

DTC Logic

DTC DETECTION LOGIC

[U1000] CAN communication circuit

DTC	CONSULT display de- scription	DTC detection condition	Possible causes
U1010		AFS control unit detected internal CAN communication circuit malfunction.	AFS control unit
Diagn	osis Procedure		INFOID:000000010599089
1.REP	LACE AFS CONTRO	L UNIT	
When D	DTC [U1010] is detect	ed, replace AFS control unit.	
	>> Replace AFS cor	ntrol unit.	

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INFOID:000000010599088

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE) : Diagnosis Procedure

1.CHECK FUSE AND FUSIBLE LINK

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

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

Is the fuse fusing?

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

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

Turn ignition switch OFF. 1.

- Disconnect BCM connectors. 2.
- 3. Check voltage between BCM harness connector and ground.

(-	+)	(-)	Voltage
BC	CM		(Approx.)
Connector	Terminal	Ground	
M118	1	Ground	Detten veltere
M119	11	-	Battery voltage

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

B	CM		Continuity
Connector	Terminal	Ground	Continuity
M119	13	*	Existed

Does continuity exist?

YES >> INSPECTION END

>> Repair harness or connector. NO

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

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) : Diagnosis Procedure INFOID:0000000011018844

EXL-64

1. CHECK FUSES AND FUSIBLE LINK

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

[XENON TYPE]

INFOID-0000000011018901

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

			Fuses and fusible link	No.	
			C		
Battery power supply			50		
			51		
Is the fuse fusing?					
YES >> Replace the blow blown. NO >> GO TO 2. 2.CHECK POWER SUPPL 1. Turn the ignition switch (2. Disconnect IPDM E/R co 3. Check voltage between	Y CIRCUIT OFF. onnector.		tring the affected circuit i	f a fuse or fusible link is	
Terminals					
(+)		Malla a			
IPDM E/R	(–)	Voltage (Approx.)			
Connector Terminal		·			
E4 1	Ground	Battery voltage	-		
Is the measurement value no	ormal?		-		
3.CHECK GROUND CIRCL Check continuity between IP		ess connectors and	I the ground.		
IPDM E/R		0	-		
IPDM E/R Connector Terminal	Cround	Continuity			
	Ground	Continuity Existed	-		
ConnectorTerminalE512E641Does continuity exist?YES>> INSPECTION ENO>> Repair the harneAFS CONTROL UNIT	ND ess or connec	Existed	- - -		
ConnectorTerminalE512E641Does continuity exist?YES>> INSPECTION ENO>> Repair the harne	ND ess or connec	Existed	• - •	INFQID:00000001059909;	
Connector Terminal E5 12 E6 41 Does continuity exist? YES >> INSPECTION E NO >> Repair the harne AFS CONTROL UNIT	ND ess or connec T : Diagnosi	Existed tor. s Procedure	• -	INFCID:00000001059909;	
ConnectorTerminalE512E641Does continuity exist?YES>> INSPECTION ENO>> Repair the harneAFS CONTROL UNITAFS CONTROL UNITAFS CONTROL UNIT1.FUSE INSPECTION	ND ess or connec : Diagnosi es are not fusi	Existed tor. s Procedure	- - - Fuse No.	INFOID:00000001059909	
Connector Terminal E5 12 E6 41 Does continuity exist? YES >> INSPECTION E NO >> Repair the harned AFS CONTROL UNIT AFS CONTROL UNIT 1.FUSE INSPECTION Check that the following fuse	ND ess or connec T : Diagnosi es are not fusi	Existed tor. s Procedure ng.	Fuse No.		

3. Turn ignition switch ON.

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

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

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

Does continuity exist?

YES >> Power supply and ground circuit are normal.

NO >> Repair harness or connector.

HEADLAMP (HI) CIRCUIT

[XENON ⁻	TYPE]
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HEAD	LAM	P (HI) C	RCUIT	-				\ \
Compo	onent I	unction	Check				INFOID:000000010599093	1
1 .CHE	CK HEA	DLAMP (H	II) OPERAT	ION			В	3
 Activ Che CONS Sele 	vate IPD ock that t SULT AC oct "EXT	he headlar TIVE TES ERNAL LA	to active tes mp switche T AMPS" of IF	s to the high PDM E/R act	beam. ive test ite	agnosis Description". m. [HI) is turned ON.	C	
H	łi	: Headlar	mp (HI) ON	I				
C	Off	: Headlar	mp (HI) OF	F			E	_
		eneated 1	second ea	ch				
		(HI) turned					F	-
YES NO) circuit is n		ro"			
	NO >> Refer to <u>EXL-67, "Diagnosis Procedure"</u> . Diagnosis Procedure							
	1.CHECK HEADLAMP (HI) OUTPUT VOLTAGE							
 Turr Disc Turr Turr Sele 	the ign connect the ign ect "EXT operat	ition switch the front co ition switch ERNAL LA	n OFF. ombination n ON. AMPS" of IF	lamp conne PDM E/R act heck the vc	ive test ite	m. veen the IPDM E/R harnes	ss connector and the	J
	т.					-		
. <u></u>	(+)	erminals	(-)	Condition	Voltage		K	(
	IPDM E	′R		External	(Approx.)		_	
Conn	ector	Terminal		lamp		_	EX	٢L
RH		89	Ground	Hi	Battery voltage			
	E8		Ground	Off	0 V	_	N	/
LH	-	90		Hi	Battery voltage			
			-	Off	0 V	_	Ν	1
		<u>nent value</u>	normal?					
YES NO 2 CHE	>> GO >> GO ^k hea	TO 3.	II) OPEN C	IRCUIT			0)
		ition switch					P	2
2. Disc	connect ck conti	IPDM E/R	connector.)M E/R harn	ess conne	ctor and the front combination		~

< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

3.CHECK HEADLAMP (HI) FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuses are not fusing.

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

Is the fuse fusing?

YES >> GO TO 4.

NO >> Replace IPDM E/R.

4. CHECK HEAD LAMP (HI) SHORT CIRCUIT

1. Disconnect IPDM E/R connector.

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

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

Does continuity exist?

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

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

5.check head lamp (HI) ground open circuit

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

Fro	nt combinat	ion lamp		Continuity
Con	nector	Terminal	Ground	Continuity
RH	E28	2	Ground	Existed
LH	E58	2	*	Existed

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

HEADLAMP (LO) CIRCUIT

			HEADL	_AMP (LO) (JIRCUIT
< DTC/C	IRCUIT DIA	AGNOSIS >			[XENON TYPE]
HEAD	LAMP (L	.0) CIRC	UIT		
Descrip	otion				INFOID:000000010599095
xenon he	adlamp ON			-	ted in the headlamp. Headlamp (LO) circuit turns
		ction Cheo			INFOID:000000010599096
1.снес	K HEADLAI	MP (LO) OPI	ERATION		
 Activ Cheo CONS Sele 	ate IPDM E ok that the he ULT ACTIVE ct "EXTERN	eadlamp is tu E TEST AL LAMPS"	e test. Refer urned ON. of IPDM E/R	active test item	gnosis Description". n. O) is turned ON.
L		eadlamp (LC eadlamp (LC	•		
Is the he	adlamp (LO)	turned ON?	·		
		ip (LO) is noi EXL-69, "Dia		edure".	
Diagno	sis Proce	dure			INFOID:000000010599097
4		MP (LO) OU ⁻			
		. ,		AGE	
 Turn Disco Turn Turn Sele 	the ignition onnect the fr the ignition ct "EXTERN operating t	switch OFF. ont combina switch ON. AL LAMPS"	of IPDM E/R	active test item	n. een the IPDM E/R harness connector and the
	Terminals				
	(+)	(-)	Test item	Voltage	
	DM E/R	_	EXTERNAL	(Approx.)	
Connecto	or Terminal	-	LAMP	Datta	
RH	83	Ground	Lo	Battery voltage 0 V	
—— E8		-	Lo	Battery voltage	
LH	84		Off	0 V	
Is the me	asurement	value normal	?	. <u> </u>	
	>> GO TO 2				
•	>> GO TO 3 >> headiai	3. MP (LO) OPI			
		switch OFF. I E/R conneo	ctor.		

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

HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

3.CHECK HEADLAMP (LO) FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuses are not fusing.

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

Is the fuse fusing?

YES >> GO TO 4.

NO >> Replace IPDM E/R.

4.CHECK HEADLAMP (LO) SHORT CIRCUIT

1. Disconnect IPDM E/R connector.

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

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

Does continuity exist?

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

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

5.check headlamp (LO) ground open circuit

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

F	ront comb	ination lamp		Continuity
Con	nector	Terminal	Ground	Continuity
RH	E28	3	Ground	Existed
LH	E58	3	-	Existed

Does continuity exist?

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

XENON HEADLAMP

< DTC/CIRCUIT DIAGNOSIS > XENON HEADLAMP

Description

OUTLINE

- · The lamp light source is by the arch discharge by applying high voltage into the xenon gas-filled bulb instead of the halogen bulb filament.
- Sight becomes more natural and brighter because the amount of light are gained adequately and the color of С 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.

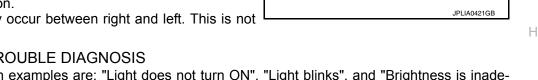
ILLUMINATION PRINCIPLE

- 1. Discharging starts in high voltage pulse between bulb electrodes.
- Xenon gas is activated by current between electrodes. Pale light 2. is emitted.
- The luminous tube (bulb) temperature elevates. Evaporated 3 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



Tungsten électrode

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 head-J lamp ON or operating the light switch.
- Never work with wet hands.

CAUTION:

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

NOTE:

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

Diagnosis Procedure

1.CHECK XENON BULB

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

YES >> Replace the xenon bulb.

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

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Xenon gas

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Structure

Luminous tube

Quartz glass

. Halide



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< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP LEVELIZER CIRCUIT

Description

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

Component Function Check

1. CHECK AIMING MOTOR OPERATION

CONSULT ACTIVE TEST

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

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

Is the operation normal?

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

Diagnosis Procedure

1. CHECK AIMING MOTOR DRIVE SIGNAL OUTPUT

CONSULT ACTIVE TEST

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

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

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK AIMING MOTOR DRIVE SIGNAL CIRCUIT INPUT

1. Turn the ignition switch OFF.

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

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

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INFOID:000000010599101

INFOID-000000010599102

[XENON TYPE]

HEADLAMP LEVELIZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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Continuity	g motor	Aiming	l unit	AFS contro	
Continuity	Terminal	Connector	Terminal	nnector	Co
Existed	1	E26	19	M16	RH
LAISIEU	1	E56	40	WITO	LH

Does continuity exist?

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

3. check aiming motor drive signal short circuit

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

	AFS contro	ol unit	Ground	Continuity	
Coni	nector	Terminal		Terminal	Continuity
RH	M16	19		Not existed	
LH	WI TO	40		NOT EXISTED	

Does continuity exist?

YES >> Repair the harness and connectors.

NO >> Replace AFS control unit.

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< DTC/CIRCUIT DIAGNOSIS >

FRONT FOG LAMP CIRCUIT

Component Function Check

1.CHECK FRONT FOG LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".

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

CONSULT ACTIVE TEST

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

Fog : Front fog lamp ON

Off : Front fog lamp OFF

Is the front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.

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

Diagnosis Procedure

1.CHECK FRONT FOG LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#58	10 A

Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK FRONT FOG LAMP SHORT CIRCUIT

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

IPDM E/R				Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E8	86	Ground	Not existed
LH	LO	87		NUL EXISTED

Does continuity exist?

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

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

3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

CONSULT ACTIVE TEST

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

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FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	Т	erminals				
	(+)		(-)	Test item	Voltage	
IPDM E/R		. ,	EXTERNAL	(Approx.)		
Со	nnector	Terminal		LAMP		
RH		86		Fog	Battery voltage	
	- E8			Ground	Off	0 V
LH		87		Fog	Battery voltage	
_				Off	0 V	

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5. CHECK FRONT FOG LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.

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

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

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

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

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

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

Does continuity exist?

YES >> Replace the front fog lamp.

NO >> Repair the harnesses or connectors.

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< DTC/CIRCUIT DIAGNOSIS >

PARKING LAMP CIRCUIT

Component Function Check

1. CHECK PARKING LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".

2. Check that the parking lamp is turned ON.

(E)CONSULT ACTIVE TEST

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

TAIL : Parking lamp ON

Off : Parking lamp OFF

Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal. NO >> Refer to <u>EXL-76, "Diagnosis Procedure"</u>.

Diagnosis Procedure

1.CHECK PARKING LAMP FUSE

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

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

Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

2. CHECK PARKING LAMP SHORT CIRCUIT

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

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

Does continuity exist?

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

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

3.CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4.CHECK PARKING LAMP OUTPUT VOLTAGE

(E)CONSULT ACTIVE TEST

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

INFOID:000000010599105

INFOID:000000010599106

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	т	orminala			
	Terminals			Test item	
	(+)		(-)		Voltage
IPDM E/R			EXTERNAL	(Approx.)	
Co	nnector	Terminal		LAMP	
RH		91	Ground	TAIL	Battery voltage
	E9		Ground	Off	0 V
LH	9	92		TAIL	Battery voltage
				Off	0 V

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5. CHECK PARKING LAMP OPEN CIRCUIT

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

	IPDM E	/R	Front combin	ation lamp	Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E9	91	E28	8	Existed
LH	L9	92	E58	8	LAISteu

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

${f 0}.$ CHECK PARKING LAMP GROUND OPEN CIRCUIT

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

Fro	ont combinat	ion lamp		Continuity
Coni	nector	Terminal	Ground	Continuity
RH	E28	4		Existed
LH	E58	4		Existed

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

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TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

TURN SIGNAL LAMP CIRCUIT

Description

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

NOTE:

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

Component Function Check

1.CHECK TURN SIGNAL LAMP

(E)CONSULT ACTIVE TEST

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

Off : The turn signal lamp OFF

Does the turn signal lamp blink?

YES >> Turn signal lamp circuit is normal.

NO >> Refer to EXL-78, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

2.check turn signal lamp output voltage

CONSULT ACTIVE TEST

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

Terminals			Test item		
(+)		(-)		Voltage (Approx)	
BCM			FLASHER	Voltage (Approx.)	
Conne	ector	Terminal		TEASHEIN	
Front RH		17			(V) 15 10
Front LH	M119	18	Ground	LH or RH	5 0 1 s PKiD0926E
Rear RH	M120	20		Off	0 V
Rear LH	11120	25			υv
L. (l		(10		

Is the measurement value normal?

Revision: February 2015

INFOID:000000010599108

INFOID:000000010599107

INFOID:000000010599109

TURN SIGNAL LAMP CIRCUIT

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

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

OPTICAL SENSOR

Description

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

Component Function Check

1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT

CONSULT DATA MONITOR

Turn the ignition switch ON.

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

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

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

Is the item status normal?

YES >> Optical sensor is normal.

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

Diagnosis Procedure

1. CHECK OPTICAL SENSOR POWER SUPPLY INPUT

1. Turn the ignition switch ON.

2. Turn the lighting switch AUTO.

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

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

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 4.

2.CHECK OPTICAL SENSOR GROUND INPUT

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

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

YES >> GO TO 3.

NO >> GO TO 6.

 $\mathbf{3}$.check optical sensor signal output

INFOID:000000010599111

INFOID:000000010599110

INFOID:000000010599112

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

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

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

Is the measurement value normal?

YES >> GO TO 7.

NO >> Replace the optical sensor.

4.CHECK OPTICAL SENSOR OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect the optical sensor connector and BCM connector.

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

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

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

5.CHECK OPTICAL SENSOR SHORT CIRCUIT

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

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

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

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

1. Turn the ignition switch OFF.

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

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

Does continuity exist?

YES >> Replace BCM.

NO >> Repair the harnesses or connectors.

7.CHECK OPTICAL SENSOR SIGNAL OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect the optical sensor connector and BCM connector.

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

Revision: February 2015

EXL-81

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

Does continuity exist?

YES >> GO TO 8.

NO >> Repair the harnesses or connectors.

8.CHECK OPTICAL SENSOR SHORT CIRCUIT

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

Optica	sensor		Continuity
Connector	Terminal	Ground	Continuity
M94	2		Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

HAZARD SWITCH

Description

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

Component Function Check

1. CHECK HAZARD SWITCH SIGNAL BY CONSULT

CONSULT DATA MONITOR

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

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

Is the item status normal?

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

Diagnosis Procedure

1. CHECK HAZARD SWITCH SIGNAL INPUT

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

	Terminals		Condition		J
(+)	(+) (-)		Contaition	Voltage (Approx.)	
BCI	М		Hazard switch	vollage (Approx.)	K
Connector	Terminal				TX.
			While pressing the switch	0 V	EXI
M122	110	Ground	While not pressing the switch	(V) 15 10 5 0 +	M
				JPMIA0012GB	
Is the meas			ormal?		
	> Replace				0
_	> GO TO				
2.CHECK	HAZAR	D SWITC	H SIGNAL OPEN	CIRCUIT	

1. Turn the ignition switch OFF.

2. Disconnect the multifunction switch connector and BCM connector.

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

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HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

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

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

 $\mathbf{3}$.check hazard switch signal short circuit

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

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

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 4.

4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

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

Multifunct	tion switch		Continuity
Connector	Terminal	Ground	Continuity
M72	1		Existed

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

TAIL LAMP CIRCUIT

COTC/CIRCUIT DIAG											<u> </u>
TAIL LAMP CIRC	CUIT										
Component Function	on Cheo	:k							IN	FOID:000000010599	116
1.CHECK TAIL LAMP	OPERATIO	ON									
 IPDM E/R AUTO ACT Activate IPDM E/R Check that the tail la CONSULT ACTIVE T Select "EXTERNAL With operating the t 	auto active amp is turi EST LAMPS"	e test. Refer ned ON. of IPDM E/F	R acti	ve test item.			ription".				
TAIL : Tail I	amp ON										
Off : Tail I	amp OFF										
<u>Is the tail lamp turned O</u> YES >> Tail lamp cir		mol									
YES >> Tail lamp cir NO >> Refer to <u>EX</u>			edur	<u>e"</u> .							
Diagnosis Procedu	re								IN	FOID:000000010599	117
1.CHECK TAIL LAMP	FUSE										
 Turn the ignition sw Check that the follow 		s are not fus	ing.								
Unit	Loca	ation Fuse	e No.	Capacity							
Tail lampRear side marker lampLicense plate lamp	IPDM I	E/R #	53	10 A							
Is the fuse fusing? YES >> Repair the r NO >> GO TO 2. 2.CHECK TAIL LAMP	OUTPUT		fore r	eplacing the	e fuse	e.					
 CONSULT ACTIVE T Disconnect the rear Turn the ignition sw Select "EXTERNAL With operating the ground. 	combinat itch ON. LAMPS"	of IPDM E/F	R acti	ve test item.		ne IPD	ME/Rh	narness	connec	ctor and th	ıe
Terminals		Test item									
(+) IPDM E/R	(-)			Voltage (Approx.)							
Connector Terminal	. .	EXTERNAL LAMP									
E5 7	Ground	TAIL	Bat	tery voltage							
		Off		0 V							
Is the measurement value YES >> GO TO 3. NO >> Replace IPI 3. CHECK TAIL LAMP (DM E/R.										

Iurn the ignition switch OFF.
 Disconnect IPDM E/R connector.

< DTC/CIRCUIT DIAGNOSIS >

TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

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

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TAIL LAMP GROUND OPEN CIRCUIT

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

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

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

LICENSE PLATE LAMP CIRCUIT

		LICEN	NSE PLA			
< DTC/CIRCUIT		_				[XENON TYPE]
LICENSE PL	ATE LA	AMP CIF	RCUIT			
Component F	unction	Check				INFOID:000000010599118
NOTE: Check the tail lam 1.CHECK LICEN	•	•		cense plate l	amp are not turned (DN.
2. Check that the CONSULT ACT 1. Select "EXTE	/I E/R auto e license p TIVE TEST RNAL LAN	active test. blate lamp is MPS" of IPD	turned ON	l. ve test item.	nosis Description". ate lamp is turned O	Ν.
		plate lamp				
		plate lamp	OFF			
	se plate la	ned ON? mp circuit is 7. "Diagnosis		<u>e"</u> .		
Diagnosis Pro	cedure					INFOID:000000010599119
1.CHECK LICEN	ISE PLATE	E LAMP BUI	_B			
Check the applica Is the bulb normal YES >> GO T NO >> Repla 2.CHECK LICEN	I <u>?</u> O 2. Ice the bul	b.	EN CIRCU	IT		
 Turn the igniti Disconnect IF 	on switch PDM E/R c	OFF. onnector an	d the licens	se plate lamp		ate lamp harness connec-
IPDM E/F	र	License p	late lamp	Continuity		
Connector	Terminal	Connector	Terminal			
RH E5	7	D117 D112	1	Existed		
Does continuity ex						
· · ·	ir the harn	esses or cor				
3.CHECK LICEN						
Check continuity b	between th	e license pla	ate lamp ha	arness conne	ector and the ground	

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

Does continuity exist?

YES

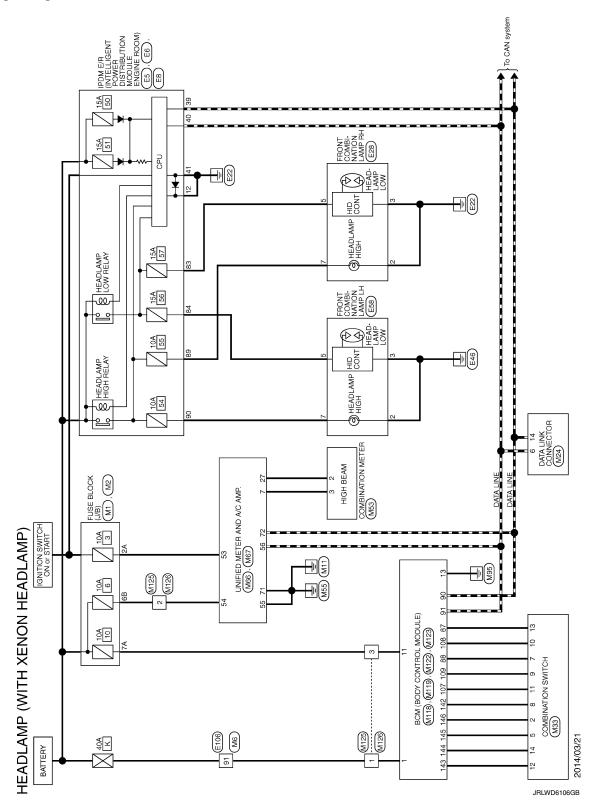
>> Replace the license plate lamp.>> Repair the harnesses or connectors. NO

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HEADLAMP SYSTEM

Wiring Diagram - HEADLAMP -

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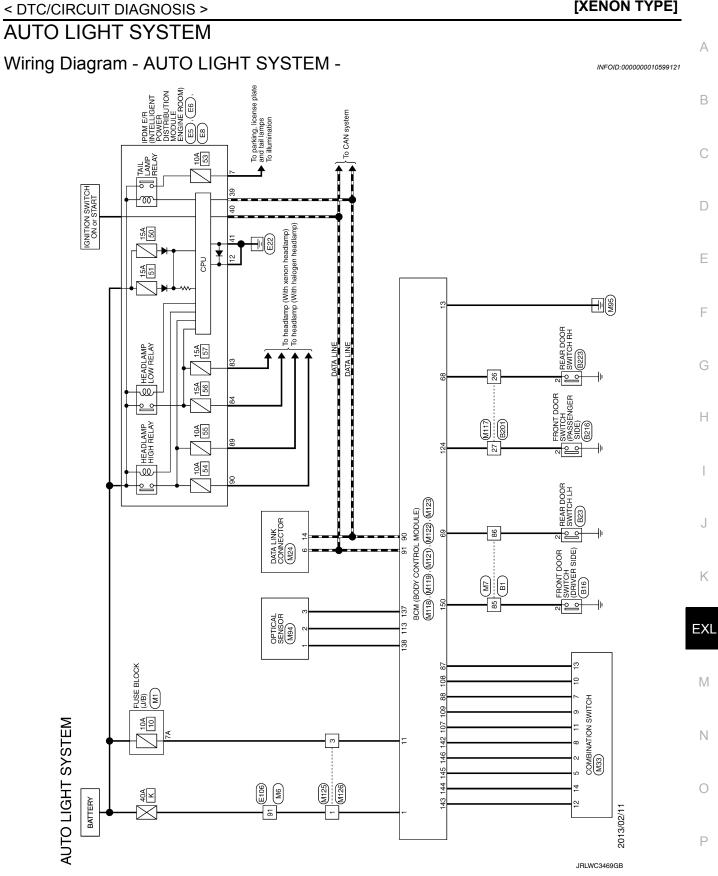
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Connector No	M119	8	M	NATS ANT AMP	140	Ë	SHIET N/P
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Connector Name	BCM (BODY CONTROL MODULE)	3 23	: >	KEYLESS ENTRY RECEIVER COMM	142	, BG	COMBLEW DUTPLIT 5
Connector Type	NS16FW-CS	87	BR	COMBI SW INPUT 5	143	٩	COMBI SW OUTPUT 1
ſ	-	88	>	COMBI SW INPUT 3	144	5	COMBI SW OUTPUT 2
ſ		96	٩	CAN-L	145	_	COMBI SW OUTPUT 3
		91	_	CAN-H	146	SB	COMBI SW OUTPUT 4
H.S.		92	ГC	KEY SLOT ILL CONT	150	LG	DRIVER DOOR SW
	11 13 14 15 17 18 19	93	>	ON IND	151	σ	REAR WINDOW DEFOGGER RELAY CONT
		94	>	PUDDLE LAMP CONT			
		95	BG	ACC RELAY CONT			
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al C	Df Simal Name [Snacification]	66	۳	SHIFT P	Connector Name	Name	WIRE TO WIRE
No. Wire	+	100	σ	PASSENGER DOOR REQUEST SW			
4 LG	-	ē	8	DRIVER DOOR REQUEST SW	Connector Type	Type	M03FW-LC
5 L	PASSENGER DOOR UNLOCK OUTPUT	102	BG	BLOWER FAN MOTOR RELAY CONT	4		
7 7	STEP LAMP CONT	103	ΓC	KEYLESS ENTRY RECEIVER POWER SUPPLY	E		
	ALL DOOR, FUEL LID LOCK OUTPUT	107	Ъ	COMBI SW INPUT 1			ŀ
┥	DRIVE	108	~	COMBI SW INPUT 4	Ю.Н		<u> </u>
10 BR	REAR DO	109	>	COMBI SW INPUT 2			с с С
+	BAT (FUSE)	110	σ	HAZARD SW			2 6
+	GROUND]
14 W	PUSH-BUTTON IGNITION SW ILL GND						
+	ACC IND	Connector No.	tor No.	M123	a	Color Of	Signal Name [Specification]
+		Connect	Connector Name	BCM (BODY CONTROL MODULE)	No.	Wire	
+					-	M	1
19 <	INT ROOM LAMP CONT	Connect	Connector Type	TH40FG-NH	2	≻	1
		¢			~	×	
Connector No.	M122	雪					
-			ŝ		Connector No.	No.	M126
Connector Name			1	54 450 124 124 120 121 123 124 120 120 123 124 124 450 450 125 125 125 125 125 125 125 125 125 125	Connector Name	Nama	WRE TO WRF
Connector Type	TH40FB-NH			in the local data has been been been been		DI IDA	
1					Connector Type	Type	M03MW-LC
	K	Terminal	0	Simal Nama [Snanification]	ť		
2		No.	Wire		Ĩ		
	10101	113	٩	OPLICAL SENSOR	H-S-		~
	10 20 20	116	SB	STOP LAMP SW 1			с с
		118	٩	STOP LAMP SW 2			2 3
		119	SB	DR DOOR UNLOCK SENSOR			
erminal Color Of	Df Simal Mama [Constituation]	121	BR	KEY SLOT SW			
No. Wire		123	W	IGN F/B	a	Color Of	Simal Nama [Snarifination]
74 SB		124	ΓC	PASSENGER DOOR SW	No.	Wire	
75 GR	P	132	BR	POWER WINDOW SW COMM	-	W	-
76 V	DRIVER DOOR ANT-	133	×	PUSH-BUTTON IGNITION SW ILL POWER	2	×	-
77 LG	DRIVER DOOR ANT+	134	GR	LOCK IND	с С	R	-
78 Y	ROOM ANT1-	137	BG	RECEIVER/SENSOR GND			
79 BR		138	~	RECEIVER/SENSOR POWER SUPPLY			
80 GR	NATS ANT AMP.	139	Г	TIRE PRESSURE RECEIVER COMM			

JRLWD6208GB



Revision: February 2015

Connector No.			l				armina -		
	81	47	B	I	Connector No.	B16		erminal Golor Ut	Signal Name [Specification]
Connector Name	WIRE TO WIRE	49	29 a		Connector Name	FRONT DOOR SWITCH (DRIVER SIDE)	- 1 <u>0</u>	wire	,
Connector Type	TH80FW-CS16-TM4	20		-	Connector Type	A03FW	2	: 2	-
ſ		60	Ч	-	ſ	[3	GR	-
ľ		61	_	I	le	$\overline{\mathbf{x}}$	4	BG	1
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Terminal Color Of		8	SB.	1	Terminal Color Of		22	5 -	,
No. Wire	e Signal Name [Specification]	69	SHIELD	1		Signal Name [Specification]	28	· >	-
е. В	1	70	w	1	2 <		29	7	
5 5	1	73	SB	1			8	GR	
6 SB	-	74		1			31	œ	
7 V	1	75	M	1	Connector No.	B23	32	BR	,
8	1	76	ЯB	1		DEAD DOOD SMITCH I H	33	5	1
11 V	1	11	Я	1	CONTRECTOR INALITIE		51	а	1
12 SB	-	78	d	1	Connector Type	A03FW	55	9	1
13 LG	1	79	GR	1	_	[56	æ	-
14 GR	-	83	BG	1	ſ	K	57	w	-
15 LG	1	85	>	1		X	58	æ	
16 R		86	PG		H.S.		59	SHIELD	-
17 W	-	87	Y	-		2	60	LG	-
18 SB	-	88	Я	-		Ī	61	w	-
19 LG	-	89	8	-			62	BR	-
20 BR	-	90	BG	-			63	Ч	
21 SHIELD	D	91	9	1	al C	Cincel Manue [Considiration]	64	L	-
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					Connector Type	TH80FW-CS16-TM4	72	W	
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Revision: February 2015

< DTC/CIRCUIT DIAGNOSIS >

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Connector No. E8 Connector Name Roux III III.LIGOR FONCEI DATILLI FONCE Connector Types NSUBFIN-C5 William 100 000 000 000 000 000 000 90 000 000 00	Terminal Color Of New Stantal Numel (Specification) No No Stantal Numel (Specification) No No No No
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AUTO LIGH SYSTEM 22 R	Connector Name PRIONT DOOR SWITCH PASENGER SDE: Connector Name PROVIT DOOR SWITCH PASENGER SDE: Connector Name Connector Name Main Color Of Name Signal Name (Specification) Name Experimentaria Opin Providence Name Experimentaria Opin Providence Name Expectination) Opin Providence Opin Providence <tr< td=""></tr<>

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77 R – [With ICC]		42	BG		97	_	,
BR -	Connector No. M6	43	BG		88	SHIELD	
		45	×		66	>	
- [M	Connector Name WIRE TO WIRE	49	-		0	SB	1
. >	Connector Type TH80MW-CS16-TM4	20	•	-			
80 SB		5	BR	,			
\vdash		54	>		Connector No.		M7
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AUTO LIGHT SYSTEM

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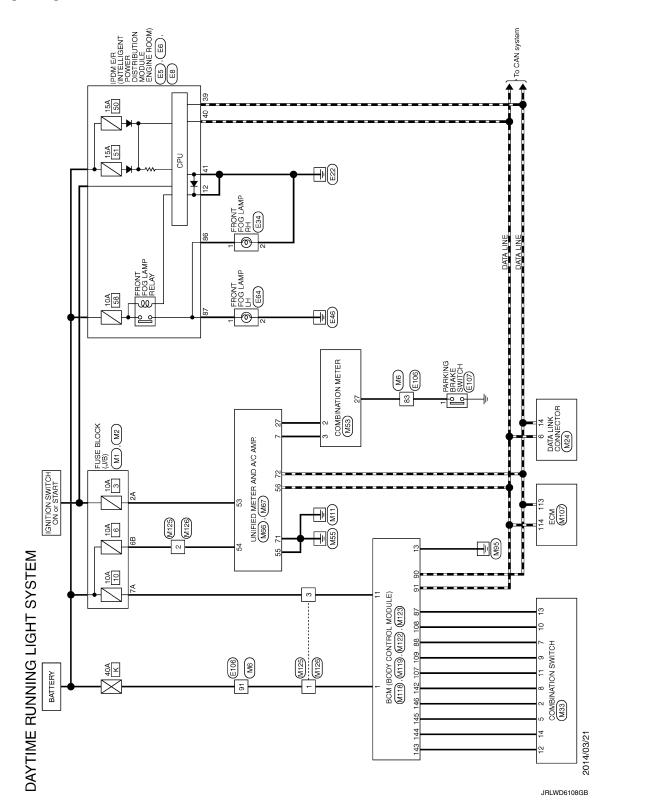
AUTO LIGHT SYSTEM	Connector No	M121	80	GR NATS ANT AMP	MP	139	-	TIRE PRESSURE RECEIVER COMM
Г			╀		AMP	140	В	SHIET N/P
Connector Name BCM (BODY CONTROL MODULE)	Connector Name	BCM (BODY CONTROL MODULE)	82	IGN	3) CONT	141	σ	SECURITY IND LAMP CONT
Connector Type M03FB-LC	Connector Type	TH40FGY-NH	83	Y KEYLESS ENTRY RECEIVER COMM	CEIVER COMM	142	BG	COMBI SW OUTPUT 5
1				BR COMBI SW INPUT 5	PUT 5	143	٩	COMBI SW OUTPUT 1
[Æ		88	V COMBI SW INPUT 3	PUT 3	144	σ	COMBI SW OUTPUT 2
	主手		90	P CAN-L		145	_	COMBI SW OUTPUT 3
13	E S		91	L CAN-H		146	BS	COMBI SW OUTPUT 4
			\vdash	TG KEY SLOT ILL CONT	CONT	150	P	DRIVER DOOR SW
2		1 89 68 67 66 66 64 1 61 60 1 1 1 51	\vdash			151	0	REAR WINDOW DEFOGGER RELAY CONT
]			94	Y PUDDLE LAMP CONT	CONT			
				BG ACC RELAY CONT	DONT			
	Terminal Color Of		\vdash	GR A/T SHIFT SELECTOR POWER SUPPLY	POWER SUPPLY	Connector No.		M125
	No. Wire	Signal Name [Specification]	┝	┝			Γ	TO LED
1 W BAT (F/L)	97 75	LUGGAGE ROOM ANT-	100	G PASSENGER DOOR REQUEST SW	REQUEST SW	Connector Name		WIRE TO WIRE
POWER WINDO	┝	LUGGAGE ROOM ANT+	┡	SB DRIVER DOOR REQUEST SW	QUEST SW	Connector	Type	Connector Type M03FW-LC
POWER WINDOW F	8 38	BACK DOOR ANT-	-	B	RELAY CONT			
	39 N	BACK DOOR ANT+	┝	LG KEYLESS ENTRY RECEIVER POWER SUPPLY	R POWER SUPPLY	Æ		[
	47 Y	IGN RFLAY (IPDM E/R) CONT		t	PUT 1	主		
Connector No. M119	52 SB	STARTER RELAY CONT	┝		PUT 4	S H		Ŧ
Г		MS HSNd	109		PUT 2			-
Connector Name BCM (BODY CONTROL MODULE)	┝	BACK DOOR OPENER REQUEST SW	110	G HAZARD SW	M			3 2
Connector Type NS18FW-CS	┝	I-KEV WARN RUZZER (ENG ROOM)						
	. 92	REAR WIPER STOP POSITION						
	-	BACK DOOR SW	Connector No	M123		Terminal	Color Of	[]
	67 GR	BACK DOOR OPENER SW				No.	Wire	Signal Name [Specification]
HS. 4 5 7 - 1 8 9 10	\vdash	REAR RH DOOR SW	Connector Name	THE BCW (BODY CONTROL MODULE)	DULE)	-	w	-
11 13 14 15 17 18 19	69 R	REAR LH DOOR SW	Connector Type	De TH40FG-NH		2	Y	
11			ą			m	œ	-
			F					
	Connector No.	M122		K			ſ	
ē	Connector Name	BCM (BODY CONTROL MODULE)	<u>6.1</u>	124 123 124	113 113 116 113	Connector No.		M126
No. Wife	, , ,	TURNER AND		15(15) 148(14)(14)(14)(14)(14)	100 100 107 124 100 102	Connector Name		WIRE TO WIRE
	Connector Lype	I H4UFB-NH				Connector	Tuno 1	Connoction Trues MID2MM/LI C
	Æ							MOUNT LO
	手		Terminal Col	Color Of		Æ		[
9 G DRIVER DOOR, FUEL LID UNLOCK OUTPUT	S H		No.	Wire Signal Name [Specification]	critication]	主		
10 BR REAR DOOR UNLOCK OUTPUT		91 90 00 01 07 00 00 02 01 01 01 00 00 00 00 00 00 00 00 00 00	113	P OPLICAL SENSOR	VSOR	S S		~
11 R BAT (FUSE)		8	116	SB STOP LAMP SW 1	SW 1			
13 B GROUND			118	P STOP LAMP SW 2	SW 2			2 3
DISH-BUTTON IGNITION SWILL GND W			119	SB DR DOOR UNLOCK SENSOR	K SENSOR]
15 Y ACCIND	Terminal Color Of		121	BR KEY SLOT SW	SW			
17 W TURN SIGNAL RH (FRONT)	No. Wire	Signal Name (Specification)	123	W IGN F/B		Terminal	Color Of	- - - - - - - - - - - - - - - - - -
18 BG TURN SIGNAL LH (FRONT)	74 SB	PASSENGER DOOR ANT-	124	LG PASSENGER DOOR SW	DOR SW	No.	Wire	Signal Name [Specification]
19 V INT ROOM LAMP CONT	75 GR	PASSENGER DOOR ANT+	132	BR POWER WINDOW SW COMM	SW COMM	-	w	
	76 V	DRIVER DOOR ANT-	133	W PUSH-BUTTON IGNITION SW ILL POWER	N SW ILL POWER	2	Y	
	77 LG	DRIVER DOOR ANT+	Н	GR LOCK IND		m	۲	-
	78 Y	ROOM ANT1-		BG RECEIVER/SENSOR GND	SOR GND			
	79 BR	ROOM ANT 1+	138	Y RECEIVER/SENSOR POWER SUPPLY	OWER SUPPLY			

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Revision: February 2015

DAYTIME RUNNING LIGHT SYSTEM

Wiring Diagram - DAYTIME LIGHT SYSTEM -



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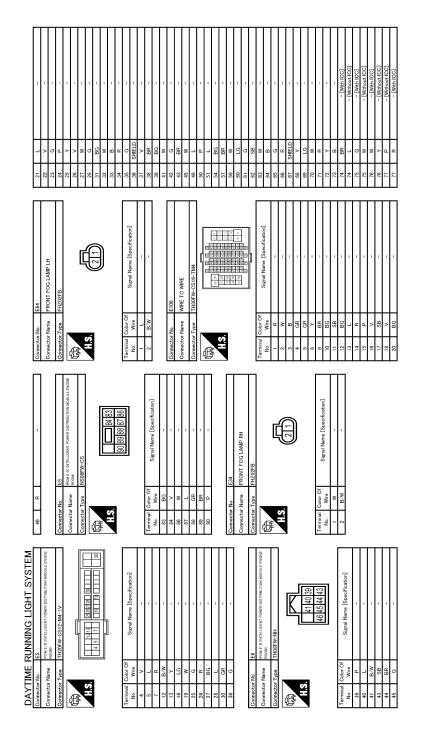
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DAYTIME RUNNING LIGHT SYSTEM

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< DTC/CIRCUIT DIAGNOSIS >

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Terminal Color Of Signal Name [Specification] No. Wire) >	42 Y FUEL LEVEL SENSOR SIGNAL	r D	} a.	46 BG SUNLOAD SENSOR SIGNAL	47 G EXHAUST GAS / OUTSIDE ODOR DETECTING SENSOR SIGNAL	53 G IGNITION POWER SUPPLY	Y BATTER'	в	;	2/ W BRAKE FLUID LEVEL SWITCH SIGNAL		BR	62 SB SUNLOAD SENSOR GROUND	œ	BG		EACH DOOR N	8	72 P CAN-L		Gennector No M107		Connector Name ECM	Connector Type RH24FGY-RZ8-R-LH-Z			12		Ę			lar (No. Wire	97 R ACCELERATOR PEDAL POSITION SENSOR 1	٩	Y ACC	5	L SENSOR F	M	8	E	103 G SENSOR POWER SUPPLY [Without ICC]	
40 BG ILLUMINATION CONTROL SWITCH SIGNAL (+)		Connector No. MB6	Connector Name UNIFIED METER AND A/C AMP.	Connector Type TH40FW-NH	1		R F	1.3.	23 25 27 28 39 39 34 38			Terminal Color Of	5 L MANUAL MODE SHIFT UP SIGNAL	7 GR COMMUNICATION SIGNAL (AMP>METER)	+	SB SEAT BELT	4	σ	BR COMMUN		- ;	25 V MANUAL MUDE SHIFT DUWN SIGNAL 27 LG COMMINIGATION SIGNAL (METER-)AMP)	α	: >	34 Y COMMUNICATION SIGNAL (AMP>LCD)	38 P BLOWER MOTOR CONTROL SIGNAL		Connector No M67	Τ	Connector Name UNIFIED METER AND A/C AMP.	Connector Type TH32FW-NH				1.2. 4142/28/44/45/46/47	22								
7 V MPUT3 8 RD OITTRITS		10 R INPUT 4	12 P OUTPUT	BR	14 G OUTPUT 2			Connector No. M53	Connector Name COMBINATION METER	T	Connector Type I H40F W-NH	4	H.S.	21 20 20 20 20 20 20 20 20 20 20 20 20 20				al D		GR BATTERY POWER SUPPLY ALTO COMMUNICATION COMMUNICATION	╉	+	ALTEF		10 G SECURITY SIGNAL	15 B GROUND	B METER CONT		ľ	р П	24 BR COMMUNICATION SIGNAL (LCD->AMP.)	25 Y COMMUNICATION SIGNAL (AMP:->LCD)	œ	>	28 W BRAKE FLUID LEVEL SWITCH SIGNAL	29 SB SEAT BELT BUCKLE SWTCH SIGNAL (DRIVER SIDE)	G SEAT B		B	ΓC	8		39 P ILLUMINATION CONTROL SWITCH SIGNAL (-)	
DAYTIME RUNNING LIGHT SYSTEM	100 SB -		Connector No. M24	Γ	Connector Name DATA LINK CONNECTOR	Connector Type BD16FW	Ľ						Terminal Color Of circuit Internet		3 LG -	4 B -	5 B			- 5 5		╀			Connector No. M33	Connector Name COMBINATION SWITCH	Ť	Connector type IH10FW-NH	4		HS 100 100	0 4	7 8 9 10 11 12 13 14			al		E		3 GR FR WASHER(+)	4 G IGN		6 B GROUND	

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Revision: February 2015

110 CIR SHET N.P 141 C SHET N.P 143 C CORRI SW OUTPUT 1 144 C CORRI SW OUTPUT 1 145 LG CORRI SW OUTPUT 1 146 SR OUTPUT 1 CORRI SW OUTPUT 1 145 LG CORRI SW OUTPUT 3 146 SR OUTPUT 3 Deriver SW OUTPUT 3 145 LG CORRI SW OUTPUT 3 145 LG CORRI SW OUTPUT 3 146 SR OUTPUT 3 Deriver SW OUTPUT 3 145 LG CORRI SW OUTPUT 3 146 LG CORRI SW OUTPUT 3 147 CORT Deriver SW OUTPUT 3 148 LG CORRI SW OUTPUT 3 149 LG REAR WOUTPUT 3 Onnextor Name MEC TO WRE CORRI SW OUTPUT 3 149 LG REAR WOUTPUT 3 151 T Deriver To K 152 Connextor Name Connextor Name 153 R T 153	Image: state of the state o
21 W MATS ANT AMP. 22 P CANT RELAY CES DOIT 23 Y CONDITISM WIRPUT 5 24 V CONDITISM WIRPUT 5 29 L CONDITISM WIRPUT 5 20 L CONDITISM WIRPUT 5 20 L CONDITISM WIRPUT 5 21 L CONDITISM WIRPUT 5 22 L CONDITISM WIRPUT 5 23 V PUDDLE LAMP CONT 24 AT 15MF SELECION FONET SUPPLY 25 CONDITISM WIRPUT 4 26 ELOWER FAM WOUT 6 210 L CONDITISM WIRPUT 4 210 L CONDISM WIRPUT 4 210<	Terminal No. Color OF wreak Syrun Mame [Sherification] No. P OPLOGAL SNEOR 113 P STOPL JAME SNI 116 P STOPL JAME SNI 118 P STOPL JAME SNI 119 P STOPL JAME SNI 119 SP STOPL JAME SNI 121 BR NORME ON SNI 121 M POSENIGE POOR SNI 123 W PUSH-BUDON SNI 134 BI PUSH-BUDON SNI 135 BI PUSH-BUTON NAILLE DOWR 136 CF PECENTRIZ SHILOS ON SNI 137 LG POSENDED PORE SUPDIO 138 V THE PRESSURE RECEIVER SHILPOWR 139 L THE PRESSURE RECEIVER SHILPOWEN
Connector No. M19 Connector Name EOM (BODY CONTROL, MODULE) Connector Name EOM (BIDY CONTROL, MODULE) Connector Name EOM (BIDY CONTROL, MODULE) Anticipation EOM (BIDY CONTROL, MODULE) March Standard Environment Eom (BID NC) March Standard Environment Eom (BID NC) Parative Standard International Control International Control International Control International Control International Control International Environmenter Control International Environmenter Control International Environmenter Control International Control International Environmenter	Terminal Color 1 Terminal 1 Non
DATIME RUNNING LIGHT SYSTEM Image: Serior down when cloped in the series are series are down when cloped in the series are series are down when cloped in the series are are down when cloped in the series are	Turninal Color Of No. Signal Name [Specification] 1 W BAT (#1.0.1) 2 W POMER MINCOM FOMER SUPPLY(RAP) 3 Y POMER MINCOM FOMER SUPPLY(RAP)

DAYTIME RUNNING LIGHT SYSTEM

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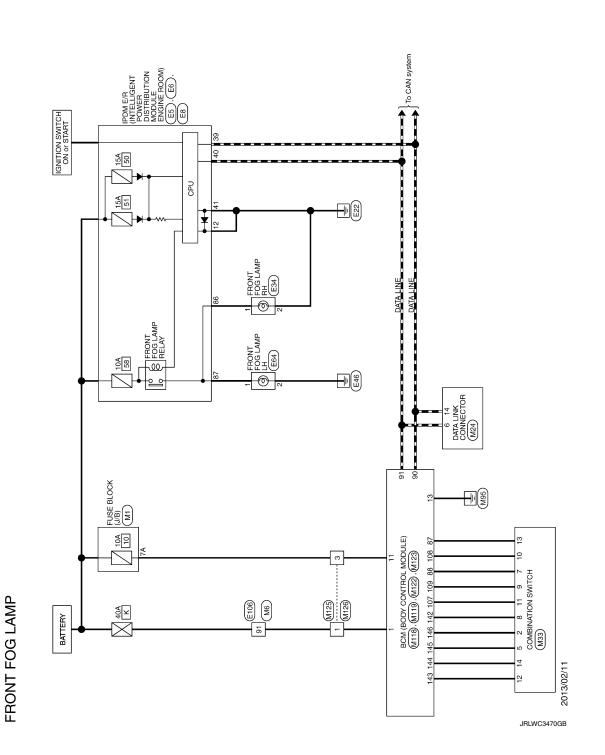
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< DTC/CIRCUIT DIAGNOSIS >

FRONT FOG LAMP SYSTEM

Wiring Diagram - FRONT FOG LAMP -

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FRONT FOG LAMP Connector No. ES Connector Name Connector Na	Turnikal (No. Color CP (No. Signal Mane [Specification] No. We - - 12 E.W. - - - 13 V - - - - 13 F.W. - - - - - 13 F.W. -

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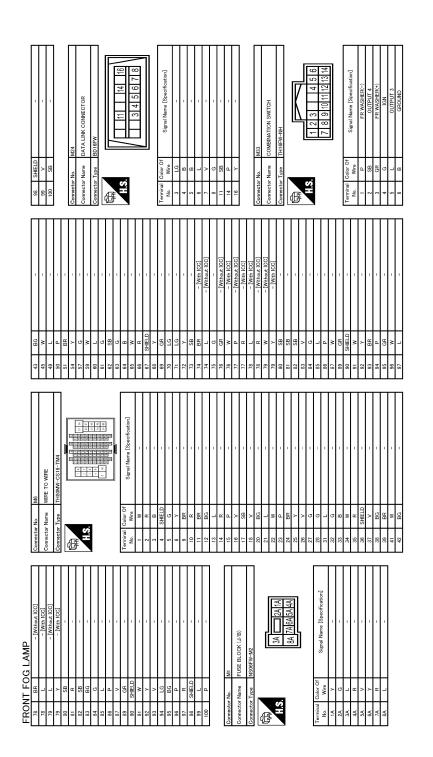
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FRONT FOG LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

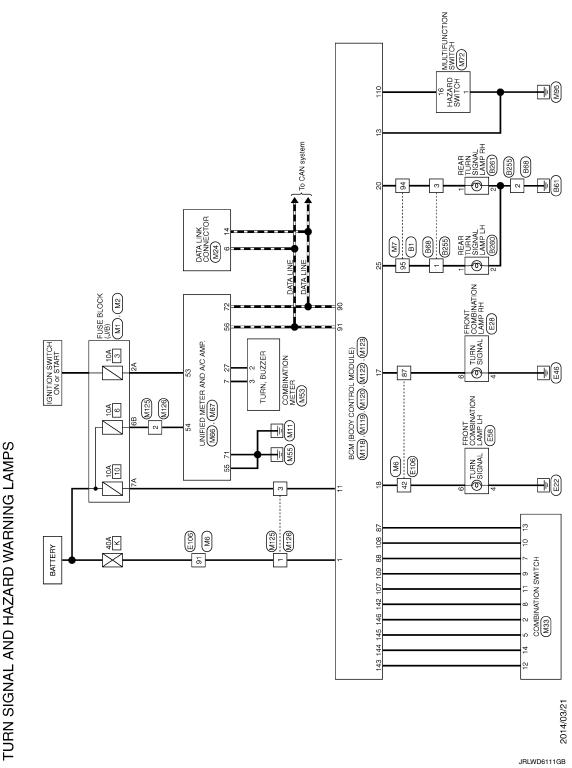
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

Wiring Diagram - TURN AND HAZARD WARNING LAMPS -

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[XENON TYPE]



TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

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< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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< DTC/CIRCUIT DIAGNOSIS >

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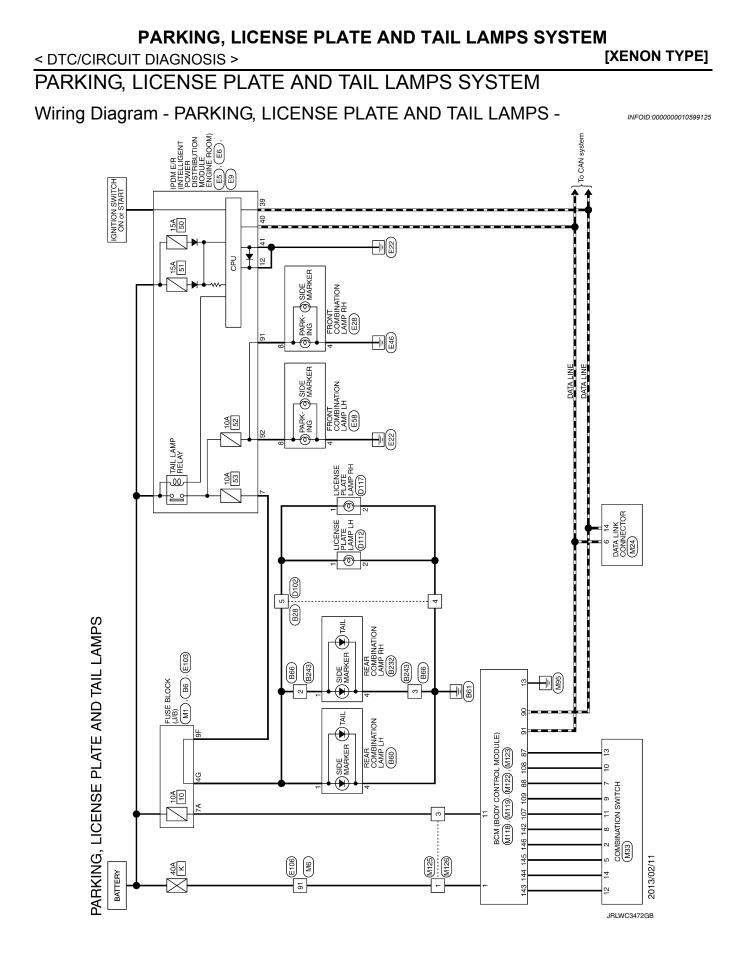
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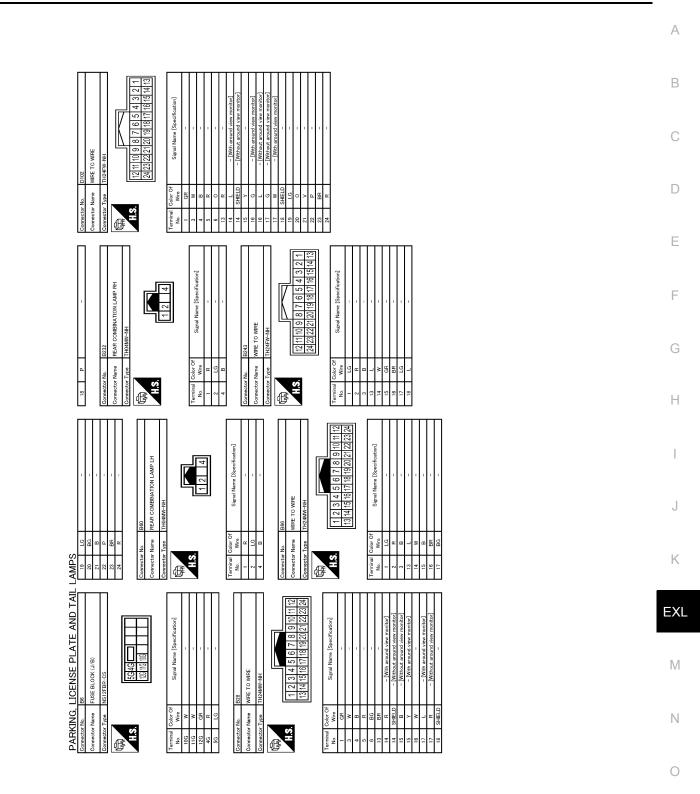
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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM [XENON TYPE] < DTC/CIRCUIT DIAGNOSIS >

