SECTION EXE

CONTENTS

XENON TYPE

BASIC INSPECTION7
DIAGNOSIS AND REPAIR WORKFLOW
INSPECTION AND ADJUSTMENT9
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT)
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT) : Special Repair Requirement9
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR)
LEVELIZER ADJUSTMENT9 LEVELIZER ADJUSTMENT : Description9 LEVELIZER ADJUSTMENT : Special Repair Re- quirement9
SYSTEM DESCRIPTION11
HEADLAMP SYSTEM11System Diagram11System Description11Component Parts Location12Component Description13
AUTO LIGHT SYSTEM14 System Diagram

System Description14

Component Parts Location15 Component Description16	F
DAYTIME RUNNING LIGHT SYSTEM	G
ACTIVE ADAPTIVE FRONT-LIGHTING SYS-	
TEM 20 System Diagram 20 System Description 20 Component Parts Location 22 Component Parts Location 22	 J
Component Description	
FRONT FOG LAMP SYSTEM24System Diagram24System Description24Component Parts Location25Component Description25	K EX
TURN SIGNAL AND HAZARD WARNING	
LAMP SYSTEM	IV N
PARKING, LICENSE PLATE AND TAIL	
LAMPS SYSTEM	C
EXTERIOR LAMP BATTERY SAVER SYS-	
TEM	

D

Е

DIAGNOSIS SYSTEM (BCM)	32
COMMON ITEM COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)	
HEADLAMP HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)	
FLASHER	35
FLASHER : CONSULT-III Function (BCM - FLASHER)	
DIAGNOSIS SYSTEM (IPDM E/R)	37
Diagnosis Description CONSULT-III Function (IPDM E/R)	37
DIAGNOSIS SYSTEM (AFS) CONSULT-III Function (ADAPTIVE LIGHT)	
DTC/CIRCUIT DIAGNOSIS	44
B2503, B2504 SWIVEL ACTUATOR	
Description DTC Logic	
Diagnosis Procedure	
Component Inspection	48
B2514 HEIGHT SENSOR UNUSUAL [RR]	
Description	
DTC Logic Diagnosis Procedure	
Component Inspection	
B2516 SHIFT SIGNAL [P, R]	53
Description	
DTC Logic Diagnosis Procedure	
B2517 VEHICLE SPEED SIGNAL	
Description	
DTC Logic	
Diagnosis Procedure	
B2519 LEVELIZER CALIBRATION	
Description DTC Logic	
Diagnosis Procedure	
B2521 ECU CIRCUIT	56
Description	
DTC Logic Diagnosis Procedure	
C C	
C0126 STEERING ANGLE SENSOR SIGNAL Description	
DTC Logic	59
Diagnosis Procedure	59
C0428 STEERING ANGLE SENSOR CALI-	
BRATION	60

Description60 DTC Logic60 Diagnosis Procedure60
U1000 CAN COMM CIRCUIT 61 Description 61 DTC Logic 61 Diagnosis Procedure 61
U1010 CONTROL UNIT (CAN)
POWER SUPPLY AND GROUND CIRCUIT 63
BCM (BODY CONTROL MODULE)
IPDM E/R (INTELLIGENT POWER DISTRIBU- TION MODULE ENGINE ROOM)
AFS CONTROL UNIT
EXTERIOR LAMP FUSE
HEADLAMP (HI) CIRCUIT
HEADLAMP (LO) CIRCUIT
XENON HEADLAMP 71 Description 71 Diagnosis Procedure 71
HEADLAMP LEVELIZER CIRCUIT72Description72Component Function Check72Diagnosis Procedure72
FRONT FOG LAMP CIRCUIT 74 Component Function Check 74 Diagnosis Procedure 74
PARKING LAMP CIRCUIT 76 Component Function Check 76 Diagnosis Procedure 76
TURN SIGNAL LAMP CIRCUIT 78Description78Component Function Check78Diagnosis Procedure78

	_
OPTICAL SENSOR80	
Description)
Component Function Check	
HAZARD SWITCH83	
Description	
Component Function Check	
Diagnosis Procedure83	5
TAIL LAMP CIRCUIT85	
Component Function Check85	5
Diagnosis Procedure85	5
LICENSE PLATE LAMP CIRCUIT87	7
Component Function Check	
Diagnosis Procedure87	
HEADLAMP SYSTEM88	_
Wiring Diagram - HEADLAMP	
WINING Diagram - MEADLAWF	C
AUTO LIGHT SYSTEM93	
Wiring Diagram - AUTO LIGHT SYSTEM93	3
DAYTIME RUNNING LIGHT SYSTEM	n
Wiring Diagram - DAYTIME LIGHT SYSTEM 100	
FRONT FOG LAMP SYSTEM106	
Wiring Diagram - FRONT FOG LAMP	3
TURN SIGNAL AND HAZARD WARNING	
LAMP SYSTEM111	1
Wiring Diagram - TURN AND HAZARD WARN-	
ING LAMPS111	1
PARKING, LICENSE PLATE AND TAIL	
LAMPS SYSTEM	7
Wiring Diagram - PARKING, LICENSE PLATE	ľ
AND TAIL LAMPS	7
STOP LAMP	3
Wiring Diagram - STOP LAMP	3
BACK-UP LAMP128	B
Wiring Diagram - BACK-UP LAMP 128	З
ECU DIAGNOSIS INFORMATION	~
	2
BCM (BODY CONTROL MODULE)132	2
Reference Value132	
Wiring Diagram - BCM 156	
Fail-safe	
DTC Inspection Priority Chart	
DTC Index165	ر
IPDM E/R (INTELLIGENT POWER DISTRI-	
BUTION MODULE ENGINE ROOM)168	
Reference Value	
Wiring Diagram - IPDM E/R	
Fail-safe	
	J

AFS CONTROL UNIT	
Reference Value Wiring Diagram - ACTIVE AFS	
Fail-Safe	
DTC Inspection Priority Chart	
DTC Index	
SYMPTOM DIAGNOSIS	193
EXTERIOR LIGHTING SYSTEM SYMPTOMS.	193
Symptom Table	.193
NORMAL OPERATING CONDITION	195 ^D
Description	.195
BOTH SIDE HEADLAMPS (HI) ARE NOT	Е
TURNED ON	
Description Diagnosis Procedure	106
v	.190 F
BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON	107
Description	-
Diagnosis Procedure	
PARKING, LICENSE PLATE AND TAIL	
LAMPS ARE NOT TURNED ON	. 198
Description	
Diagnosis Procedure	.198
BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON	199
Description	
Diagnosis Procedure	
PRECAUTION	200
PRECAUTIONS	200 K
Precaution for Supplemental Restraint System	200
(SRS) "AIR BAG" and "SEAT BELT PRE-TEN-	EXL
SIONER"	
Precautions For Xenon Headlamp Service	
PERIODIC MAINTENANCE	201 M
HEADLAMP AIMING ADJUSTMENT	201
Description	.201 N
Aiming Adjustment Procedure	.202
FRONT FOG LAMP AIMING ADJUSTMENT .	0
Description Aiming Adjustment Procedure	
REMOVAL AND INSTALLATION	205 P
FRONT COMBINATION LAMP	
Exploded View	
Removal and Installation	
Disassembly and Assembly	
FRONT FOG LAMP	
· · · · · · · · · · · · · · · · · · ·	

Exploded View208 Removal and Installation208 Replacement
OPTICAL SENSOR
Removal and Installation210
LIGHTING AND TURN SIGNAL SWITCH 211 Exploded View
HAZARD SWITCH 212 Exploded View
AFS CONTROL UNIT 213
Exploded View213 Removal and Installation213
STEERING ANGLE SENSOR 214
Removal and Installation214
HEIGHT SENSOR
Exploded View215 Removal and Installation215
REAR COMBINATION LAMP
Exploded View216
Removal and Installation216
REAR TURN SIGNAL LAMP
Exploded View217 Removal and Installation217
Replacement217
HIGH-MOUNTED STOP LAMP 218
Exploded View218 Removal and Installation218
BACK-UP LAMP 219
Exploded View219
Removal and Installation
Replacement
LICENSE PLATE LAMP 220 Exploded View
Removal and Installation220
Replacement220
SERVICE DATA AND SPECIFICATIONS (SDS)221
SERVICE DATA AND SPECIFICATIONS (SDS)
Bulb Specifications
BASIC INSPECTION222
DIAGNOSIS AND REPAIR WORKFLOW 222 Work Flow
SYSTEM DESCRIPTION

	224
System Diagram	
System Description	
Component Parts Location	220
Component Description	226
AUTO LIGHT SYSTEM	227
System Diagram	
System Description	
Component Parts Location	
Component Description	229
DAYTIME RUNNING LIGHT SYSTEM	
System Diagram	
System Description	230
Component Parts Location	
Component Description	231
FRONT FOG LAMP SYSTEM	
System Diagram	
System Description	
Component Parts Location	234
Component Description	234
TURN SIGNAL AND HAZARD WARNING	
LAMP SYSTEM	235
System Diagram	235
System Description	
Component Parts Location	
Component Description	
PARKING, LICENSE PLATE AND TAIL	
LAMPS SYSTEM	237
System Diagram	237
System Description	
Component Parts Location	
Component Description	
Component Description	200
EXTERIOR LAMP BATTERY SAVER SYS-	
	239
ТЕМ	
TEM System Diagram	239
TEM System Diagram System Description	239 239
TEM System Diagram System Description Component Parts Location	239 239 240
TEM System Diagram System Description	239 239 240
TEM System Diagram System Description Component Parts Location Component Description	239 239 240 240
TEM System Diagram System Description Component Parts Location	239 239 240 240
TEM System Diagram System Description Component Parts Location Component Description DIAGNOSIS SYSTEM (BCM)	239 239 240 240 240
TEM System Diagram System Description Component Parts Location Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM	239 239 240 240 240
TEM System Diagram System Description Component Parts Location Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : COMMON ITEM :	239 239 240 240 241 241 1 -
TEM System Diagram System Description Component Parts Location Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM	239 239 240 240 241 241 1 -
TEM System Diagram System Description Component Parts Location Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM) COMMON ITEM)	239 239 240 240 241 241 1 -
TEM System Diagram System Description Component Parts Location Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT-III Function (BCN COMMON ITEM) HEADLAMP	239 239 240 240 241 241 1 - 241
TEM	239 239 240 240 241 241 A - 241 241
TEM System Diagram System Description Component Parts Location Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT-III Function (BCN COMMON ITEM) HEADLAMP	239 239 240 240 241 241 A - 241 241
TEM System Diagram System Description Component Parts Location Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT-III Function (BCN COMMON ITEM) HEADLAMP HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)	239 239 240 240 241 241 1 - 241 242
TEM System Diagram System Description Component Parts Location Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT-III Function (BCN COMMON ITEM) HEADLAMP HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP) FLASHER	239 239 240 240 241 241 1 - 241 242
TEM System Diagram System Description Component Parts Location Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM COMMON ITEM COMMON ITEM) HEADLAMP HEADLAMP HEADLAMP FLASHER FLASHER FLASHER	239 239 240 240 241 241 1 - 241 242 242 242
TEM System Diagram System Description Component Parts Location Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM : CONSULT-III Function (BCN COMMON ITEM) HEADLAMP HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP) FLASHER	239 239 240 240 241 241 1 - 241 242 242 242
TEM System Diagram System Description Component Parts Location Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM COMMON ITEM COMMON ITEM) HEADLAMP HEADLAMP HEADLAMP FLASHER FLASHER FLASHER CONSULT-III Function (BCM - FLASHER	239 239 240 240 241 241 241 242 242 242 244
TEM System Diagram System Description Component Parts Location Component Description DIAGNOSIS SYSTEM (BCM) COMMON ITEM COMMON ITEM COMMON ITEM COMMON ITEM) HEADLAMP HEADLAMP HEADLAMP FLASHER FLASHER FLASHER	239 239 240 240 241 241 241 242 242 242 244 244

CONSULT-III Function (IPDM E/R)	248
DTC/CIRCUIT DIAGNOSIS	251
POWER SUPPLY AND GROUND CIRCUIT	251
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	
EXTERIOR LAMP FUSE Description Diagnosis Procedure	253
HEADLAMP (HI) CIRCUIT Component Function Check Diagnosis Procedure	254
HEADLAMP (LO) CIRCUIT Component Function Check Diagnosis Procedure	256
FRONT FOG LAMP CIRCUIT Component Function Check Diagnosis Procedure	258
PARKING LAMP CIRCUIT Component Function Check Diagnosis Procedure	260
TURN SIGNAL LAMP CIRCUIT Description Component Function Check Diagnosis Procedure	262 262 262
Description Component Function Check	262 262 262 262 264 264 264
Description Component Function Check Diagnosis Procedure OPTICAL SENSOR Description Component Function Check	 262 262 262 264 264 264 264 267 267 267
Description Component Function Check Diagnosis Procedure OPTICAL SENSOR Description Component Function Check Diagnosis Procedure HAZARD SWITCH Description Component Function Check	 262 262 262 262 264 264 264 267 267 267 269 269
Description	 262 262 262 262 264 264 264 267 267 267 269 269 269 271 271
Description Component Function Check Diagnosis Procedure OPTICAL SENSOR Description Component Function Check Diagnosis Procedure HAZARD SWITCH Description Component Function Check Diagnosis Procedure TAIL LAMP CIRCUIT Component Function Check Diagnosis Procedure LICENSE PLATE LAMP CIRCUIT Component Function Check	 262 262 262 262 264 264 264 267 267 269 269 269 271 271 271 272

Wiring Diagram - AUTO LIGHT SYSTEM277	-
	А
DAYTIME RUNNING LIGHT SYSTEM	
FRONT FOG LAMP SYSTEM	В
TURN SIGNAL AND HAZARD WARNING	С
LAMP SYSTEM	0
Wiring Diagram - TURN AND HAZARD WARN- ING LAMPS295	D
PARKING, LICENSE PLATE AND TAIL	D
LAMPS SYSTEM	
Wiring Diagram - PARKING, LICENSE PLATE	E
AND TAIL LAMPS	
STOP LAMP 307	_
Wiring Diagram - STOP LAMP	F
BACK-UP LAMP	
Wiring Diagram - BACK-UP LAMP	G
ECU DIAGNOSIS INFORMATION	
	Н
BCM (BODY CONTROL MODULE)	П
Wiring Diagram - BCM	
Fail-safe346	
DTC Inspection Priority Chart	
DTC Index	
IPDM E/R (INTELLIGENT POWER DISTRI-	J
BUTION MODULE ENGINE ROOM)	
Wiring Diagram - IPDM E/R	К
Fail-safe	1.
DTC Index	
SYMPTOM DIAGNOSIS 365	EX
EXTERIOR LIGHTING SYSTEM SYMPTOMS. 365	
Symptom Table365	M
NORMAL OPERATING CONDITION	
Description367	N
BOTH SIDE HEADLAMPS (HI) ARE NOT	14
TURNED ON	
Description	0
Diagnosis Procedure	
BOTH SIDE HEADLAMPS (LO) ARE NOT	Р
TURNED ON	Г
Description	
PARKING, LICENSE PLATE AND TAIL	
LAMPS ARE NOT TURNED ON	
Description	

BOTH SIDE FRONT FOG LAMPS ARE NOT	
TURNED ON 371	
Description	
Diagnosis Procedure	
PRECAUTION372	
PRECAUTIONS	
Precaution for Supplemental Restraint System	
(SRS) "AIR BAG" and "SEAT BELT PRE-TEN-	
SIONER"	
PERIODIC MAINTENANCE	
HEADLAMP AIMING ADJUSTMENT	
Description	
Aiming Adjustment Procedure	
FRONT FOG LAMP AIMING ADJUSTMENT . 375	
Description	
Aiming Adjustment Procedure	
REMOVAL AND INSTALLATION	
FRONT COMBINATION LAMP 377	,
Exploded View	
Removal and Installation377	
Replacement	
Disassembly and Assembly	
FRONT FOG LAMP 380	1
Exploded View	
Removal and Installation	
Replacement	
OPTICAL SENSOR 382	
Exploded View	

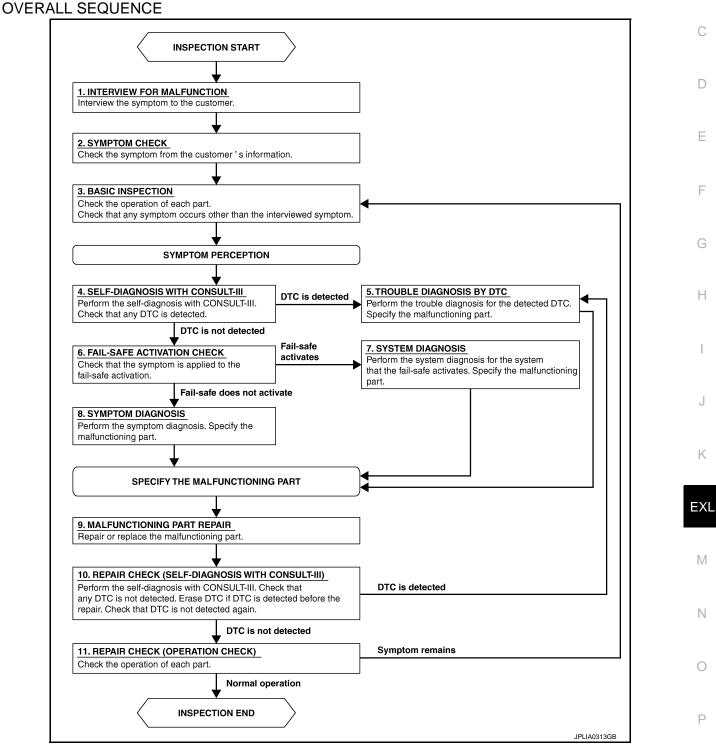
Removal and Installation
LIGHTING AND TURN SIGNAL SWITCH383 Exploded View
HAZARD SWITCH
REAR COMBINATION LAMP385Exploded View385Removal and Installation385
REAR TURN SIGNAL LAMP
HIGH-MOUNTED STOP LAMP
BACK-UP LAMP
LICENSE PLATE LAMP
SERVICE DATA AND SPECIFICATIONS (SDS)
SERVICE DATA AND SPECIFICATIONS (SDS)

BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000006346255 B

А



DETAILED FLOW

1.INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

>> GO TO 2.

2.SYMPTOM CHECK

Check the symptom from the customer's information.

>> GO TO 3.

3.BASIC INSPECTION

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

>> GO TO 4.

4.SELF-DIAGNOSIS WITH CONSULT-III

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

Is any DTC detected?

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

5.TROUBLE DIAGNOSIS BY DTC

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

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

Check that the symptom is applied to the fail-safe activation.

Does the fail-safe activate?

YES >> GO TO 7. NO >> GO TO 8.

7.SYSTEM DIAGNOSIS

Perform the system diagnosis for the system that the fail-safe activates. Specify the malfunctioning part.

>> GO TO 9.

8.SYMPTOM DIAGNOSIS

Perform the symptom diagnosis. Specify the malfunctioning part.

>> GO TO 9.

9.MALFUNCTION PART REPAIR

Repair or replace the malfunctioning part.

>> GO TO 10.

10.REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT-III)

Perform the self-diagnosis with CONSULT-III. Check that any DTC is not detected. Erase DTC if DTC is detected before the repair. Check that DTC is not detected again.

Is any DTC detected?

YES >> GO TO 5. NO >> GO TO 11.

11.REPAIR CHECK (OPERATION CHECK)

Check the operation of each part.

Does it operate normally?

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

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

< BASIC INSPECTION >

Is the levelizer adjustment completed?

YES >> GO TO 3.

NO >> Perform the levelizer adjustment again.

3.SELF-DIAGNOSIS RESULT CHECK

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

Is any DTC detected?

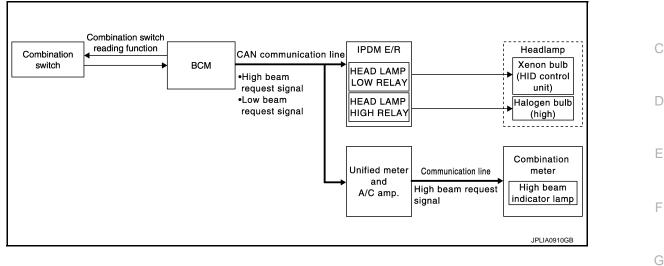
YES >> GO TO 2.

NO >> Levelizer adjustment completed

< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION HEADLAMP SYSTEM

System Diagram



System Description

INFOID:000000006346263

OUTLINE

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

HEADLAMP (LO) OPERATION

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

Headlamp (LO) ON condition

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

HEADLAMP (HI) OPERATION

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

Headlamp (HI) ON condition

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

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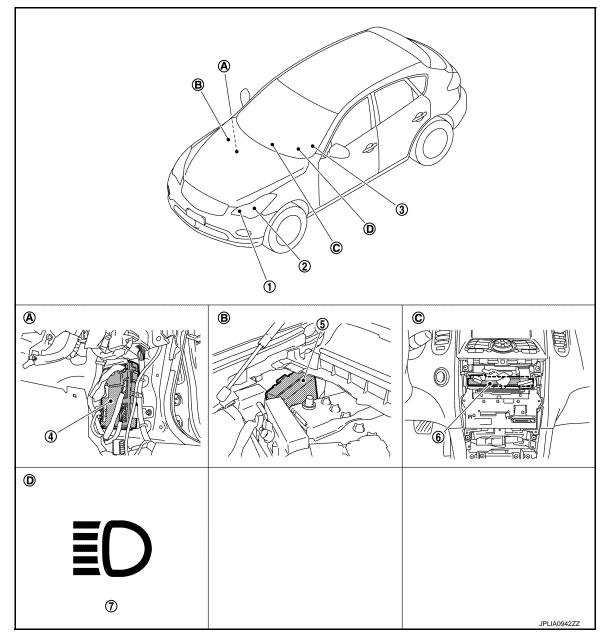
HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000006346264

[XENON TYPE]



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

HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Description

INFOID:000000006346265

А

[XENON 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 (through unified meter and A/C amp.)].
IPDM E/R		Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn sign	-	Refer to BCS-10, "System Diagram".
Combination meter (High beam indicated		Turns the high beam indicator lamp ON according to the request from BCM [with CAN communication (through unified meter and A/C amp.)].
Front combination lamp assembly	HID control unitXenon bulb	Refer to EXL-71. "Description".

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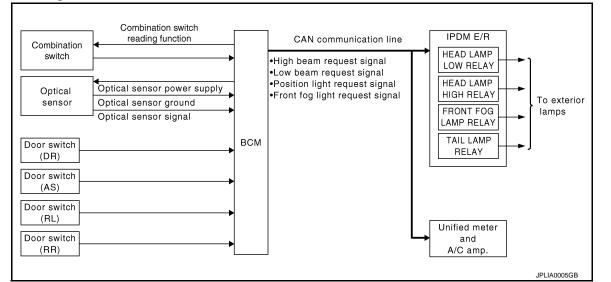
AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

AUTO LIGHT SYSTEM

INFOID:00000006346266

System Diagram



System Description

INFOID:00000006346267

OUTLINE

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

Control by BCM

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

Control by IPDM E/R

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

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

AUTO LIGHT FUNCTION

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

NOTE:

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

DELAY TIMER FUNCTION

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

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

EXL-14

AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

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В

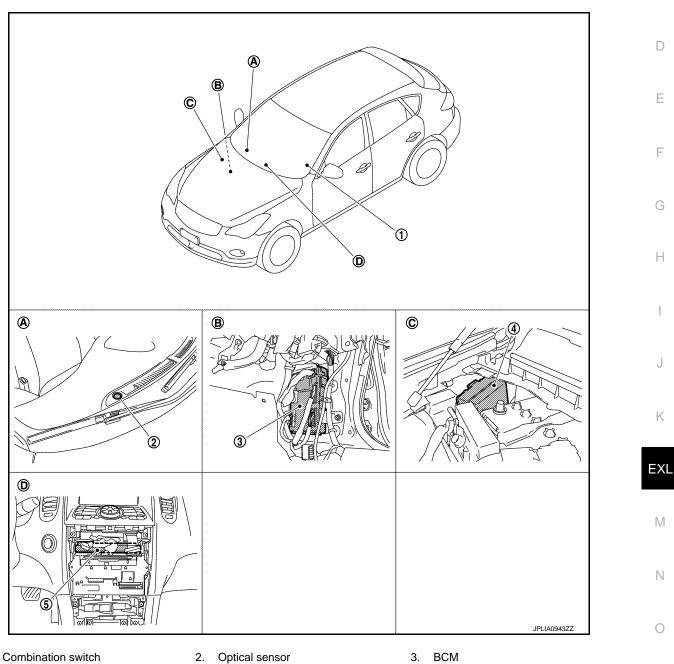
• Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF.

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

NOTE:

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

Component Parts Location



IPDM E/R 4.

1.

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

Ρ

Component Description

INFOID:000000006346269

[XENON TYPE]

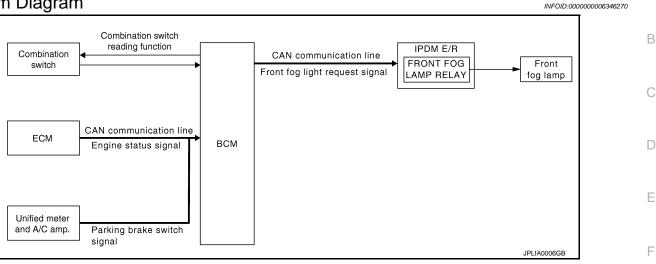
Part	Description
BCM	 Judges each switch condition by the combination switch reading function. Judges the outside brightness from the optical sensor signal. Judges the OFF timing according to the vehicle condition. Judges the ON/OFF status of the exterior lamp and each illumination according to the outside 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-10, "System Diagram"</u> .
Optical sensor	Refer to EXL-80, "Description".

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

DAYTIME RUNNING LIGHT SYSTEM

System Diagram



System Description

OUTLINE

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

DAYTIME RUNNING LIGHT OPERATION

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

Daytime running light ON condition

- While the engine running with the parking brake released

Daytime running light OFF condition

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

INFOID:00000006346271

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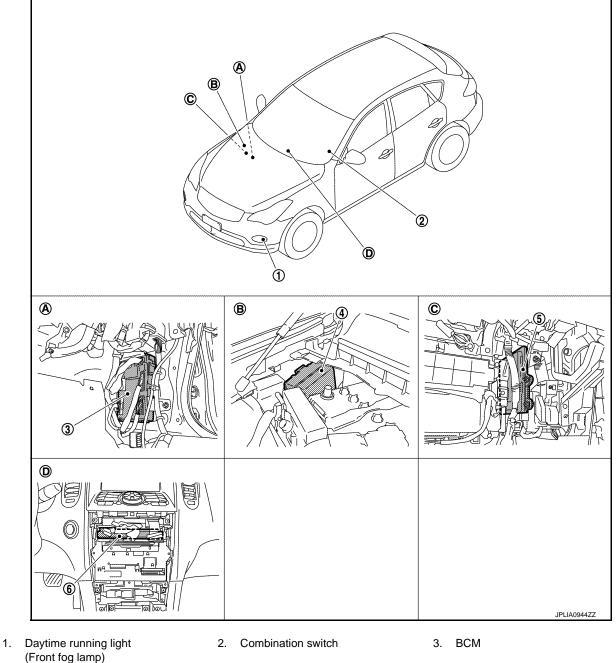
DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000006346272

[XENON TYPE]



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

Component Description

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

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

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

Part	Description	
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".	/
ECM	Transmits the engine condition signal to BCM with CAN communication.	
Unified meter and A/C amp.	Transmits the parking brake switch signal to BCM with CAN communication.	

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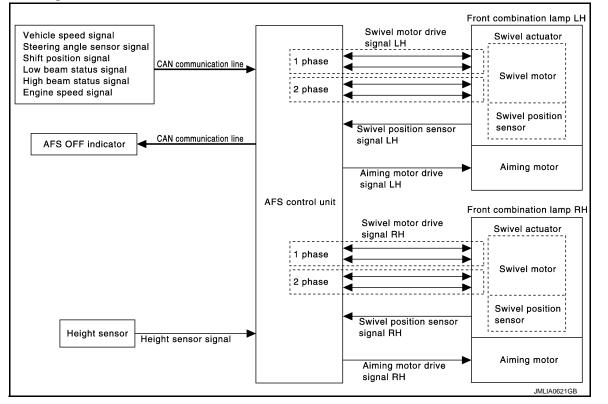
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ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

< SYSTEM DESCRIPTION >

ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

System Diagram



System Description

INFOID:000000006346275

OUTLINE

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

AFS (ADAPTIVE FRONT-LIGHTING SYSTEM)

AFS Control Description

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

AFS operation condition

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

Swivel Actuator Initialization

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

EXL-20

ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

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

Swivel Operation

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

The steering angle differs between right turn and left turn.

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

AFS OFF Indicator Lamp

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

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

HEADLAMP AUTO AIMING

Headlamp Auto Aiming Control Description

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

Headlamp auto aiming operation condition

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

Headlamp Auto Aiming Operation

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

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

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

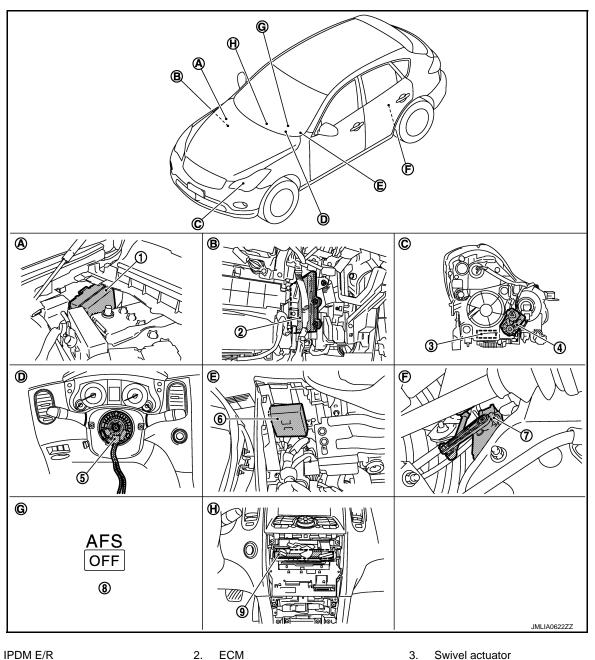
EXL-21

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000006346276

[XENON TYPE]



- 1.
- 4. Aiming motor
- Height sensor 7.
- Engine room dash panel (RH) Α.
- D. Steering column cover (inside)
- On the combination meter G.
- **Component Description**

- ECM
- 5. Steering angle sensor
- 8. AFS OFF indicator lamp
- Behind the glove box Β.
- Behind the instrument driver lower Ε. panel
- Behind the cluster lid C Η.

- 3. Swivel actuator
- 6. AFS control unit
- 9. Unified meter and A/C amp.
- C. Front combination lamp (back)
- F. Rear suspension member (LH)

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

ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

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

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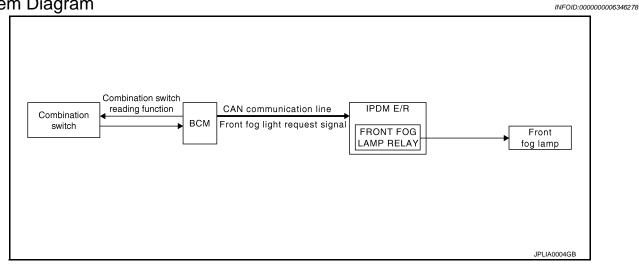
FRONT FOG LAMP SYSTEM

< SYSTEM DESCRIPTION >

FRONT FOG LAMP SYSTEM



System Diagram



System Description

INFOID:000000006346279

OUTLINE

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

NOTE:

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

FRONT FOG LAMP OPERATION

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

Front fog lamp ON condition

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

FRONT FOG LAMP SYSTEM

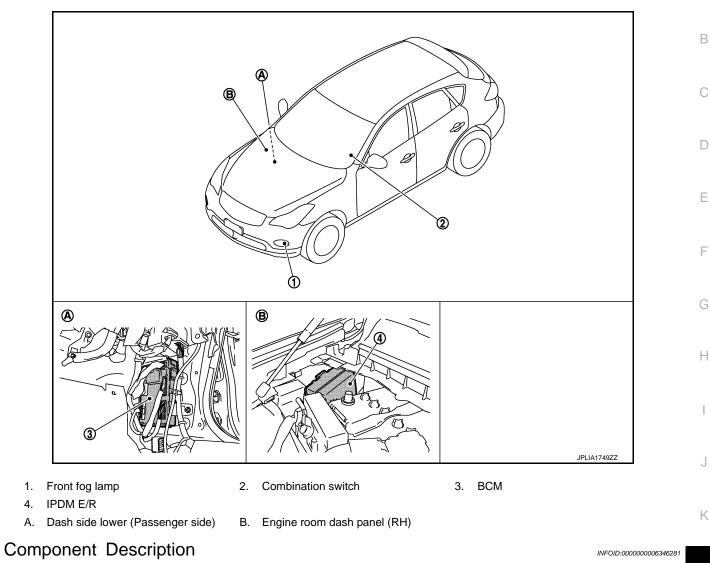
< SYSTEM DESCRIPTION >

Component Parts Location

[XENON TYPE]

INFOID:000000006346280

А



EXL

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-10, "System Diagram"</u> .

Ρ

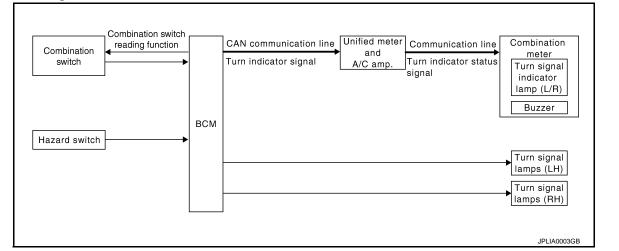
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< SYSTEM DESCRIPTION >

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

System Diagram



System Description

INFOID:000000006346283

[XENON TYPE]

INFOID:00000006346282

OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

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

HIGH FLASHER OPERATION (FAIL-SAFE)

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

NOTE:

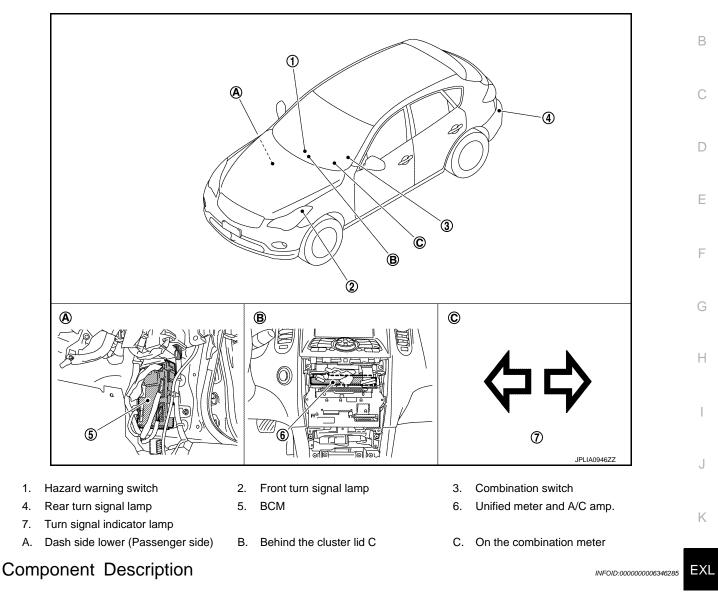
The blinking speed is normal while operating the hazard warning lamp.

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

< SYSTEM DESCRIPTION >

Component Parts Location





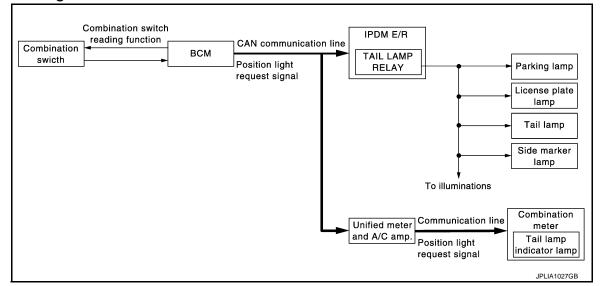
Part	Description
ВСМ	 Judges each switch condition by the combination switch reading function. Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks. Requests the turn signal indicator lamp blink to the combination meter (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-10, "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:000000006346287

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

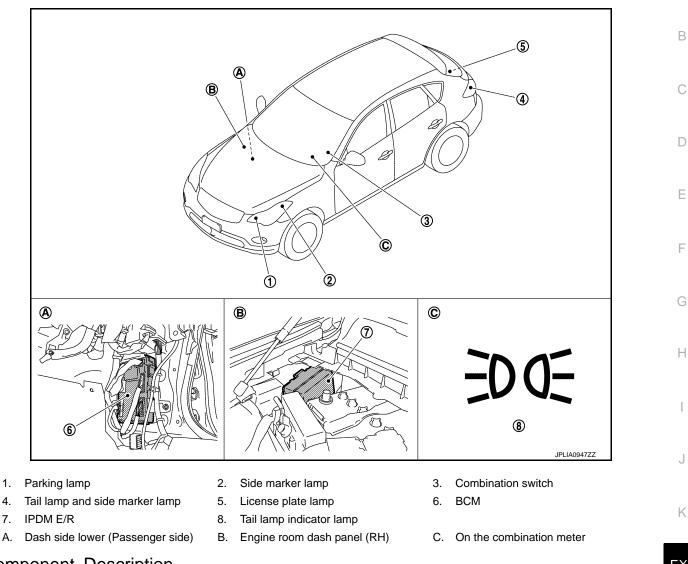
< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000006346288

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[XENON TYPE]



Component Description

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EXL INFOID:000000006346289

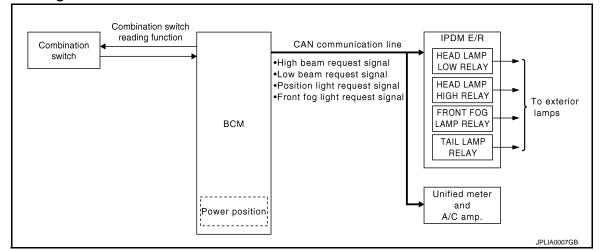
Part	Description
ВСМ	 Judges each switch condition by the combination switch reading function. Judges the ON/OFF status of the clearance, license plate, side marker and tail lamps according to the vehicle condition. Requests the tail lamp relay ON to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "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:000000006346291

[XENON TYPE]

INFOID:000000006346290

OUTLINE

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

Control by BCM

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

Control by IPDM E/R

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

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

EXTERIOR LAMP BATTERY SAVER ACTIVATION

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

NOTE:

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

EXTERIOR LAMP BATTERY SAVER SYSTEM

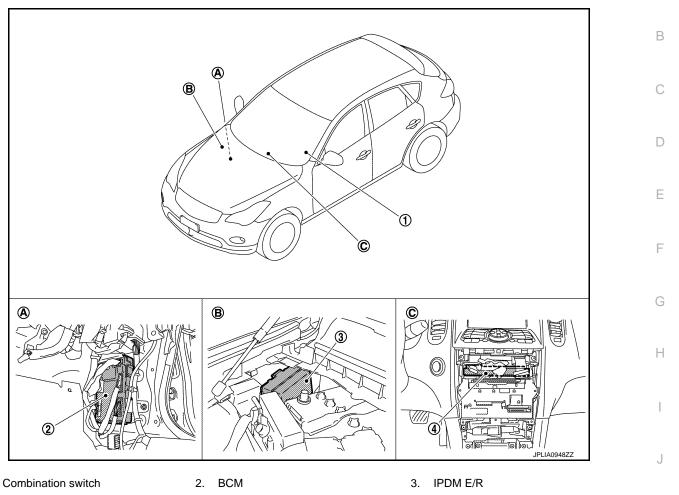
< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000006346292

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[XENON TYPE]



4. Unified meter and A/C amp.

Component Description

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1.

Dash side lower (Passenger side) Α.

> EXL INFOID:000000006346293

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 <u>BCS-10, "System Diagram"</u> .