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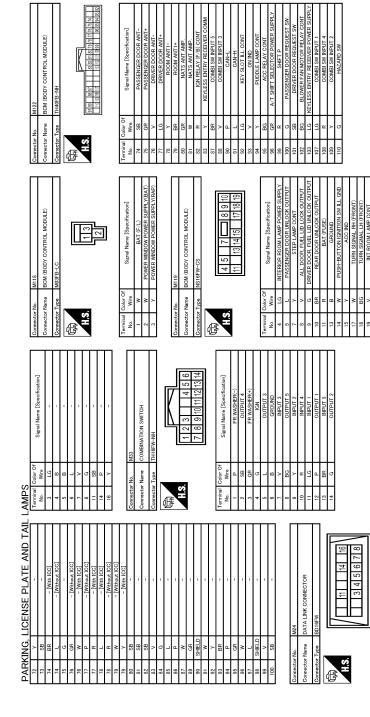
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PARKING,	LICENSE PLATE AND	TAIL LAMPS SYSTEM
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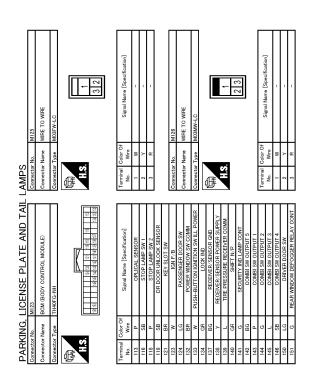
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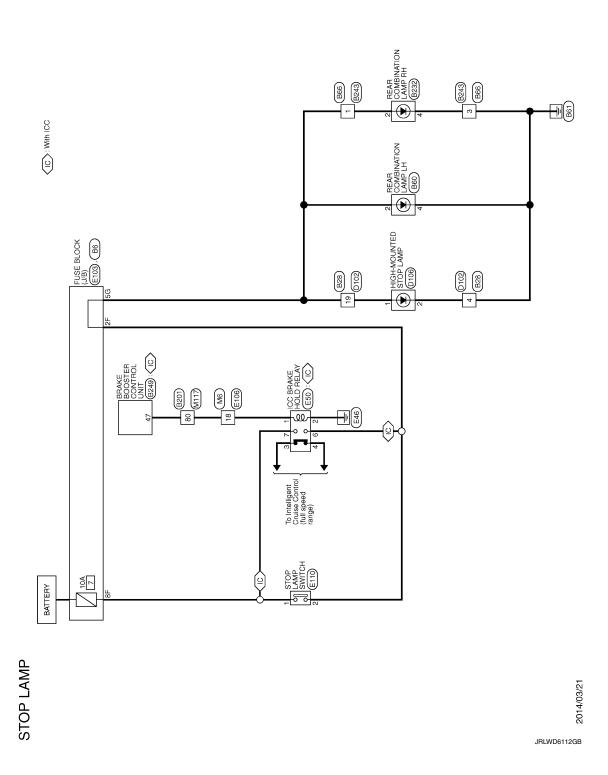
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Wiring Diagram - STOP LAMP -



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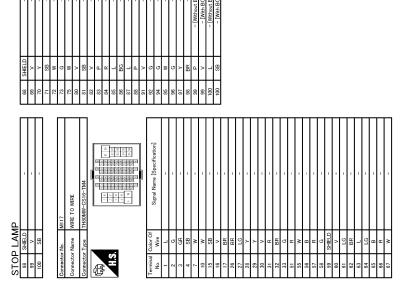
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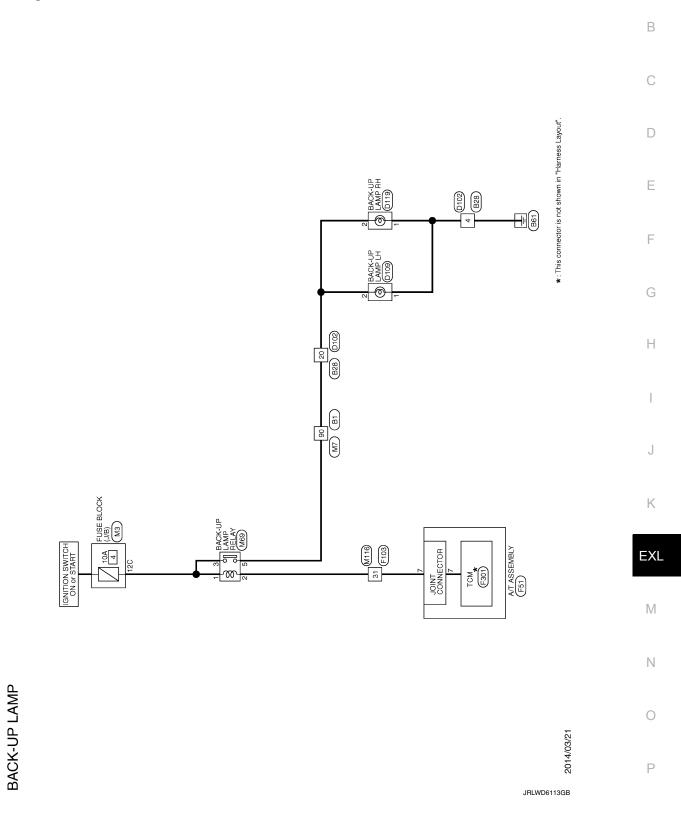
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BACK-UP LAMP

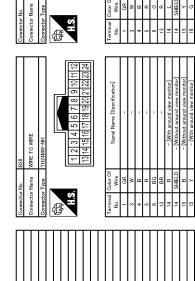
Wiring Diagram - BACK-UP LAMP -



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47 58 - Connector No. 928 0002 49 80 - - 0002 0002 49 80 - - - 0002 40 80 - - - 0002 40 10 - - - - 0002 40 1 - <td>47 58 - Connector No. D102 0102 100 2 0 0 1 0</td> <td>47 58 - Director Vio. B23 Connector Vio. Dirac <thdirac< th=""> Dirac Dirac</thdirac<></td> <td>47 58 - Director Vio. B23 Connector Vio. Dirac <thdirac< th=""> Dirac Dirac</thdirac<></td> <td>41 56 - Connector No. B23 Connector No. D102 D102 RE 48 B0 - - Connector Norme WRE TO WRE Connector Norme MRE TO WRE Connector Norme MRE TO WRE Connector Type Connector Type</td>	47 58 - Connector No. D102 0102 100 2 0 0 1 0	47 58 - Director Vio. B23 Connector Vio. Dirac Dirac <thdirac< th=""> Dirac Dirac</thdirac<>	47 58 - Director Vio. B23 Connector Vio. Dirac Dirac <thdirac< th=""> Dirac Dirac</thdirac<>	41 56 - Connector No. B23 Connector No. D102 D102 RE 48 B0 - - Connector Norme WRE TO WRE Connector Norme MRE TO WRE Connector Norme MRE TO WRE Connector Type
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47 38 - Connector No. 973 Connector No. 973 174 -	47 58 - Connector No. 928 Connector No. 920 49 80 - - Connector Num. WRE TO WRE Connector Num. WRE TO WRE 9 1 - - - Connector Num. WRE TO WRE 9 1 - - - Connector Num. WRE TO WRE 9 1 - - - - Connector Num. WRE TO WRE 9 1 - - - - - Connector Num. WRE TO WRE 9 1 - <	41 58 - Connector No. B23 Connector No. D102 RE 48 BG - Connector Nume WRE TO WRE Connector Nume WRE TO WRE 30 L - - Connector Nume WRE TO WRE Connector Nume WRE TO WRE 90 P - - - Connector Nume WRE TO WRE 91 L - - - Connector Nume WRE TO WRE 92 L - - - Connector Tops Connector Tops Connector Tops 61 L - - - Connector Tops Connector Tops Connector Tops 62 StetLD - - - - - -	41 58 - Connector No. B23 Connector No. D102 RE 48 BG - Connector Nume WRE TO WRE Connector Nume WRE TO WRE 30 L - - Connector Nume WRE TO WRE Connector Nume WRE TO WRE 90 P - - - Connector Nume WRE TO WRE 91 L - - - Connector Nume WRE TO WRE 92 L - - - Connector Tops Connector Tops Connector Tops 61 L - - - Connector Tops Connector Tops Connector Tops 62 StetLD - - - - - -	41 56 - Connector No. B23 Connector No. D102 D102 RE 48 BO - - Connector Name WRE TO WRE Connector Name MRE TO WRE Connector Name MRE TO WRE Connector Name Connector Name MRE TO WRE Connector Name
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47 58 - Connector No. 923 Connector No. 9102 49 80 - - Connector No. 923 Connector No. 0102 49 80 - - Connector No. 0102 Connector No. 0102 49 8 - - - Connector No. URE TO WRE 50 1 - - - Connector No. Connector No. Connector No. 60 1 - - - Connector No.	47 58 - Connector No. 923 Connector No. 9102 49 8 - - - Connector No. 0102 49 8 - - - - Connector No. 0102 49 8 Connector Norme WRE TO WRE Connector Norme WRE TO WRE 50 1 - - - - Connector Norme 60 1 - - - - Connector Norme MRE TO WRE 60 1 - - - - Connector Norme - 61 1 -	47 38 - Connector No. D102 IFE 46 B1 - 00mettor No. D102 Sto-THA WRE TO WIE - - 0002 - 0002 Sto-THA WRE TO WIE - - - - - - 0002 Sto-THA WRE TO WIE - - - - - - - - - - - - 002 -	47 38 - Connector No. D102 IFE 46 B1 - 00mettor No. D102 Sto-THA WRE TO WIE - - 0002 - 0002 Sto-THA WRE TO WIE - - - - - - 0002 Sto-THA WRE TO WIE - - - - - - - - - - - - 002 -	47 58 - Connector No. D102 In 48 B1 - 00mettor No. D102 S10-TML 20 - - 0007 007 S10-TML 000 P - - 0007 0000 S10-TML 000 P - - 0000 0007 00000 S10-TML 000 P - - 00000 00000 00000 000000 000000 0000000 0000000 0000000 0000000 0000000 0000000 0000000 0000000 00000000 00000000 000000000 00000000 00000000 000000000 00000000 00000000 000000000 000000000 000000000 000000000 000000000 000000000 00000000000 00000000000000 0000000000 00000000000 00000000000 00000000000000 000000000000000 00000000000000000 00000000000000000 0000000000000000000000000 000000000000000000000000000000000000
47 58 - Connector ho. B73 Connector ho. D73 49 B2 - - - - - Connector ho. 49 B2 - - - - Connector ho. Connector ho. 49 B - - - Connector ho. Connector ho. Connector ho. 10 L - - - Connector ho. Connecto	47 58 - Connector ho. B23 Connector ho. 48 B0 - - Connector ho. Connector ho. 49 B0 - - Connector ho. Connector ho. 49 B0 - - Connector ho. Connector ho. 60 L - - Connector ho. Connector ho. 10 L - - Connector ho. Connector ho. 61 L - - Connector ho. Connector ho. 63 SHELD - - Connector ho. Connector ho.	47 58	47 58	47 58 Connector No. 828 Connector No. IFE 48 81 - - Oconnector No. 9 L - - - - - 00 L - - - - - - 11 III - <t< td=""></t<>
47 58 - Connector ho. B73 Connector ho. B73 Connector ho. 49 R - - - - - Connector ho. 49 R - - - - Connector ho.	47 58 - Connector No. B23 Connector No. 49 56 - - 0 <t< td=""><td>47 58 - Connector No. 8/8 Connector No. IRE 48 81 - - Connector No. 8/8 Connector No. 50 L - - Connector No. MRE TO WIE Connector No. Connector No. 50 L - - Connector No. Connector No. Connector No. Connector No. 60 P - - - Connector No. Connector No. Connector No. 61 L - - - - - Connector Type Connector No. 61 L -</td><td>47 58 - Connector No. 8/8 Connector No. IRE 48 81 - - Connector No. 8/8 Connector No. 50 L - - Connector No. MRE TO WIE Connector No. Connector No. 50 L - - Connector No. Connector No. Connector No. Connector No. 60 P - - - Connector No. Connector No. Connector No. 61 L - - - - - Connector Type Connector No. 61 L -</td><td>47 58 - Connector No. 8/3 Connector No. 8/3 Connector No. IPE 48 BG - - 0 - 0 -</td></t<>	47 58 - Connector No. 8/8 Connector No. IRE 48 81 - - Connector No. 8/8 Connector No. 50 L - - Connector No. MRE TO WIE Connector No. Connector No. 50 L - - Connector No. Connector No. Connector No. Connector No. 60 P - - - Connector No. Connector No. Connector No. 61 L - - - - - Connector Type Connector No. 61 L -	47 58 - Connector No. 8/8 Connector No. IRE 48 81 - - Connector No. 8/8 Connector No. 50 L - - Connector No. MRE TO WIE Connector No. Connector No. 50 L - - Connector No. Connector No. Connector No. Connector No. 60 P - - - Connector No. Connector No. Connector No. 61 L - - - - - Connector Type Connector No. 61 L -	47 58 - Connector No. 8/3 Connector No. 8/3 Connector No. IPE 48 BG - - 0 - 0 -
47 58 - Connector ho. B73 Connector ho. B73 Connector ho. 49 B0 - - 0 B0 Connector ho.	47 58 - Connector No. B13 Connector No. 49 R - - Connector Na. Connector Na. Connector Na. 50 L - - Connector Na. Connector Na. Connector Na. 60 L - - Connector Na. Connector Na. Connector Na. 60 L - - Connector Na. Connector Na. Connector Na. 60 L - - Connector Na. Connector Na. Connector Na.	47 58 - Connector No. 828 Connector No. RE 48 BG - - Ocumentor No. Connector No. 91 R - - - - Connector No. 50 L - - - - Connector Name 60 L - - - - Connector Name 0 L - - - - Connector Name 0 L - - - - Connector Name Connector Name	47 58 - Connector No. 828 Connector No. RE 48 BG - - Ocumentor No. Connector No. 91 R - - - - Connector No. 50 L - - - - Connector Name 60 L - - - - Connector Name 0 L - - - - Connector Name 0 L - - - - Connector Name Connector Name	47 58 - Connector No. 828 Connector No. Conno. Conno. Connector No
47 58 - Connector ho. B73 Connector ho. B73 Connector ho. 49 R - - - - Connector ho.	47 58 - Connector No. B23 Connector No. 49 R - - Connector Name Connector Nam	47 58 - Connector No. 828 Connector No. 828 Connector No. RF 48 BG - - Ocumentor Name WRE TO WRE Connector No. Connector	47 58 - Connector No. 828 Connector No. 828 Connector No. RF 48 BG - - Ocumentor Name WRE TO WRE Connector No. Connector	47 58 - Connector No. 828 1 4 58 - Connector No. 628 4 50 L - Connector No. 628 35 L - Connector No. 068 Connector No. 510-1M4 - - Connector No. Connector No. Connector No. 61 L - - - Connector Type Connector Type
47 58 - Connector ho. B73 Connector ho. B73 Connector hom 14 15 1 - - 0 </td <td>47 58 - Connector No. B23 Connector No. 49 R - - Connector Name Connector Name Connector Name 1M 30 L - - Connector Name Connector Name 1M 50 L - - Connector Name Connector Name 1M 50 L - - Connector Name Connector Name 1M 1 - - Connector Name Connector Name Connector Name 1M 1 - - - Connector Name Connector Name</td> <td>47 58 - Connector No. 828 16 4 80 - 0</td> <td>47 58 - Connector No. 828 16 4 80 - 0</td> <td>47 58 - Connector No. 823 RE 48 BG - Connector No. BC Connector No. 49 BG - - Connector No. BC Connector No. 50 L - - Connector No. MRE TO WRE Connector No. 50 L - - - Connector No. Connector No. 60 L - - - Connector No. Connector No. 61 L - - - Connector No. Connector No. 61 L - - - Connector No. Connector No. 61 L - - - Connector Tope Connector Tope</td>	47 58 - Connector No. B23 Connector No. 49 R - - Connector Name Connector Name Connector Name 1M 30 L - - Connector Name Connector Name 1M 50 L - - Connector Name Connector Name 1M 50 L - - Connector Name Connector Name 1M 1 - - Connector Name Connector Name Connector Name 1M 1 - - - Connector Name Connector Name	47 58 - Connector No. 828 16 4 80 - 0	47 58 - Connector No. 828 16 4 80 - 0	47 58 - Connector No. 823 RE 48 BG - Connector No. BC Connector No. 49 BG - - Connector No. BC Connector No. 50 L - - Connector No. MRE TO WRE Connector No. 50 L - - - Connector No. Connector No. 60 L - - - Connector No. Connector No. 61 L - - - Connector No. Connector No. 61 L - - - Connector No. Connector No. 61 L - - - Connector Tope Connector Tope
47 58 - Connector No. B23 Connector No. 49 R - - Connector Name Connector Name Connector Name 1M 50 L - Connector Name Connector Name Connector Name Connector Name Connector Name 1M 50 L - Connector Name	47 58 - Connector No. B28 Connector No.	47 58 - Connector No. 8/3 Connector No. RE 48 BG - - Connector No. 2/3 S10-TM4 50 L - Connector No. MRE TO WRE Connector No. S10-TM4 50 L - - Connector No. Connector No. S10-TM4 50 L - - Connector No. Connector No. S10-TM4 50 L - - Connector Type TU24MM-NH B1 - - - - Connector Type Connector Type	47 58 - Connector No. 8/3 Connector No. RE 48 BG - - Connector No. 2/3 S10-TM4 50 L - Connector No. MRE TO WRE Connector No. S10-TM4 50 L - - Connector No. Connector No. S10-TM4 50 L - - Connector No. Connector No. S10-TM4 50 L - - Connector Type TU24MM-NH B1 - - - - Connector Type Connector Type	47 58 - Connector No. 823 Connector No. 1RE - - - Connector No. 823 Connector No. 1RE - - - Connector No. 823 Connector No. 1RE - - - Connector No. 0.0 Connector No. 1RE - - - Connector No. No. Connector No. 1RE - - - - Connector No. Connector No. 1RE - - - - Connector No. Connector No. 1RE - - - - Connector No. Connector No. 1RE - - - - Connector No. Connector No. 1RE - - - - Connector No. Connector No.
47 28 - Connector ho. B73 Connector ho. 48 BG - - Connector ho. Connector ho. Connector ho. 49 R - - Connector ho. Connector ho. Connector ho. 40 L - - Connector ho. Connector ho. Connector ho. 10 L - - Connector ho. Connector ho. Connector ho. 11 L - - - Connector ho. Connector ho.	47 58 - Connector No. B28 Connector No. 48 R - - Connector Name	47 58 - Connector No. 8/3 Connector No. 8/3 Connector No. Connector No. <th< td=""><td>47 58 - Connector No. 8/3 Connector No. 8/3 Connector No. <th< td=""><td>47 58 - Connector No. 823 Connector No. RE 43 BC - - Connector No. 0.03 49 BC - - Connector No. 0.03 Connector No. 510-TMM - - - Connector Norme NRE TO WRE Connector Norme 510-TMM - - - Connector Norme NRE TO WRE Connector Norme 510-TMM - - - Connector Norme Connector Norme Connector Norme 510-TMM - - - - Connector Norme Connector Norme 510-TMM - - - - Connector Norme Connector Norme Connector Norme 61 - - - - - Connector Norme Connector Norme</td></th<></td></th<>	47 58 - Connector No. 8/3 Connector No. 8/3 Connector No. Connector No. <th< td=""><td>47 58 - Connector No. 823 Connector No. RE 43 BC - - Connector No. 0.03 49 BC - - Connector No. 0.03 Connector No. 510-TMM - - - Connector Norme NRE TO WRE Connector Norme 510-TMM - - - Connector Norme NRE TO WRE Connector Norme 510-TMM - - - Connector Norme Connector Norme Connector Norme 510-TMM - - - - Connector Norme Connector Norme 510-TMM - - - - Connector Norme Connector Norme Connector Norme 61 - - - - - Connector Norme Connector Norme</td></th<>	47 58 - Connector No. 823 Connector No. RE 43 BC - - Connector No. 0.03 49 BC - - Connector No. 0.03 Connector No. 510-TMM - - - Connector Norme NRE TO WRE Connector Norme 510-TMM - - - Connector Norme NRE TO WRE Connector Norme 510-TMM - - - Connector Norme Connector Norme Connector Norme 510-TMM - - - - Connector Norme Connector Norme 510-TMM - - - - Connector Norme Connector Norme Connector Norme 61 - - - - - Connector Norme Connector Norme
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47 58 - Connector ho. B73 Connector ho. 48 BG - - Connector ho. Connector ho. Connector ho. 49 R - - Connector ho. Connector ho. Connector ho. 49 R - - Connector ho. Connector ho. Connector ho. 90 L - - Connector ho. Connector ho. Connector ho. 10 P - - - Connector ho. Connector ho.	47 SE - Connector No. B23 Connector No. 48 BG - - Connector No. Connector No. Connector No. 49 R - - Connector No. Connector No. Connector No. 49 R - - Connector No. Connector No. Connector No. 10 P - - Connector No. Connector No. Connector No. 11 - - - Connector No. Connector No. Connector No.	47 58 - Connector No. 9/3 Connector No. RE 48 B/3 - - Connector No. 0/3 A1 B/3 - - Connector No. 0/3 Connector No. A1 B/3 - - - Connector Name MRE 10 MRE Connector Name A1 - - - - Connector Name Connector Name Connector Name Connector Name A1 - - - - Connector Name Connector Nam Connector Name Conn	47 58 - Connector No. 9/3 Connector No. RE 48 B/3 - - Connector No. 0/3 A1 B/3 - - Connector No. 0/3 Connector No. A1 B/3 - - - Connector Name MRE 10 MRE Connector Name A1 - - - - Connector Name Connector Name Connector Name Connector Name A1 - - - - Connector Name Connector Nam Connector Name Conn	47 58 - Connector No. 928 Connector No. 928 Connector No.
47 58 - Connector ho. B73 Connector ho. 48 BG - - Connector ho. Connector ho. Connector ho. 49 R - - Connector ho. Connector ho. Connector ho. 49 R - - Connector ho. Connector ho. Connector ho. 90 L - - Connector ho. Connector ho. Connector ho. 10 L - - - Connector ho. Connector ho.	47 SE - Connector ho. B23 Connector ho. 48 BG - - Connector ho. Connector ho. 48 BG - - Connector ho. Connector ho. 49 R - - Connector ho. Connector ho. 49 R - - Connector ho. Connector ho. 50 L - - Connector ho. Connector ho. 60 P - - Connector ho. Connector ho.	47 58 - Connector No. 823 Connector No. RE 48 BG - - Connector No. 203 48 BG - - Connector No. 203 Connector No. 49 B - - Connector Name MRE TO MRE Connector Name 50 L - - Connector Name Connector Name Connector Name 60 L - - Connector Type Connector Type Connector Type	47 58 - Connector No. 823 Connector No. RE 48 BG - - Connector No. 203 48 BG - - Connector No. 203 Connector No. 49 B - - Connector Name MRE TO MRE Connector Name 50 L - - Connector Name Connector Name Connector Name 60 L - - Connector Type Connector Type Connector Type	47 58 - Connector No. 928 Connector No. RE 48 BG - 0 <
47 58 - Connector ho. B73 Connector ho. 48 BG - - Connector ho. Connector ho. 49 B - - Connector ho. Connector ho. 49 B - - Connector ho. Connector ho. 60 P - - Connector ho. Connector ho.	47 SE - Connector ho. B3 Connector ho. 48 BG - Connector ho. Connector ho. Connector ho. 49 LG - Connector ho. Connector ho. Connector ho. 49 L - Connector ho. Connector ho. Connector ho. 10 L - Connector ho. Connector ho. Connector ho.	47 58 - Connector No. 828 Connector No. RE 48 BC - 0 <	47 58 - Connector No. 828 Connector No. RE 48 BC - 0 <	47 58 - Connector No. B28 Connector No. B28 Connector No. 48 BC - 0 - 0 - 0 - 0 - 0 - 0 - 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - - - 0 - </td
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47 58 - Connector ho. B33 Connector ho. 48 B0 - Connector ho. Connector ho. Connector ho. 49 R - - Connector ho. Connector ho. Connector ho. 49 R - - Connector ho. Connector ho. Connector ho. 40 L - - Connector Type Connector Type Connector Type 60 L - - - Connector Type Connector Type	47 58 - Connector No. B33 Connector No. 48 BG - Connector No. Connector No. Connector No. 49 BG - - Connector No. Connector No. Connector No. 49 RG - - Connector No. Connector No. Connector No. 9 R - - Connector Type Int24MM-NH Connector Type 60 L - - - Connector Type Connector Type	47 58 - Currentor No. 8/3 Currentor No. RE 48 EG - Connector No. Connector No. Connector No. 9 L - - Connector No. Connector No. Connector No. 60 L - - Connector No. Connector No. Connector No.	47 58 - Currentor No. 8/3 Currentor No. RE 48 EG - Connector No. Connector No. Connector No. 9 L - - Connector No. Connector No. Connector No. 60 L - - Connector No. Connector No. Connector No.	47 58 - Connector No. 8/3 Connector No. RE 48 EG - 0 Connector No. Connector No. 9 L - - 0 Connector No. Connector No. 50 L - - - - 0 Connector No.
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47 58 - Connector ho. E78 Connector ho. 48 BG - - Connector ho. Connector ho. Connector ho. 49 R - - Connector ho. Connector ho. Connector ho. 40 R - - Connector ho. Connector ho. Connector ho. 70 L - - Connector ho. Connector ho. Connector ho.	47 SB - Connector ho. B3 Connector ho. 48 BG - - Connector ho. Connector ho. 49 BG - - Connector ho. Connector ho. 49 R - - Connector ho. Connector ho. 40 R - - Connector ho. Connector ho. 50 L - - Connector ho. Connector ho.	47 58 - Connector No. 828 Connector No. RE 48 BC - 0ometor Name MRE TO WRE Connector Name A1 B - - 0ometor Name MRE TO WRE Connector Name A1 B - - 0ometor Name MRE TO WRE Connector Name S10-TM 50 L - 0ometor Type Connector Type Connector Type	47 58 - Connector No. 828 Connector No. RE 48 BC - 0ometor Name MRE TO WRE Connector Name A1 B - - 0ometor Name MRE TO WRE Connector Name A1 B - - 0ometor Name MRE TO WRE Connector Name S10-TM 50 L - 0ometor Type Connector Type Connector Type	47 56 - Connector No. B28 Connector No. RE 48 BC - Ownector Name MRE TO WRE Connector Name 49 R - O - Connector Name MRE TO WRE Connector Name 50 L - Connector Type Connector Type Connector Type Connector Type
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47 58 - Connector No. B28 Connector No. 48 BD - Connector Name MIRE TO WIRE Connector Name	47 5B - Connector No. B28 Connector No. 48 BG - Connector Name MIRE TO WIRE Connector Name	47 58 - Connector No. 923 Connector No. 48 BG - - 0 <t< td=""><td>47 58 - Connector No. 923 Connector No. 48 BG - - 0 <t< td=""><td>47 58 - Connector No. 923 Connector No. 48 BG - - 0 <t< td=""></t<></td></t<></td></t<>	47 58 - Connector No. 923 Connector No. 48 BG - - 0 <t< td=""><td>47 58 - Connector No. 923 Connector No. 48 BG - - 0 <t< td=""></t<></td></t<>	47 58 - Connector No. 923 Connector No. 48 BG - - 0 <t< td=""></t<>
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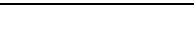
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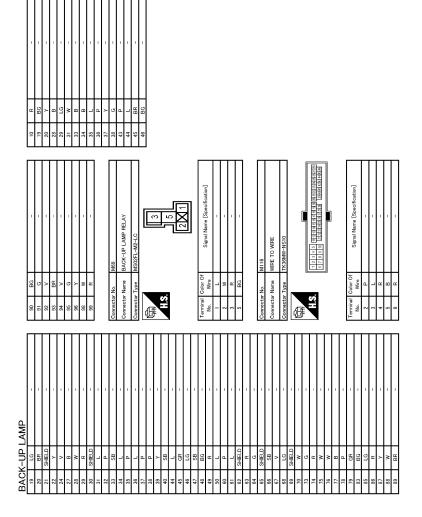
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BACK-UP LAMP

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JRLWD6242GB

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

NOTE:

С The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status	Ľ
	Other than front wiper switch HI	Off	
FR WIPER HI	Front wiper switch HI	On	E
	Other than front wiper switch LO	Off	
FR WIPER LOW	Front wiper switch LO	On	_
	Front washer switch OFF	Off	F
FR WASHER SW	Front washer switch ON	On	
FR WIPER INT	Other than front wiper switch INT	Off	G
	Front wiper switch INT	On	
FR WIPER STOP	Front wiper is not in STOP position	Off	
FR WIFER STOP	Front wiper is in STOP position	On	Н
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position	
RR WIPER ON	Other than rear wiper switch ON	Off	
	Rear wiper switch ON	On	
	Other than rear wiper switch INT	Off	J
RR WIPER INT	Rear wiper switch INT	On	
RR WASHER SW	Rear washer switch OFF	Off	
RR WASHER SW	Rear washer switch ON	On	K
	Rear wiper is in STOP position	Off	
RR WIPER STOP	Rear wiper is not in STOP position	On	ΕX
	Other than turn signal switch RH	Off	
TURN SIGNAL R	Turn signal switch RH	On	
TURN SIGNAL L	Other than turn signal switch LH	Off	N
TURN SIGNAL L	Turn signal switch LH	On	
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off	N
TAIL LAWP SVV	Lighting switch 1ST or 2ND	On	IN
HI BEAM SW	Other than lighting switch HI	Off	
	Lighting switch HI	On	0
HEAD LAMP SW 1	Other than lighting switch 2ND	Off	
HEAD LAWF SVV I	Lighting switch 2ND	On	
HEAD LAMP SW 2	Other than lighting switch 2ND	Off	Ρ
HEAD LAWF SW Z	Lighting switch 2ND	On	
	Other than lighting switch PASS	Off	
PASSING SW	Lighting switch PASS	On	
	Other than lighting switch AUTO	Off	
AUTO LIGHT SW	Lighting switch AUTO	On	

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< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Monitor Item	Condition	Value/Status
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off
DOOR SW-DR	Driver door closed	Off
	Driver door opened	On
DOOR SW-AS	Passenger door closed	Off
500K 3W-A3	Passenger door opened	On
DOOR SW-RR	Rear RH door closed	Off
JOOR SW-RR	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
JOOR SW-RL	Rear LH door opened	On
	Back door closed	Off
DOOR SW-BK	Back door opened	On
	Other than power door lock switch LOCK	Off
CDL LOCK SW	Power door lock switch LOCK	On
	Other than power door lock switch UNLOCK	Off
CDL UNLOCK SW	Power door lock switch UNLOCK	On
	Other than driver door key cylinder LOCK position	Off
KEY CYL LK-SW	Driver door key cylinder LOCK position	On
	Other than driver door key cylinder UNLOCK position	Off
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On
KEY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off
	Hazard switch is OFF	Off
HAZARD SW	Hazard switch is ON	On
REAR DEF SW	NOTE: The item is indicated, but not monitored.	Off
TR CANCEL SW	NOTE: The item is indicated, but not monitored.	Off
	Back door opener switch OFF	Off
TR/BD OPEN SW	While the back door opener switch is turned ON	On
TRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
REVERSE SW	NOTE: The item is indicated, but not monitored.	Off
DKELOCK	LOCK button of the key is not pressed	Off
RKE-LOCK	LOCK button of the key is pressed	On
	UNLOCK button of the key is not pressed	Off
RKE-UNLOCK	UNLOCK button of the key is pressed	On
RKE-TR/BD	NOTE: The item is indicated, but not monitored.	Off
	PANIC button of the key is not pressed	Off
RKE-PANIC	PANIC button of the key is pressed	On
	UNLOCK button of the key is not pressed	Off
RKE-P/W OPEN	UNLOCK button of the key is pressed and held	On

Revision: February 2015

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

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

Revision: February 2015

EXL-131

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
SFT P -MET	Selector lever in any position other than P	Off
SFIF-WEI	Selector lever in P position	On
SFT N -MET	Selector lever in any position other than N	Off
SFT IN -IVIET	Selector lever in N position	On
	Engine stopped	Stop
ENGINE STATE	While the engine stalls	Stall
ENGINE STATE	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L UNLK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L RELAY-REQ	NOTE: The item is indicated, but not monitored.	Off
VEH SPEED 1	While driving	Equivalent to speed- ometer reading
VEH SPEED 2	While driving	Equivalent to speed- ometer reading
	Driver door is locked	LOCK
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door is unlocked	UNLOCK
	Passenger door is locked	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door is unlocked	UNLOCK
ID OK FLAG	Driver side door is open after ignition switch is turned OFF (Shift position is in the P position)	Reset
	Ignition switch ON	Set
	The engine start is prohibited	Reset
PRMT ENG STRT	The engine start is permitted	Set
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset
	The key is not inserted into key slot	Off
KEY SW -SLOT	The key is inserted into key slot	On
RKE OPE COUN1	During the operation of the key	Operation frequency of the key
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	_
	The key ID that the key slot receives does not accord with any key ID registered to BCM.	Yet
CONFRM ID ALL	The key ID that the key slot receives accords with any key ID registered to BCM.	Done
	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	Yet
CONFIRM ID4	The key ID that the key slot receives accords with the fourth key ID reg- istered to BCM.	Done
	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	Yet
CONFIRM ID3	The key ID that the key slot receives accords with the third key ID registered to BCM.	Done

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

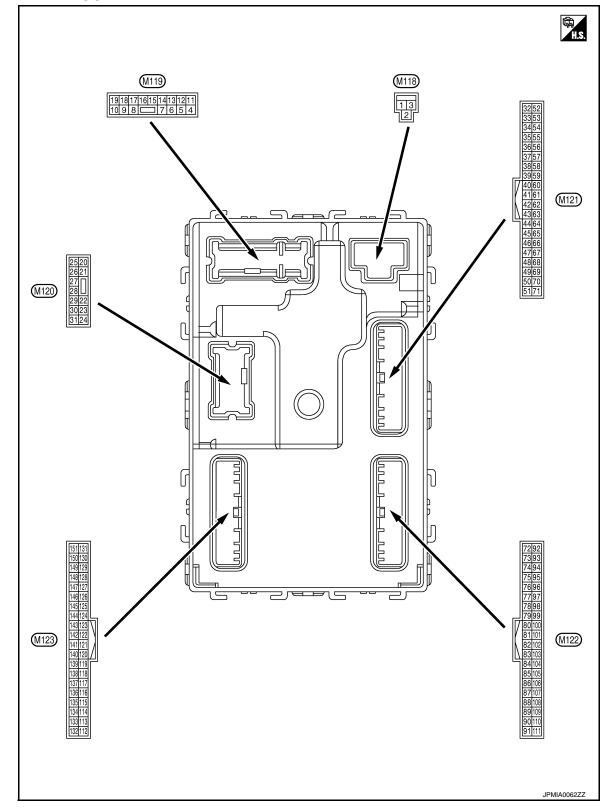
Monitor Item	Condition	Value/Status	
CONFIRM ID2	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	Yet	
	The key ID that the key slot receives accords with the second key ID reg- istered to BCM.	Done	
	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	Yet	
CONFIRM ID1	The key ID that the key slot receives accords with the first key ID registered to BCM.	Done	(
TP 4	The ID of fourth key is not registered to BCM	Yet	1
1F 4	The ID of fourth key is registered to BCM	Done	I
TP 3	The ID of third key is not registered to BCM	Yet	
IF 5	The ID of third key is registered to BCM	Done	
	The ID of second key is not registered to BCM	Yet	
TP 2	The ID of second key is registered to BCM	Done	
P 1	The ID of first key is not registered to BCM	Yet	.
TP 1	The ID of first key is registered to BCM	Done	
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire	(
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire	
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire	.
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire	
	ID of front LH tire transmitter is registered	Done	
ID REGST FL1	ID of front LH tire transmitter is not registered	Yet	
	ID of front RH tire transmitter is registered	Done	
ID REGST FR1	ID of front RH tire transmitter is not registered	Yet	
	ID of rear RH tire transmitter is registered	Done	
ID REGST RR1	ID of rear RH tire transmitter is not registered	Yet	
	ID of rear LH tire transmitter is registered	Done	E
ID REGST RL1	ID of rear LH tire transmitter is not registered	of fourth key is registered to BCMDoneof third key is not registered to BCMYetof third key is not registered to BCMDoneof second key is not registered to BCMYetof first key is not registered to BCMDoneof first key is not registered to BCMDoneof first key is not registered to BCMDoneof first key is not registered to BCMYetof first key is registered to BCMDoneof first key is registered to BCMDoneof first key is registered to BCMDonen switch ON (Only when the signal from the transmitter is received)Air pressure of front LH tiren switch ON (Only when the signal from the transmitter is received)Air pressure of rear RH tiren switch ON (Only when the signal from the transmitter is received)Air pressure of rear RH tiren switch ON (Only when the signal from the transmitter is received)Air pressure of rear RH tiren switch ON (Only when the signal from the transmitter is received)Air pressure of rear LH tiren switch ON (Only when the signal from the transmitter is received)Air pressure of rear LH tiren switch ON (Only when the signal from the transmitter is received)Air pressure of rear LH 	
	Tire pressure indicator OFF	Off	
WARNING LAMP	Tire pressure indicator ON	On	ſ
	Tire pressure warning alarm is not sounding	Off	
BUZZER	Tire pressure warning alarm is sounding	On	.

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< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]





PHYSICAL VALUES

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

(Wre cdor) Signal name Input/ Output Condition Value (Approx.) 17 (W) Ground Turn signal RH (Front) Output Ignition switch ON Turn signal switch OFF 0 V 18 (BC) Ground Turn signal LH (Front) Output Ignition switch ON Turn signal switch OFF 0 V 18 (BC) Ground Turn signal LH (Front) Output Ignition switch ON Turn signal switch OFF 0 V 19 (V) Ground Turn signal RH (Resr) Output Ignition switch Interior room ESV OFF Battery voltage 20 (G) Ground Turn signal RH (Resr) Output Ignition switch Interior room Ismp OFF Battery voltage 20 (G) Ground Turn signal RH (Resr) Output Ignition switch Interior room Ismp OFF Battery voltage 20 (G) Ground Back door open Output Ignition switch Interior room Is not activated) Turn signal switch OFF 0 V 23 (G) Ground Back door open Output Ignition switch IN OPEN (Back door opener actuator Is not activated) Battery voltage 25 (G) Ground Turn signal LH (Resr) Output Ignition switch IN OPEN (Back door opener actuator Is not activated) 0 V 25 (G) <td< th=""><th></th><th>inal No.</th><th>Description</th><th></th><th></th><th></th><th></th></td<>		inal No.	Description				
17 (W) Ground Turn signal RH (Front) Output Ignition switch Turn signal switch RH Image: switch RH 18 (BG) Ground Turn signal LH (Front) Output Ignition switch ON Turn signal switch OFF 0 V 19 (BG) Ground Turn signal LH (Front) Output Ignition switch ON Turn signal switch OFF 0 V 19 (M) Ground Room iamp timer control Output Interior room Iamp OFF Battery voltage 20 (M) Ground Turn signal RH (Rear) Output Ignition switch Iamp Turn signal switch OFF 0 V 20 (G) Ground Turn signal RH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 20 (G) Ground Turn signal RH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 23 (G) Ground Back door open Output Back door OEFN (Back door opener actuator Is activated) Battery voltage 26 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 26 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch LH Ignition switch Is activated) 0 V 26 (G)<			Signal name			Condition	
17 (W) Ground Turn signal RH (Front) Output Ignition switch ON Turn signal switch RH Ignition switch 0.5 V 18 (BG) Ground Turn signal LH (Front) Output Ignition switch ON Turn signal switch OFF 0 V 19 (W) Ground Turn signal RH (Front) Output Ignition switch ON OFF Battery voltage 19 (W) Ground Room lamp timer control Output Interior room Iamp OFF OV 20 (W) Ground Turn signal RH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 20 (G) Ground Turn signal RH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 23 (G) Ground Back door open Output Back door Output OPEN (Back door opener actuator is activated) Battery voltage 25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 26 (G) Ground Turn						Turn signal switch OFF	0 V
18 (BG) Ground Turn signal LH (Front) Output Ignition switch ON Turn signal switch LH Image: Constrained by the system of the syste		Ground		Output		Turn signal switch RH	
18 (BG) Ground Turn signal LH (Front) Output Ignition switch ON Turn signal switch LH Image: Construct of the system of						Turn signal switch OFF	0 V
(V) Ground Roumany metric Output Ramp ON 0 V (V) Ground Turn signal RH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 20 (V) Ground Turn signal RH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 23 (G) Ground Back door open Output Back door Output OPEN (Back door opener actuator is not activated) Battery voltage 23 (G) Ground Back door open Output Back door Otput Back door 24 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch LH Ignition switch OFF (Stopped) 0 V		Ground		Output		Turn signal switch LH	
(V) Ground control Output lamp ON 0 V 20 (V) Ground Turn signal RH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 20 (V) Ground Turn signal RH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 23 (G) Ground Back door open Output Back door Output Back door Battery voltage 23 (G) Ground Back door open Output Back door Output Back door Other than OPEN (Back door opener actuator is activated) Battery voltage 25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch LH Image: State openet actuator is not activated openet actuator is not activate openet actuator is not activate openet actuator is not activate openet actua	19		Room lamp timer		Interior room	OFF	Battery voltage
20 (V) Ground Turn signal RH (Rear) Output Ignition switch ON Turn signal switch RH Image: Constraint of the spectrum of the sp		Ground		Output		ON	0 V
20 (V) Ground Turn signal RH (Rear) Output Ignition switch ON Turn signal switch RH Ignition switch RH Ignition switch RH 23 (G) Ground Back door open Output Back door Output Back door OPEN (Back door opener actuator is not activated) Battery voltage 25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch LH Image: State of the state of th						Turn signal switch OFF	0 V
23 (G) Ground Back door open Output Back door OPEN (Back door opener actuator is activated) Battery voltage 23 (G) Ground Back door open Output Back door Other than OPEN (Back door opener actuator is not activated) 0 V 25 (G) Ground Turm signal LH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 25 (G) Ground Turm signal LH (Rear) Output Ignition switch ON Turn signal switch LH Is Is 26 (C) Ground Rear wiper Output Rear wiper OFF (Stopped) 0 V		Ground		Output		Turn signal switch RH	
(G) Ground Back door open Output Back door (G) Ground Back door open Other than OPEN (Back door opener actuator is not activated) 0 V 25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch OFF 0 V 25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch LH Image: Comparison of the system	23					(Back door opener actuator	
25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch LH Ignition switch LH 26 (C) Ground Rear wiper Output Rear wiper		Ground	Back door open	Output	Back door	(Back door opener actuator	0 V
25 (G) Ground Turn signal LH (Rear) Output Ignition switch ON Turn signal switch LH 15 10 10 10 10 10 10 10 10 10 10 10 10 10						Turn signal switch OFF	0 V
Ground Rear wiper Output Rear wiper		Ground	Turn signal LH (Rear)	Output		Turn signal switch LH	
(G) Clourd Real wiper Output Real wiper ON (Operated) Battery voltage		Ground	Rearwiper	Output	Rear winer	OFF (Stopped)	0 V
	(G)	Ground		Output		ON (Operated)	Battery voltage

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Velue	
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
34	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 0 1 s JMKIA0062GB	B C D
(SB) Groun	Ground	na (-)	Output	ŎFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 5 10 5 0 5 0 5 10 5 0 5 10 5 0 5 10 5 0 5	E
					When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s 10 5 0 1 s 10 10 10 10 10 10 10 10 10 10 10 10 10	G H
35 (V)	Ground	Luggage room anten- na (+)	Output	Ignition switch OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 5 0 1 s JMKIA0063GB	J K EXL
38	Ground	Back door antenna (-	Output	When the back door opener re- quest switch is operated with ig- nition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	M
(B)	Ground)			When Intelligent Key is not in the antenna detection area	(V) 15 0 15 0 15 0 15 15 15 15 15 15 15 15 15 15 15 15 15	O P

< ECU DIAGNOSIS INFORMATION >

(Wire color) Signal name Input Output Condition Value (Approx.) 39 (W) Ground Back door antenna (+) Output When the back door opener re- duced switch is operand with ig- operand with ig- with		inal No.	Description				
+ - Output 33 (W) Ground Back door antenna (+) Urput When the back door opener re- quest switch is operated with tg- mition switch OFF When Intelligent Key is in the antenna detection area Imput (+) <		-	Signal name			Condition	
39 (W) Ground Back door antenna (+) Output When the back door opener re- quest switch is operated with into switch OFF When Intelligent Key is in into switch OFF Image: Comparison of the comparison	+	_		Output			
(iv)		Ground		Outout	door opener re-		
Image: Constraint of the second se	(W)		(+)		quest switch is operated with ig-	in the antenna detection	
(1) ER bontrol (1)		Ground		Output	Ignition switch	OFF or ACC	Battery voltage
52 (SB) Ground Starter relay control Output Ignition switch ON or N position Battery Voltage 60 (BR) Ground Push-button ignition switch (Push switch) Input Push-button ignition in P or N position Pressed 0 V 61 (W) Ground Back door opener re- quest switch Input Push-button ignition switch (push switch) Pask-door opener request switch ON (Pressed) 0 V 61 (W) Ground Back door opener re- quest switch Input Back door opener request switch OFF (Not pressed) 0 V 64 (V) Ground Intelligent Key warn- ing buzzer (Engine room) Output Intelligent Key warning buzzer (Engine room) Sounding Battery voltage 65 (BG) Ground Rear wiper stop posi- tion Input Rear wiper In stop position Instop position Instop position	(Y)	Glound	E/R) control	Output	Ignition switch	ON	0 V
(B) Ground Push-button ignition switch (Push switch) Input Push-button igni- tion switch (push switch) Pressed 0 V (BR) Ground Push-button ignition switch (Push switch) Input Push-button igni- tion switch (push switch) Pressed 0 V 61 (W) Ground Back door opener re- quest switch Input Back door opener request switch ON (Pressed) 0 V 64 (V) Ground Intelligent Key warn- ing buzzer (Engine room) Output Intelligent Key warning buzzer (Engine room) Sounding Battery voltage 65 (BG) Ground Rear wiper stop posi- tion Input Rear wiper Input In stop position (V) 10 (BG) Ground Rear wiper stop posi- tion Input Rear wiper In stop position (V)		Ground	Starter relay control	Output			Battery voltage
Ground (BR) Push-button ignition switch (Push switch) Input tion switch (push switch) Not pressed Battery voltage 61 (W) Ground Back door opener re- quest switch Input Back door opener request switch ON (Pressed) 0 V 64 (V) Ground Back door opener re- quest switch Input Back door opener request switch OFF (Not pressed) $\frac{(V)}{15}$ 64 (V) Ground Intelligent Key warn- ing buzzer (Engine room) Output Intelligent Key warning buzzer (Engine room) Sounding $0 \vee$ 65 (BG) Ground Rear wiper stop posi- tion Input Rear wiper In stop position $\frac{(V)}{15}$ $\frac{(V)}{15$	(SB)	Cround	Station relay control	output	ON		0 V
(BR) Switch (PUSITSWItch) Switch) Not pressed Battery voltage 61 (W) Ground Back door opener request switch Input Back door opener request switch OFF (Not pressed) 0 V 64 (V) Ground Intelligent Key warn- ing buzzer (Engine room) Output Intelligent Key warning buzzer (Engine room) Sounding O V 64 (V) Ground Intelligent Key warn- ing buzzer (Engine room) Output Intelligent Key warning buzzer (Engine room) Sounding Battery voltage 65 (BG) Ground Rear wiper stop posi- tion Input Rear wiper In stop position In stop position Instance 1.0 V	60	Cround	Push-button ignition	Input		Pressed	0 V
61 (W)GroundBack door opener request switchInputBack door opener request switchOFF (Not pressed) $\begin{bmatrix} V_{15} \\ 0 \\ 0 \\ 0 \\ 1.0$	(BR)	Ground	switch (Push switch)	input		Not pressed	Battery voltage
64 (V) Ground ing buzzer (Engine room) Output warning buzzer (Engine room) Not sounding Battery voltage 65 (BG) Ground Rear wiper stop posi- tion Input Rear wiper In stop position In stop position		Ground	quest switch	Input	request switch	OFF (Not pressed)	(V) 15 0 10 ms 10 ms JPMIA0016GB 1.0 V
(V) room) (Engine room) Not sounding Battery voltage 65 (BG) Ground Rear wiper stop position Input Rear wiper In stop position In stop position		Ground		Output		Sounding	
65 (BG) Ground Rear wiper stop position Input Rear wiper In stop position In stop position 10 ms JPMIA0016GB 1.0 V	(V)					Not sounding	Battery voltage
Not in stop position 0 V		Ground		Input	Rear wiper	In stop position	15 10 10 ms JPMIA0016GB
						Not in stop position	0 V

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

(Wire color) Signal name Input/ Output Condition + - Signal name Input/ Output Condition 66 (R) Ground Back door switch Input Back door switch OFF (Door close) 67 (GR) Ground Back door opener switch Input Back door opener switch Not pressed 68 (BR) Ground Rear RH door switch Input Rear RH door switch OFF (Door close) 69 (R) Ground Rear LH door switch Input Rear LH door switch OFF (Door close)	Value	Terminal No. Description Value					
Ground Back door switch Input Back door switch ON (Door open) 0N (Door open) Pressed Pressed Pressed 67 (GR) Ground Back door opener switch Input Back door opener switch Not pressed 68 (BR) Ground Rear RH door switch Input Rear RH door switch OFF (Door close) 69 Ground Desc III dees switch Input Rear LH door OFF (Door close)	(Approx.)	Condition		Input/ Output	Signal name		
67 (GR) Ground Back door opener switch Input Back door opener switch Not pressed 68 (BR) Ground Rear RH door switch Input Rear RH door switch OFF (Door close) 69 Ground Descluid descessing Input Rear LH door OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V		Back door switch	Input	Back door switch	Ground	
67 (GR) Ground Back door opener switch Input Back door opener switch Not pressed 68 (BR) Ground Rear RH door switch Input Rear RH door switch OFF (Door close) 69 Ground Beer LH door OFF (Door close) OFF (Door close)	0 V						
(GR) Ground switch Input switch Not pressed 68 (BR) Ground Rear RH door switch Input Rear RH door switch OFF (Door close) 69 Ground Deer IIII deer switch Input Rear LH door OFF (Door close)	0 V	Pressed					
(BR) Ground Rear RH door switch Input switch 0N (Door open)	(V) 15 10 5 0	Not pressed		Input		Ground	
(BR) Ground Rear RH door switch Input switch 0N (Door open)	10 ms JPMIA0011GB 11.8 V						
69 Cround Deer LU deer switch Insut Rear LH door OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V	OFF (Door close)		Input	Rear RH door switch	Ground	
69 Cround Deer LU deer switch lanut Rear LH door OFF (Door close)	0 V	ON (Door open)					
	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V	OFF (Door close)		Input	Rear LH door switch	Ground	69 (R)
ON (Door open)	0 V	ON (Door open)					

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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value		Value
(vvire +	e color)	Signal name	Input/ Output		Condition	(Approx.)		
74	Ground	Passenger door an-	Output	When the pas- senger door re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 5 10 1 5 10 1 5 10 1 5 10 1 5 10 1 5 10 10 10 10 10 10 10 10 10 10 10 10 10		
(SB)		tenna (-)	Cutput	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 15 10 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10		
75	Ground	ound Passenger door an- tenna (+)		When the pas- senger door re- quest switch is operated with ig- nition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1		
(GR)			Output		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 1 1 5 J MKIA0063GB		
76	Ground	round Driver door antenna Output		When the driver door request switch is operat- ed with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB		
(V)	Ground		Juli		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB		

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
77		Driver door antenna		When the driver door request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	B C D
(LG)	Ground	(+)	Output	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	E
78	Ground	Room antenna 1 (-)	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	G H I
78 (Y)	Ground	(Instrument panel)		OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 15 0 15 0 15 15 15 15 15 15 15 15 15 15 15 15 15	J K EXL
79	Ground	Room antenna 1 (+)	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	M
79 (BR)	Ground	(Instrument panel)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s 1 1 s JMKIA0063GB	P

< ECU DIAGNOSIS INFORMATION >

Terminal No.		Description				Value	
+	e color) –	Signal name	Input/ Output		Condition	(Approx.)	
80 (GR)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
81 (W)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
82	Ground	Ignition relay [Fuse	Output	Ignition switch	OFF or ACC	0 V	
(R)	Ciouna	block (J/B)] control	Output		ON	Battery voltage	
83 (Y)	Ground	Remote keyless entry receiver communica- tion	Input/	During waiting		(V) 10 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
			Output	When operating either button on the key		(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Terminal No.		Description				Value	٥
(Wire +	e color) –	Signal name		Condition		(Approx.)	A
87 (BR)	Ground	Combination switch INPUT 5	Input	Combination switch	All switches OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0041GB 1.4 V	B C D
					Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 10 0 2 ms JPMIA0037GB 1.3 V	E
					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V	G
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 2 ms JPMIA0040GB	J
						ЈРМІА0040GB 1.3 V	EXL

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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(VVIre +	e color) -	Signal name	Input/ Output	Condition		(Approx.)	
	Ground	Combination switch INPUT 3	Input	Combination switch	All switches OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0041GB 1.4 V	
					Lighting switch HI (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0036GB 1.3 V	
88 (V)					Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0037GB 1.3 V	
					Rear washer switch ON (Wiper intermittent dial 4)	(V) 10 0 2 ms JPMIA0039GB 1.3 V	
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	(V) 15 0 2 ms JPMIA0040GB 1.3 V	
90 (P)	Ground	CAN-L	Input/ Output		1	_	
91 (L)	Ground	CAN-H	Input/ Output	—		_	

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description) (eluie	-
(Wire +	e color) -	Signal name	Input/ Output		Condition	Value (Approx.)	А
					OFF	Battery voltage	В
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	Blinking	(V) 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 15 10 10 10 10 10 10 10 10 10 10 10 10 10	C
						6.5 V	
					ON	0 V	Е
93	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	Battery voltage	
(V)					ON	0 V	
94	Ground	Puddle lamp control	Output	Puddle lamp	OFF	Battery voltage	F
(Y)				•	ON	0 V	
95	Ground	ACC relay control	Output	Ignition switch	OFF	0 V	G
(BG)					ACC or ON	Battery voltage	0
96 (GR)	Ground	A/T shift selector (De- tention switch) power supply	Output	_		Battery voltage	Н
99	Ground Selector lever P posi-		Innut	Coloctor lover	P position	0 V	
(R)	Ground	tion switch	Input	Selector lever	Any position other than P	Battery voltage	1
					ON (Pressed)	0 V	1
100 (G)	Ground	Passenger door re- quest switch	Input	Passenger door request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V	J K EXL
					ON (Pressed)	0 V	
101 (SB)	Ground	Driver door request switch	Input	Driver door re- quest switch	OFF (Not pressed)	(V) 15 10 50 10 10 10 10 10 JPMIA0016GB	M
						1.0 V	0
102 (BG)	Ground	Blower fan motor re- lay control	Output	Ignition switch	OFF or ACC	0 V	
103 (LG)	Ground	Remote keyless entry receiver power sup- ply	Output	Ignition switch OF	ON F	Battery voltage Battery voltage	Ρ

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF	(V) 15 0 2 ms JPMIA0041GB 1.4 V
					Turn signal switch LH	(V) 15 0 2 ms JPMIA0037GB 1.3 V
107 (LG)	107 (LG)GroundCombination switch INPUT 1Inputswitch (Wiper	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH	(V) 10 0 2 ms JPMIA0036GB 1.3 V	
			Front wiper switch LO	(V) 15 10 2 ms JPMIA0038GB 1.3 V		
					Front washer switch ON	(V) 15 0 2 ms JPMIA0039GB 1.3 V

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

	Terminal No. Description				Value		
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
					All switches OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0041GB 1.4 V	B C D
					Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0038GB 1.3 V	E
108 (R)	Ground	Combination switch INPUT 4	Input	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V	G H
					Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V	J K EXL
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	(V) 15 0 2 ms JPMIA0039GB	M
						1.3 V	0

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< ECU DIAGNOSIS INFORMATION >

	Terminal No. Description (Wire color)				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)
					All switches OFF	(V) 15 10 0 2 ms JPMIA0041GB 1.4 V
					Lighting switch PASS	(V) 15 0 2 ms JPMIA0037GB 1.3 V
109 (Y)	109 (Y)GroundCombination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 10 0 2 ms JPMIA0036GB 1.3 V	
				Front wiper switch INT	(V) 15 0 2 ms JPMIA0038GB 1.3 V	
					Front wiper switch HI	(V) 15 0 0 2 ms JPMIA0040GB 1.3 V
					ON	0 V
110 (G)	Ground	Hazard switch	Input	Hazard switch	OFF	(V) 15 10 10 10 10 1.1 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(Wire +	e color) -	Signal name	Input/ Output		Condition	Value (Approx.)	A
113	Ground	Ontionland	Innut	Ignition switch	When bright outside of the vehicle	Close to 5 V	В
(P)	Ground	Optical sensor	Input	ON	When dark outside of the vehicle	Close to 0 V	
116 (SB)	Ground	Stop lamp switch 1	Input	_		Battery voltage	С
		Stop lamp switch 2		Stop lamp switch	OFF (Brake pedal is not depressed)	0 V	D
118	Ground	(Without ICC)	Innut		ON (Brake pedal is de- pressed)	Battery voltage	
(P)	Ground	Stop lamp switch 2	Input		OFF (Brake pedal is not de- brake hold relay OFF	0 V	E
		(With ICC)		Stop lamp switch (pressed) or ICC bi	ON (Brake pedal is de- rake hold relay ON	Battery voltage	F
119	Crownel	Front door lock as-	Jan 4		LOCK status (Unlock sensor switch OFF)	(V) 15 10 5 0	G
(SB)		Input	Input Driver door	Driver door		10 ms JPMIA0012GB 1.1 V	Η
					UNLOCK status (Unlock switch sensor ON)	0 V	I
121	<u> </u>			When the key is in	serted into key slot	Battery voltage	
(BR)	Ground	Key slot switch	Input	When the key is no	ot inserted into key slot	0 V	J
123					OFF or ACC	0 V	•
(W)	Ground	IGN feedback	Input	Ignition switch	ON	Battery voltage	K
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door close)	(V) 15 10 50 10 ms JPMIA0011GB 11 0 V	EXI
					ON (Door open)	11.8 V 0 V	N
132 (BR)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		(V) 15 10 5 0 +	O
						JPMIA0013GB 10.2 V	_
				Ignition switch OF	F or ACC	Battery voltage	

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Valua	
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	
					ON (Tail lamps OFF)	9.5 V	
133 (W)	Ground	Push-button ignition switch illumination	Output	Push-button igni- tion switch illumi- nation	ON (Tail lamps ON)	NOTE: The pulse width of this wave is varied by the illumination bright- ening/dimming level.	
_					OFF	0 V	
134	Ground	LOCK indicator lamp	Output	LOCK indicator	OFF	Battery voltage	
(GR)			o a tp a t	lamp	ON	0 V	
137 (BG)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V	
138	Ground	Receiver and sensor	Output	Ignition switch	OFF	0 V	
(Y)	Ciouna	power supply	Output	Ignition switch	ACC or ON	5.0 V	
139	Ground	Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 6 4 2 0 ••• 0.2s OCC3881D	
(L)		er communication	Output		When receiving the signal from the transmitter	(V) 6 4 2 0 ••• 0.2s	
140		Selector lever P/N			P or N position	Battery voltage	
(GR)	Ground	position	Input	Selector lever	Except P and N positions	0 V	
					ON	0 V	
141 (G)	Ground	Security indicator	Output	Security indicator	Blinking	(V) 15 10 5 0 15 15 10 15 10 15 10 15 10 15 10 15 10 10 15 10 10 10 15 10 10 10 10 10 10 10 10 10 10	
					OFF	Battery voltage	
	I				l		

< ECU DIAGNOSIS INFORMATION >

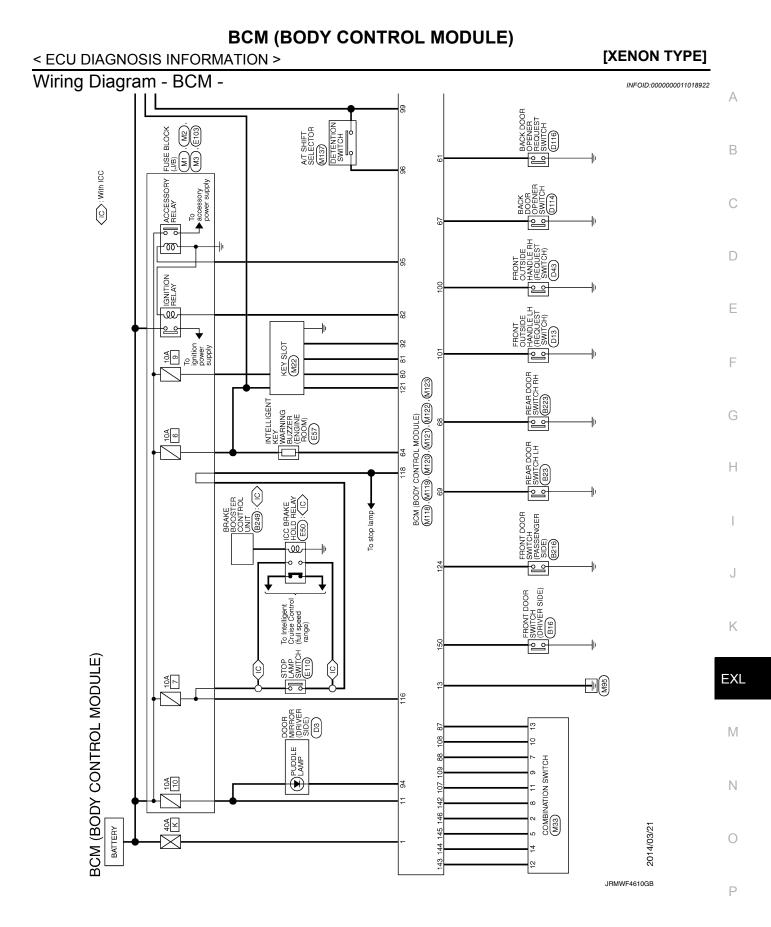
[XENON TYPE]

	inal No.	Description												
(Wire +	e color) –	Signal name	Input/ Output	Condition		Value (Approx.)	А							
					All switches OFF Lighting switch 1ST	0 V	В							
142	Ground	Combination switch OUTPUT 5	Output	Combination switch	Lighting switch HI Lighting switch 2ND	(V) 15 10 5	С							
(BG)		(Wiper intermit- tent dial 4)	Turn signal switch RH	0 2 ms JPMIA0031GB 10.7 V	D									
					All switches OFF (Wiper intermittent dial 4)	0 V	E							
					Front wiper switch HI (Wiper intermittent dial 4)		_							
143 (P)	Ground	Combination switch OUTPUT 1	Output	Combination switch	Rear wiper switch INT (Wiper intermittent dial 4) Any of the conditions below		F							
(.)				 with all switches OFF Wiper intermittent dial 1 Wiper intermittent dial 2 	0 2 ms	G								
				 Wiper intermittent dial 3 Wiper intermittent dial 6 Wiper intermittent dial 7 	JPMIA0032GB 10.7 V	Η								
					All switches OFF (Wiper intermittent dial 4)	0 V								
					Front washer switch ON (Wiper intermittent dial 4)									
144		Combination switch		Combination	Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15	J							
(G)	Ground	OUTPUT 2	Output	switch	Rear washer switch ON (Wiper intermittent dial 4)		K							
												Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	2.ms JPMIA0033GB 10.7 V	EXL
					All switches OFF	0 V	M							
					Front wiper switch INT	0.0								
				Combination	Front wiper switch LO		. ·							
145 (L)	Ground	Combination switch OUTPUT 3	Output	switch (Wiper intermit- tent dial 4)	Lighting switch AUTO	10 5 0 2 ms	N							
						JPMIA0034GB 10.7 V								

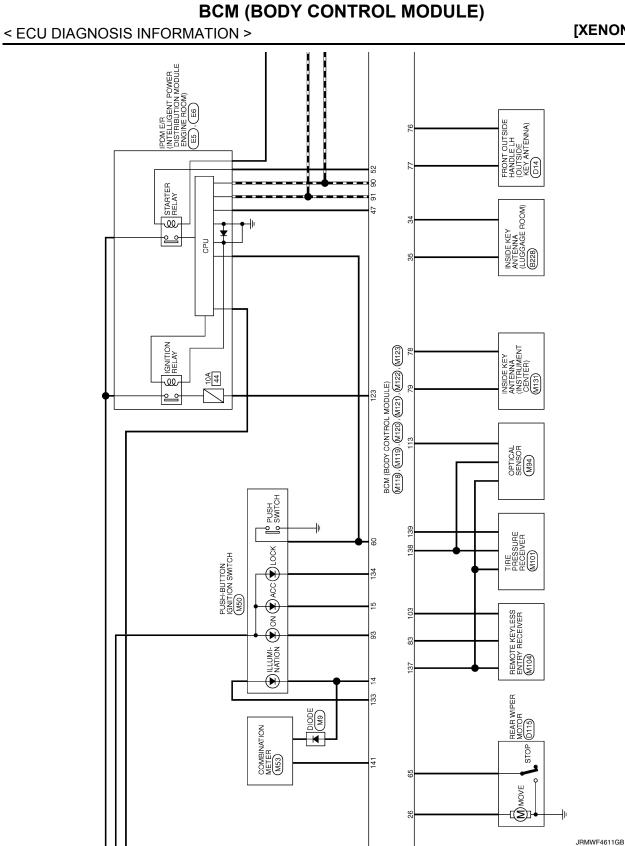
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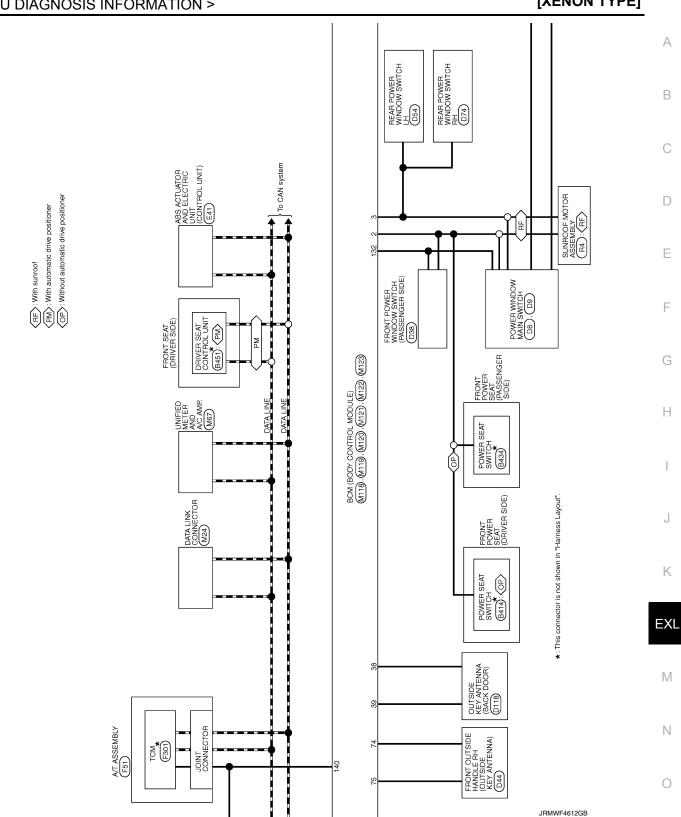
< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire +	e color) -	Signal name	Input/ Output	Condition		(Approx.)
					All switches OFF	0 V
					Front fog lamp switch ON	
				Combination	Lighting switch 2ND	(V) 15
146	Ground	Combination switch	Output	switch	Lighting switch PASS	
(SB)		OUTPUT 4 (Wiper interr tent dial 4)	(Wiper intermit- tent dial 4)	Turn signal switch LH	0 2 ms JPMIA0035GB 10.7 V	
150 (LG)	Ground	Driver door switch	Input	Driver door switch	OFF (Door close)	(V) 15 0 10 10 ms JPMIA0011GB 11.8 V
					ON (Door open)	0 V
151	Ground	Rear window defog-	Output	Rear window de-	Active	0 V
(G)		ger relay control		fogger	Not activated	Battery voltage



2015 QX50





< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

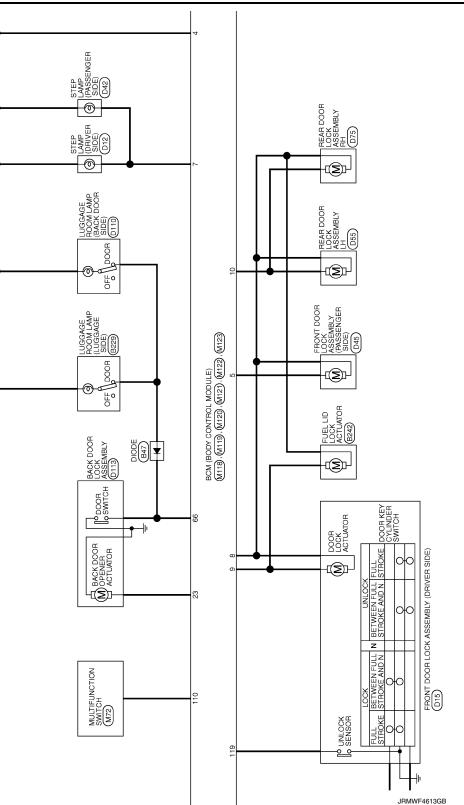
Revision: February 2015

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[XENON TYPE]

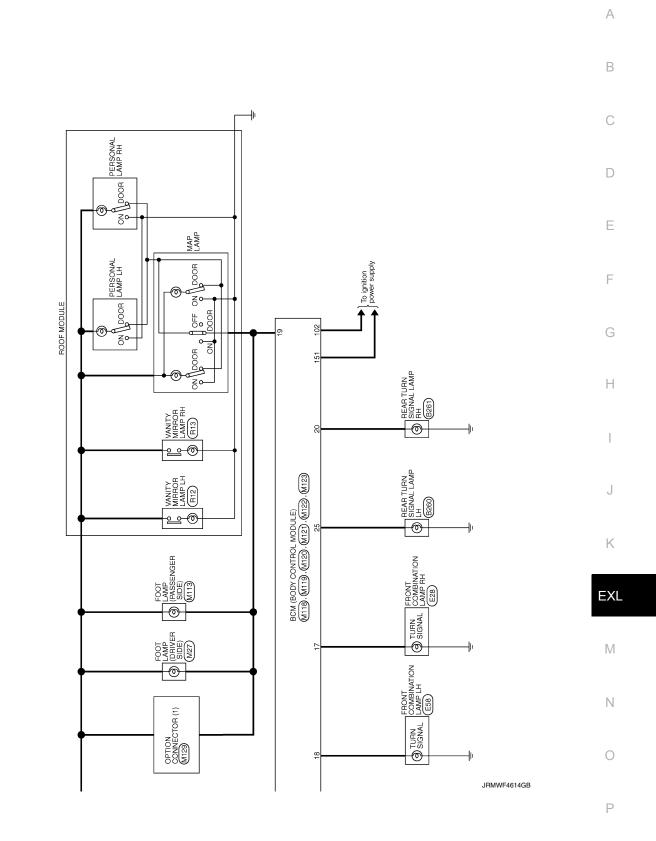
BCM (BODY CONTROL MODULE)

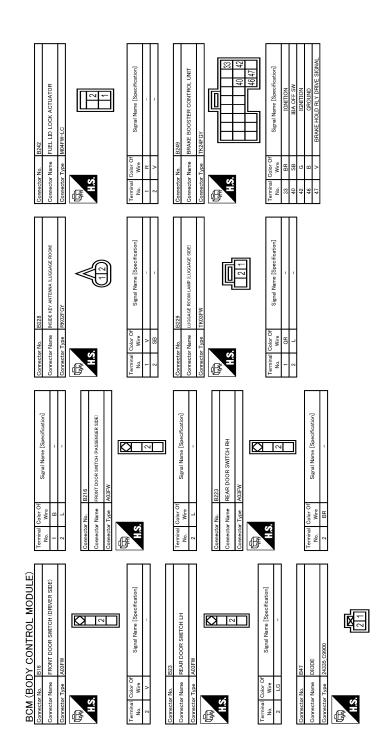
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[XENON TYPE]

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JRMWF4748GB

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Signal Name [Specification] Signal Name [Specification] 56 POWER WINDOW MAIN SWITCH DOOR MIRROR (DRIVER SIDE) 1 2 3 4 5 5 8 9 10 11 13 14 Name nector Name olor O BR GR BR ctor No. H.S. THS. ß ß Signal Name [Specification] DRIVER SEAT CONTROL UNIT 3451 nector Name Vire Vire H.S. 25 26 80 ſ Signal Name [Specification] cation 2 1 **1 8** 4 3 6 5 10 Signal Name [Speci 78010 POWER SEAT SWITCH POWER SEAT SWITCH IC TOPM OF B414 B434 -2-5 G∕W Name nnector Name nnector No. for Type Vire Wire H.S. AHS. Terminal No. ß ŝ ß BCM (BODY CONTROL MODULE) EXL Signal Name [Specification] Signal Name [Specification] REAR TURN SIGNAL LAMP RH REAR TURN SIGNAL LAMP LH Ð Ð mector Name nnector Name Vire íHS. H.S. mina No.

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BCM (BODY CONTROL MODULE)

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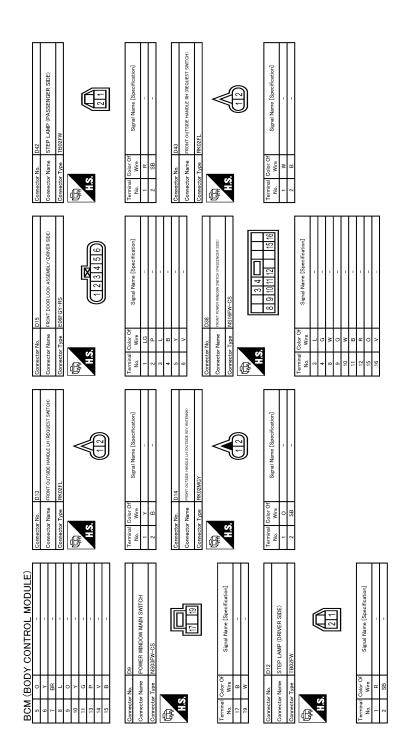
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< ECU DIAGNOSIS INFORMATION >

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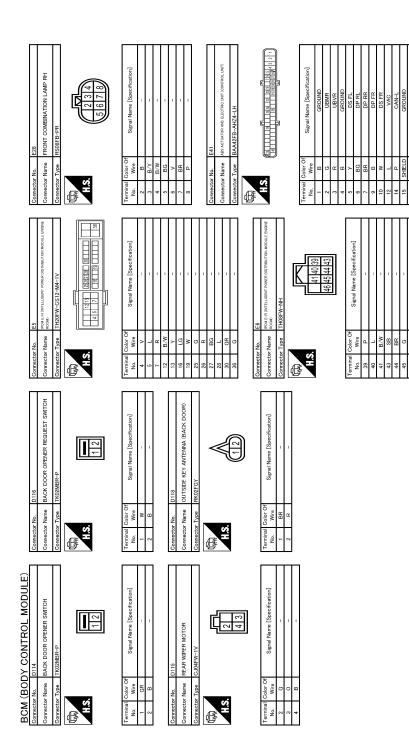
JRMWF4751GB

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BCM (BODY CONTROL MODULE)

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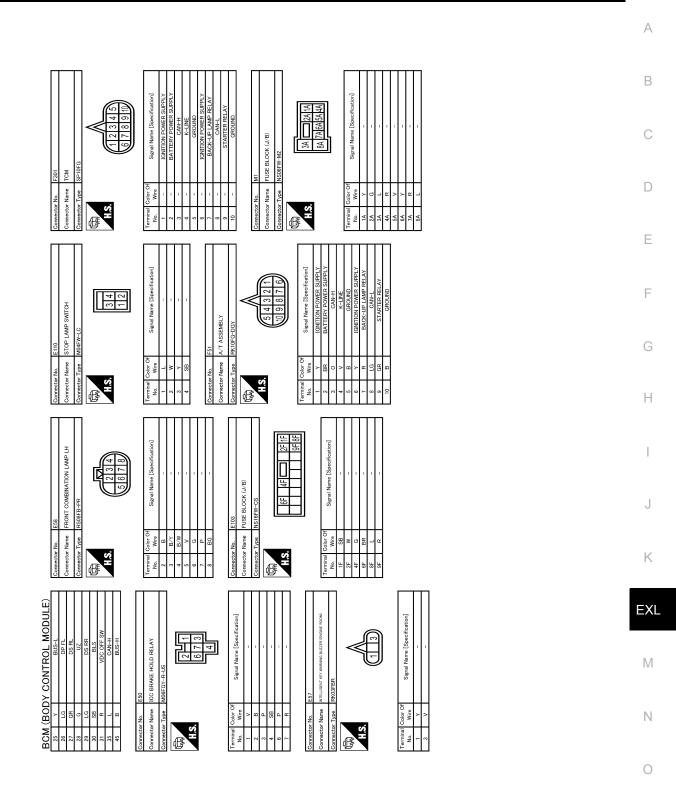


JRMWF4752GB

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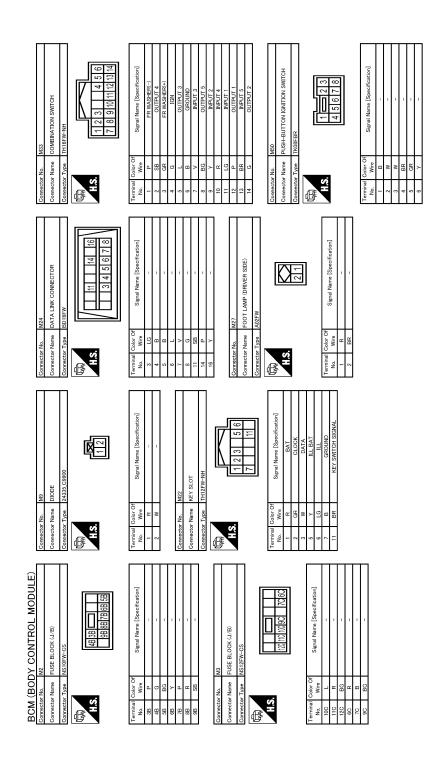
[XENON TYPE]



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< ECU DIAGNOSIS INFORMATION >



JRMWF4754GB

Corrrector No. MIOT Connector Name Domester Type TINE PRESSURE RECEIVER Connector Type TINE PRESSURE RECEIVER	Terminal Inc. Color Of Bandon Anterno Signal Name (Specification) 2 L Signal Name (Specification) Corrector Num M104 Corrector Type JAB04FB Corrector Type JAB04FB Corrector Type JAB04FB Total Signal Name (Specification) 0 Signal Name (Specification) 1 D 2 V 2 V 2 V AATTERY	
Connector No. M72 Connector Name Connector Name Connector Type THEFN-SHI 1359 1359 1359 1350	Terminal Color Signal Name (Specification) 10 10 10 10 11 10 10 10 12 10 10 10 13 10 10 10 14 10 10 10 15 10 10 10 16 10 10 10 17 10 10 10 16 10 10 10 17 10 10 10	
Corrector No. M67 Corrector Name Connector Name Connector Type HI32FV-NH Connector Type HI32FV-NH Connector Type HI32FV-NH HI32FV-NH HI32FV-NH HI32FV-NH HI32FV-NH HI32FV-NH Connector Name Connector Nam	Terminal Color Of Wree Signal Nume (Specification) 10. V TACD DOWER SUPPLY 42 P TILLEVEL SENSOR SLONAL 43 R INTARE SENSOR SLONAL 44 LQ PN-VEHICLE SENSOR SLONAL 45 P MILENTAL SENSOR SLONAL 46 B(G SMILOLD SENSOR SLONAL 47 Q Downenni Senson SLONAL 47 Q Downenni Senson SLONAL 47 Q Downenni Senson SLONAL 48 B(G SMILOLD SENSOR SLONAL 49 D Downenni Senson SLONAL 41 Q Downenni Senson SLONAL 42 P Downenni Senson SLONAL 43 G Downenni Senson SLONAL 44 P Downenni Senson SLONAL 56 L Downen SLUND 67 MILOND SENSOR SLONAL 68 SULOND SENSOR GROUND 69 L CALINI SCONAL 70 B SULOND SENSOR GROUND 71 <td></td>	
	Thremised Colory Of No. Signal Nume (Sourcification) 100 Write Signal Nume (Sourcification) 1 00 More Signal Nume (Sourcification) 2 10 ComMUNCATIONS SIGNAL, (MEFER-MARD) 3 E ComMUNCATIONS SIGNAL, (MEFER-MARD) 1 E ALTERNATORS SIGNAL, (MEFER-MARD) 1 E ALTERNATORS SIGNAL, (MEFER-MARD) 10 C C 11 C ALTERNATORS SIGNAL, (MEFER-MARD) 12 E C 13 E ALTERNATORS SIGNAL, (MEFER-MARD) 14 D SIGNAL, COD-MARD) 15 E COMMUNCATIONS SIGNAL, (MEP-MARD) 16 B ILL 17 AR COMMUNCATIONS SIGNAL, (MEP-MARD) 18 F COMMUNCATIONS SIGNAL, (MEP-MARD) 19 B MILL 21 B COMMUNCATIONS SIGNAL, (MEP-MARD) 22 B SIGNAL, SIGNAL, (MEP-MARD) 23 L COMMUNCATIONS SIGNAL, (MEP-MARD) <td></td>	

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< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

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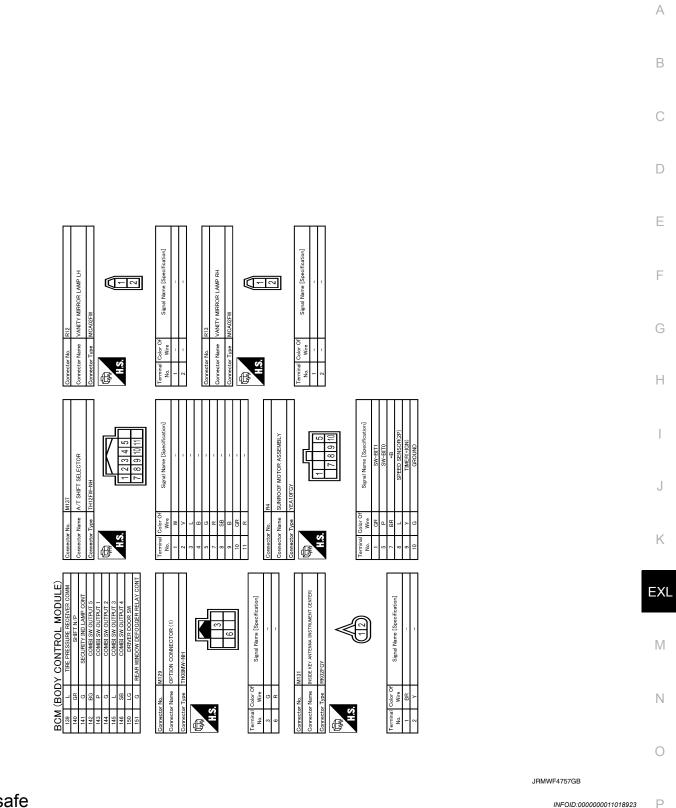
V IOA RELAY (DOM PAIL) SI MATTER RELAY (DOM ENPLOY) BR PIST ANTER RELAY (DOM ENPLOY) BLOK DOOR ENPLOY BR BACK DOOR SW ACT AND BUZER (SOR FOR ENPLOY) BLOK DOOR SW BR BACK DOOR SW BR BLOK DOOR SW BR BACK DOOR SW PRAN BACK DOOR SW BR BACK DOOR SW BR BACK DOOR SW BR BACK DOOR SW BR BACK DOOR SW BACK DOOR SW BACK DOOR SW BACK DOOR SW <th>Connector Name Connector Tape Connector Tape H.S.</th>	Connector Name Connector Tape Connector Tape H.S.

JRMWF4756GB

Revision: February 2015

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]



Fail-safe

FAIL-SAFE CONTROL BY DTC

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

< ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch $ON \rightarrow OFF$
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status becomes consistentStarter control relay signalStarter relay status signal
B2608: STARTER RELAY	Inhibit engine cranking	 500 ms after the following signal communication status becomes consistent Starter motor relay control signal Starter relay status signal (CAN)
B260A: IGNITION RELAY	Inhibit engine cranking	 500 ms after the following conditions are fulfilled IGN relay (IPDM E/R) control signal: OFF (Battery voltage) Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions are fulfilledPower position changes to ACCReceives engine status signal (CAN)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM be- comes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization

REAR WIPER MOTOR PROTECTION

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

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

Condition of cancellation

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

DTC Inspection Priority Chart

INFOID:000000011018924

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

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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Priority	DTC	
	 B2553: IGNITION RELAY B2555: STOP LAMP B2556: PUSH-BTN IGN SW B2557: VEHICLE SPEED B2559: GTAPTER CONT DELAY 	A B
	 B2560: STARTER CONT RELAY B2601: SHIFT POSITION B2602: SHIFT POSITION B2603: SHIFT POSI STATUS B2604: PNP SW B2604: PNP SW 	С
4	 B2605: PNP SW B2608: STARTER RELAY B260A: IGNITION RELAY B260F: ENG STATE SIG LOST B2614: ACC RELAY CIRC 	D
	 B2615: BLOWER RELAY CIRC B2616: IGN RELAY CIRC B2617: STARTER RELAY CIRC B2618: BCM 	E
	B261A: PUSH-BTN IGN SW B261E: VEHICLE TYPE B26EA: KEY REGISTRATION C1729: VHCL SPEED SIG ERR H0415: VEHICLE SPEED SIG	F
	U0415: VEHICLE SPEED SIG C1704: LOW PRESSURE FL	G
	C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1708: [NO DATA] FD	Н
5	 C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR 	I
	C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL C1734: CONTROL UNIT	J
6	B2621: INSIDE ANTENNA B2623: INSIDE ANTENNA	Κ

DTC Index

NOTE:

The details of time display are as follows.

CRNT: A malfunction is detected now.

• PAST: A malfunction was detected in the past.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to <u>EXL-33, "COM-MON ITEM : CONSULT Function (BCM - COMMON ITEM)"</u>.

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	0
No DTC is detected. further testing may be required.	_	_	_	_	_	Р
U1000: CAN COMM CIRCUIT	—	—	_	_	<u>BCS-42</u>	
U1010: CONTROL UNIT (CAN)	ROL UNIT (CAN) —		—	_	<u>BCS-43</u>	
U0415: VEHICLE SPEED SIG	—	—	—	—	<u>BCS-44</u>	
B2190: NATS ANTENNA AMP	×	—	—	—	<u>SEC-40</u>	

Revision: February 2015

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EXL

< ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2191: DIFFERENCE OF KEY	×	_	_	_	<u>SEC-43</u>
B2192: ID DISCORD BCM-ECM	×	_		_	<u>SEC-44</u>
B2193: CHAIN OF BCM-ECM	×	_	_	_	<u>SEC-45</u>
B2195: ANTI SCANNING	×	_	_	_	<u>SEC-46</u>
B2553: IGNITION RELAY	_	×	_	_	PCS-51
B2555: STOP LAMP	_	×	_	_	<u>SEC-47</u>
B2556: PUSH-BTN IGN SW	_	×	×	_	<u>SEC-49</u>
B2557: VEHICLE SPEED	×	×	×	_	<u>SEC-51</u>
B2560: STARTER CONT RELAY	×	×	×	_	<u>SEC-52</u>
B2562: LOW VOLTAGE	_	×	_	_	BCS-45
B2601: SHIFT POSITION	×	×	×	_	<u>SEC-53</u>
B2602: SHIFT POSITION	×	×	×	_	<u>SEC-56</u>
B2603: SHIFT POSI STATUS	×	×	×		<u>SEC-59</u>
B2604: PNP SW	×	×	×	_	<u>SEC-62</u>
B2605: PNP SW	×	×	×	—	<u>SEC-64</u>
B2608: STARTER RELAY	×	×	×	—	<u>SEC-66</u>
B260A: IGNITION RELAY	×	×	×	—	PCS-53
B260F: ENG STATE SIG LOST	×	×	×	_	<u>SEC-68</u>
B2614: ACC RELAY CIRC	_	×	×		PCS-55
B2615: BLOWER RELAY CIRC	_	×	×	_	PCS-58
B2616: IGN RELAY CIRC	_	×	×	_	PCS-61
B2617: STARTER RELAY CIRC	×	×	×		<u>SEC-71</u>
B2618: BCM	×	×	×	_	PCS-64
B261A: PUSH-BTN IGN SW	—	×	×	—	<u>SEC-73</u>
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	_	<u>SEC-76</u>
B2621: INSIDE ANTENNA	—	×	_	_	<u>DLK-58</u>
B2623: INSIDE ANTENNA		×	_		<u>DLK-60</u>
B26E1: ENG STATE NO RES	×	×	×		<u>SEC-69</u>
B26EA: KEY REGISTRATION	_	×	× (Turn ON for 15 seconds)	_	<u>SEC-70</u>
C1704: LOW PRESSURE FL	—	_	_	×	
C1705: LOW PRESSURE FR	—	_		×	<u>WT-24</u>
C1706: LOW PRESSURE RR	_		_	×	<u>vv1-24</u>
C1707: LOW PRESSURE RL	_	_	_	×	
C1708: [NO DATA] FL	_	_		×	
C1709: [NO DATA] FR	_	_		×	<u>WT-26</u>
C1710: [NO DATA] RR	_		_	×	<u>vv1-20</u>
C1711: [NO DATA] RL				×	

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	A
C1716: [PRESSDATA ERR] FL	—	—	—	×		
C1717: [PRESSDATA ERR] FR	—	—	—	×	WT-29	С
C1718: [PRESSDATA ERR] RR	—	—	—	×	<u>VV1-29</u>	0
C1719: [PRESSDATA ERR] RL	—	—	—	×		
C1729: VHCL SPEED SIG ERR	—	—	—	×	<u>WT-31</u>	D
C1734: CONTROL UNIT	—	—	—	×	<u>WT-33</u>	

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Revision: February 2015

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

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

Reference Value

INFOID:000000011018926

VALUES ON THE DIAGNOSIS TOOL

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Monitor Item	Cc	Value/Status		
	Ignition switch ON	Off		
IHBT RLY -REQ	At engine cranking		On	
	Ignition switch ON		Off	
	At engine cranking		$INHI\;ON\toST\;ON$	
ST/INHI RLY		r control relay cannot be recognized by c. when the starter relay is ON and the	UNKWN	
DETENT SW	Ignition switch ON	 Press the selector button with selector lever in P position Selector lever in any position other than P 		
	Release the selector button with s	On		
S/L RLY -REQ	NOTE: The item is indicated, but not mon	Off		
S/L STATE	NOTE: The item is indicated, but not mon	UNLOCK		
DTRL REQ	NOTE: The item is indicated, but not mon	Off		
	Ignition switch OFF, ACC or engin	Open		
OIL P SW	Ignition switch ON	Close		
	Close the hood		Off	
HOOD SW	Open the hood	On		
HL WASHER REQ	NOTE: The item is indicated, but not mon	Off		
	Not operation	Off		
THFT HRN REQ	 Panic alarm is activated Horn is activated with VEHICLE TEM 	SECURITY (THEFT WARNING) SYS-	On	
	Not operating		Off	
HORN CHIRP	Door locking with Intelligent Key (h	On		
CRNRNG LMP REQ	NOTE: The item is indicated, but not mon	Off		

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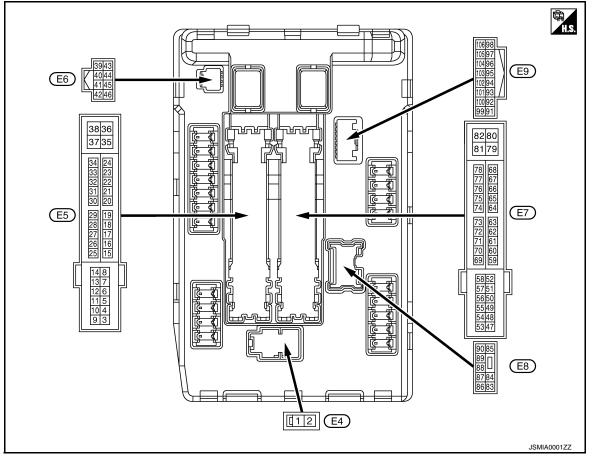
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< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

TERMINAL LAYOUT



PHYSICAL VALUES

	inal No.	Description	scription		Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
4	Cround	Front winer I.O.	Output	Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
5	Ground		Output	Ignition	Front wiper switch OFF	0 V
(L)	Ground	Front wiper HI	Output	switch ON	Front wiper switch HI	Battery voltage
7	Ground	Tail, license plate lamps &	Output	Ignition	Lighting switch OFF	0 V
(R)	Ground	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
12 (B/W)	Ground	Ground	_	Ignition swi	tch ON	0 V
13					tely 1 second or more after ignition switch ON	0 V
(Y)	Ground	Fuel pump power supply	Output	 Approximately 1 second after turning the ignition switch ON Engine running 		Battery voltage
16				Ignition	Front wiper stop position	0 V
16 (LG)	Ground	Ground Front wiper auto stop Inpu		Ignition switch ON	Any position other than front wiper stop position	Battery voltage

< ECU DIAGNOSIS INFORMATION >

Termi	inal No.	Description					
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	
19 (W)	Ground	Ignition relay power supply	Output	Ignition swi		0 V Battery voltage	
25 (G)	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V Battery voltage	
26* (R)	Ground	Ignition relay power supply	Output	Ignition swi		0 V Battery voltage	
27 (BG)	Ground	Ignition relay monitor	Input	Ignition swi	tch OFF or ACC tch ON	Battery voltage 0 V	
28 (L)	Ground	Push-button ignition switch	Input		bush-button ignition switch e push-button ignition switch	0 V Battery voltage	
30 (GR)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any posi- tion other than P or N	0 V	
36 (G)	Ground	Battery power supply	Input	Ignition swi	Selector lever P or N tch OFF	Battery voltage	
39 (P)		CAN-L	Input/ Output		_		
40 (L)		CAN-H	Input/ Output		_	_	
41 (B/W)	Ground	Ground	—	Ignition swi		0 V	
42 (Y)	Ground	Cooling fan relay control	Input	Ignition switch OFF or ACC Ignition switch ON		0 V 0.7 V	
43 (SB)	Ground	A/T shift selector (Detention switch)	Input Ignition switch ON	 Press the selector but- ton (Selector lever P) Selector lever in any po- sition other than P 	Battery voltage		
						Release the selector but- ton (selector lever P)	0 V
44 (BR)	Ground	Horn relay control	Input	The horn is The horn is	a deactivated	Battery voltage 0 V	
45 (G)	Ground	Anti theft horn relay control	Input	The horn is The horn is	a deactivated	Battery voltage 0 V	
46 (R)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any posi- tion other than P or N	0 V	
(1)				Switch Old	Selector lever P or N A/C switch OFF	Battery voltage 0 V	
48 (L)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is oper- ating)	Battery voltage	
49				Ignition swi (More than ignition swi	a few seconds after turning	0 V	
49 (BG) Ground		ECM relay power supply Output		 Ignition s Ignition s (For a feation switch) 	witch OFF w seconds after turning igni-	Battery voltage	

< ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description				Value	
+	-	Signal name	Input/ Output	Condition		(Approx.)	
51	Ground	Ignition relay power supply	0.1.1	Ignition swi	tch OFF	0 V	
(Y)	Ground		Output	Ignition swi	tch ON	Battery voltage	
52				Ignition swi (More than ignition swi	a few seconds after turning	0 V	
53 (W)	Ground	ECM relay power supply	Output	 Ignition s Ignition s (For a fewtion switch) 	witch OFF w seconds after turning igni-	Battery voltage	
E4		Throttle control motor ro		Ignition swi (More than ignition swi	a few seconds after turning	0 V	
54 (P)	Ground	Ind Throttle control motor re- lay power supply	Output	 Ignition s Ignition s (For a fewer tion switch) 	witch OFF w seconds after turning igni-	Battery voltage	
55 (SB)	Ground	ECM power supply	Output	Ignition swi	tch OFF	Battery voltage	
56	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	
(LG)	Giouna		Output	Ignition swi	tch ON	Battery voltage	
57	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V	
(G)	Giouna		Output	Ignition swi	tch ON	Battery voltage	
58	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V	
(V)	Cround	ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage	
69				Ignition swi (More than ignition swi	a few seconds after turning	Battery voltage	
(BR)	Ground	ECM relay control	Output	 Ignition switch ON Ignition switch OFF (For a few seconds after turning ignition switch OFF) 		0 – 1.5 V	
						0 – 1.0 V ↓	
70 (BG)	Ground	Throttle control motor re- lay control	Output	Ignition swi	tch ON \rightarrow OFF	Battery voltage ↓ 0 V	
				Ignition swi	tch ON	0 – 1.0 V	
74			a	Ignition swi	tch OFF	0 V	
(P)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage	
75	Cround		locut	Ignition	Engine stopped	0 V	
(SB)	Ground	Oil pressure switch	Input	switch ON	Engine running	Battery voltage	

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (ECU DIAGNOSIS INFORMATION > [XENON TYPE] Terminal No. (Wire color) Description Value (Approx.)

	e color)	Description	Input/	-	Condition	Value														
+	-	Signal name	Output			(Approx.)														
																		Ignition swi	tch ON	(V) 6 2 0 F 2 0 F 4 2 0 F 4 2 0 F 4 2 0 F 4 2 0 F 4 2 0 F 7 5 7 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
	Power generation com- mand signal	Output		on "ACTIVE TEST", "AL- R DUTY" of "ENGINE"	(V) 6 4 2 0 •••••••••••••••••••••••••••••••••															
				80% is set on "ACTIVE TEST", "AL- TERNATOR DUTY" of "ENGINE"		3.8 V														
					nately 1 second after turning on switch ON	јрміаоооздв 1.4 V 0 – 1.0 V														
77 (R)	Ground	Fuel pump relay control	Output	Engine re Approximation		Battery voltage														
80 (W)	Ground	Starter motor	Output	At engine o	-	Battery voltage														
83	Ground	Headlamp I.O. (DH)	Output	Ignition	Lighting switch OFF	0 V														
BG)	Ground	Headlamp LO (RH)	Output	switch ON	Lighting switch 2ND	Battery voltage														
84	Ground	Headlamp LO (LH)	Output	Ignition	Lighting switch OFF	0 V														
(V)		/		switch ON	Lighting switch 2ND	Battery voltage														
86 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	 Front fog lamp switch OFF Front fog lamp switch ON Daytime running light activated (Only for Can- ada) 	0 V Battery voltage														
					Front fog lamp switch OFF	0 V														
87 (L) Ground	ound Front fog lamp (LH) C	Output	Lighting switch 2ND	 Front fog lamp switch ON Daytime running light activated (Only for Can- ada) 	Battery voltage															
88 (GR)	Ground	Washer pump power sup- ply	Output	Ignition swi	tch ON	Battery voltage														

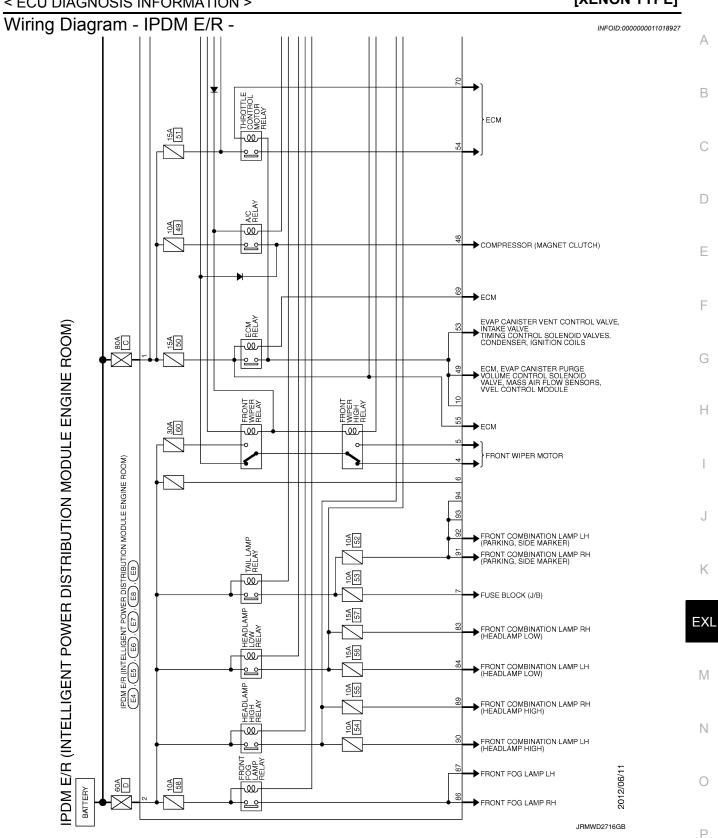
< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

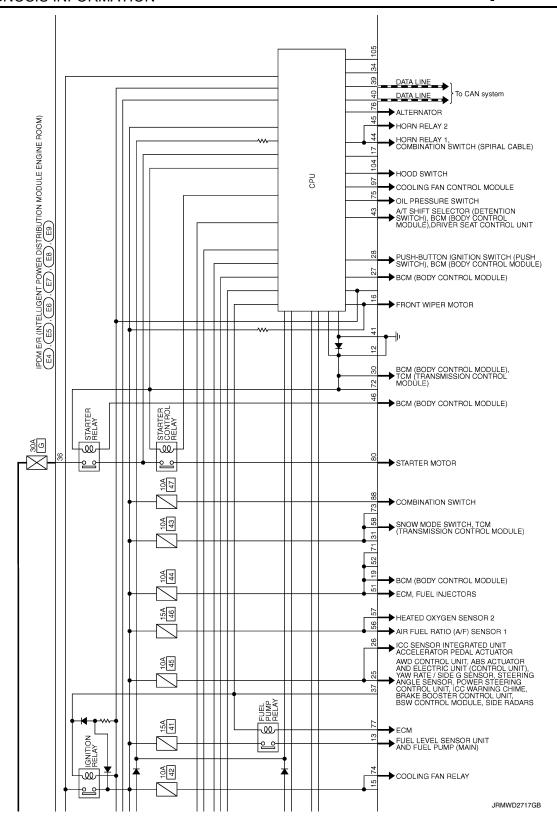
	inal No.	Description				Value
(VVire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
89				Ignition	Lighting switch OFF	0 V
(BR)	Ground	Headlamp HI (RH)	Output	switch ON	Lighting switch HILighting switch PASS	Battery voltage
90				Ignition	Lighting switch OFF	0 V
(P)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch HILighting switch PASS	Battery voltage
91	Oraciand	Parking lamp (RH)	Output	Ignition	Lighting switch OFF	0 V
(P)	Ground		Output	switch ON	Lighting switch 1ST	Battery voltage
92	Ground	Parking lamp (LH)	Output	Ignition	Lighting switch OFF	0 V
(BG)	Ground	Parking lamp (LH)	Output	switch ON	Lighting switch 1ST	Battery voltage
97 (V)	Ground	Cooling fan control	Output	Engine idling		0 – 5 V
104	Ground	Hood switch	Input	Close the h	lood	Battery voltage
(LG)	Sibulu	Duna Hooa switch		Open the hood		0 V

*: Only for the models with ICC system

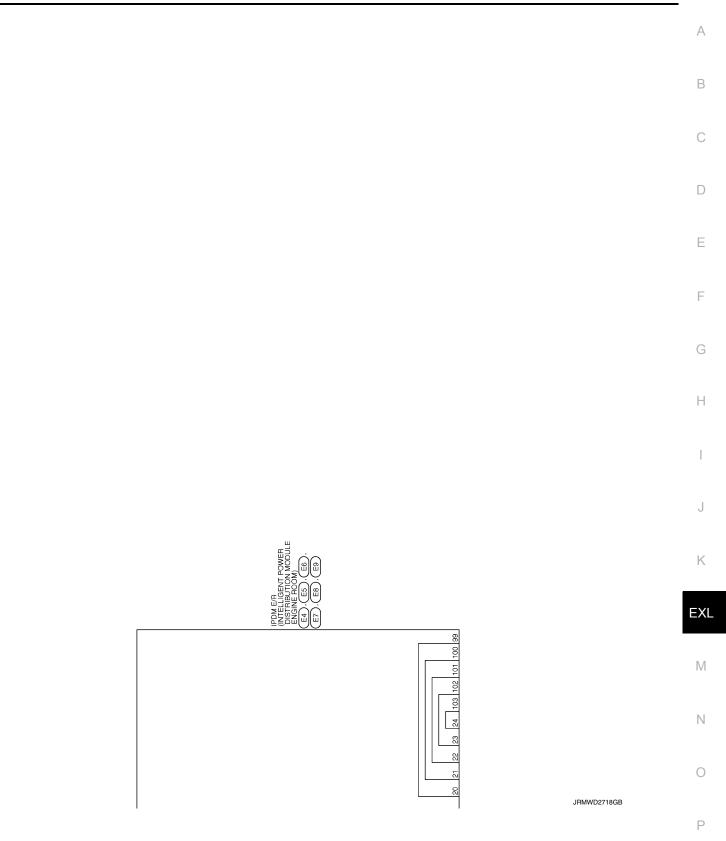
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < ECU DIAGNOSIS INFORMATION > [XENON TYPE]

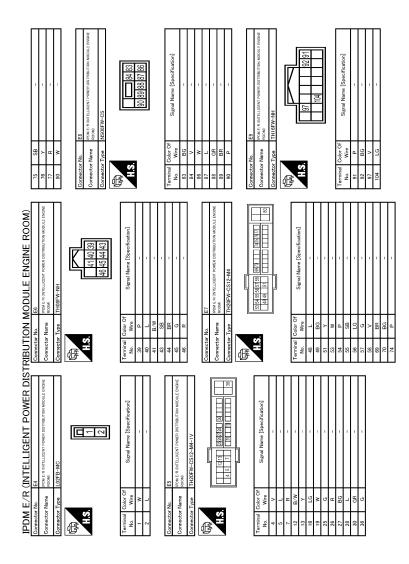


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < ECU DIAGNOSIS INFORMATION > [XENON TYPE]



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





JRMWF4766GB

INFOID:000000011018928

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

If No CAN Communication Is Available With BCM

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

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

• IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.

 IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.

 If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

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

FRONT WIPER CONTROL

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

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

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

< ECU DIAGNOSIS INFORMATION >

INFOID:000000011018929

NOTE:

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

STARTER MOTOR PROTECTION FUNCTION

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

DTC Index

NOTE:

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

		×: Applicable
CONSULT display	Fail-safe	Reference
No DTC is detected. further testing may be required.	_	_
U1000: CAN COMM CIRCUIT	×	PCS-14
B2098: IGN RELAY ON CIRC	×	PCS-15
B2099: IGN RELAY OFF CIRC	_	PCS-17
B210B: STR CONT RLY ON CIRC	_	<u>SEC-77</u>
B210C: STR CONT RLY OFF CIRC	_	<u>SEC-78</u>
B210D: STARTER RLY ON CIRC	_	<u>SEC-80</u>
B210E: STARTER RLY OFF CIRC	_	<u>SEC-82</u>
B210F: INTRLCK/PNP SW ON	_	<u>SEC-84</u>
B2110: INTRLCK/PNP SW OFF	—	<u>SEC-86</u>

< ECU DIAGNOSIS INFORMATION >

AFS CONTROL UNIT

Reference Value

VALUES ON THE DIAGNOSIS TOOL

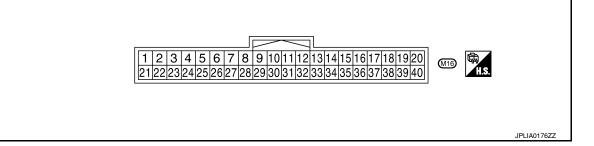
NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

CONSULT MONITOR ITEM

Monitor Item	Condit	ion	Value/Status
	Steering	Straight-forward	Approx. 0°
STR ANGLE SIG	Steering	Steering	Approx900° - +900°
VHCL SPD	Driving at 40 km/h (25 MPH)		40 km/h
SLCT LVR POSI	Selector lever operation		P - 1
HEAD LAMP		2ND	On
	NOTE:	Other than 2ND	Off
AFS SW	NOTE: The item is indicated, but not monitore	ed.	On
		Unloaded vehicle condition	Approx. 2.5 V
HI SEN OTP RR	Vehicle rear height	Low (Leveling operation downward edge)	Approx. 1.6 V
		Unloaded vehicle condition	Approx. 70.0%
LEV ACTR VLTG	Headlamp leveling	Low (Leveling operation downward edge)	Approx. 36.1%
		Standard position	Approx. 0°
SWVL SEN RH	Right headlamp swivel activation	Activation	Positive degree (+°)
		Standard position	Approx. 0°
SWVL SEN LH	Left headlamp swivel activation	Activation	Positive degree (+°)
	Dight headlamp outival activation	Standard position	Approx. 0°
SWVL ANGLE RH	Right headlamp swivel activation	Activation	Positive degree (+°)
		Standard position	Approx. 0°
SWVL ANGLE LH	Left headlamp swivel activation	Activation	Positive degree (+°)

TERMINAL LAYOUT



PHYSICAL VALUES

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< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

	inal No. e color)	Description		Quaditi		Value
+	-	Signal name	Input/ output	Conditio	ווע	(Approx.)
1 (W)	Ground	Ignition power supply	Input	The ignition switch ON	١	Battery voltage
2 (LG)	Ground	Right swivel position sensor ground	Input	The ignition switch ON	٧	0 V
4 (Y)	Ground	Right swivel position sensor power supply	Output	The ignition switch ON	١	5 V
6 (W)	Ground	Height sensor power supply	Output	The ignition switch ON	١	5 V
7 (P)	Ground	CAN-L	Input/ output	_		_
8 (B)	Ground	Height sensor ground	Input	The ignition switch ON	١	0 V
9	Ground	Right swivel position sensor	Output	Right headlamp	0°	0.7 V
(GR)	cround	signal	output	swivel angle	15°	2.8 V
11 (R)	Ground	Right swivel motor 1-phase (–)	Output	Right headlamp swivel	Activation	(V) 15 10 5 0 4 100µs SKIB2408J 8 - 12 V
13 (B)	Ground	Right swivel motor 2-phase (-)	Output	Right headlamp swivel	Stopped	9.5 - 11.5 V
15 (G)	Ground	Left swivel motor 1-phase (+)	Output	Left headlamp swivel	Activation	Reference waveform
17 (W)	Ground	Left swivel motor 2-phase (+)	Output	Left headlamp swivel	Stopped	9.5 - 11.5 V
19 (SB)	Ground	Right levelizer signal	Output	Right headlamp lev- eling	Unloaded ve- hicle condition Leveling oper- ation down-	8.8 V 4.5 V
24 (V)	Ground	Left swivel position sensor power supply	Output	ward edge The ignition switch ON		5 V
25 (B)	Ground	Ground	_	The ignition switch ON	١	0 V
27 (BR)	Ground	Left swivel position sensor ground	Input	The ignition switch ON	٧	0 V

< ECU DIAGNOSIS INFORMATION > =

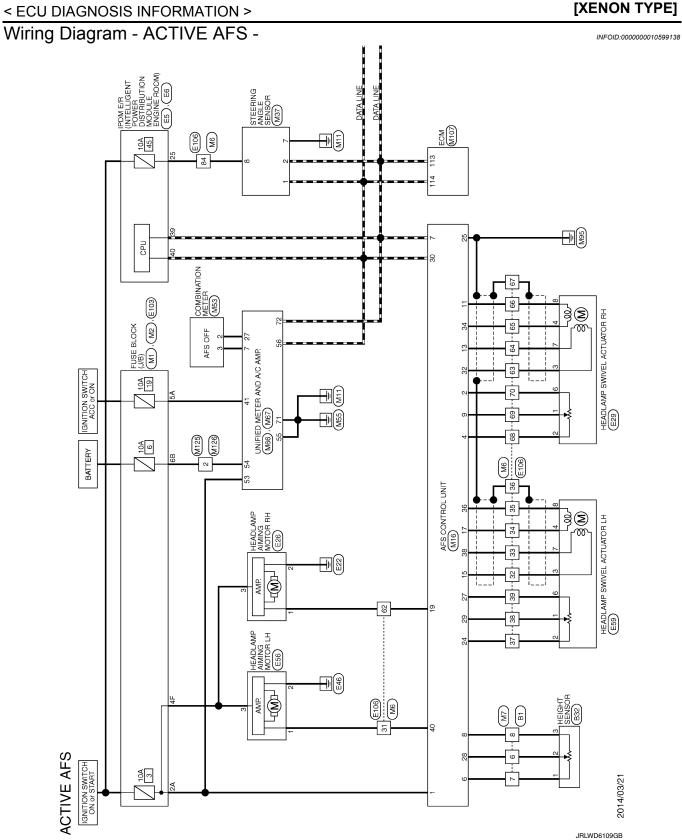
. . .

[XENON TYPE]

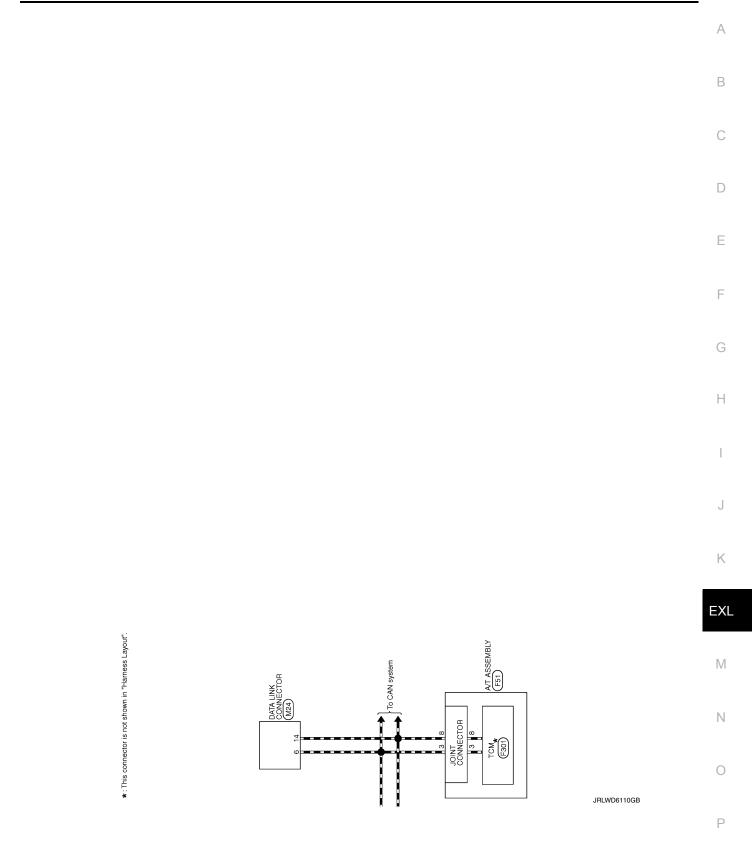
	inal No. e color)	Description		Conditi		Value	А
+	-	Signal name	Input/ output	Condition		(Approx.)	
					Unloaded ve- hicle condition	2.5 V	В
28 (BG)	Ground	Height sensor signal	Output	Vehicle rear height	Low (Leveling operation downward edge)	1.6 V	С
29 (BG)	Ground	Left swivel position sensor sig-	Output	Left headlamp swivel angle	0°	0.7 V	D
		nal	1	angle	17°	3.0 V	
30 (L)	Ground	CAN-H	Input/ output	—		—	Е
						Reference waveform	
32 (G)	Ground	Right swivel motor 2-phase (+)	Output	Right headlamp swivel	Activation	$(V) \\ 15 \\ 10 \\ 5 \\ 0 \\ + 100 \mu s \\ + 10$	F
34	Ground	Right swivel motor 1-phase (+)	Output	Right headlamp	Stopped	8 - 12 V 9.5 - 11.5 V	Н
(W)				swivel		Reference waveform	
36 (R)	Ground	Left swivel motor 2-phase (-)	Output	Left headlamp swivel	Activation	(V) 15 10 0 0 0 0 0 0 0 0 0 0 0 0 0	l J
						8 - 12 V	Κ
38 (B)	Ground	Left swivel motor 1-phase (-)	Output	Left headlamp swivel	Stopped	9.5 - 11.5 V	
40				Right headlamp lev-	Unloaded ve- hicle condition	8.8 V	EXL
(L)	Ground	Left levelizer signal	Output	eling	Leveling oper- ation down- ward edge	4.5 V	M

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ACTI	ACTIVE AFS	ES	ļ	ļ		[:		Γ
Connector No.	r No.	81	4	5	'	Connec	connector No.	832	Connector No. E6
Connector Name	or Name	WIRE TO WIRE	49	2 2 2		Connec	Connector Name	HEIGHT SENSOR	Connector Name RODM6 RODMELICENT POWER DISTRIBUTION MODULE ENCINE RODM6
Connector Type		TH80FW-CS16-TM4	20	-	-	Connec	Connector Type	RH03FB	Connector Type TH08FW-NH
			99	٩			ſ		
E		80 M A A A A A A A A A A A A A A A A A A	61	-	-	ť			
		1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	62	SHIELD	- 0			R	
H-S		 ○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○	63	۳	-		H.S.		H.S.
	1		64	σ	-			((1)23)	
		2 01 00 000 000 000 000 000 00 00 00 00 0	65	SHIELD	- 0				46 45 44 43
			66	W	-				
			67	>	-				
Terminal	0	f Similar [Service-stran]	68	SB		Terminal	С	C	Dal C
No.	Wire	Discussion Concession	69	SHIELD	- 0	No.	Wire		No. Wire Jagnan Name Lopechication
~	н		70	W		-	>	-	39 P -
5	σ		73	ß	-	2	BS	1	40 L –
9	SB	'	74	-		e		1	41 B/W -
2	>		75	N	,]			43 SB -
~	-	,	76	a	,	_			┝
-	, >	'	2	i a	'	Connec	Connector No	ES	╀
;			ļ,						╀
2	<u>n</u> :	'	8/ f	<u></u> }		Connec	Connector Name	IPOM E/R UNTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM	40 K
2	2	,	2	5					
14	GR	1	83	BG	1	Connec	Connector Type	TH20FW-CS12-M4-1V	ſ
15	LG	-	85	>	-	[Connector No. E26
16	R	-	86	LG	-	E			Competer Neme LIE ADI AMD ANAING MOTOR DU
17	W	-	87	>					
18	SB	-	88	œ	-		H 5	252762728 30	Connector Type HS03FGY
19	ГG		68	•				4 5 7 7 16 13 7 36	
20	BR	'	6	ß	'				
21	SHIELD	1	91	σ	-]	
22	Y	-	92	BR	-				H.S. ((1 2))
24	Ч	-	93	G	-	Terminal	С	C	ŀ
27	в	-	94	SB		No	Wire		
28	ч	-	92	σ	-	4	>	1)
29	M		96	7	-	ŝ		1	
30	SHIELD	-	98	W	-	7	æ	1	Terminal Color Of Simul Name [Samilinedim]
31	SHIELD	-	66	GR	-	12	B/W	1	No. Wire Olgrammanie Lopecinication
32	M	,				13	7	1	1 SB -
33	SB	1				16	ГC	I	2 B -
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40	SB					36	G		
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Revision: February 2015

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Commetter No. Commetter No. Commetter Name Commetter Name Commetter Name Commetter Name Commetter Type B 1 I	Н
ES9 HE-LOL AMP SWWEL ACTUATOR LH HE-LOL AMP SWWEL ACTUATOR LH HE-LOL AMP SWWEL ACTUATOR LH HE-LOL AMP SWWEL ACTUATOR LH Signal Nume (Specification) Signal Nume (Specification)	I
Connector No. E59 Connector Name ECADLANP SWVEL Connector Name EAADLANP SWVEL Connector Name ESOURTOV-PR 1 Name 2 Name 3 0 4 10 2 Name 1 Name 1 Name 1 Name 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	J
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< ECU DIAGNOSIS INFORMATION >

Revision: February 2015

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			- (With ICC) - (With ICC) - (Without ICC) - (With ICC)	
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All Meet Control of Meet Contr		Signal Manne [Specification]		
7B P 8B R 9B SB Connector No.		I Color Of Wire B B B SHIELD G G	□ □ </td <td>SHELD SHELD</td>	SHELD SHELD
7B P 8B R 9B SB R 00mector No.	子 H	Terminal No. 3 3 3 8 8	9 10 12 13 13 14 14 16 17 16 18 20 22 22 23 28 23 28 23 28 23 28 23 28 23 28 28 28 28 28 28 28 28 28 28 28 28 28	31 32 33 35 35 36
GROMD IGMTION PRE SUPELY IGMTION PRE AV BACK-ON PARA STATER RELV GROUND		Sig.		Of Signal Mame [Specification]
5 7 10 10 10 10 10 10 10 10 10 10	Connector Name Connector Type	nal Color Of Wire G	44 R 54 V 7A R 83 L Connector Norres Connector Norres Connector Norres	nal Color Of Wire P G G A
10 8 8 J	Conne	Terminal No. 1A 3A	A A A A A B A A B A B A B A B A B A B A B A B A B A B A B A B A A B B	Terminal No. 3B 4B 5B 6B
Anamasser Trainasser Trainas	Refere-bory	Signal Name [Specification] IdanTIGN POWER SUPPLY BATTERY POWER SUPPLY CANHH K-UNE GROUNG GROUNG	IGMITION POWER SUPPLY BACK-UP LAMP RELAY CAN-L CAN-L CAN-L GACUND GAOLND TOM TOM SPIOFG G 7 8 9 10	Signal Name [Specification] CANTION POWER SUPPLY BATTERY POWER SUPPLY K-LINE K-LINE
ACTIVE AFS 97 R 98 SHELD 98 L 100 P Connector No. F51 Connector Name A7	Connector Type	Terminal Color Of No. Wire No. Wire 3 CO 4 V		Terminal Color Of No. Wire 1 2 4

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< ECU DIAGNOSIS INFORMATION >

Revision: February 2015

Connector No. M24 Connector Name DATA LINK CONNECTOR Connector Type BD 1017W	Turning Condition Signal Name (Specification) 3 1 0 - 3 1 0 - 4 1 1 - 1 1 1 - 1 1 1 - 1 1 1 - 1 1 1 - 1 1 1 - 1 1 1 - 1 1 1 - 1 1 1 - 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Connector No. M16 Connector Name AFS CONTROL UNIT Connector Type TH40FW-14H Connector Type TH40FW-14H Connector Type TH40FW-14H Connector Type TH40FW-14H	Turninal Color of No. Signal Marm (Specification) 1 W 10. 2 LG P 4 Y P 1 V P 1 V P 1 V P 1 V P 1 P DAH-L 1 R MSV-R 1 R MSV-R 1 R MSV-R 1 R MSV-R 2 B MSV-R 2 B MSV-R 2 B MSV-R 2 B SMR-1(V) 3 B MSV-R 3 B SMR-1(V) 3 B SMR-1(V) <
	 88 94 94 94 94 94 94 94 94 94 95 96 98 99 99 99 <
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ACTIVE AFS	E AFS									
Connector No.	. M53	Connec	Connector No.	M66	46	BG	SUNLOAD SENSOR SIGNAL	109	σ	PNP SIGNAL
Connector Name	COMBINATION METER	Conner	Connector Name	I MIERD METER AND A /C AMD	47	σ	EXHAUST GAS / OUTSIDE ODOR DETECTIND SENSOR SIGNAL	110	ч	ENGINE SPEED OUTPUT SIGNAL
					53	9	IGNITION POWER SUPPLY	112	^	SENSOR GROUND
Connector Type	rpe TH40FW-NH	Connec	Connector Type	TH40FW-NH	54	Y	BATTERY POWER SUPPLY	113	Ч	CAN COMMUNICATION LINE
					55	8	GROUND	114	٦	CAN COMMUNICATION LINE
£		£			56	_	CAN-H	117	>	DATA LINK CONNECTOR
主子	R	2 		R	57	w	BRAKE FLUID LEVEL SWITCH SIGNAL	121	ГG	EVAP CANISTER VENT CONTROL VALVE
S.H.V			vi		58	BR	FUEL LEVEL SENSOR GROUND	122	٩	STOP LAMP SWITCH
	2 2 2 2 2 2 2 2 1 10 10 10 10 12 12 12 12 12 12 12 12 12 12 12 12 12	ļ		10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	59	GR	INTAKE SENSOR GROUND	123	m	ECM GROUND
	aci lee lensisterioritziariez			[7] [7] [7]	99	_	IN-VEHICLE SENSOR GROUND	124	m	ECM GROUND
					61	BR	AMBIENT SENSOR GROUND	125	ы	POWER SUPPLY FOR ECM
					62	SB	SUNLOAD SENSOR GROUND	126	BR	ASCD/ICC BRAKE SWITCH
Terminal Color Of		Terminal	al Color Of	- - - - - - - - - - - - - - - - - - -	63	æ	,	127	8	ECM GROUND
No.	Wire Signal Name [Specification]	No.	Wire	Signal Name [Specification]	65	BG	ECV SIGNAL	128		ECM GROUND
	GR BATTERY POWER SUPPLY	2		MANUAL MODE SHIFT UP SIGNAL	69	-	A/C LAN SIGNAL			
2	LG COMMUNICATION SIGNAL (METER->AMP.)	2	ß	COMMUNICATION SIGNAL (AMP>METER)	70	œ	EACH DOOR MOTOR POWER SUPPLY			
en	GR COMMUNICATION SIGNAL (AMP>METER)	~		VEHICLE SPEED SIGNAL (2-PULSE)	71	m	GROUND	Connector No.		M125
s	B GROUND	6	BS	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)	72	٩	CAN-L			TO LOD
9	P ALTERNATOR SIGNAL	10	×	MANUAL MODE SIGNAL				Connector Name	Name	WIRE TO WIRE
7	BR AIR BAG SIGNAL	=	σ	NON-MANUAL MODE SIGNAL				Connector Type	Tvpe	M03FW-LC
10	SECI	14	f	COMMUNICATION SIGNAL (LCD->AMP.)	Connector No.	Γ	M107			
15	B GROUND	20	_	ION ON/OFF SIGNAL		L		ſ		[
16	B METER CONTROL SWITCH GROUND	23	>	AT SNOW SWITCH SIGNAL	Connector Name		ECM	辛子		Π
19	B IFF GND	25	>	MANUAL MODE SHIFT DOWN SIGNAL	Connector Type		RH24FGY-RZ8-R-LH-Z	S H		~
20	R ILL	27	ΓC	COMMUNICATION SIGNAL (METER->AMP.)			[
21	BG IGNITION SIGNAL	28	ч	VEHICLE SPEED SIGNAL (8-PULSE)	ſ					3 2
22		30	>	PARKING BRAKE SWITCH SIGNAL	主子		÷			
24		34	~	COMMUNICATION SIGNAL (AMP>LCD)	H-S		123 107			
25	Y COMMUNICATION SIGNAL (AMP>LCD)	86	٩	BLOWER MOTOR CONTROL SIGNAL			126 122 114 110 106 108 98	al	Color Of	Simal Nama [Snarification]
26	R VEHICLE SPEED SIGNAL (8–PULSE)						125 121 117 113 118 105 101 97	No.	Wire	
27								-	w	-
28	W BRAKE FLUID LEVEL SWITCH SIGNAL	Connec	Connector No.	M67				2	Y	-
29	SB SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)	Conner	Connector Name	I MIETED METER AND A/C AMP	Terminal	Color Of	Signal Name [Snacification]	e	۳	1
30	G SEAT BELT BUCKLE SWITCH SIGNAL (PASSENGER SIDE)				No.	Wire				
31	L WASHER LEVEL SWITCH SIGNAL	Connec	Connector Type	TH32FW-NH	97	ч	ACCELERATOR PEDAL POSITION SENSOR 1			
33					98	٩	ACCELERATOR PEDAL POSITION SENSOR 2 [Without ICC]	Connector No.		M126
36	LG SELECT SWITCH SIGNAL	E			98	Y	ACCELERATOR PEDAL POSITION SENSOR 2 [Wth ICC]	Connector Name	Momo	
37	SB ENTER SWITCH SIGNAL			K	66	5	SENSOR POWER SUPPLY [With ICC]			
38	L TRIP A/B RESET SWITCH SIGNAL		H S		66	٦	SENSOR POWER SUPPLY [Without ICC]	Connector Type	Type	M03MW-LC
39	P ILLUMINATION CONTROL SWITCH SIGNAL (-)			10 30	100	M	SENSOR GROUND			
40	BG ILLUMINATION CONTROL SWITCH SIGNAL (+)			2/12/20/20/00/01/02/02/02/02/02/02/02/02/02/02/02/02/02/	101	ß	ASCD/ICC STEERING SWITCH	ſ		
					102	LG	EVAP CONTROL SYSTEM PRESS SENSOR			
					103	σ	SENSOR POWER SUPPLY [Without ICC]	H-S-		-
		Terminal	o	Signal Name [Specification]	103	٦	SENSOR POWER SUPPLY [With ICC]			0 0
		No.	Wire	The second se	104	BR	SENSOR GROUND [With ICC]			
		4	>	ACC POWER SUPPLY	104	Чġ.	SENSOR GROUND [Without ICC]			
		42	×	FUEL LEVEL SENSOR SIGNAL	901 102	-	REFRIGERANT PRESS SENSOR			
		43	~	INTAKE SENSOR SIGNAL	106	M	FUEL TANK TEMPERATURE SENSOR			

JRLWD6226GB

AFS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

< ECU DIAGNOSIS INFORMATION >

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< ECU DIAGNOSIS INFORMATION >

Fail-safe

INFOID:000000010599139

[XENON TYPE]

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

DTC Inspection Priority Chart

INFOID:000000010599140

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

NOTE:

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

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

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

< ECU DIAGNOSIS INFORMATION >

DTC Index

[XENON TYPE]

INFOID:000000010599141

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U1000: CAN COMM CIRCUIT××EXL-62. "DTC Logic"U1010: CONTROL UNIT (CAN)××EXL-63. "DTC Logic"B2503, B2504: SWIVEL ACTUATOR [RH, LH]××EXL-45. "DTC Logic"B2514: HI SEN UNUSUAL [RR]×EXL-51. "DTC Logic"B2516: SHIFT SIG [P, R]××EXL-54. "DTC Logic"B2517: VEHICLE SPEED SIG××EXL-55. "DTC Logic"B2519: LEVELIZER CALIB×EXL-56. "DTC Logic"B2521: ECU CIRC××EXL-57. "DTC Logic"C0126: ST ANG SEN SIG××EXL-60. "DTC Logic"					×: Applicable
U1010: CONTROL UNIT (CAN)××EXL-63. "DTC Logic"B2503, B2504: SWIVEL ACTUATOR [RH, LH]××EXL-45, "DTC Logic"B2514: HI SEN UNUSUAL [RR]×EXL-51, "DTC Logic"B2516: SHIFT SIG [P, R]××EXL-54, "DTC Logic"B2517: VEHICLE SPEED SIG××EXL-55, "DTC Logic"B2519: LEVELIZER CALIB×EXL-56, "DTC Logic"B2521: ECU CIRC××EXL-56, "DTC Logic"C0126: ST ANG SEN SIG××EXL-60, "DTC Logic"	CONSULT indication	Fail-safe		Reference	В
B2503, B2504: SWIVEL ACTUATOR [RH, LH]××EXL-45, "DTC Logic"B2514: HI SEN UNUSUAL [RR]×EXL-51, "DTC Logic"B2516: SHIFT SIG [P, R]××EXL-54, "DTC Logic"B2517: VEHICLE SPEED SIG××EXL-55, "DTC Logic"B2519: LEVELIZER CALIB×EXL-56, "DTC Logic"B2521: ECU CIRC××EXL-57, "DTC Logic"C0126: ST ANG SEN SIG××EXL-60, "DTC Logic"	U1000: CAN COMM CIRCUIT	×	×	EXL-62, "DTC Logic"	
B2514: HI SEN UNUSUAL [RR]×EXL-51, "DTC Logic"B2516: SHIFT SIG [P, R]××EXL-54. "DTC Logic"B2517: VEHICLE SPEED SIG××EXL-55. "DTC Logic"B2519: LEVELIZER CALIB×EXL-56, "DTC Logic"B2521: ECU CIRC××EXL-57. "DTC Logic"C0126: ST ANG SEN SIG××EXL-60, "DTC Logic"	U1010: CONTROL UNIT (CAN)	×	×	EXL-63, "DTC Logic"	
B2516: SHIFT SIG [P, R]××EXL-54. "DTC Logic"B2517: VEHICLE SPEED SIG××EXL-55. "DTC Logic"B2519: LEVELIZER CALIB×EXL-56, "DTC Logic"B2521: ECU CIRC××EXL-57. "DTC Logic"C0126: ST ANG SEN SIG××EXL-60. "DTC Logic"	B2503, B2504: SWIVEL ACTUATOR [RH, LH]	×	×	EXL-45, "DTC Logic"	С
B2517: VEHICLE SPEED SIG××EXL-55. "DTC Logic"B2519: LEVELIZER CALIB×EXL-56, "DTC Logic"B2521: ECU CIRC××C0126: ST ANG SEN SIG××EXL-60. "DTC Logic"	B2514: HI SEN UNUSUAL [RR]	×		EXL-51, "DTC Logic"	
B2519: LEVELIZER CALIB × EXL-56, "DTC Logic" B2521: ECU CIRC × × EXL-57, "DTC Logic" C0126: ST ANG SEN SIG × × EXL-60, "DTC Logic"	B2516: SHIFT SIG [P, R]	×	×	EXL-54, "DTC Logic"	D
B2521: ECU CIRC × × EXL-57. "DTC Logic" C0126: ST ANG SEN SIG × × EXL-60. "DTC Logic"	B2517: VEHICLE SPEED SIG	×	×	EXL-55, "DTC Logic"	
Display in the bolic X X Ext-sr. bre logic C0126: ST ANG SEN SIG × × EXt-60, "DTC Logic"	B2519: LEVELIZER CALIB	×		EXL-56, "DTC Logic"	
	B2521: ECU CIRC	×	×	EXL-57, "DTC Logic"	E
	C0126: ST ANG SEN SIG	×	×	EXL-60, "DTC Logic"	
C0428: ST ANGLE SEN CALIB × × <u>EXL-61, "DTC Logic"</u>	C0428: ST ANGLE SEN CALIB	×	×	EXL-61, "DTC Logic"	

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Revision: February 2015

SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

INFOID:000000010599142

CAUTION:

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

Sym	ptom	Possible cause	Inspection item	
Headlamp (HI) is not turned ON.	One side	 Fuse Halogen bulb (HI) Harness between IPDM E/R and the headlamp high IPDM E/R 	Headlamp (HI) circuit Refer to <u>EXL-67</u> .	
	Both sides	Symptom diagnosis		
Headlamp (HI) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (HI) A Refer to <u>EXL-201</u> .	RE NOT TURNED ON"	
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_	
High beam indicator lamp [The headlamp (HI) is tur		Combination meter	 Combination meter Data monitor "HI-BEAM IND" BCM (HEAD LAMP) Active test "HEADLAMP" 	
Headlamp (LO) is not turned ON.	One side	 Fuse Xenon bulb (LO) Harness between IPDM E/R and the headlamp low IPDM E/R 	Headlamp (LO) circuit Refer to <u>EXL-69</u> .	
	Both sides	Symptom diagnosis		
Headlamp (LO) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (LO) A Refer to <u>EXL-202</u> .	RE NOT TURNED ON"	
turned OFF.	When ignition switch is turned OFF.	IPDM E/R		
Headlamp is not turned ON/OFF with the lighting		 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-94</u> .	
switch AUTO.		 Optical sensor Harness between the optical sensor and BCM BCM 	Optical sensor Refer to <u>EXL-80</u> .	
Front fog lamp is not turned ON.	One side	 Front fog lamp bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R 	Front fog lamp circuit Refer to <u>EXL-74</u> .	
Both side		Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON"		
Front fog lamp is not turn	ed ON.	Refer to <u>EXL-204</u> .		
Parking lamp is not turned ON.		 Fuse Parking lamp bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R 	Parking lamp circuit Refer to <u>EXL-76</u> .	

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

Symp	otom	Possible cause	Inspection item	
Tail lamp is not turned ON.		 Harness between IPDM E/R and the rear combination lamp Rear combination lamp 	Tail lamp circuit Refer to <u>EXL-85</u> .	
License plate lamp is not to	urned ON.	 Harness between IPDM E/R and the license plate lamp License plate lamp 	License plate lamp circuit Refer to <u>EXL-87</u> .	
Tail lamp and the license p ON.	late lamp are not turned	 Fuse Harness between IPDM E/R and the rear combination lamp IPDM E/R 	Tail lamp circuit Refer to <u>EXL-85</u> .	
 Parking lamp, the tail lar lamp are not turned ON. Parking lamp, the tail lar lamp are not turned OFF (Each illumination is turned) 	np and the license plate	Symptom diagnosis "PARKING, LICENSE PLATE AND ON" Refer to <u>EXL-203</u> .	TAIL LAMPS ARE NOT TURNED	
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (The applicable side performs the high flash- er activation.)	 Harness between BCM and each turn signal lamp Turn signal lamp bulb 	Turn signal lamp circuit Refer to <u>EXL-78</u> .	
DIINK.	Indicator lamp is includ- ed	 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-94</u> .	
	One side	Combination meter	_	
Turn signal indicator lamp does not blink. (The turn signal indicator	Both sides (Always)	 Turn signal indicator lamp signal Unified meter and A/C amp. BCM Combination meter 	 Unified meter and A/C amp. Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER" 	
lamp is normal.)	Both sides (Only when activating the hazard warning lamp with the ignition switch OFF)	The combination meter power supply and the ground circuitCombination meter	Combination meter Power supply and the ground circuit Refer to <u>MWI-55</u> .	
 Hazard warning lamp does not activate. Hazard warning lamp continues activating. (Turn signal is normal.) 		 Hazard switch Harness between the hazard switch and BCM BCM 	Hazard switch Refer to <u>EXL-83</u> .	
Headlamp auto aiming doe normal.)	es not activate. (AFS is	 Harness between AFS control unit and aiming motor Front combination lamp (Aiming motor) AFS control unit 	Headlamp levelizer circuit Refer to <u>EXL-72</u> .	
AFS OFF indicator lamp is	not turned ON.	 AFS OFF indicator lamp signal Unified meter and A/C amp. AFS control unit Combination meter 	Unified meter and A/C amp. Data monitor "AFS OFF IND"	

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NORMAL OPERATING CONDITION

Description

INFOID:000000010599143

[XENON TYPE]

XENON HEADLAMP

- Brightness and the color of light may change slightly immediately after turning the headlamp ON until the xenon bulb becomes stable. This is normal.
- Illumination time lag may occur between right and left. This is normal.

AUTO LIGHT SYSTEM

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

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON [XENON TYPE] < SYMPTOM DIAGNOSIS > BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON А Description INFOID:000000010599144 Both side headlamps (HI) are not turned ON when setting to the lighting switch HI or PASS. В **Diagnosis** Procedure INFOID:000000010599145 **1**.COMBINATION SWITCH INSPECTION С Check the combination switch. Refer to BCS-94, "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

ONSULT DATA MONITOR

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

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

Monit	tor item	Con	dition	Monitor status		
HL HI R		Lighting switch	HI or PASS	On		
(2ND)		(2ND)	LO	Off		
Is the it	Is the item status normal?					
YES >> GO TO 3.						
NO				Exploded View		
З. неа	DLAMP	(HI) CIRCUIT	INSPECTION			
				-67, "Compone		
<u>Is the h</u>	eadlamp	<u>) (HI) circuit nor</u>	<u>rmal?</u>			
YES	>> Rej	place IPDM E/F	ર .			
NO	>> Rej	pair or replace t	the malfunction	ing part.		

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BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description

The headlamps (both sides) are not turned ON in any condition.

Diagnosis Procedure

1.CHECK COMBINATION SWITCH

Check the combination switch. Refer to <u>BCS-94, "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 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	
HL LO REQ	Lighting switch	2ND	On
	Lighting Switch	OFF	Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-69, "Description".

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

[XENON TYPE]

INFOID:000000010599146

INFOID:000000010599147

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON < SYMPTOM DIAGNOSIS > [XENON TYPE] PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON A								
Description				INFOID:000000010599148				
The parking, lic	-	side marker laı	mps and each i	Iumination are not turned ON in any condition.				
1.combinat	ON SWITCH IN							
Is the combinat YES >> GC NO >> Re	NO >> Repair or replace the malfunctioning part.							
 2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT CONSULT DATA MONITOR Select "TAIL & CLR REQ" of IPDM E/R data monitor item. With operating the lighting switch, check the monitor status. 								
Monitor item	Conc		Monitor status					
TAIL & CLR REQ	Lighting switch	1ST OFF	On Off	-				
NO >> Re) TO 3. place BCM.		1					
	CIRCUIT INSPE		Component Fur	action Check"				
<u>Is the tail lamp</u> YES >> Re								

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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.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to <u>BCS-94, "Symptom Table"</u>.

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

CONSULT 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
	(Lighting switch 2ND)	OFF	Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

3.FRONT FOG LAMP CIRCUIT INSPECTION

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

Is the front fog lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

Revision: February 2015

[XENON TYPE]

INFOID:000000010599150

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< PRECAUTION > PRECAUTION PRECAUTIONS

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

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

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never 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:

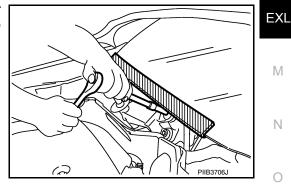
Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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.

Precaution for Procedure without Cowl Top Cover

INFOID:000000011008331

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc to prevent damage to windshield.



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.

INFOID:000000010599153

PRECAUTIONS

< PRECAUTION >

- (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.).

Precautions for Removing Battery Terminal

INFOID:000000011008329

• When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

NOTE:

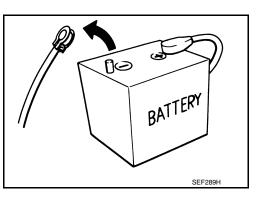
ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

• For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch. **NOTE:**

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
 NOTE:

The removal of 12V battery may cause a DTC detection error.



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< PERIODIC MAINTENANCE > PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

Description

PREPARATION BEFORE ADJUSTING

NOTE:

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

Before performing aiming adjustment, check the following.

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

NOTE:

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

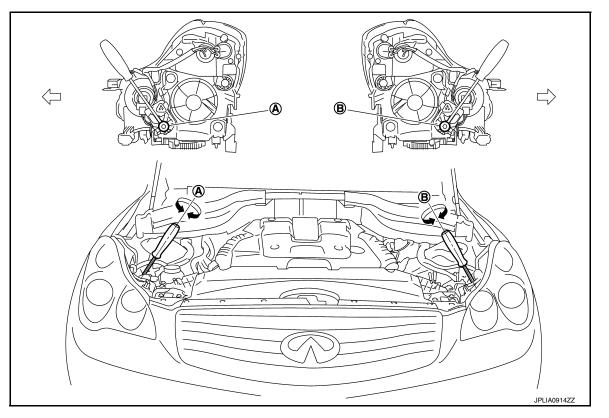
• Wipe out dirt on the headlamp.

CAUTION:

Never use organic solvent (thinner, gasoline etc.)

• Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



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

NOTE:

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

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

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

Aiming Adjustment Procedure

INFOID:000000010599155

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

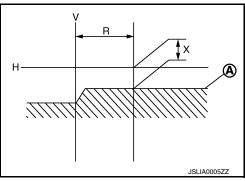
Shut off the headlamp light with the board to prevent from illuminating the adjustment screen. **CAUTION:**

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

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

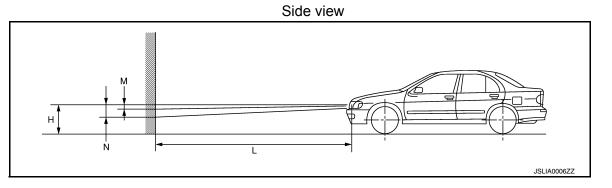
Light axis measurement range (R) \pm 350 \pm 175 mm (13.78 \pm 6.89 in)

Low beam distribution on the screen



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

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



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

FRONT FOG LAMP AIMING ADJUSTMENT

Revision: February 2015

< PERIODIC MAINTENANCE > FRONT FOG LAMP AIMING ADJUSTMENT

Description

PREPARATION BEFORE ADJUSTING

NOTE:

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

Before performing aiming adjustment, check the following.

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

NOTE:

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

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

AIMING ADJUSTMENT SCREW

Turn the aiming adjusting screw for adjustment.

A: UP

B: DOWN

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

NOTE:

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

Aiming Adjustment Procedure

1. Place the screen.

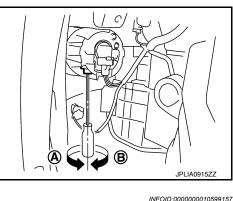
NOTE:

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

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

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

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



[XENON TYPE]

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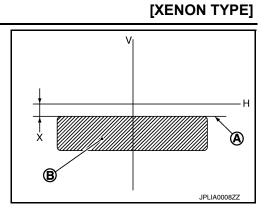
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FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

Front fog lamp light distribution on the screen



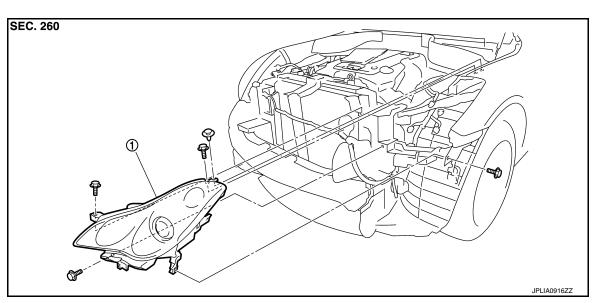
- A : Cutoff line
- B : High illuminance area
- H : Horizontal center line of front fog lamp
- V : Vertical center line of front fog lamp
- X : Cutoff line height

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION FRONT COMBINATION LAMP

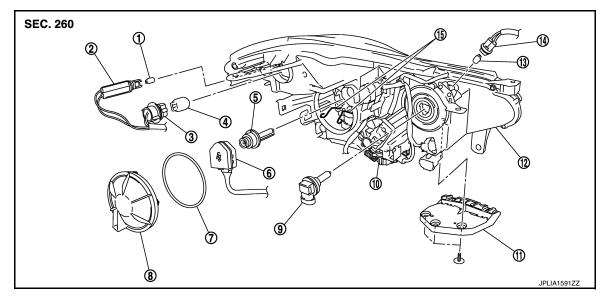
Exploded View

REMOVAL



1. Front combination lamp

DISASSEMBLY



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

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

CAUTION:

HID control unit and xenon bulb socket cannot be disassembled.

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FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

Removal and Installation

REMOVAL

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

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

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

INSTALLATION Install in the reverse order of removal. NOTE:

After installation, perform aiming adjustment. Refer to EXL-207, "Description".

Replacement

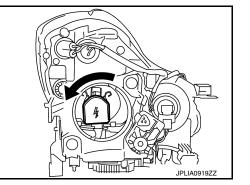
CAUTION:

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

HEADLAMP BULB (LO)

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

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

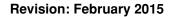


HEADLAMP BULB (HI)

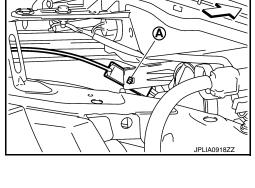
- 1. Remove the washer tank inlet^{*}. Refer to <u>WW-113, "Exploded View"</u>. *:When replace a right.
- 2. Disconnect the headlamp (HI) bulb connector.
- 3. Rotate the bulb socket counterclockwise and unlock it.
- 4. Remove the bulb socket from the headlamp housing assembly.

PARKING LAMP BULB

1. Rotate the bulb socket counterclockwise and unlock it.



EXL-212



INFOID:000000010599160



FRONT COMBINATION LAMP

FRONT COMBINATION LAMP				
< REMOVAL AND INSTALLATION >	[XENON TYPE]			
2. Remove the bulb from the bulb socket.				
FRONT TURN SIGNAL LAMP BULB		A		
1. Remove the fender rubber protector in the engine room. Keep a service area.				
2. Rotate the bulb socket counterclockwise and unlock it.		В		
3. Remove the bulb from the bulb socket.				
FRONT SIDE MARKER LAMP BULB				
1. Remove the fender rubber protector in the engine room. Keep a service area.		С		
2. Rotate the bulb socket counterclockwise and unlock it.				
3. Remove the bulb from the bulb socket.		D		
Disassembly and Assembly	INFOID:000000010599161	_		
CAUTION:	l	E		
HID control unit and xenon bulb socket cannot be disassembled.				
DISASSEMBLY				
1. Rotate the resin cap counterclockwise and unlock it.		F		
2. Rotate the xenon bulb socket counterclockwise and unlock it.				
3. Remove the retaining spring lock. Remove the xenon bulb.	(G		
4. Remove the bumper bracket.		-		
5. Rotate the parking lamp bulb socket counterclockwise and unlock it.				
 Remove the bulb from the parking lamp bulb socket. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it. 	l	Н		
 Remove the bulb from the front turn signal lamp bulb socket. 				
9. Rotate the front side marker lamp bulb socket counterclockwise and unlock it.		1		
10. Remove the bulb from the front side marker lamp bulb socket.				
11. Rotate the headlamp (HI) bulb socket counterclockwise and unlock it.				
12. Remove the bulb socket from the headlamp housing assembly.	,	J		
ASSEMBLY				
Assemble in the reverse order of disassembly.				
CAUTION: After installing the bulb, install the resin cap and the bulb socket securely for watertightness.				
After installing the build, install the resin cap and the build socket securely for watertightness.				

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FRONT FOG LAMP

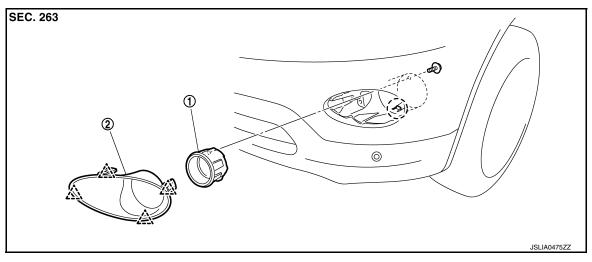
< REMOVAL AND INSTALLATION >

FRONT FOG LAMP

Exploded View

INFOID:000000010599162

[XENON TYPE]



1. Front fog lamp

2. Front fog lamp finisher

八:Pawl

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

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

INSTALLATION

Install in the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to EXL-209. "Description".

Replacement

CAUTION:

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

FRONT FOG LAMP BULB

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

INFOID:000000010599163

INFOID:000000010599164

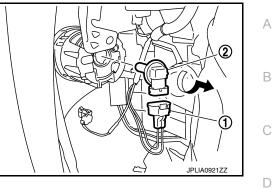
FRONT FOG LAMP

< REMOVAL AND INSTALLATION >

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

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

[XENON TYPE]



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Revision: February 2015

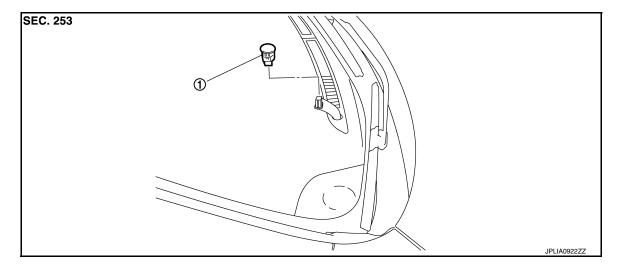
OPTICAL SENSOR

< REMOVAL AND INSTALLATION >

OPTICAL SENSOR

Exploded View

INFOID:000000010599165



1. Optical sensor

Removal and Installation

INFOID:000000010599166

REMOVAL

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

INSTALLATION

Install in the reverse order of removal.

LIGHTING AND TURN SIGNAL SWITCH

< REMOVAL AND INSTALLATION > LIGHTING AND TURN SIGNAL SWITCH

Exploded View

Lighting and turn signal switch is integrated in the combination switch. <u>BCS-98, "Exploded View"</u>.

[XENON TYPE]

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< REMOVAL AND INSTALLATION >

HAZARD SWITCH

Exploded View

The hazard warning switch is integrated in the multifunction switch. Refer to AV-135, "Exploded View".

AFS CONTROL UNIT

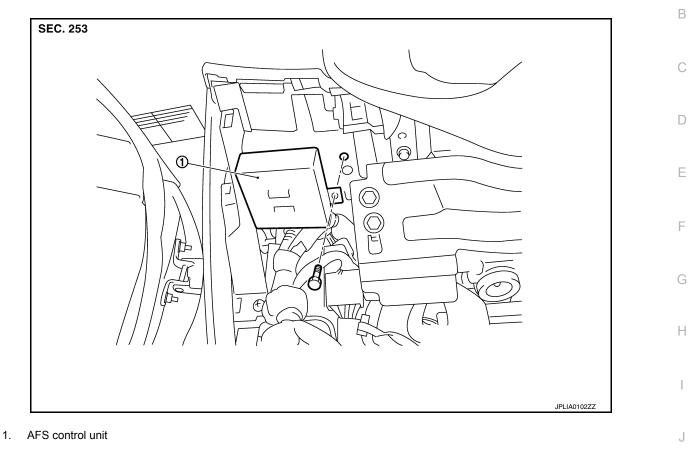
< REMOVAL AND INSTALLATION >

AFS CONTROL UNIT

Exploded View

INFOID:000000010599169

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Removal and Installation

REMOVAL	K
 Remove the instrument lower panel LH. Refer to <u>IP-12, "Exploded View"</u>. Remove the AFS control unit mounting bolt. Disconnect the AFS control unit connector. 	EXL
 4. Remove the AFS control unit. INSTALLATION Install in the reverse order of removal. 	Μ
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< REMOVAL AND INSTALLATION >

STEERING ANGLE SENSOR

Removal and Installation

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

HEIGHT SENSOR

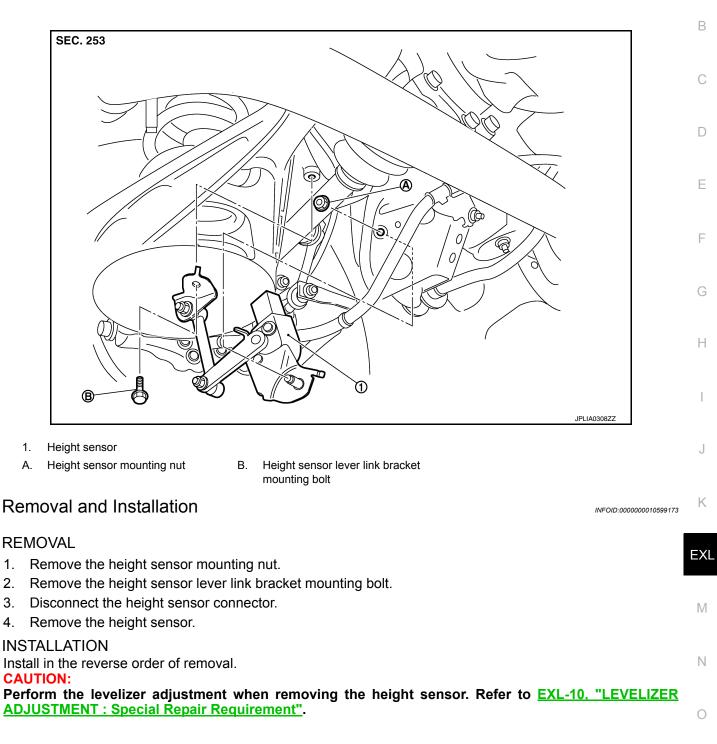
< REMOVAL AND INSTALLATION >

HEIGHT SENSOR

Exploded View

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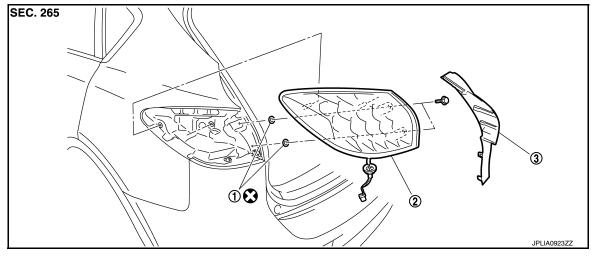
REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

REAR COMBINATION LAMP

Exploded View

INFOID:000000010599174



1. Seal packing

2. Rear combination lamp

3. Rear combination lamp finisher

Always replace after every disassembly.

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the luggage side finisher lower. Refer to INT-37, "Exploded View".
- 2. Remove the rear combination lamp finisher.
- 3. Remove the rear combination lamp mounting bolts.
- 4. Disconnect the rear combination lamp connector.
- 5. Pull the rear combination lamp toward outside of the vehicle. Remove the rear combination lamp.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Seal packing cannot be reused.

REAR TURN SIGNAL LAMP

< REMOVAL AND INSTALLATION >

REAR TURN SIGNAL LAMP

Exploded View

INFOID:000000010599176

Install in the reverse order of removal.

Replacement

CAUTION:

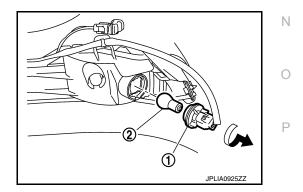
1.

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

REAR TURN SIGNAL LAMP BULB

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



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HIGH-MOUNTED STOP LAMP

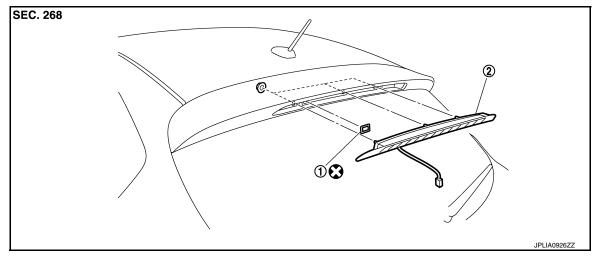
< REMOVAL AND INSTALLATION >

HIGH-MOUNTED STOP LAMP

Exploded View

INFOID:000000010599179

[XENON TYPE]



- 1. Seal packing
- 2. High-mounted stop lamp
- Always replace after every disassembly.

Removal and Installation

INFOID:000000010599180

REMOVAL

- 1. Remove the back door finisher inner. Refer to INT-41, "Exploded View".
- 2. Remove the high-mounted stop lamp mounting nuts.
- 3. Disconnect the high-mounted stop lamp connector. And then remove the rear washer tube.
- 4. Pull the high-mounted stop lamp toward rear of the vehicle.
- 5. Remove the high-mounted stop lamp.

INSTALLATION

Install in the reverse order of removal. **CAUTION:**

Seal packing cannot be reused.