B. Engine room dash panel (RH)

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DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:000000006893674

APPLICATION ITEM

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

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

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

NOTE:

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

FREEZE FRAME DATA (FFD)

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

< SYSTEM DESCRIPTION >

[XENON TYPE]

CONSULT screen item	Indication/Unit	Description		
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected		
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected		
	SLEEP>LOCK		While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK"*)	B
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)	С
	LOCK>ACC	-	While turning power supply position from "LOCK"* to "ACC"	
	ACC>ON		While turning power supply position from "ACC" to "IGN"	Γ
	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)	E
	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"	F
	OFF>LOCK		While turning power supply position from "OFF" to "LOCK"*	
Vehicle Condition	OFF>ACC		While turning power supply position from "OFF" to "ACC"	(
	ON>CRANK		While turning power supply position from "IGN" to "CRANKING"	
	OFF>SLEEP		While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode	ŀ
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply position is "LOCK"*.) to low power consumption mode	
	LOCK		Power supply position is "LOCK" (Ignition switch OFF with steer- ing is locked.)*	
	OFF		Power supply position is "OFF" (Ignition switch OFF with steering is unlocked.)	
	ACC		Power supply position is "ACC" (Ignition switch ACC)	
	ON		Power supply position is "IGN" (Ignition switch ON with engine stopped)	ŀ
	ENGINE RUN		Power supply position is "RUN" (Ignition switch ON with engine running)	
	CRANKING		Power supply position is "CRANKING" (At engine cranking)	E
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:

*: For models without steering lock unit, power supply position changes from "OFF" to "LOCK" when steering lock conditions are satisfied.

HEADLAMP

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

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WORK SUPPORT

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

Revision: 2011 October

< SYSTEM DESCRIPTION >

[XENON TYPE]

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

*: Initial setting

DATA MONITOR

Monitor item [Unit]	Description		
PUSH SW [On/Off]	The switch status input from push-button ignition switch		
ENGINE STATE [Stop/Stall/Crank/Run]	The engine status received from ECM with CAN communication		
VEH SPEED 1 [km/h]	The value of the vehicle speed received from unified meter and A/C amp. with CAN communication		
KEY SW-SLOT [On/Off]	Key switch status input from key slot		
TURN SIGNAL R [On/Off]			
TURN SIGNAL L [On/Off]			
TAIL LAMP SW [On/Off]			
HI BEAM SW [On/Off]			
HEAD LAMP SW1 [On/Off]	Each switch status that BCM judges from the combination switch reading function		
HEAD LAMP SW2 [On/Off]			
PASSING SW [On/Off]			
AUTO LIGHT SW [On/Off]			
FR FOG SW [On/Off]			
RR FOG SW [On/Off]	NOTE: The item is indicated, but not monitored.		
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)		
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)		

< SYSTEM DESCRIPTION >

[XENON TYPE]

Monitor item [Unit]	Description	A
DOOR SW-RR [On/Off]	The switch status input from rear door switch RH	
DOOR SW- RL [On/Off]	The switch status input from rear door switch LH	В
DOOR SW-BK [On/Off]	The switch status input from back door switch.	С
OPTICAL SENSOR [V]	The value of exterior brightness voltage input from the optical sensor	
		D

ACTIVE TEST

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

FLASHER

FLASHER : CONSULT-III Function (BCM - FLASHER)

WORK SUPPORT

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

*: Initial setting

DATA MONITOR

Revision: 2011 October

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< SYSTEM DESCRIPTION >

Monitor item [Unit]	Description		
REQ SW-DR [On/Off]	The switch status input from the request switch (driver side)		
REQ SW-AS [On/Off]	The switch status input from the request switch (passenger side)		
PUSH SW [On/Off]	The switch status input from the push-button ignition switch		
TURN SIGNAL R [On/Off]	Each quitch condition that PCM judges from the combination quitch reading fur		
TURN SIGNAL L [On/Off]	 Each switch condition that BCM judges from the combination switch reading function 		
HAZARD SW [On/Off]	The switch status input from the hazard switch		
RKE-LOCK [On/Off]	Lock signal status received from the remote keyless entry receiver		
RKE-UNLOCK [On/Off]	Unlock signal status received from the remote keyless entry receiver		
RKE-PANIC [On/Off]	Panic alarm signal status received from the remote keyless entry receiver		

ACTIVE TEST

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

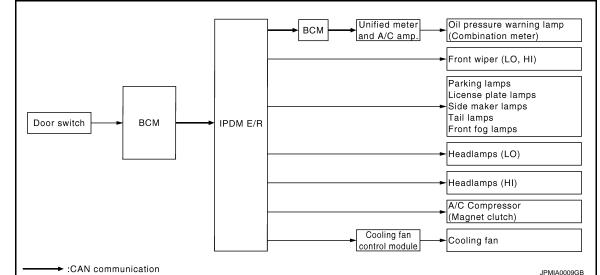
	А
Diagnosis Description	A
AUTO ACTIVE TEST	В
Description In auto active test mode, the IPDM E/R sends a drive signal to the following systems to check their operation. • Oil pressure warning lamp • Front wiper (LO, HI) • Parking lamps	С
 License plate lamps Side maker lamps Tail lamps 	D
 Front fog lamps Headlamps (LO, HI) A/C compressor (magnet clutch) Cooling fan (cooling fan control module) 	E
Operation Procedure	F
 Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation) NOTE: 	G
When auto active test is performed with hood opened, sprinkle water on windshield beforehand.2. Turn the ignition switch OFF.	
3. Turn the ignition switch ON, and within 20 seconds, press the front door switch (driver side) 10 times. Then turn the ignition switch OFF. CAUTION:	Н
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.	J
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:	K
 If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-66,</u> <u>"Component Function Check"</u>. Do not start the engine. 	EXI
Inspection in Auto Active Test Mode When auto active test mode is actuated, the following 6 steps are repeated 3 times.	M

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

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

< SYSTEM DESCRIPTION >

Concept of auto active test



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

Diagnosis chart in auto active test mode

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

< SYSTEM DESCRIPTION >

[XENON TYPE]

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

CONSULT-III Function (IPDM E/R)

APPLICATION ITEM

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

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

SELF DIAGNOSTIC RESULT Refer to <u>EXL-180, "DTC Index"</u>.

DATA MONITOR Monitor item

Monitor Item [Unit]	MAIN SIG- NALS	Description	EXL
RAD FAN REQ [%]	×	Displays the value of the cooling fan speed signal received from ECM via CAN communication.	M
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.	IVI
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.	Ν
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.	
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.	0
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.	Ρ
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.	
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.	
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.	

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< SYSTEM DESCRIPTION >

[XENON TYPE]

Monitor Item [Unit]	MAIN SIG- NALS	Description
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the shift position judged by IPDM E/R.
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN communication.
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW [Off/On]		Displays the status of the A/T shift selector (detention switch) judged by IPDM E/ R.
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay request received from BCM via CAN communication. 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
CORNERING LAMP	Off	
	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 >

[XENON TYPE]

Test item	Operation	Description
	1	OFF
MOTOR FAN	2	Outputs 50% pulse duty signal (PWM signal) to the cooling fan control module.
MUTOR 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
	TAIL	Operates the tail lamp relay.
EXTERNAL LAMPS	Lo	Operates the headlamp low relay.
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 sec- ond intervals.
	Fog	Operates the front fog lamp relay.

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< SYSTEM DESCRIPTION >

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

INFOID:000000006346299

[XENON TYPE]

APPLICATION ITEM

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

WORK SUPPORT

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

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

DATA MONITOR

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

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

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

DIAGNOSIS SYSTEM (AFS)

< SYSTEM DESCRIPTION >

[XENON TYPE]

Test item	Operation Item	Description
	Origin Fast	Swivels the right headlamp to the swivel angle 0° in the normal speed.
	Peak Fast	Swivels the right headlamp to the swivel angle approximately 15° in the normal speed.
LOW BEAM TEST RIGHT	Origin Slow	Swivels the right headlamp to the swivel angle 0° in the speed at the initialization.
	Peak Slow	Swivels the right headlamp to the swivel angle approximately 15° in the speed at the initialization.
	Origin Fast	Swivels the left headlamp to the swivel angle 0° in the normal speed.
	Peak Fast	Swivels the left headlamp to the swivel angle approximately 17° in the normal speed.
LOW BEAM TEST LEFT	Origin Slow	Swivels the left headlamp to the swivel angle 0° in the speed at the initialization.
	Peak Slow	Swivels the left headlamp to the swivel angle approximately 17° in the speed at the initialization.
LEVELIZER TEST	Origin	Changes the aiming motor drive signal to approximately 70% of the battery voltage. Moves the headlamp upward and downward.
LEVELIZER IESI -	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 condition	Possible cause
 AFS control unit indicates an applicable DTC when detecting any of the following conditions continuously for 2 seconds or more. AFS control unit-recognized swivel position differs extremely from the swivel position sensor-input value while the swivel operating.[*] The swivel position sensor signal does not change even though AFS control unit transmits the swivel motor driving signal while the swivel operating[*]. The swivel motor short and open is detected while the swivel operating[*]. The swivel position sensor power supply is 6 V or more, or 4 V or less. The swivel position sensor signal is 0.25 V or less, or 4.75 V or more. 	Ignition switch OFF	Swivel position sensor • Swivel position sensor • Harness and connector • AFS control unit Swivel motor • Swivel motor • Harness and connector • AFS control unit

*: Initialization is not included.

DTC CONFIRMATION PROCEDURE

1.DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2. CONFIRMATION DTC SELECTION

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

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

3.DTC CONFIRMATION (B2503)

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

1502 D1504 CWIVEL ACTUATOD

В	2503, B25	04 SWIVEL	ACTUATOR	
< DTC/CIRCUIT DIAGNOSIS >				[XENON TYPE]
Is "B2503" detected?				
YES >> Refer to <u>EXL-45</u> , "Di NO >> Refer to <u>GI-42</u> , "Inte	agnosis Proce rmittent Incide	<u>edure"</u> . ent".		
4.DTC CONFIRMATION (B250				
1. Steer to the straight-forward	position.			
 Start the engine. Turn the headlamp ON. 				
4. Drive at 25 km/h (15.5 MPH)				
 Steer to the left. (Rotate it or Stop the vehicle. 	ice or more.)			
7. Perform the self-diagnosis w	ith CONSULT	-111.		
<u>Is "B2504" detected?</u> YES >> Refer to EXL-45. "Di		oduro"		
YES >> Refer to <u>EXL-45, "Di</u> NO >> Refer to <u>GI-42, "Inte</u>				
Diagnosis Procedure				INFOID:00000006346302
1.CHECK SWIVEL POSITION	SENSOR SIG	NAL INPUT		
 Turn the ignition switch ON. Check the voltage between the set of the set	he AFS contr	ol unit harness o	connector and the ground.	
g				
Terminals				
(+)	(-)	Voltage (Approx.)		
AFS control unit Connector Terminal	_	(Applox.)		
RH 9	Ground			
LH M16 29	_	0.25 - 4.75 V		
Is the measurement value within	the standard	value?		
YES >> GO TO 2. Less than the standard value >:				
Higher than the standard value:				
2. CHECK SWIVEL MOTOR				
Check the swivel motor. EXL-48.	"Component	nspection".		
Is the inspection result normal?				
YES >> GO TO 3. NO >> Replace the front co	mbination lar	ID.		
3. CHECK SWIVEL MOTOR OF				
1. Turn the ignition switch OFF.				
2. Disconnect AFS control unit	connector and			
 Check continuity between th ness connector. 	E AFS CONTO			p Swiver actuator fial-

B2503, B2504 SWIVEL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

	AFS contro	ol unit	Headlamp swivel actuator		Continuity
Co	onnector	Terminal	Connector	Terminal	
		11		8	
RH		13	E29	7	
		32	L29	3	
	M16	34		4	Existed
	INITO	15		3	Existed

E59

Does continuity exist?

LH

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4.CHECK SWIVEL MOTOR SHORT CIRCUIT

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

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	AFS contro	l unit		Continuity
	Connector	Terminal		Continuity
		11		
RH		13		
КΠ	M16	32	Ground	Not existed
		34		
		15		NOT EXISTED
		17		
LU		36		
		38	1	

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 5.

5.CHECK SWIVEL MOTOR CIRCUIT VOLTAGE OUTPUT

1. Connect AFS control unit connector.

2. Turn the ignition switch ON.

3. Turn the headlamp ON.

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

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

B2503, B2504 SWIVEL ACTUATOR

Condition

< DTC/CIRCUIT DIAGNOSIS >

Terminals

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

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B2503, B2504 SWIVEL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

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

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

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

9. CHECK SWIVEL POSITION SENSOR GROUND CIRCUIT VOLTAGE OUTPUT

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

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

Is the measurement value normal?

YES >> GO TO 10.

NO >> Replace AFS control unit.

10. CHECK SWIVEL POSITION SENSOR SHORT GROUND CIRCUIT

1. Turn the ignition switch OFF.

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

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

Does continuity exist?

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

Component Inspection

1.CHECK SWIVEL MOTOR SINGLE PART

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

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

< DTC	/CIRCUIT DIAGNOSIS >	[XENON TYPE]		
Is the r	Is the measurement value normal?			
YES NO	>> Swivel actuator is normal. >> Replace the front combination lamp.	Å	Ą	
		E	В	
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		Γ	Э	
		E	Ξ	

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B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

B2514 HEIGHT SENSOR UNUSUAL [RR]

Description

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

NOTE:

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

DTC Logic

DTC DETECTION LOGIC

[B2514] Height sensor unusual [RR]

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

DTC CONFIRMATION PROCEDURE **1.**DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2.DTC CONFIRMATION

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

Is "B2514" detected?

- YES >> Refer to EXL-50, "Diagnosis Procedure".
- NO >> Refer to <u>GI-42, "Intermittent Incident"</u>.

Diagnosis Procedure

INFOID:000000006346306

1.CHECK HEIGHT SENSOR POWER SUPPLY OUTPUT

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

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

Is the measurement value within the standard value?

YES >> GO TO 2.

NO >> Replace AFS control unit.

2.CHECK HEIGHT SENSOR POWER SUPPLY INPUT

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

EXL-50

INFOID:000000006346304

B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

	Termir	nals						
(+	+)		(-)	Voltage				
AFS con	ntrol unit			(Approx.)				
Connector	Termi	nal (Ground					
M16	28		_	0.25 - 4.75 V				
Is the measuren	nent valu	e within the	standard v	value?				
		S control un						
Less than the	standard	value >>G0	D TO 3.					
Higher than the						_		
3.CHECK HEI	GHT SEI	NSOR POW	ER SUPPL	Y CIRCUIT O	UTPUT VO	LTAGE		
1. Turn the igr								
 Disconnect Turn the igr 			onnector.					
			height sens	or harness co	nnector and	I the ground	l.	
	Ū		U			U		
	Termir	nals						
(+	+)		(-)	Voltage				
Height	sensor			(Approx.)				
Connector	Termi	nal (Ground					
B32	1			5 V				
s the measuren	nent valı	e within the	standard v	alue?				
			IAL OPEN	s. CIRCUIT				
 CHECK HEIG Turn the igr Disconnect Check contitor. 	nition swi AFS cor	tch OFF. htrol unit cor	inector.	CIRCUIT	onnector an	d the heigh	t sensor harness co	onnec
 Turn the igr Disconnect Check contition tor. 	nition swi AFS cor inuity bet	tch OFF. htrol unit cor tween the A	nector. FS control	CIRCUIT	onnector an	d the heigh	t sensor harness co	onnec
 Turn the igr Disconnect Check contitor AFS control 	nition swi AFS cor inuity bet unit	tch OFF. htrol unit cor tween the A Heigh	nector. FS control	CIRCUIT	onnector an	d the heigh	t sensor harness co	onnec
1. Turn the igr 2. Disconnect 3. Check conti tor. AFS control Connector	nition swi AFS cor inuity bet unit Terminal	tch OFF. htrol unit cor tween the A Heigh Connector	Terminal	CIRCUIT unit harness co Continuity	onnector an	d the heigh	t sensor harness co	onnec
1. Turn the igr 2. Disconnect 3. Check conti tor. AFS control Connector 7 M16	nition swi AFS cor inuity bet unit Terminal 28	tch OFF. htrol unit cor tween the A Heigh	nector. FS control	CIRCUIT unit harness co	onnector an	d the heigh	t sensor harness co	onnec
1. Turn the igr 2. Disconnect 3. Check conti- tor. AFS control Connector T M16 Does continuity YES >> GO NO >> Rep	unit unit 28 exist? TO 5. pair the h	tch OFF. htrol unit con tween the A Heigh Connector B32	t sensor Terminal 2	CIRCUIT unit harness co Continuity Existed	onnector an	d the heigh	t sensor harness co	onnec
1. Turn the igr 2. Disconnect 3. Check conti tor. AFS control Connector 1 M16 Does continuity YES >> GO	unit unit 28 exist? TO 5. pair the h	tch OFF. htrol unit con tween the A Heigh Connector B32	t sensor Terminal 2	CIRCUIT unit harness co Continuity Existed	onnector an	d the heigh	t sensor harness co	onnec
1. Turn the igr 2. Disconnect 3. Check conti- tor. AFS control Connector T M16 Does continuity YES >> GO NO >> Rep	unit unit rerminal 28 exist? TO 5. pair the h GHT SEI	tch OFF. htrol unit con tween the A Heigh Connector B32 harnesses of NSOR SIGN	t sensor Terminal 2 Connectors	CIRCUIT unit harness co Continuity Existed S.			t sensor harness co	onnec
1. Turn the igr 2. Disconnect 3. Check control AFS control Connector T M16 Does continuity YES >> GO NO >> Rep 5.CHECK HEIC Check continuity	unit unit <u>exist?</u> TO 5. DAT SEN W betwee	tch OFF. htrol unit con tween the A Heigh Connector B32 harnesses of NSOR SIGN	t sensor Terminal 2 Connectors	CIRCUIT unit harness co Continuity Existed S.			t sensor harness co	onnec
1. Turn the igr 2. Disconnect 3. Check conti- tor. AFS control Connector 1 M16 Does continuity YES >> GO NO >> Rep 5.CHECK HEIC Check continuity Height	nition swi AFS cor inuity bet unit Terminal 28 exist? TO 5. pair the h GHT SEI y betwee sensor	tch OFF. ntrol unit con tween the A Heigh Connector B32 arnesses of NSOR SIGN in the height	t sensor Terminal 2 Connectors IAL SHORT	CIRCUIT unit harness co Continuity Existed S.			t sensor harness co	onnec
1. Turn the igr 2. Disconnect 3. Check conti- tor. AFS control Connector M16 Does continuity YES >> GO NO >> Rep 5.CHECK HEIC Check continuity Height Connector	nition swi AFS cor inuity bet unit Terminal 28 exist? TO 5. Dair the h GHT SEN y betwee sensor Termi	tch OFF. ntrol unit con tween the A Heigh Connector B32 arnesses of NSOR SIGN in the height	t sensor Terminal 2 Connectors	CIRCUIT unit harness co Continuity Existed s. CIRCUIT rness connecto Continuity			t sensor harness co	onnec
1. Turn the igr 2. Disconnect 3. Check conti- tor. AFS control Connector 1 M16 Does continuity YES >> GO NO >> Rep 5.CHECK HEIC Check continuity Height Connector B32	nition swi AFS cor inuity bet unit Terminal 28 exist? TO 5. pair the h GHT SEN y betwee sensor Termi 2	tch OFF. ntrol unit con tween the A Heigh Connector B32 arnesses of NSOR SIGN in the height	t sensor Terminal 2 Connectors IAL SHORT	CIRCUIT unit harness co Continuity Existed s. CIRCUIT rness connected			t sensor harness co	onnec
1. Turn the igr 2. Disconnect 3. Check conti- tor. AFS control Connector M16 Does continuity YES >> GO NO >> Rep 5.CHECK HEIC Check continuity Height Connector B32 Does continuity	nition swi AFS cor inuity bet unit Terminal 28 exist? TO 5. pair the h GHT SEN y betwee sensor Termi 2 exist?	tch OFF. ntrol unit con tween the A Heigh Connector B32 arnesses of NSOR SIGN in the height nal	t sensor Terminal 2 Connectors IAL SHORT t sensor hat	CIRCUIT unit harness co Continuity Existed s. CIRCUIT rness connecto Continuity Not existed			t sensor harness co	onnec
1. Turn the igr 2. Disconnect 3. Check conti- tor. AFS control Connector M16 Does continuity YES >> GO NO >> Rep 5.CHECK HEIC Check continuity Height Connector B32 Does continuity YES >> Rep	nition swi AFS cor inuity bet unit Terminal 28 exist? TO 5. Dair the h GHT SEN y betwee sensor Termi 2 exist? Dair the h	tch OFF. ntrol unit con tween the A Heigh Connector B32 arnesses of NSOR SIGN in the height nal	t sensor Terminal 2 connectors IAL SHORT t sensor hat Ground	CIRCUIT unit harness co Continuity Existed s. CIRCUIT rness connecto Continuity Not existed			t sensor harness co	onnec
1. Turn the igr 2. Disconnect 3. Check conti- tor. AFS control Connector M16 Does continuity YES >> GO NO >> Rep 5.CHECK HEIC Check continuity Height Connector B32 Does continuity YES >> Rep	nition swi AFS cor inuity bet unit Terminal 28 exist? TO 5. bair the h GHT SEN y betwee sensor Termi 2 exist? bair the h blace the	tch OFF. ntrol unit con tween the A Heigh Connector B32 arnesses of NSOR SIGN in the height nal	t sensor Terminal 2 Connectors IAL SHORT t sensor ha	CIRCUIT unit harness co Continuity Existed s. CIRCUIT rness connecto Continuity Not existed			t sensor harness co	onnec

EXL-51

[XENON TYPE]

B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

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

Is the measurement value within the standard value?

YES >> GO TO 7.

NO >> Replace AFS control unit.

7. CHECK HEIGHT SENSOR GROUND CIRCUIT

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

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

Does continuity exist?

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

Component Inspection

1.CHECK HEIGHT SENSOR

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

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

Is the output value normal?

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

B2516 SHIFT SIGNAL [P, R]

	GNAL [F, N]	
< DTC/CIRCUIT DIAGNOSIS >	• • •	[XENON TYPE
B2516 SHIFT SIGNAL [P, R]		
Description		INFOID:00000006346
AFS control unit receives the shift position signal from TC	M with CAN communica	tion.
DTC Logic		INFOID:00000006346
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-III.		
 Turn ignition ON. Select the self-diagnosis with CONSULT-III. Check the self-diagnosis result. Refer to <u>EXL-192</u>, "D <u>Is "B2516" detected?</u> YES >> Refer to <u>EXL-53</u>, "Diagnosis Procedure". NO >> Refer to <u>GI-42</u>, "Intermittent Incident". 	TC Index".	
Diagnosis Procedure		INFOID:00000006346
1.TCM SELF-DIAGNOSIS		
Check the self-diagnosis result with CONSULT-III. Check <u>Is any DTC detected?</u>	that I CIVI does not deter	ct any DTCs.
YES >> Check TCM. Refer to $\underline{\text{TM-156, "DTC Index"}}$. NO >> GO TO 2.		
2.DTC ERASE		
Erase the DTC memory of AFS with CONSULT-III.		
<u>Is the memory erased?</u> YES >> Inspection end.		
NO >> Replace AFS control unit.		

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< DTC/CIRCUIT DIAGNOSIS >

B2517 VEHICLE SPEED SIGNAL

Description

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

DTC Logic

DTC DETECTION LOGIC

[B2517] Vehicle speed signal

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

DTC CONFIRMATION PROCEDURE

1.DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2.DTC CONFIRMATION

1. Turn ignition ON.

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

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

Is "B2517" detected?

- YES >> Refer to EXL-54, "Diagnosis Procedure".
- NO >> Refer to <u>GI-42, "Intermittent Incident"</u>.

Diagnosis Procedure

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

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

Is any DTC detected?

YES >> Check the unified meter and A/C amp. Refer to MWI-106, "DTC Index".

NO >> GO TO 2.

2.DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

Is the memory erased?

YES >> Inspection end.

NO >> Replace AFS control unit.

INFOID:000000006346312

INFOID:00000006346313

B2519 LEVELIZER CALIBRATION < DTC/CIRCUIT DIAGNOSIS >

B2519 LEVELIZER CALIBRATION

Description

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

DTC Logic

[B2519] Levelizer calibration

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

Diagnosis Procedure

1.LEVELIZER ADJUSTMENT

Perform the levelizer adjustment.

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

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[XENON TYPE]

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INFOID:00000006346315

INFOID:00000006346316

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< DTC/CIRCUIT DIAGNOSIS >

B2521 ECU CIRCUIT

Description

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

DTC Logic

INFOID:000000006346318

INFOID:00000006346317

DTC DETECTION LOGIC

[B2521] ECU circuit

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

DTC CONFIRMATION PROCEDURE

1.DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2.DTC CONFIRMATION PROCEDURE

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

Is "B2521" detected?

- YES >> Refer to EXL-56, "Diagnosis Procedure".
- NO >> Refer to GI-42, "Intermittent Incident".

Diagnosis Procedure

1.CHECK EACH SENSOR POWER SUPPLY

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

	Terminals		
((+) (-)		
AFS co	ntrol unit		(Approx.)
Connector	Terminal		
	4	Ground	
M16	6		5 V
	24		

Is the measurement value within the standard value?

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

EXL-56

B2521 ECU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

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

EXL-57

B2521 ECU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace AFS control unit.

6. Check each sensor signal short circuit

1. Turn the ignition switch OFF.

2. Disconnect AFS control unit connector.

3. Turn the ignition switch ON.

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

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

Is the measurement value normal?

YES >> Replace AFS control unit.

NO >> Repair the harnesses or connectors.

DTC DETECTION LOGIC

C0126 STEERING ANGLE SENSOR SIGNAL

[C0126] Steering angle sensor signal

Description

DTC Logic

cation.

DTC detection condition	DTC erase condition	Possible causes	
 In any of the following conditions The steering angle sensor signal is not received. The steering angle sensor signal error is received. Out-of-standard signal (-900°- +900°) is received. 	The ignition switch OFF	Steering angle sensorAFS control unit	
DTC CONFIRMATION PROCEDURE			
1. DTC ERASE			
Erase the DTC memory of AFS with CONSULT-III.			
>> GO TO 2.			
2.DTC CONFIRMATION			
1. Start the engine.			
 Turn the steering wheel to the maximum right/left. Select the self-diagnosis with CONSULT-III. Check the self-diagnosis result. Refer to <u>EXL-192.</u> 	' <u>DTC Index"</u> .		
Is "C0126" detected?YES>> Refer to EXL-59, "Diagnosis Procedure".NO>> Refer to GI-42, "Intermittent Incident".			
Diagnosis Procedure		INFOID:00000006346322	
1.ABS ACTUATOR AND ELECTRICAL UNIT (CONTR	OL UNIT) SELF-DIAGNO	SIS	
Check the self-diagnosis result with CONSULT-III. Che does not detect any DTCs.			E
Is any DTC detected?			
YES >> Check ABS actuator and electrical unit (cor NO >> GO TO 2.	itrol unit).Refer to <u>BRC-10</u>	<u>4, "DTC No. Index"</u> .	
2.DTC ERASE			
Erase DTC memory of AFS with CONSULT-III.			
Is the memory erased?			
YES >> Inspection end. NO >> Replace AFS control unit.			

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

Revision: 2011 October

[XENON TYPE]

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INFOID:000000006346320

C0428 STEERING ANGLE SENSOR CALIBRATION

< DTC/CIRCUIT DIAGNOSIS >

C0428 STEERING ANGLE SENSOR CALIBRATION

Description

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

DTC Logic

[C0428] Steering angle sensor calibration

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

Diagnosis Procedure

INFOID:00000006346325

1.STEERING ANGLE SENSOR NEUTRAL POSITION ADJUSTMENT

Perform the steering angle sensor neutral position adjustment.

CAUTION:

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

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

INFOID:00000006346323

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< DTC/CIRCUIT DIAGNOSIS >

U1000 CAN COMM CIRCUIT

Description

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

DTC Logic

DTC DETECTION LOGIC

[U1000] CAN communication circuit

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

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-42, "Intermittent Incident".

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U1010 CONTROL UNIT (CAN)

DTC Logic

[U1000] CAN communication circuit

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

Diagnosis Procedure

1.REPLACE AFS CONTROL UNIT

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

>> Replace AFS control unit.

INFOID:000000006346329

< DTC/CIRCUI	_	VER SUPF	PLY AN	D GR	OUND CIR	CUIT	[XENON TYPE]	
POWER S BCM (BOD)				CUIT	-			A
BCM (BOD)		MODULE)	: Diagn	nosis I	Procedure		INFOID:000000006346331	D
1.CHECK FUS	SE AND FUSIBI	_E LINK						В
Check that the	following fuse a	nd fusible link	are not blo	own.				С
	Signal nan	ne			Fuse	and fusible link	No.	
	Battery power	supply	-			K 10		D
Is the fuse fusir	na?							
YES >> Re blo	place the blown wn.) TO 2.		e link after	r repairi	ng the affecte	d circuit if a f	use or fusible link is	E F
2. Disconnect	n switch OFF. BCM connecto age between BC		nnector ar	nd grou	nd.			G
	Terminals							Н
(-	+)	(–)	Volta	ae				
BC	CM		(Appro	0				
Connector	Terminal							1
M118	1	Ground	Dettem	volto a o				
M119	11		Battery v	ollage				.1
YES >> GC		connector.	ector and	around	1			K
				ground			E	EXL
BC Connector	CM Terminal	Ground	Contin	uity			-	M
M119	13		Exist	ed				IVI
NO >> Re IPDM E/R(SPECTION END pair harness or INTELLIGE	connector. NT POWEI					GINE ROOM)	N
IPDM E/R (I agnosis Pro		IT POWER	DISTRI	IBUTI	ON MODU	LE ENGIN	E ROOM) : Di-	-
	SES AND FUSI							Ρ
Check that the	following IPDM	E/R fuses or fu	usible links	s are no	ot blown.			

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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

Is the fuse fusing?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.

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

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

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

 ${f 3.}$ CHECK GROUND CIRCUIT

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

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

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

AFS CONTROL UNIT

AFS CONTROL UNIT : Diagnosis Procedure

1.FUSE INSPECTION

Check that the following fuses are not fusing.

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

Is the fuse fusing?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

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

3. Turn ignition switch ON.

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

EXL-64

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

	Terminals					
		()				
(+) AFS control unit		(-)	(-) Voltage (Approx.)			
			(/ ())			
Connector	Terminal	Ground	Detter			
M16	1		Battery voltage			
Is the measurer		<u>nal?</u>				
YES >> GO NO >> Rep	Dair harness or	connector				
3. CHECK GRO						
		1				
	n switch OFF.	AES control u	nit harness conr			
	indity between					
AFS cor	ntrol unit					
Connector	Terminal	Ground	Continuity			
M16	25		Existed			
Does continuity	exist?					
•	ver supply and	around circuit	are normal			
	bair harness or		are normal.			

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EXTERIOR LAMP FUSE

Description

INFOID:000000006346334

[XENON TYPE]

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

Diagnosis Procedure

1.CHECK FUSE

Check that the following fuses are not fusing.

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

Is the fuse fusing?

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

NO >> The fuse is normal.

HEADLAMP (HI) CIRCUIT

	P (HI) C	IRCUIT	•			٥
Component	Function	Check				A INFOID:000000006346336
1.снеск не	Adlamp (F	II) OPERAT	ION			В
 Check that CONSULT-III Select "EX" 	DM E/R aut the headla ACTIVE T FERNAL LA	to active tes mp switche EST AMPS" of IF	s to the high PDM E/R act		osis Description".	C
Hi		mp (HI) ON				
Off NOTE:	: Headla	mp (HI) OF	F			E
ON/OFF is <u>Is the headlam</u> YES >> Hea	<u>o (HI) turne</u> adlamp (HI)	<u>d ON?</u>) circuit is n		- <u>e"</u> .		F
Diagnosis P	rocedure)				G
1.снеск не	ADLAMP (H	II) OUTPU	T VOLTAGE			н
 Turn the igit Select "EX" 	hition switcl the front contition switcl FERNAL LA	n OFF. ombination n ON. \MPS" of IF		ctor. ive test item.		I
•	itina the te					
ground.		st items, c	heck the vo	ltage between	the IPDM E/R harnes	s connector and the ${\mathbb J}$
		st items, c	heck the vo	ltage between	the IPDM E/R harnes	s connector and the ${\mathbb J}$
	Ferminals	st items, c	heck the vo	Itage between	the IPDM E/R harnes	s connector and the J
	Ferminals E/R		Condition		the IPDM E/R harnes	J
(+)	Ferminals		Condition External lamp	Voltage	the IPDM E/R harnes	J
(+)	Ferminals E/R		Condition External lamp Hi	Voltage (Approx.) Battery voltage	the IPDM E/R harnes	J K EXI
(+) IPDM E Connector RH E8	Ferminals E/R Terminal 89	(-)	Condition External lamp	Voltage (Approx.) Battery voltage 0 V Battery	the IPDM E/R harnes	J
(+) IPDM E Connector RH	Terminals E/R Terminal	(-)	Condition External lamp Hi Off	Voltage (Approx.) Battery voltage 0 V	the IPDM E/R harnes	J K EXI
(+) IPDM E Connector RH E8 LH Is the measure	Ferminals E/R Terminal 89 90 ment value	(-) Ground	Condition External lamp Hi Off Hi	Voltage (Approx.) Battery voltage 0 V Battery voltage	the IPDM E/R harnes	J K EXI
(+) IPDM E Connector RH E8 LH Is the measured YES >> GC NO >> GC	Ferminals F/R Terminal 89 90 ment value 0 TO 2. 0 TO 3.	(-) Ground	Condition External lamp Hi Off Hi Off	Voltage (Approx.) Battery voltage 0 V Battery voltage	the IPDM E/R harnes	J K EXI
(+) IPDM E Connector RH E8 LH Is the measured YES >> GC NO >> GC 2.CHECK HEA 1. Turn the ign 2. Disconnect	Ferminals F/R Terminal 89 90 ment value 90 TO 2. 1TO 2. 1TO 3. ADLAMP (H IPDM E/R	(-) Ground normal? II) OPEN C	Condition External lamp Hi Off Hi Off	Voltage (Approx.) Battery voltage 0 V Battery voltage 0 V	the IPDM E/R harnes	J K EX M N O P

< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

3.CHECK HEADLAMP (HI) FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuses are not fusing.

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

Is the fuse fusing?

YES >> GO TO 4.

NO >> Replace IPDM E/R.

4. CHECK HEAD LAMP (HI) SHORT CIRCUIT

1. Disconnect IPDM E/R connector.

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

IPDM E/R				Continuity	
Connector		Terminal	Ground	Continuity	
RH	EQ	89		Not existed	
LH	E8	90		NUL EXISIEU	

Does continuity exist?

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

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

5. CHECK HEAD LAMP (HI) GROUND OPEN CIRCUIT

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

Fro	nt combinat	ion lamp		Continuity
Connector		Terminal	Ground	Continuity
RH	E28	2	Giouna	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)		
< DT	C/CIF	RCUIT DIA	GNOSIS >			[XENON TYPE]	
HEA	٩DL	AMP (L	O) CIRC	UIT			А
Des	cript	ion				INFO/D:00000006346338	A
xeno	n hea	dlamp ON.			-	ted in the headlamp. Headlamp (LO) circuit turns efer to EXL-71, "Description".	В
Com	npon	ent Fund	ction Cheo	ck		INF01D:00000006346339	С
1. cł	HECK	HEADLAN	MP (LO) OPE	ERATION			
1. A 2. C CC 1. S	Activa Check DNSU Select	te IPDM E/ that the he LT-III ACTI	eadlamp is tu IVE TEST AL LAMPS"	e test. Refer urned ON. of IPDM E/R	active test iten	agnosis Description". n. -O) is turned ON.	D
							F
	Lo Off		eadlamp (LC eadlamp (LC				
<u>Is the</u>	head	<u>dlamp (LO)</u>	turned ON?	-			G
YES NO			p (LO) is nor EXL-69, "Dia		edure".		
		is Proce		<u></u>	<u> </u>	INFC/D:00000006346340	Н
1. ci	НЕСК		MP (LO) OU ⁻		AGE		
CC CC 1. T 2. C	ONSU Turn tl Discor	LT-III ACTI he ignition nnect the fr	VE TEST switch OFF. ont combina				J
			switch ON. AL LAMPS"	of IPDM E/R	active test iten	n.	0
5. V		operating t				een the IPDM E/R harness connector and the	K
		Terminals					
	(+)	()	Test item	Voltage		EXI
	IPD	M E/R		EXTERNAL	(Approx.)	-	
Conr	nector	Terminal	-	LAMP		_	M
RH		83	Ground	Lo Off	Battery voltage 0 V		
	E8			Off	0 V Battery voltage	-	Ν
LH		84		Off	0 V	-	
Is the	mea	surement v	alue normal	?	1		0
YES		> GO TO 2					0
NO 2 CH		> GO TO 3 (headi ai	MP (LO) OPI				
			switch OFF.				Ρ
			I E/R connec	ctor.			

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

HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

IPDM E/R			Front comb	Continuity		
Conr	Connector Terminal		Connector Terminal		Continuity	
RH	E8	83	E28	5	Existed	
LH	LU	84	E58	5	LXISted	

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

3.CHECK HEADLAMP (LO) FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuses are not fusing.

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

Is the fuse fusing?

YES >> GO TO 4.

NO >> Replace IPDM E/R.

4.CHECK HEADLAMP (LO) SHORT CIRCUIT

1. Disconnect IPDM E/R connector.

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

IPDM E/R				Continuity	
Connector		Terminal	Ground	Continuity	
RH	EQ	83	Giouna	Not existed	
LH	E8	84			

Does continuity exist?

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

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

5.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT

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

Front combination lamp				Continuity
Con	Connector		Ground	Continuity
RH	E28	3	Glound	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

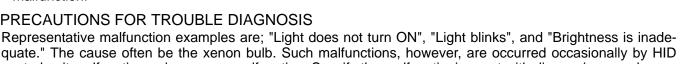
- The lamp light source is by the arch discharge by applying high voltage into the xenon gas-filled bulb instead of the halogen bulb filament.
- Sight becomes more natural and brighter because the amount of light are gained adequately and the color of light is sunshine-like white.
- The xenon bulb drops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



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.

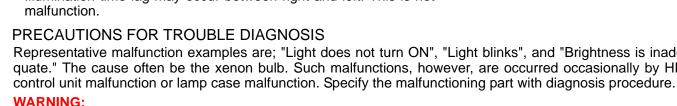
Diagnosis Procedure

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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and

Structure

Luminous tube

Quartz glass

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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-III ACTIVE TEST

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

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

Is the operation normal?

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

Diagnosis Procedure

1.CHECK AIMING MOTOR DRIVE SIGNAL OUTPUT

CONSULT-III ACTIVE TEST

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

		Terminals		Test item	
	(+)		(-)	iest item	Voltage
Α	AFS control unit			LEVELIZER TEST	(Approx.)
Con	nector	Terminal			
RH		19	19 Ground	Origin	8.8 V
1.1.1	M16	15	Cround	Peak	1.9 V
LH	_	40		Origin	8.8 V
	-0		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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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
LXISIEU	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		Continuity	
Conr	nector	Terminal	Ground Oot existed		Continuity
RH	M16	19		Not ovisted	
LH	IVITO	40		NOL EXISTED	

Does continuity exist?

YES >> Repair the harness and connectors.

NO >> Replace AFS control unit.

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< DTC/CIRCUIT DIAGNOSIS >

FRONT FOG LAMP CIRCUIT

Component Function Check

1.CHECK FRONT FOG LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

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

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

CONSULT-III ACTIVE TEST

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

Fog : Front fog lamp ON

Off : Front fog lamp OFF

Is the front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.

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

Diagnosis Procedure

1.CHECK FRONT FOG LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#58	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	Giouna	Not existed
LH	Εo	87		NUL EXISTED

Does continuity exist?

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

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

3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

CHECK FRONT FOG LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

EXL-74

INFOID:000000006346346

FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

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

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5. CHECK FRONT FOG LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect IPDM E/R connector.

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

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

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

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

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

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

Does continuity exist?

YES >> Replace the front fog lamp.

NO >> Repair the harnesses or connectors.

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< DTC/CIRCUIT DIAGNOSIS >

PARKING LAMP CIRCUIT

Component Function Check

1.CHECK PARKING LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

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

2. Check that the parking lamp is turned ON.

(E)CONSULT-III ACTIVE TEST

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

TAIL : Parking lamp ON

Off : Parking lamp OFF

Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal.

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

Diagnosis Procedure

1.CHECK PARKING LAMP FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuses are not fusing.

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

Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK PARKING LAMP SHORT CIRCUIT

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

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

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

Does continuity exist?

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

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

3.CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4.CHECK PARKING LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

1. Disconnect the front combination lamp connector.

2. Turn the ignition switch ON.

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

EXL-76

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PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	Т	erminals		Test item	
	(+)		(-)	1000 10011	Voltage
IPDM E/R		/R		EXTERNAL	(Approx.)
Co	nnector	Terminal		LAMP	
RH		91	Ground	TAIL	Battery voltage
	E9			Ground	Off
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.
- 3. Check continuity between the IPDM E/R harness connector and the front combination lamp harness connector.

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

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

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

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

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

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

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TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

TURN SIGNAL LAMP CIRCUIT

Description

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

NOTE:

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

Component Function Check

1.CHECK TURN SIGNAL LAMP

(E)CONSULT-III ACTIVE TEST

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

Off : The turn signal lamp OFF

Does the turn signal lamp blink?

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

Diagnosis Procedure

1.CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

	Terminals			Test item		
(+)		(-)		Voltage (Approx)		
	BCM			FLASHER	Voltage (Approx.)	
Conne	ector	Terminal		FLASHER		
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	
		4	10			

Is the measurement value normal?

Revision: 2011 October

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TURN SIGNAL LAMP CIRCUIT

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

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

OPTICAL SENSOR

Description

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

Component Function Check

1.CHECK OPTICAL SENSOR SIGNAL BY CONSULT-III

CONSULT-III DATA MONITOR

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

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

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

Is the item status normal?

YES >> Optical sensor is normal.

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

Diagnosis Procedure

1. CHECK OPTICAL SENSOR POWER SUPPLY INPUT

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

	Terminals				
(+)	(-)	Voltage		
Optica	sensor		(Approx.)		
Connector	Connector Terminal				
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 measuren	nent value nor	mal?		

YES >> GO TO 3.

NO >> GO TO 6.

3. CHECK OPTICAL SENSOR SIGNAL OUTPUT

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

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

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

Is the measurement value normal?

NO >> Replace the optical sensor.

4.CHECK OPTICAL SENSOR OPEN CIRCUIT

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

Optica	l 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	lsensor		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.

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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 press-В ing the switch.

Component Function Check

1.CHECK HAZARD SWITCH SIGNAL BY CONSULT-III

(E)CONSULT-III DATA MONITOR

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

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		
(+	(+) (-)		Condition	Voltage (Approv.)	
BC	М			Voltage (Approx.)	
Connector	Terminal		Hazard switch		
			While pressing the switch	0 V	E
M122	110	Ground	While not pressing the switch	(V) 15 10 5 0	
				10 ms	
Is the meas	surement	value no	ormal?		
	> Replace > GO TO				
-			H SIGNAL OPEN	CIRCUIT	

1. Turn the ignition switch OFF.

Disconnect the multifunction switch connector and BCM connector. 2.

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

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[XENON TYPE]

HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

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

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3.CHECK HAZARD SWITCH SIGNAL SHORT CIRCUIT

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

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

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 4.

4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

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

Multifunct	ion switch		Continuity
Connector	Terminal	Ground	Continuity
M72	1		Existed

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

TAIL LAMP CIRCUIT

CDTC/CIRCUIT DIAGNO	1212 >						
TAIL LAMP CIRCU	JIT						
Component Functior	n Check						INFOID:000000006346359
1. CHECK TAIL LAMP OF	PERATION						
 IPDM E/R AUTO ACTIV Activate IPDM E/R au Check that the tail lam CONSULT-III ACTIVE T Select "EXTERNAL Lo With operating the tes 	to active test op is turned C EST AMPS" of IPI	DN. DM E/R :	active test item	٦.	·	<u>on"</u> .	
TAIL : Tail lan	າp ON						
Off : Tail lan	•						
Is the tail lamp turned ON' YES >> Tail lamp circu NO >> Refer to <u>EXL-</u>	it is normal.	is Proce	dure".				
Diagnosis Procedure	-						INFOID:00000006346360
1.CHECK TAIL LAMP FU	JSE						
 Turn the ignition switc Check that the following 	h OFF.	not fusir	ng.				
Unit	Location	Fuse I	No. Capacity	•			
Tail lampRear side marker lampLicense plate lamp	IPDM E/R	#53	3 10 A				
Is the fuse fusing? YES >> Repair the ma NO >> GO TO 2. 2.CHECK TAIL LAMP OU		-	pre replacing th	ie fuse.			
CONSULT-III ACTIVE T Disconnect the rear co Turn the ignition switc Select "EXTERNAL Lo With operating the te ground.	ombination la h ON. AMPS" of IPI	DM E/R	active test item		IPDM E/	/R harness c	onnector and the
Terminals							
(+)	(–) Tes	st item	Voltage				
IPDM E/R	EXT	ERNAL AMP	(Approx.)				
Connector Terminal G	round	TAIL	Battery voltage				
E5 7		Off	0 V				
Is the measurement value	normal?	I					
YES >> GO TO 3.							

2. Disconnect IPDM E/R connector.

< DTC/CIRCUIT DIAGNOSIS >

TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

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

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	B232 4		Existed
LH	B60	4	-	Existed

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

LICENSE PLATE LAMP CIRCUIT < DTC/CIRCUIT DIAGNOSIS >

LICEN	NSE P	LATE L/		CUIT			<u> </u>	
Comp	onent F	unction (Check				INFOID:000000006346361	1
			the tail lamp E LAMP OPI		cense plate la	amp are not turned ON.		
 Acti Che 	ivate IPD eck that th	ne license p	active test. plate lamp is			nosis Description".		(
1. Sel	ect "EXTI		MPS" of IPD			ate lamp is turned ON.		
-	TAIL	: License	plate lamp (NC				
	Off		plate lamp (OFF				
<u>Is the lic</u> YES NO	>> Licer		<u>ned ON?</u> mp circuit is 7, "Diagnosis		<u>e"</u> .			
Diagno	osis Pro	ocedure					INFOID:00000006346362	(
1. CHE	CK LICE	NSE PLATE	E LAMP BUL	B				
Check t	he applic	able lamp b	oulb.					
	ulb norma							
YES NO	>> GO ⁻ >> Repl	ace the bul	b.					
2. CHE	CK LICE	NSE PLATE		EN CIRCU	ΙТ			
		tion switch						
					se plate lamp ess connecto	o connector. or and the license plate la	amp harness connec-	
tor.		,						
	IPDM E/	′R	License p	late lamp	0			
Con	nector	Terminal	Connector	Terminal	- Continuity			E
RH	E5	7	D117	1	Existed			
LH			D112	1				[
	ontinuity e							
YES NO	>> GO -		esses or cor	nectors.				
•	-				EN CIRCUIT			
						ector and the ground.		
	· · · · · · · · · · · · · · · · · · ·		P.			······		(
	License p	plate lamp			Continuity			

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

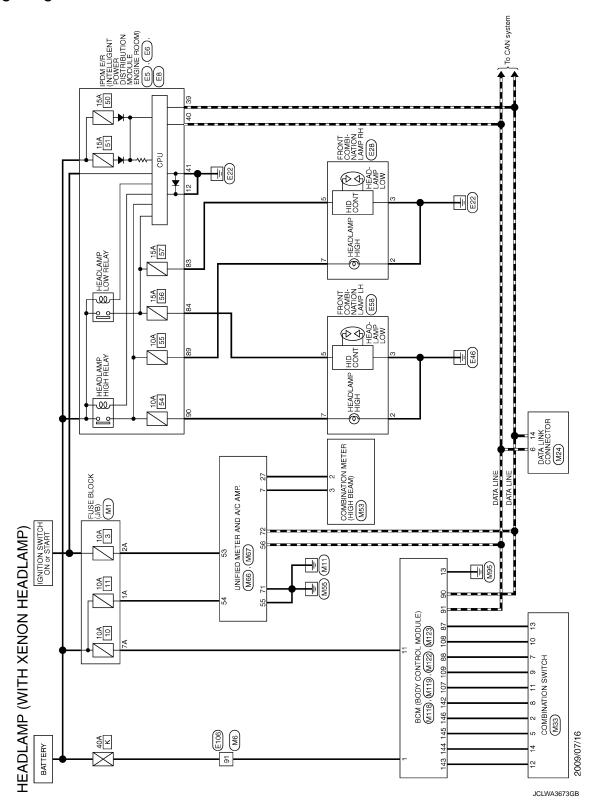
Does continuity exist?

YES

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

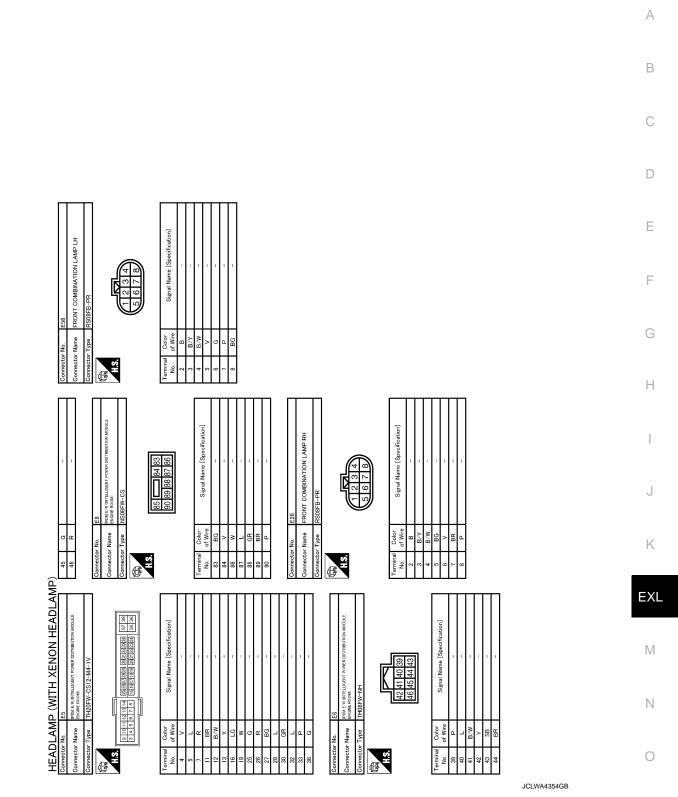
HEADLAMP SYSTEM

Wiring Diagram - HEADLAMP -

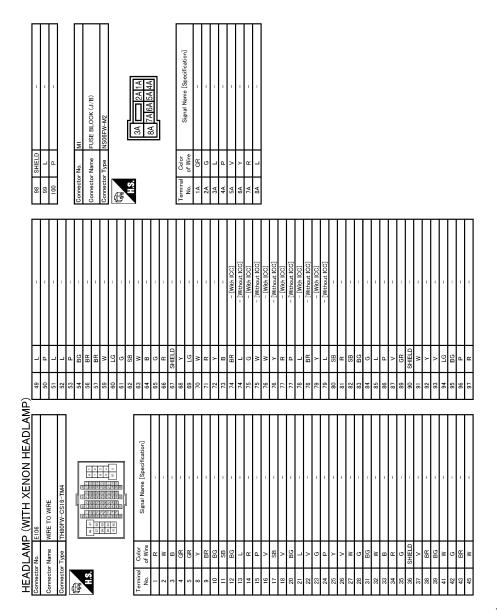


HEADLAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >



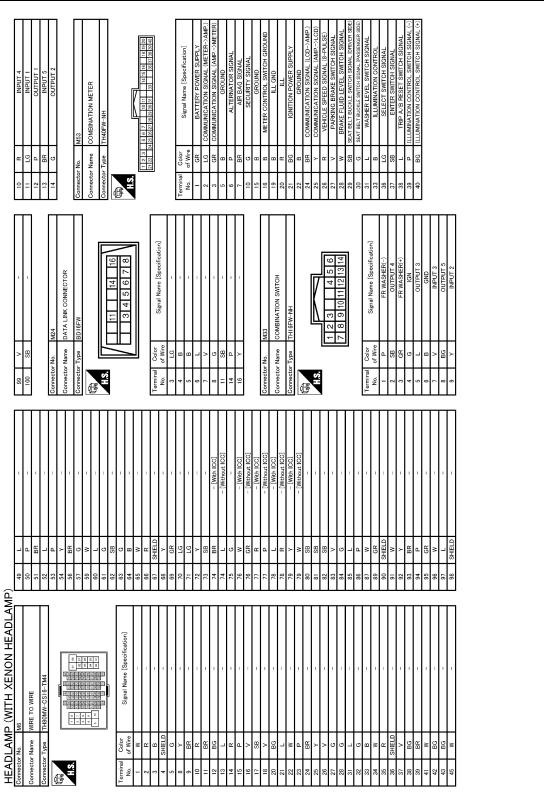
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HEADLAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >



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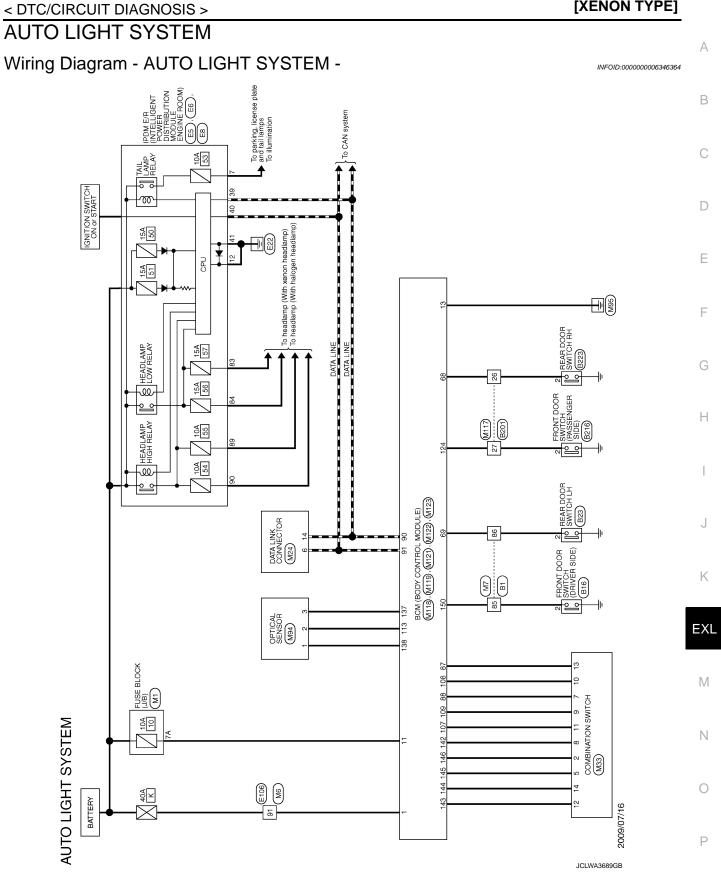
HEADLAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

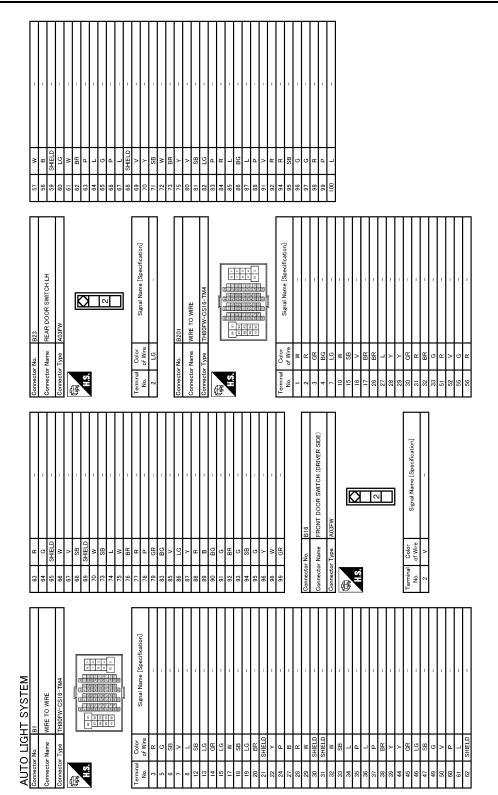
TPUT 99 R PASSEN IPUT 100 G PASSEN IPUT 100 G PASSEN UTPUT 100 SG BLOWENV UTFUT 103 BG BLOWENV IT 102 BG BLOWENV IT 102 LG KEVLESS EM IO W VL SAL IO LG KEVLESS EM SAL IO LG W SAL IO LG W SAL IO LG V C CMD 10 G C C	TURN SIGNAL LH (FRONT) FOOM LAMP TIMER CONTROL SOM LAMP TIMER CONTROL SOP CONTROL MODULE) SOP CONTROL MODULE) SOP CONTROL MODULE) Connector Type And Software the Software Soft	Signal Name [Specification] Terminal Color Signal Name [Specification] No. of Wire opUCAL SENSOR ROOM ANT2- TIB P OPUCAL SENSOR ROOM ANT2- TIB P STOP LAMP SW 1 PASSENGER DOOR ANT- TIB P STOP LAMP SW 2 PASSENGER DOOR ANT- TIB P STOP LAMP SW 2 PASSENGER DOOR ANT- TIB P STOP LAMP SW 2 PASSENGER DOOR ANT- TIB P STOP LAMP SW 2 DRIVER DOOR ANT- TIB P STOP LAMP SW 2 DRIVER DOOR ANT- TIB P STOP LAMP SW 2 DRIVER DOOR ANT- TIB P STOP LAMP SW 2 DRIVER DOOR ANT- TIB P NCM SW COMM ROOM ANT+ TIB P PASSENGER DOOR SW COMM ROOM ANT+ TIB P PORE NUTON SW LLD POWER NATS ANT AMP TIB P POSENER NUTON SW LLD POWER NATS ANT AMP TIB P POSENER NUTON SW TLD POWER NATS	142 BG 143 G 144 G 144 L 146 L 146 L 151 G REat
2 C C C C C C C C C C C C C C C C C C C	18 BG Connector Name BG/M (Connector Name BC/M (Connector Name BC/M (Connector Type TTH40F)	Terminal No. Color Nine 72 R 73 G 74 SB 75 GR 76 GR 73 G 74 SB 79 BR 80 Y 81 W 83 Y	89 99 97 97 98 98 98 98 98 98 98 98 98 98
	63 FR ECV SIGNAL 69 L A/CLAN SIGNAL 70 R A/CLAN SIGNAL 71 R EACH DOOR NOVER SUPPLY 72 P CAN-L Connector Name BCM (BODY CONTROL MODULE) Connector Type M037B-LC	Terminal Color Signal Name [Specification] No. of Wire Signal Name [Specification] No. of Wire Signal Name [Specification] <u>v POWER WINDOW POWER SUPPLY(RAR)</u> <u>v POWER WINDOW POWER SUPPLY(RAR)</u> <u>Connector No. M119</u> Connector No. M119 Connector No. M119 Connector Type NSIGFW-CS	Time Signal Name [Speeification] Terminal Color Signal Name [Speeification] No. of Wire Name [Speeification]
HEADLAMP (WITH XENON HEADLAMP) Connector Name UNIFED METER AND A/C AMP. Connector Type TH40FW-NHI Connector Th40FW-NHI Co	Terminal Color Signal Mane [Specification] No. of Wire MANUAL MOE SHIFT UP SIGNAL 7 L MANUAL MOE SHIFT UP SIGNAL 7 CR COMMUNCTION SIGNAL (AMP->MRFER) 8 L VENDLE SHIFT UP SIGNAL 9 SR PROVES SIGNAL (AMP->MRFER) 10 W MANUAL MOE SIGNAL 14 ER COMMUNICATION SIGNAL (LCD->AMP-) 23 Y ATSION SIGNAL (LCD->AMP-) 23 Y ATSION SIGNAL (LCD->AMP-) 23 Y MICH MOE SIGNAL 24 MANUAL MOE SIGNAL (LCD->AMP-) 25 V MANUAL MOE SIGNAL	41 1 1 ×	Terminal Color Signal Name (Specification) No. of Wire Signal Name (Specification) 41 V ACC POWER SUPPLY 42 Y FUEL LEVEL SENSOR SIGNAL 43 R INTARE SUSOR SIGNAL 44 LG IN-VEHICLE SENSOR SIGNAL 45 P AMBIENT SENSOR SIGNAL 46 BG SIMUADA SENSOR SIGNAL 47 LG IN-VEHICLE SENSOR SIGNAL 47 LG SIMUADA SENSOR SIGNAL

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[XENON TYPE]

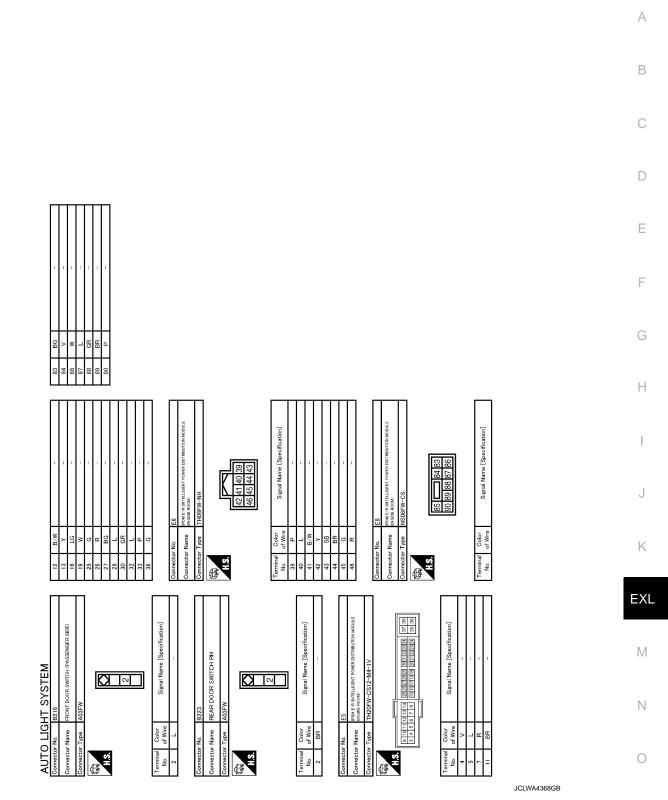


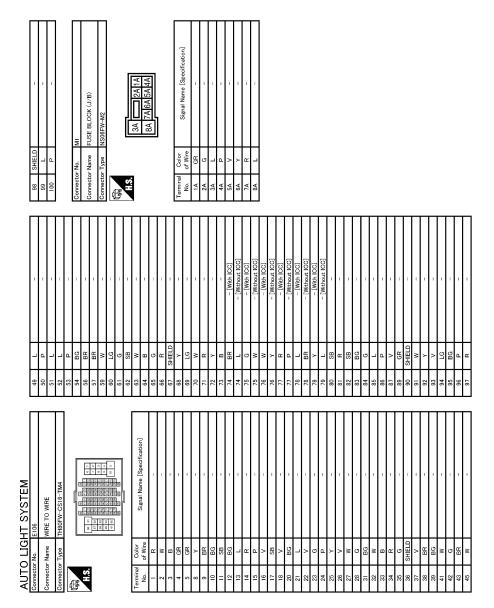
< DTC/CIRCUIT DIAGNOSIS >



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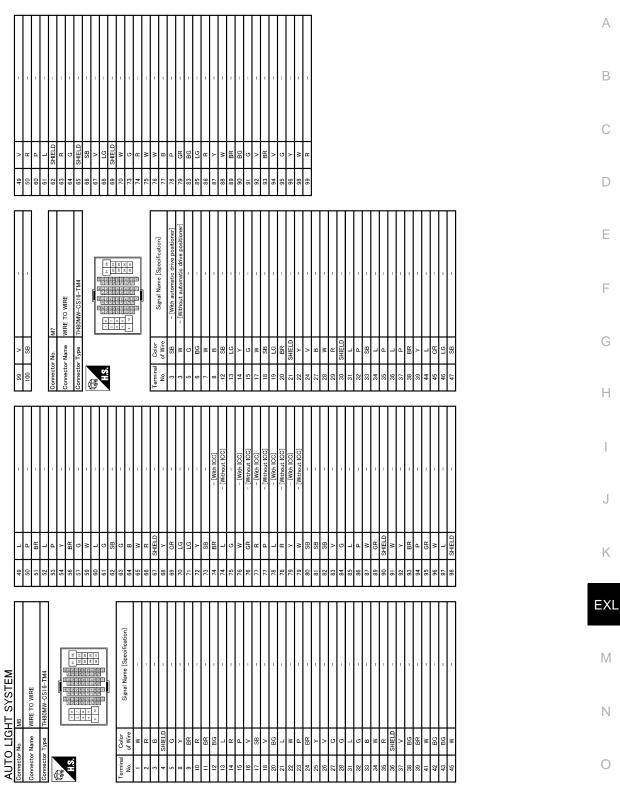




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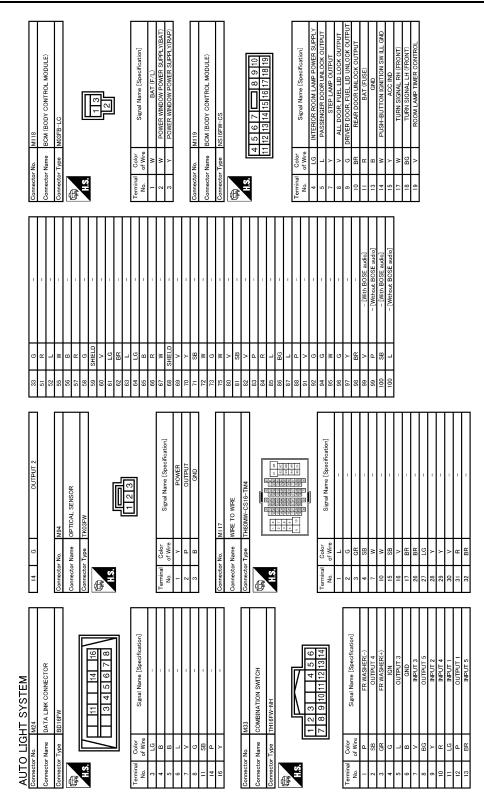
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[XENON TYPE]



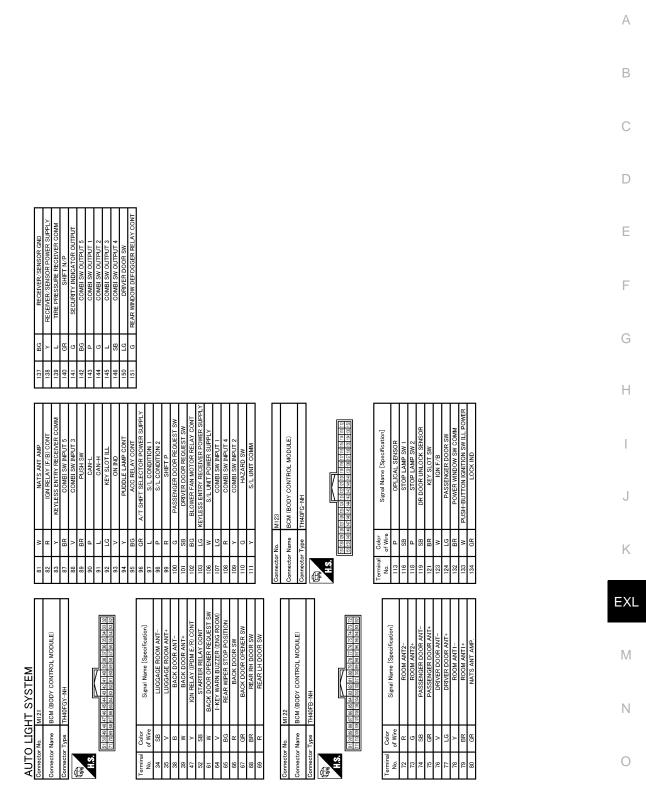
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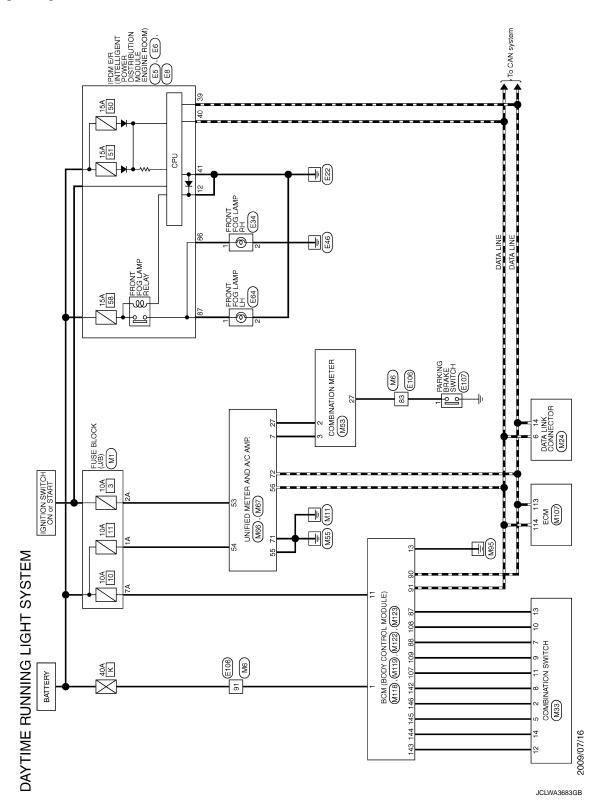
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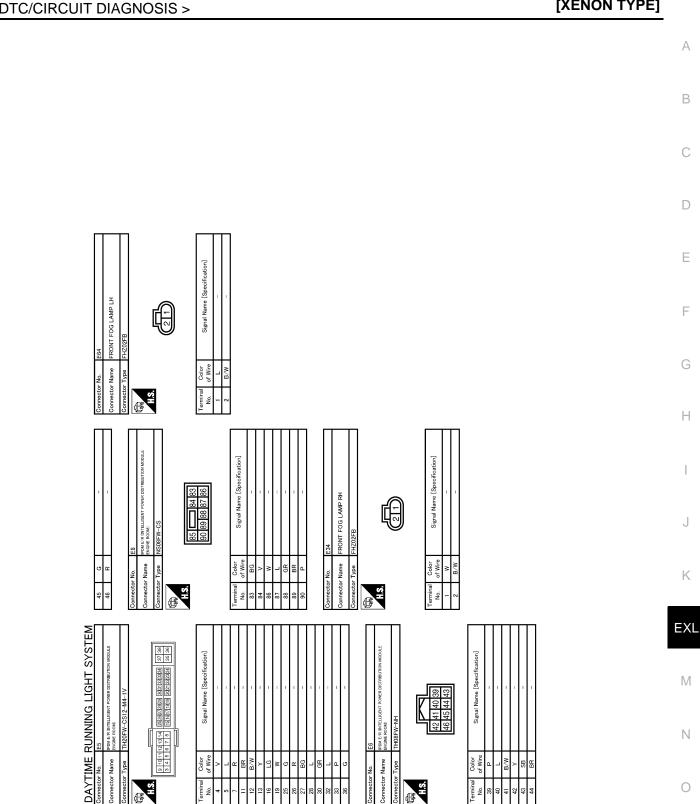


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Wiring Diagram - DAYTIME LIGHT SYSTEM -

[XENON TYPE]



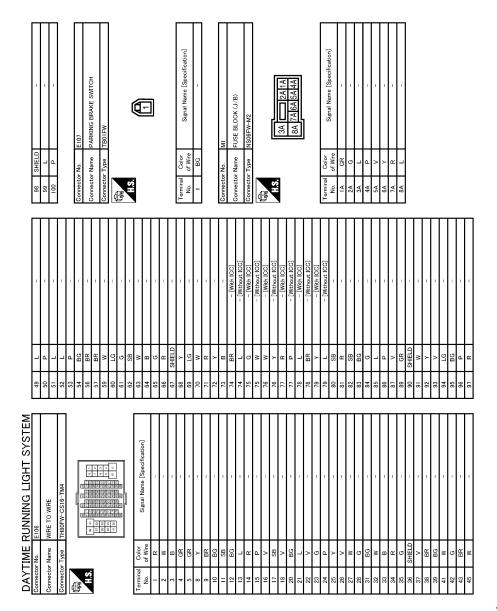


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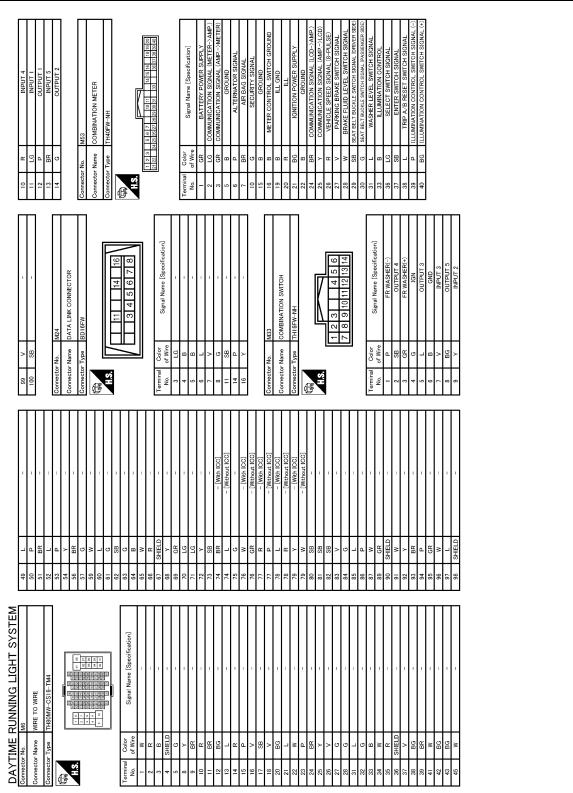
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DAYTIME RUNNING LIGHT SYSTEM

< DTC/CIRCUIT DIAGNOSIS >



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DAYTIME RUNNING LIGHT SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

OR I TURN TURN ≥ BG > 19 Signal Name [Specification] Signal Name [Specification] BCM (BODY CONTROL MODULE) BCM (BODY CONTROL MODULE) **R ROOM LAMP POWE** л, NGER DOOR UNLO STEP LAMP OUT KLINE CDCV CDCV GND GND GND GND GND GND 80 4 5 6 7 **2** 8 Ī nnector No. Color of Wire Golor of Wire LG Connector Name Connector Type Connector Name <u>س</u> س 引. H.S. . SH Terminal No. Terminal 124 127 ŝ Cor Signal Name [Specification] 128 124 116 116 106 104 105 127 123 114 110 106 99 128 122 114 110 106 99 128 122 121 117 119 108 108 109 98 GNDA ASCD -APS2 [Wi APS2 [With APS1 TACH C-PDF Ē ECM M107 Color of Wire ≥ R R Connector No. nnector Name be SB≤ ⊣≥∺≻ຉ๙ฃ 느甾명 œ ಟ Яß ωQ ۲ - 0 H.S. 103 ermina No 8 倨 DAYTIME RUNNING LIGHT SYSTEM 14 15 16 20 34 36 38 20 56
 41
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 Signal Name [Specification] Signal Name [Specification] AANUAL MODE SHIFT UP SIG MUNICATION SIGNAL (AMP.--EHICLE SPEED SIGNAL (2-PL MODE SIGNA UNIFIED METER AND A/C AMP. UNIFIED METER AND A/C AMP. N-VEHICLE SENSOR AMBIENT SENSOR S 7 8 9 10 11 12 27 28 30 el level s Intake sen NON-MANUA COMMUNICATION ||H32EW 21 22 23 25 26 27 B P L R Color of Wire Color of Wire Connector Name Connector Name υĦ ŝ erminal No. Terminal No. 强 HS. AHS. 47 46

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DAYTIME RUNNING LIGHT SYSTEM

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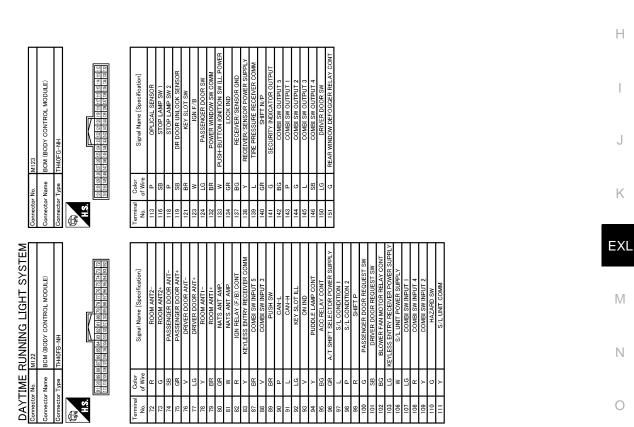
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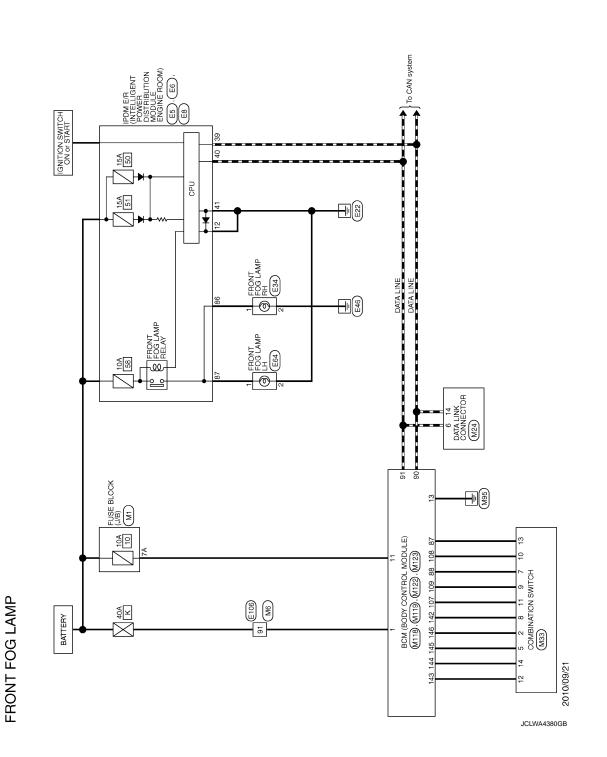


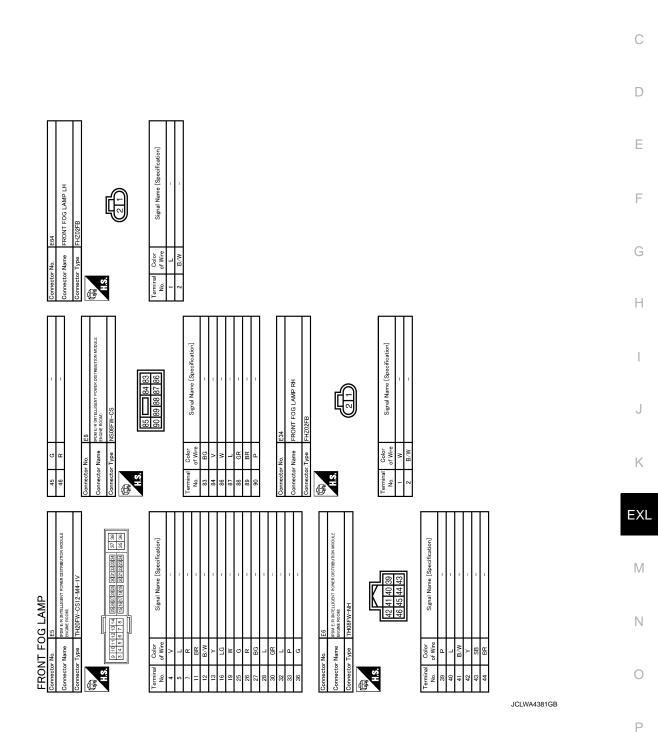
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< DTC/CIRCUIT DIAGNOSIS >

FRONT FOG LAMP SYSTEM

Wiring Diagram - FRONT FOG LAMP -

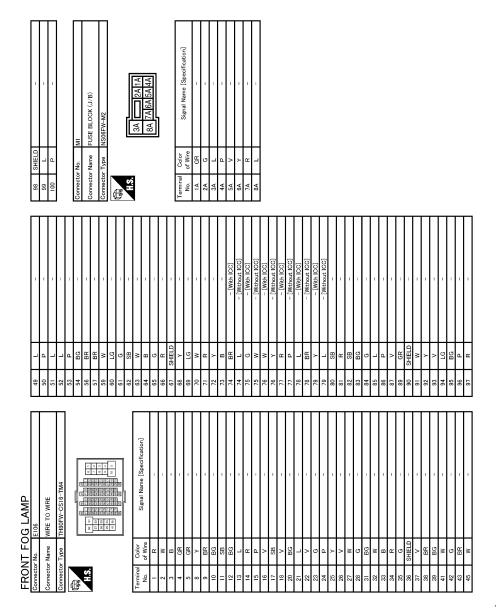




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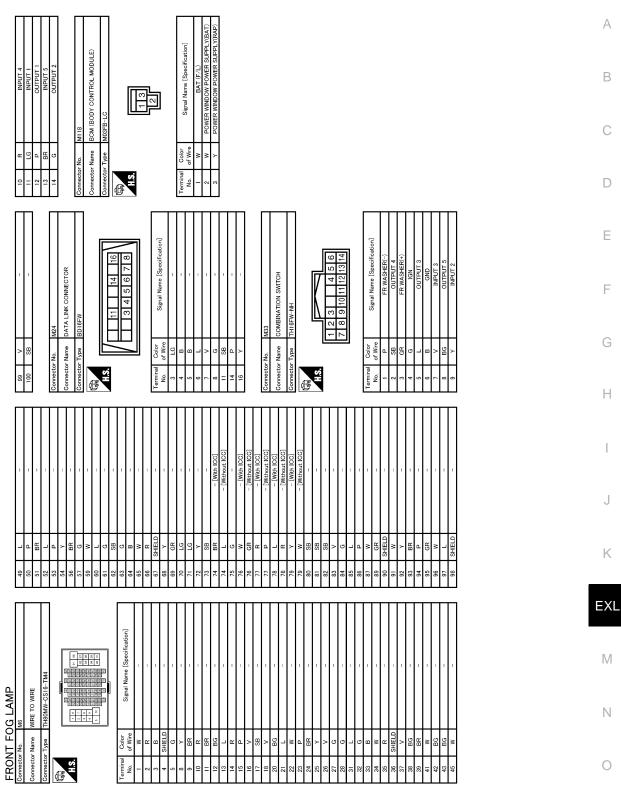
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FRONT FOG LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >



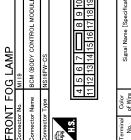
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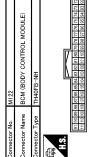
RECEIVER/SENSOR GND	RECEIVER/SENSOR POWER SUPPLY	TIRE PRESSURE RECEIVER COMM	SHIFT N/P	SECURITY INDICATOR OUTPUT	COMBI SW OUTPUT 5	COMBI SW OUTPUT 1	COMBI SW OUTPUT 2	COMBI SW OUTPUT 3	COMBI SW OUTPUT 4	DRIVER DOOR SW	REAR WINDOW DEFOGGER RELAY CONT
BG	٢	٦	GR	9	BG	٩	9	٦	SB	ГG	σ
137	138	139	140	141	142	143	144	145	146	150	151

< DTC/CIRCUIT DIAGNOSIS >

	81	M	NATS ANT AMP.
í	82	æ	IGN RELAY (F/B) CONT
Ĥ	83	~	KEYLESS ENTRY RECEIVER COMM
	87	BR	COMBI SW INPUT 5
	88	>	COMBI SW INPUT 3
	89	BR	MS HSNd
Γ	06	٩	CAN-L
0	91	-	CAN-H
σ	92	ГC	KEY SLOT ILL
ิจา	93	>	ON IND
	94	λ	PUDDLE LAMP CONT
	96	BG	ACC RELAY CONT
	96	GR	A/T SHIFT SELECTOR POWER SUPPLY
	97	-	S/L CONDITION 1
/ER SUPPLY	86	٩	S/L CONDITION 2
K OUTPUT	66	ч	SHIFT P
UT	100	9	PASSENGER DOOR REQUEST SW
K OUTPUT	101	SB	DRIVER DOOR REQUEST SW
OCK OUTPUT	102	BG	BLOWER FAN MOTOR RELAY CONT
UTPUT	103	ГC	KEYLESS ENTRY RECEIVER POWER SUPPLY
	106	M	S/L UNIT POWER SUPPLY
	107	ГG	COMBI SW INPUT 1
SW ILL GND	108	ч	COMBI SW INPUT 4
	109	٢	COMBI SW INPUT 2
(DNT)	110	9	HAZARD SW
(DNT)	111	٨	S/L UNIT COMM
NTROL			
	Connector No.	r No.	M123
	Connector Name	r Name	BCM (BODY CONTROL MODULE)
E)	Connector	r Type	TH40FG-NH
	强 H.S.		
5 74 73 72		131 130 129 1 151 150 149 1	रक्ष रहा रक्ष रहा



Signal Name [Specification]	INTERIOR ROOM LAMP POWER SUP	PASSENGER DOOR UNLOCK OUTP	STEP LAMP OUTPUT	ALL DOOR, FUEL LID LOCK OUTPI	DRIVER DOOR, FUEL LID UNLOCK OU	REAR DOOR UNLOCK OUTPUT	BAT (FUSE)	GND	D TALENALION IGNITION SW ILL G	ACC IND	TURN SIGNAL RH (FRONT)	TURN SIGNAL LH (FRONT)	ROOM LAMP TIMER CONTROL	
Color of Wire	P	-	≻	>	9	BR	ж	в	M	٢	M	BG	^	
Terminal No.	4	5	7	8	6	10	11	13	14	15	17	18	19	

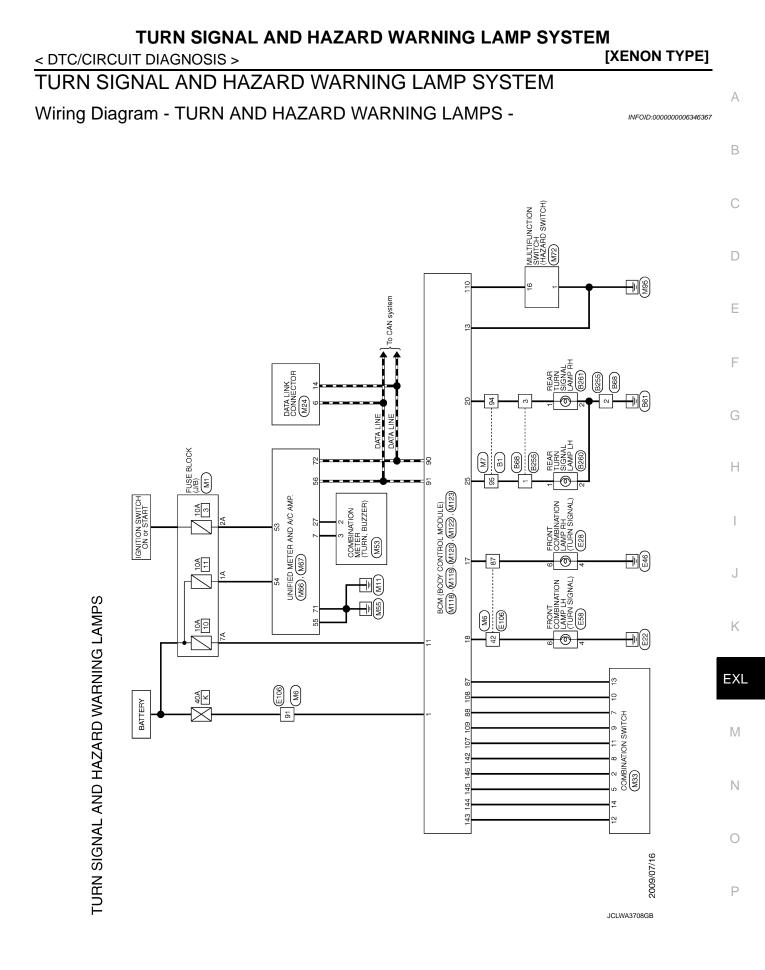


Signal Name [Specification]	ROOM ANT2-	ROOM ANT2+	PASSENGER DOOR ANT-	PASSENGER DOOR ANT+	DRIVER DOOR ANT-	DRIVER DOOR ANT+	ROOM ANTI-	ROOM ANTI+	NATS ANT AMP.
Color of Wire	ж	σ	SB	GR	^	LG	Y	BR	GR
Terminal No.	72	73	74	75	76	77	78	79	80

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Signal Name [Specification

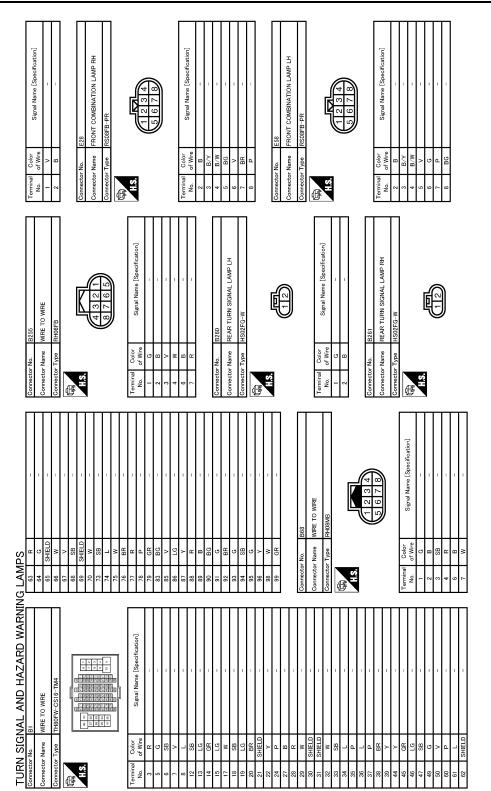
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

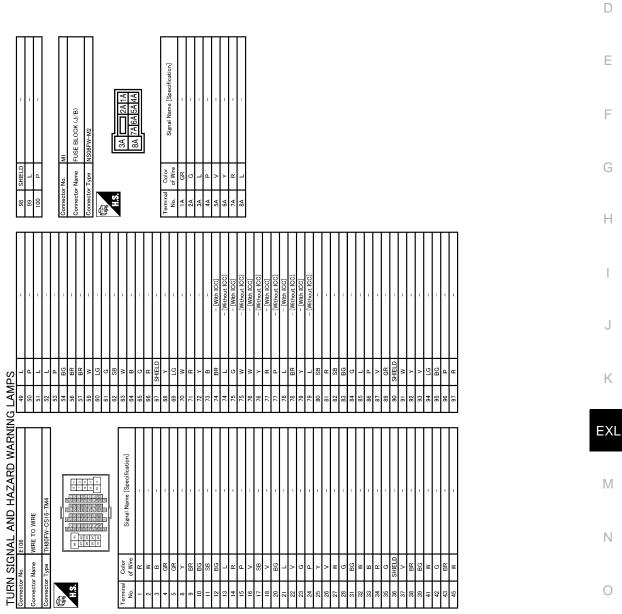
< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



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



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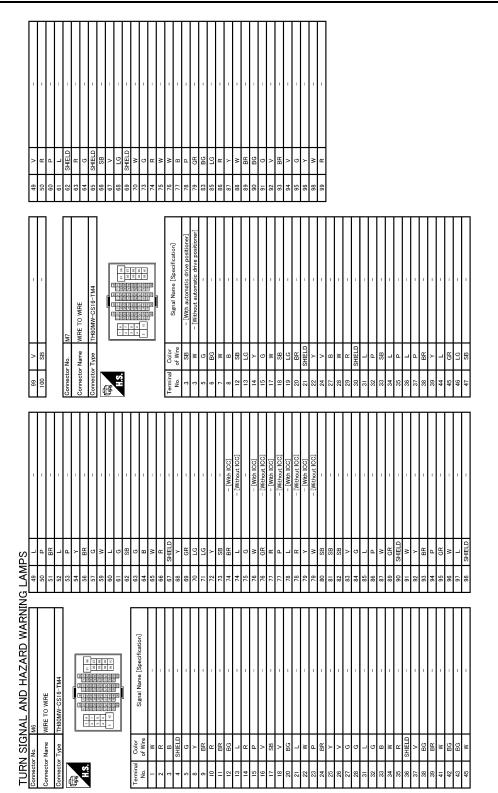
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

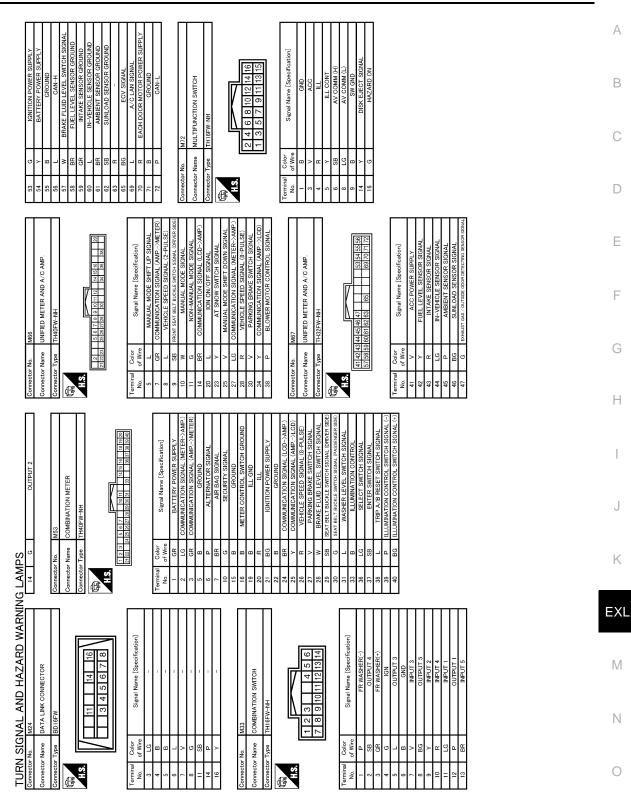
[XENON TYPE]



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

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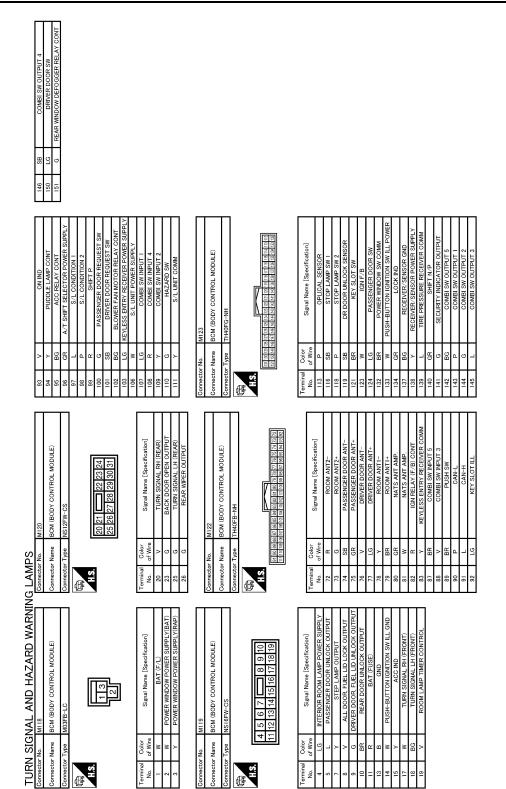


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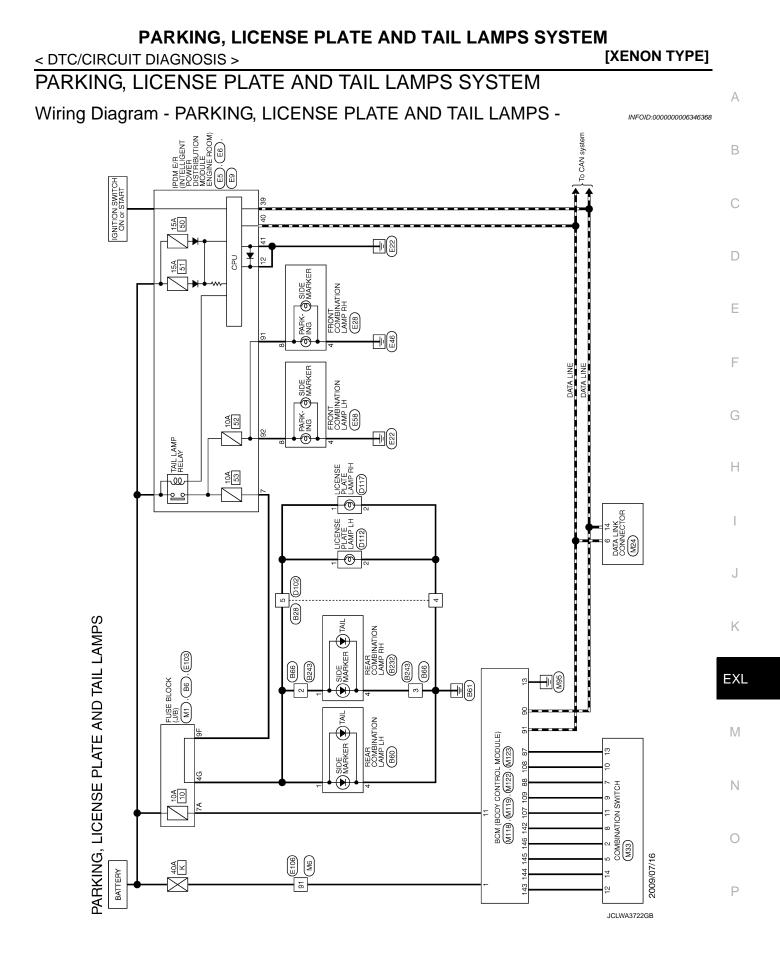
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >



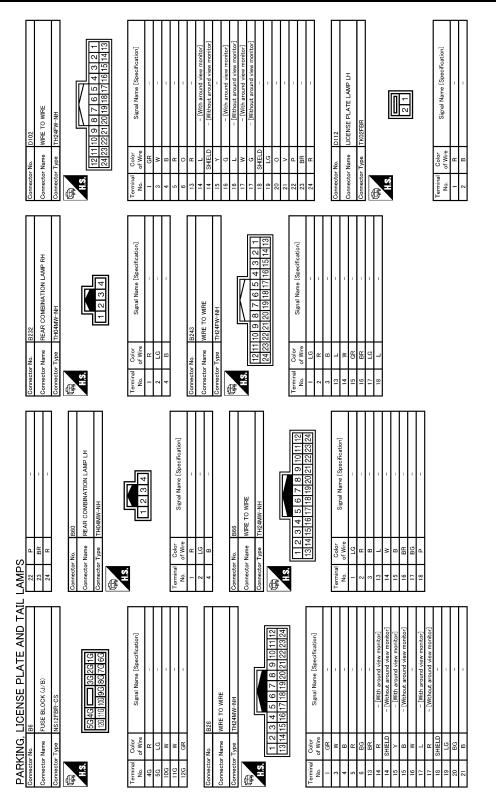
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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

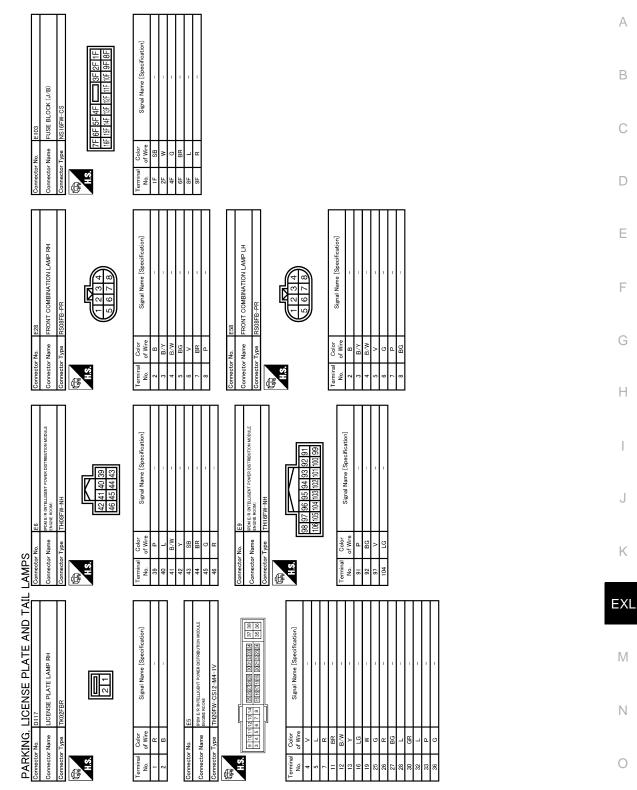


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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

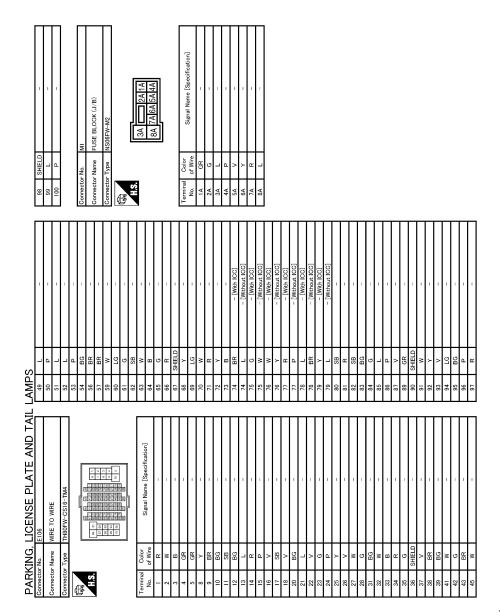
< DTC/CIRCUIT DIAGNOSIS >

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

< DTC/CIRCUIT DIAGNOSIS >

Signal Name [Specification] BCM (BODY CONTROL MODULE) BAT (F/I Color of Wire nector Name Connector No. 晤 HS erminal No. ŝ Signal Name [Specification] Signal Name [Specification] DATA LINK CONNECTOR S d COMBINATION SWITCH ဖ 45 Э M24 Color of Wire P of Wire ype Color Connector Name Connector Name 8 R σ. BG m nnector 66 H.S. erminal No. HIS. ş 伢 Æ SHIELL BR S S щ Ж U SB LAMPS PARKING, LICENSE PLATE AND TAIL Signal Name [Specification] 7 2 2 2 8 8 2 8 2 8 8 2 8 8 8 3133333 3253333 3253333 WIRE TO WIRE Color of Wire GHELD SHIELD BG BR BG BG BG ctor Name ≻뚭 ж н В ж ч > 88 > 8 <u>-</u> Ж σσ - > - × íis. rmina No. Ø

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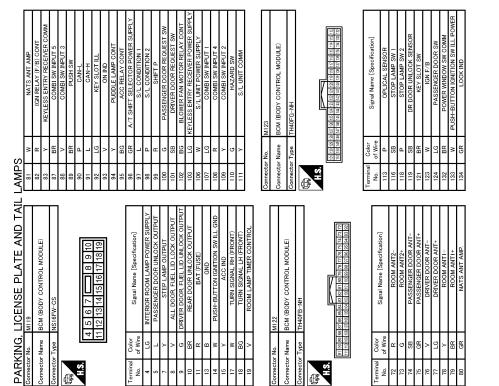
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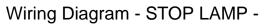
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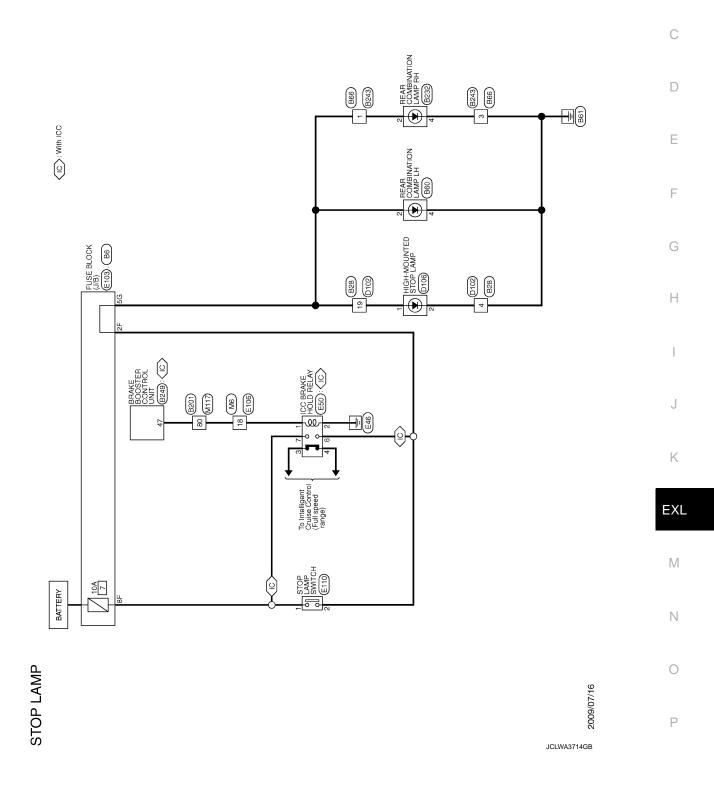
RECEIVER/SENSOR GND	RECEIVER/SENSOR POWER SUPPLY	TIRE PRESSURE RECEIVER COMM	SHIFT N/P	SECURITY INDICATOR OUTPUT	COMBI SW OUTPUT 5	COMBI SW OUTPUT 1	COMBI SW OUTPUT 2	COMBI SW OUTPUT 3	COMBI SW OUTPUT 4	DRIVER DOOR SW	REAR WINDOW DEFOGGER RELAY CONT
BG	٢	٦	GR	9	BG	٩	9	L	SB	ГG	9
37	38	39	40	41	42	43	44	145	46	50	151



JCLWA4402GB

STOP LAMP





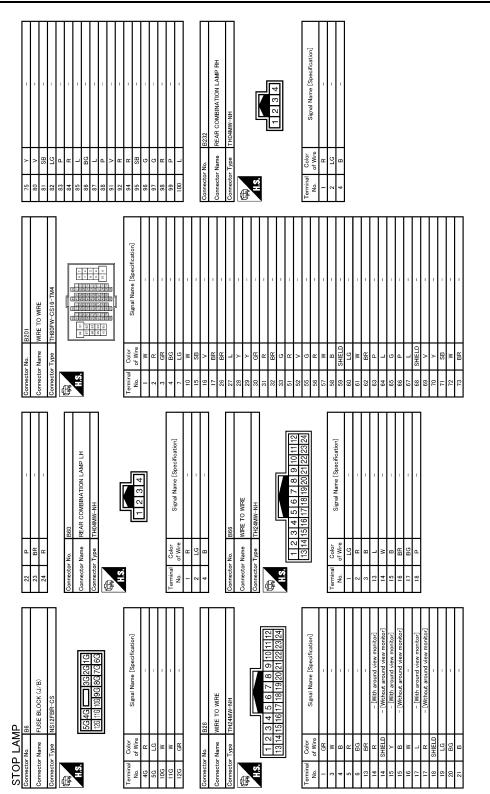
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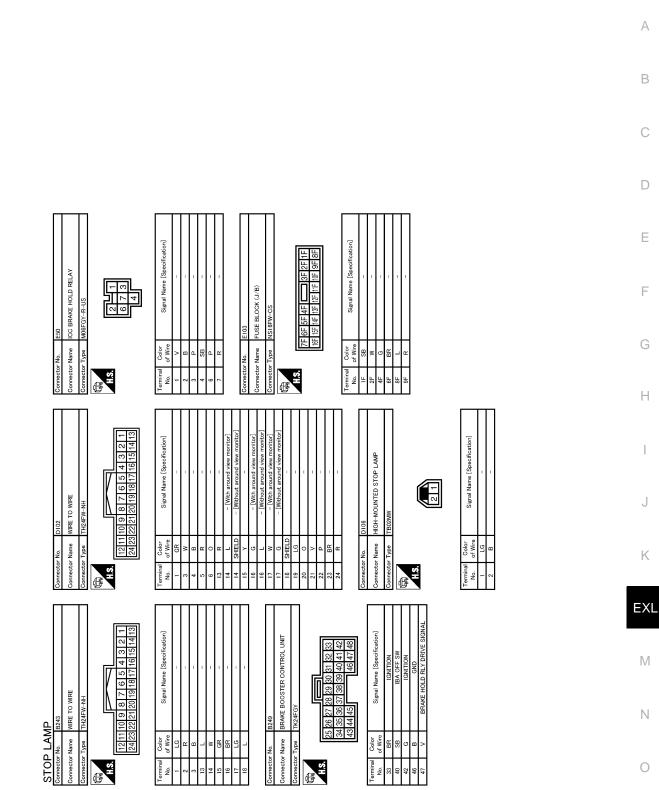
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STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >



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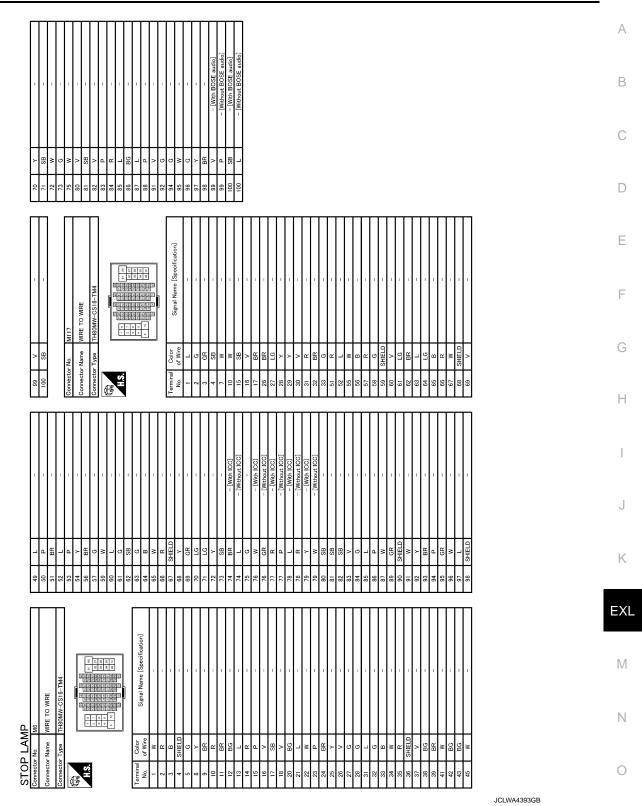
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STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

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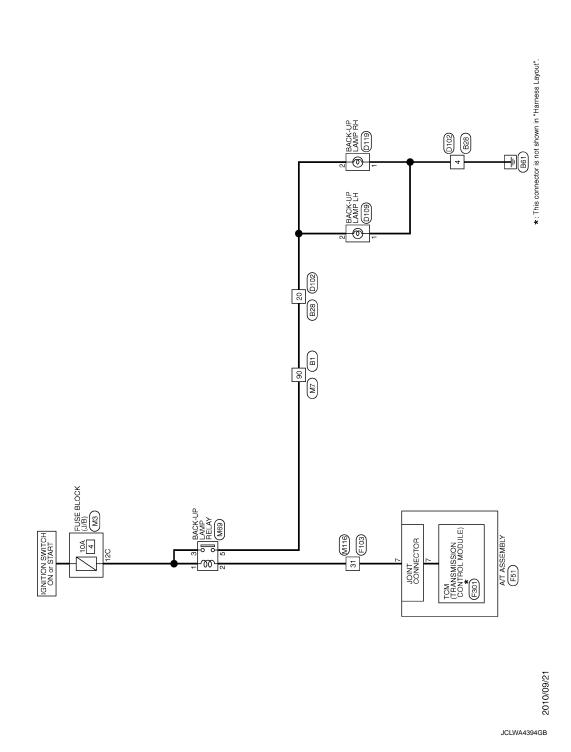


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BACK-UP LAMP

Wiring Diagram - BACK-UP LAMP -

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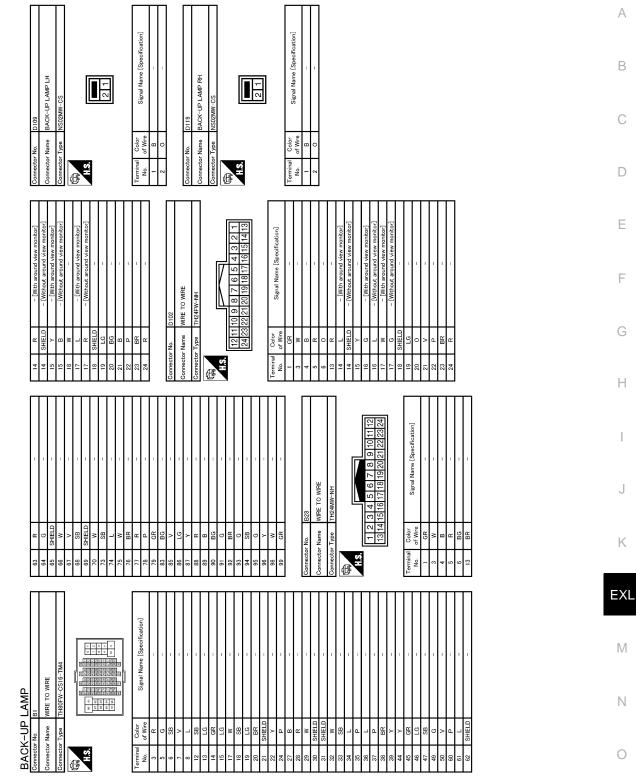




BACK-UP LAMP

< DTC/CIRCUIT DIAGNOSIS >

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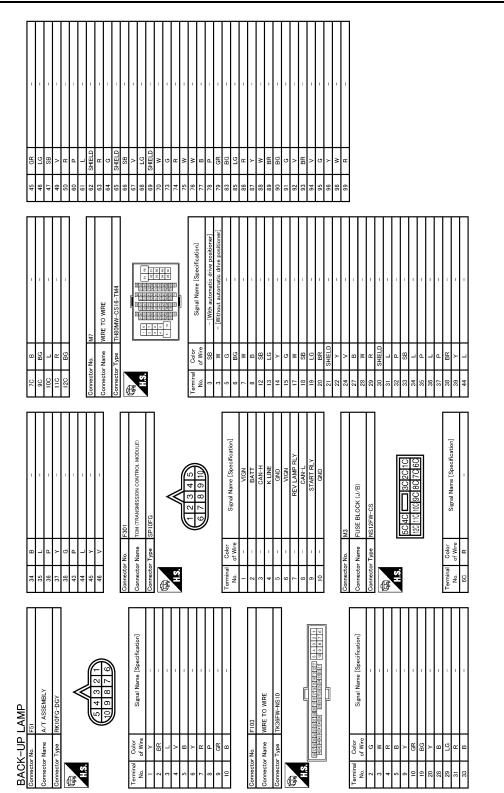


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BACK-UP LAMP

< DTC/CIRCUIT DIAGNOSIS >



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[XENON TYPE]

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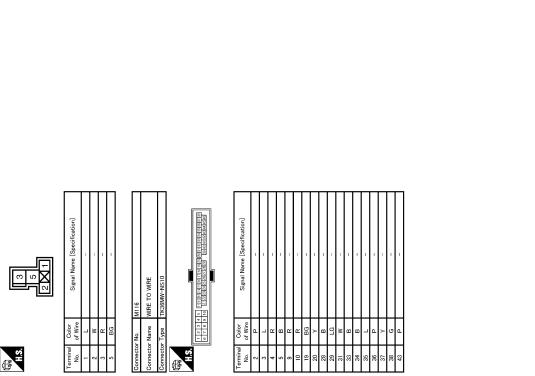
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BACK-UP LAMP RELAY

Name

BACK-UP LAMP

ECU DIAGNOSIS INFORMATION BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
	Front wiper switch HI	On
	Other than front wiper switch LO	Off
FR WIPER LOW	Front wiper switch LO	On
FR WASHER SW	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
	Other than front wiper switch INT	Off
FR WIPER INT	Front wiper switch INT	On
	Front wiper is not in STOP position	Off
FR WIPER STOP	Front wiper is in STOP position	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dia 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
RR WASHER SW	Rear washer switch ON	On
RR WIPER STOP	Rear wiper is in STOP position	Off
RR WIPER STOP	Rear wiper is not in STOP position	On
	Other than turn signal switch RH	Off
TURN SIGNAL R	Turn signal switch RH	On
	Other than turn signal switch LH	Off
TURN SIGNAL L	Turn signal switch LH	On
	Other than lighting switch 1ST and 2ND	Off
TAIL LAMP SW	Lighting switch 1ST or 2ND	On
	Other than lighting switch HI	Off
HI BEAM SW	Lighting switch HI	On
	Other than lighting switch 2ND	Off
HEAD LAMP SW 1	Lighting switch 2ND	On
	Other than lighting switch 2ND	Off
HEAD LAMP SW 2	Lighting switch 2ND	On
	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On
55 500 014	Front fog lamp switch OFF	Off
FR FOG SW	Front fog lamp switch ON	On

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< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Monitor Item	Condition	Value/Status
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off
DOOR SW-DR	Driver door closed	Off
JOOR SW-DR	Driver door opened	On
	Passenger door closed	Off
DOOR SW-AS	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
DOOR SW-BK	Back door closed	Off
JOOR SW-BR	Back door opened	On
	Other than power door lock switch LOCK	Off
CDL LOCK SW	Power door lock switch LOCK	On
CDL UNLOCK SW	Other than power door lock switch UNLOCK	Off
JDL UNLOCK SW	Power door lock switch UNLOCK	On
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off
AET GTLLK-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
R/BD OPEN SW	While the back door opener switch is turned ON	On
FRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
	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
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
	Bright outside of the vehicle	Close to 5 V
OPTICAL SENSOR	Dark outside of the vehicle	Close to 0 V

Revision: 2011 October

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
REQ SW -DR	Driver door request switch is not pressed	Off
KEQ SW -DR	Driver door request switch is pressed	On
REQ SW -AS	Passenger door request switch is not pressed	Off
(EQ SW -AS	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
REQ SW -BD/TR	Back door request switch is not pressed	Off
	Back door request switch is pressed	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
0011000	Push-button ignition switch (push switch) is pressed	On
GN RLY2 -F/B	Ignition switch in OFF or ACC position	Off
	Ignition switch in ON position	On
CC 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
DRARE SW Z	The brake pedal is depressed	On
DETE/CANCL SW	Selector lever in P position	Off
JETE/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 IOTE:	Steering is unlocked	Off
For models without steering lock unit, this item is not monitored.	Steering is locked	On
S/L -UNLOCK	Steering is locked	Off
NOTE: For models without steering lock unit, this item is not monitored.	Steering is unlocked	On
S/L RELAY-F/B NOTE:	Ignition switch in OFF or ACC position	Off
For models without steering lock init, this item is not monitored.	Ignition switch in ON position	On
JNLK 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
GRACITI/D	Ignition switch in ON position	On
DETE SW -IPDM	Selector lever in any position other than P	Off
	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

EXL-134

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
SFT P -MET	Selector lever in any position other than P	Off
SFTP-MET	Selector lever in P position	On
	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	Steering is unlocked	Off
NOTE: For models without steering lock unit, this item is not monitored.	Steering is locked	On
S/L UNLK-IPDM	Steering is locked	Off
NOTE: For models without steering lock unit, this item is not monitored.	Steering is unlocked	On
S/L RELAY-REQ NOTE:	Steering lock system is not the LOCK condition and the changing condi- tion from LOCK to UNLOCK.	Off
For models without steering lock unit, this item is not monitored.	Steering lock system is the LOCK condition or the changing condition from LOCK to UNLOCK.	On
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	
	Passenger door is locked	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door is unlocked	UNLOCK
	Steering is locked	Reset
D OK FLAG	Steering is unlocked	Set
	The engine start is prohibited	Reset
PRMT ENG STRT	The engine start is permitted	Set
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset
KEY SW SLOT	The key is not inserted into key slot	Off
KEY SW -SLOT	The key is inserted into key slot	On
RKE OPE COUN1	During the operation of the key	Operation frequency of the key
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	_
	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

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
CONFIRM ID3	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with the third key ID registered to BCM.	Done
	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
	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
	The ID of second key is not registered to BCM	Yet
TP 2	The ID of second key is registered to BCM	Done
	The ID of first key is not registered to BCM	Yet
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 REGST FL1	ID of front LH tire transmitter is registered	Done
ID REGST FLT	ID of front LH tire transmitter is not registered	Yet
	ID of front RH tire transmitter is registered	Done
ID REGST FR1	ID of front RH tire transmitter is not registered	Yet
	ID of rear RH tire transmitter is registered	Done
ID REGST RR1	ID of rear RH tire transmitter is not registered	Yet
	ID of rear LH tire transmitter is registered	Done
ID REGST RL1	ID of rear LH tire transmitter is not registered	Yet
	Tire pressure indicator OFF	Off
WARNING LAMP	Tire pressure indicator ON	On
	Tire pressure warning alarm is not sounding	Off
BUZZER	Tire pressure warning alarm is sounding	On

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

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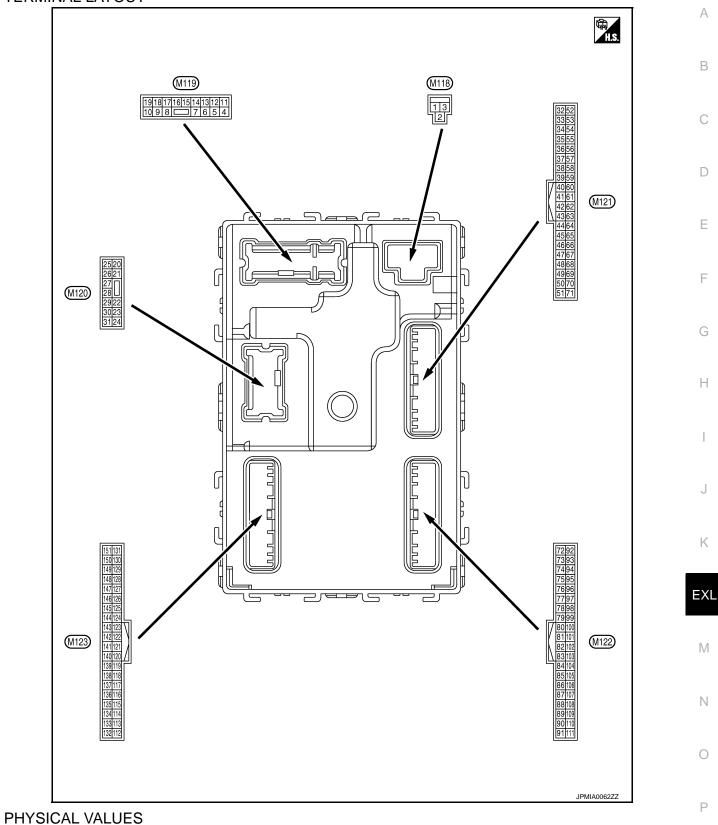
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< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description					
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
					Turn signal switch OFF	0 V	5
17 (W)	Ground	Turn signal RH (Front)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 50 1 s FKID0926E 6.5 V	B C D
					Turn signal switch OFF	0 V	Е
18 (BG)	Ground	Turn signal LH (Front)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 15 15 15 15 15 15 15 15 15 15	F
19		Room lamp timer		Interior room	OFF	Battery voltage	Н
(V)	Ground	control	Output	lamp	ON	0 V	1 1
					Turn signal switch OFF	0 V	
20 (V)	Ground	Turn signal RH (Rear)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1	I J K
23					OPEN (Back door opener actuator is activated)	Battery voltage	EXL
(G)	Ground	nd Back door open	Output	Back door	Other than OPEN (Back door opener actuator is not activated)	0 V	Μ
					Turn signal switch OFF	0 V	
25 (G)	Ground	Turn signal LH (Rear)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s 1 s 1 s 1 s 1 s 1 s 1 s 1 s	N O P
26	Ground	Rear wiper	Output	Rear wiper	OFF (Stopped)	0 V	
(G)	Cround		Suiput		ON (Operated)	Battery voltage	