BACK-UP LAMP

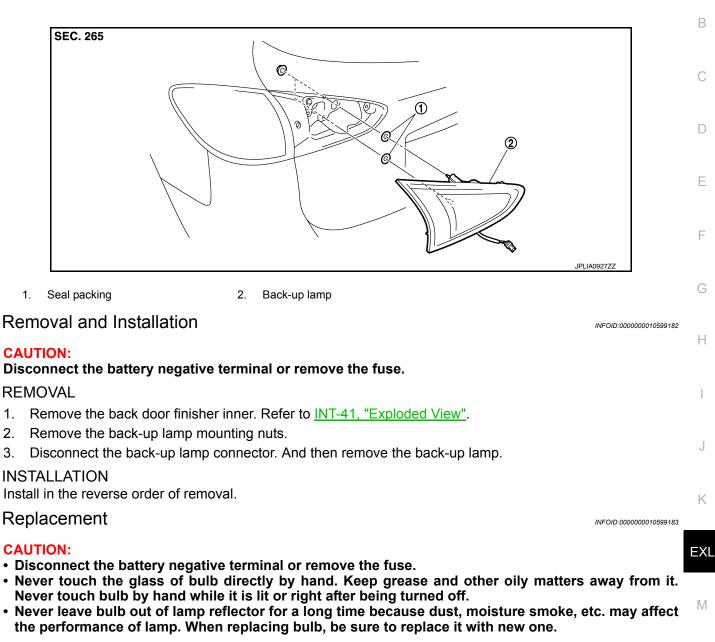
< REMOVAL AND INSTALLATION >

BACK-UP LAMP

Exploded View

INFOID:000000010599181

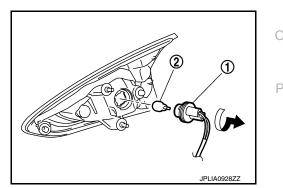
[XENON TYPE]



BACK-UP LAMP BULB

2. 3.

- 1. Remove the back-up lamp. Refer to EXL-225, "Exploded View".
- Turn the bulb socket (1) counterclockwise and unlock it. 2.
- 3. Remove the bulb (2) from the socket.



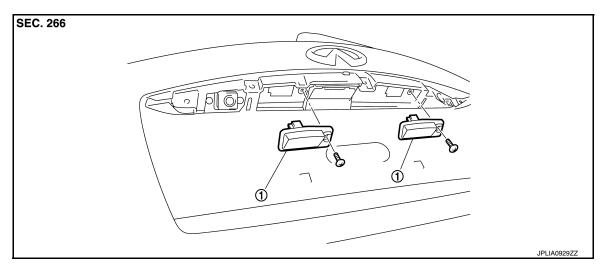
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< REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

Exploded View

INFOID:000000010599184



1. License plate lamp

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

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

INSTALLATION

Install in the reverse order of removal.

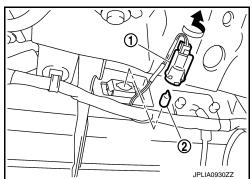
Replacement

CAUTION:

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

LICENSE PLATE LAMP BULB

- 1. Remove the back door finisher inner. Refer to INT-41, "Exploded View".
- 2. Turn the bulb socket (1) counterclockwise and unlock it.
- 3. Remove the bulb (2) from the socket.



INFOID:000000010599185

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

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

Bulb Specifications

INFOID:000000010599187 B

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

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[XENON TYPE]

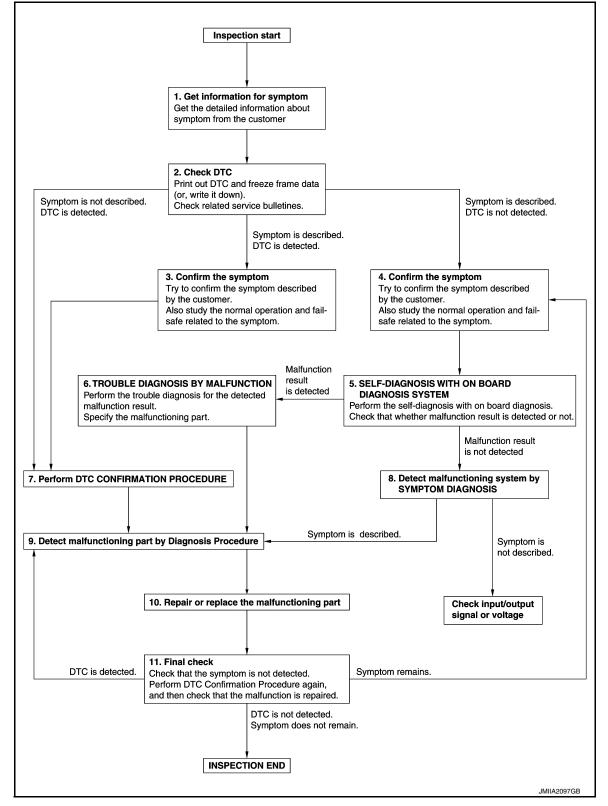
А

BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000010599188

OVERALL SEQUENCE



DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

1.GET INFORMATION FOR SYMPTOM	Λ
1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).	A
2. Check operation condition of the function that is malfunctioning.	В
>> GO TO 2.	
2.check dtc	С
1. Check DTC.	
 2. Perform the following procedure if DTC is detected. Record DTC and freeze frame data (Print them out using CONSULT.) Erase DTC. 	D
 Study the relationship between the cause detected by DTC and the symptom described by the customer. Check related service bulletins for information. 	E
Are any symptoms described and any DTC detected?	
Symptom is described, DTC is detected>>GO TO 3. Symptom is described, DTC is not detected>>GO TO 4. Symptom is not described, DTC is detected>>GO TO 7.	F
3.CONFIRM THE SYMPTOM	
Try to confirm the symptom described by the customer. Also study the normal operation and fail-safe related to the symptom. Verify relation between the symptom and the condition when the symptom is detected.	G H
>> GO TO 7.	
4.CONFIRM THE SYMPTOM	
Try to confirm the symptom described by the customer. Also study the normal operation and fail-safe related to the symptom. Verify relation between the symptom and the condition when the symptom is detected.	J
>> GO TO 5.	
5.SELF-DIAGNOSIS WITH ON BOARD DIAGNOSIS SYSTEM	Κ
Perform the self-diagnosis with on board diagnosis. Check that whether malfunction result is detected or not.	
Is malfunction result detected?	EXL
YES >> GO TO 6. NO >> GO TO 8.	
6. TROUBLE DIAGNOSIS BY MALFUNCTION	
Perform the trouble diagnosis for the detected malfunction result. Specify the malfunctioning part.	Μ
>> GO TO 9.	Ν
7. PERFORM DTC CONFIRMATION PROCEDURE	
Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to DTC INSPECTION PRIORITY CHART, and determine trouble diag-	0
nosis order. NOTE:	Ρ
 Freeze frame data is useful if the DTC is not detected. Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check. 	
If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR- MATION PROCEDURE.	

Is DTC detected?

Revision: February 2015

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

YES >> GO TO 9. NO >> Check according to <u>GI-45, "Intermittent Incident"</u>.

8. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

Is the symptom described?

- YES >> GO TO 9.
- NO >> Monitor input data from related sensors or check voltage of related module terminals using CON-SULT.

9. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 10.

NO >> Check according to <u>GI-45</u>, "Intermittent Incident".

10. REPAIR OR REPLACE THE MALFUNCTIONING PART

- 1. Repair or replace the malfunctioning part.
- Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replacement.
- 3. Check DTC. If DTC is detected, erase it.

>> GO TO 11.

11.FINAL CHECK

When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the malfunction is repaired securely.

When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

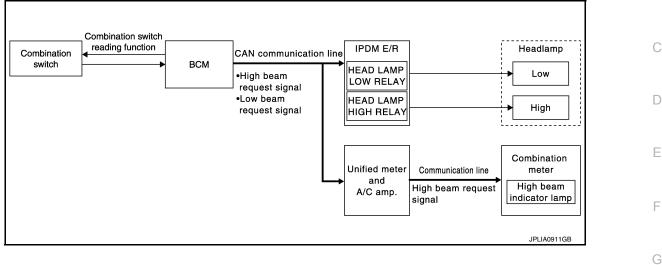
Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 9.

- YES-2 >> Symptom remains: GO TO 4.
- NO >> Before returning the vehicle to the customer, always erase DTC.

SYSTEM DESCRIPTION HEADLAMP SYSTEM

System Diagram



System Description

INFOID:000000010599190

OUTLINE

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

HEADLAMP (LO) OPERATION

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

Headlamp (LO) ON condition

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

HEADLAMP (HI) OPERATION

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

Headlamp (HI) ON condition

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

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[HALOGEN TYPE]

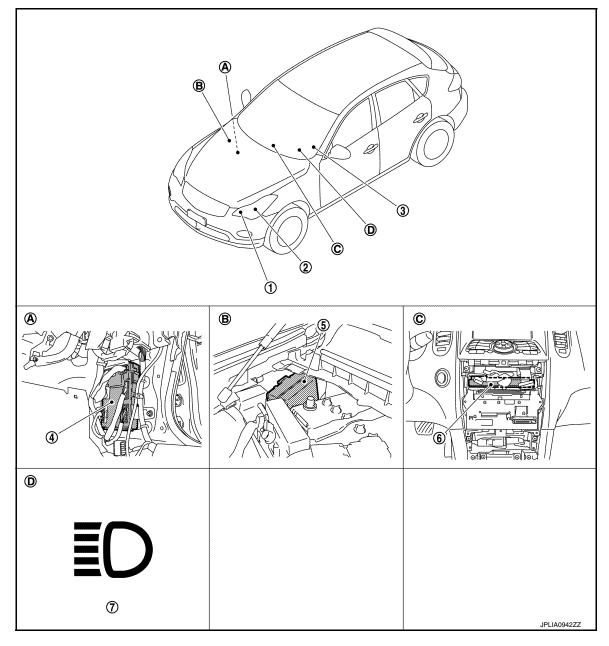
HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000010599191

[HALOGEN TYPE]



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

HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Description

INFOID:000000010599192

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[HALOGEN TYPE]

Part	Description
ВСМ	 Detects each switch condition by the combination switch reading function. Judges that the headlamp is turned ON according to the vehicle condition. Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication). Requests the high beam indicator lamp ON to the combination meter (with CAN communication).
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-11, "System Diagram".
Combination meter (High beam indicator lamp)	Turns the high beam indicator lamp ON according to the request from BCM [(with CAN communication (through unified meter and A/C amp.)].

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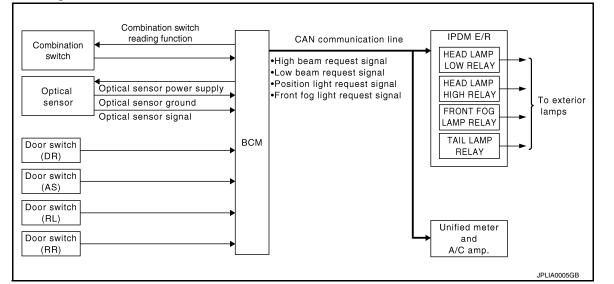
AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

AUTO LIGHT SYSTEM

INFOID:000000010599193

System Diagram



System Description

INFOID:000000010599194

OUTLINE

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

Control by BCM

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

Control by IPDM E/R

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

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

AUTO LIGHT FUNCTION

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

NOTE:

ON/OFF timing differs based on the sensitivity from the setting. The setting can be set by CONSULT. Refer to EXL-249, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (Halogen Type)".

DELAY TIMER FUNCTION

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

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

Revision: February 2015

EXL-234

AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

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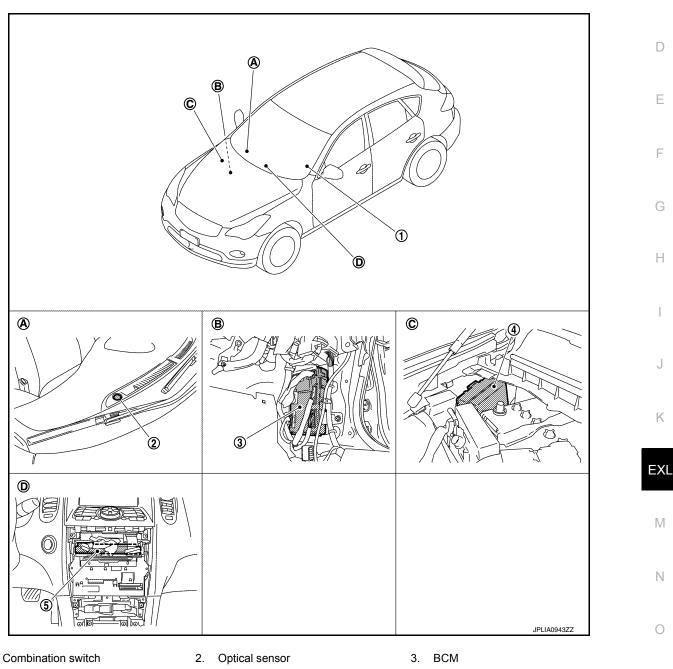
• Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF.

*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to EXL-249, А "HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (Halogen Type)".

NOTE:

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

Component Parts Location



IPDM E/R 4

1.

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

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Component Description

INFOID:000000010599196

[HALOGEN TYPE]

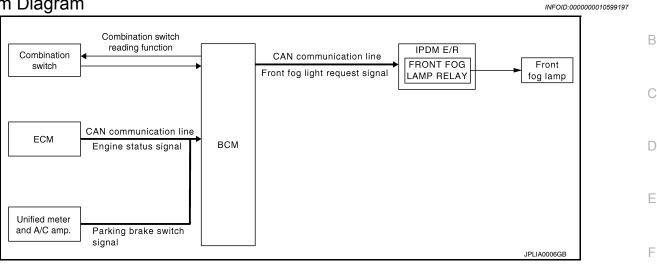
Part	Description
BCM	 Judges each switch condition by the combination switch reading function. Judges the outside brightness from the optical sensor signal. Judges the OFF timing according to the vehicle condition. Judges the ON/OFF status of the exterior lamp and each illumination according to the outside brightness and the vehicle condition. Requests ON/OFF of each relay to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-11, "System Diagram"</u> .
Optical sensor	Refer to EXL-270, "Description".

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

DAYTIME RUNNING LIGHT SYSTEM

System Diagram



System Description

OUTLINE

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

DAYTIME RUNNING LIGHT OPERATION

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

Daytime running light ON condition

- While the engine running with the parking brake released

Daytime running light OFF condition

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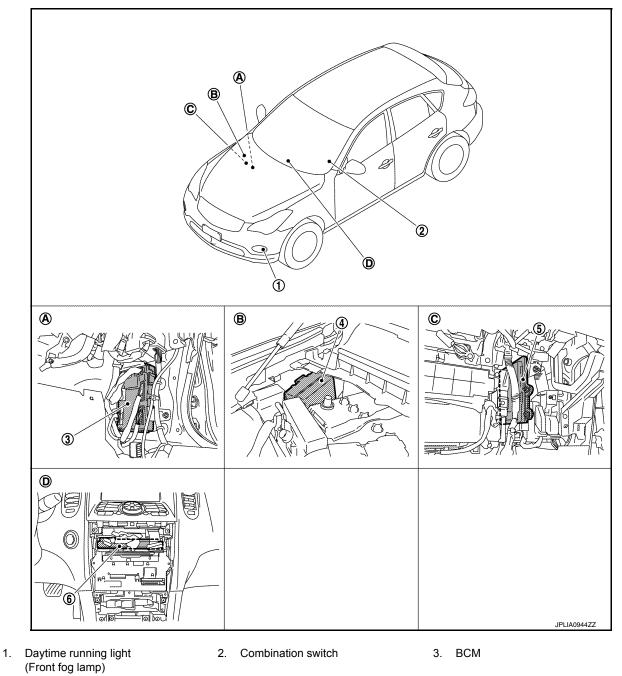
DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000010599199

[HALOGEN TYPE]



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

Component Description

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

INFOID:000000010599200

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

Revision: February 2015

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Part	Description	
Combination switch (Lighting & turn signal switch)	Refer to BCS-11, "System Diagram".	- A
ECM	Transmits the engine condition signal to BCM with CAN communication.	D
Unified meter and A/C amp.	Transmits the parking brake switch signal to BCM with CAN communication.	D

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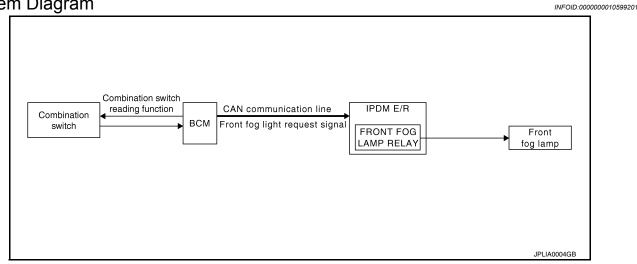
FRONT FOG LAMP SYSTEM

< SYSTEM DESCRIPTION >

FRONT FOG LAMP SYSTEM



System Diagram



System Description

INFOID:000000010599202

OUTLINE

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

NOTE:

For Canada models, the front fog lamp is turned ON as the daytime running light. Refer to <u>EXL-237</u>, "System <u>Diagram</u>" for the detail.

FRONT FOG LAMP OPERATION

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

Front fog lamp ON condition

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

FRONT FOG LAMP SYSTEM

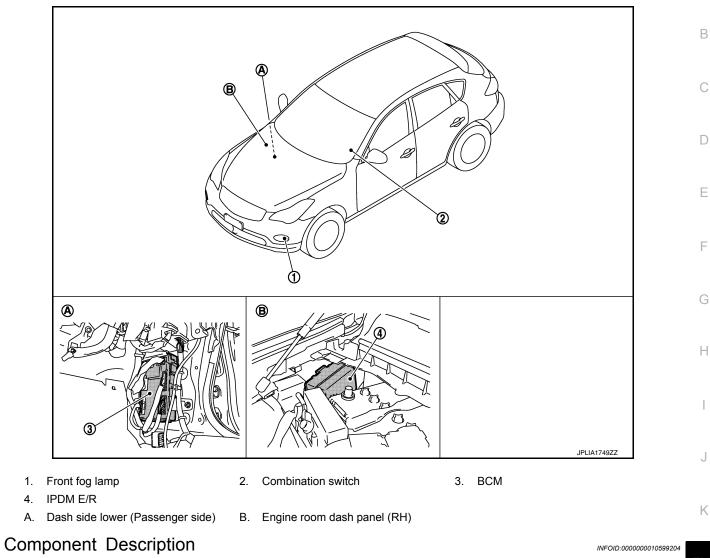
< SYSTEM DESCRIPTION >

Component Parts Location

[HALOGEN TYPE]

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Part	Description
BCM	 Judges each switch condition by the combination switch reading function. Judges the front fog lamp ON/OFF status according to the vehicle condition. Requests the front fog lamp relay ON to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-11. "System Diagram".

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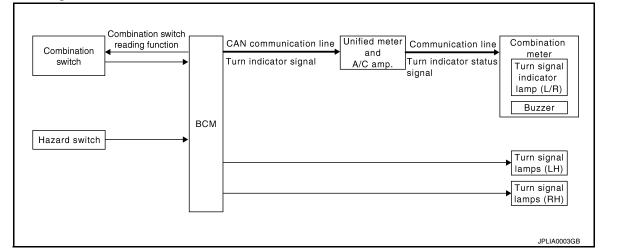
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< SYSTEM DESCRIPTION >

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

System Diagram



System Description

INFOID:000000010599206

[HALOGEN TYPE]

INFOID:000000010599205

OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

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

HIGH FLASHER OPERATION (FAIL-SAFE)

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

NOTE:

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

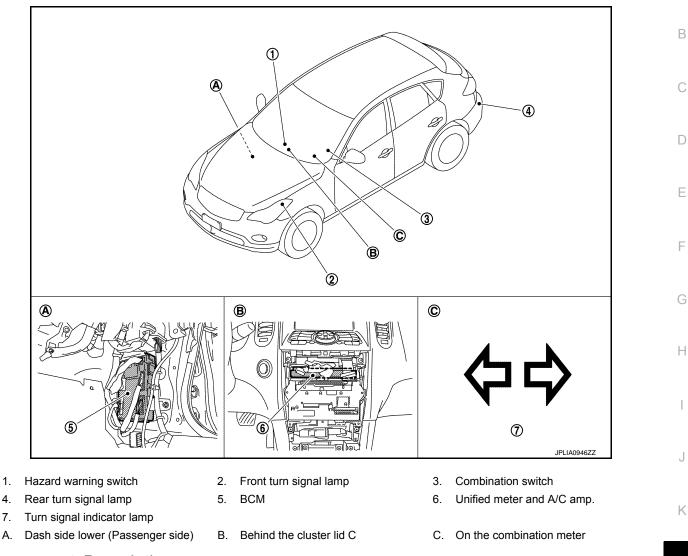
TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM [HALOGEN TYPE]

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000010599207

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Component Description

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EXL INFOID:000000010599208

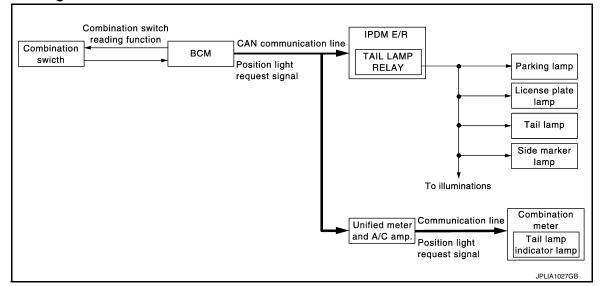
Part	Description
ВСМ	 Judges each switch condition by the combination switch reading function. Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks. Requests the turn signal indicator lamp blink to the combination meter (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-11, "System Diagram".
Hazard switch (Multifunction switch)	Refer to EXL-273, "Description".
Combination meter (Turn signal indicator lamp & buzzer)	Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM [with CAN communication (through unified meter and A/C amp.)].

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< SYSTEM DESCRIPTION >

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

System Diagram



System Description

INFOID:000000010599210

[HALOGEN TYPE]

INFOID:000000010599209

OUTLINE

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

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS OPERATION

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

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

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

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

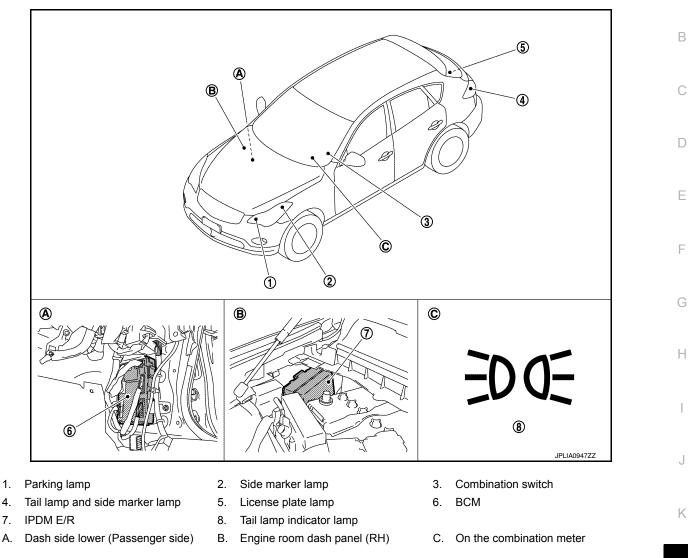
< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000010599211

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[HALOGEN TYPE]



Component Description

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EXL INFOID:000000010599212

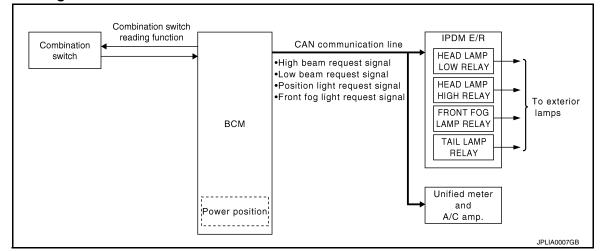
Part	Description	
BCM	 Judges each switch condition by the combination switch reading function. Judges the ON/OFF status of the clearance, license plate, side marker and tail lamps according to the vehicle condition. Requests the tail lamp relay ON to IPDM E/R (with CAN communication). 	
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).	
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-11, "System Diagram"</u> .	
Combination meter (Tail lamp indicator lamp)	Turns the tail lamp indicator lamp ON according to the request from BCM [with CAN communication (through the unified meter and A/C amp.)].	

EXTERIOR LAMP BATTERY SAVER SYSTEM

< SYSTEM DESCRIPTION >

EXTERIOR LAMP BATTERY SAVER SYSTEM

System Diagram



System Description

INFOID:000000010599214

OUTLINE

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

Control by BCM

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

Control by IPDM E/R

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

When the lighting switch is turned AUTO, the exterior lamp battery saver switches to the auto light system. Refer to <u>EXL-234</u>, "System Description".

EXTERIOR LAMP BATTERY SAVER ACTIVATION

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

NOTE:

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

EXTERIOR LAMP BATTERY SAVER SYSTEM

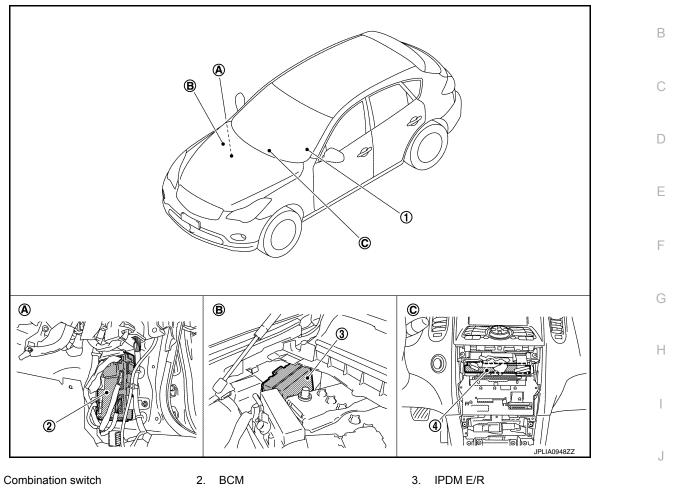
< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000010599215

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[HALOGEN TYPE]



Unified meter and A/C amp. 4.

Component Description

(A)

1.

Dash side lower (Passenger side) Α.

> EXL INFOID:000000010599216

C. Behind the cluster lid C

Part	Description
BCM	 Judges each switch condition by the combination switch reading function. Judges the exterior lamp OFF according to the vehicle condition. Requests each relay OFF to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay according to the request from BCM (with CAN communi- cation).
Combination switch (Lighting & turn signal switch)	Refer to BCS-11, "System Diagram".

B. Engine room dash panel (RH)

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DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000011018931

[HALOGEN TYPE]

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

SYSTEM APPLICATION

BCM can perform the following functions for each system. **NOTE:**

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

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

NOTE:

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

FREEZE FRAME DATA (FFD)

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

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

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

NOTE:

*: Power supply position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met.

Closing door

· Opening door

· Door is locked using door request switch

Door is locked using Intelligent Key

The power supply position shifts to "ACC" when the push-button ignition switch (push switch) is pushed at "LOCK".

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (Halogen Type) INFOLD:00000010599218

WORK SUPPORT

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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

*: Initial setting

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Unit]	Description			
PUSH SW [On/Off]	Indicates [ON/OFF] condition of push-button ignition switch.			
ENGINE STATE [Stop/Stall/Crank/Run]	Indicates [STOP/START/CRANK/RUN] condition of engine states.			
VEH SPEED 1 [km/h]	Display the vehicle speed signal received from unified meter and A/C amp. by numer- ical value [Km/h].			
KEY SW-SLOT [On/Off]	Indicates [ON/OFF] condition of key slot.			
TURN SIGNAL R [On/Off]				
TURN SIGNAL L [On/Off]				
TAIL LAMP SW [On/Off]				
HI BEAM SW [On/Off]				
HEAD LAMP SW1 [On/Off]	Each switch status that BCM judges from the combination switch reading function			
HEAD LAMP SW2 [On/Off]				
PASSING SW [On/Off]				
AUTO LIGHT SW [On/Off]				
FR FOG SW [On/Off]				

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Monitor item [Unit]	Description NOTE: The item is indicated, but not monitored.		
RR FOG SW [On/Off]			
DOOR SW-DR [On/Off]	Indicated [ON/OFF] condition of front door switch (driver side).		
DOOR SW-AS [On/Off]	Indicated [ON/OFF] condition of front door switch (passenger side).		
DOOR SW-RR [On/Off]	Indicated [ON/OFF] condition of rear door switch RH.		
DOOR SW- RL [On/Off]	Indicated [ON/OFF] condition of rear door switch LH.		
DOOR SW-BK [On/Off]	Indicated [ON/OFF] condition of back door switch.		
OPTICAL SENSOR [V]	The value of exterior brightness voltage input from the optical sensor		

ACTIVE TEST

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

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER) (Halogen Type)

INFOID:000000010599219

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WORK SUPPORT

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

< SYSTEM DESCRIPTION >

*: Initial setting

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Unit]	Description		
REQ SW-DR [On/Off]	Indicated [ON/OFF] condition of door request switch (driver side).		
REQ SW-AS [On/Off]	Indicated [ON/OFF] condition of door request switch (passenger side).		
PUSH SW [On/Off]	Indicates [ON/OFF] condition of push-button ignition switch.		
TURN SIGNAL R [On/Off]	Each quitch condition that DCM judges from the combination quitch reading fu		
TURN SIGNAL L [On/Off]	Each switch condition that BCM judges from the combination switch reading function		
HAZARD SW [On/Off]	The switch status input from the hazard switch		
RKE-LOCK [On/Off]	Indicates [ON/OFF] condition of LOCK signal from Intelligent Key.		
RKE-UNLOCK [On/Off]	Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key.		
RKE-PANIC [On/Off]	Indicates [ON/OFF] condition of PANIC button of Intelligent Key.		

ACTIVE TEST

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

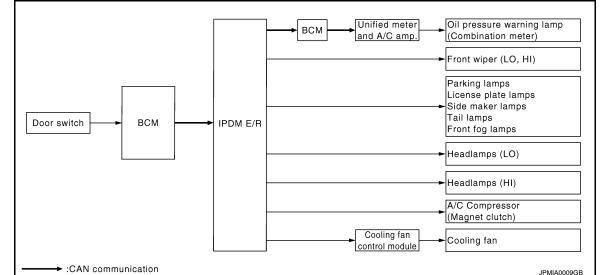
< SYSTEM DES	CRIPTION >	[HALOGEN TYPE]
DIAGNOSIS	SYSTEM (IPDM E/R)	
Diagnosis De	scription	INFOID:000000011019125
AUTO ACTIVE	TEST	
Description In auto active test • Oil pressure wa • Front wiper (LO • Parking lamps	rning lamp	o the following systems to check their operation.
 License plate la Side maker lam Tail lamps Front fog lamps 	ps	
 Headlamps (LO A/C compressor Cooling fan (cooling fan (c		
Operation Procedu		
operation) NOTE:	od and lift the wiper arms from the windsh	nield. (Prevent windshield damage due to wiper winkle water on windshield beforehand.
 Turn the ignit Turn the ignit 	ion switch OFF. tion switch ON, and within 20 seconds, pre gignition switch OFF.	ess the front door switch (driver side) 10 times.
-	-	t the horn sounds once and the auto active test
	ure warning lamp starts blinking when the au	uto active test starts.
	of the following operations is repeated 3 tin	nes, auto active test is completed.
	test mode has to be cancelled halfway thro	ugh test, turn the ignition switch OFF.
	test mode cannot be actuated, chee Function Check".	ck door switch system. Refer to <u>DLK-63.</u>
Do not start the		
Inspection in Auto When auto active	Active Test Mode test mode is actuated, the following 6 steps	are repeated 3 times.
Operation sequence	Inspection location	Operation

Sequence		
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test
2	Front wiper	LO for 5 seconds \rightarrow HI for 5 seconds
3	 Parking lamps License plate lamps Side maker lamps Tail lamps Front fog lamps 	10 seconds
4	Headlamps	LO 10 seconds HI ON ⇔ OFF 5 times
5	A/C compressor (magnet clutch)	$ON \Leftrightarrow OFF 5 times$
6*	Cooling fan	MID for 5 seconds \rightarrow HI for 5 seconds

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

< SYSTEM DESCRIPTION >

Concept of auto active test



 IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.

• The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis chart in auto active test mode

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

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

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

CONSULT Function (IPDM E/R)

APPLICATION ITEM

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

Diagnosis mode	Description
Ecu Identification	Allows confirmation of IPDM E/R part number.
Self Diagnostic Result	Displays the diagnosis results judged by IPDM E/R.
Data Monitor	Displays the real-time input/output data from IPDM E/R input/output data.
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.

SELF DIAGNOSTIC RESULT

Refer to PCS-32, "DTC Index".

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

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VI		

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

Revision: February 2015

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< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Monitor Item [Unit]	MAIN SIG- NALS	Description		
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.		
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.		
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.		
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.		
INTER/NP SW [Off/On]		Displays the status of the shift position judged by IPDM E/R.		
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.		
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN communication.		
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.		
DETENT SW [Off/On]		Displays the status of the A/T shift selector (detention switch) judged by IPDM E/R.		
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay request received from BCM via CAN communication. NOTE: For models without steering lock unit, this item is not monitored.		
S/L STATE [LOCK/UNLOCK/UNKWN]		Displays the status of the steering lock judged by IPDM E/R. NOTE: For models without steering lock unit, this item is not monitored.		
DTRL REQ [Off/On]		NOTE: The item is indicated, but not monitored.		
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.		
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.		
HL WASHER REQ [Off/On]		NOTE: The item is indicated, but not monitored.		
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.		
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN com- munication.		
CRNRNG LMP REQ [Off/On]		NOTE: The item is indicated, but not monitored.		

ACTIVE TEST

Test item

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

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Test item	Operation	Description
	1	OFF
MOTOR FAN	2	Outputs 50% pulse duty signal (PWM signal) to the cooling fan control module.
MOTOR FAIN	3	Outputs 80% pulse duty signal (PWM signal) to the cooling fan control module.
	4	Outputs 100% pulse duty signal (PWM signal) to the cooling fan control module.
HEAD LAMP WASHER	On	NOTE: The item is indicated, but cannot be tested.
EXTERNAL LAMPS	Off	OFF
	TAIL	Operates the tail lamp relay.
	Lo	Operates the headlamp low relay.
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 sec- ond intervals.
	Fog	Operates the front fog lamp relay.

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Revision: February 2015

EXL-257

2015 QX50

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

INFOID:000000011018932

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE) : Diagnosis Procedure

1.CHECK FUSE AND FUSIBLE LINK

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

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

Is the fuse fusing?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

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

(+)	(-)	Voltage (Approx.)
B	CM		
Connector Terminal		Ground	
M118	M118 1 Ground		Detter veltare
M119	11	1	Battery voltage

is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BC	СМ		Continuity
Connector	Terminal	Ground	Continuity
M119	13	*	Existed

Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

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

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

1.CHECK FUSES AND FUSIBLE LINK

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

Signal name				Fuses and fusible link No.	
				С	
Battery power supply				50	
				51	
s the fuse fus					
	eplace the bl own.	own fuse or fus	sible link after repair	ing the affected circuit if a fuse or fusible li	INK IS
	O TO 2.				
2.снеск ро	OWER SUPP	LY CIRCUIT			
	gnition switch				
	ct IPDM E/R				
 Check vol 	itage betweel	n IPDM E/R na	rness connector and	the ground.	
	Terminals				
(·	+)		Voltage		
	/I E/R	— (-)	(Approx.)		
Connector	Terminal	Ground			
E4	1	Ground	Battery voltage		
heck continu	iity between I	IPDM E/R harn	ess connectors and	the ground.	
IPDM	E/R		Continuity		
Connector	Terminal	Ground	Continuity		
E5	12	Cround	Existed		
E6	41				
Does continuit	-				
	ISPECTION	END ness or connec	tor		
			••••		

< 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-9, "Diagnosis Description".

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

(E)CONSULT ACTIVE TEST

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

Hi : Headlamp (HI) ON

Off : Headlamp (HI) OFF

NOTE:

ON/OFF is repeated 1 second each.

Is the headlamp (HI) turned ON?

- YES >> Headlamp (HI) circuit is normal.
- NO >> Refer to <u>EXL-260, "Diagnosis Procedure"</u>.

Diagnosis Procedure

1.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

CONSULT ACTIVE TEST

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

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

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

2. CHECK HEADLAMP (HI) OPEN CIRCUIT

1. Turn the ignition switch OFF.

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

INFOID:000000010599224

HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

	E/R	Front combine	nation lamp	Continuity			
Connector	Termina	I Connector	Terminal	- Continuity			
RH E8	89	E28	7	Existed			
LH	90	E58	7	LAISteu			
oes continui	<u>y exist?</u>						
	O TO 5.						
	•	arnesses or co	nnectors.				
CHECK H							
	gnition swi		aat fuaina				
. Check the		ving fuses are i	iot iusing.				
Unit		Location	Fuse No.	Capacity			
Headlamp HI (F	(H)	IPDM E/R	#55	10 A			
Headlamp HI (L	H)	IPDM E/R	#54	10 A			
s the fuse fus	ing?		1	1			
YES >> G	0 TO 4.						
	eplace IPD						
CHECK HI	EADLAMP	(HI) SHORT C	IRCUIT				
. Disconne	ct IPDM E/	R connector.					
. Check co	ntinuity bet	ween the IPDN	I E/R harn	ess connec	or terminal and the	ground.	
		ween the IPDN	/I E/R harn	ess connec	or terminal and the	ground.	
IPI	DM E/R		I E/R harn	ess connec	or terminal and the	ground.	
IPI Connector	DM E/R	ninal Gro	I E/R harn		or terminal and the	ground.	
IPI Connector RH E	DM E/R Terr 8	ninal 9 Gro			or terminal and the	ground.	
IPI Connector RH E LH E	DM E/R Terr 8 8	ninal Gro		Continuity	or terminal and the	ground.	
IPI Connector RH E LH E	DM E/R Terr 8 2 5 <u>y exist?</u>	ninal 9 0	bund –	Continuity Not existed		ground.	
Connector RH E LH E Does continui YES >> R	DM E/R Terr 8 2 2 <u>v exist?</u> epair the h	ninal 9 0 arnesses or co	nnectors. /	Continuity Not existed And then re		ground.	
IPI Connector RH E LH E Ooes continui YES >> R NO >> R	DM E/R Terr 8 29 20 exist? epair the h eplace the	ninal 9 0 arnesses or co fuse. (Replace	nnectors. /	Continuity Not existed And then re R if the fuse	place the fuse.	ground.	
IPI Connector RH E LH E Does continui YES >> R NO >> R D.CHECK HI	DM E/R Terr 8 29 20 exist? epair the h eplace the EADLAMP	arnesses or co fuse. (Replace (HI) GROUND	nnectors. /	Continuity Not existed And then re R if the fuse	place the fuse.	ground.	
IPI Connector RH E LH E Does continui YES >> R NO >> R O.CHECK HI . Turn the i	DM E/R Terr 8 29 20 exist? epair the h eplace the EADLAMP gnition swi ct the front	arnesses or co fuse. (Replace (HI) GROUND tch OFF. combination la	nnectors. / PIPDM E/R OPEN CIF	Continuity Not existed And then re tif the fuse RCUIT ctor.	place the fuse. s fusing again.)		
IPI Connector RH E LH E Does continui YES >> R NO >> R O.CHECK HI . Turn the i	DM E/R Terr 8 29 20 exist? epair the h eplace the EADLAMP gnition swi ct the front	arnesses or co fuse. (Replace (HI) GROUND tch OFF. combination la	nnectors. / PIPDM E/R OPEN CIF	Continuity Not existed And then re tif the fuse RCUIT ctor.	place the fuse.		
IPI Connector RH E LH P Ooes continui YES >> R NO >> R O.CHECK HI . Turn the i . Disconne . Check co	DM E/R Terr 8 29 20 exist? epair the h eplace the EADLAMP gnition swi ct the front ntinuity bet	arnesses or co fuse. (Replace (HI) GROUND tch OFF. combination la ween the front	nnectors. / PIPDM E/R OPEN CIF	Continuity Not existed And then re tif the fuse RCUIT ctor.	place the fuse. s fusing again.)		
IPI Connector RH E LH E Does continui YES >> R NO >> R D.CHECK HI . Turn the i . Disconne . Check co Front con	DM E/R Terr 8 20 epair the h epair the h eplace the EADLAMP gnition swi ct the front ntinuity bet	ninal Gro arnesses or co fuse. (Replace (HI) GROUND tch OFF. combination la ween the front	nnectors. / PIPDM E/R OPEN CIF	Continuity Not existed And then re tif the fuse RCUIT ctor.	place the fuse. s fusing again.)		
IPI Connector RH E LH E Does continui YES >> R NO >> R D.CHECK HI . Turn the i . Disconne . Check co Front con Connector	DM E/R Terr 8 29 20 exist? epair the h eplace the EADLAMP gnition swi ct the front ntinuity bet bination lam	ninal 9 0 arnesses or co fuse. (Replace (HI) GROUND tch OFF. combination la ween the front	nnectors. / PIPDM E/R OPEN CIF	Continuity Not existed And then re R if the fuse RCUIT ctor. on lamp har	place the fuse. s fusing again.)		
IPI Connector RH E LH E Does continui P YES >> R NO >> R D.CHECK HI E . Turn the i Disconne . Check co Front con Connector RH E	DM E/R Terr 8 20 exist? epair the h eplace the EADLAMP gnition swi ct the front ntinuity bet bination lamp 28	ninal g o arnesses or co fuse. (Replace (HI) GROUND tch OFF. combination la ween the front o ninal 2 Gro	nnectors. / PDM E/R OPEN CIF	Continuity Not existed And then re R if the fuse RCUIT ctor. on lamp har	place the fuse. s fusing again.)		
IPI Connector RH E LH E Does continui YES >> R NO >> R D.CHECK HI . Turn the i . Disconne . Check co Front con Connector RH E LH E	DM E/R Terr 8 29 20 exist? epair the h eplace the EADLAMP gnition swir ct the front ntinuity bet bination lamp 28 7 58 7	ninal 9 0 arnesses or co fuse. (Replace (HI) GROUND tch OFF. combination la ween the front	nnectors. / PDM E/R OPEN CIF	Continuity Not existed And then re a if the fuse RCUIT ctor. on lamp har Continuity	place the fuse. s fusing again.)		
IPI Connector RH E LH E Does continui YES >> R NO >> R D.CHECK HI . Turn the i . Disconne . Check co Front con Connector RH E LH E Does continui	DM E/R Terr 8 20 EXIST 10 EXIST	ninal g o arnesses or co fuse. (Replace (HI) GROUND tch OFF. combination la ween the front o ninal 2 2	ound	Continuity Not existed And then re RCUIT ctor. on lamp har Continuity Existed	place the fuse. s fusing again.) ness connector and		
IPI Connector RH E LH E Does continui YES >> R NO >> R D.CHECK HI . Turn the i . Disconne . Check co Front con Connector RH E LH E Does continui YES >> R	DM E/R Terr 8 20 EXEST 10 EX 10 EX	ninal g o arnesses or co fuse. (Replace (HI) GROUND tch OFF. combination la ween the front o ninal 2 headlamp (HI)	ound nnectors. / PDM E/R OPEN CIF open connector combination ound bulb. (Bull	Continuity Not existed And then re RCUIT ctor. on lamp har Continuity Existed	place the fuse. s fusing again.) ness connector and		
IPI Connector RH E LH E Does continui YES >> R NO >> R D.CHECK HI . Turn the i . Disconne . Check co Front con Connector RH E LH E Does continui YES >> R	DM E/R Terr 8 20 EXEST 10 EX 10 EX	ninal g o arnesses or co fuse. (Replace (HI) GROUND tch OFF. combination la ween the front o ninal 2 2	ound nnectors. / PDM E/R OPEN CIF open connector combination ound bulb. (Bull	Continuity Not existed And then re RCUIT ctor. on lamp har Continuity Existed	place the fuse. s fusing again.) ness connector and		

< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP (LO) CIRCUIT

Component Function Check

1.CHECK HEADLAMP (LO) OPERATION

®IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".

2. Check that the headlamp is turned ON.

CONSULT ACTIVE TEST

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

Lo : Headlamp (LO) ON

Off : Headlamp (LO) OFF

Is the headlamp (LO) turned ON?

YES >> Headlamp (LO) is normal. NO >> Refer to <u>EXL-262</u>, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:000000010599227

1.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

CONSULT ACTIVE TEST

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

		Terminals	Test item			
	(+)	(-)	lest tielli	Voltage	
	IPDN	/IE/R		External	(Approx.)	
Conr	nector	Terminal		lamp		
RH		83	Ground	Lo	Battery voltage	
T U I	E8	00		Off	0 V	
LH	LO	84		Lo	Battery voltage	
	LU	07		Off	0 V	

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK HEADLAMP (LO) OPEN CIRCUIT

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

IPDM E/R			Front comb	Continuity	
Conn	ector	Terminal	Connector	Terminal	Continuity
RH	E8	83	E28	5	Existed
LH	L0	84	E58	5	LAISICU

Does continuity exist?

HEADLAMP (LO) CIRCUIT

CITC/CIRCUIT DIAGNOSIS> [HALOGEN TYPE] YES ⇒ SO TO 5. NO ⇒ Repair the harnesses or connectors. 3. CHECK HEADLAMP (LO) FUSE 1. Turn the ignition switch OFF. 2. Check that the following fuses are not fusing. Image: the following fuse.	2 Section Control Point Reveal 2 2 Section 25 2 Section 25 3 Section 25 2 Section 25 4 Section 25 2 Section 25 5 Section 25 2 Section 25 5 Section 25 3 Section 25 5 Secontinuity exist? 2 Section 25					
NO >> Repair the harmesses or connectors. 3. CHECK HEADLAMP (LO) FUSE 1. Turn the ignition switch OFF. 2. Check that the following fuses are not fusing. The datamp LO (RH) IPDM E/R #57 15 A Headlamp LO (RH) IPDM E/R #56 15 A Is the fuse fusing? YES >> GO TO 4. NO >> Replace IPDM E/R. 4. CHECK HEADLAMP (LO) SHORT CIRCUIT 1. Disconnect IPDM E/R connector. 2. Check continuity between the IPDM E/R harness connector and the ground.	NO >> Repair the harmesses or connectors. 2.CHECK HEADLAMP (LO) FUSE Turn the ignition switch OFF. 2. Check that the following fuses are not fusing. Image: the fuse fusing Content of the ignition switch OFF. 2. Check that the following fuses are not fusing. Image: the fuse fusing Content of the ignition switch OFF. 3. The fuse fusing Content of the ignition switch OFF. 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 Connector Terminal Ground Continuity Not existed Oese continuity exist? YES >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) 0. CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT 1. Turn the ignition switch OFF. 2. Disconnect the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Image: the front combination lamp for the fuse is fusing again.) 0. Check continuity between the front combination lamp harness connector and ground. </td <td>< DTC/CIRCUIT DIAG</td> <td>NOSIS ></td> <td></td> <td></td> <td>[HALOGEN TYPE]</td>	< DTC/CIRCUIT DIAG	NOSIS >			[HALOGEN TYPE]
CHECK HEADLAMP (LO) FUSE 1. Turn the ignition switch OFF. 2. Check that the following fuses are not fusing. Unit Lotion Fuse No. Capacity Headlamp LO (RH) IPDM E/R #57 15 A Headlamp LO (RH) IPDM E/R #56 15 A Sthe fuse fusing? YES > GO TO 4. NO >> Replace IPDM E/R. A.CHECK HEADLAMP (LO) SHORT CIRCUIT I. Disconnect IPDM E/R connector. Continuity C.CHECK HEADLAMP (LO) SHORT CIRCUIT I. Disconnect IPDM E/R connector. 2. Check continuity between the IPDM E/R harness connector and the ground. Image: the fuse fusing in the harnesses or connectors. And then replace the fuse. NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) Descontinuity exist? YES YES >> Replace the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Image: the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Image: the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground.	CHECK HEADLAMP (LO) FUSE Turn the ignition switch OFF. Check that the following fuses are not fusing. Unit Lotion Fuse No. Capacity Headlamp LO (RH) IPDM E/R #57 15 A Headlamp LO (RH) IPDM E/R #56 15 A Sthe fuse fusing? YES >> GO TO 4. NO >> Replace IPDM E/R.		harnesses or co	nnectors		
Turn the ignition switch OFF. Check that the following fuses are not fusing. Unit Lotion Fuse No. Capacity Headlamp LO (RH) IPDM E/R #57 15 A Headlamp LO (LH) IPDM E/R #56 15 A Sthe fuse fusing? YES >> GO TO 4. NO >> Replace IPDM E/R. CHECK HEADLAMP (LO) SHORT CIRCUIT Disconnect IPDM E/R connector. Check continuity between the IPDM E/R harness connector and the ground. IPDM E/R Ground Connector Terminal RH E8 84 B4 Obses continuity exist? YES >> Replace IPDM E/R. Oces continuity exist? YES >> Replace IPDM E/R. Obses continuity exist? YES >> Replace IPDM E/R. Disconnect the front combination lamp connector. Check continuity between the fro	Turn the ignition switch OFF. Check that the following fuses are not fusing. Unit Lotion Fuse No. Capacity Headlamp LO (RH) IPDM E/R #57 15 A Headlamp LO (LH) IPDM E/R #56 15 A sthe fuse fusing? YES >> GO TO 4. NO >> Replace IPDM E/R.					
2. Check that the following fuses are not fusing. Unit Lotion Fuse No. Capacity Headlamp L0 (RH) IPDM ER #57 15 A Headlamp L0 (LH) IPDM ER #56 15 A Is the fuse fusing? YES > GO TO 4. NO >> Replace IPDM E/R. Acheck HEADLAMP (LO) SHORT CIRCUIT 1. Disconnect IPDM E/R connector. 2. Check continuity between the IPDM E/R harness connector and the ground. Image: Note the fusion of the fusion o	Provide the following fuses are not fusing. Unit Lotion Fuse No. Capacity Headlamp L0 (RH) IPDM E/R #57 15 A Headlamp L0 (LH) IPDM E/R #56 15 A Sthe fuse fusing? YES > GO TO 4. NO >> Replace IPDM E/R. VCHECK HEADLAMP (LO) SHORT CIRCUIT . Disconnect IPDM E/R connector. . Check continuity between the IPDM E/R harness connector and the ground. . . IPDM E/R Ground Continuity RH E8 83 . . Does continuity exist? Yes >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) . . CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) . . . Check continuity between the front combination lamp connector. Disconnect the front combination lamp connector. Disconnect the front combination lamp connector. . . . <td></td> <td></td> <td></td> <td></td> <td></td>					
Voltage Unit Lotion Fuse No. Capacity Headlamp LO (RH) IPDM E/R #57 15 A Headlamp LO (LH) IPDM E/R #56 15 A s the fuse fusing? YES > S G TO 4. NO >> Replace IPDM E/R. A. 4.CHECK HEADLAMP (LO) SHORT CIRCUIT Disconnect IPDM E/R connector. 2. Check continuity between the IPDM E/R harness connector and the ground. Image: transformed to the stress set of the	Unit Lotion Fuse No. Capacity Headlamp LO (RH) IPDM E/R #57 15 Å Headlamp LO (LH) IPDM E/R #56 15 Å S the fuse fusing? YES > GO TO 4. NO >> Replace IPDM E/R. . CHECK HEADLAMP (LO) SHORT CIRCUIT Disconnect IPDM E/R connector. Disconnect IPDM E/R connector. . Connector Terminal Ground Ground RH E8 84 . Obses continuity exist? YES > Replace the fuse. (Replace IPDM E/R harness connector and the ground. Connector Terminal Ground Ground RH E8 84 . Does continuity exist? YES > Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT . Turn the ignition switch OFF. Disconnect the front combination lamp connector. . Check continuity between the front combination lamp harness connector and ground. Front combination lamp Ground Continuity			not fusina		
Headlamp LO (RH) IPDM E/R #57 15 A Headlamp LO (LH) IPDM E/R #56 15 A s the fuse fusing? YES >> GO TO 4. NO >> Replace IPDM E/R. Acher Check HEADLAMP (LO) SHORT CIRCUIT 1. Disconnect IPDM E/R connector. 2. 2. Check continuity between the IPDM E/R harness connector and the ground. Image: the fuse fuse fuse fuse fuse fuse fuse fus	Headlamp LO (RH) IPDM E/R #57 15 A Headlamp LO (LH) IPDM E/R #56 15 A Sthe fuse fusing? YES >> GO TO 4. YES >> GO TO 4. NO >> Replace IPDM E/R. CHECK HEADLAMP (LO) SHORT CIRCUIT Disconnect IPDM E/R connector. E Check continuity between the IPDM E/R harness connector and the ground. IPDM E/R IPD E/R Ground Continuity RH E8 83 Order existed Oces continuity exist? Not existed Not existed Oces continuity exist? Not existed Not existed Oces continuity exist? Not existed Not existed Check HEADLAMP (LO) GROUND OPEN CIRCUIT Into the ignition switch OFF. Into the ignition switch OFF. Disconnect the front combination lamp connector. Ground Continuity IF rent combination lamp Ground Existed IF with E88 3 Existed Opes continuity exist? Existed Existed Descontinuity exist? So Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)			not rusing.		
Headlamp LO (LH) IPDM E/R #56 15 A is the fuse fusing? YES >> GO TO 4. NO >> Replace IPDM E/R. A.CHECK HEADLAMP (LO) SHORT CIRCUIT 1. Disconnect IPDM E/R connector. 2. 2. Check continuity between the IPDM E/R harness connector and the ground. Image: the state of the s	Headlamp L0 (LH) IPDM E/R #56 15 A sthe fuse fusing? YES >> GO TO 4. NO >> Replace IPDM E/R.	Unit	Lotion	Fuse No.	Capacity	
sthe 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 Connector Terminal Ground Continuity Not existed Does continuity exist? YES >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) 5.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT 1. Turn the ignition switch OFF. 2. Disconnect the front combination lamp connector. 3. Check continuity between the front combination lamp connector. 3. Check continuity between the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Front combination lamp Ground Ground Front combination lamp Ground Continuity Existed 3 Does continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	sthe fusing? YES >> GO TO 4. NO >> Replace IPDM E/R. A.CHECK HEADLAMP (LO) SHORT CIRCUIT Disconnect IPDM E/R connector. Connector Terminal Ground Continuity RH E8 84 0000 Does continuity exist? YES >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) D.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT Turm the ignition switch OFF. Disconnector Front combination lamp Connector Terminal Ground Ground Front combination lamp Ground IH E28 3 Ocheck continuity between the front combination lamp harness connector and ground. Evisted Ground IH E28 3 Opes continuity exist? YEs YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	Headlamp LO (RH)	IPDM E/R	#57	15 A	
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 Connector Terminal Ground Ground IH E8 84 Not existed Does continuity exist? YES >> Repair the harnesses or connectors. And then replace the fuse. NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) 5.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT 1. Turn the ignition switch OFF. 2. Disconnect the front combination lamp connector. 3. Check continuity between the front combination lamp connector. 3. Check continuity between the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Front combination lamp Ground Ground IF or to combination lamp Ground Ground Ground Ground IF or to combination lamp Ground IF or to combination lamp Ground IF or to combination	YES >> GO TO 4. NO >> Replace IPDM E/R. A.CHECK HEADLAMP (LO) SHORT CIRCUIT Disconnect IPDM E/R connector. 2. Check continuity between the IPDM E/R harness connector and the ground. Image: transmission of the terminal ter	Headlamp LO (LH)	IPDM E/R	#56	15 A	
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 Connector Terminal RH E8 83 LH E8 84 Does continuity exist? Terminal YES >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) D.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT 1. Turn the ignition switch OFF. 2. Disconnect the front combination lamp connector. 3. Check continuity between the front combination lamp connector. 3. Check continuity between the front combination lamp connector. 3. Check continuity between the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Image: Connector Terminal RH E28 RH E28 3 Dees continuity exist? Yes YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	YES >> GO TO 4. NO >> Replace IPDM E/R. A.CHECK HEADLAMP (LO) SHORT CIRCUIT Disconnect IPDM E/R connector. 2. Check continuity between the IPDM E/R harness connector and the ground. Image: transmission of the terminal ter	s the fuse fusing?				
Image: Disconnect IPDM E/R connector. Image: Disconnector Image: Disconnector Iterminal RH E8 83 Image: Disconnector Iterminal RH E8 84 Image: Disconnector Iterminal RH E8 84 Disconnect IPDM E/R Iterminal Replace IPDM E/R if the fuse is fusing again.) Disconnect the fuse. (Replace IPDM E/R if the fuse is fusing again.) Disconnect the front combination lamp connector. Image: Disconnect the front combination lamp connector. </td <td>CHECK HEADLAMP (LO) SHORT CIRCUIT Disconnect IPDM E/R connector. Check continuity between the IPDM E/R harness connector and the ground. IPDM E/R Continuity Connector Terminal RH E8 84 Order Oces 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.) OcHECK HEADLAMP (LO) GROUND OPEN CIRCUIT . Turn the ignition switch OFF. . Disconnect from toombination lamp connector. . Continuity Erront combination lamp Ground Front combination lamp Ground Front combination lamp Ground Existed Ground Opes continuity exist? Existed</td> <td></td> <td></td> <td></td> <td></td> <td></td>	CHECK HEADLAMP (LO) SHORT CIRCUIT Disconnect IPDM E/R connector. Check continuity between the IPDM E/R harness connector and the ground. IPDM E/R Continuity Connector Terminal RH E8 84 Order Oces 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.) OcHECK HEADLAMP (LO) GROUND OPEN CIRCUIT . Turn the ignition switch OFF. . Disconnect from toombination lamp connector. . Continuity Erront combination lamp Ground Front combination lamp Ground Front combination lamp Ground Existed Ground Opes continuity exist? Existed					
Image: Disconnect IPDM E/R connector. 2. Check continuity between the IPDM E/R harness connector and the ground. Image: Disconnector Terminal RH E8 83 LH E8 84 00es 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.) D.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT I. Turn the ignition switch OFF. 2. Disconnect the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Front combination lamp Connector Terminal RH E28 3 LH E58 3 Opes continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	 Disconnect IPDM E/R connector. Check continuity between the IPDM E/R harness connector and the ground. IPDM E/R Continuity Ground Continuity Not existed Not existed Not existed Not existed S > Repair the harnesses or connectors. And then replace the fuse. NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT Turn the ignition switch OFF. Disconnect the front combination lamp connector. Check continuity between the front combination lamp harness connector and ground. Front combination lamp Continuity Existed Continuity Existed S > Replace the headlamp (LO) bulb. (Bulb socket is abnormally.) 	NO >> Replace IP	DM E/R.			
 2. Check continuity between the IPDM E/R harness connector and the ground. IPDM E/R IPDM E/R Ground Ground Continuity Not existed Does continuity exist? YES Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) D.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT Turn the ignition switch OFF. Disconnect the front combination lamp connector. Check continuity between the front combination lamp harness connector and ground. Front combination lamp Ground Continuity Ground Existed Continuity Existed Does continuity exist? Yes >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	IPDM E/R Continuity Connector Terminal RH E8 84 Not existed Oces continuity exist? YES >> Repair the harnesses or connectors. And then replace the fuse. NO NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) O.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT Turn the ignition switch OFF. 2 Disconnect the front combination lamp connector. 3 Continuity Erront combination lamp Ground Endotector Terminal RH E28 3 LH E58 3 Oces continuity exist? Existed Oces continuity exist? Existed	1. CHECK HEADLAMF	P (LO) SHORT (CIRCUIT		
IPDM E/R Continuity RH E8 83 LH E8 83 LH E8 83 Does continuity exist? Not existed YES >> Repair the harnesses or connectors. And then replace the fuse. NO NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) 5.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT 1. Turn the ignition switch OFF. 2. Disconnect the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Front combination lamp Ground Continuity Image: Repair the headlamp (LO) bulb. (Bulb socket is abnormally.)	IPDM E/R Continuity RH E8 83 LH E8 83 Dees continuity exist? Not existed YES >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) D.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT . Turn the ignition switch OFF. 2. Disconnect the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Front combination lamp Connector Terminal RH E28 3 LH E58 3 Dees continuity exist? Existed Descontinuity exist? Existed	1. Disconnect IPDM E	E/R connector.			
$\begin{tabular}{ c c c c c c } \hline \hline Connector & Terminal & Ground & Continuity & \\ \hline RH & E8 & 83 & & \\ \hline LH & E8 & 83 & & \\ \hline Not existed & & \\ \hline Not existed & & \\ \hline Does continuity exist? & \\ \hline YES & >> Repair the harnesses or connectors. And then replace the fuse. NO & >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) & \\ \hline D.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT & \\ \hline Turn the ignition switch OFF. & \\ \hline Disconnect the front combination lamp connector. & \\ \hline Continuity between the front combination lamp connector. & \\ \hline Continuity between the front combination lamp connector. & \\ \hline Continuity & \\ \hline \hline Connector & Terminal & \\ \hline Continuity & \\ \hline Connector & Terminal & \\ \hline Continuity & \\ \hline Conse continuity exist? & \\ \hline Conse continuity exist? & \\ \hline YES & >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.) & \\ \hline \end{tabular}$	Connector Terminal Continuity RH E8 83 Not existed Does continuity exist? Not existed Not existed YES >> Replace the harnesses or connectors. And then replace the fuse. Not existed NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) Octave D.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT	2. Check continuity be	etween the IPDN	/I E/R harn	ess connec	tor and the ground.
Connector Terminal Continuity RH E8 83 Not existed Does continuity exist? Not existed Not existed YES >> Replace the harnesses or connectors. And then replace the fuse. Not existed NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) Descontention is fusing again.) D.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT	Connector Terminal Continuity RH E8 83 Not existed Does continuity exist? Not existed Not existed YES >> Replace the harnesses or connectors. And then replace the fuse. Not existed NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) Octave D.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT		1			
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Does continuity exist? YES >> Repair the harnesses or connectors. And then replace the fuse. NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) D.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT 1. Turn the ignition switch OFF. 2. Disconnect the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Image: the fuse is first combination lamp is the form t	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.) D.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT . Turn the ignition switch OFF. 2. Disconnect the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Front combination lamp Ground Int E28 3 LH E58 3 Does continuity exist? YES YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	E8		١	Not existed	
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.) D.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT 1. Turn the ignition switch OFF. 2. Disconnect the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Front combination lamp Continuity Connector Terminal Ground Continuity Existed Existed Does continuity exist? YES YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	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.) D.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT . Turn the ignition switch OFF. . Disconnect the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Front combination lamp Connector Terminal RH E28 3 LH E58 3 Does continuity exist? YES YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	LH 8	4			
 2. Disconnect the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Front combination lamp Connector Terminal Ground Continuity Existed Coes continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.) 	 2. Disconnect the front combination lamp connector. 3. Check continuity between the front combination lamp harness connector and ground. Front combination lamp Connector Terminal Ground Continuity Existed Coes continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.) 	_ '	· ·			is fusing again.)
3. Check continuity between the front combination lamp harness connector and ground. Front combination lamp Continuity Connector Terminal Continuity RH E28 3 Existed LH E58 3 Existed Does continuity exist? YES > Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	 Check continuity between the front combination lamp harness connector and ground. Front combination lamp Front combination lamp Connector Terminal Ground Continuity Existed Does continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.) 			amp conne	ctor	
Connector Terminal RH E28 3 LH E58 3 Does continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	Connector Terminal RH E28 3 LH E58 3 Does continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)					ness connector and ground.
Connector Terminal RH E28 3 LH E58 3 Does continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	Connector Terminal RH E28 3 LH E58 3 Does continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)					
Connector Terminal RH E28 3 LH E58 3 Does continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	Connector Terminal RH E28 3 LH E58 3 Does continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	Front combination lar	np		Continuity	
RH E28 3 LH E58 3 Existed Does continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	RH E28 3 Existed LH E58 3 Existed Oces continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	Connector Terr	ninal		Continuity	
LH E58 3 Does continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	LH E58 3 Does continuity exist? YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	RH E28 :			Evicted	
YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)	LH E58 S	3		LAISIEU	
		Does continuity exist?		ÿ		
NO >> Repair the harnesses or connectors.	NO >> Repair the harnesses or connectors.				lb socket is	abnormally.)
		NO >> Repair the	harnesses or co	nnectors.		

< 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-9, "Diagnosis Description".

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

CONSULT 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-264, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK FRONT FOG LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#58	10 A

Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK FRONT FOG LAMP SHORT CIRCUIT

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

	IPDM E	′R		Continuity
Connector Terminal		Ground	Continuity	
RH	E8	86	Ground	Not existed
LH	LO	87		NUL EXISTED

Does continuity exist?

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

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

3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

(E)CONSULT ACTIVE TEST

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

EXL-264

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

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5. CHECK FRONT FOG LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.

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

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

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

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

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

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

Does continuity exist?

YES >> Replace the front fog lamp.

NO >> Repair the harnesses or connectors.

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< DTC/CIRCUIT DIAGNOSIS >

PARKING LAMP CIRCUIT

Component Function Check

1.CHECK PARKING LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".

2. Check that the parking lamp is turned ON.

(E)CONSULT ACTIVE TEST

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

TAIL : Parking lamp ON

Off : Parking lamp OFF

Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal. NO >> Refer to <u>EXL-266</u>, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:000000010599231

1. CHECK PARKING LAMP FUSE

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

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

Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

2. CHECK PARKING LAMP SHORT CIRCUIT

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

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

Does continuity exist?

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

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

3.CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4.CHECK PARKING LAMP OUTPUT VOLTAGE

(E)CONSULT ACTIVE TEST

1. Disconnect the front combination lamp connector.

2. Turn the ignition switch ON.

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

EXL-266

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	т	erminals			
		CITINIAIS		Test item	
	(+)		(-)		Voltage
	IPDM E	/R		EXTERNAL	(Approx.)
Co	nnector	Terminal		LAMP	
RH		91	Ground	TAIL	Battery voltage
	E9		Ground	Off	0 V
LH	- 29	92	•	TAIL	Battery voltage
				Off	0 V

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5. CHECK PARKING LAMP OPEN CIRCUIT

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

	IPDM E/R Front combination lamp		Continuity		
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E9	91	E28	8	Existed
LH	L9	92	E58	8	LAISteu

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

${f 0}.$ CHECK PARKING LAMP GROUND OPEN CIRCUIT

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

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

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

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TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

TURN SIGNAL LAMP CIRCUIT

Description

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

NOTE:

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

Component Function Check

1.CHECK TURN SIGNAL LAMP

ONSULT ACTIVE TEST

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

Off : The turn signal lamp OFF

Does the turn signal lamp blink?

- YES >> Turn signal lamp circuit is normal.
- NO >> Refer to EXL-268. "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

2.check turn signal lamp output voltage

CONSULT ACTIVE TEST

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

	Te	erminals		- Test item	
	(+)		(–)	iest item	Voltage (Approx.)
	BCM			FLASHER	voliage (Applox.)
Conne	ector	Terminal		TEASHEIN	
Front RH		17			
Front LH	M119	18	Ground	LH or RH	5 0 1 s PKID0926E
Rear RH	M120	20		Off	0 V
Rear LH	11120	25			υv
1. (1					

Is the measurement value normal?

Revision: February 2015

INFOID:000000010599233

INFOID:000000010599232

TURN SIGNAL LAMP CIRCUIT

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

Does continuity exist?

B260

Rear LH

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

NO >> Repair the harnesses or connectors.

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

OPTICAL SENSOR

Description

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

Component Function Check

1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT

CONSULT DATA MONITOR

Turn the ignition switch ON.

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

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

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

Is the item status normal?

YES >> Optical sensor is normal.

NO >> Refer to EXL-270, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK OPTICAL SENSOR POWER SUPPLY INPUT

1. Turn the ignition switch ON.

2. Turn the lighting switch AUTO.

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

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

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 4.

2.CHECK OPTICAL SENSOR GROUND INPUT

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

	Terminals					
(+)	(-)	Voltage			
Optical sensor			(Approx.)			
Connector	Terminal	Ground				
M94	3	1	0 V			
Is the measure	ment value nori	nal?				

YES >> GO TO 3.

NO >> GO TO 6.

 $\mathbf{3}$.check optical sensor signal output

INFOID:000000010599235

INFOID:000000010599236

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

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

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

Is the measurement value normal?

NO >> Replace the optical sensor.

4.CHECK OPTICAL SENSOR OPEN CIRCUIT

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

Optica	sensor	B	СМ	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M94	1	M123	138	Existed

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

5.CHECK OPTICAL SENSOR SHORT CIRCUIT

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

Optica	Optical sensor		Continuity
Connector	Terminal	Ground	Continuity
M94	1	-	Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

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

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

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

Does continuity exist?

YES >> Replace BCM.

NO >> Repair the harnesses or connectors.

7.CHECK OPTICAL SENSOR SIGNAL OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect the optical sensor connector and BCM connector.

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

Revision: February 2015

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

Does continuity exist?

YES >> GO TO 8.

NO >> Repair the harnesses or connectors.

8.CHECK OPTICAL SENSOR SHORT CIRCUIT

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

Optica	sensor		Continuity
Connector	Terminal	Ground	Continuity
M94	2		Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

HAZARD SWITCH

Description

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

Component Function Check

1.CHECK HAZARD SWITCH SIGNAL BY CONSULT

CONSULT DATA MONITOR

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

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

Is the item status normal?

- YES >> Hazard switch circuit is normal.
- NO >> Refer to EXL-273, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK HAZARD SWITCH SIGNAL INPUT

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

	Terminals		Condition			J
(+)	(-)	Condition	Voltage (Approx.)		
BC	М		Hazard switch	volage (Approx.)		K
Connector	Terminal		Hazaru Switch			
			While pressing the switch	0 V	E	XL
M122	110	Ground	While not pressing the switch	(V) 15 10 5 0		M
				10 ms		Ν
Is the mea	surement	value no	ormal?			
YES >> NO >>	> Replace > GO TO	e BCM. 2.				0

2. CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect the multifunction switch connector and BCM connector.

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

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HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Multifunct	Itifunction switch BCM			
Connector	Terminal	Connector	Terminal	Continuity
M72	16	M122	110	Existed

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

 $\mathbf{3}$.check hazard switch signal short circuit

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

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

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 4.

4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

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

Multifunct	tion switch		Continuity
Connector	Terminal	Ground	Continuity
M72	1		Existed

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

DIC/CIRCUIT DIAGNC										
TAIL LAMP CIRCU	JIT									
Component Function	Check								INFOID:0000000010599	9241
1.CHECK TAIL LAMP OF	PERATION	N								
 IPDM E/R AUTO ACTIV Activate IPDM E/R aut Check that the tail lam CONSULT ACTIVE TES Select "EXTERNAL L/ With operating the tes 	to active t ip is turne ST AMPS" of	d ON. IPDM E/R	activ	e test item	ı.		ription".			
TAIL : Tail lam	np ON									
Off : Tail lan	np OFF									
Is the tail lamp turned ON?	-	al								
YES >> Tail lamp circu NO >> Refer to <u>EXL-2</u>			cedur	<u>e"</u> .						
Diagnosis Procedure	;								INFOID:000000010599	9242
1.CHECK TAIL LAMP FU	ISE									
 Turn the ignition switch Check that the following 	h OFF.	are not fusi	ing.							
Unit	Locatio	on Fuse	No.	Capacity						
Tail lampRear side marker lampLicense plate lamp	IPDM E/F	R #5	53	10 A						
<u>is the fuse fusing?</u> YES >> Repair the ma NO >> GO TO 2. 2.CHECK TAIL LAMP OL		•	ore re	eplacing the	e fus	e.				
 CONSULT ACTIVE TES Disconnect the rear co Turn the ignition switcl Select "EXTERNAL L/ With operating the te ground. 	ombination h ON. AMPS" of	IPDM E/R	activ	e test item		he IPD	DM E/R ha	arness cor	nector and th	he
Terminals										
(+)	(-)	Test item	N	/oltage						
IPDM E/R	E	EXTERNAL		Approx.)						
Connector Terminal G	Ground		Dotte	nucltore						
E5 7		TAIL	Batte	ery voltage 0 V						
Is the measurement value YES >> GO TO 3. NO >> Replace IPDN 3. CHECK TAIL LAMP OF	1 E/R.									

Disconnect IPDM E/R connector.

< DTC/CIRCUIT DIAGNOSIS >

TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

 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	E5 7		B232	1	Existed	
LH	20	1	B60	1	Existed	

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TAIL LAMP GROUND OPEN CIRCUIT

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

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

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

LICENSE PLATE LAMP CIRCUIT

		LICEN	ISE PLA			
< DTC/CIRCUIT						[HALOGEN TYPE]
LICENSE PL	.ATE L/	AMP CIF	CUIT			
Component F	unction	Check				INFOID:000000010599243
NOTE: Check the tail lam 1.CHECK LICEN	•	•		cense plate l	amp are not turned O	N.
2. Check that the CONSULT ACT 1. Select "EXTE	/I E/R auto e license p TIVE TEST RNAL LAI	active test. blate lamp is MPS" of IPD	turned ON	ve test item.	nosis Description". ate lamp is turned ON	
		plate lamp				
		plate lamp (JFF			
	se plate la	mp circuit is 7, "Diagnos		<u>re"</u> .		
Diagnosis Pro	cedure					INFOID:000000010599244
1.CHECK LICEN	ISE PLATE	E LAMP BUI	B			
Check the applica Is the bulb normal YES >> GO T NO >> Repla 2.CHECK LICEN	? O 2. Ice the bul	b.		IT		
 Turn the igniti Disconnect IF 	on switch PDM E/R c	OFF. onnector an	d the licens	se plate lam		te lamp harness connec-
IPDM E/F	R	License p	late lamp	Continuity		
Connector	Terminal	Connector	Terminal			
H E5	7	D117 D112	1	Existed		
Does continuity ex						
YES >> GO T NO >> Repa		esses or cor	nectors			
3.CHECK LICEN				EN CIRCUIT	-	
					ector and the ground.	
,		·			Ŭ	

	License plate	e lamp		Continuity
	Connector	Terminal	Ground	Continuity
RH	D117	2	Ground	Existed
LH	D112	2	1	LAISIEU

Does continuity exist?

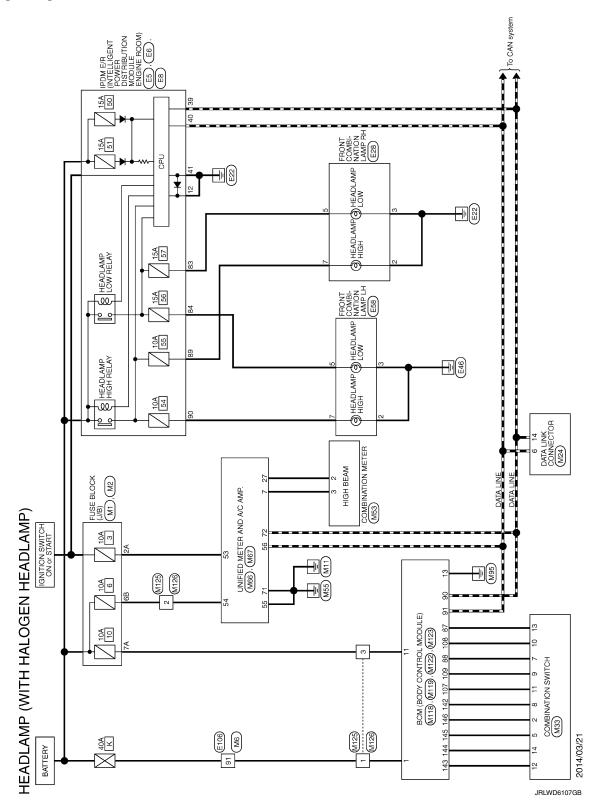
YES

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

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HEADLAMP SYSTEM

Wiring Diagram - HEADLAMP -



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- [Within HOLO] - [Within HOLO]	С
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AMP)	8A L – –	Connactor No M2		Т	Connector Type NS10FW-CS	Ą		HS. [48]38 [la I	No. Wire Operation Concession	38 P -	4B G -	5B BG -	6B Y -	7B P -	8B R -	98 SB -			Connector No. M6	Connector Name WIRE TO WIRE	Connector Type TH80MW-CS16-TM4	٦.				2	5 NO 1012 NO 1010 NO 1010 NO 1010			Terminal Color Of		┢				4 SHIELD -	5 G -	-	da	žī (10 R -	
HEADLAMP (WITH HALOGEN HEADLAMP)	- [Without ICC] - [Without ICC]	- [With ICC] - [Without ICC]	- [With ICC]	- [Without ICC]	- [With ICC]		1	-	-	-	-	1	-	-	-	-	-	=	-	-	-	1	T					FUSE BLOCK (J/B)						0. 74 64 54 44					Signal Name [Specification]		-	-				1	

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

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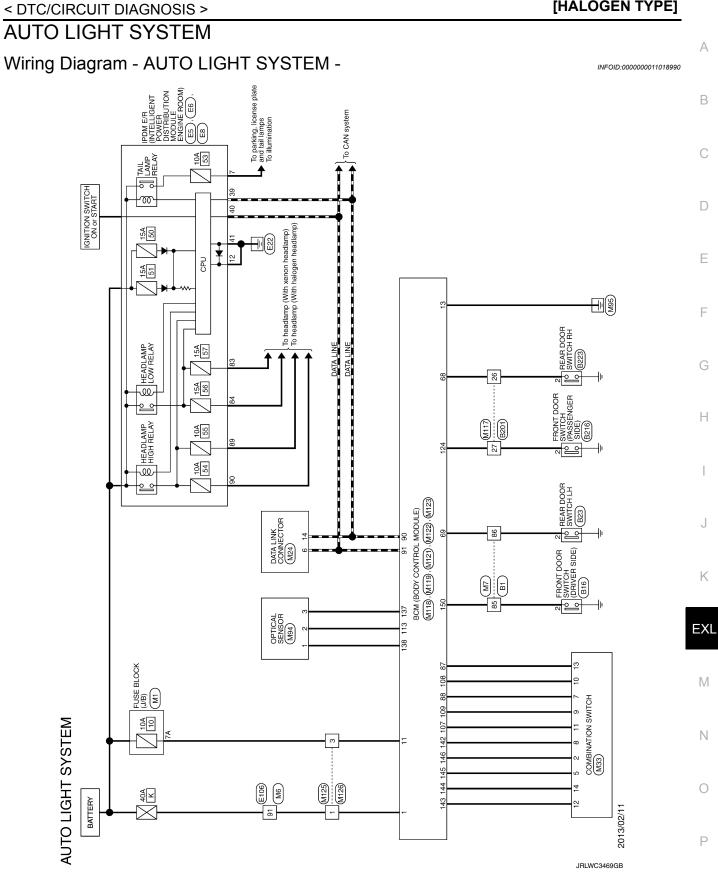
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HEADLAMP SYSTEM

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Connector No.	or No.	81	47	ß		Connector No.	B16	Terminal Color Of		Signal Name [Snecification]
Connect	Connector Name	WIRE TO WIRE	48	۵ ۵		Connector Name	FRONT DOOR SWITCH (DRIVER SIDE)	- No	Wire	
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			67	>				26	BR	1
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Connector No. E5 Connector Name Box 4: 11 NTLLISOF PORTI DETINITION MODULE FOOT Connector Yapan Box 4: 12 VIII CONTRACTOR CONTRACTON	Terminal No. Color No. Signal Name [Ssecification] 1 V V V 1 V V Signal Name [Ssecification] 1 1 V - 1 1 V - 1 1 V - 1 1 V - 2 1 1 - 2 1 1 - 2 1 1 - 2 1 1 - 2 1 1 - 2 1 1 - 2 1 1 - 2 1 1 - 2 1 1 - 2 1 1 - 2 1 1 - 2 1 1 1 2 1 1 1 2 1 - - <th></th>	
AUTO LIGHT SYSTEM	Connector Name B016 B016 B010 DOIS SMTCHI PASSBIGER SDE Connector Name FRONT DOIS SMTCHI PASSBIGER SDE Connector Name FRONT DOIS SMTCHI PASSBIGER SDE Main Main Connector Name FRONT DOI SMTCHI PASSBIGER SDE Connector Name Main Connector Name Sgraul Name [Specification] Connector Name Connector Name Main Connector Name EXAR DOOR SMTCH RH Connector Name Connector Name Main Connector Name EXAR DOOR SMTCH RH Connector Name Connector Name Main Connector Name Exar DOOR SMTCH RH Connector Name Connector Name Main Connector Name Connector Name Connector Name Connector Name Main Connector Name Connector Name Connector Name Connector Name Main Connector Name Connector Name Connector Name Connector Name Main Connector Name Connector Name Connector Name Connector Name Main Connector Name Connector Name Connector Name Connector Name	

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AUTO LIGHT SYSTEM

Revision: February 2015

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AUTO LIGHT SYSTEM										
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Connector Name FUSE BLUCK (J/B)		17	7 SB	,	11	~	- [With ICC]	14	7	
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Revision: February 2015

< DTC/CIRCUIT DIAGNOSIS >

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JRLWD6220GB

AUTO LIGHT SYSTEM

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AUTO LIGHT SYSTEM

[HALOGEN TYPE]

JRLWD6221GB

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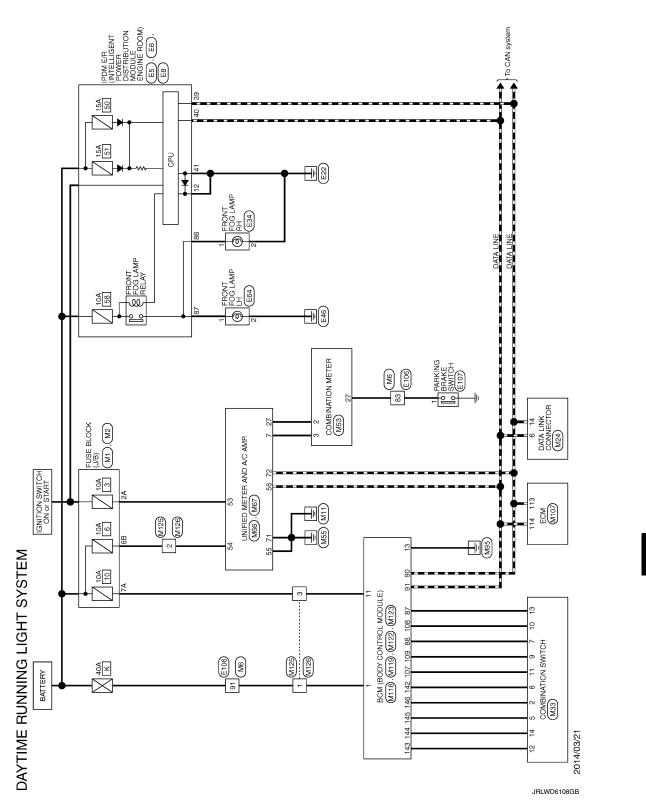
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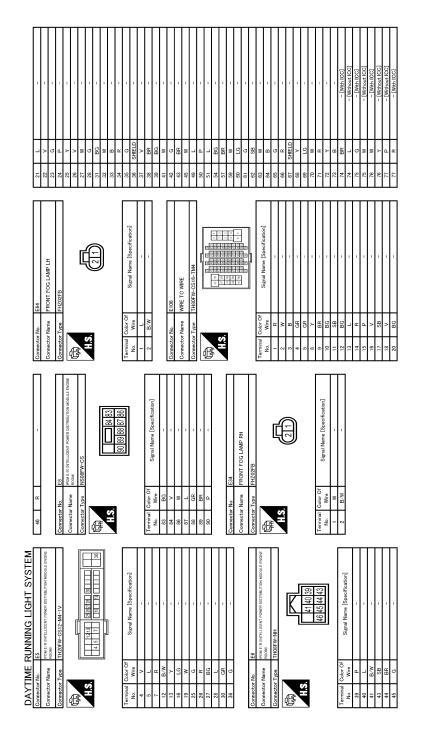
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INFOID:000000011018991

DAYTIME RUNNING LIGHT SYSTEM

Wiring Diagram - DAYTIME LIGHT SYSTEM -





DAYTIME RUNNING LIGHT SYSTEM

JRLWD6213GB

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Connector No. MI Connector Name Connector Type NSI06YW-N2 Connector Type NSI06YW-N2 3A2A_AA	Terminal (No.) Color Of Normal Signal Name (Specification) No. V V Standard Standard Standard
DAYTIME RUNNING LIGHT SYSTEM 78 L -(Weithort ICO] 78 L -(Weithort ICO] 79 L -(Weithort ICO] 79 L -(Weithort ICO] 79 V - (Weithort ICO] 79 V - (Weithort ICO] 81 R - (Weithort ICO] 81 R - (Weithort ICO] 82 S8 - (Weithort ICO] 81 R 81 G 81 G 82 S8 84 G	

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Terminal Color Of Signal Name [Specification] No. Wire		42 Y FUEL LEVEL SENSOR SIGNAL 43 P INTAKE SENSOR SIGNAL	IN FC	45 P AMBIENT SENSOR SIGNAL	46 BG SUNLOAD SENSOR SIGNAL	G EXHAUST G	J	Y BATTER'	ω.	57 W RPAKE FILIEL CAN-H	: #	щ	60 L IN-VEHICLE SENSOR GROUND	BR	-	œ (65 BG ECV SIGNAL		< a				Connector No. M107	Connector Name ECM	Connector Time BH34ECV-D78-D-1 H-7			8 <u>1</u>	1	20 JUL 1011 1111 1111 1211 1211 1211 1211			la l	No. Wire Using Coposition	ď	٩	Y AGC	σ.	L SENSOR F	> {	+	102 LG EVAP CONTROL STSTEM PRESS SENSOR	,	
40 BG ITLUMINATION CONTROL SWITCH SIGNAL (+)			Connector Name UNIFIED METER AND A/C AMP.	Connector Type TH40FW-NH	ſ				23 25 27 28 30 34 38			Terminal Color Of	No. Wire Signal Name (Specification)	Η	7 GR COMMUNICATION SIGNAL (AMP>METER)	+	9 SB SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE) 40 W MANNIM MODE STONM		MOC		23 Y AT SNOW SWITCH SIGNAL	25 V MANUAL MODE SHIFT DOWN SIGNAL	27 LG COMMUNICATION SIGNAL (METER->AMP.)	28 R VEHICLE SPEED SIGNAL (8-PULSE)	30 V PARKING BRAKE SWITCH SIGNAL 34 V COMMINICATION SIGNAL (AMD – 31 CD)	- a		ſ	Connector No. M67	Connector Name UNIFIED METER AND A/C AMP.	Connector Tvne TH32FW-NH				1.3. 41 42 43 44 45 46 47 1 53 54 55 56	ЯĘ								
7 V INPUT3 8 R.C. OITTRITT 5		10 R INPUT 4		13 BR INPUT 5	14 G OUTPUT 2		ſ	Connector No. M53	Connector Name COMBINATION METER	Connector Tyre THADEW-NH	1		F	H.S. [1] 5 5 6 7 1 10 1 1 15 6 10 10	21 22 24 25 26 27 28 29 30 31 33 38 39 40			Tarminal Color OF		1 GR BATTERY POWER SUPPLY	2 LG COMMUNICATION SIGNAL (METER->AMP.)	3 GR COMMUNICATION SIGNAL (AMP>METER)	5 B GROUND	6 P ALTERNATOR SIGNAL		л в	16 B METER CONTROL SWITCH GROUND	+	α	21 BG IGNITION SIGNAL	BR COMMUNICATIO	25 Y COMMUNICATION SIGNAL (AMP>LCD)	26 R VEHICLE SPEED SIGNAL (8-PULSE)	27 V PARKING BRAKE SWITCH SIGNAL	>	BS	G SEAT B		B ILLL	+	89 -		7	
DAYTIME RUNNING LIGHT SYSTEM	100 SB -		Connector No. M24	Connector Name DATA I INK CONNECTOR		Connector Type BD16FW	ą		14 16					al C		, IG	4 u				11 SB -	14 P -	16 Y –		Connector No. M33		Connector Name COMBINATION SWITCH	Connector Type TH16FW-NH	4	F (S	7 8 9 10 11 12 13 14		-	al O				FRW	r di IGN	5 L 001P013		

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Connector No. MI19 Connector Name ECM (BODY CONTROL MODULE) Connector Type Institution Connector Type NS1 BTM-VCS The Type NS1 ATM-DOST The Type NS1 ATM-DOST The Type NS1 ATM-DOST The Type NS1 ATM-DOST <td></td>	
DAYTIME RUNNING LIGHT SYSTEM Top ENGORE FOURT SUPPLY UNITION Top CAN TOPMINING THE COMMUNICATION UNIT Top CAN TOPMINING COMMUNICATION UNIT Top CAN TOPMINICATION UNIT Top CAN TOPUNICATION UNIT Top CAN TOPUNICATION UNIT Top CAN TOPUNICATION UNIT Top <td></td>	

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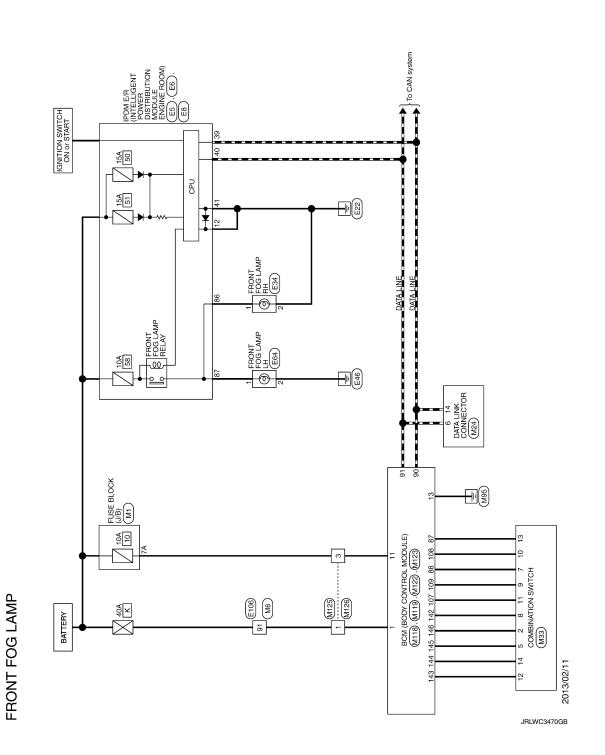
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< DTC/CIRCUIT DIAGNOSIS >

FRONT FOG LAMP SYSTEM

Wiring Diagram - FRONT FOG LAMP -

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Connector No. Ef4 Connector Name FEIONT FOG LAMP LH Connector Type FI-2027B	Terminal No. Calor Of Vires Stant Name [Specification] No. Vires EVA - Connector No. EVA - - Connector No. EVA - - Connector No. EVA - - Connector No. ME TO VIRE - - Connector No. ME TO VIRE - - Connector No. ME TO VIRE - - Connector No. Intervention - - Viso Viso Signal Nume (Specification) - 1 P - - - 1 R - - - 1 R - - - 1 R - - - - 1 R - - - - - 1 R - - - - - - 1 R R - -
46 R Germeter No. E8 Corrector Name Row. No. No. No. No. No. No. No. No. No. No	Terminal No. Color of No. Signal No. 1 No. No. Signal No. 1 No. E3 E4
FRONT FOG LAMP Connector Na. ES Connector Name Row in NATLACON FORET DESTRUCTION MODALE FORE Connector Type THEOPHY-CS12-M4-1V	Terminal No. Color Or Wree Stant Name (Specification) 10. V - 12 B.W - 13 V - 27 B.G - 28 C - 29 C - 20 C - 21 B.G - 22 C - 23 C - 24 Connector Nume - 25 C - 26 - - 27 Connector Nume - 28 Connector Nume - 29 Connector Nume Connector Nume Connector Nume Feb - Connector Nume Feb - Connector Nume Feb - Connector Nume Feb - Connector Nume Secon Nume Secon Nume Connector Nume Feb - Connector Nume Secon Nume - Connector Nume Feb - Connector Nume Secon Nume - Connector Nume Feb - Connector Nume Secon Nume - Connector N

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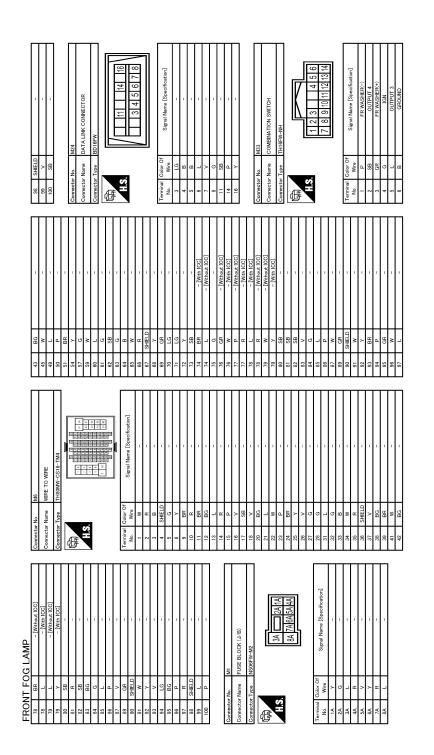
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EM (25) EM (26) EM	F
Commetter No. MI33 Commetter No. MI33 Commetter No. BCM (BODY Commetter Trans BCM (BODY 111 B 122 B 133 B 142 B 143 B 144 C 145 C 146 C 147 C 148 C 144 C 145 C 146 C 147 C 148 C 149 C 144 C 145 C 146 C	G
	H
PUSH-BUTTON LAND FINSH-BUTTON LAND PUSH-BUTTON LAND FINSH-BUTTON LAND TUPN SACK ACK M122 BOM ROOY CONTROL MOULE) M122 BOM ROOY ANTI- PROVER DOOR ANTI- PROVER DOOR ANTI- PROVER SUPPLY COMER SUPPLY COMER SUPPLY COMER SUPPLY PROVER SUPPLY COMER SUPPLY <tr< td=""><td>J</td></tr<>	J
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FRONT FOG LAMP SYSTEM

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[HALOGEN TYPE]

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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

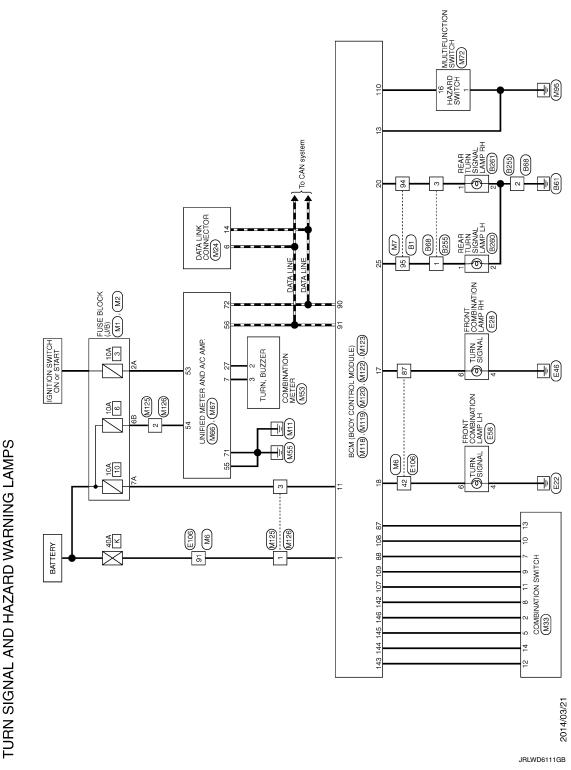
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[HALOGEN TYPE]

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

Wiring Diagram - TURN AND HAZARD WARNING LAMPS -

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

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1880 REAR TURN SIGNAL LAMP LH HEODTG-W	Signal Name (Specification)	С
etor No. etor Name stor Type	ail Color Of Wire of B B B Wire V B V Wire Of B B	D
Come		E
123 123 123 161 123 161	Steral Name [Specification]	F
e Mille To Wife		G
Connector No. Connector Name Connector Type	Terminal Color Of No. Work 1 0 2 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Н
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TURN SIGNAL Commetter No. 81. Commetter Name WIE Commetter Type 1148	2019 201	Ν
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TURN SIGNAL AND HAZARD WARNING LAMPS	IG LAMF						ŀ	г
Connector No. E28	Connector No.	r No. E106		4	BR		1	_
Connector Name FRONT COMBINATION LAMP RH	Connector Name		WIRE TO WIRE	45	×	-	98 SHIELD -	_
				49	-	-		
Connector Type RS08FB-PR	Connector Type		TH80FW-CS16-TM4	50	٩	-	100 P -	
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	£			54	BG	-		
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3 B/Y -	2	w	1	67	SHIELD			
4 B/W -	8	8	-	68	Y	-]	
5 BG	4	GR	1	69	ΓC	-		
- 9	9	GR	,	70	×		Terminal Color Of	г
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Connector Name FRONT COMBINATION LAMP LH	2	-		2	,	- [with I co	+	т
	14	۳	1	75	4	- [Without ICC]	╉	Т
Connector Type RS08FB-PR	15	_	1	76	>	- [With ICC]	7A R -	_
	16	>	T	76	≻	 [Without ICC] 	8A L -	7
	17	SB	T	11	٩	 [Without ICC] 		
	18	>	-	11	я	- [With ICC]		I
H.S. (234)	20	BG	-	78	BR	 [Without ICC] 	Connector No. M2	
E E 7 0	21	٦	-	78		 [With ICC] 	Connector Name FLISE RLOCK (J/R)	
1	22	>	-	79	L	 [Without ICC] 		_
)	23	J	-	79	Y	- [With ICC]	Connector Type NS10FW-CS	
	24	٩	-	8	SB	-	[
8	25	Y	-	81	Я	-		
No. Wire Signal Hallie Lopecification	26	^	-	82	SB	-		
2 B -	27	M		83	BG	-		
3 B/Y -	28	5	I	84	9	-	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
4 B/W -	31	BG	,	85	_	-		
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- 5 9	33			87	>	-		
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	36	SHIELD		16	w	1	3B P -	
	37	>	1	92	7	-		
	38	BR	1	93	>	-	5B BG -	
	39	BG	1	94	ΓC	-	6B Y –	
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TURN SIGNAL AND HAZARD WARNING LAMPS	Connector No. M6	Connector Name WIRE TO WIRE	Connector Type TH80MW-CS16-TM4			2 T 1000 000 000 000 000 000 000 000 000	_	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Calar Of	No. Wire Signal Name [Specification]		2 R -	3 B		Y	1	+	12 BG -	Н	æ	+	+	20	20 BG -	-	+	+	HA ×	25 Y	╋	<i>,</i>	2 -		33 B -	M	В	SHELD	3/ V = -	2													

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TURN SIGNAL AND HAZARD WARNING LAMPS	IG LAMPS		Connector No.	M66	46	BG	SUNLOAD SENSOR SIGNAL	
Connector Name DATA LINK CONNECTOR	13 BR INPUT 5 14 G OUTPUT 2		Connector Name	UNIFIED METER AND A/C AMP.	47 53	0 C	EXHAUST GAS / OUTSIDE ODOR DETECTING SENSOR SIGNAL IGNITION POWER SLIPPI Y	
Connector Type BD16FW			Connector Type	TH40FW-NH	54	Y	BATTERY POWER SUPPLY	
	ľ	[4		55	8	GROUND	
	Connector No. M53		F		28	-	CANHH	
11 11 14 16	Connector Name COMBINATION METER		ů L		6	> 8	FUEL FLUID LEVEL SWITCH SIGNAL	
	Connector Tyne TH40FW-NH		9:H	5 7 8 9 10 11 14 20	80 95	H B	FUEL LEVEL SENSOR GROUND INTAKE SENSOR GROUND	
	1				99	-	IN-VEHICLE SENSOR GROUND	
					61	BR	AMBIENT SENSOR GROUND	
	F				62	SB	SUNLOAD SENSOR GROUND	
Terminal Color Of Signal Name [Specification]	1.S. [12] 587 10	15 15 15 15 150	lar O	Signal Name [Snecification]	63	ч	1	
	21 22 24 25 26 27 28 29 30 31	33 35 37 38 39 40	No. Wire		65	BG	ECV SIGNAL	
╀			6	MANUAL MODE SHIFT UP SIGNAL	69 P		A/G LAN SIGNAL	
			- B	VEHICLE SPEED SIGNAL (2-PULSE)	12		GROUND	
- - 9	Terminal Color Of		89 6	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)	72	<u>م</u>	CAN-L	
7 V -	No. Wire Signal Ivame Loped	IIICATION	10 W	MANUAL MODE SIGNAL				
8	1 GR BATTERY POWER SUPPLY	SUPPLY	11 G	NON-MANUAL MODE SIGNAL				
+	╉	. (METER->AMP.)	14 BR	COMMUNICATION SIGNAL (LCD->AMP.)	Connector No.		M72	
	COMMUNICATIO	. (AMP>METER)	20 L	ION ON/OFF SIGNAL	Connector Name		MULTIFUNCTION SWITCH	
16 Y =	+	CONTRACT OF CONTRACT.	+	AT SNOW SWITCH SIGNAL				
		SIGNAL.	+	MANUAL MODE SHIFT DOWN SIGNAL	Connector lype		HI9LM-NH	
Connector No. M33	10 C SECURITY SIGNAL	NAL	2/ L/4	VEHICLE SEEED SIGNAL (METER-ZAMP.)	đ	_		
100	5 œ		╀	PARKING RRAKE SWITCH SIGNAL	ALL ALL		{	
Connector Name COMBINATION SWITCH	B METER CONT	TCH GROUND	34	COMMINICATION SIGNAL (AMP ->I CD)	Sil			
Connector Type TH16FW-NH			е 85	BLOWER MOTOR CONTROL SIGNAL		_	4 6 8 14 16	
	20 R ILL						1359	
	21 BG IGNITION SIGNAL	NAL						
	22 B GROUND		Connector No.	M67				
H.S. 123 456	BR	(LCD->AMP.)	Connector Name	UNIFIED METER AND A/C AMP.	lar	Color Of	Signal Name [Specification]	
	° ≻	AL (AMP>LCD)			No	Wire		
/ 8 9 10 11 12 13 14	œ	AL (8-PULSE)	Connector Type	TH32FW-NH	-		GROUND	
	>	TCH SIGNAL	ą		, , , , , , , , , , , , , , , , , , ,	>	ACC	
	~	NITCH SIGNAL	E		4	r.	ILL	
ē	SB	GNAL (DRIVER SIDE)		7	s	7	ILL CONT	
	G SEAT B	AL (PASSENGER SIDE)	Ч. С. Н.	41 42 43 44 45 46 47 53 54 55 56		B	AV COMM (H)	
P		CH SIGNAL		Зя		g	AV COMM (L)	
SB	B	ROL SIGNAL			6		SW GND	
3 GR FR WASHER(+)	36 LG SELECT SWITCH SIGNAL	SIGNAL			41	>	DISK EJECT SIGNAL	
4 G IGN	SB	SIGNAL	- F		16	σ	HAZARD ON	
	_	TCH SIGNAL	al a	Signal Name [Specification]				
6 B GROUND	٩	WITCH SIGNAL (-)	No. Wire	Distance is a deal of source in the				
>	40 BG ILLUMINATION CONTROL SWITCH SIGNAL (+)	WITCH SIGNAL (+)	41 V	ACC POWER SUPPLY				
8 BG 0UTPUT 5			+	FUEL LEVEL SENSOR SIGNAL				
+			43 R	INTAKE SENSOR SIGNAL				
			+	IN-VEHICLE SENSOR SIGNAL				
11 LG INPUT 1			45 P	AMBIENT SENSOR SIGNAL				

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

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Connector No. M135 Connector Name WRE TO WRE Connector Type M03PM-L.C	Terminal No. Color Of Wree Signal Mane [Specification] 1 W - - 2 W - - 3 R - - Connector Nume M126 - - Connector Nume WINE TO WRE - - Connector Type M03MV-LC - -	Tammail Color Of New Signal Mame [Spacification] 1 W - 2 Y - 3 R -	
94 Y PUDDLE LAMP CONT 95 C ALT SHET SLEEURO POWER SUPPLY 96 C ALT SHET SLEEURO POWER SUPPLY 96 7 97 7 91 7 91 91 7 91	110 G HAZARD SW Corrector No. M123 Connector Name BCM (BODY CONTROL MODULE) Connector Type THOP C-NH Connector Type THOP C-NH Connector Type THOP C-NH Connector Type THOP C-NH Connector Type Thom (Septimized Control Contr	113 P OPLICAL SERIOR 116 SB STOPLIAMP SW 1 118 SB STOPLIAMP SW 1 118 SB STOPLIAMP SW 1 121 SB STOPLIAMP SW 1 123 U RCVALMP SW 1 124 DE DOOR NULOCK SWSCR 123 U PASSENGER DOOR SW 1 124 LG PRESENGER DOOR SW 1 123 V PRESENGER DOOR SW 1 124 DR DOOR NULOCK SENSOR A DOOR NULOCK SENSOR A 123 V PRESENGER DOOR SW 1 DOOR NULOCK SENSOR A 124 DR DRESENTER MOLTON SM LEPOREN DOOR NULOCK SENSOR A 128 V PRESENTER SENSOR AND A DOOR NULOCK SENSOR AND A 129 L DRMIS SOUTPUT 1 DOME SW 0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.	
3 LAMPS Connector No. M120 Connector Name BCM (BDDY CONTROL MODULE) Connector Type NS127W-CS 25 26 23 25 26 23	2	Addid 1 1 1 4 2 and 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
TURN SIGNAL AND HAZARD WARNING LAMPS Connector Name Connector Name BOM (BOD' CONTROL MODULE) Connector Name Connector Name BOM (BOD' CONTROL MODULE) Connector Name BOM (BOD' CONTROL NODULE) Connector Name BOM (BOD' CONTROL NODULE) Connector Name BOM (BOD' CONTROL NODULE) Connector Name BOD (BOD' CONTROL NODULE)	Terminal No. Oddr Of Nor. Signal Name [Saperfication] 1 W BAT (F/J) 2 W POWER WINDOW POWER SUPPLYIBAT) 3 Y POWER WINDOW POWER SUPPLYIBAT) Connector Name BAT (F/J) Connector Name Connector Name BAT (F/J) Connector Name Connector Name BAM (BODY CONTROL MODULE) Connector Type Connector Type NS16FW-CS Connector Type	Signal Mame (Specification) (GR ROOM LANE) Powers (Specification) (GR ROOM LANE) Powers (S STEP Auto CONT STEP Auto CONT DOOR FTEL LID LOOK OUTON LANE CONT ACC NU CHOLONING CONT ACC NU ACC NU	

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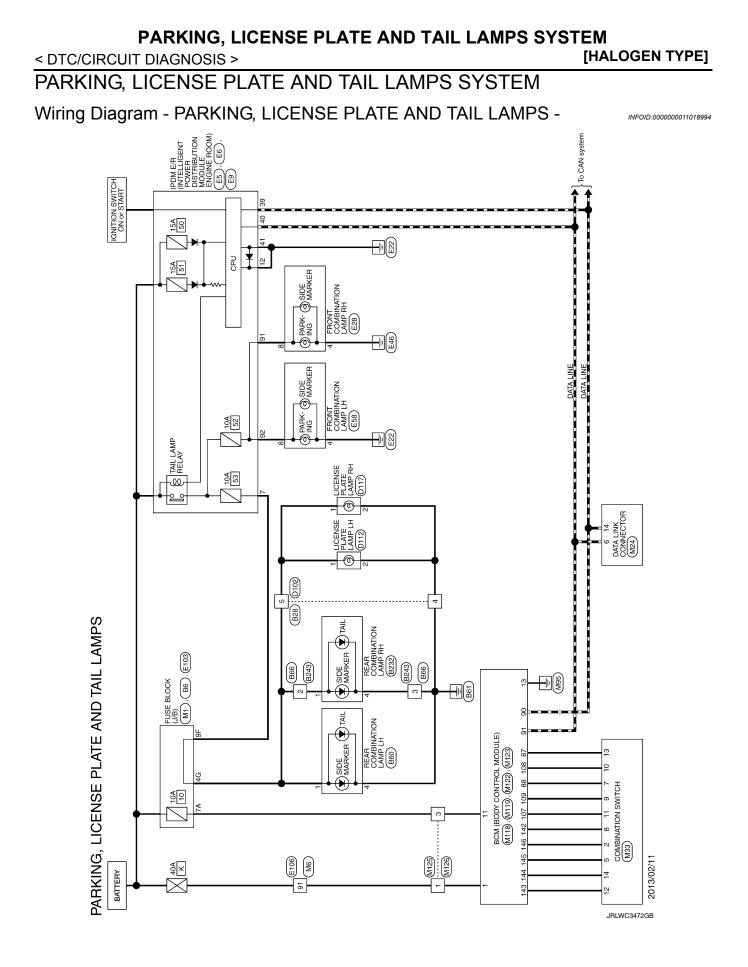
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM [HALOGEN TYPE]

< DTC/CIRCUIT DIAGNOSIS >

Revision: February 2015



Signal Name [Specification WIRE TO WIRE Name nector No. nector 1 H.S. Signal Name [Specification] Signal Name [Specification] REAR COMBINATION LAMP RH 4 1 2 WIRE TO WIRE 18 P ⊣≥888 onnector Name Wire LG Name H.S. H.S. 12 12 低 倨 124 REAR COMBINATION LAMP LH Signal Name [Speci Name [Spe ignal WIRE TO WIRE B60 B66 nnector No. Connector Type ector Name ector Name Wire H.S. AHS. I AMPS ß Ø PARKING, LICENSE PLATE AND TAIL Signal Name [Specification] Signal Name [Specification] Π FUSE BLOCK (J/B) B28 WIRE TO WIRE

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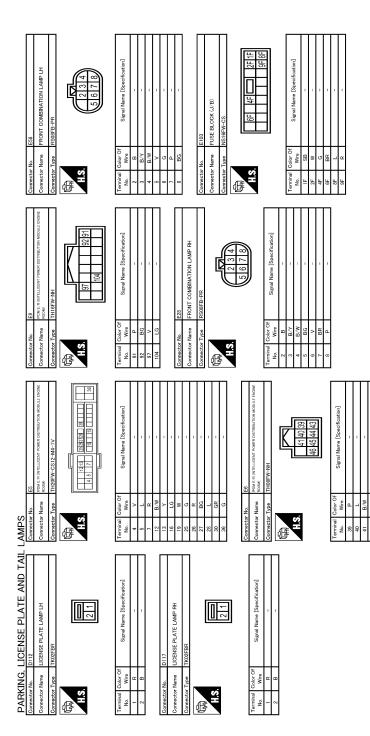
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hector Name



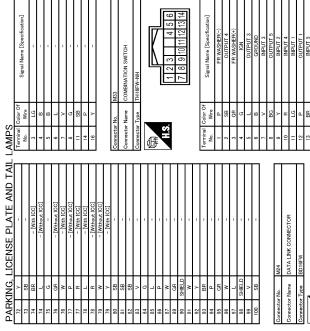
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	2	W	POWER WINDOW POWER SUPPLY(BAT)	75	GR	PASSENGER DOOR ANT+
	e	٢	POWER WINDOW POWER SUPPLY(RAP)	76	>	DRIVER DOOR ANT-
				17	ΓC	DRIVER DOOR ANT+
R				78	Y	ROOM ANT I-
]	Connector No.	· No.	M119	79	BR	ROOM ANT1+
1 5 6	Contraction Manual	Manad	BCM (BODY CONTROL MODULE)	80	GR	NATS ANT AMP.
t		NULLE		81	W	NATS ANT AMP.
10 11 12 13 14	Connector Type	· Type	NS16FW-CS	82	œ	IGN RELAY (F/B) CONT
				83	Y	KEYLESS ENTRY RECEIVER COMM
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WASHER(-)			11 12 14 15 17 18 10	91	-	CAN-H
DUTPUT 4				92	P	KEY SLOT ILL CONT
WASHER(+)				93	>	ON IND
IGN				94	~	PUDDLE LAMP CONT
OUTPUT 3	Terminal	Color Of	C	95	BG	ACC RELAY CONT
GROUND	No.	Wire	Olgian Mania Copecification	96	GR	A/T SHIFT SELECTOR POWER SUPPLY
INPUT 3	4	LG	INTERIOR ROOM LAMP POWER SUPPLY	66	щ	SHIFT P
DUTPUT 5	5	L	PASSENGER DOOR UNLOCK OUTPUT	100	9	PASSENGER DOOR REQUEST SW
INPUT 2	7	Y	STEP LAMP CONT	101	SB	DRIVER DOOR REQUEST SW
INPUT 4		٨	ALL DOOR, FUEL LID LOCK OUTPUT	102	BG	BLOWER FAN MOTOR RELAY CONT
INPUT 1	6	9	DRIVER DOOR, FUEL LID UNLOCK OUTPUT	103	ΓC	KEYLESS ENTRY RECEIVER POWER SUPPLY
OUTPUT 1	10	BR	REAR DOOR UNLOCK OUTPUT	107	LG	COMBI SW INPUT 1
INPUT 5	=	ж	BAT (FUSE)	108	œ	COMBI SW INPUT 4
DUTPUT 2	13	8	GROUND	109	Y	COMBI SW INPUT 2
	14	W	PUSH-BUTTON IGNITION SW ILL GND	110	9	HAZARD SW
	15	Y	ACC IND			
	17	w	TURN SIGNAL RH (FRONT)			
	18	BG	TURN SIGNAL LH (FRONT)			
	19	٨	INT ROOM LAMP CONT			



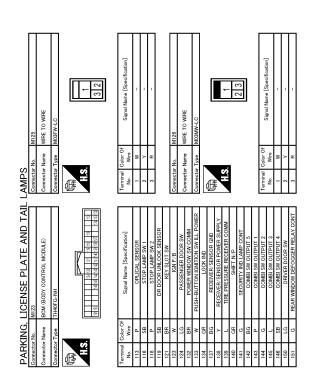
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JRLWD6246GB

Revision: February 2015

Connector No.