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

Terminal No.		Description				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
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	B C D
(W)	Ground	(+)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	E
47	Ground	Ignition relay (IPDM	Output	Ignition switch	OFF or ACC	Battery voltage	G
(Y)	Ground	E/R) control	Output	Ignition switch	ON	0 V	
52	Ground	Starter relay control	Output	Ignition switch	When selector lever is in P or N position	Battery voltage	Η
(SB)	Ground	Starter relay control	Output	ON	When selector lever is not in P or N position	0 V	I
60* ¹	_	Push-button ignition	_	Push-button igni-	Pressed	0 V	I
(BR)	Ground	switch (Push switch)	Input	tion switch (push switch)	Not pressed	Battery voltage	1
61 (W)	Ground	Back door opener re- quest switch	Input	Back door opener request switch	ON (Pressed) OFF (Not pressed)	0 V	K EXL
64	Ground	Intelligent Key warn- ing buzzer (Engine	Output	Intelligent Key warning buzzer	Sounding	0 V	IVI
(V)	Gibunu	room)	Output	(Engine room)	Not sounding	Battery voltage	NI
65 (BG)	Ground	Rear wiper stop posi- tion	Input	Rear wiper	In stop position	(V) 15 0 10 10 10 10 10 10 10 10 10	N O P
					Not in stop position	0 V	
	1	1	L	1	1	1	

< ECU DIAGNOSIS INFORMATION >

67 Ground Back door opener Imput Back door opener Imput Back door opener Imput Imp	A0011GB
66 (R) Ground Back door switch Input Back door switch OFF (Door close) 15 0 10 ms 0 0 0 0 0 0 0 0 0 67 Ground Back door opener Input Back door opener 0	40011GB
67 Ground Back door opener Input Back door opener	
67 Ground Back door opener Back door opener	
67 Ground Back door opener Back door opener	
(GR) switch switch Not pressed 0	A0011GB
68 (BR) Ground Rear RH door switch Input Rear RH door switch OFF (Door close)	A00011GB
69 (R) Ground Rear LH door switch Input Rear LH door switch OFF (Door close) Imput Imput 0 0 0 0 0 0 10 0 0 0 11.8 V 0 0	A0011GB
ON (Door open) 0 V	

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

	inal No.					Value	
(Wire +	e color) –			Condition	(Approx.)		
78		Room antenna 1 (–)		Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 15 0 15 0 15 15 0 15 15 15 15 15 15 15 15 15 15 15 15 15	
(Y)	Ground	(Instrument panel)	Output	Ignition switch OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	
79	Ground	Room antenna 1 (+)	0.444	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 50 1 s JMKIA0062GB	
(BR)	Ground	(Instrument panel)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 15 10 5 0 15 15 10 5 0 15 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 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 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10	
80 (GR)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
81 (W)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
82	Ground	Ignition relay [Fuse	Output	Ignition switch	OFF or ACC	0 V	
(R)		block (J/B)] control		3	ON	Battery voltage	

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< ECU DIAGNOSIS INFORMATION >

	iinal No. e color)	Description			0	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
83	Pomoto kovijoss ontru		During waiting		(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
(Y)	Ground	receiver communica- tion	Output	When operating e	ither button on the key	(V) 15 10 5 0 1 ms JMKIA0065GB
		Ind Combination switch INPUT 5	Input		All switches OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0041GB 1.4 V
87	Ground			Combination	Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0037GB 1.3 V
(BR)	Ground			switch	Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0039GB 1.3 V
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 0 2 ms 1.3 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(Wire +	e color) -	Signal name	Input/ Output		Condition	(Approx.)	ŀ
					All switches OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0041GB 1.4 V	E
					Lighting switch HI (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0036GB 1.3 V	F
88 (V)	Ground	Combination switch INPUT 3	Input	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0037GB 1.3 V	ŀ
					Rear washer switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0039GB 1.3 V	ŀ
					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	N 1
89* ² (BR)	Ground	Push-button ignition switch (Push switch)	Input	Push-button igni- tion switch (push switch)	Pressed Not pressed	0 V Battery voltage	(
90 (P)	Ground	CAN-L	Input/ Output		<u> </u>		F
91 (L)	Ground	CAN-H	Input/ Output	_		_	

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)
					OFF	Battery voltage
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	Blinking	(V) 15 0 1 s JPMIA0015GB 6.5 V
				-	ON	0 V
93	Onested		Outrast	levelting avoitab	OFF or ACC	Battery voltage
(V)	Ground	ON indicator lamp	Output	Ignition switch	ON	0 V
94		_	•	_	OFF	Battery voltage
(Y)	Ground	Puddle lamp control	Output	Puddle lamp	ON	0 V
95					OFF	0 V
(BG)	Ground	ACC relay control	Output	Ignition switch	ACC or ON	Battery voltage
96 (GR)	Ground	A/T shift selector (De- tention switch) power supply	Output			Battery voltage
97* ²	*2 Ground Steering lock condi-	Input	Input Stearing look	LOCK status	0 V	
(L)	Ground	tion No. 1	Input	Steering lock	UNLOCK status	Battery voltage
98* ²		Steering lock condi-	condi-		LOCK status	Battery voltage
(P)	Ground	tion No. 2	Input	Steering lock	UNLOCK status	0 V
99		Selector lever P posi-	_		P position	0 V
(R)	Ground	tion switch	Input	Selector lever	Any position other than P	Battery voltage
					ON (Pressed)	0 V
100 (G)	Ground	Passenger door re- quest switch	Input	Passenger door request switch	OFF (Not pressed)	(V) 15 0 10 10 ms JPMIA0016GB 1.0 V
					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 ms JPMIA0016GB 1.0 V
400		Ployer for motor -			OFF or ACC	0 V
102 (BG)	Ground	Blower fan motor re- lay control	Output	Ignition switch	ON	Battery voltage
. ,		•				Dattery Voltage

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				\ <i>I</i> =1=
(Wire +	e color) -	Signal name	Input/ Output		Condition	Value (Approx.)
					LOCK status	Battery voltage
111* ² (Y)	Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK or UNLOCK	(V) 15 10 50 50 ms JMKIA0066GB
					For 15 seconds after UN- LOCK	Battery voltage
					15 seconds or later after UNLOCK	0 V
113	Ground	Optical sensor	Input	Ignition switch	When bright outside of the vehicle	Close to 5 V
(P)	Cround		mput	ON	When dark outside of the vehicle	Close to 0 V
116 (SB)	Ground	Stop lamp switch 1	Input	_		Battery voltage
		Stop lamp switch 2		Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
118	Ground	(Without ICC)	Input		ON (Brake pedal is de- pressed)	Battery voltage
(P)	Cround	Stop lamp switch 2	mput		DFF (Brake pedal is not de- brake hold relay OFF	0 V
		(With ICC)		Stop lamp switch ON (Brake pedal is de- pressed) or ICC brake 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 10 10 10 10 11 10 11 10 11 10 11 10 10
					UNLOCK status (Unlock switch sensor ON)	0 V
121	Ground	Key slot switch	Input	When the key is inserted into key slot		Battery voltage
(BR)	Cround		mput	When the key is no	ot inserted into key slot	0 V
123	Ground	IGN feedback	Input	Ignition switch	OFF or ACC	0 V
(W)				-	ON	Battery voltage

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

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

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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wir +	e color) -	Signal name	Input/ Output		Condition	Value (Approx.)
139	Ground	Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 4 2 0 • • 0.2s DCC3881D
(L)		er communication	Output	ON	When receiving the signal from the transmitter	(V) 4 2 0 + 0.2s OCC3880D
140	Ground	Selector lever P/N	Input	Selector lever	P or N position	Battery voltage
(GR)	Croana	position	mput		Except P and N positions ON	0 V 0 V
141 (G)	Ground	Security indicator	Output	Security indicator	Blinking	(V) 15 0 1 s JPMIA0014GB 11.3 V
142 (BG)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	OFF All switches OFF Lighting switch 1ST Lighting switch HI Lighting switch 2ND Turn signal switch RH	Battery voltage 0 V (V) 15 0 2 ms JPMIA0031GB 10.7 V
143 (P)	Ground	Combination switch OUTPUT 1	Output	Combination switch	All switches OFF (Wiper intermittent dial 4) Front wiper switch HI (Wiper intermittent dial 4) Rear wiper switch INT (Wiper intermittent dial 4) Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7	0 V

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

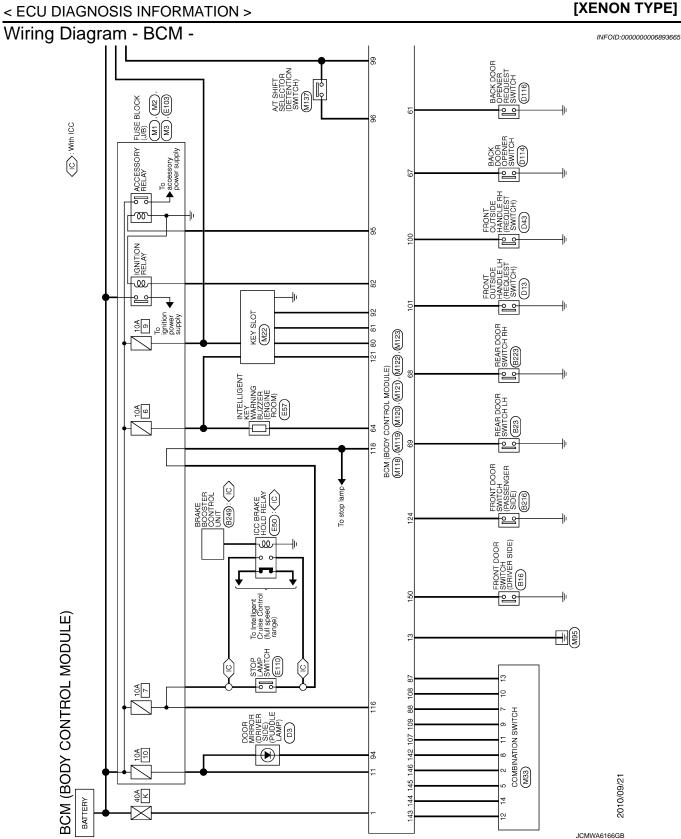
	inal No.	Description		-		Value							
(Wire +	e color) -	Signal name	Signal name Input/ Condition Output		Condition	(Approx.)							
					All switches OFF (Wiper intermittent dial 4)	0 V							
					Front washer switch ON (Wiper intermittent dial 4)								
144	Ground	Combination switch	Output	Combination	Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5							
(G)	Ground	OUTPUT 2	Output	switch	Rear washer switch ON (Wiper intermittent dial 4)	5 0							
			 with all switches OFF Wiper intermittent dial 1 Wiper intermittent dial 5 		 Any of the conditions below with all switches OFF Wiper intermittent dial 1 Wiper intermittent dial 5 Wiper intermittent dial 6 	2 ms JPMIA0033GB							
					All switches OFF	0 V							
					Front wiper switch INT								
				Combination	Front wiper switch LO	(V) 15							
145 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	Lighting switch AUTO	10 5 0 2 ms JPMIA0034GB							
					All switches OFF	10.7 V 0 V							
												Front fog lamp switch ON	
				Combination	Combination Lighting switch 2ND	Lighting switch 2ND	(V) 15						
146	Ground	Combination switch	Output	switch	Lighting switch PASS								
(SB)	Ciouna	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 10 5 0 10 ms JPMIA0011GB							
						11.8 V							
					ON (Door open)	0 V							
151 (G)	Ground	Rear window defog- ger relay control	Output	Rear window de- fogger	Active	0 V							
(0)		gor relay control		юуусі	Not activated	Battery voltage							

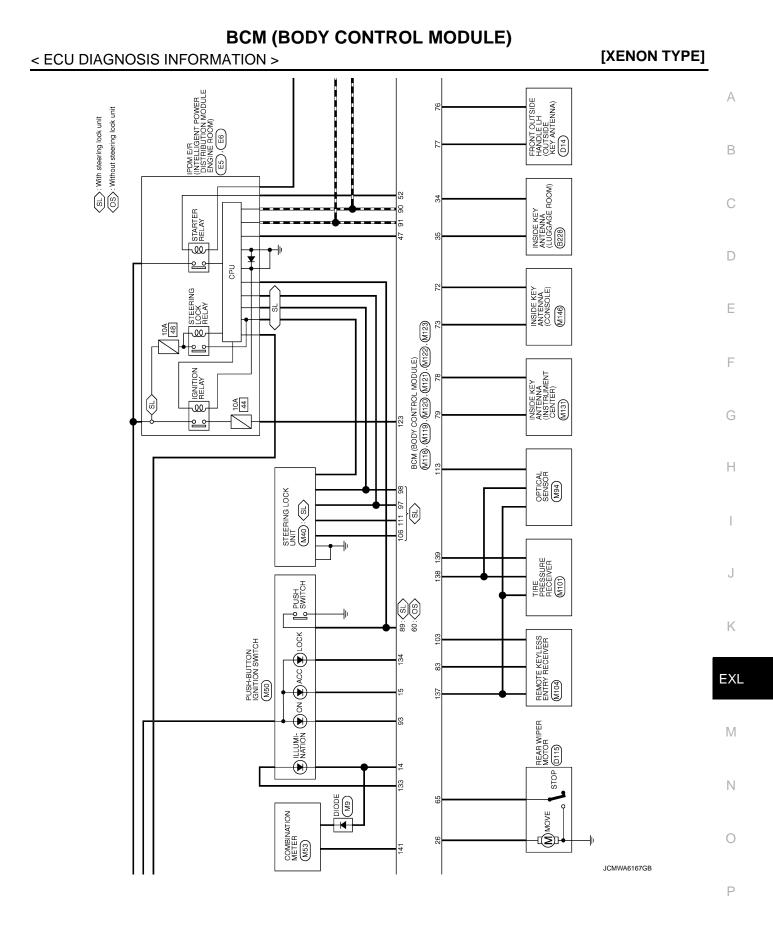
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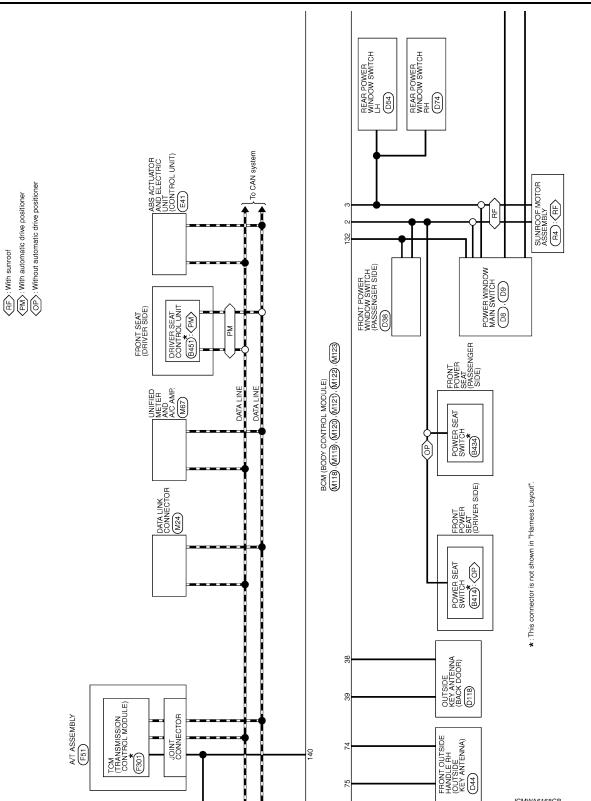
• *1: Without steering lock unit

• *2: With steering lock unit

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< ECU DIAGNOSIS INFORMATION >

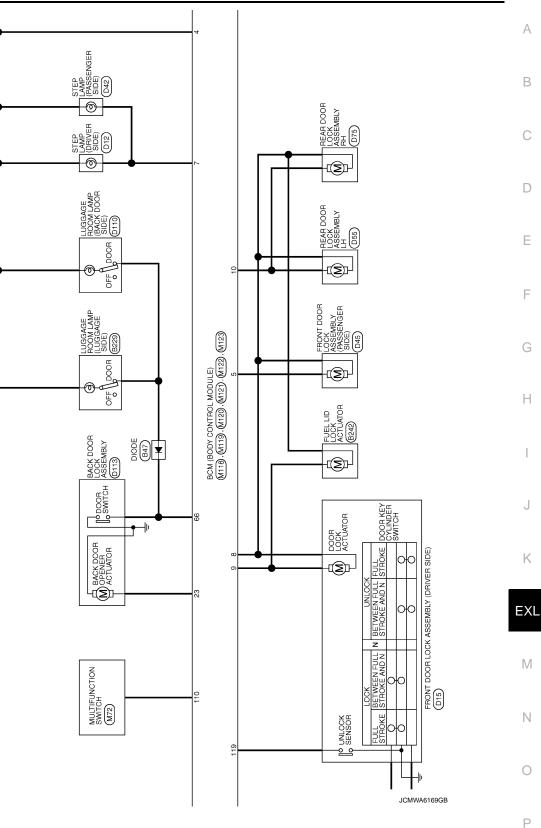
[XENON TYPE]

JCMWA6168GB

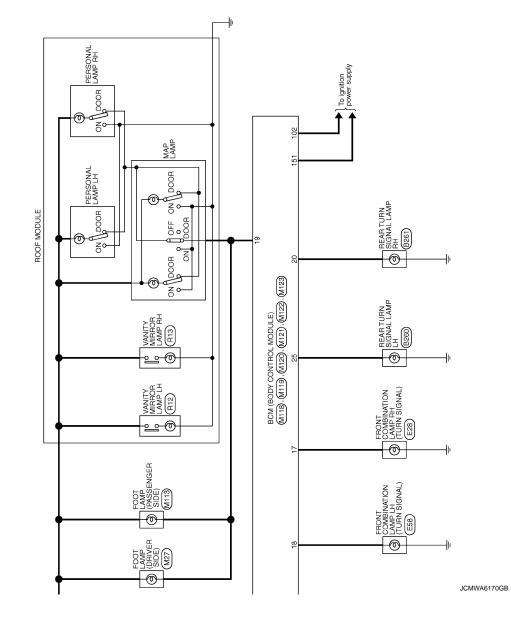
[XENON TYPE]

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

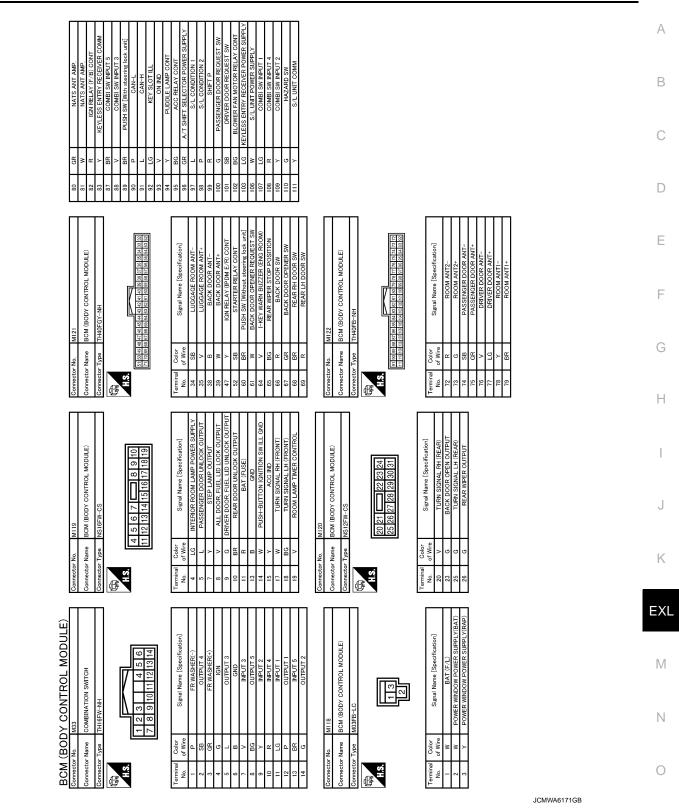


< ECU DIAGNOSIS INFORMATION >



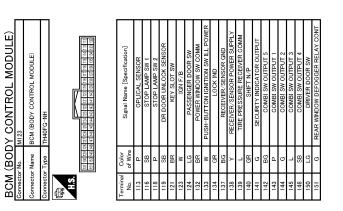
< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]



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< ECU DIAGNOSIS INFORMATION >



JCMWA6172GB

INFOID:000000006893666

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
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	Erase DTC
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch $ON \rightarrow OFF$
B2557: VEHICLE SPEED	Inhibit steering lock	When normal vehicle speed signals are received from ABS actua- tor and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status be- comes consistentStarter control relay signalStarter relay status signal
B2601: SHIFT POSITION Inhibit steering lock		 500 ms after the following signal reception status becomes consistent Selector lever P position switch signal P range signal (CAN)
B2602: SHIFT POSITION Inhibit steering lock		 5 seconds after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Vehicle speed: 4 km/h (2.5 MPH) or more
B2603: SHIFT POSI STATUS	Inhibit steering lock	 500 ms after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Selector lever P/N position signal: Except P and N positions (0 V)
B2604: PNP SW Inhibit steering lock		 500 ms after any of the following BCM recognition conditions are fulfilled Status 1 Ignition switch is in the ON position Selector lever P/N position signal: P and N position (battery voltage) P range signal or N range signal (CAN): ON Status 2 Ignition switch is in the ON position Selector lever P/N position signal: Except P and N positions (0 V) P range signal and N range signal (CAN): OFF
B2605: PNP SW	Inhibit steering lock	 500 ms after any of the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Power position: IGN Selector lever P/N position signal: Except P and N positions (0 V) Interlock/PNP switch signal (CAN): OFF Status 2 Ignition switch is in the ON position Selector lever P/N position signal: P or N position (battery voltage) PNP switch signal (CAN): ON
B2606: S/L RELAY	Inhibit engine cranking	 500 ms after the following CAN signal communication status becomes consistent Steering lock relay signal (Request signal) Steering lock relay signal (Condition signal)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Display contents of CONSULT	Fail-safe	Cancellation
B2607: S/L RELAY	Inhibit engine cranking	 500 ms after the following CAN signal communication status becomes consistent Steering lock relay signal (Request signal) Steering lock relay signal (Condition signal)
B2608: STARTER RELAY	Inhibit engine cranking	 500 ms after the following signal communication status becomes consistent Starter motor relay control signal Starter relay status signal (CAN)
B2609: S/L STATUS	Inhibit engine crankingInhibit steering lock	 When the following steering lock conditions agree BCM steering lock control status Steering lock condition No. 1 signal status Steering lock condition No. 2 signal status
B260A: IGNITION RELAY	Inhibit engine cranking	 500 ms after the following conditions are fulfilled IGN relay (IPDM E/R) control signal: OFF (Battery voltage) Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions are fulfilledPower position changes to ACCReceives engine status signal (CAN)
B2612: S/L STATUS	Inhibit engine crankingInhibit steering lock	 When any of the following conditions are fulfilled Steering lock unit status signal (CAN) is received normally The BCM steering lock control status matches the steering lock status recognized by the steering lock unit status signal (CAN from IPDM E/R)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM be- comes normal
B2619: BCM	Inhibit engine cranking	1 second after the steering lock unit power supply output control in- side BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization
B26E9: S/L STATUS	Inhibit engine crankingInhibit steering lock	 When BCM transmits the LOCK request signal to steering lock unit, and receives LOCK response signal from steering lock unit, the following conditions are fulfilled Steering condition No. 1 signal: LOCK (0 V) Steering condition No. 2 signal: LOCK (Battery voltage)

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:000000006893667

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)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Priority	DTC	
3	 B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI SCANNING 	
	 B2013: ID DISCORD BCM-S/L B2014: CHAIN OF S/L-BCM B2553: IGNITION RELAY B2555: STOP LAMP B2556: PUSH-BTN IGN SW B2557: VEHICLE SPEED B2560: STARTER CONT RELAY 	
	 B2601: SHIFT POSITION B2602: SHIFT POSITION B2603: SHIFT POSI STATUS B2604: PNP SW B2605: PNP SW 	
	 B2606: S/L RELAY B2607: S/L RELAY B2608: STARTER RELAY B2609: S/L STATUS 	
4	 B260A: IGNITION RELAY B260B: STEERING LOCK UNIT B260C: STEERING LOCK UNIT B260D: STEERING LOCK UNIT 	
	 B260F: ENG STATE SIG LOST B2612: S/L STATUS B2614: ACC RELAY CIRC B2615: BLOWER RELAY CIRC B2616: IGN RELAY CIRC 	
	 B2617: STARTER RELAY CIRC B2618: BCM B2619: BCM B261A: PUSH-BTN IGN SW B261E: VEHICLE TYPE B26252: GH OTATUS 	
	 B26E9: S/L STATUS B26EA: KEY REGISTRATION C1729: VHCL SPEED SIG ERR U0415: VEHICLE SPEED SIG 	
	C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1707: LOW PRESSURE RL	
5	 C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1716: [PRESSDATA ERR] FL 	
	 C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL C1734: CONTROL UNIT 	
6	B2621: INSIDE ANTENNA B2622: INSIDE ANTENNA B2623: INSIDE ANTENNA	

DTC Index

NOTE:

The details of time display are as follows.

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

INFOID:000000006893668

< ECU DIAGNOSIS INFORMATION >

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to <u>EXL-32, "COM-MON ITEM : CONSULT-III Function (BCM - COMMON ITEM)"</u>.

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.		_	_		
U1000: CAN COMM CIRCUIT		—			BCS-38
U1010: CONTROL UNIT (CAN)	—	—	_	—	BCS-39
U0415: VEHICLE SPEED SIG	—	—	—	—	<u>BCS-40</u>
B2013: ID DISCORD BCM-S/L*	×	×			<u>SEC-49</u>
B2014: CHAIN OF S/L-BCM*	×	×			<u>SEC-50</u>
B2190: NATS ANTENNA AMP	×	—			<u>SEC-42</u>
B2191: DIFFERENCE OF KEY	×	—	_		<u>SEC-45</u>
B2192: ID DISCORD BCM-ECM	×	—	_		<u>SEC-46</u>
B2193: CHAIN OF BCM-ECM	×	—	_		<u>SEC-47</u>
B2195: ANTI SCANNING	×	_	_		<u>SEC-48</u>
B2553: IGNITION RELAY		×	_		PCS-50
B2555: STOP LAMP		×	_		<u>SEC-53</u>
B2556: PUSH-BTN IGN SW		×	×		<u>SEC-55</u>
B2557: VEHICLE SPEED	×	×	×		<u>SEC-57</u>
B2560: STARTER CONT RELAY	×	×	×		<u>SEC-58</u>
B2562: LOW VOLTAGE		×	_		BCS-41
B2601: SHIFT POSITION	×	×	×		<u>SEC-59</u>
B2602: SHIFT POSITION	×	×	×		<u>SEC-62</u>
B2603: SHIFT POSI STATUS	×	×	×		<u>SEC-64</u>
B2604: PNP SW	×	×	×		<u>SEC-67</u>
B2605: PNP SW	×	×	×		<u>SEC-69</u>
B2606: S/L RELAY*	×	×	×		<u>SEC-71</u>
B2607: S/L RELAY*	×	×	×		<u>SEC-72</u>
B2608: STARTER RELAY	×	×	×		<u>SEC-74</u>
B2609: S/L STATUS*	×	×	×		<u>SEC-76</u>
B260A: IGNITION RELAY	×	×	×		PCS-52
B260B: STEERING LOCK UNIT*	—	×	×	_	<u>SEC-80</u>
B260C: STEERING LOCK UNIT*		×	×		<u>SEC-81</u>
B260D: STEERING LOCK UNIT*	—	×	×	—	<u>SEC-82</u>
B260F: ENG STATE SIG LOST	×	×	×	_	<u>SEC-83</u>
B2612: S/L STATUS*	×	×	×		<u>SEC-87</u>
B2614: ACC RELAY CIRC	—	×	×	—	PCS-54
B2615: BLOWER RELAY CIRC	_	×	×		PCS-57
B2616: IGN RELAY CIRC	—	×	×	—	PCS-60
B2617: STARTER RELAY CIRC	×	×	×	—	<u>SEC-91</u>
B2618: BCM	×	×	×	—	PCS-63

< 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
B2619: BCM*	×	×	×	_	<u>SEC-93</u>	
B261A: PUSH-BTN IGN SW	—	×	×	_	<u>SEC-94</u>	С
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	—	<u>SEC-97</u>	0
B2621: INSIDE ANTENNA	_	×	—	_	DLK-59	D
B2622: INSIDE ANTENNA	_	×	—	_	DLK-61	
B2623: INSIDE ANTENNA	_	×	—	—	DLK-63	
B26E1: ENG STATE NO RES	×	×	×	—	<u>SEC-84</u>	E
B26E9: S/L STATUS*	×	×	× (Turn ON for 15 seconds)	—	<u>SEC-85</u>	
B26EA: KEY REGISTRATION	_	×	× (Turn ON for 15 seconds)	_	<u>SEC-86</u>	F
C1704: LOW PRESSURE FL	_	—		×		
C1705: LOW PRESSURE FR	_	—		×	WT-23	G
C1706: LOW PRESSURE RR	_	_	—	×	<u>vv1-23</u>	
C1707: LOW PRESSURE RL	_	_	—	×		Н
C1708: [NO DATA] FL	_	_		×		
C1709: [NO DATA] FR	—	_	—	×	WT-25	
C1710: [NO DATA] RR	_	_		×	<u>vv1-25</u>	
C1711: [NO DATA] RL	_	_	—	×		
C1716: [PRESSDATA ERR] FL	—	_	—	×		J
C1717: [PRESSDATA ERR] FR	_	-	—	×	WT-28	
C1718: [PRESSDATA ERR] RR	_	_	_	×	<u>vv1-20</u>	
C1719: [PRESSDATA ERR] RL	_	_	_	×		Κ
C1729: VHCL SPEED SIG ERR	_	_		×	<u>WT-30</u>	
C1734: CONTROL UNIT	_	—	—	×	<u>WT-32</u>	EXI

*: For models without steering lock unit, this DTC is not applied.

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

Reference Value

INFOID:000000006893676

VALUES ON THE DIAGNOSIS TOOL

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

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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Monitor Item	Co	ondition	Value/Status	
	Ignition switch ON	Off		
	At engine cranking		INHI ON \rightarrow ST 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 	Off	
	Release the selector button with s	elector lever in P position	On	
S/L RLY -REQ	None of the conditions below are	present	Off	
NOTE: For models without steering lock unit, this item is not mon- itored.	 Open the driver door after the igseconds) Press the push-button ignition sed 	On		
S/L STATE	Steering lock is activated	LOCK		
NOTE: For models without steering	Steering lock is deactivated	eactivated UNLOCK		
lock unit, this item is not mon- itored.	[DTC: B210A] is detected	UNKWN		
DTRL REQ	NOTE: The item is indicated, but not mon	Off		
OIL P SW	Ignition switch OFF, ACC or engin	Open		
	Ignition switch ON	nition switch ON		
HOOD SW	Close the hood		Off	
	Open the hood		On	
HL WASHER REQ	NOTE: The item is indicated, but not mon	Off		
	Not operation	Off		
THFT HRN REQ	 HRN REQ Panic alarm is activated Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM 			
HORN CHIRP	Not operating	operating		
	Door locking with Intelligent Key (On		
CRNRNG LMP REQ	NOTE: The item is indicated, but not mon	Off		

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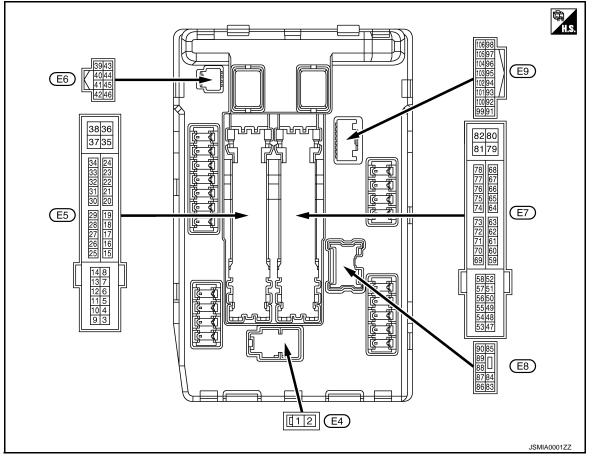
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

TERMINAL LAYOUT



PHYSICAL VALUES

	inal No.	Description				Value
(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	Oround	Frantiuinar I O	Quitaut	Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
5	Cround	Front winer HI	Quitout	Ignition	Front wiper switch OFF	0 V
(L)	Ground	Front wiper HI	Output	switch ON	Front wiper switch HI	Battery voltage
7	Ground	Tail, license plate lamps &	Quitout	Ignition	Lighting switch OFF	0 V
(R)	Ground	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
				Ignition switch OFF	A few seconds after open- ing the driver door	Battery voltage
11* ² (BR)	Ground	d Steering lock unit power supply	Output	Ignition switch LOCK	Press the push-button ig- nition switch	Battery voltage
				Ignition switch ACC or ON		0 V
12 (B/W)	Ground	Ground	_	Ignition switch ON		0 V

	inal No.	Description						Value	
(VVire +	e color) _	Signal name	Input/ Output		Condition	(Approx.)			
13					tely 1 second or more after ignition switch ON	0 V	_		
(Y)	Ground	Fuel pump power supply	Output		nately 1 second after turning on switch ON unning	Battery voltage			
16				Ignition	Front wiper stop position	0 V	_		
(LG)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage			
19	Ground	Ignition relay power supply	Output	Ignition swi	itch OFF	0 V			
(W)	Cround	ignition roldy power oupply	Output	Ignition swi	itch ON	Battery voltage			
25	Ground	Ignition relay power supply	Output	Ignition swi	itch OFF	0 V			
(G)	Croana	ignition roldy power oupply	Output	Ignition swi	itch ON	Battery voltage			
26* ¹	Ground	Ignition relay power supply	Output	Ignition swi	itch OFF	0 V			
(R)	C. Guild		- albai	Ignition swi	itch ON	Battery voltage			
27	Ground	Ignition relay monitor	Input	Ignition swi	itch OFF or ACC	Battery voltage			
(BG)	Croana		mput	Ignition swi	itch ON	0 V			
28	Ground	Push-button ignition	Input	Press the p	oush-button ignition switch	0 V			
(L)	0.00.00	switch		Release the	e push-button ignition switch	Battery voltage			
30 (GR)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any posi- tion other than P or N	0 V			
(61()				SWITCH ON	Selector lever P or N	Battery voltage			
32* ²	Ground	Steering lock unit condi-	Input	Steering lo	ck is activated	0 V			
(L)	Cround	tion-1	mput	Steering lo	ck is deactivated	Battery voltage			
33* ²	Ground	Steering lock unit condi-	Input	Steering lock is activated		Battery voltage			
(P)	Giouna	tion-2	mput	Steering lock is deactivated		0 V			
36 (G)	Ground	Battery power supply	Input	Ignition swi	itch OFF	Battery voltage			
39 (P)	_	CAN-L	Input/ Output		_	_	_		
40 (L)	—	CAN-H	Input/ Output		_	_			
41 (B/W)	Ground	Ground	_	Ignition swi	itch ON	0 V			
42	Ground	Cooling fan relay control	Input	0	itch OFF or ACC	0 V			
(Y)		<u> </u>	1	Ignition swi		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 rolay control	Innut	The horn is	s deactivated	Battery voltage			
(G)	Giound	Anti theft horn relay control	Input	The horn is	activated	0 V			

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

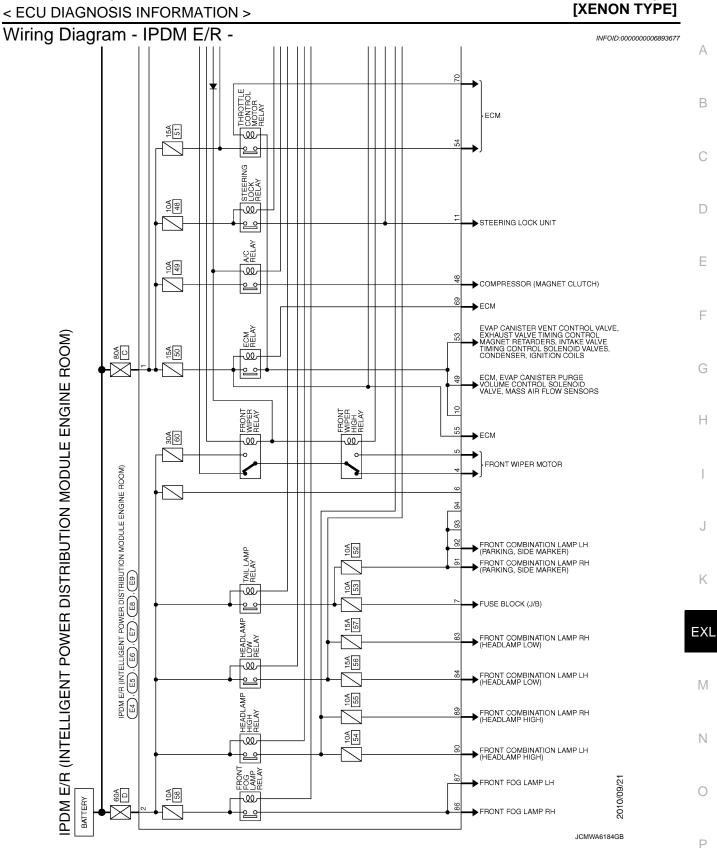
200		JSIS INFORMATION	-			
	inal No.	Description) /e lu e
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)
74	Crownd		Output	Ignition swi	tch OFF	0 V
(P)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
75	Cround		Input	Ignition	Engine stopped	0 V
(SB)	Ground	Oil pressure switch	Input	switch ON	Engine running	Battery voltage
			Ignition switch ON		(V) 6 2 0 F F F F F F F F F F	
76 (Y)	Ground	Power generation com- mand signal	Output		on "ACTIVE TEST", "AL- R DUTY" of "ENGINE"	(V) 6 2 0 4 2 0 4 2 0 4 2 7 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
				80% is set on "ACTIVE TEST", "AL- TERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 Final constraints of the second se
77 (R)	Ground	Fuel pump relay control	Output		nately 1 second after turning on switch ON unning	1.4 V 0 – 1.0 V
(1)					tely 1 second or more after ignition switch ON	Battery voltage
80 (W)	Ground	Starter motor	Output	At engine o	ranking	Battery voltage
83	Ground	Headlamp LO (RH)	Output	Ignition	Lighting switch OFF	0 V
(BG)	Ciouna		Culput	switch ON	Lighting switch 2ND	Battery voltage
84	Ground	Headlamp LO (LH)	Output	Ignition	Lighting switch OFF	0 V
(V)	Ground		Supur	switch ON	Lighting switch 2ND	Battery voltage
					Front fog lamp switch OFF	0 V
86 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	 Front fog lamp switch ON Daytime running light activated (Only for Can- ada) 	Battery voltage

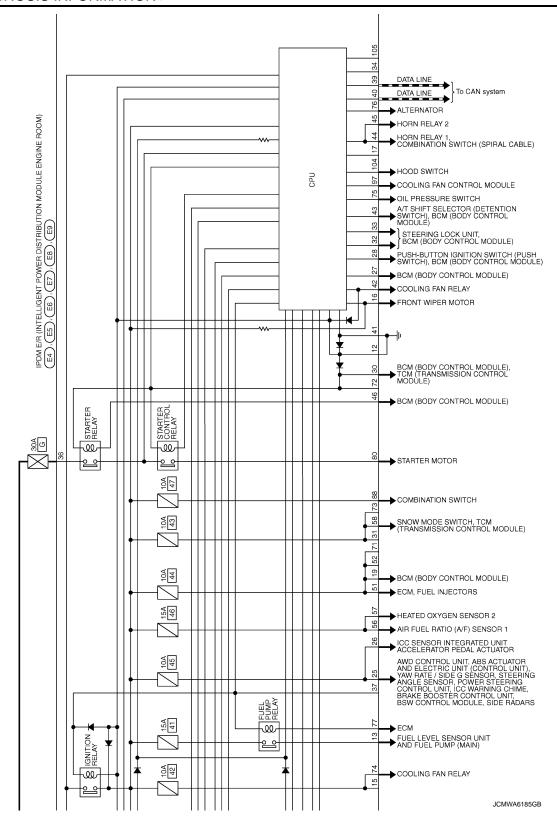
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [XENON TYPE] < ECU DIAGNOSIS INFORMATION >

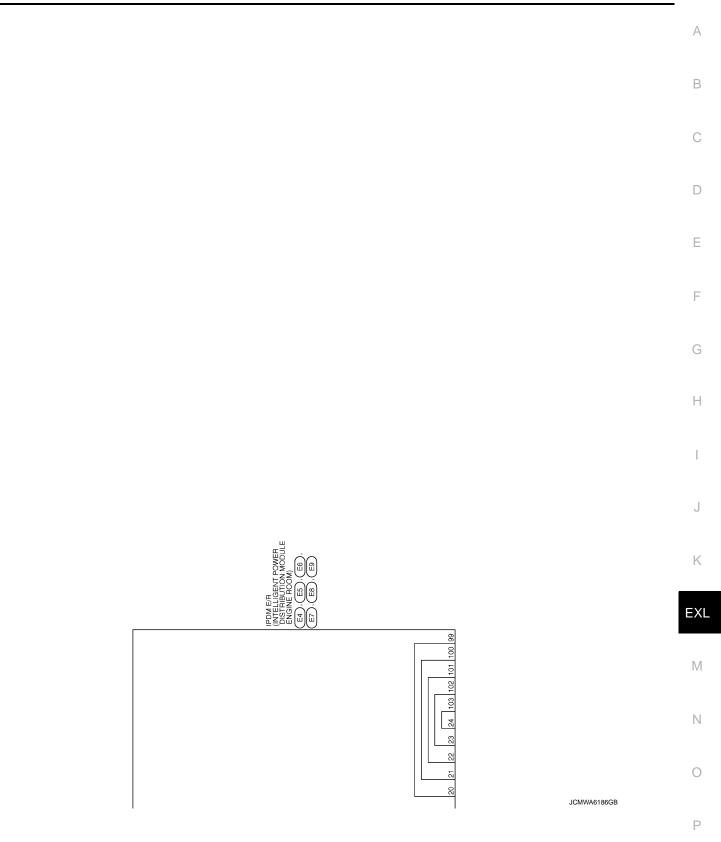
	inal No.	Description				Value
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
					Front fog lamp switch OFF	0 V
87 (L)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	 Front fog lamp switch ON Daytime running light activated (Only for Can- ada) 	Battery voltage
88 (GR)	Ground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

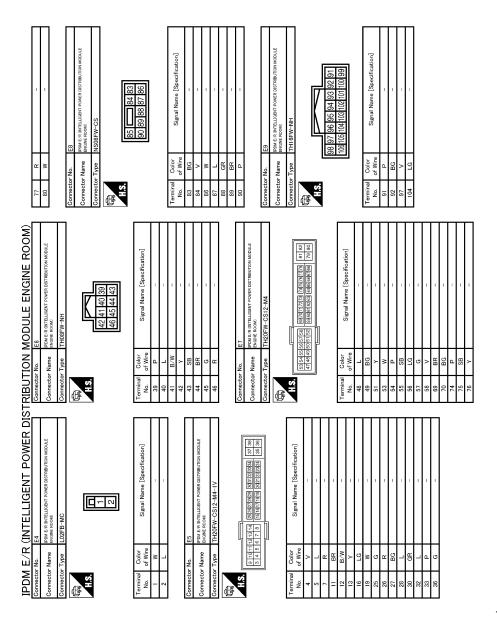
*¹: Only for the models with ICC system
*²: Models with steering lock unit

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









JCMWA6187GB

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CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With ECM

Fail-safe

EXL-178

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

< ECU DIAGNOSIS INFORMATION >

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

If No CAN Communication Is Available With BCM

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

*: For models with steering lock unit

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.
- Κ • IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF. EXL

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

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

< ECU DIAGNOSIS INFORMATION >

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

NOTE:

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

STARTER MOTOR PROTECTION FUNCTION

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

DTC Index

NOTE:

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

		×: Applicable
CONSULT display	Fail-safe	Reference
No DTC is detected. further testing may be required.	_	_
U1000: CAN COMM CIRCUIT	×	PCS-15
B2098: IGN RELAY ON	×	PCS-16
B2099: IGN RELAY OFF	-	PCS-17
B2108: S/L RELAY ON*	-	<u>SEC-98</u>
B2109: S/L RELAY OFF*	-	<u>SEC-99</u>
B210A: S/L STATE SW*	-	<u>SEC-100</u>
B210B: START CONT RLY ON	-	<u>SEC-104</u>
B210C: START CONT RLY OFF	-	<u>SEC-105</u>
B210D: STARTER RELAY ON	-	<u>SEC-106</u>
B210E: STARTER RELAY OFF	-	<u>SEC-107</u>
B210F: INTRLCK/PNP SW ON	-	<u>SEC-109</u>
B2110: INTRLCK/PNP SW OFF	-	<u>SEC-111</u>

*: For models without steering lock unit, this DTC is not applied.

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< ECU DIAGNOSIS INFORMATION >

AFS CONTROL UNIT

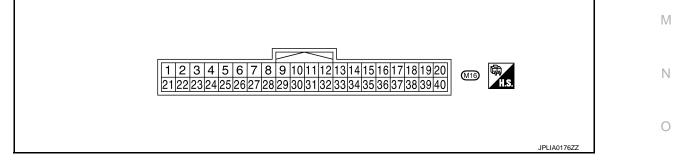
Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item	Conditi	on	Value/Status	-
STR ANGLE SIG	Steering	Straight-forward	Approx. 0°	
STR ANGLE SIG	Steering	Steering	Approx900° - +900°	_
VHCL SPD	Driving at 40 km/h (25 MPH)		40 km/h	
SLCT LVR POSI	Selector lever operation		P - 1	
		2ND	On	
HEAD LAMP	Light switch	Other than 2ND	Off	
AFS SW	NOTE: The item is inidicated, but not monitor	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. 35.4% (With 17-inch wheel)	
			Approx. 32.1% (With 18-inch wheel)	_
	Diskt has diama avoid a sticution	Standard position	Approx. 0°	_
SWVL SEN RH	Right headlamp swivel activation	Activation	Positive degree (+°)	
SWVL SEN LH		Standard position	Approx. 0°	_
SWVL SEN LH	Left headlamp swivel activation	Activation	Positive degree (+°)	
SWVL ANGLE RH	Bight headlemp awivel activities	Standard position	Approx. 0°	
	Right headlamp swivel activation	Activation	Positive degree (+°)	
SWVL ANGLE LH	Left headlamp swivel activation	Standard position	Approx. 0°	_
SVIVE ANGLE LE	Len neaulamp Swiver activation	Activation	Positive degree (+°)	

TERMINAL LAYOUT



PHYSICAL VALUES

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< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

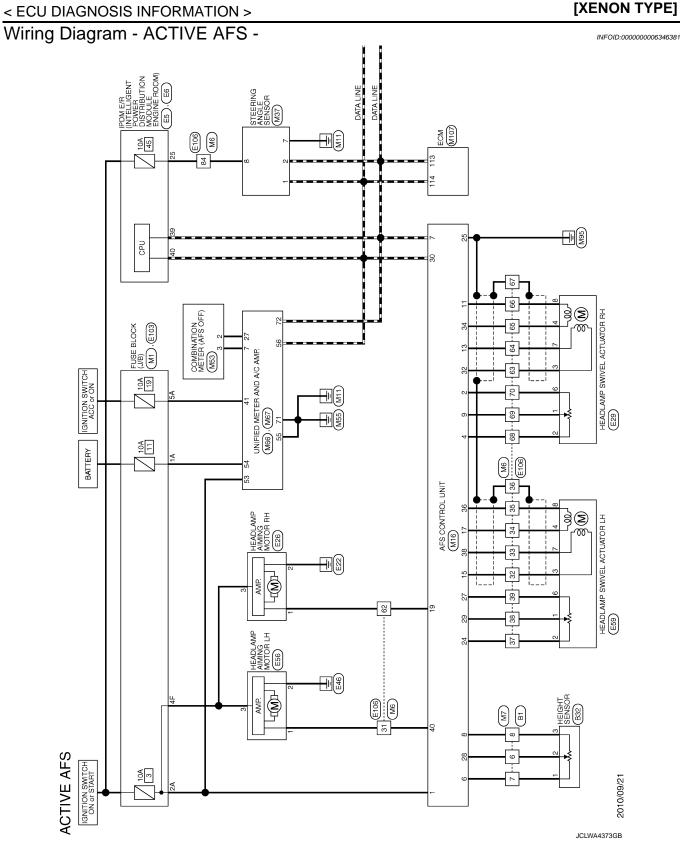
	inal No. e color)	Description				Value
+	-	Signal name	Input/ output	Conditio	n	(Approx.)
1 (Y)	Ground	Ignition power supply	Input	The ignition switch ON		Battery voltage
2 (LG)	Ground	Right swivel position sensor ground	Input	The ignition switch ON	١	0 V
4 (Y)	Ground	Right swivel position sensor power supply	Output	The ignition switch ON	١	5 V
6 (W)	Ground	Height sensor power supply	Output	The ignition switch ON	1	5 V
7 (P)	Ground	CAN-L	Input/ output	_		_
8 (B)	Ground	Height sensor ground	Input	The ignition switch ON	J	0 V
9 (GR)	Ground	Right swivel position sensor signal	Output	Right headlamp swivel angle	0° 15°	0.7 V 2.8 V
						Reference waveform
11 (R)	Ground	Right swivel motor 1-phase (–)	Output	Right headlamp swivel	Activation	(V) 10 5 0 + 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
					Unloaded ve- hicle condition	8.8 V
19 (SB)	Ground	Right levelizer signal	Output	Right headlamp lev- eling	Leveling oper- ation down- ward edge	4.4 V (With 17-inch wheel) 4.0 V (With 18-inch wheel)
24 (V)	Ground	Left swivel position sensor power supply	Output	The ignition switch ON	1	5 V
25 (B)	Ground	Ground	_	The ignition switch ON	1	0 V
27 (BR)	Ground	Left swivel position sensor ground	Input	The ignition switch ON	١	0 V

< ECU DIAGNOSIS INFORMATION >

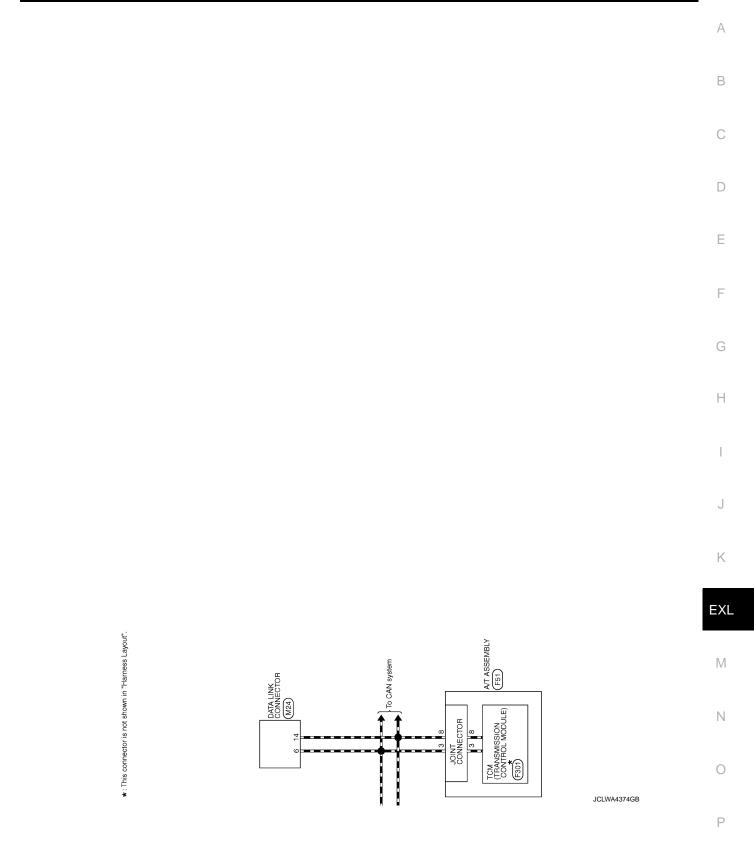
[XENON TYPE]

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

0

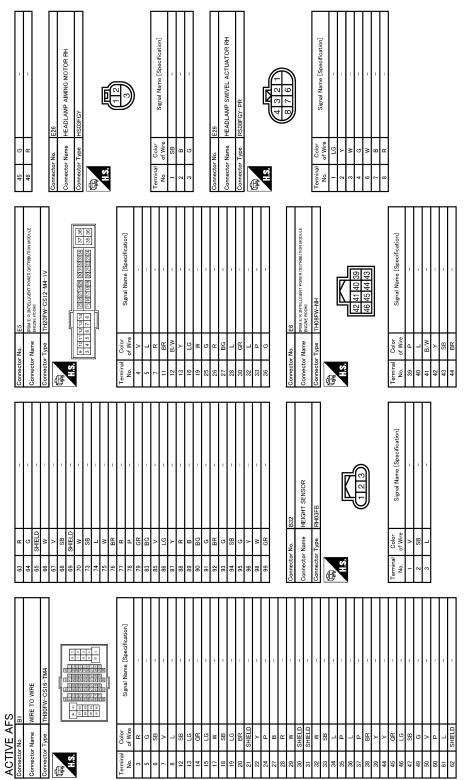


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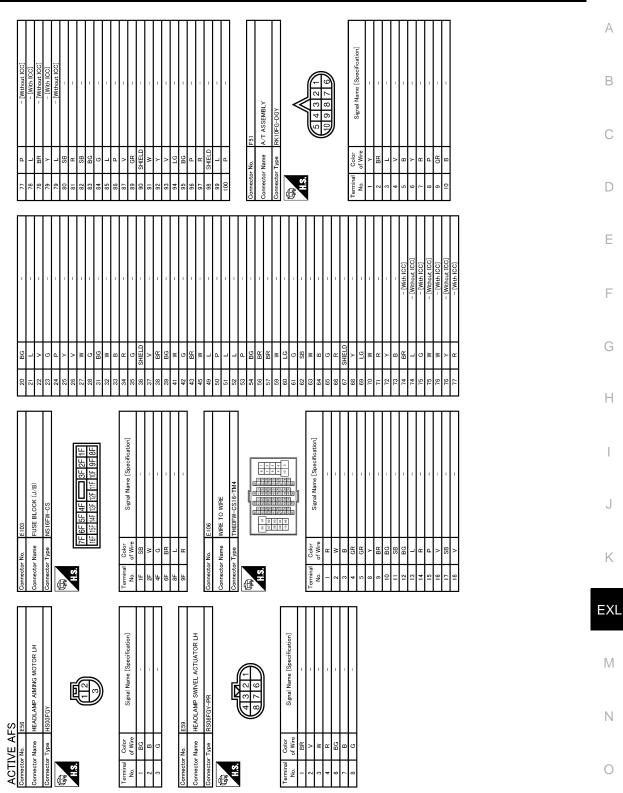
[XENON TYPE]



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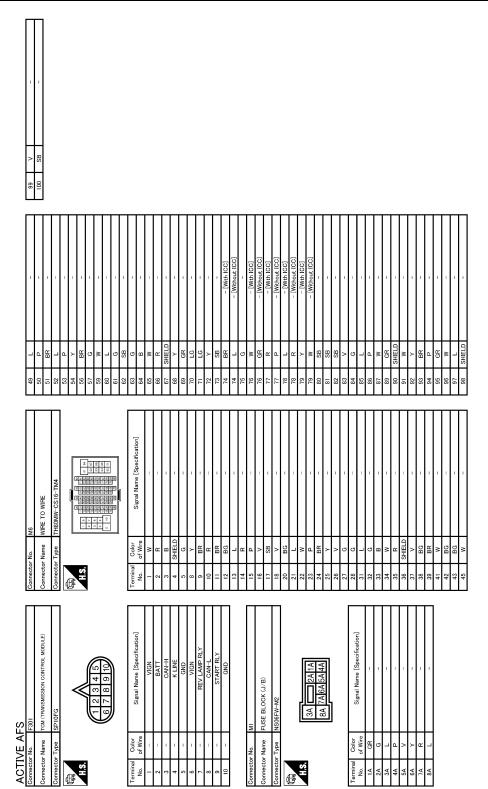
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[XENON TYPE]



JCLWA4376GB

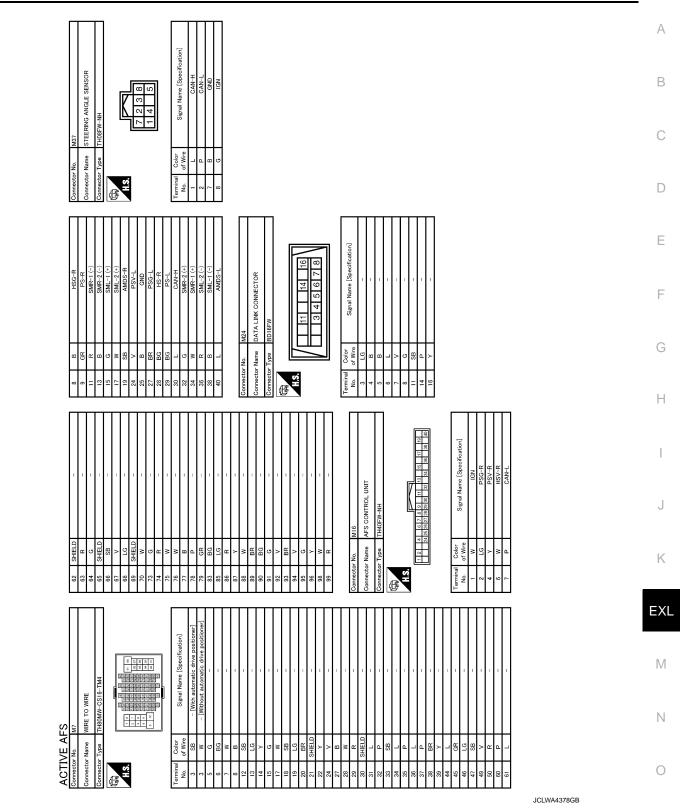
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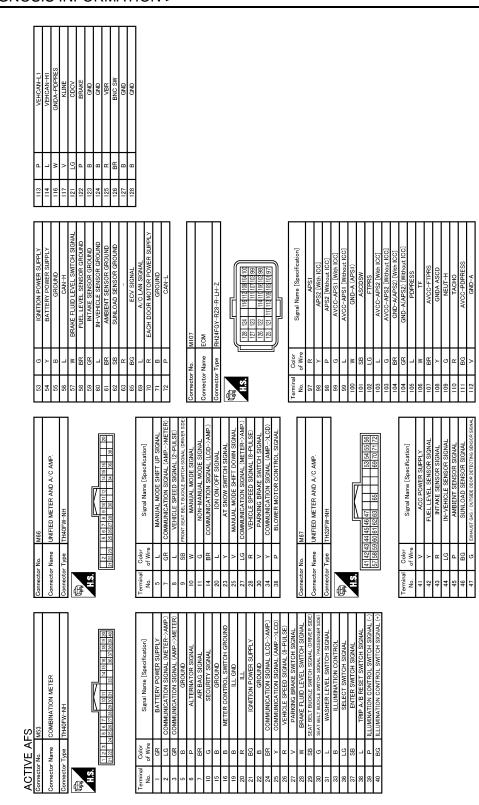
< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]



< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]



AFS CONTROL UNIT

JCLWA4379GB

< ECU DIAGNOSIS INFORMATION >

Fail-Safe

INFOID:000000006346382

[XENON TYPE]

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

DTC Inspection Priority Chart

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

NOTE:

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

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

Priority	Detected items (DTC)	
1	U1000 CAN COMM CIRCUIT U1010 CONTROL UNIT (CAN)	0
2	B2519 LEVELIZER CALIB B2521 ECU CIRC C0428 ST ANG SEN CALIB	P
3	 B2503 SWIVEL ACTUATOR [RH] B2504 SWIVEL ACTUATOR [LH] B2514 HI SEN UNUSUAL [RR] B2516 SHIFT SIG [P, R] B2517 VEHICLE SPEED SIG C0126 ST ANG SEN SIG 	

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< ECU DIAGNOSIS INFORMATION >

DTC Index

[XENON TYPE]

×.	Ar	nnl	ica	hle	c,

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

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS > SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

INFOID:000000006346385 B

CAUTION:

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

Syı	nptom	Possible cause	Inspection item
Headlamp (HI) is not turned ON.	One side	 Fuse Halogen bulb (HI) Harness between IPDM E/R and the headlamp high IPDM E/R 	Headlamp (HI) circuit Refer to <u>EXL-67</u> .
	Both sides	Symptom diagnosis	L
Headlamp (HI) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (HI) A Refer to <u>EXL-196</u> .	RE NOT TURNED ON"
urned OFF.	When ignition switch is turned OFF.	IPDM E/R	_
High beam indicator lam [The headlamp (HI) is tu		Combination meter	 Combination meter Data monitor "HI-BEAM IND" BCM (HEAD LAMP) Active test "HEADLAMP"
Headlamp (LO) is not turned ON.	One side	 Fuse Xenon bulb (LO) Harness between IPDM E/R and the headlamp low IPDM E/R 	Headlamp (LO) circuit Refer to <u>EXL-69</u> .
Both sides When ignition switch is turned ON.		Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-197</u> .	
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-83</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	
ront fog lamp is not tur	ned ON.	"BOTH SIDE FRONT FOG LAMPS Refer to <u>EXL-199</u> .	S ARE NOT TURNED ON"
Parking lamp is not turned ON.		 Fuse Parking lamp bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R 	Parking lamp circuit Refer to <u>EXL-76</u> .

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EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

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

NORMAL OPERATING CONDITION

Description

XENON HEADLAMP

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

AUTO LIGHT SYSTEM

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

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[XENON TYPE]

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-83, "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

©CONSULT-III DATA MONITOR

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

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

Monitor item	Con	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-86, "Exploded View"</u>.

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

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

Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

INFOID:000000006346387

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM I BOTH SID		MPS (LO)	ARE NOT TURNED C	[XENON TYPE]
Description				INFOID:00000006346389
The headlamps	s (both sides) are	e not turned Ol	N in any condition.	
Diagnosis P	rocedure			INFOID:00000006346390
1.снеск со	MBINATION SW	ITCH		
Is the combination of the combin	<u>tion switch norma</u> D TO 2. pair or replace th	al?		
CONSULT-II 1. Select "HL	I DATA MONITO LO REQ" of IPD	R M E/R data m		
CONSULT-II 1. Select "HL	I DATA MONITO LO REQ" of IPD	R M E/R data m switch, check t	ionitor item.	
CONSULT-II 1. Select "HL 2. With opera	I DATA MONITO LO REQ" of IPD ting the lighting s	R M E/R data m switch, check t ition 2ND	nonitor item. the monitor status. Monitor status On	
CONSULT-II Select "HL With opera Monitor item HL LO REQ Is the item statt YES >> GC NO >> Re	I DATA MONITO LO REQ" of IPD iting the lighting s Cond Lighting switch	R M E/R data m switch, check t ition 2ND OFF	nonitor item. the monitor status. Monitor status	

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

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

Description

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

Diagnosis Procedure

INFOID:000000006346392

INFOID:00000006346391

1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to <u>BCS-83, "Symptom Table"</u>.

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

CONSULT-III DATA MONITOR

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

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

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

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

3.TAIL LAMP CIRCUIT INSPECTION

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

Is the tail lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

					[XENON TYPE]
BOTH SID	E FRONT FOG	LAMF	PS ARE NOT 1	URNED ON	
Description					INFOID:00000006346393
The front fog la	imps are not turned Of	N in any o	condition.		
Diagnosis Procedure					INFOID:00000006346394
1.COMBINAT	ION SWITCH INSPEC	TION			
Check the com	bination switch. Refer	to BCS-8	33, "Symptom Table".		
	tion switch normal?				
) TO 2. pair or replace the ma	Ifunctioni	na part		
•	ONT FOG LAMP REQ		•		
	I DATA MONITOR				
1. Select "FR	FOG REQ" of IPDM E				
2. With opera	ting the front fog lamp			tus.	
2. With opera				tus.	
Monitor item	ting the front fog lamp Condition Front fog lamp switch		check the monitor sta	tus.	
·	ting the front fog lamp	switch, c	Check the monitor sta	tus.	
Monitor item FR FOG REQ Is the item stat	Condition Front fog lamp switch (Lighting switch 2ND) us normal?	oswitch, o	Monitor status	tus.	
Monitor item FR FOG REQ Is the item stat YES >> GO	Condition Front fog lamp switch (Lighting switch 2ND) US normal? D TO 3.	oswitch, o	Monitor status	tus.	
Monitor item FR FOG REQ Is the item stat YES >> GC NO >> Re	Condition Front fog lamp switch (Lighting switch 2ND) US normal? D TO 3. eplace BCM.	ON OFF	Monitor status On Off	tus.	
Monitor item FR FOG REQ Is the item stat YES >> GC NO >> Re 3. FRONT FO	Condition Front fog lamp switch (Lighting switch 2ND) US normal? D TO 3. eplace BCM. G LAMP CIRCUIT INS	ON OFF	N		
Monitor item FR FOG REQ Is the item stat YES >> GO NO >> Re 3. FRONT FO Check the fron	ting the front fog lamp Condition Front fog lamp switch (Lighting switch 2ND) US normal? O TO 3. place BCM. G LAMP CIRCUIT INS t fog lamp circuit. Refe	ON OFF	N		
Monitor item FR FOG REQ Is the item stat YES >> GC NO >> Re 3. FRONT FO Check the fron Is the front fog YES >> Re	Condition Front fog lamp switch (Lighting switch 2ND) US normal? D TO 3. Pplace BCM. G LAMP CIRCUIT INS t fog lamp circuit. Refe lamp circuit normal? Pplace IPDM E/R.	ON OFF OFF OFF	Monitor status On Off N 74. "Component Fur		
Monitor item FR FOG REQ Is the item stat YES >> GC NO >> Re 3. FRONT FO Check the fron Is the front fog YES >> Re	Condition Front fog lamp switch (Lighting switch 2ND) US normal? D TO 3. Pplace BCM. G LAMP CIRCUIT INS t fog lamp circuit. Refe lamp circuit normal?	ON OFF OFF OFF	Monitor status On Off N 74. "Component Fur		

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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.

Precautions For Xenon Headlamp Service

INFOID:000000006346396

WARNING:

Comply with the following warnings to prevent any serious accident.

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

CAUTION:

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

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

INFOID:000000006346397

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< PERIODIC MAINTENANCE > PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

Description

PREPARATION BEFORE ADJUSTING

NOTE:

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

Before performing aiming adjustment, check the following.

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

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

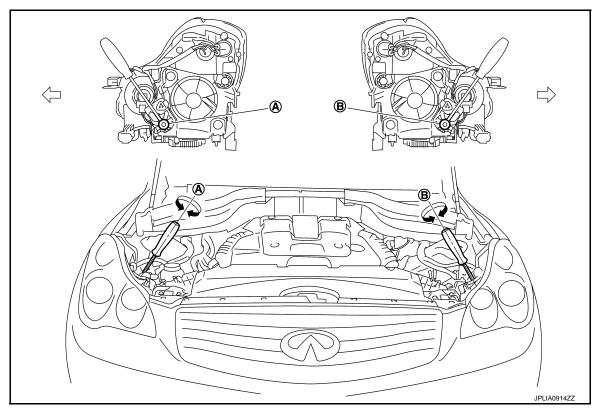
• Wipe out dirt on the headlamp.

CAUTION:

Never use organic solvent (thinner, gasoline etc.)

• Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



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

C: Vehicle center

NOTE:

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

EXL-201

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

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

Aiming Adjustment Procedure

INFOID:000000006346398

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

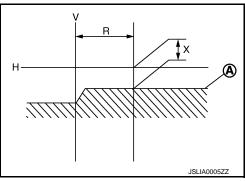
Shut off the headlamp light with the board to prevent from illuminating the adjustment screen. **CAUTION:**

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

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

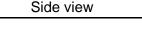
Light axis measurement range (R) $: 350 \pm 175$ mm (13.78 \pm 6.89 in)

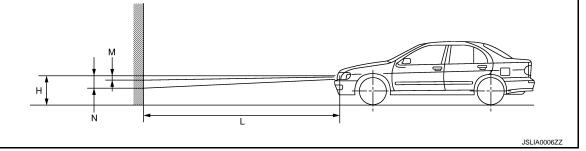
Low beam distribution on the screen



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

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





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

EXL-202

FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE > FRONT FOG LAMP AIMING ADJUSTMENT

Description

PREPARATION BEFORE ADJUSTING

NOTE:

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

Before performing aiming adjustment, check the following.

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

NOTE:

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

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

Ride alone on the driver seat. AIMING ADJUSTMENT SCREW

- Turn the aiming adjusting screw for adjustment.
 - A: UP
 - B: DOWN
- For the position and direction of the adjusting screw, refer to the figure.

NOTE:

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



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

NOTE:

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

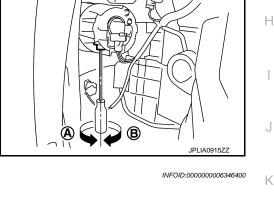
Never cover the lens surface with a tape etc. The lens is made of resin.

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

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[XENON TYPE]

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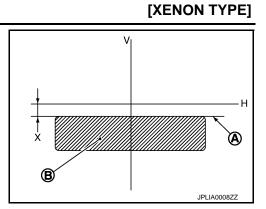
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FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

Front fog lamp light distribution on the screen



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

< REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION

FRONT COMBINATION LAMP

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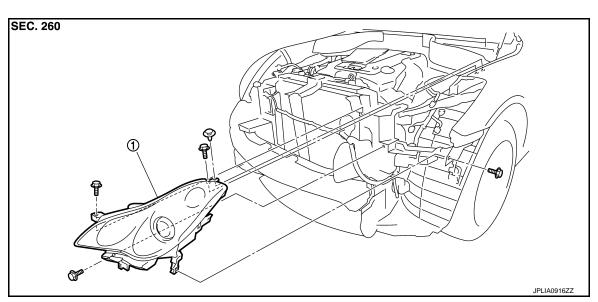
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INFOID:000000006346401 B

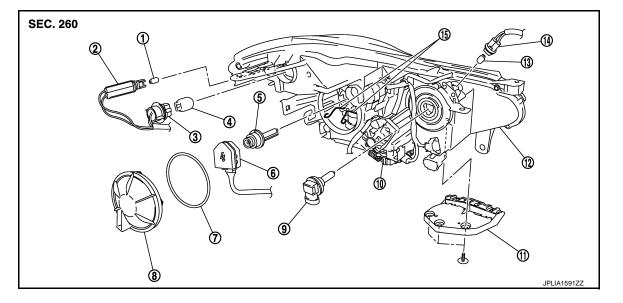
Exploded View

REMOVAL



1. Front combination lamp

DISASSEMBLY



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

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

CAUTION:

HID control unit and xenon bulb socket cannot be disassembled.

Revision: 2011 October

EXL-205

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-201, "Description".

Replacement

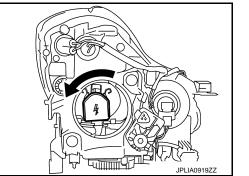
CAUTION:

- 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.
- 4. Remove the retaining spring lock. And then remove the bulb from the headlamp housing assembly.

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



HEADLAMP BULB (HI)

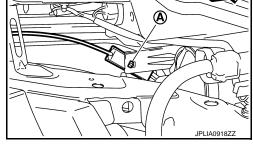
- 1. Remove the washer tank inlet^{*}. Refer to <u>WW-105, "Exploded View"</u>. *:When replace a right.
- 2. Disconnect the headlamp (HI) bulb connector.
- 3. Rotate the bulb socket counterclockwise and unlock it.
- 4. Remove the bulb socket from the headlamp housing assembly.

PARKING LAMP BULB

1. Rotate the bulb socket counterclockwise and unlock it.



EXL-206



[XENON TYPE]

INFOID:000000006346402

FRONT COMBINATION LAMP

FRONT COMBINATION LAMP	.,
< REMOVAL AND INSTALLATION > [XENON TYPE	- <u> </u>
2. Remove the bulb from the bulb socket.	0
FRONT TURN SIGNAL LAMP BULB	A
1. Remove the fender rubber protector in the engine room. Keep a service area.	
2. Rotate the bulb socket counterclockwise and unlock it.	В
3. Remove the bulb from the bulb socket.	
FRONT SIDE MARKER LAMP BULB	
1. Remove the fender rubber protector in the engine room. Keep a service area.	С
2. Rotate the bulb socket counterclockwise and unlock it.	
3. Remove the bulb from the bulb socket.	D
Disassembly and Assembly	
CAUTION:	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.	0
5. Rotate the parking lamp bulb socket counterclockwise and unlock it.	
6. Remove the bulb from the parking lamp bulb socket.	Н
7. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it.	
8. Remove the bulb from the front turn signal lamp bulb socket.	
 Rotate the front side marker lamp bulb socket counterclockwise and unlock it. Remove the bulb from the front side marker lamp bulb applied. 	I
 Remove the bulb from the front side marker lamp bulb socket. 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:	Κ
After installing the bulb, install the resin cap and the bulb socket securely for watertightness.	

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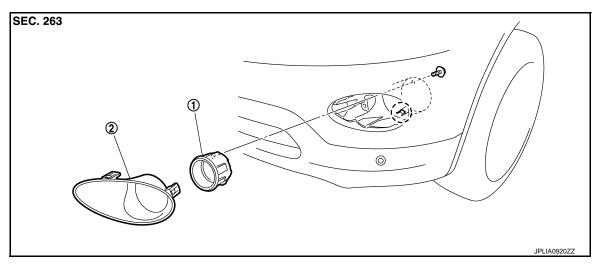
FRONT FOG LAMP

< REMOVAL AND INSTALLATION >

FRONT FOG LAMP

Exploded View

INFOID:000000006346405



1. Front fog lamp

2. Front fog lamp finisher

(`) : Pawl

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

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

INSTALLATION

Installation is the reverse order of removal.

NOTE:

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

Replacement

CAUTION:

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

FRONT FOG LAMP BULB

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

INFOID:000000006346406

INFOID:000000006346407

EXL-208

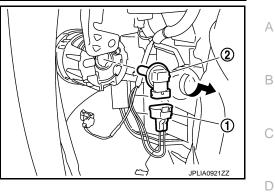
FRONT FOG LAMP

< 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: 2011 October

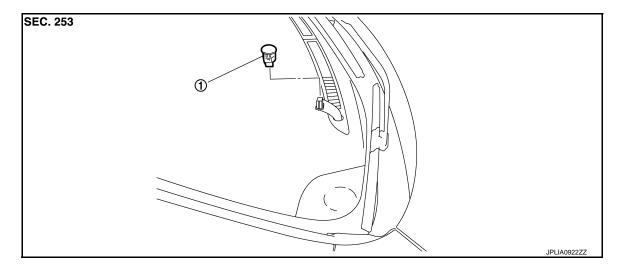
OPTICAL SENSOR

< REMOVAL AND INSTALLATION >

OPTICAL SENSOR

Exploded View

INFOID:000000006346408



1. Optical sensor

Removal and Installation

INFOID:000000006346409

REMOVAL

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

INSTALLATION

Install in the reverse order of removal.

Pavision: 2011 October	EXL-211	

LIGHTING AND TURN SIGNAL SWITCH

< REMOVAL AND INSTALLATION > LIGHTING AND TURN SIGNAL SWITCH

Exploded View

Lighting and turn signal switch is integrated in the combination switch. BCS-87, "Exploded View".

[XENON TYPE]

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< REMOVAL AND INSTALLATION >

HAZARD SWITCH

Exploded View

The hazard warning switch is integrated in the multifunction switch. Refer to AV-133, "Exploded View".

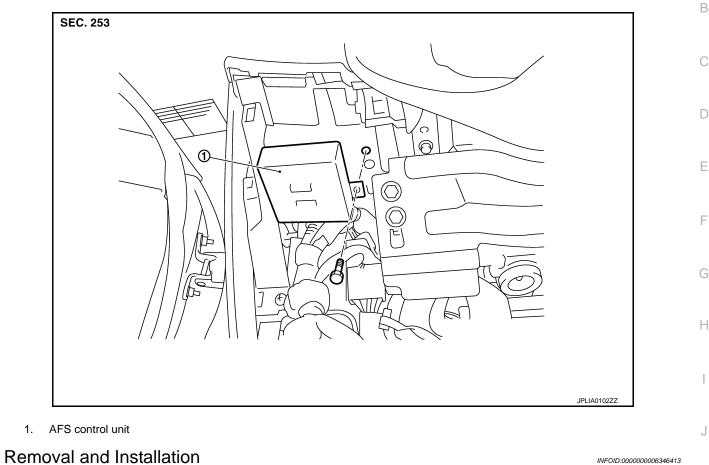
< REMOVAL AND INSTALLATION >

AFS CONTROL UNIT

Exploded View

INFOID:000000006346412

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REMOVAL

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

INSTALLATION

Install in the reverse order of removal.

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[XENON TYPE]

< REMOVAL AND INSTALLATION >

STEERING ANGLE SENSOR

Removal and Installation

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

HEIGHT SENSOR

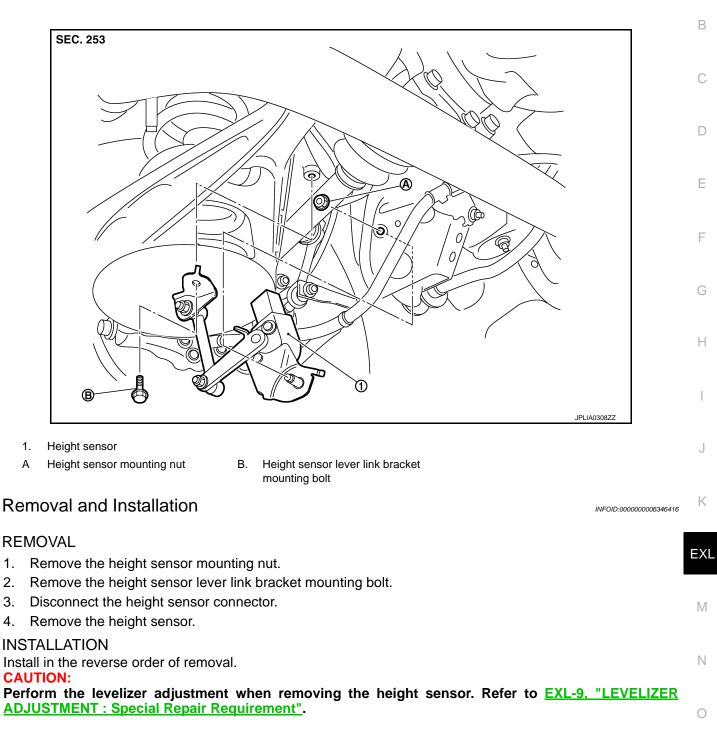
< REMOVAL AND INSTALLATION >

HEIGHT SENSOR

Exploded View

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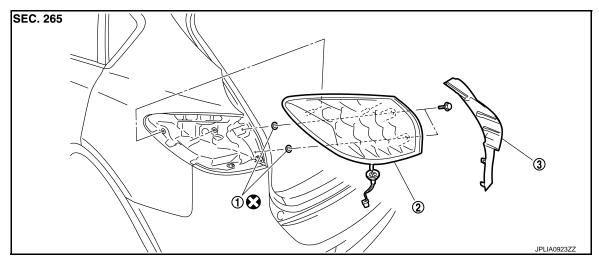
REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

REAR COMBINATION LAMP

Exploded View

INFOID:000000006346417



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

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the luggage side finisher lower. Refer to INT-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

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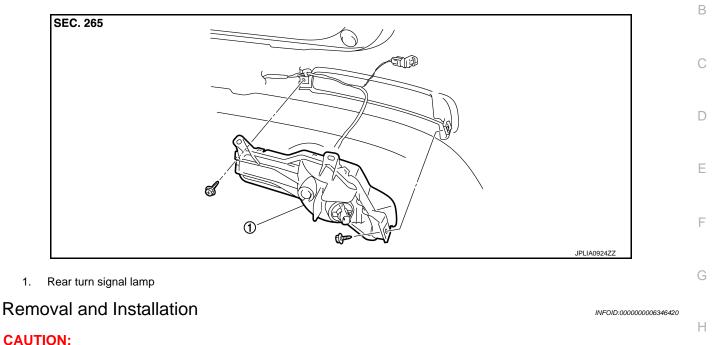
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INFOID:000000006346421



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.