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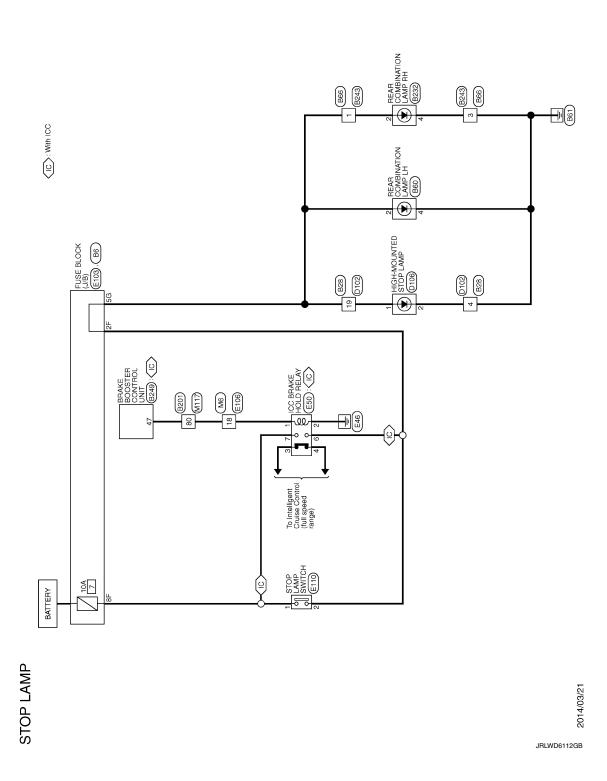
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STOP LAMP

Wiring Diagram - STOP LAMP -

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STOP LAMP

[HALOGEN TYPE]

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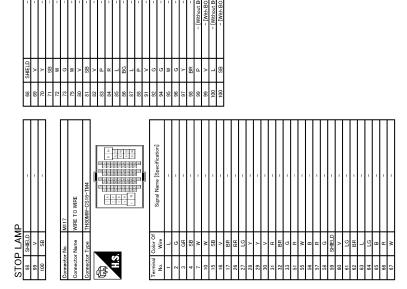
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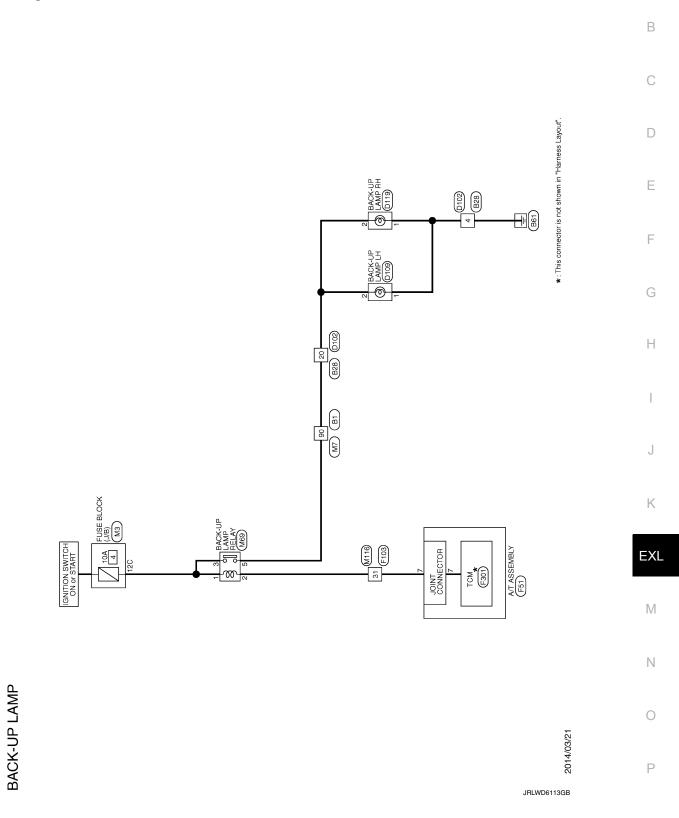
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< DTC/CIRCUIT DIAGNOSIS >

BACK-UP LAMP

Wiring Diagram - BACK-UP LAMP -



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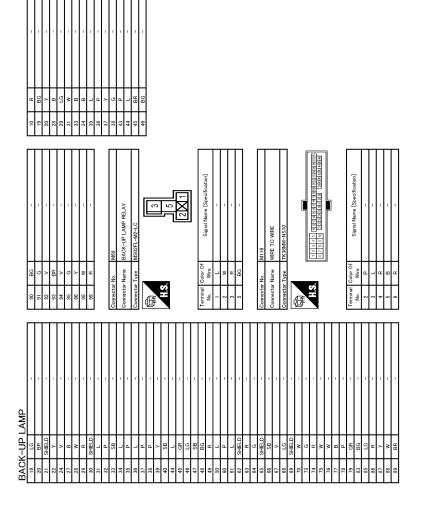
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BACK-UP LAMP

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

< DTC/CIRCUIT DIAGNOSIS >



JRLWD6242GB

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

NOTE:

С The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

CONSULT MONITOR ITEM

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

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< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Monitor Item	Condition	Value/Status
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off
DOOR SW-DR	Driver door closed	Off
	Driver door opened	On
DOOR SW-AS	Passenger door closed	Off
DOON OW-AG	Passenger door opened	On
DOOR SW-RR	Rear RH door closed	Off
	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
DOOR SW-RL	Rear LH door opened	On
DOOR SW-BK	Back door closed	Off
DOOR SW-DR	Back door opened	On
CDL LOCK SW	Other than power door lock switch LOCK	Off
CDL LOCK SVV	Power door lock switch LOCK	On
	Other than power door lock switch UNLOCK	Off
CDL UNLOCK SW	Power door lock switch UNLOCK	On
	Other than driver door key cylinder LOCK position	Off
KEY CYL LK-SW	Driver door key cylinder LOCK position	On
	Other than driver door key cylinder UNLOCK position	Off
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On
KEY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off
	Hazard switch is OFF	Off
HAZARD SW	Hazard switch is ON	On
REAR DEF SW	NOTE: The item is indicated, but not monitored.	Off
TR CANCEL SW	NOTE: The item is indicated, but not monitored.	Off
	Back door opener switch OFF	Off
TR/BD OPEN SW	While the back door opener switch is turned ON	On
TRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
REVERSE SW	NOTE: The item is indicated, but not monitored.	Off
	LOCK button of the key is not pressed	Off
RKE-LOCK	LOCK button of the key is pressed	On
	UNLOCK button of the key is not pressed	Off
RKE-UNLOCK	UNLOCK button of the key is pressed	On
RKE-TR/BD	NOTE: The item is indicated, but not monitored.	Off
	PANIC button of the key is not pressed	Off
RKE-PANIC	PANIC button of the key is pressed	On
	UNLOCK button of the key is not pressed	Off
RKE-P/W OPEN	UNLOCK button of the key is pressed and held	On

Revision: February 2015

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

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

Revision: February 2015

EXL-321

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Monitor Item	Condition	Value/Status
SFT P -MET	Selector lever in any position other than P	Off
	Selector lever in P position	On
SET N MET	Selector lever in any position other than N	Off
SFT N -MET	Selector lever in N position	On
	Engine stopped	Stop
	While the engine stalls	Stall
ENGINE STATE	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L UNLK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L RELAY-REQ	NOTE: The item is indicated, but not monitored.	Off
VEH SPEED 1	While driving	Equivalent to speed- ometer reading
VEH SPEED 2	While driving	Equivalent to speed- ometer reading
	Driver door is locked	LOCK
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door is unlocked	UNLOCK
	Passenger door is locked	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door is unlocked	UNLOCK
ID OK FLAG	Driver side door is open after ignition switch is turned OFF (Shift position is in the P position)	Reset
	Ignition switch ON	Set
PRMT ENG STRT	The engine start is prohibited	Reset
PRIVITEINGSTRT	The engine start is permitted	Set
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset
KEY SW -SLOT	The key is not inserted into key slot	Off
KET 5W -5LUT	The key is inserted into key slot	On
RKE OPE COUN1	During the operation of the key	Operation frequency of the key
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	_
CONFRM ID ALL	The key ID that the key slot receives does not accord with any key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with any key ID registered to BCM.	Done
	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	Yet
CONFIRM ID4	The key ID that the key slot receives accords with the fourth key ID reg- istered to BCM.	Done
	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	Yet
CONFIRM ID3	The key ID that the key slot receives accords with the third key ID registered to BCM.	Done

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Monitor Item	Condition	Value/Status
	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	Yet
CONFIRM ID2	The key ID that the key slot receives accords with the second key ID reg- istered to BCM.	Done
	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	Yet
CONFIRM ID1	The key ID that the key slot receives accords with the first key ID registered to BCM.	Done
TP 4	The ID of fourth key is not registered to BCM	Yet
TP 4	The ID of fourth key is registered to BCM	Done
	The ID of third key is not registered to BCM	Yet
TP 3	The ID of third key is registered to BCM	Done
TD 2	The ID of second key is not registered to BCM	Yet
TP 2	The ID of second key is registered to BCM	Done
TD 1	The ID of first key is not registered to BCM	Yet
TP 1	The ID of first key is registered to BCM	Done
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
	ID of front LH tire transmitter is registered	Done
ID REGST FL1	ID of front LH tire transmitter is not registered	Yet
	ID of front RH tire transmitter is registered	Done
ID REGST FR1	ID of front RH tire transmitter is not registered	Yet
	ID of rear RH tire transmitter is registered	Done
ID REGST RR1	ID of rear RH tire transmitter is not registered	Yet
	ID of rear LH tire transmitter is registered	Done
ID REGST RL1	ID of rear LH tire transmitter is not registered	Yet
	Tire pressure indicator OFF	Off
WARNING LAMP	Tire pressure indicator ON	On
	Tire pressure warning alarm is not sounding	Off
BUZZER	Tire pressure warning alarm is sounding	On

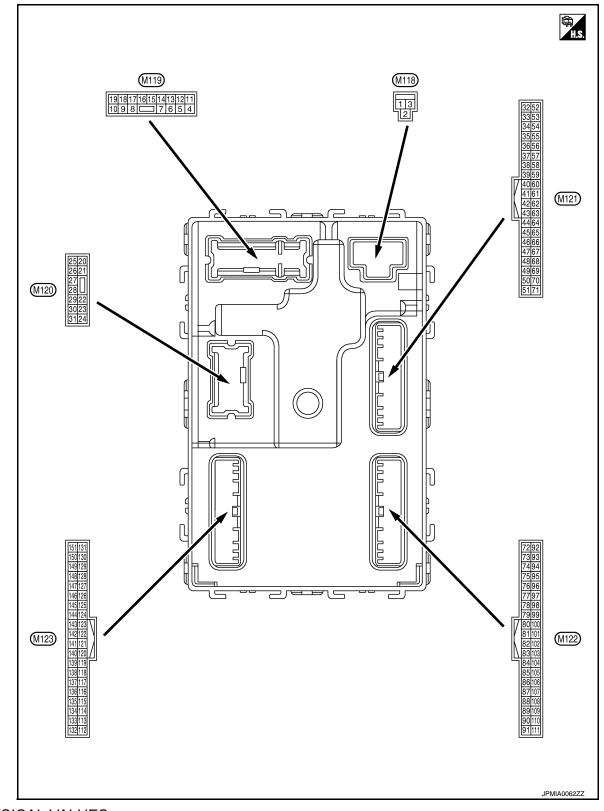
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< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

TERMINAL LAYOUT



< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire +	e color) -	Signal name	Input/ Output		Condition	(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
2 (W)	Ground	P/W power supply (BAT)	Output	Ignition switch OF	F	Battery voltage
3 (Y)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
4		Interior room lamp			battery saver is activated. oom lamp power supply)	0 V
4 (LG)	Ground	power supply	Output	ed.	battery saver is not activat- or room lamp power supply)	Battery voltage
5	Ground	Passenger door UN-	Quitout	December decr	UNLOCK (Actuator is activated)	Battery voltage
(L)	Ground	LOCK	Output	Passenger door	Other than UNLOCK (Actuator is not activated)	0 V
7	Ground	Step lamp	Output	Step lamp	ON	0 V
(Y)	Ciound	erah jamp	Caipat	crob with	OFF	Battery voltage
8	Ground	Output	All doors	LOCK (Actuator is activated)	Battery voltage	
(V) Cround	LOCK			Other than LOCK (Actuator is not activated)	0 V	
9	9 Ground Driver door, fue	Driver door, fuel lid	Output	ut Driver door	UNLOCK (Actuator is activated)	Battery voltage
(G)	Ground	UNLOCK			Other than UNLOCK (Actuator is not activated)	0 V
10	Ground	Rear RH door and rear LH door UN-	Output	Rear RH door	UNLOCK (Actuator is activated)	Battery voltage
(BR)	Cround	LOCK	Output	and rear LH door	Other than UNLOCK (Actuator is not activated)	0 V
11 (R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
13 (B)	Ground	Ground	_	Ignition switch ON		0 V
					OFF	0 V
14 (W)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp	ON	NOTE: When the illumination brighten- ing/dimming level is in the neutral position
15	Orman		0	lanition multi-le	OFF or ON	Battery voltage
(Y)	Ground	ACC indicator lamp	Output	Ignition switch	ACC	0 V

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

	inal No.	lor)					
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
34	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 5 0 1 5 0 1 1 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	B C D
(SB)	(SB) na (-)	na (–)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	F
35	35 Ground Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	G H I	
(V)		na (+)		OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	J K EXL
38	Ground	Back door antenna (–	Outout	When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	M
(B) Grou	Ground)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	P

< ECU DIAGNOSIS INFORMATION >

(Wire co	color)	Description		Or a differen		Value
	-	Signal name	Input/ Output		Condition	(Approx.)
39		Back door antenna		When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(W) G	Ground	(+)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 5 0 1 s JMKIA0063GB
47 6 G	Ground	Ignition relay (IPDM	Output	Ignition switch	OFF or ACC	Battery voltage
(Y) C		E/R) control			ON	0 V
52	Cround	Startar ralay control	Output	Ignition switch	When selector lever is in P or N position	Battery voltage
(SB) G	Ground	Starter relay control	Output	ON	When selector lever is not in P or N position	0 V
60	Ground	Push-button ignition	lanut	Push-button igni- tion switch (push	Pressed	0 V
(BR) G	5100110	switch (Push switch)	Input	switch)	Not pressed	Battery voltage
61 (W) G	Ground	Back door opener re- quest switch	Input	Back door opener request switch	ON (Pressed) OFF (Not pressed)	0 V
64		Intelligent Key warn-		Intelligent Key	Sounding	UPMIA0016GB
(V) G	Ground	ing buzzer (Engine room)	Output	warning buzzer (Engine room)	Not sounding	Battery voltage
65 (BG) G	Ground	Rear wiper stop posi- tion	Input	Rear wiper	In stop position	(V) 15 0 10 ms JPMIA0016GB 1.0 V
					Not in stop position	0 V

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

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

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< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description					
(Wire +	e color) -	Signal name	Input/ Output		Condition	Value (Approx.)	A
77		Driver door antenna		When the driver door request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	B C D
(LG)	Ground	(+)	Output	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 10 1 s JMKIA0063GB	F
78	Ground	Room antenna 1 (–)		Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	G H I
(Y)		Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	J K EXL	
79	Ground	Room antenna 1 (+)	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s 10 5 0 1 s 10 1 s 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	M
(BR)	(BR) Ground (Instrument pan	(Instrument panel)		OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 1 s JMKIA0063GB	O P

< ECU DIAGNOSIS INFORMATION >

	Terminal No. (Wire color)	Description				Value	
+		Signal name	Input/ Output		Condition	(Approx.)	
80 (GR)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
81 (W)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
82	Ground	Ignition relay [Fuse	Output	Ignition switch	OFF or ACC	0 V	
(R)	Ciouna	block (J/B)] control	Output	ON		Battery voltage	
83	Ground	Ground Remote keyless entry receiver communica- tion	Input/	During waiting		(V) 15 10 10 10 10 10 10 10 10 10 10	
(Y)	Ground		Output	When operating either button on the key		(V) 15 10 50 10 10 10 10 10 10 10 10 10 1	

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

	inal No.	Description				Value	٨
(VVire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	А
					All switches OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0041GB 1.4 V	B C D
87		Combination switch		Combination	Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0037GB 1.3 V	E
(BR)	Ground	INPUT 5	Input	switch	Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0039GB 1.3 V	G H
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 	J K
						JPMIA0040GB 1.3 V	EXL

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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color) -	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0041GB 1.4 V
					Lighting switch HI (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0036GB 1.3 V
88 (V)	Ground	Combination switch INPUT 3	Input	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	(V) 10 0 2 ms JPMIA0037GB 1.3 V
					Rear washer switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0039GB 1.3 V
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V
90 (P)	Ground	CAN-L	Input/ Output	_		_
91 (L)	Ground	CAN-H	Input/ Output	_		_

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	А
					OFF	Battery voltage	_
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	Blinking	(V) 15 10 0 1 1 1 1 1 1 1 1 1 1 1 1 1	B C D
					ON	0 V	Е
93	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	Battery voltage	
(V)				.	ON	0 V	
94	Ground	Puddle lamp control	Output	Puddle lamp	OFF	Battery voltage	F
(Y)	0.00.00		o atp at	· · · · · · · · · · · · · · · · · · ·	ON	0 V	
95	Ground	ACC relay control	Output	Ignition switch	OFF	0 V	G
(BG)	Cround		Output	ignition ownon	ACC or ON	Battery voltage	G
96 (GR)	Ground	A/T shift selector (De- tention switch) power supply	Output	_		Battery voltage	Н
99	Ground	Selector lever P posi-	Input	Selector lever	P position	0 V	
(R)		tion switch			Any position other than P	Battery voltage	
100 (G)	Ground	Passenger door re- quest switch	Input	Passenger door request switch	ON (Pressed) OFF (Not pressed)	0 V (V) 15 10 0 10 ms JPMIA0016GB 1.0 V	J K EXI
					ON (Pressed)	0 V	
101 (SB)	Ground	Driver door request switch	Input	Driver door re- quest switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V	M N O
102		Blower fan motor re-			OFF or ACC	0 V	
(BG)	Ground	lay control	Output	Ignition switch	ON	Battery voltage	
103 (LG)	Ground	Remote keyless entry receiver power sup- ply	Output	Ignition switch OF	F	Battery voltage	Ρ

< ECU DIAGNOSIS INFORMATION >

	iinal No. e color)	Description	ſ		a	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF	(V) 15 0 2 ms JPMIA0041GB 1.4 V
					Turn signal switch LH	(V) 15 0 2 ms 1.3 V
107 (LG)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH	(V) 15 0 2 ms JPMIA0036GB 1.3 V
					Front wiper switch LO	(V) 15 0 2 ms JPMIA0038GB 1.3 V
					Front washer switch ON	(V) 15 0 2 ms JPMIA0039GB 1.3 V

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

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

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< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description			Value	
(Wire +	e color) -	Signal name	Input/ Output		Condition	(Approx.)
113	0			Ignition switch	When bright outside of the vehicle	Close to 5 V
(P)	Ground	Optical sensor	Input	ŎN	When dark outside of the vehicle	Close to 0 V
116 (SB)	Ground	Stop lamp switch 1	Input	_		Battery voltage
		Stop lamp switch 2		Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
118	Ground	(Without ICC)	Input	Stop lamp switch	ON (Brake pedal is de- pressed)	Battery voltage
(P)	Ground	Stop lamp switch 2	mput		OFF (Brake pedal is not de- brake hold relay OFF	0 V
		(With ICC)			ON (Brake pedal is de- rake hold relay ON	Battery voltage
119 (SB)	Ground	Front door lock as- sembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 0 10 10 ms JPMA0012GB 1.1 V
					UNLOCK status (Unlock switch sensor ON)	0 V
121	Ground	Key slot switch	Input		serted into key slot	Battery voltage
(BR)		-		When the key is n	ot inserted into key slot	0 V
123 (W)	Ground	IGN feedback	Input	Ignition switch	OFF or ACC ON	0 V Battery voltage
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door close) ON (Door open)	(V) 15 10 10 ms JPMIA0011GB 11.8 V 0 V
132 (BR)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		(V) 10 10 10 10 10 10 10 10 10 10

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				
(Wire +	e color) -	Signal name	Input/ Output	Condition		Value (Approx.)
					ON (Tail lamps OFF)	9.5 V
133		Push-button ignition		Push-button igni-		NOTE: The pulse width of this wave is varied by the illumination bright- ening/dimming level.
(W)	Ground	switch illumination	Output	tion switch illumi- nation	ON (Tail lamps ON)	10 5 0 10 10 10 10 10 10 10 10 10 10 10 10 1
					OFF	0 V
134	Ground	LOCK indicator lamp	Output	LOCK indicator	OFF	Battery voltage
(GR)	0.00.00	-	ouput	lamp	ON	0 V
137 (BG)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V
138	Ground	Receiver and sensor	Output	Ignition switch	OFF	0 V
(Y)	Cround	power supply	Output	Ignition ownon	ACC or ON	5.0 V
139	Ground	Tire pressure receiv- er communication	Input/ Output	Ignition switch ON	Standby state	(V) 6 4 2 0 ••• 0.2s OCC3881D
(L)		er communication	Output		When receiving the signal from the transmitter	(V) 6 4 2 0 ••• 0.2s
140	Ground	Selector lever P/N	Input	Selector lever	P or N position	Battery voltage
(GR)	Cround	position	input		Except P and N positions	0 V
					ON	0 V
141 (G)	Ground	Security indicator	Output	Security indicator	Blinking	(V) 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 15 10 5 0 15 15 15 10 15 15 10 15 15 10 15 15 15 15 15 15 15 15 15 15 15 15 15
					OFF	Battery voltage
						,

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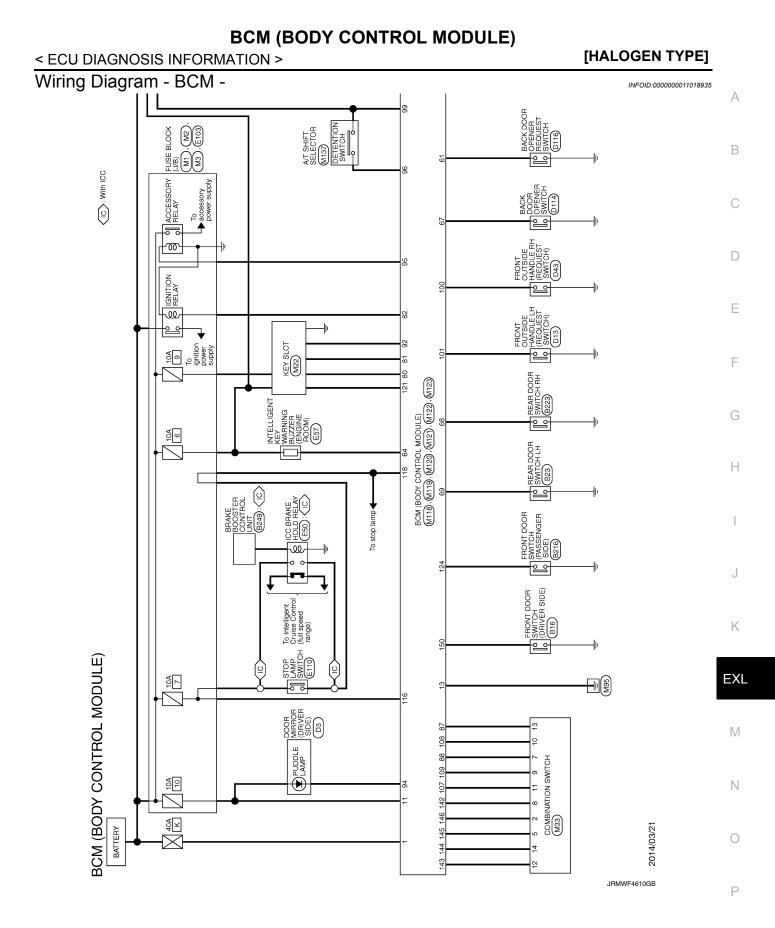
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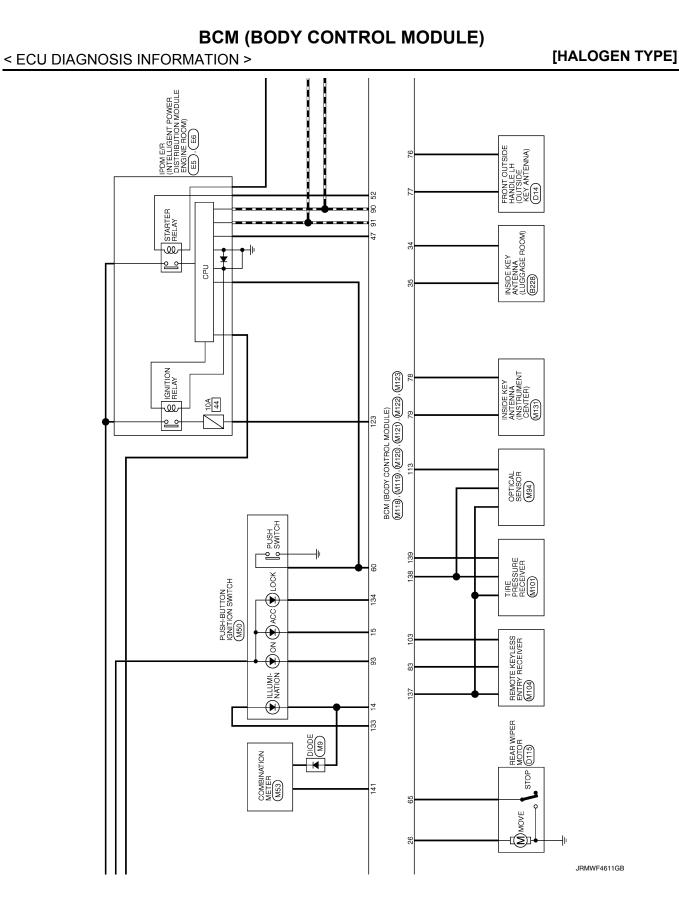
	inal No.	Description				Value		Value
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)		
142 (BG)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	All switches OFF Lighting switch 1ST Lighting switch HI Lighting switch 2ND Turn signal switch RH	0 V (V) 15 10 5 0 2 ms JPMIA0031GB 10.7 V		
					All switches OFF (Wiper intermittent dial 4) Front wiper switch HI (Wiper intermittent dial 4)	0 V		
143		Combination switch		Combination	Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15		
(P)	Ground	OUTPUT 1	Output	switch	witch Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7	10 5 0 2 ms 10.7 V		
					All switches OFF (Wiper intermittent dial 4)	0 V		
					Front washer switch ON (Wiper intermittent dial 4) Rear wiper switch ON	(V)		
144 (G)	Ground	Combination switch OUTPUT 2	Output	Combination switch	(Wiper intermittent dial 4) Rear washer switch ON (Wiper intermittent dial 4)			
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	2 ms JPMIA0033GB 10.7 V		
					All switches OFF	0 V		
145 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	Front wiper switch INT Front wiper switch LO Lighting switch AUTO	(V) 15 10 5 0 2 ms		
						JPMIA0034GB 10.7 V		

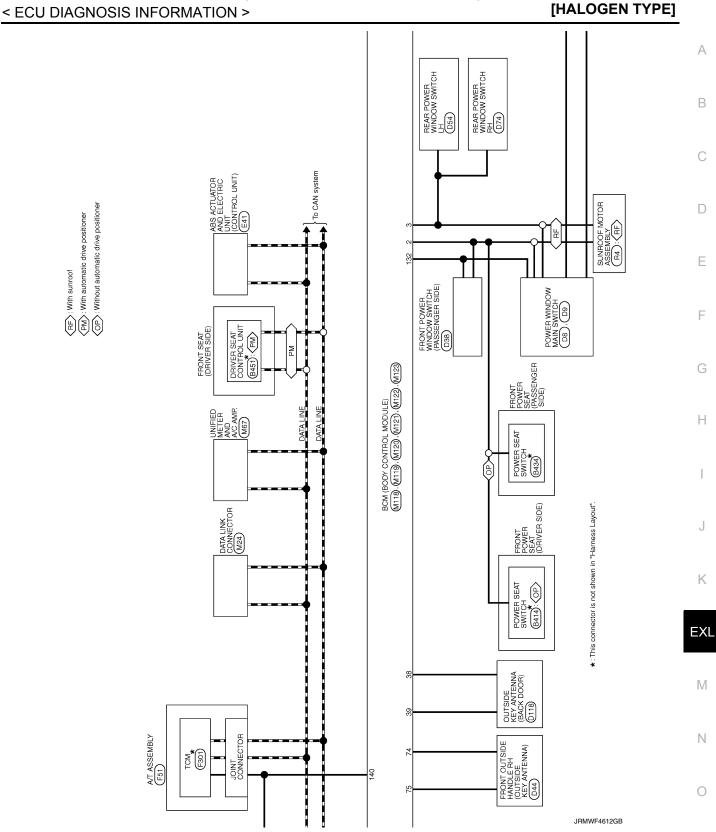
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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire +	e color) -	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF	0 V
					Front fog lamp switch ON	
				Combination	Lighting switch 2ND	(V) 15
146	Ground	Combination switch	Output	switch	Lighting switch PASS	
(SB)	Clouid	OUTPUT 4	Output	(Wiper intermit- tent dial 4)	Turn signal switch LH	0 2 ms JPMIA0035GB 10.7 V
150 (LG)	Ground	Driver door switch	Input	Driver door switch	OFF (Door close)	(V) 15 0 10 10 10 10 JPMIA0011GB 11.8 V
					ON (Door open)	0 V
151	Ground	Rear window defog-	Output	Qutput Rear window de-	Active	0 V
(G)	Sibulu	ger relay control	Sulput	fogger	Not activated	Battery voltage







Revision: February 2015

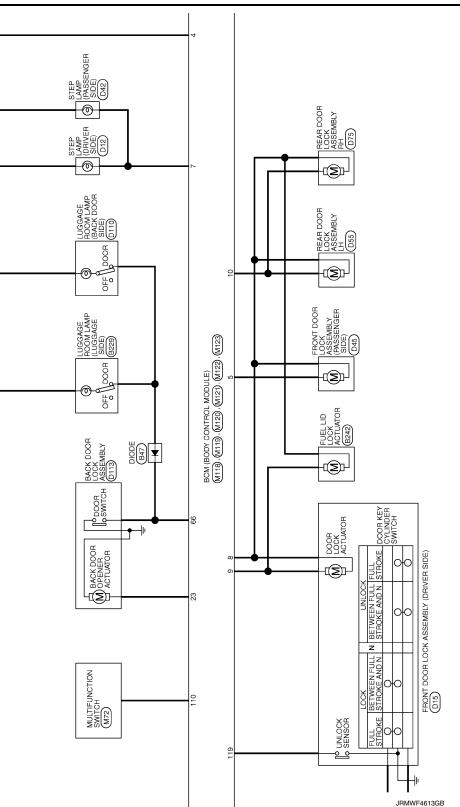
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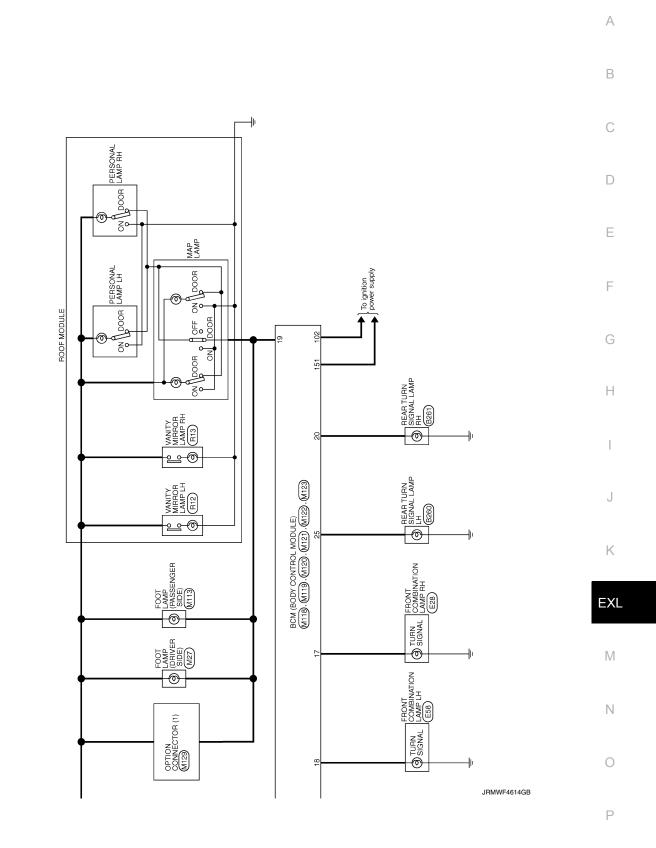
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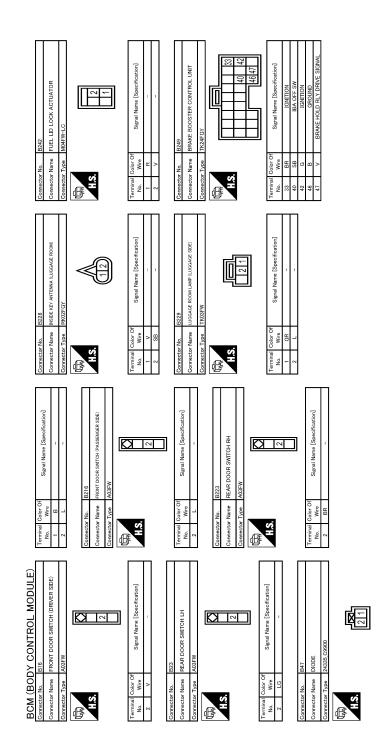
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >



< ECU DIAGNOSIS INFORMATION >





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BCM (BODY CONTROL MODULE) < ECU DIAGNOSIS INFORMATION >

Signal Name [Specification] Signal Name [Specification] 56 POWER WINDOW MAIN SWITCH DOOR MIRROR (DRIVER SIDE) 1 2 3 4 5 5 8 9 10 11 13 14 Name nector Name olor O BR GR ctor No. H.S. THS. ß ß Signal Name [Specification] DRIVER SEAT CONTROL UNIT 3451 nector Name Wire AHS. 25 26 8 傉 Signal Name [Specification] Signal Name [Speci 2 1 🗖 8 4 3 6 5 1 78010 POWER SEAT SWITCH POWER SEAT SWITCH IC TOPM OF B414 B434 -2-5 G∕W Name nnector Name nnector No. for Type Ľ Vire Wire H.S. AHS. nina No. ß ŝ ß

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Revision: February 2015

BCM (BODY CONTROL MODULE)

REAR TURN SIGNAL LAMP LH

mector Name

Signal Name [Specification]

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REAR TURN SIGNAL LAMP RH

nector Name

Signal Name [Specification]

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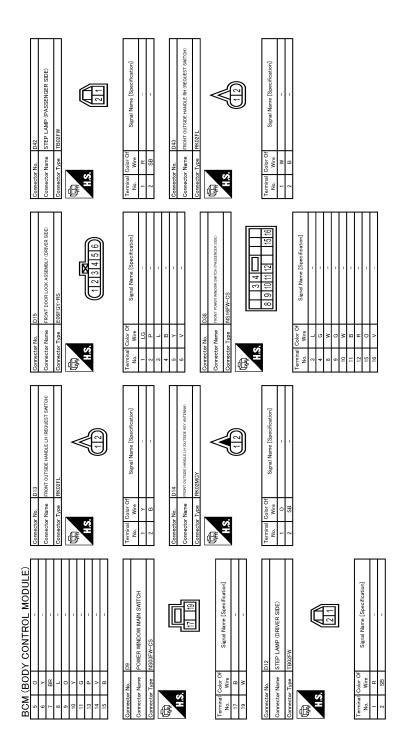
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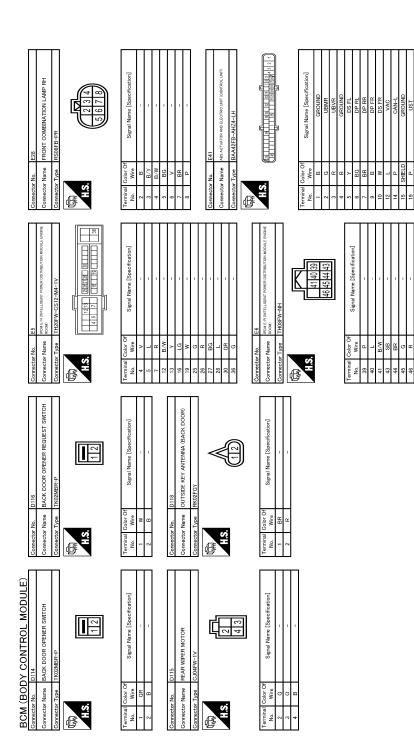
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	В
DI10 MagaNa MagaNa Signal Name [Specification] Signal Name [Specification]	С
to Name to	D
	Е
D14 RE AR POWER WINDOW SWITCH RH Nisterier Comparison Signal Name (Specification) Signal Name (Specification) Signal Name (Specification)	F
RE.AR D016 D14 Calier of wire P.14 Wire V V Wire D15 D15 Color of gin D15 D15 V V V V V V V V V V V V V V V	G
Connector Manne Connector Mann	Н
P64 RE AR POWER WINDOW SMITCH LH MISRIETHY-CS Signal Name [Saecficiation] Signal Name [Saecficiation] Signal Name [Saecficiation]	I
D54 REAR POWER WIND Signal Num Signal Num	J
Corrrector Name Corrrector Name Corrrector Name Corrrector Name Corrrector Name Nore Someter Type Corrrector Name Corrector Name Corrector Name Corrector Name Corrector Name Corrector Name Corrector Name	K
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Put Data Data Data Data Data Data Base direction Signal Name (Speedification) Signal Name (Speedification)	Μ
(BOD) Ctor Name Ctor	Ν
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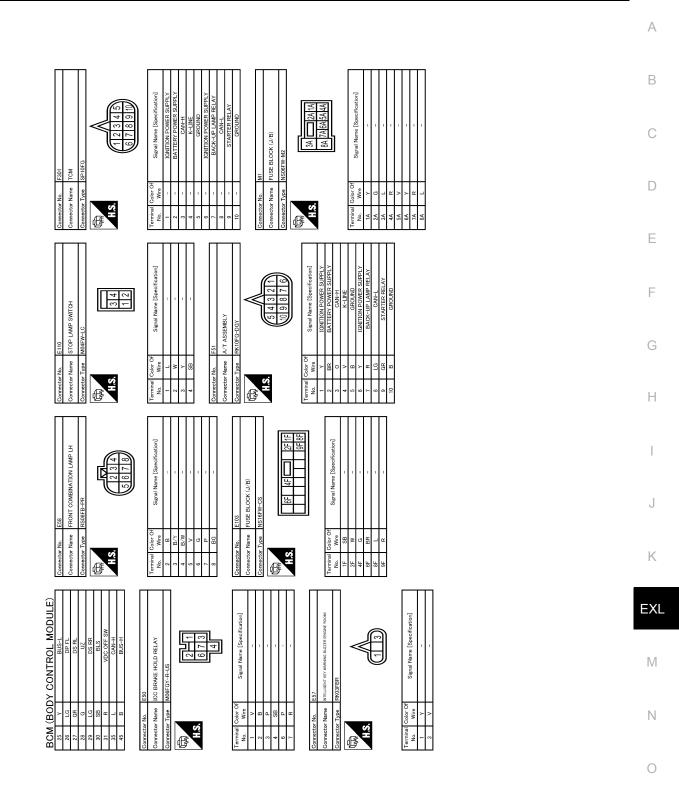
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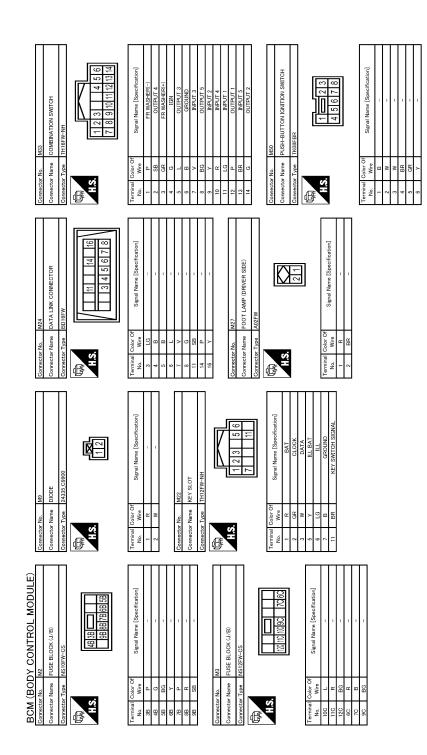
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etter No. M67 etter Name UNTFED ME tetter Tupe TH32FW-NH Signal Galar Of Wee Signal	41 V Acc Pointe Ruppiv 42 Y Full Ranke Envice Sindat, Invareasessons Sindat, 45 44 LQ Mirares Envices Sindat, Mirares Envices Sindat, 45 45 P Mirares Envices Sindat, Mirares Envices Sindat, 45 47 Q Sindateri Sindat, Mirares Envices Sindat, 45 47 Q Down numeri residen sindat, Mirares Envices Sindat, 45 48 H Defent Textor, Mirares Envices Sindat, 45 49 Q Down numeri residen sindat, Mirares Envices Sindat, 46 50 H Hirares Envices Sindat, Mirares Envices Sindat, 47 51 H Mirares Envices Sindat, Mirares Envices Sindat, 47 52 P Down numeri residen sindat, 47 53 H Mirares Envices Reson sindat, 47 54 H Mirares Envices Reson sindat, 47 55 Sindat, Mirares Envices Reson sindat, 47 Mirares Envices Reson sindat, 47 56 H Mirares Envices Reson sindat, 47 Mirares Envices Reson sindat, 47 57 P A.C.LAN SIGNAT, 480 UND Mirares Envices Reson sindat, 480 UND 57
BCM (BODY CONTROL MODULE) 7 V 7 V 6 - 6 - 6 - 7 W1 17 15 17 15	Terminal Mole Color Of Myras Signal Name [Specification] 1 CH EATTERY DONES SUPPLY Myras 2 LG ComMUNICATION SIGNAL (MET->METER) ADDRESS SUPPLY 3 CH ComMUNICATION SIGNAL (MET->METER) ADDRESS SUPPLY 4 P ALTERY DONES SUPPLY 7 COMMUNICATION SIGNAL (MET->METER) PORTON FIRE ADDRESS SUPPLY 9 P ALTERY DONES SUPPLY 19 B ALTERY DONES SUPPLY 19 B ALTERY DONE SUPPLY 19 B ALTERY DONE 19 B COMMUNICATION SIGNAL 21 B COMMUNICATION SIGNAL 22 B COMUNICATION SIGNAL 23 F VCHICLE SEED SIGNAL 23 F COMUNICATION SIGNAL 24 BA COMUNICATION SIGNAL 25 SER TELENCE SURFESTORES 26 SER TELENCE SURFESTORES 27 COMUNICATION SIGNAL 28 SER TELENCE SURFESTORES 29 LI SURFESTORES

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

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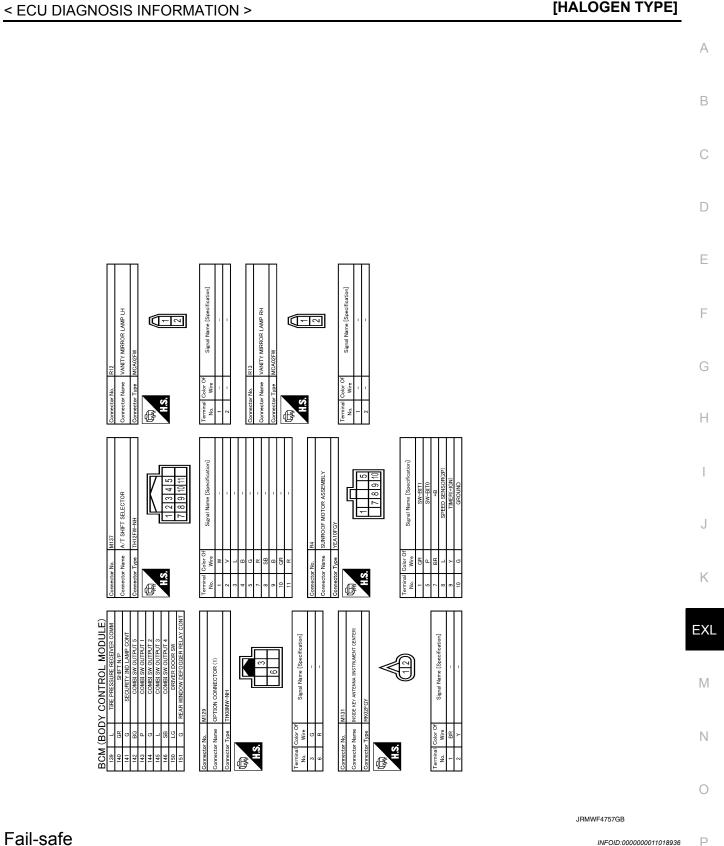
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BCM (BODY CONTROL MODULE) Corrector Name FOOT LAMP (PASSENGER SIDE) Conventor Tran Apple	Connector No. M119 Connector Name BCM (BODY CONTROL MODULE) Connector Name BCM (BODY CONTROL MODULE)	Connector No. M121 Connector Name BCM (8ODY CONTROL MODULE) Connector Trans Truth(RCN-MH	81 81 82 83	R ≥ α >	NATS ANT AMP. NATS ANT AMP. IGN RELAY (F/B) CONT KEVESSE ENTRY DECEVED CONT
	H.S. 17 0 8 9 10 11 13 14 45 7 19 18 9			- E > a - 5 > > 6	ACT COMBLY WHALT 3 COMBLY WHALT 3 COMBLY WHALT 3 CAN-L
Signal Name [Specification] 	Terminal No. Calor Of Wire Supput Supput 0.0 Wire Synchronic Mathematical Mathematical Supput June Control 1 PASSENGER DOOR UNLOOK OUTPUT STEL UND CONK UNTPUT 7 Y ALL DOOR FILL LUD COOK UNTPUT	Terminal Calor Of No. Signal Name (Specification) A6 Name (Specification) Marcel Specification) 36 V LUGGAGE ROOM ANT- SPE Marcel Specification) 38 B EACK DOOR ANT- SPECK DOOR ANT- SPECK DOOR ANT- BACK DOOR ANT-	96 99 100 101 102 103		A.T SHIFT SELECTOR POWER SUPPLY ATT SHIFT SELECTOR POWER SUPPLY SHIFT P PASSENGER DOOR REQUEST SW DRIVER DOOR REQUEST SW BLUWER POOR REALV CONT
Connector No. M118 Connector Name BCM (BODY CONTROL MODULE) Connector Type MOSFB-LC HLS.	9 G DR REAR DOR FULL DU MACK OUTPLT 11 R REAR DOR UNLOCK OUTPLT 13 B GAN THOSE 14 W PUSH-BUTON MATTON 15 Y ANT THOSE 16 N PUSH-BUTON MATTON 17 W PUSH-BUTON MATTON 18 Y ANT AND SATTON 19 V TUPIN SIGNAL INF FRONT 19 V TUPIN SIGNAL INF FRONT	47 Y IGN RELAV CONT 20 SI STARTER RELAY CONT 60 BR STARTER RELAY CONT 60 BR BACK DOOR PEREN RELAY CONT 61 W BACK DOOR PEREN RELAY CONT 64 V 1+KEY WARN BUZZER (BR GOOM) 65 BG R. BACK DOOR PEREN RELAKTOP DOSTION 65 BG R. AACK DOOR OF OPENER SW 67 GR BACK DOOR OF OPENER SW 68 BR BACK DOOR OF OPENER SW 69 BR BACK DOOR SW 68 BR BACK DOOR SW	107 LG 108 R 109 Y 110 G Connector Nume Connector Nume		COMBLEW INFULT COMBLEW INFULT 4 COMBLEW INFULT 4 COMBLEW INFULT 2 HAZARD SW M123 BEM (BODY CONTROL MODULE) THARGE-3HH
Signal Mane (Secrification) BAT (F/L) POWER WINDOW POWER SUPPLY(BAT) POWER WINDOW POWER SUPPLY(BAT)	Corrector No. Mr20 Connector Name BGM (BODY CONTROL MODULE) Connector Type NSTFW-CS Connector Type 25 26 26 20	ctor No. M122 ctor Name BCM (BODY Ctor Type TH40FB-141			의 1000 1000 1000 1000 1000 1000 1000 10
	Terminal No. Color Of Wre Sugnal Name [Specification] No. Wre Sugnal Name [Specification] 20 V TUBN SIGNAL IBH (FEAR) 23 G BACK DOOR OFEN OUTPUT 26 G TUBN SIGNAL LH (FEAR) 26 G REAN WFER OUTPUT	Tarminal No. Color Of Wires Signal Name [Specification] No. Wires PASSENGE DOOR ANT- PASSENGE DOOR ANT- 75 PASSENGE DOOR ANT- PASSENGE DOOR ANT- 77 71 LG PAVEED DOOR ANT- PAVEED DOOR ANT- 77 PAVEED DOOR ANT- 77 73 LG PAVEED DOOR ANT- PAVEED DOOR ANT- 77 PAVEED DOOR ANT- 77 73 LG PAVEED DOOR ANT- 77 PAVEED DOOR ANT- 77 73 PR PAVENT- 70 PAVENT- 70	118 123 123 124 132 133 133 137 138	- 88 89 ≈ 53 89 ≈ 89 89 ≻ - 88 89 89 × 99 89 ×	DR DOOR NULOKS SENSOR KEY SLOT SWI KEY SLOT SWI PASSENGER DOOR SWI PASSENGER DOOR SWI PASSENGER DOOR SWI PUSH-BUTTON ISMILL POWER USH-BUTTON ISMILL POWER RECEIVER SENSOR GND RECEIVER SENSOR GND

< ECU DIAGNOSIS INFORMATION >

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FAIL-SAFE CONTROL BY DTC

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

< ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch $ON \rightarrow OFF$
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status becomes consistentStarter control relay signalStarter relay status signal
B2608: STARTER RELAY	Inhibit engine cranking	 500 ms after the following signal communication status becomes consistent Starter motor relay control signal Starter relay status signal (CAN)
B260A: IGNITION RELAY	Inhibit engine cranking	 500 ms after the following conditions are fulfilled IGN relay (IPDM E/R) control signal: OFF (Battery voltage) Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions are fulfilledPower position changes to ACCReceives engine status signal (CAN)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM be- comes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization

REAR WIPER MOTOR PROTECTION

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

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

Condition of cancellation

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

DTC Inspection Priority Chart

INFOID:000000011018937

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

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

< ECU DIAGNOSIS INFORMATION >

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Priority	DTC	
4	 B2553: IGNITION RELAY B2555: STOP LAMP B2556: PUSH-BTN IGN SW B2557: VEHICLE SPEED B2560: STARTER CONT RELAY B2601: SHIFT POSITION B2602: SHIFT POSITION B2603: SHIFT POSI STATUS B2604: PNP SW B2605: PNP SW B2605: PNP SW B2606: IGNITION RELAY B2607: ENG STATE SIG LOST B2614: ACC RELAY CIRC B2615: BLOWER RELAY CIRC B2615: BLOWER RELAY CIRC B2616: IGN RELAY CIRC B2617: STARTER RELAY CIRC B2618: BCM B2618: BCM B2614: PUSH-BTN IGN SW B2614: VEHICLE TYPE B26EA: KEY REGISTRATION C1729: VHCL SPEED SIG ERR U0415: VEHICLE SPEED SIG 	
5	 C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL C1734: CONTROL UNIT 	
6	B2621: INSIDE ANTENNA B2623: INSIDE ANTENNA	

DTC Index

NOTE:

The details of time display are as follows.

CRNT: A malfunction is detected now.

• PAST: A malfunction was detected in the past.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to <u>EXL-248</u>, "<u>COM-MON ITEM</u>: <u>CONSULT Function (BCM - COMMON ITEM</u>)".

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	0
No DTC is detected. further testing may be required.	_	_	_	_	_	Р
U1000: CAN COMM CIRCUIT	—	—	—	—	BCS-42	
U1010: CONTROL UNIT (CAN)	—	—	—	—	<u>BCS-43</u>	
U0415: VEHICLE SPEED SIG	—	—	—	—	<u>BCS-44</u>	
B2190: NATS ANTENNA AMP	×	—	—	—	<u>SEC-40</u>	

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Revision: February 2015

2015 QX50

< ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	
B2191: DIFFERENCE OF KEY	×		_	_	<u>SEC-43</u>	
B2192: ID DISCORD BCM-ECM	×	_	_	_	<u>SEC-44</u>	
B2193: CHAIN OF BCM-ECM	×		_		<u>SEC-45</u>	
B2195: ANTI SCANNING	×		_	_	<u>SEC-46</u>	
B2553: IGNITION RELAY		×	_	_	PCS-51	
B2555: STOP LAMP	_	×	—		<u>SEC-47</u>	
B2556: PUSH-BTN IGN SW	_	×	×	_	<u>SEC-49</u>	
B2557: VEHICLE SPEED	×	×	×	_	<u>SEC-51</u>	
B2560: STARTER CONT RELAY	×	×	×	_	<u>SEC-52</u>	
B2562: LOW VOLTAGE	—	×	—	—	BCS-45	
B2601: SHIFT POSITION	×	×	×	_	<u>SEC-53</u>	
B2602: SHIFT POSITION	×	×	×		<u>SEC-56</u>	
B2603: SHIFT POSI STATUS	×	×	×	_	<u>SEC-59</u>	
B2604: PNP SW	×	×	×	_	<u>SEC-62</u>	
B2605: PNP SW	×	×	×	_	<u>SEC-64</u>	
B2608: STARTER RELAY	×	×	×	_	<u>SEC-66</u>	
B260A: IGNITION RELAY	×	×	×	_	PCS-53	
B260F: ENG STATE SIG LOST	×	×	×	_	<u>SEC-68</u>	
B2614: ACC RELAY CIRC	—	×	×	_	PCS-55	
B2615: BLOWER RELAY CIRC	—	×	×	_	PCS-58	
B2616: IGN RELAY CIRC	—	×	×	_	PCS-61	
B2617: STARTER RELAY CIRC	×	×	×	_	<u>SEC-71</u>	
B2618: BCM	×	×	×		PCS-64	
B261A: PUSH-BTN IGN SW	—	×	×		<u>SEC-73</u>	
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	_	<u>SEC-76</u>	
B2621: INSIDE ANTENNA	—	×	—		DLK-58	
B2623: INSIDE ANTENNA	—	×	—		DLK-60	
B26E1: ENG STATE NO RES	×	×	×		<u>SEC-69</u>	
B26EA: KEY REGISTRATION	_	×	× (Turn ON for 15 seconds)	_	<u>SEC-70</u>	
C1704: LOW PRESSURE FL	_	_	—	×		
C1705: LOW PRESSURE FR	—	—	—	×		
C1706: LOW PRESSURE RR	_	—	—	×	<u>WT-24</u>	
C1707: LOW PRESSURE RL	—	—	—	×		
C1708: [NO DATA] FL	—	—	—	×	<u>WT-26</u>	
C1709: [NO DATA] FR	—	—	—	×		
C1710: [NO DATA] RR	—	_	—	×		
C1711: [NO DATA] RL	—	—	—	×		

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	A
C1716: [PRESSDATA ERR] FL	—	—	—	×		
C1717: [PRESSDATA ERR] FR	—	—	—	×	WT-29	С
C1718: [PRESSDATA ERR] RR	—	—	—	×	<u>vv1-29</u>	0
C1719: [PRESSDATA ERR] RL	—	—	—	×		
C1729: VHCL SPEED SIG ERR	—	—	—	×	<u>WT-31</u>	D
C1734: CONTROL UNIT	—	_	_	×	<u>WT-33</u>	

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

< ECU DIAGNOSIS INFORMATION >

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

Reference Value

INFOID:000000011018985

VALUES ON THE DIAGNOSIS TOOL

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item		Condition	Value/Status
RAD FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 – 100 %
		A/C switch OFF	Off
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On
	Lighting switch OFF		Off
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On
	Lighting switch OFF		Off
HL LO REQ	Lighting switch 2ND HI or AUTC) (Light is illuminated)	On
	Lighting switch OFF		Off
HL HI REQ	Lighting switch HI	On	
		Front fog lamp switch OFF	Off
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	 Front fog lamp switch ON Daytime running light activated (Only for Canada) 	On
		Front wiper switch OFF	Stop
FR WIP REQ	Ignition switch ON	Front wiper switch INT	1LOW
	Ignition switch ON	Front wiper switch LO	Low
		Front wiper switch HI	Hi
		Front wiper stop position	STOP P
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P
		Front wiper operates normally	Off
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe opera- tion	BLOCK
	Ignition switch OFF or ACC		Off
GN RLY1 -REQ	Ignition switch ON		On
	Ignition switch OFF or ACC		Off
IGN RLY	Ignition switch ON		On
PUSH SW	Release the push-button ignition	n switch	Off
- USH 3W	Press the push-button ignition se	witch	On
INTER/NP SW	Ignition switch ON	Selector lever in any position other than P or N	Off
		Selector lever in P or N position	On
	Ignition switch ON		Off
ST RLY CONT	At engine cranking		On

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

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Monitor Item	Con	Value/Status	
	Ignition switch ON	Off	
IHBT RLY -REQ	At engine cranking	On	
	Ignition switch ON		Off
	At engine cranking		$INHI\;ON\toST\;ON$
ST/INHI RLY		control relay cannot be recognized by when the starter relay is ON and the	UNKWN
DETENT SW	Ignition switch ON	 Press the selector button with selector lever in P position Selector lever in any position other than P 	Off
	Release the selector button with sel	ector lever in P position	On
S/L RLY -REQ	NOTE: The item is indicated, but not monitor	Off	
S/L STATE	NOTE: The item is indicated, but not monitor	UNLOCK	
DTRL REQ	NOTE: The item is indicated, but not monitor	Off	
	Ignition switch OFF, ACC or engine	running	Open
OIL P SW	Ignition switch ON		Close
	Close the hood		Off
HOOD SW	Open the hood	On	
HL WASHER REQ	NOTE: The item is indicated, but not monitor	pred.	Off
	Not operation		Off
THFT HRN REQ	 Panic alarm is activated Horn is activated with VEHICLE S TEM 	On	
	Not operating		Off
HORN CHIRP	Door locking with Intelligent Key (ho	rn chirp mode)	On
CRNRNG LMP REQ	NOTE: The item is indicated, but not monitor	pred.	Off

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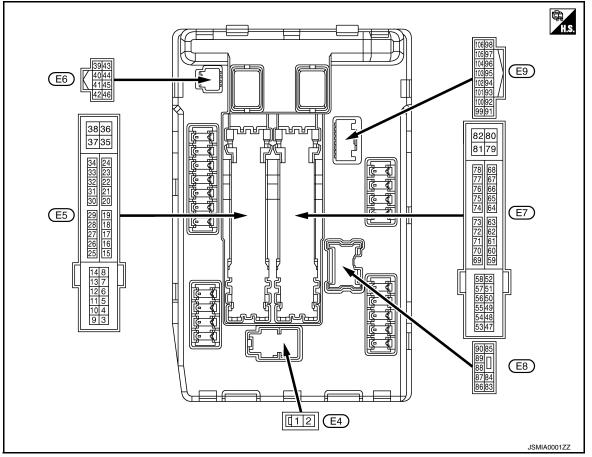
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

TERMINAL LAYOUT



PHYSICAL VALUES

	inal No.	Description				Value
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition swi	itch OFF	Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition swi	itch OFF	Battery voltage
4	Cround	Front wiper LO	Output	Ignition	Front wiper switch OFF	0 V
(V)	Ground	From wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
5	Cround	Front winor HI	0.1.1	Gutaut Ignition F	Front wiper switch OFF	0 V
(L)	(L) Ground Front wiper HI		Output	switch ON	Front wiper switch HI	Battery voltage
7	Cround	Tail, license plate lamps &	Quitaut	o () Ignition	Lighting switch OFF	0 V
(R)	Ground	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
12 (B/W)	Ground	Ground	_	Ignition swi	itch ON	0 V
13					tely 1 second or more after ignition switch ON	0 V
(Y)	(Cround Fuel nump nower supply ()u	Output		nately 1 second after turning on switch ON unning	Battery voltage	
16				Ignition	Front wiper stop position	0 V
16 (LG)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage

Revision: February 2015

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

	inal No.	Description				Value
(Wire +	e color) _	Signal name	Input/ Output		Condition	(Approx.)
19	<u> </u>		Ignition s		itch OFF	0 V
(W)	Ground	Ignition relay power supply	Output	Ignition swi	itch ON	Battery voltage
25				Ignition swi	itch OFF	0 V
(G)	Ground	Ignition relay power supply	Output	Ignition swi	itch ON	Battery voltage
26*	<u> </u>		<u> </u>	Ignition swi	itch OFF	0 V
(R)	Ground	Ignition relay power supply	Output	Ignition swi	itch ON	Battery voltage
27	<u> </u>			Ignition swi	itch OFF or ACC	Battery voltage
(BG)	Ground	Ignition relay monitor	Input	Ignition swi	itch ON	0 V
28	<u> </u>	Push-button ignition		Press the p	oush-button ignition switch	0 V
(L)	Ground	switch	Input	Release the	e push-button ignition switch	Battery voltage
30	Ground	Starter relay control	Input	Ignition	Selector lever in any posi- tion other than P or N	0 V
(GR)		-		switch ON	Selector lever P or N	Battery voltage
36 (G)	Ground	Battery power supply	Input	Ignition swi	itch OFF	Battery voltage
39 (P)	_	CAN-L	Input/ Output		_	_
40 (L)		CAN-H	Input/ Output		_	_
41 (B/W)	Ground	Ground	_	Ignition swi	itch ON	0 V
42	Ground	Cooling fan relay control	Input	Ignition swi	itch OFF or ACC	0 V
(Y)	Ground		input	Ignition swi	itch ON	0.7 V
43 (SB)	Ground	A/T shift selector (Detention switch)	Input Ignition switch ON	 Press the selector but- ton (Selector lever P) Selector lever in any po- sition other than P 	Battery voltage	
					Release the selector but- ton (selector lever P)	0 V
44	Ground	Horn relay control	Input	The horn is	deactivated	Battery voltage
(BR)	Ground	nom relay control	input	The horn is	activated	0 V
45	Ground	Anti theft horn relay control	Input	The horn is	s deactivated	Battery voltage
(G)	Ground		input	The horn is	activated	0 V
46	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any posi- tion other than P or N	0 V
(R)		-	-	Switch ON	Selector lever P or N	Battery voltage
				A/C switch OFF	0 V	
48 (L)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is oper- ating)	Battery voltage
49				Ignition swi (More than ignition swi	a few seconds after turning	0 V
49 (BG)	Ground	ECM relay power supply	Output	 Ignition s Ignition s (For a feation switch 	witch OFF w seconds after turning igni-	Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

	Terminal No. Description (Wire color)					Value
+		Signal name	Input/ Output		Condition	(Approx.)
51	Ground	lanition rolay power supply	Output	Ignition swi	tch OFF	0 V
(Y)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
50				Ignition swi (More than ignition swi	a few seconds after turning	0 V
53 (W)	Ground	ECM relay power supply	Output	 Ignition s Ignition s (For a feation switch) 	witch OFF w seconds after turning igni-	Battery voltage
EA		Throttle control motor ro		Ignition swi (More than ignition swi	a few seconds after turning	0 V
(P)	54 (P) Ground Throttle control motor re- lay power supply	Output	 Ignition s Ignition s (For a fection switch 	witch OFF w seconds after turning igni-	Battery voltage	
55 (SB)	Ground	ECM power supply	Output	Ignition swi	tch OFF	Battery voltage
56		Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(LG)		Output	Ignition swi	tch ON	Battery voltage	
57	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(G)	Cround	ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
58	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(V)	Cround	ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
69				Ignition swi (More than ignition swi	a few seconds after turning	Battery voltage
(BR)	Ground	ECM relay control	Output	 Ignition s Ignition s (For a feation switch) 	witch OFF w seconds after turning igni-	0 – 1.5 V
70 (BG)	Ground	Throttle control motor re- lay control	Output	Ignition swi	tch ON \rightarrow OFF	0 – 1.0 V ↓ Battery voltage ↓ 0 V
				Ignition swi	tch ON	0 – 1.0 V
74	0		Out to t	Ignition swi	tch OFF	0 V
(P)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
75	Organization		الد مر مرا	Ignition	Engine stopped	0 V
(SB)	Ground	Oil pressure switch	Input	switch ON	Engine running	Battery voltage

	nal No. color)	Description	-		Value
+	-	Signal name	Input/ Output	Condition	(Approx.)
				Ignition switch ON	(V) 6 2 0 • • • 2ms • • • • • • • • • • • • • • • • • • •
76 Y)	Ground	Power generation com- mand signal	Output	40% is set on "ACTIVE TEST", "AL- TERNATOR DUTY" of "ENGINE"	(V) 6 4 2 0 → 2 ms JPMIA0002GB 3.8 V

					on "ACTIVE TEST", "AL- R DUTY" of "ENGINE"	20 → 42ms JPMIA0003GB 1.4 V	H		
77 (R)	Ground	Fuel pump relay control	Output	 Approximately 1 second after turning the ignition switch ON Engine running 		0 – 1.0 V	J		
(13)					tely 1 second or more after ignition switch ON	Battery voltage	K		
80 (W)	Ground	Starter motor	Output	At engine c	ranking	Battery voltage			
83	Ground	Headlamp I.O. (DH)	<u> </u>	Ignition	Lighting switch OFF	0 V	EX		
(BG)	(BG) Ground Headlamp LO (RH)	Output	switch ON	Lighting switch 2ND	Battery voltage				
84	Ground	Headlamp I O (I H)	Headlamp LO (LH)	Output	Output	Ignition	Lighting switch OFF	0 V	БЛ
(V)	Ground		Output		switch ON	Lighting switch 2ND	Battery voltage	M	
					Front fog lamp switch OFF	0 V			
86 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	 Front fog lamp switch ON Daytime running light activated (Only for Can- ada) 	Battery voltage	N		
					Front fog lamp switch OFF	0 V	•		
87 (L)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	 Front fog lamp switch ON Daytime running light activated (Only for Can- ada) 	Battery voltage	Ρ		
88 (GR)	Ground	Washer pump power sup- ply	Output	Ignition swi	itch ON	Battery voltage			

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

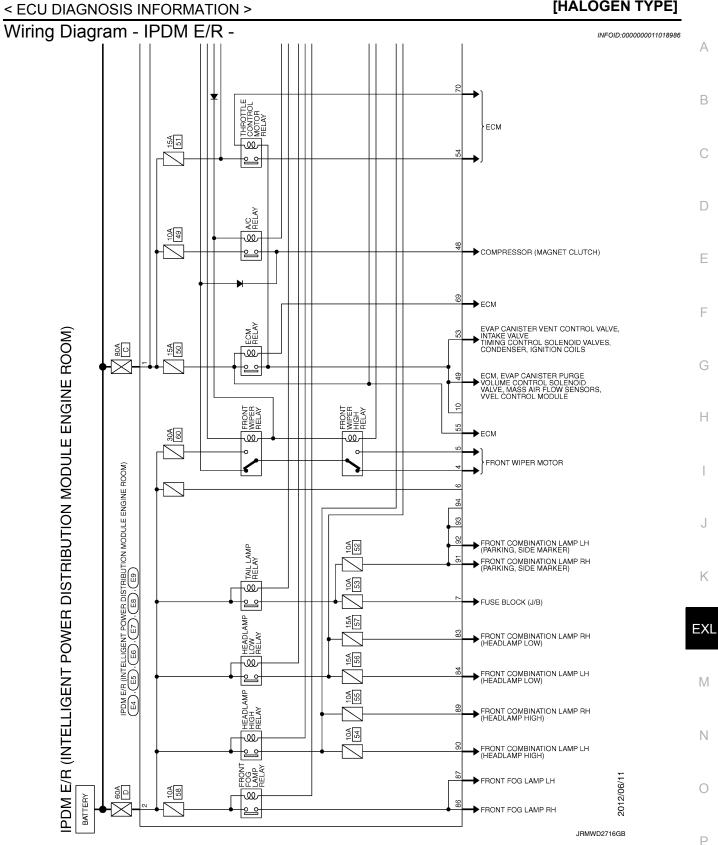
< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

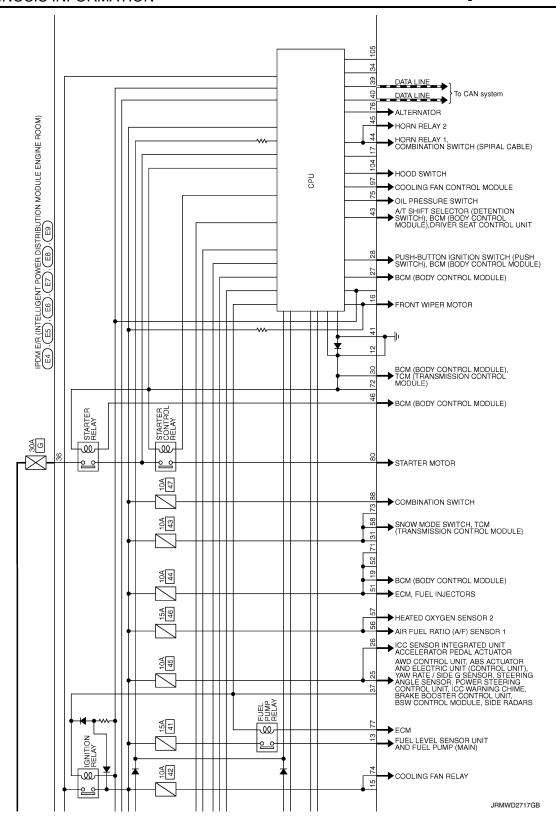
	inal No.	Description				Value
(VVire +	e color) –	Signal name	Input/ Output	Condition		(Approx.)
89				Ignition	Lighting switch OFF	0 V
(BR)	Ground	Headlamp HI (RH)	Output	switch ON	Lighting switch HILighting switch PASS	Battery voltage
90				Ignition	Lighting switch OFF	0 V
90 (P)	(Fround Headlamp HI (I H)	Output	switch ON	Lighting switch HILighting switch PASS	Battery voltage	
91	Ground	Parking lamp (RH)	Output	Ignition	Lighting switch OFF	0 V
(P)	Ground		Output	switch ON	Lighting switch 1ST	Battery voltage
92	Cround	Darking Jamp (LH)	Quitaut	Ignition	Lighting switch OFF	0 V
(BG)	Ground	Parking lamp (LH)	Output	switch ON	Lighting switch 1ST	Battery voltage
97 (V)	Ground	Cooling fan control	Output	Engine idlir	ıg	0 – 5 V
104	Ground	Hood switch	Input	Close the h	ood	Battery voltage
(LG)	Ground		input	Open the h	ood	0 V

*: Only for the models with ICC system

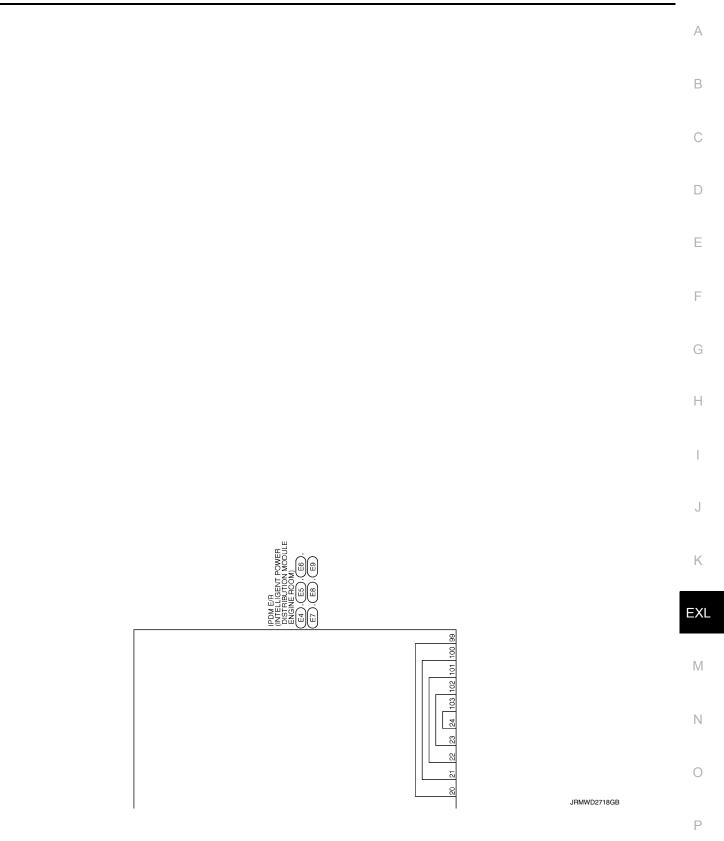
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) =CU DIAGNOSIS INFORMATION > [HALOGEN TYPE]

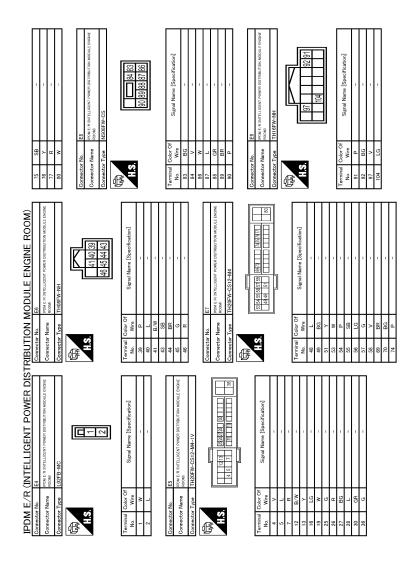


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < ECU DIAGNOSIS INFORMATION > [HALOGEN TYPE]



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





JRMWF4766GB

INFOID:000000011018987

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

Revision: February 2015

Fail-safe

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

< ECU DIAGNOSIS INFORMATION >

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

If No CAN Communication Is Available With BCM

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

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

• IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.

• IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.

• If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to Κ alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

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

FRONT WIPER CONTROL

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

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.

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

< ECU DIAGNOSIS INFORMATION >

INFOID:000000011018988

NOTE:

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

STARTER MOTOR PROTECTION FUNCTION

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

DTC Index

NOTE:

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

		×: Applicable
CONSULT display	Fail-safe	Reference
No DTC is detected. further testing may be required.	_	_
U1000: CAN COMM CIRCUIT	×	PCS-14
B2098: IGN RELAY ON CIRC	×	PCS-15
B2099: IGN RELAY OFF CIRC	_	PCS-17
B210B: STR CONT RLY ON CIRC	_	<u>SEC-77</u>
B210C: STR CONT RLY OFF CIRC	_	<u>SEC-78</u>
B210D: STARTER RLY ON CIRC	_	<u>SEC-80</u>
B210E: STARTER RLY OFF CIRC	_	<u>SEC-82</u>
B210F: INTRLCK/PNP SW ON	_	<u>SEC-84</u>
B2110: INTRLCK/PNP SW OFF	—	<u>SEC-86</u>

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

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INFOID:000000010599262

CAUTION:

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

Sym	iptom	Possible cause	Inspection item
Headlamp (HI) is not turned ON.	One side	 Fuse Halogen bulb (HI) Harness between IPDM E/R and the headlamp high Daytime running light relay (with daytime running light system) IPDM E/R 	Headlamp (HI) circuit Refer to <u>EXL-260</u> .
	Both sides	Symptom diagnosis	
Headlamp (HI) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to <u>EXL-378</u> .	
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_
High beam indicator lamp [The headlamp (HI) is tur		Combination meter	 Combination meter Data monitor "HI-BEAM IND" BCM (HEAD LAMP) Active test "HEADLAMP"
Headlamp (LO) is not turned ON.	One side	 Fuse Halogen bulb (LO) Harness between IPDM E/R and the headlamp low IPDM E/R 	Headlamp (LO) circuit Refer to <u>EXL-262</u> .
	Both sides	Symptom diagnosis	Data monitor "HI-BEAM IND" • BCM (HEAD LAMP) Active test "HEADLAMP" E/R Headlamp (LO) circuit Refer to EXL-262. S (LO) ARE NOT TURNED ON"
Headlamp (LO) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-379</u> .	
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_
Headlamp is not turned C	N/OFF with the lighting	 Combination switch Harness between the combination switch and BCM BCM 	
switch AUTO.		 Optical sensor Harness between the optical sensor and BCM BCM 	
Front fog lamp is not turned ON.	One side	 Front fog lamp bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R 	Front fog lamp circuit Refer to <u>EXL-264</u> .
	Both side	Symptom diagnosis	
Front fog lamp is not turn	ed ON.	"BOTH SIDE FRONT FOG LAMPS Refer to <u>EXL-381</u> .	SARE NOT TURNED ON"
Parking lamp is not turned ON.		 Fuse Parking lamp bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R 	Parking lamp circuit Refer to <u>EXL-266</u> .

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[HALOGEN TYPE]

Symp	otom	Possible cause	Inspection item
Tail lamp is not turned ON.		 Harness between IPDM E/R and the rear combination lamp Rear combination lamp 	Tail lamp circuit Refer to <u>EXL-275</u> .
License plate lamp is not to	urned ON.	 Harness between IPDM E/R and the license plate lamp License plate lamp 	License plate lamp circuit Refer to <u>EXL-277</u> .
Tail lamp and the license p ON.	Tail lamp and the license plate lamp are not turned ON.		Tail lamp circuit Refer to <u>EXL-275</u> .
 Parking lamp, the tail lamp and the license plate lamp are not turned ON. Parking lamp, the tail lamp and the license plate lamp are not turned OFF. (Each illumination is turned ON/OFF.) 		Symptom diagnosis "PARKING, LICENSE PLATE AND ON" Refer to <u>EXL-380</u> .	TAIL LAMPS ARE NOT TURNED
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (The applicable side performs the high flash- er activation.)	 Harness between BCM and each turn signal lamp Turn signal lamp bulb 	Turn signal lamp circuit Refer to <u>EXL-268</u> .
DIITIK.	Indicator lamp is includ- ed	 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-94</u> .
	One side	Combination meter	_
Turn signal indicator lamp does not blink. (The turn signal indicator	Both sides (Always)	 Turn signal indicator lamp signal Unified meter and A/C amp. BCM Combination meter 	 Unified meter and A/C amp. Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER"
lamp is normal.)	Both sides (Only when activating the hazard warning lamp with the ignition switch OFF)	 The combination meter power supply and the ground circuit Combination meter 	Combination meter Power supply and the ground circuit Refer to <u>MWI-55</u> .
 Hazard warning lamp does not activate. Hazard warning lamp continues activating. (Turn signal is normal.) 		 Hazard switch Harness between the hazard switch and BCM BCM 	Hazard switch Refer to $EXL-273$.

< SYMPTOM DIAGNOSIS > NORMAL OPERATING CONDITION

Description

AUTO LIGHT SYSTEM

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

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BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description

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

Diagnosis Procedure

1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to <u>BCS-94, "Symptom Table"</u>.

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

(E)CONSULT DATA MONITOR

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

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

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

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-97, "Exploded View"</u>.

3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-260, "Component Function Check".

Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

[HALOGEN TYPE]

INFOID:000000010599264

INFOID:000000010599265

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM I			AMPS (LO) ARE NOT	IURNED ON [HALOGEN TYPE]			
BOTH SID	E HEADLA	MPS (LO) ARE NOT TURNE				
Description							
Both side head	Both side headlamps (LO) are not turned ON in any condition.						
Diagnosis P	rocedure			INFOID:000000010599267			
1.снеск со	MBINATION SW	/ITCH					
Is the combinate YES >> GC NO >> Re	<u>tion switch norm</u> O TO 2. pair or replace tl	al? ne malfunctio	• •				
	ADLAMP (LO) R	EQUEST SIG	GNAL INPUT				
1. Select "HL	OATA MONITOR LO REQ" of IPE ting the lighting		nonitor item. the monitor status.				
Monitor item	Conc	lition	Monitor status				
HL LO REQ	Lighting switch	2ND	On				
		OFF	Off				
NO >> Re) TO 3. place BCM. Ref		"Exploded View".				
	3. HEADLAMP (LO) CIRCUIT INSPECTION Check the headlamp (LO) circuit. Refer to <u>EXL-262, "Component Function Check"</u> .						
<u>Is the headlam</u> YES >> Re	p (LO) circuit no place IPDM E/R pair or replace th	<u>rmal?</u>		<u>I UNCON</u> .			

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

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

Description

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

Diagnosis Procedure

INFOID:000000010599269

INFOID:000000010599268

1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to <u>BCS-94, "Symptom Table"</u>.

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

CONSULT DATA MONITOR

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

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

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

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

3. TAIL LAMP CIRCUIT INSPECTION

Check the tail lamp circuit. Refer to EXL-275. "Component Function Check".

Is the tail lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

			UG LAMPS ARE NUT TO	
< SYMPTOM				[HALOGEN TYPE]
BOTH SID	E FRONT FOG	LAM	PS ARE NOT TURNED	ON
Description				INFOID:000000010599270
The front fog la	imps are not turned Ol	N in any	condition.	
Diagnosis F	Procedure			INFOID:000000010599271
1.COMBINAT	ION SWITCH INSPEC	TION		
Check the com	bination switch. Refer	to BCS-	94, "Symptom Table".	
	tion switch normal?			
) TO 2. pair or replace the ma	lfunction	ing part	
~	ONT FOG LAMP REQ			
1. Select "FR	ATA MONITOR FOG REQ" of IPDM E			
2. With opera	iting the front fog lamp	switch,	check the monitor status.	
Monitor item	Condition		Monitor status	
	Front fog lamp switch	ON	On	
FR FOG REQ	(Lighting switch 2ND)	OFF	Off	
Is the item stat				
) TO 3. place BCM.			
•	G LAMP CIRCUIT INS	SPECTIO	N	
			-264, "Component Function Chec	~k"
	lamp circuit normal?	/ (0 <u>L//L</u>		<u>.</u> .
YES >> Re	place IPDM E/R.			
NO >> Re	pair or replace the ma	Ifunction	ing part.	

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< PRECAUTION > PRECAUTION PRECAUTIONS

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

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

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never 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:

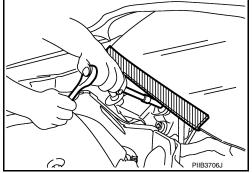
Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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.

Precaution for Procedure without Cowl Top Cover

INFOID:0000000011008333

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc to prevent damage to windshield.



< PRECAUTION >

Precautions for Removing Battery Terminal

• When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

NOTE:

ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

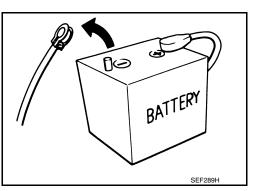
• For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch. **NOTE:**

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
 NOTE:

PRECAUTIONS

The removal of 12V battery may cause a DTC detection error.



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[HALOGEN TYPE]

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INFOID:000000010599273

PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

Description

PREPARATION BEFORE ADJUSTING

NOTE:

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

Before performing aiming adjustment, check the following.Adjust the tire pressure to the specification.

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

NOTE:

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

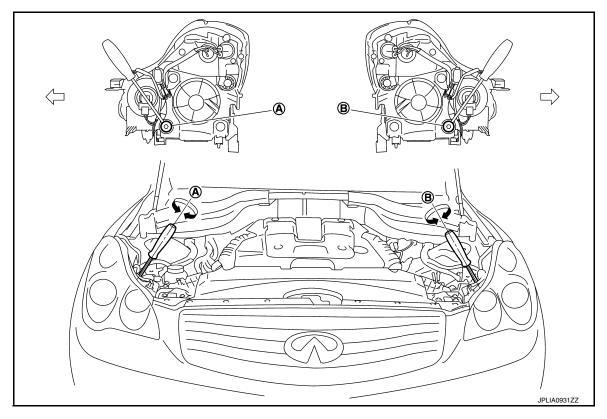
• Wipe out dirt on the headlamp.

CAUTION:

Never use organic solvent (thinner, gasoline etc.)

Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



Headlamp RH (UP/DOWN) adjustment screw B. Headlamp LH (UP/DOWN) adjustment screw А ⟨□ : Vehicle center

NOTE:

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

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN TYPE]

A	Adjustment screw	Screw driver rotation	Facing direction
A !	Headlamp RH (UP/DOWN)	Clockwise	UP
~		Counterclockwise	DOWN
в	Headlamp LH (UP/DOWN)	Clockwise	UP
2		Counterclockwise	DOWN
ing	Adjustment Procedure		INFOID:0000000105992
NOT • Sto	ce the screen. FE: op the vehicle facing the wall. ace the board on a plain road v	rertically.	
	t the engine. Turn the headlam		e headlamp center and the screen.
Shu <mark>CAL</mark>	t off the headlamp light with the JTION:	e board to prevent from illuminati	
Mea	asure the distance (X) between	h a tape etc. The lens is made of the horizontal center line of head R) from the vertical center line at	llamp (H) and the cutoff line (A) withi
L	ight axis measurement rang	e (R) : 350 \pm 175 mm (13.78 \pm	6.89 in)
	Low beam distributio	n on the screen	V
			• • •
	ust the cutoff line height (X) wit N) according to the horizontal o	h the aiming adjustment screw s	o as to enter in the adjustment rang
(M–I	N) according to the horizontal of	h the aiming adjustment screw s center line of headlamp (H).	o as to enter in the adjustment rang
(M–I		h the aiming adjustment screw s	o as to enter in the adjustment range
(M–l Horizo	N) according to the horizontal of ontal center line of headlamp (H)	h the aiming adjustment screw s center line of headlamp (H). Highest cutoff line height (M)	o as to enter in the adjustment rang unit: mm (i Lowest cutoff line height (N)
(M—I Horizo	N) according to the horizontal of ontal center line of headlamp (H) 700 (27.56) or less	h the aiming adjustment screw s center line of headlamp (H). Highest cutoff line height (M) 4 (0.16)	o as to enter in the adjustment rang unit: mm (i Lowest cutoff line height (N) 30 (1.18)
(M–l Horizo	N) according to the horizontal contal center line of headlamp (H) 700 (27.56) or less 701 (27.60) – 800 (31.50)	h the aiming adjustment screw s center line of headlamp (H). Highest cutoff line height (M) 4 (0.16) 4 (0.16)	o as to enter in the adjustment rang unit: mm (i Lowest cutoff line height (N) 30 (1.18)

EXL-385

FRONT FOG LAMP AIMING ADJUSTMENT

Description

PREPARATION BEFORE ADJUSTING

NOTE:

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

Before performing aiming adjustment, check the following.

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

NOTE:

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

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

AIMING ADJUSTMENT SCREW

• Turn the aiming adjusting screw for adjustment.

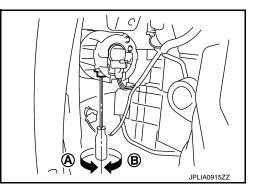
A: UP

B: DOWN

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

NOTE:

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



INFOID:000000010599276

1. Place the screen.

NOTE:

• Stop the vehicle facing the wall.

Aiming Adjustment Procedure

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

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

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

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

[HALOGEN TYPE]

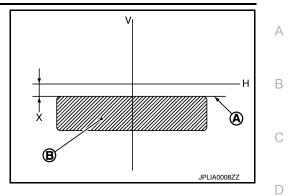
INFOID:000000010599275

FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN TYPE]

Front fog lamp light distribution on the screen



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

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< REMOVAL AND INSTALLATION >

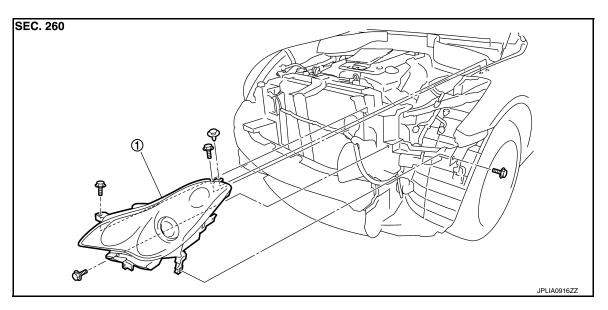
REMOVAL AND INSTALLATION FRONT COMBINATION LAMP

Exploded View

REMOVAL

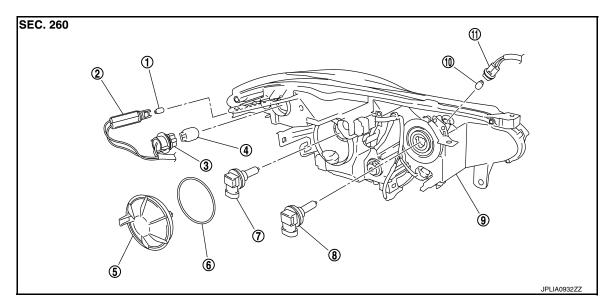
INFOID:000000010599277

[HALOGEN TYPE]



1. Front combination lamp

DISASSEMBLY



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

Removal and Installation

REMOVAL CAUTION:

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

INFOID:000000010599278

Revision: February 2015

EXL-388

FRONT COMBINATION LAMP

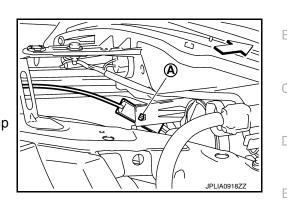
< REMOVAL AND INSTALLATION >

Disconnect the battery negative terminal or remove the fuse.

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

<□ : Vehicle front

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



INSTALLATION

Install in the reverse order of removal. **NOTE:** After installation, perform aiming adjustment. Refer to EXL-384, "Description".

Replacement

CAUTION:

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

HEADLAMP BULB (LO)

- 1. Remove the fender rubber protector in the engine room. Keep a service area.
- 2. Rotate the resin cap counterclockwise and unlock it.
- 3. Disconnect the headlamp (LO) bulb connector.
- 4. Rotate the bulb counterclockwise and unlock it.
- 5. Remove the bulb from the headlamp housing assembly.

HEADLAMP BULB (HI)

1.	Remove the washer tank inlet [*] . Refer to <u>WW-113, "Exploded View"</u> .
	*:When replace a right.
-	

- Disconnect the headlamp (HI) bulb connector.
- 3. Rotate the bulb socket counterclockwise and unlock it.
- Remove the bulb socket from the headlamp housing assembly.

PARKING LAMP BULB

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

FRONT TURN SIGNAL LAMP BULB

- 1. Remove the fender rubber protector in the engine room. Keep a service area.
- 2. Rotate the bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the bulb socket.

FRONT SIDE MARKER LAMP BULB

- 1. Remove the fender rubber protector in the engine room. Keep a service area.
- 2. Rotate the bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the bulb socket.

Revision: February 2015

EXL-389

INFOID:000000010599279



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< REMOVAL AND INSTALLATION >

Disassembly and Assembly

[HALOGEN TYPE]

INFOID:000000010599280

DISASSEMBLY

- 1. Rotate the resin cap counterclockwise and unlock it.
- 2. Disconnect the headlamp bulb (LO) connector.
- 3. Rotate the headlamp bulb (LO) counterclockwise and unlock it
- 4. Remove the bulb from the headlamp housing assembly.
- 5. Rotate the headlamp bulb (HI) counterclockwise and unlock it
- 6. Remove the bulb from the headlamp housing assembly.
- 7. Rotate the parking lamp bulb socket counterclockwise and unlock it.
- 8. Remove the bulb from the parking lamp bulb socket.
- 9. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it.
- 10. Remove the bulb from the front turn signal lamp bulb socket.
- 11. Rotate the front side marker lamp bulb socket counterclockwise and unlock it.
- 12. Remove the bulb from the front side marker lamp bulb socket.

ASSEMBLY

Assemble in the reverse order of disassembly.

FRONT FOG LAMP

< REMOVAL AND INSTALLATION >

FRONT FOG LAMP

Exploded View

INFOID:000000010766766

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SEC. 263	В
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JSLIA0475ZZ	F
1. Front fog lamp 2. Front fog lamp finisher 2. 2 Pawl	G
Removal and Installation	Н
CAUTION: Disconnect the battery negative terminal or remove the fuse. REMOVAL	I
 Remove the front fender protector. Keep a service area. Refer to <u>EXT-25. "FENDER PROTECTOR :</u> <u>Exploded View"</u>. Remove the front fog lamp finisher. 	J
 Remove the front fog lamp connector. Remove the screw. 	K
Disengage the pawl. And then remove the front fog lamp.INSTALLATION	EXL
Install in the reverse order of removal. NOTE:	
After installation, perform aiming adjustment. Refer to EXL-386. "Description".	M
Replacement	
 CAUTION: Disconnect the battery negative terminal or remove the fuse. Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never touch bulb by hand while it is lit or right after being turned off. 	Ν
 Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one. 	0
FRONT FOG LAMP BULB	Р
 Remove the front fender protector. Keep the service area. Refer to <u>EXT-25</u>, "FENDER PROTECTOR : <u>Exploded View</u>". 	I

FRONT FOG LAMP

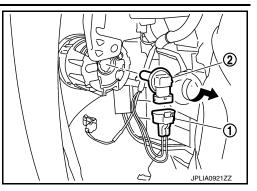
< REMOVAL AND INSTALLATION >

2.

Remove the front fog lamp bulb connector (1).

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

[HALOGEN TYPE]



OPTICAL SENSOR

< REMOVAL AND INSTALLATION >

OPTICAL SENSOR

Exploded View

INFOID:000000010599284

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SEC. 253

Removal and Installation

REMOVAL

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

INSTALLATION

Install in the reverse order of removal.

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< REMOVAL AND INSTALLATION >

LIGHTING AND TURN SIGNAL SWITCH

Exploded View

Lighting and turn signal switch is integrated in the combination switch. <u>BCS-98, "Exploded View"</u>.

INFOID:000000010599286

< REMOVAL AND INSTALLATION >

HAZARD SWITCH А Exploded View INFOID:000000010599287 The hazard warning switch is integrated in the multifunction switch. Refer to AV-135, "Exploded View". В С D Е F G Н J Κ EXL Μ Ν Ο Ρ

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

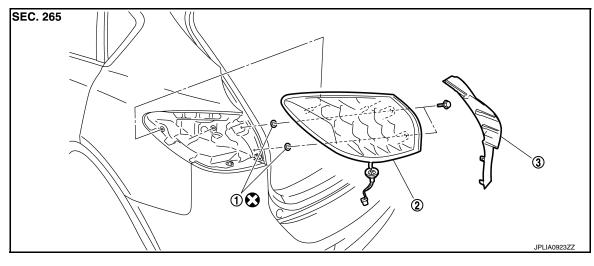
REAR COMBINATION LAMP

[HALOGEN TYPE]

Exploded View

INFOID:000000010599288

INFOID:000000010599289



1. Seal packing

2. Rear combination lamp

3. Rear combination lamp finisher

Always replace after every disassembly.

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the luggage side finisher lower. Refer to INT-37, "Exploded View".
- 2. Remove the rear combination lamp finisher.
- 3. Remove the rear combination lamp mounting bolts.
- 4. Disconnect the rear combination lamp connector.
- 5. Pull the rear combination lamp toward outside of the vehicle. Remove the rear combination lamp.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Seal packing cannot be reused.

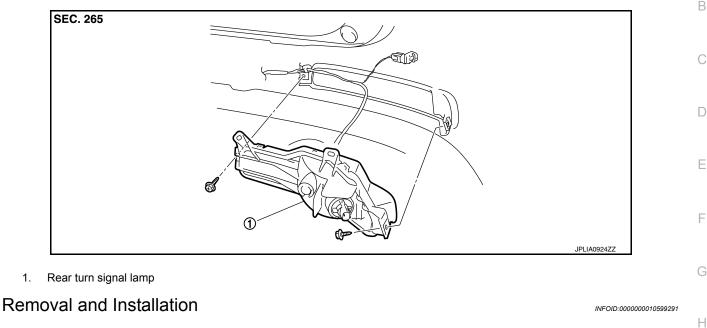
REAR TURN SIGNAL LAMP

< REMOVAL AND INSTALLATION >

REAR TURN SIGNAL LAMP

Exploded View

INFOID:0000000010599290



CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

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

INSTALLATION

Install in the reverse order of removal.

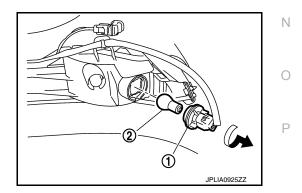
Replacement

CAUTION:

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

REAR TURN SIGNAL LAMP BULB

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



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[HALOGEN TYPE]

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INFOID:000000010599292

HIGH-MOUNTED STOP LAMP

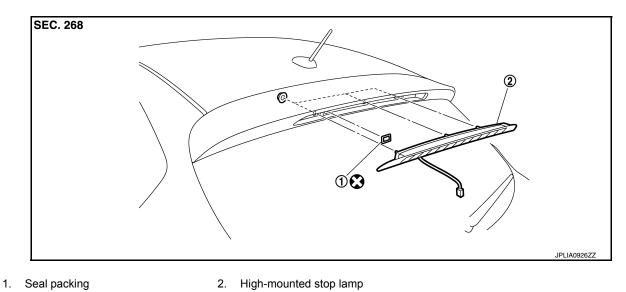
< REMOVAL AND INSTALLATION >

HIGH-MOUNTED STOP LAMP

Exploded View

INFOID:000000010599293

[HALOGEN TYPE]



Always replace after every disassembly.

Removal and Installation

INFOID:000000010599294

REMOVAL

- 1. Remove the back door finisher inner. Refer to INT-41, "Exploded View".
- 2. Remove the high-mounted stop lamp mounting nuts.
- 3. Disconnect the high-mounted stop lamp connector. And then remove the rear washer tube.
- 4. Pull the high-mounted stop lamp toward rear of the vehicle.
- 5. Remove the high-mounted stop lamp.

INSTALLATION

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

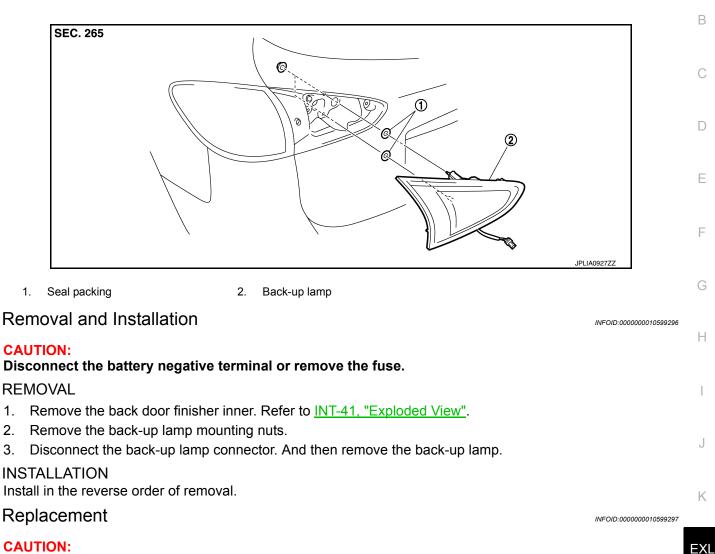
BACK-UP LAMP

< REMOVAL AND INSTALLATION >

BACK-UP LAMP

Exploded View

INFOID:000000010599295

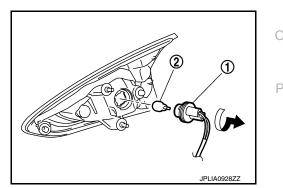


- Disconnect the battery negative terminal or remove the fuse.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because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

BACK-UP LAMP BULB

2. 3.

- 1. Remove the back-up lamp. Refer to EXL-399, "Exploded View".
- Turn the bulb socket (1) counterclockwise and unlock it. 2.
- 3. Remove the bulb (2) from the socket.



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[HALOGEN TYPE]

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< REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

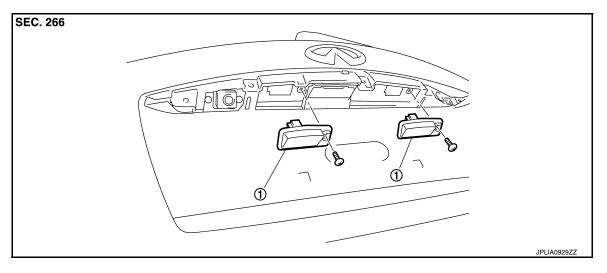
Exploded View

INFOID:000000010599298

INFOID:000000010599299

INFOID:000000010599300

[HALOGEN TYPE]



1. License plate lamp

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

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

INSTALLATION

Install in the reverse order of removal.

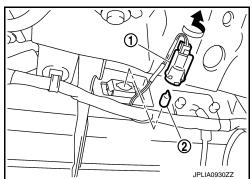
Replacement

CAUTION:

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

LICENSE PLATE LAMP BULB

- 1. Remove the back door finisher inner. Refer to INT-41, "Exploded View".
- 2. Turn the bulb socket (1) counterclockwise and unlock it.
- 3. Remove the bulb (2) from the socket.



SERVICE DATA AND SPECIFICATIONS (SDS)

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Bulb Specifications

INFOID:000000010599301

Item		Туре	Wattage (W)
Front combination lamp	Headlamp (HI)	H9 (Halogen)	65
	Headlamp (LO)	H11 (Halogen)	55
	Front turn signal lamp	W21W	21
	Parking lamp	W5W	5
	Front side marker lamp	W5W	5
Front fog lamp		H8	35
Rear combination lamp	Stop lamp/Tail lamp	LED	_
	Rear side marker lamp	LED	_
Rear turn signal lamp		PY21W (Amber)	21
Back-up lamp		W16W	16
License plate lamp		W5W	5
High-mounted stop lamp		LED	_

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