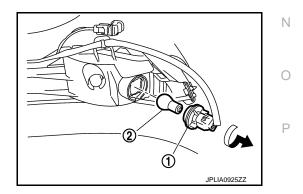
Replacement

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.



[XENON TYPE]

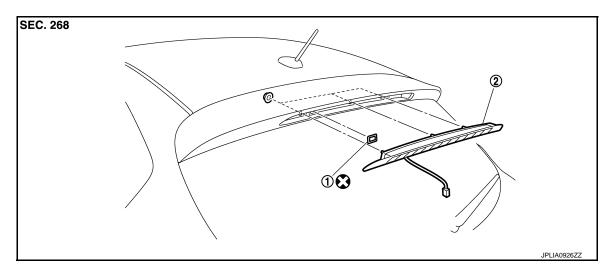
HIGH-MOUNTED STOP LAMP

< REMOVAL AND INSTALLATION >

HIGH-MOUNTED STOP LAMP

Exploded View

INFOID:000000006346422



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

Removal and Installation

REMOVAL

- 1. Remove the back door finisher inner. Refer to INT-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

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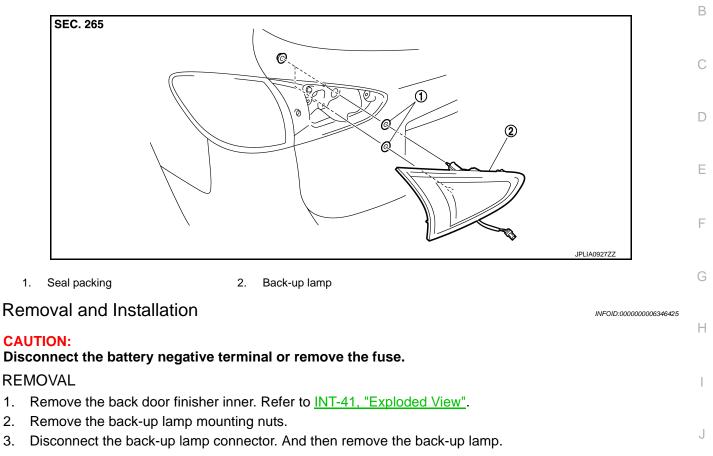
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INSTALLATION

Install in the reverse order of removal.

Replacement

CAUTION:

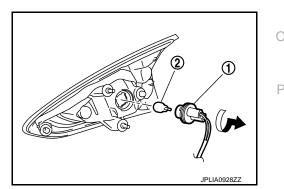
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2. 3.

- 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

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

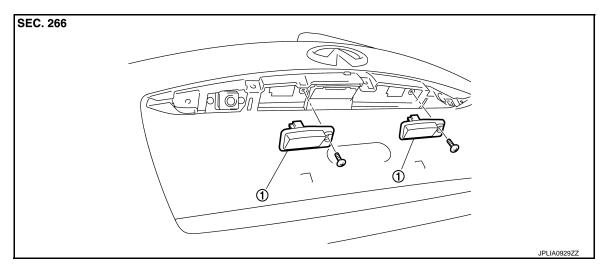


< REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

Exploded View

INFOID:000000006346427



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.

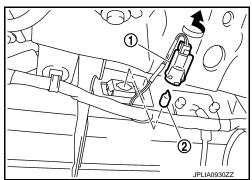
Replacement

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.



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SERVICE DATA AND SPECIFICATIONS (SDS)

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

Bulb Specifications

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

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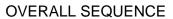
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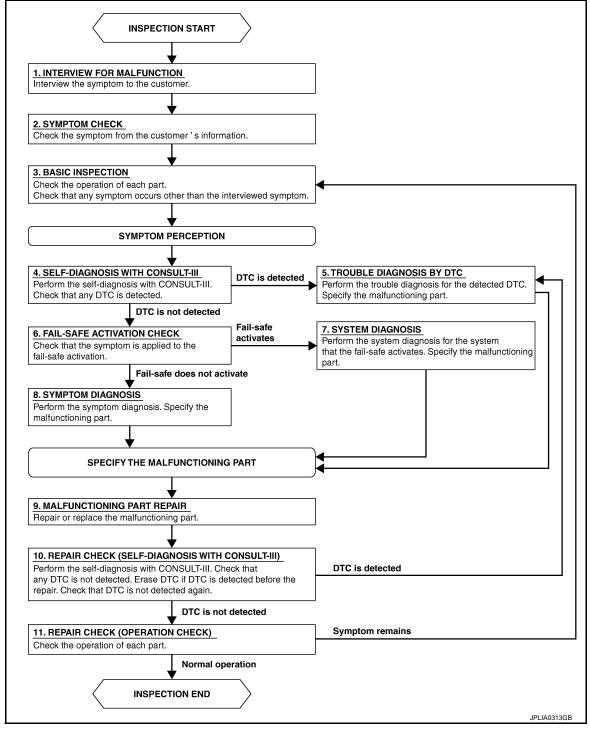
[XENON TYPE]

BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000006346431





DETAILED FLOW

1.INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

DIAGNOSIS AND REPAIR WORKFLOW

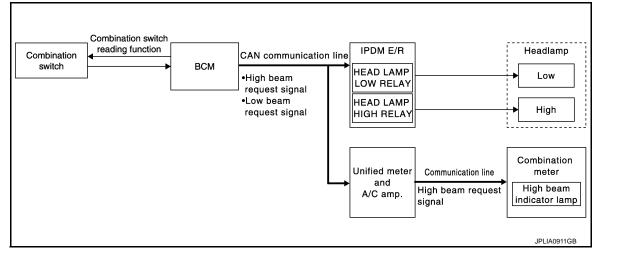
DIAGNOSIS AND REPAIR WORKFLOW
< BASIC INSPECTION > [HALOGEN TYPE]
>> GO TO 2.
2. SYMPTOM CHECK
Check the symptom from the customer's information.
>> GO TO 3.
3.BASIC INSPECTION
Check the operation of each part. Check that any symptom occurs other than the interviewed symptom.
>> GO TO 4.
4.SELF-DIAGNOSIS WITH CONSULT-III
Perform the self-diagnosis with CONSULT-III. Check that any DTC is detected.
Is any DTC detected?
YES >> GO TO 5.
NO $>>$ GO TO 6.
5.TROUBLE DIAGNOSIS BY DTC
Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning part.
>> GO TO 9.
6. FAIL-SAFE ACTIVATION CHECK
Check that the symptom is applied to the fail-safe activation. Does the fail-safe activate?
YES >> GO TO 7.
NO $>>$ GO TO 8.
7.SYSTEM DIAGNOSIS
Perform the system diagnosis for the system that the fail-safe activates. Specify the malfunctioning part.
>> GO TO 9.
8. SYMPTOM DIAGNOSIS
Perform the symptom diagnosis. Specify the malfunctioning part.
>> GO TO 9.
9. MALFUNCTION PART REPAIR
Repair or replace the malfunctioning part.
>> GO TO 10.
10.REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT-III)
Perform the self-diagnosis with CONSULT-III. Check that any DTC is not detected. Erase DTC if DTC is detected before the repair. Check that DTC is not detected again.
Is any DTC detected?
YES >> GO TO 5.
NO >> GO TO 11.
11. REPAIR CHECK (OPERATION CHECK)
Check the operation of each part.
Does it operate normally?
YES >> INSPECTION END

NO >> GO TO 3.

INFOID:00000006346432

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

System Diagram



System Description

INFOID:000000006346433

OUTLINE

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

HEADLAMP (LO) OPERATION

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

Headlamp (LO) ON condition

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

HEADLAMP (HI) OPERATION

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

Headlamp (HI) ON condition

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

HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

[HALOGEN TYPE]

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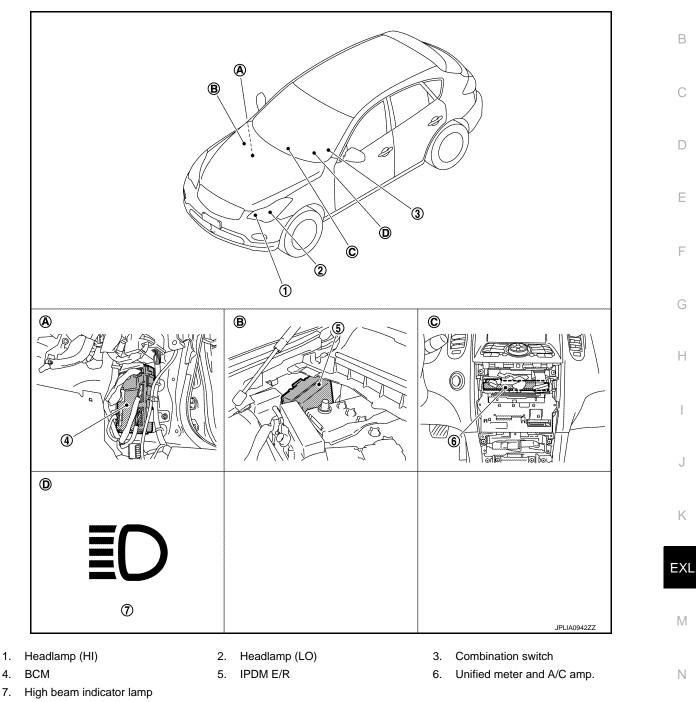
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- Dash side lower (Passenger side)
- On the combination meter D.

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

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HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Description

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[HALOGEN TYPE]

Part	Description
BCM	 Detects each switch condition by the combination switch reading function. Judges that the headlamp is turned ON according to the vehicle condition. Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication). Requests the high beam indicator lamp ON to the combination meter (with CAN communication).
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-10, "System Diagram"</u> .
Combination meter (High beam indicator lamp)	Turns the high beam indicator lamp ON according to the request from BCM [(with CAN communication (through unified meter and A/C amp.)].

AUTO LIGHT SYSTEM

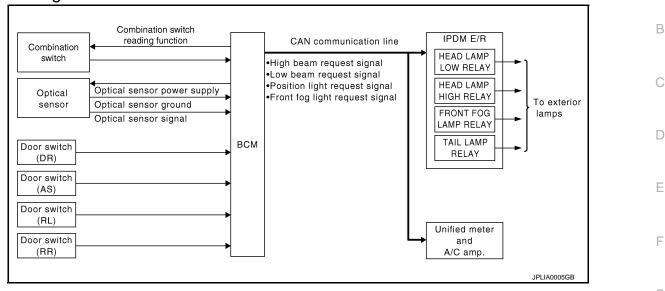
< SYSTEM DESCRIPTION >

AUTO LIGHT SYSTEM

INFOID:00000006346436

INFOID:00000006346437

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 EXL the exterior lamps OFF depending on the vehicle condition with the auto light function after a certain period of time.

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

AUTO LIGHT FUNCTION

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

NOTE:

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

DELAY TIMER FUNCTION

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

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

EXL-227

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AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

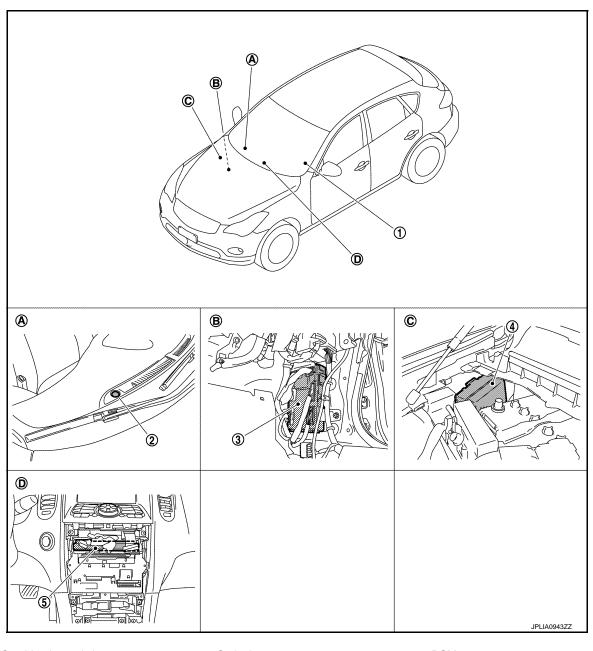
• Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF.

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

NOTE:

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

Component Parts Location



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

AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

Component Description

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[HALOGEN TYPE]

Part	Description	
BCM	 Judges each switch condition by the combination switch reading function. Judges the outside brightness from the optical sensor signal. Judges the OFF timing according to the vehicle condition. Judges the ON/OFF status of the exterior lamp and each illumination according to the outside brightness and the vehicle condition. Requests ON/OFF of each relay to IPDM E/R (with CAN communication). 	
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).	
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-10, "System Diagram"</u> .	
Optical sensor	Refer to EXL-264, "Description".	

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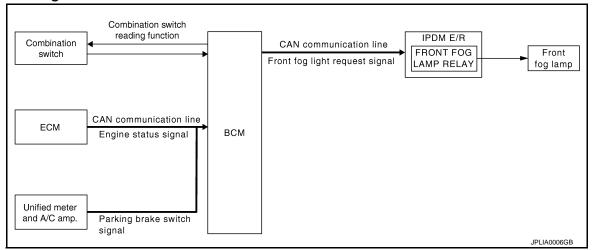
Revision: 2011 October

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

DAYTIME RUNNING LIGHT SYSTEM

System Diagram



System Description

INFOID:000000006346441

OUTLINE

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

DAYTIME RUNNING LIGHT OPERATION

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

Daytime running light ON condition

- While the engine running with the parking brake released

Daytime running light OFF condition

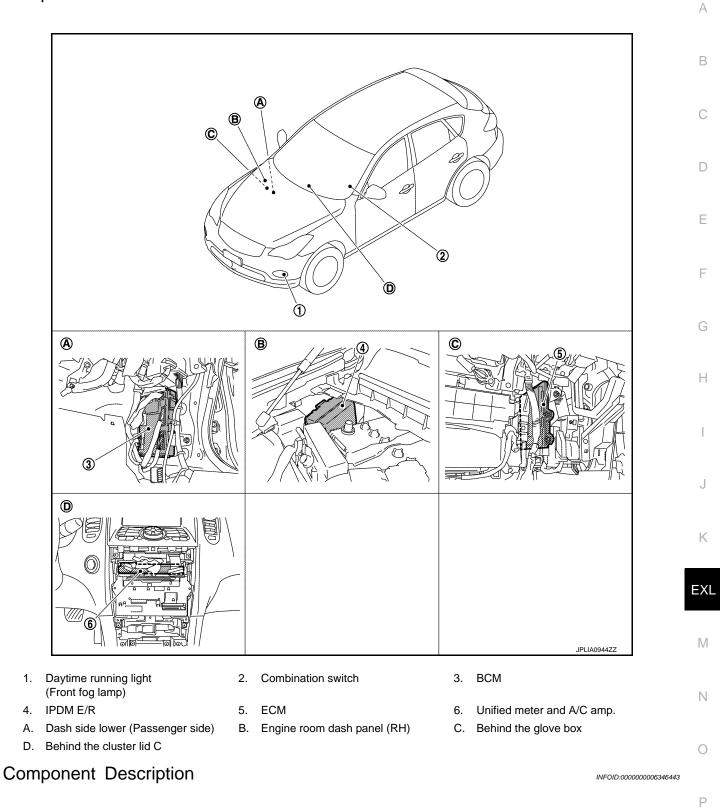
- Engine stopped
- Headlamp ON (Passing included)
- IPDM E/R turns the integrated front fog lamp relay ON and turns the front fog lamp ON according to the front fog light request signal.

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

[HALOGEN TYPE]



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

DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Part	Description
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-10, "System Diagram"</u> .
ECM	Transmits the engine condition signal to BCM with CAN communication.
Unified meter and A/C amp.	Transmits the parking brake switch signal to BCM with CAN communication.

FRONT FOG LAMP SYSTEM

< SYSTEM DESCRIPTION >

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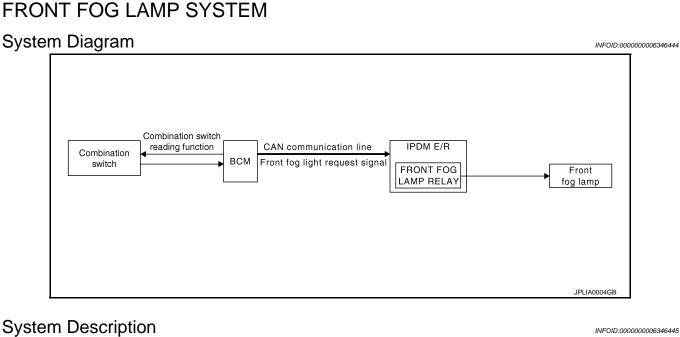
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FRONT FOG LAMP SYSTEM



OUTLINE

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

NOTE:

For Canada models, the front fog lamp is turned ON as the daytime running light. Refer to EXL-230, "System Diagram" for the detail.

FRONT FOG LAMP OPERATION

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

Front fog lamp ON condition

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

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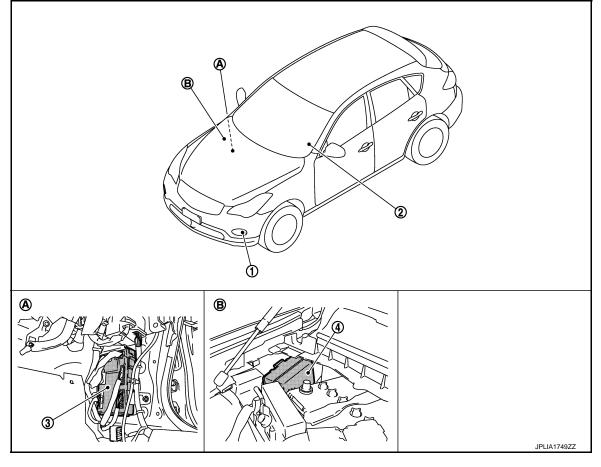
FRONT FOG LAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

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[HALOGEN TYPE]



1. Front fog lamp

2. Combination switch 3. BCM

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

Component Description

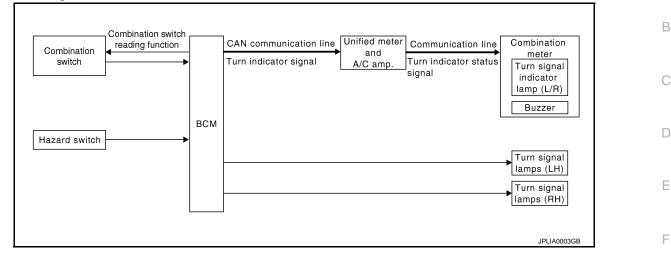
Part	Description
BCM	 Judges each switch condition by the combination switch reading function. Judges the front fog lamp ON/OFF status according to the vehicle condition. Requests the front fog lamp relay ON to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-10. "System Diagram"</u> .

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< SYSTEM DESCRIPTION >

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

System Diagram



System Description

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[HALOGEN TYPE]

INFOID:000000006346448

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OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

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

HIGH FLASHER OPERATION (FAIL-SAFE)

- BCM detects the turn signal lamp circuit status from the current value.
- BCM 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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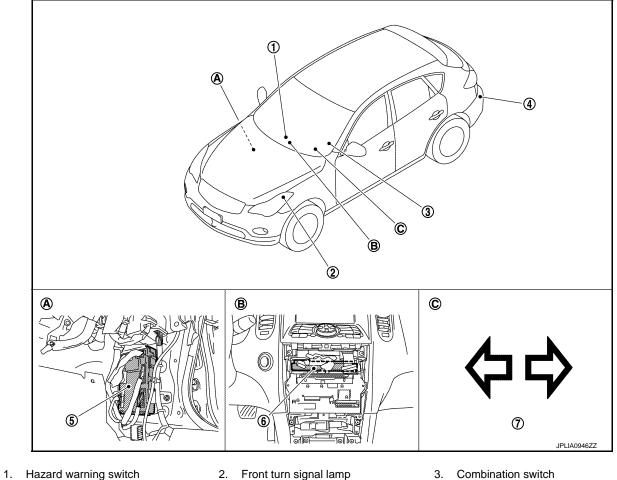
EXL

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM [HALOGEN TYPE]

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000006346450



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

Component	Description
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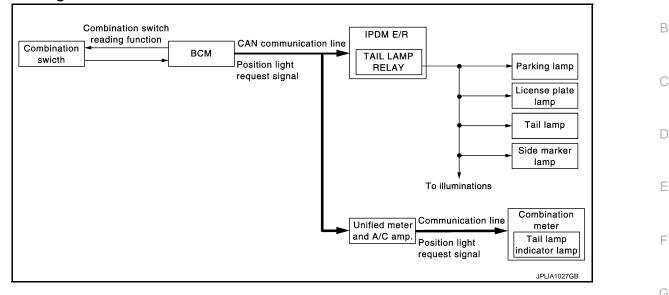
Part	Description
ВСМ	 Judges each switch condition by the combination switch reading function. Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks. Requests the turn signal indicator lamp blink to the combination meter (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-10, "System Diagram"</u> .
Hazard switch (Multifunction switch)	Refer to <u>EXL-267</u> , "Description".
Combination meter (Turn signal indicator lamp & buzzer)	Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM [with CAN communication (through unified meter and A/C amp.)].

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< SYSTEM DESCRIPTION >

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

System Diagram



System Description

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OUTLINE

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

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS OPERATION

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

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

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

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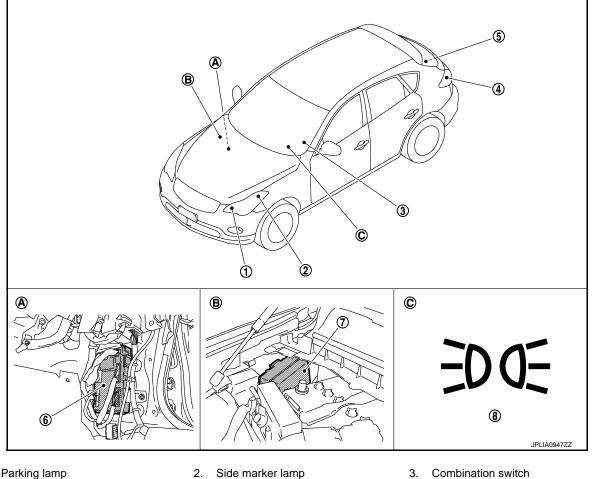
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000006346454

[HALOGEN TYPE]



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

Component Description

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

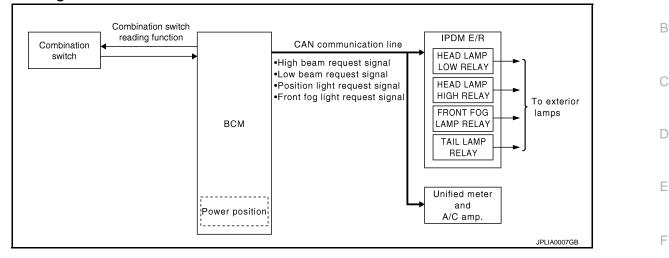
Part	Description
BCM	 Judges each switch condition by the combination switch reading function. Judges the ON/OFF status of the clearance, license plate, side marker and tail lamps according to the vehicle condition. Requests the tail lamp relay ON to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-10, "System Diagram"</u> .
Combination meter (Tail lamp indicator lamp)	Turns the tail lamp indicator lamp ON according to the request from BCM [with CAN communication (through the unified meter and A/C amp.)].

EXTERIOR LAMP BATTERY SAVER SYSTEM

< SYSTEM DESCRIPTION >

EXTERIOR LAMP BATTERY SAVER SYSTEM

System Diagram



System Description

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OUTLINE

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

Control by BCM

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

Control by IPDM E/R

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

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

EXTERIOR LAMP BATTERY SAVER ACTIVATION

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

NOTE:

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

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[HALOGEN TYPE]

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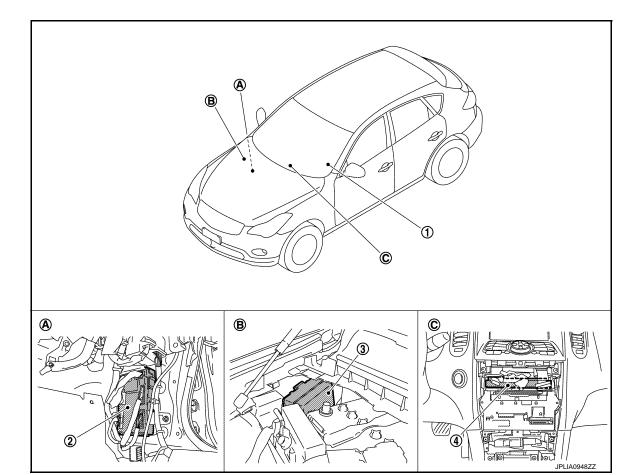
EXTERIOR LAMP BATTERY SAVER SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000006346458

[HALOGEN TYPE]



- 1. Combination switch
- 4. Unified meter and A/C amp.

Component Description

- A. Dash side lower (Passenger side)
- 2. BCM
- B. Engine room dash panel (RH)
- 3. IPDM E/R
- 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 <u>BCS-10, "System Diagram"</u> .

< SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:000000006893675

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APPLICATION ITEM

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

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

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

System	Cub system calestian item	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	×	×	×	-
Exterior lamp	HEAD LAMP	×	×	×	
Wiper and washer	WIPER	×	×	×	
Turn signal and hazard warning lamps	FLASHER	×	×	×	-
—	AIR CONDITONER*				- 1
Intelligent Key systemEngine start system	INTELLIGENT KEY	×	×	×	_
Combination switch	COMB SW		×		
Body control system	BCM	×			
IVIS - NATS	IMMU		×	×	-
Interior room lamp battery saver	BATTERY SAVER	×	×	×	-
Back door open system	TRUNK		×	×	
Vehicle security system	THEFT ALM	×	×	×	
RAP system	RETAINED PWR		×		
Signal buffer system	SIGNAL BUFFER		×	×	-
TPMS	TPMS (AIR PRESSURE MONITOR)	×	×	×	-

NOTE:

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

FREEZE FRAME DATA (FFD)

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

EXL-241

< 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 (Odomete	Total mileage (Odometer value) of the moment a particular DTC is detected				
S	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" (E 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"*				
	OFF>ACC		While turning power supply position from "OFF" to "ACC"				
	ON>CRANK		While turning power supply position from "IGN" to "CRANKING"				
	OFF>SLEEP		While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode				
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply position is "LOCK"*.) to low power consumption mode				
	LOCK		Power supply position is "LOCK" (Ignition switch OFF with steer- ing is locked.)*				
	OFF		Power supply position is "OFF" (Ignition switch OFF with steering is unlocked.)				
	ACC		Power supply position is "ACC" (Ignition switch ACC)				
	ON		Power supply position is "IGN" (Ignition switch ON with engine stopped)				
	ENGINE RUN		Power supply position is "RUN" (Ignition switch ON with engine running)				
	CRANKING		Power supply position is "CRANKING" (At engine cranking)				
IGN Counter	0 - 39	 The number of times that ignition switch is turned ON after DTC is detected The number is 0 when a malfunction is detected now. The number increases like 1 → 2 → 338 → 39 after returning to the normal con whenever ignition switch OFF → ON. The number is fixed to 39 until the self-diagnosis results are erased if it is over 39 					

NOTE:

*: For models without steering lock unit, power supply position changes from "OFF" to "LOCK" when steering lock conditions are satisfied.

HEADLAMP

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

INFOID:000000006346461

WORK SUPPORT

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

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Service item	Setting item		Setting		
	MODE 1*	45 sec.			
	MODE 2	Without the func- tion			
	MODE 3	30 sec.	Sets delay timer function timer operation time.		
ILL DELAY SET	MODE 4	60 sec.			
	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 set	ting than normal setting (Turns ON earlier than normal operation.)		
TING	MODE 3	More sensitive set	tting than MODE 2 (Turns ON earlier than MODE 2.)		
	MODE 4	Less sensitive set	ting than normal setting (Turns ON later than normal operation.)		

*: Initial setting

DATA MONITOR

Monitor item [Unit]	Description	
PUSH SW [On/Off]	The switch status input from push-button ignition switch	
ENGINE STATE [Stop/Stall/Crank/Run]	The engine status received from ECM with CAN communication	
VEH SPEED 1 [km/h]	The value of the vehicle speed received from unified meter and A/C amp. with CAN communication	
KEY SW-SLOT [On/Off]	Key switch status input from key slot	
TURN SIGNAL R [On/Off]		
TURN SIGNAL L [On/Off]		
TAIL LAMP SW [On/Off]		
HI BEAM SW [On/Off]		
HEAD LAMP SW1 [On/Off]	Each switch status that BCM judges from the combination switch reading function	
HEAD LAMP SW2 [On/Off]		
PASSING SW [On/Off]		
AUTO LIGHT SW [On/Off]		
FR FOG SW [On/Off]		
RR FOG SW [On/Off]	NOTE: The item is indicated, but not monitored.	
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)	
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)	

< SYSTEM DESCRIPTION >

Monitor item [Unit]	Description
DOOR SW-RR [On/Off]	The switch status input from rear door switch RH
DOOR SW- RL [On/Off]	The switch status input from rear door switch LH
DOOR SW-BK [On/Off]	The switch status input from 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.		
HEAD LAMP	Hi	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).		
	Low	Transmits the low beam request signal with CAN communication to turn the headlamp (LO).		
	Off	Stops the high & low beam request signal transmission.		
FR FOG LAMP	On	Transmits the front fog light request signal to IPDM E/R with CAN munication to turn the front fog lamp ON.		
	Off	Stops the front fog light request signal transmission.		
RR FOG LAMP	On	NOTE:		
KK FOG LAMF	Off	The item is indicated, but cannot be tested.		
DAYTIME RUNNING LIGHT	On	NOTE:		
DATTIME ROMINING 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:		
ILL DIW SIGNAL	Off	The item is indicated, but cannot be tested.		

FLASHER

FLASHER : CONSULT-III Function (BCM - FLASHER)

INFOID:000000006346462

WORK SUPPORT

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

*: Initial setting

DATA MONITOR

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Monitor item [Unit]	Description	
REQ SW-DR [On/Off]	The switch status input from the request switch (driver side)	
REQ SW-AS [On/Off]	The switch status input from the request switch (passenger side)	
PUSH SW [On/Off]	The switch status input from the push-button ignition switch	
TURN SIGNAL R [On/Off]	Each switch condition that BCM judges from the combination switch reading function	
TURN SIGNAL L [On/Off]		
HAZARD SW [On/Off]	The switch status input from the hazard switch	
RKE-LOCK [On/Off]	Lock signal status received from the remote keyless entry receiver	
RKE-UNLOCK [On/Off]	Unlock signal status received from the remote keyless entry receiver	
RKE-PANIC [On/Off]	Panic alarm signal status received from the remote keyless entry receiver	

ACTIVE TEST

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

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Diagnosis Description

AUTO ACTIVE TEST

Description

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

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

Operation Procedure

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

NOTE:

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

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

Close passenger door.

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

NOTE:

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

• If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-66.</u> <u>"Component Function Check"</u>.

Do not start the engine.

Inspection in Auto Active Test Mode

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

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

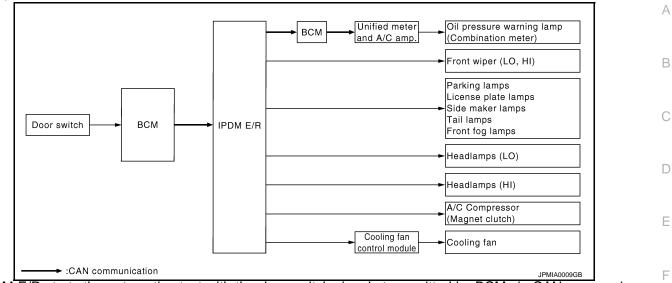
*: Outputs duty ratio of 50% for 5 seconds \rightarrow duty ratio of 100% for 5 seconds on the cooling fan control module.

EXL-246

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

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 Oil pressure warning lamp does not operate	Perform auto active test. Does the magnet clutch oper- ate?	YES	 Unified meter and A/C amp. signal input circuit CAN communication signal between unified meter and A/C amp. and ECM CAN communication signal between ECM and IPDM E/ R 	E
		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 	
	Does the oil pressure warning lamp blink?	NO	 CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and unified meter and A/C amp. Combination meter 	

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

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

CONSULT-III Function (IPDM E/R)

INFOID:000000006893690

APPLICATION ITEM

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

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

SELF DIAGNOSTIC RESULT Refer to <u>EXL-364, "DTC Index"</u>.

DATA MONITOR Monitor item

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

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Monitor Item [Unit]	MAIN SIG- NALS	Description	
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.	
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.	
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.	
INTER/NP SW [Off/On]		Displays the status of the shift position judged by IPDM E/R.	
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.	
HBT 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.	
DIL 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		0
CORNERING LAMP	LH	The item is indicated, but cannot be tested.	0
	RH		
HORN	On	Operates horn relay 1 and horn relay 2 for 20 ms.	Р
	Off	OFF	
FRONT WIPER	Lo	Operates the front wiper relay.	
	Hi	Operates the front wiper relay and front wiper high relay.	

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< 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.
WOTOR 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
	TAIL	Operates the tail lamp relay.
EXTERNAL LAMPS	Lo	Operates the headlamp low relay.
-	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 sec- ond intervals.
	Fog	Operates the front fog lamp relay.

			LY AND G	ROUND CIRCUIT [HALOGEN TYPE]
DTC/CIF				A A
POWER S				11
BCM (BOD)				В
BCM (BOD)	CONTROL	MODULE)	: Diagnosis	s Procedure INFOID:00000006346465
1.CHECK FUS	SE AND FUSIBI	_E LINK		С
Check that the	following fuse a	nd fusible link a	are not blown.	
	Signal nan	ne		Fuse and fusible link No.
	Battery power	supply		К
Is the fuse fusir		oupply		10 E
$\begin{array}{rcl} \text{YES} & >> & \text{Reg}\\ & \text{blo}\\ \text{NO} & >> & \text{GC}\\ \hline \textbf{2.CHECK PO}\\ \hline \textbf{1.} & \text{Turn ignitio} \end{array}$	place the blown wn.) TO 2. WER SUPPLY (n switch OFF.	CIRCUIT	e link after repa	airing the affected circuit if a fuse or fusible link is
	BCM connecto age between BC		nnector and gr	ound. H
(.	Terminals +)	(–)		
	CM	()	Voltage (Approx.)	1
Connector	Terminal	Ground		
M118	1	Gibunu	Battery voltage	J
M119	11	10	, ,	_
) TO 3. pair harness or	connector.		K
Check continuit	y between BCM	I harness conn	ector and grou	ind.
BC	CM			M
Connector	Terminal	Ground	Continuity	
M119	13		Existed	N
NO >> Re	SPECTION ENE	connector.	R DISTRIB	UTION MODULE ENGINE ROOM) $^{\circ}$
IPDM E/R (I agnosis Pro		IT POWER	DISTRIBU	TION MODULE ENGINE ROOM) : Di-
1.CHECK FUS	SES AND FUSI	BLE LINK		

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

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

Is the fuse fusing?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect IPDM E/R connector.

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

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

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

3. CHECK GROUND CIRCUIT

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

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

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

EXTERIOR LAMP FUSE

< DTC/CIRCUIT DIAGNOSIS >

EXTERIOR LAMP FUSE

Description

INFOID:000000006346467

А

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

Diagnosis Procedure

1.CHECK FUSE

Check that the following fuses are not fusing.

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

Is the fuse fusing?

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

NO >> The fuse is normal.

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< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP (HI) CIRCUIT

Component Function Check

1.CHECK HEADLAMP (HI) OPERATION

®IPDM E/R AUTO ACTIVE TEST

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

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

CONSULT-III ACTIVE TEST

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

Hi : Headlamp (HI) ON

Off : Headlamp (HI) OFF

NOTE:

ON/OFF is repeated 1 second each.

Is the headlamp (HI) turned ON?

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

Diagnosis Procedure

1.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

	Т	erminals	Condition		
	(+)			Condition	Voltage
IPDM E/R				External	(Approx.)
Cor	nnector	Terminal		lamp	
RH	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.
- 3. Check continuity between the IPDM E/R harness connector and the front combination lamp harness connector.

[HALOGEN TYPE]

INFOID:00000006346469

HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

	M E/R		Front combir	nation lamp	Continuit				
Connector	Terr	ninal	Connector	Terminal	- Continuity				
RH E		9	E28	7	Existed				
LH		0	E58	7	LAISIEU				
oes continu	-								
	GO TO 5								
	•		esses or co	nnectors.					
CHECK F									
	ignition :		DFF. fuses are r	not fusina					
. Oneok u		lowing		lot fusifig.					
Ur	nit		Location	Fuse No.	Capacity	ı			
Headlamp HI	(RH)	1	PDM E/R	#55	10 A	,			
Headlamp HI	(LH)	I	PDM E/R	#54	10 A				
s the fuse fu	ising?	I			<u>.</u>	I			
-	GO TO 4								
	Replace								
CHECK F	IEADLAN	/IP (HI)	SHORT CI	IRCUIT					
. Disconn				/				-	
				1 E/R harn	ess connec	tor terminal a	nd the gro	ound.	
. Check c	ontinuity			1 E/R harn	ess connec	tor terminal a	nd the gro	ound.	
. Check c	ontinuity PDM E/R	betwee		1 E/R harn	ess connec	tor terminal a	nd the gro	ound.	
. Check c	ontinuity PDM E/R	betwee Terminal	n the IPDM	1 E/R harn		tor terminal a	nd the gro	ound.	
. Check c	ontinuity PDM E/R	betwee	n the IPDM			tor terminal a	nd the gro	ound.	
. Check c	PDM E/R or E8	betwee Terminal 89 90	n the IPDM		Continuity	tor terminal ε	nd the gro	ound.	
Connector RH LH	ONTINUITY PDM E/R or E8 uity exist?	betwee	en the IPDM	bund –	Continuity Not existed	tor terminal a		ound.	
Connector RH LH YES >> NO >>	DM E/R DM E/R E8 Lity exist? Repair th Replace	Terminal 89 90 2 e harne he fuse	Gro Gro esses or co e. (Replace	nnectors. /	Continuity Not existed And then re R if the fuse		е.	ound.	
. Check c	DM E/R DM E/R E8 Lity exist? Repair th Replace	Terminal 89 90 2 e harne he fuse	Gro Gro esses or co e. (Replace	nnectors. /	Continuity Not existed And then re R if the fuse	place the fus	е.	ound.	
. Check c	ONTINUITY	Terminal 89 90 2 e harne he fuse /IP (HI) switch (en the IPDM Gro esses or co e. (Replace GROUND DFF.	nnectors. / IPDM E/F OPEN CII	Continuity Not existed And then re R if the fuse RCUIT	place the fus	е.	ound.	
. Check c	PDM E/R PDM E/R E8 Lity exist? Repair th Replace IEADLAN Ignition sect the fr	Terminal 89 90 2 e harne he fuse /IP (HI) switch (ont con	en the IPDM Gro esses or co e. (Replace GROUND DFF. nbination la	nnectors. , IPDM E/F OPEN CII	Continuity Not existed And then re R if the fuse RCUIT ctor.	place the fus	e. in.)		
. Check c	PDM E/R PDM E/R E8 Lity exist? Repair th Replace IEADLAN Ignition sect the fr	Terminal 89 90 2 e harne he fuse /IP (HI) switch (ont con	en the IPDM Gro esses or co e. (Replace GROUND DFF. nbination la	nnectors. , IPDM E/F OPEN CII	Continuity Not existed And then re R if the fuse RCUIT ctor.	place the fus	e. in.)		
. Check c	ONTINUITY	Terminal 89 90 e harne he fuse /IP (HI) switch (ont con betwee	en the IPDM Gro esses or co e. (Replace GROUND DFF. nbination la	nnectors. , IPDM E/F OPEN CII	Continuity Not existed And then re R if the fuse RCUIT ctor. on lamp hai	place the fus	e. in.)		
Connector Connector RH LH YES >> NO >> O.CHECK F . Turn the . Disconn . Check c	DM E/R DM E/R E8 Lity exist? Repair th Replace IEADLAN ignition ect the fr ontinuity	Terminal 89 90 e harne he fuse MP (HI) switch (ont con betwee amp	en the IPDM Gro esses or co e. (Replace GROUND DFF. nbination la	nnectors. , IPDM E/F OPEN CII	Continuity Not existed And then re R if the fuse RCUIT ctor.	place the fus	e. in.)		
Connector Connector RH LH Poes continu YES >> NO >> O.CHECK H . Turn the . Disconn . Check contector Front contector Connector	DM E/R DM E/R E8 Lity exist? Repair th Replace IEADLAN ignition ect the fr ontinuity	Terminal 89 90 e harne he fuse /IP (HI) switch (ont con betwee	en the IPDM Gro esses or co e. (Replace GROUND OFF. obination la en the front	nnectors. , IPDM E/F OPEN CII	Continuity Not existed And then re R if the fuse RCUIT ctor. on lamp hai	place the fus	e. in.)		
Connector Connector RH LH Poes continu YES >> NO >> O.CHECK H . Turn the . Disconn . Check contector Front contector RH	Ontinuity PDM E/R PDM	Terminal 89 90 2 e harne he fuse AP (HI) switch (ont con betwee amp Terminal	en the IPDM Gro esses or co e. (Replace GROUND OFF. obination la en the front	nnectors IPDM E/F OPEN CII	Continuity Not existed And then re R if the fuse RCUIT ctor. on lamp hai	place the fus	e. in.)		
. Check c	Ontinuity PDM E/R PDM	Terminal 89 90 2 e harne he fuse AP (HI) switch (ont con betwee amp Terminal 2 2	en the IPDM Gro esses or co e. (Replace GROUND OFF. obination la en the front	nnectors IPDM E/F OPEN CII	Continuity Not existed And then re R if the fuse RCUIT ctor. on lamp hat Continuity	place the fus	e. in.)		
Connector Connector RH LH Does continu YES >> NO >> O.CHECK H . Turn the . Disconn . Check continu Front connector RH LH	ontinuity PDM E/R PDM E/R PDM E/R PDM E/R PDM E/R E8 PDM E/R E8 PDM E/R PDM E/	betwee Terminal 89 90 2 e harne he fuse AP (HI) switch (ont con betwee amp Terminal 2 2	en the IPDM Gro esses or co e. (Replace GROUND OFF. hbination la en the front Gro	ound	Continuity Not existed And then re R if the fuse RCUIT ctor. on lamp han Continuity Existed	place the fus- is fusing aga	e. in.)		
Connector RH LH Poes continu YES >> NO >> O.CHECK H . Turn the . Disconn . Check continu Front contector RH LH Poes continu YES >>	ontinuity PDM E/R PDM E/R PDM E/R PDM E/R PDM E/R E8 UITY exist? Repair th Replace IEADLAN Ignition Ig	Terminal 89 90 e harne he fuse MP (HI) switch (ont con betwee amp Terminal 2 2 he hea	en the IPDM Gro esses or co e. (Replace GROUND OFF. hbination la en the front Gro	ound IPDM E/F OPEN CII mp conne combination ound bulb. (Bul	Continuity Not existed And then re R if the fuse RCUIT ctor. on lamp han Continuity Existed	place the fus	e. in.)		

< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP (LO) CIRCUIT

Component Function Check

1.CHECK HEADLAMP (LO) OPERATION

®IPDM E/R AUTO ACTIVE TEST

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

2. Check that the headlamp is turned ON.

(E)CONSULT-III ACTIVE TEST

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

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

Lo : Headlamp (LO) ON

Off : Headlamp (LO) OFF

Is the headlamp (LO) turned ON?

YES >> Headlamp (LO) is normal.

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

Diagnosis Procedure

INFOID:000000006346472

1.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

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

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK HEADLAMP (LO) OPEN CIRCUIT

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

IPDM E/R Fro	nt combination lamp	Continuity
nector Terminal Cor	nector Terminal	Continuity
E8 83 I	28 5	Existed
	58 5	LAISted

Does continuity exist?

HEADLAMP (LO) CIRCUIT

	п			
< DTC/CIRCUIT DIAG	NOSIS >			[HALOGEN TYPE]
YES >> GO TO 5.		_		
- ·	harnesses or co	nnectors.		
3. CHECK HEADLAM	² (LO) FUSE			
1. Turn the ignition sv				
Check that the following the followi	owing fuses are r	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 IP				
4. CHECK HEADLAM		IRCUIT		
1. Disconnect IPDM E				stor and the ground
2. Check continuity be	etween the IPDIV	I E/R harne	ess connec	ctor and the ground.
IPDM E/R				-
	ninal	(Continuity	
	Grou	nd		-
E8	34	М	Not existed	
Does continuity exist?	,4			-
5. CHECK HEADLAM				
 Turn the ignition sv Disconnect the fror 			otor	
				rness connector and ground.
,				
Front combination lar	np			•
Connector Term	ninal		Continuity	
RH E28 3	Grou 3	nd		-
LH E58 :	3		Existed	
Does continuity exist?	I			•
	e headlamp (LO)) bulb. (Bul	lb socket is	abnormally.)
•	harnesses or co			

< DTC/CIRCUIT DIAGNOSIS >

FRONT FOG LAMP CIRCUIT

Component Function Check

1.CHECK FRONT FOG LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

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

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

CONSULT-III ACTIVE TEST

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

Fog : Front fog lamp ON

Off : Front fog lamp OFF

Is the front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.

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

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	Giouna	Not existed
LH	Εo	87		NUL EXISTED

Does continuity exist?

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

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

3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

EXL-258

INFOID:000000006346473

FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

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

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5. CHECK FRONT FOG LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect IPDM E/R connector.

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

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

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

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

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

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

Does continuity exist?

YES >> Replace the front fog lamp.

NO >> Repair the harnesses or connectors.

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< DTC/CIRCUIT DIAGNOSIS >

PARKING LAMP CIRCUIT

Component Function Check

1. CHECK PARKING LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

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

2. Check that the parking lamp is turned ON.

(E)CONSULT-III ACTIVE TEST

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

TAIL : Parking lamp ON

Off : Parking lamp OFF

Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal.

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

Diagnosis Procedure

1.CHECK PARKING LAMP FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuses are not fusing.

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

Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK PARKING LAMP SHORT CIRCUIT

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

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

Does continuity exist?

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

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

3.CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4.CHECK PARKING LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

1. Disconnect the front combination lamp connector.

2. Turn the ignition switch ON.

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

EXL-260

INFOID:000000006346475

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

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

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5. CHECK PARKING LAMP OPEN CIRCUIT

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

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

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

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

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

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

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

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TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

TURN SIGNAL LAMP CIRCUIT

Description

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

NOTE:

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

Component Function Check

1.CHECK TURN SIGNAL LAMP

(E)CONSULT-III ACTIVE TEST

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

Off : The turn signal lamp OFF

Does the turn signal lamp blink?

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

Diagnosis Procedure

1.CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

Terminals				Test item		
(+)			(-)	rest terri		
BCM				FLASHER	Voltage (Approx.)	
Conn	ector	Terminal		TEASHER		
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	M120 -	25		Oli	υv	
1 41		4	10			

Is the measurement value normal?

Revision: 2011 October

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TURN SIGNAL LAMP CIRCUIT

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

Does continuity exist?

B261

B260

Rear RH

Rear LH

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

NO >> Repair the harnesses or connectors.

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

OPTICAL SENSOR

Description

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

Component Function Check

1.CHECK OPTICAL SENSOR SIGNAL BY CONSULT-III

CONSULT-III DATA MONITOR

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

Monitor item		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-264, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK OPTICAL SENSOR POWER SUPPLY INPUT

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

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

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 4.

2.CHECK OPTICAL SENSOR GROUND INPUT

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

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

YES >> GO TO 3.

NO >> GO TO 6.

3. CHECK OPTICAL SENSOR SIGNAL OUTPUT

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

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

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

Is the measurement value normal?

NO >> Replace the optical sensor.

4.CHECK OPTICAL SENSOR OPEN CIRCUIT

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

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

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

5.CHECK OPTICAL SENSOR SHORT CIRCUIT

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

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.

Optical sensor		BCM		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.

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

Does continuity exist?

YES >> GO TO 8.

NO >> Repair the harnesses or connectors.

8.CHECK OPTICAL SENSOR SHORT CIRCUIT

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

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

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

HAZARD SWITCH

Description

Hazard switch is integrated in the multifunction switch. Hazard switch inputs the signals to BCM when press-В ing the switch.

Component Function Check

1.CHECK HAZARD SWITCH SIGNAL BY CONSULT-III

(E)CONSULT-III DATA MONITOR

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

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

Is the item status normal?

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

Diagnosis Procedure

1.CHECK HAZARD SWITCH SIGNAL INPUT

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

	Terminals		Condition		J
(+	(+) (–)		Condition	Voltage (Approx.)	
BC	М		Hazard switch	Voltage (Approx.)	Κ
Connector	Terminal		Hazard Switch		I.
			While pressing the switch	0 V	ΞX
M122	110	Ground	While not pressing the switch	(V) 15 10 5 0	M
				10 ms JPMIA0012GB	Ν
s the mea	surement	value no	ormal?		
YES >: NO >:	> Replace > GO TO	e BCM. 2.			С

2.CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

1. Turn the ignition switch OFF.

Disconnect the multifunction switch connector and BCM connector. 2.

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

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HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Multifunction switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M72	16	M122	110	Existed

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3.CHECK HAZARD SWITCH SIGNAL SHORT CIRCUIT

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

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

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 4.

4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

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

Multifunct	ion switch		Continuity
Connector	Terminal	Ground	Continuity
M72	1		Existed

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

< DTC/CIRCUIT DIAGNOS	SIS >		[HALOGEN TYPE]
TAIL LAMP CIRCUI	Т		
Component Function (Check		INF0ID:0000000634648
1.CHECK TAIL LAMP OPE	RATION		
 IPDM E/R AUTO ACTIVE Activate IPDM E/R auto Check that the tail lamp CONSULT-III ACTIVE TE Select "EXTERNAL LAM With operating the test in 	active test. Refe is turned ON. ST MPS" of IPDM E/I	R active test ite	m.
TAIL : Tail lamp	ON		
Off : Tail lamp	OFF		
<u>Is the tail lamp turned ON?</u> YES >> Tail lamp circuit			
NO >> Refer to EXL-26	<u>89, "Diagnosis Pro</u>	<u>ocedure"</u> .	
Diagnosis Procedure			INFOID:0000000634648
1. CHECK TAIL LAMP FUS	E		
 Turn the ignition switch Check that the following 		sing.	
Unit	Location Fus	e No. Capacity	-
 Tail lamp Rear side marker lamp License plate lamp 	IPDM E/R #	53 10 A	
Is the fuse fusing? YES >> Repair the malfu NO >> GO TO 2. 2.CHECK TAIL LAMP OUT CONSULT-III ACTIVE TE 1. Disconnect the rear com 2. Turn the ignition switch 3. Select "EXTERNAL LAM	PUT VOLTAGE ST nbination lamp co ON.	nnector.	
			een the IPDM E/R harness connector and the
Terminals	Test item		
(+) (- IPDM E/R		Voltage (Approx.)	
Connector Terminal	EXTERNAL LAMP		
E5 7 Gro	TAIL	Battery voltage	_
	Off	0 V	_
Is the measurement value no YES >> GO TO 3. NO >> Replace IPDM E 3.CHECK TAIL LAMP OPE 1. Turn the ignition switch to	E/R. EN CIRCUIT		

Disconnect IPDM E/R connector.

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

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TAIL LAMP GROUND OPEN CIRCUIT

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

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

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

LICENSE PLATE LAMP CIRCUIT

		LICEN	NSE PLA		P CIRCUIT	
< DTC/CIRCUIT						[HALOGEN TYPE]
LICENSE PL	ATE L	AMP CIF	RCUIT			
Component F	unction	Check				INFOID:00000006346488
NOTE: Check the tail lam 1.CHECK LICEN		•		cense plate l	amp are not turned O	N.
2. Check that the CONSULT-III A 1. Select "EXTE	I E/R auto e license p CTIVE TE RNAL LAI	active test. blate lamp is ST MPS" of IPD	turned ON	ve test item.	<u>anosis Description"</u> . ate lamp is turned ON	
		plate lamp				
		plate lamp	OFF			
	se plate la	<u>ned ON?</u> mp circuit is <u>/1, "Diagnos</u>		<u>re"</u> .		
Diagnosis Pro	cedure	-				INFOID:00000006346489
1.CHECK LICEN	ISE PLATE	E LAMP BUI	B			
· ·	2 O 2. Ice the bul	b.		_		
2.CHECK LICEN 1. Turn the igniti			EN CIRCU	T		
2. Disconnect IF	DM E/R c	onnector an				te lamp harness connec-
IPDM E/F	R	License p	late lamp	Continuity		
Connector	Terminal	Connector	Terminal			
RH E5	7	D117 D112	1	Existed		
Does continuity ex	<u>kist?</u>			I		
· ·	ir the harn	esses or cor				
3.CHECK LICEN	ISE PLATE	E LAMP GR	OUND OPE	EN CIRCUIT	-	
Check continuity t	petween 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		LAISted

Does continuity exist?

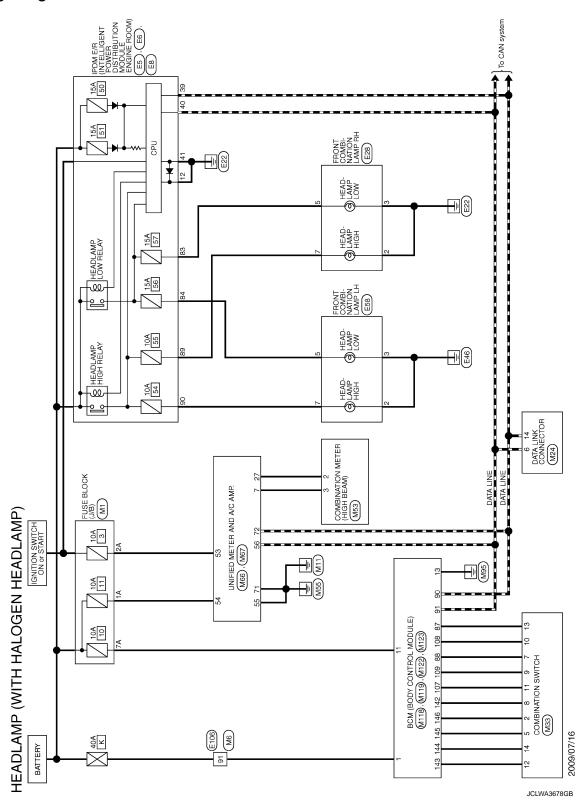
YES

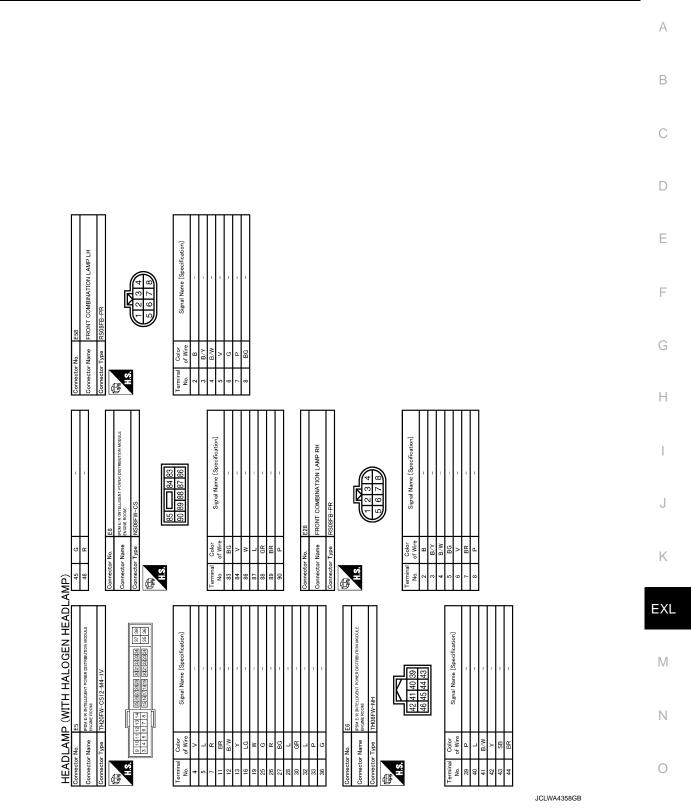
>> Replace the license plate lamp.>> Repair the harnesses or connectors. NO

EXL-271

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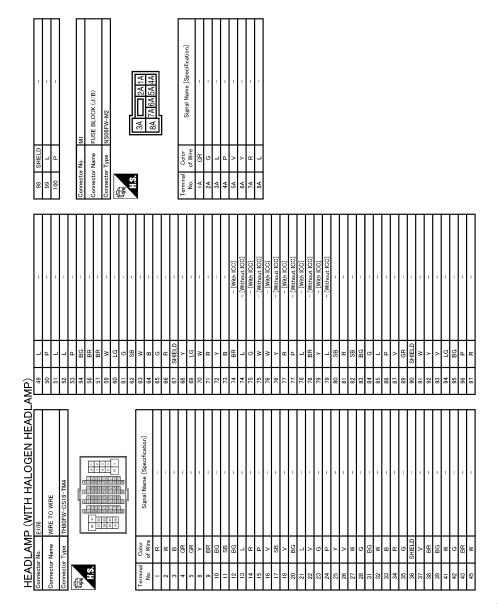
Wiring Diagram - HEADLAMP -





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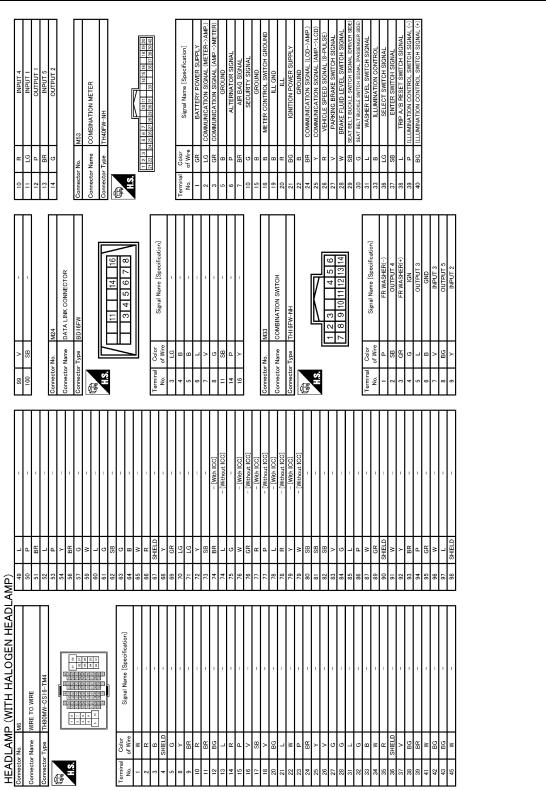
< DTC/CIRCUIT DIAGNOSIS >



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HEADLAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >



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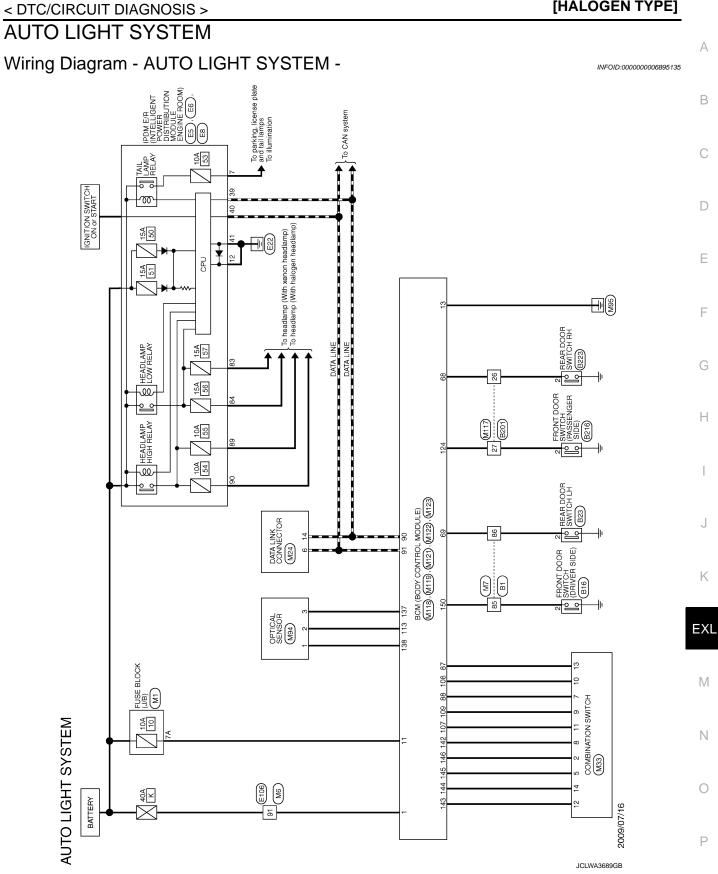
	MIC Control Co	7 9 9 9 9 9 9 9 9 9 9 9 9 9 11 11 13 14<	STEP LAND OUTPUT STEP LAND OUTPUT ALL DOOR, FUEL LID LOCK OUTPUT DRIVER DOOR, FUEL LID LOCK OUTPUT REAR DOOR NULCOK OUTPUT BAT (FUSE)	101	: U 85	PASSENGER DOOR REQUEST SW				
UNIFED METER AND A/O AMP. Model Mo	MERSUPPLY HI ERMICH SIGNAL ESER GROUND PR GROUND OR GROU	/ / <th <="" th=""> <th <="" th=""> <th <="" th=""> <th <="" th=""></th></th></th></th>	<th <="" th=""> <th <="" th=""> <th <="" th=""></th></th></th>	<th <="" th=""> <th <="" th=""></th></th>	<th <="" th=""></th>		ALL DOOR FUEL LID LORO OUTPUT ALL DOOR FUEL LID LORO OUTPUT REAR DOOR UNLOCK OUTPUT REAR DOOR UNLOCK OUTPUT BAT (FUSE)	101	9 B	PASSENGER DOOR REQUEST SW
TH40FW-HH 50 51 W 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 1 1 1 1 1 1 1 1 1 1 1 1 1	MU Second	8 9 6 7 10 BR 11 B 11 B 11 1 <td>ALL DOOR, FOLE LID LOCK OUTPUT DRVER DOOR, FUEL LID UNLOCK OUTPUT REAR DOOR UNLOCK OUTPUT BAT (FUSE) BAT (FUSE)</td> <td>2</td> <td>SB</td> <td></td>	ALL DOOR, FOLE LID LOCK OUTPUT DRVER DOOR, FUEL LID UNLOCK OUTPUT REAR DOOR UNLOCK OUTPUT BAT (FUSE) BAT (FUSE)	2	SB					
THAGEN-HH THAGEN-HH <t< td=""><td>H ESPE GROUND SPE GROUND SPE GROUND OR GROUND OR GROUND OR GROUND SPE GROUND SPE GROUND SPE GROUND SPE GROUND SPE GROUND SIGNAL L L MODULE) MODULE</td><td>9 G 10 B 11 R 13 B 13 B 14 W 17 W 18 BG 19 V 19 V Connector No. No.</td><td>DRIVER DOOR, FUEL LID UNLOCK OUTPUT REAR DOOR UNLOCK OUTPUT BAT (FUSE)</td><td></td><td>1</td><td>DRIVER DOOR REQUEST SW</td></t<>	H ESPE GROUND SPE GROUND SPE GROUND OR GROUND OR GROUND OR GROUND SPE GROUND SPE GROUND SPE GROUND SPE GROUND SPE GROUND SIGNAL L L MODULE) MODULE	9 G 10 B 11 R 13 B 13 B 14 W 17 W 18 BG 19 V 19 V Connector No. No.	DRIVER DOOR, FUEL LID UNLOCK OUTPUT REAR DOOR UNLOCK OUTPUT BAT (FUSE)		1	DRIVER DOOR REQUEST SW				
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1 1 <td>ISON RECUMD SEAR GROUND DR GROUND DR</td> <td>11 R 13 B 14 W 15 √ 17 W 18 BG 19 V 19 V</td> <td>BAT (FUSE)</td> <td>103</td> <td>ГG</td> <td>KEYLESS ENTRY RECEIVER POWER SUPPLY</td>	ISON RECUMD SEAR GROUND DR	11 R 13 B 14 W 15 √ 17 W 18 BG 19 V 19 V	BAT (FUSE)	103	ГG	KEYLESS ENTRY RECEIVER POWER SUPPLY				
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HEADLAMP SYSTEM

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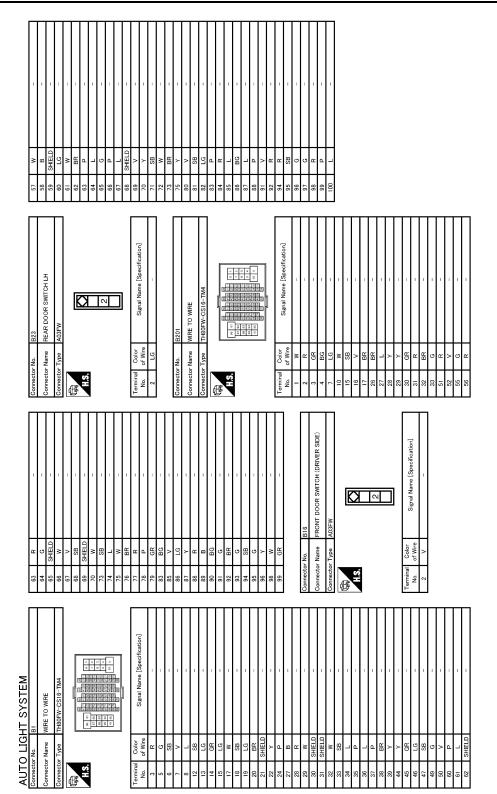
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AUTO LIGHT SYSTEM

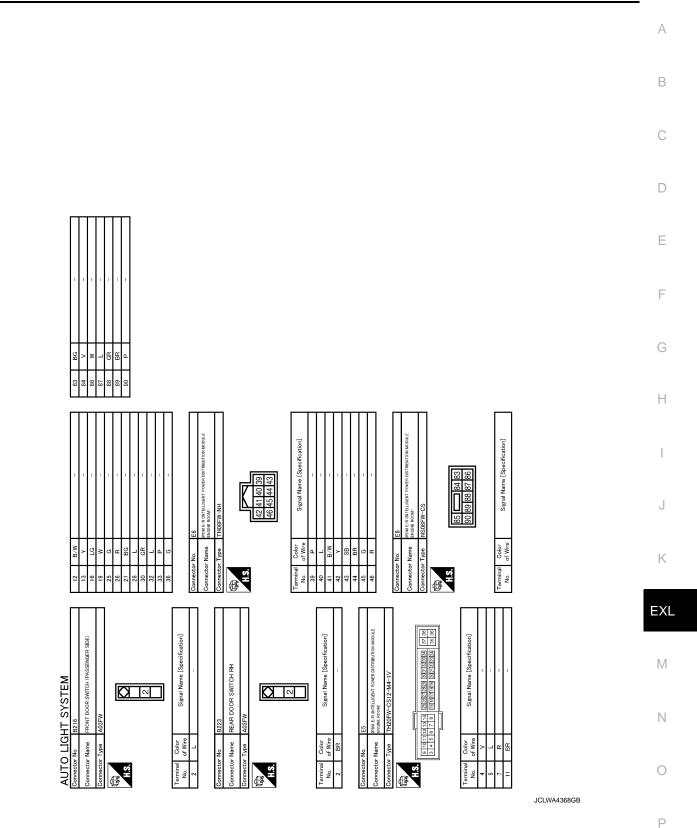
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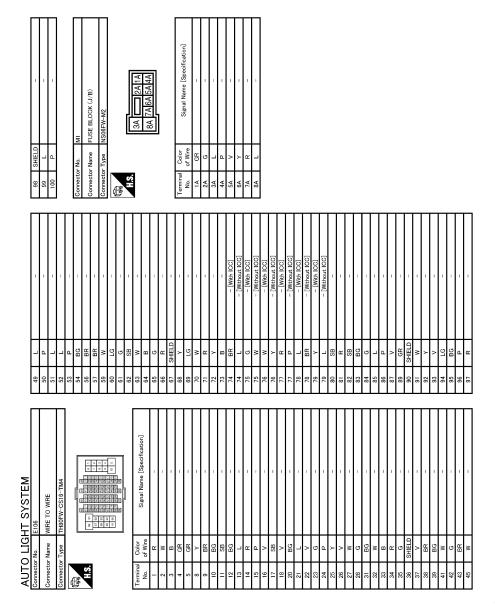


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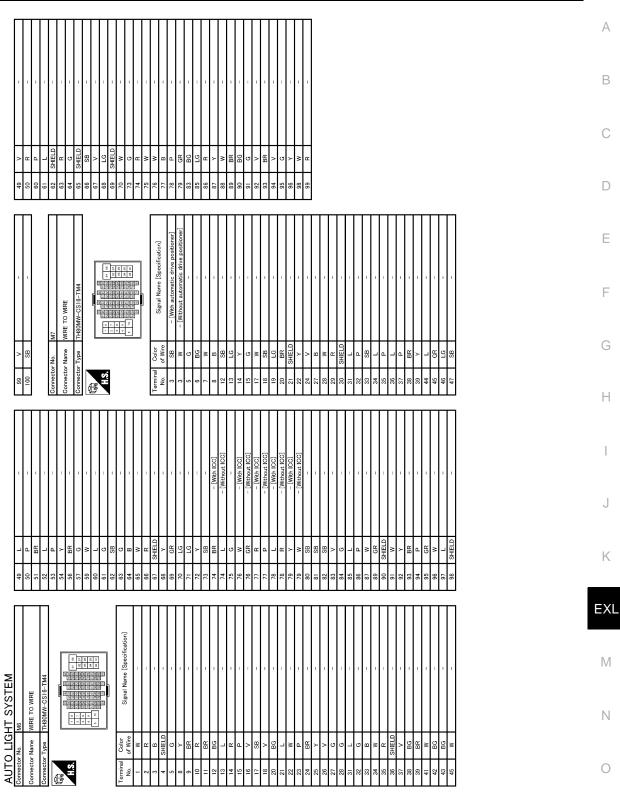




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AUTO LIGHT SYSTEM

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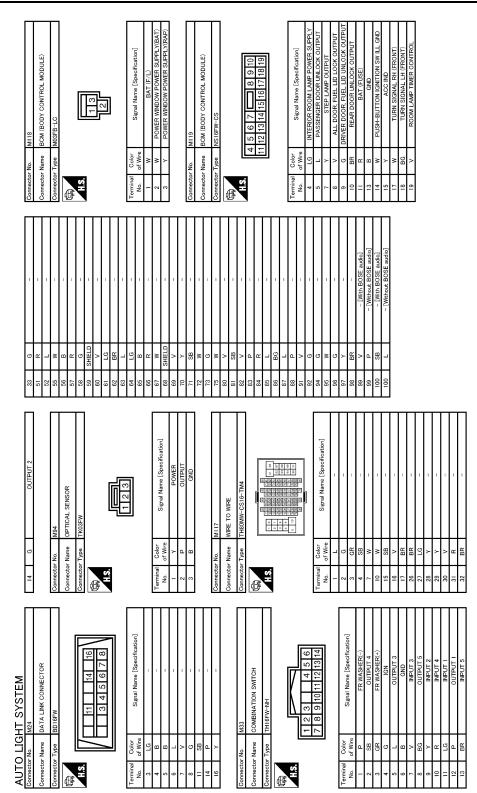


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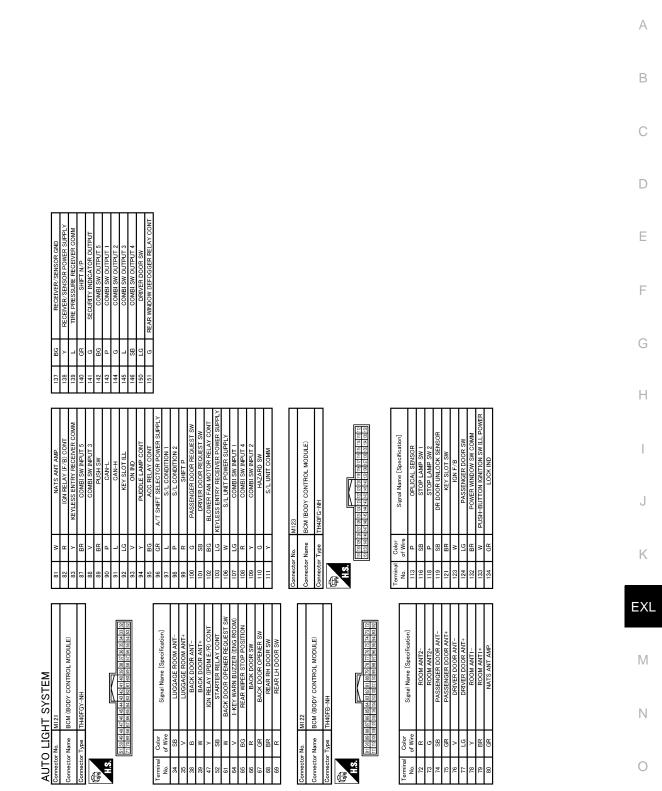
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AUTO LIGHT SYSTEM

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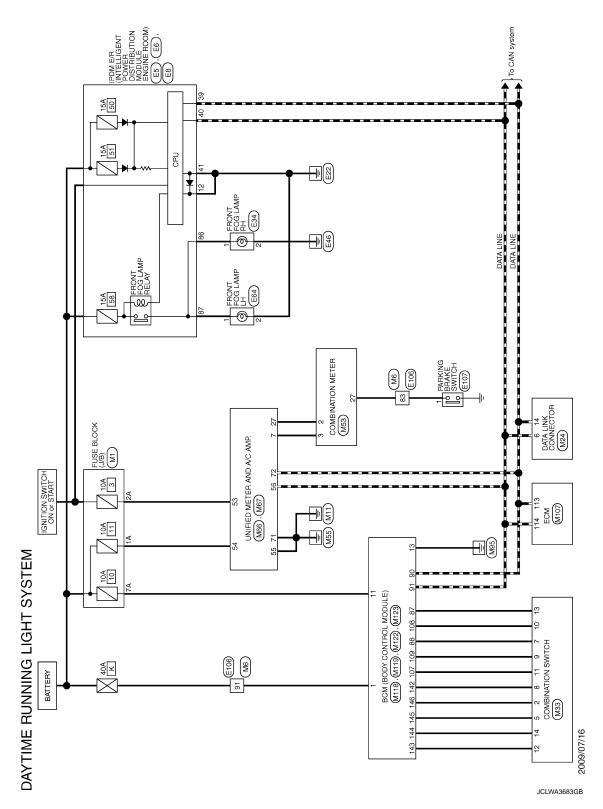


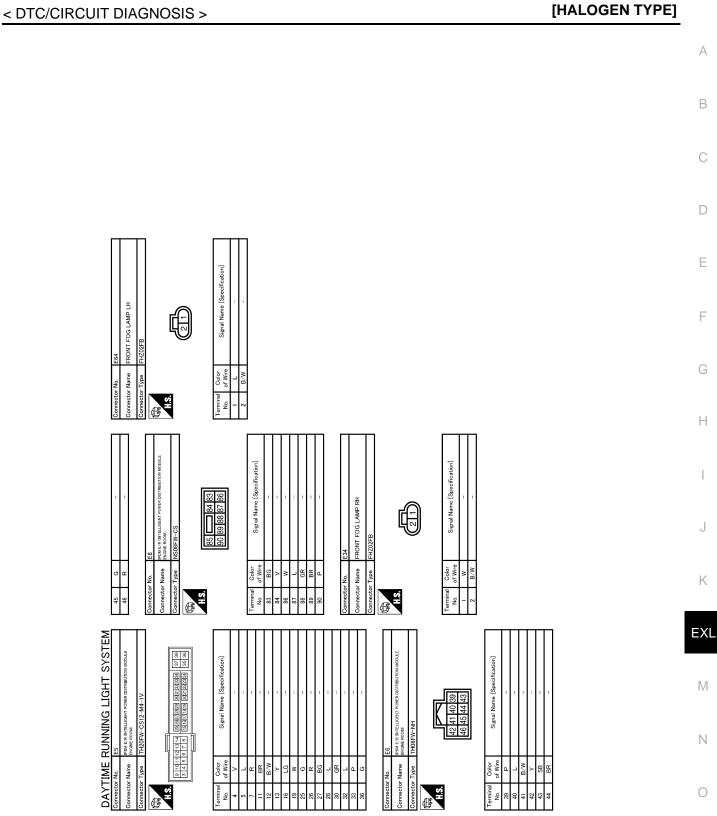
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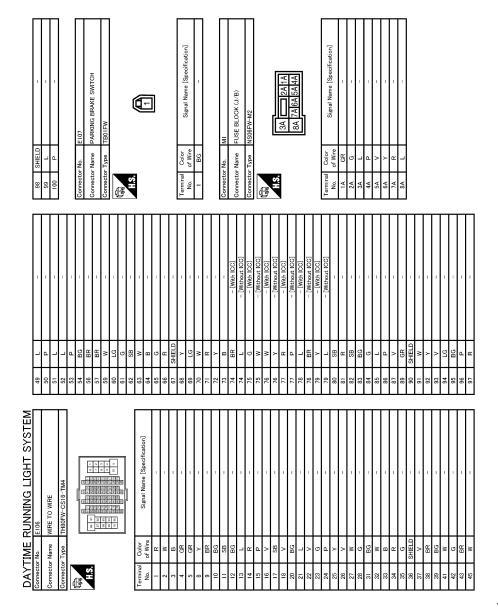
DAYTIME RUNNING LIGHT SYSTEM

Wiring Diagram - DAYTIME LIGHT SYSTEM -





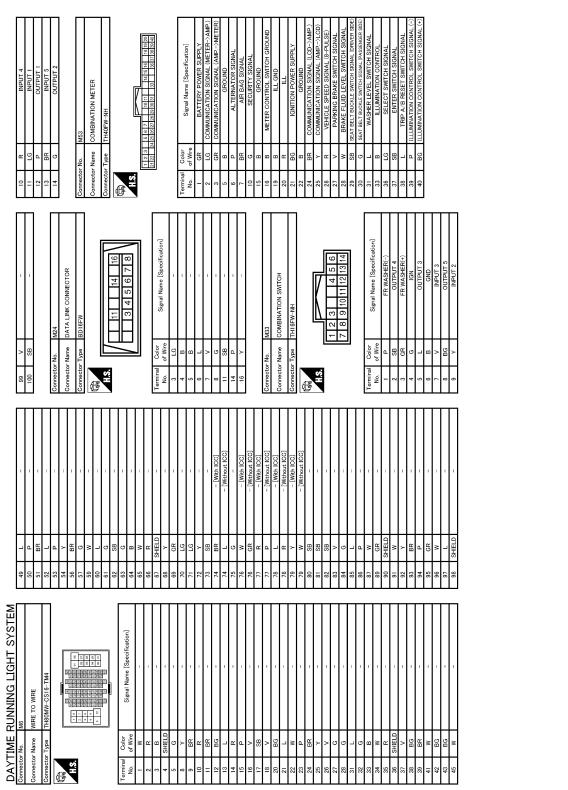
DAYTIME RUNNING LIGHT SYSTEM



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DAYTIME RUNNING LIGHT SYSTEM

< DTC/CIRCUIT DIAGNOSIS >



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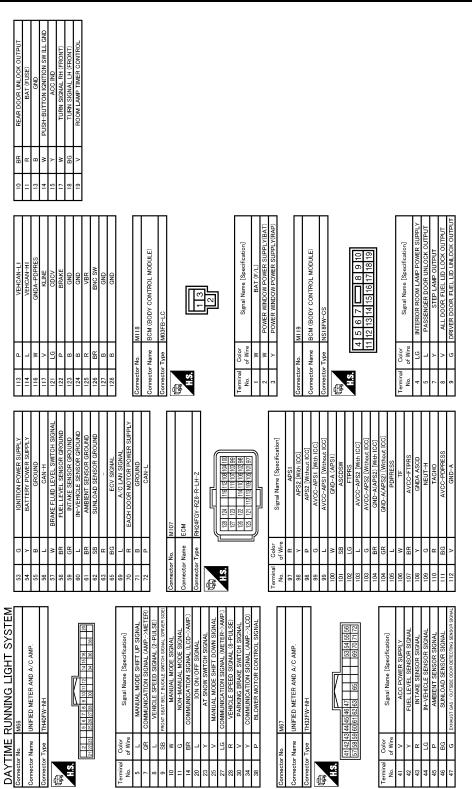
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DAYTIME RUNNING LIGHT SYSTEM



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DAYTIME RUNNING LIGHT SYSTEM

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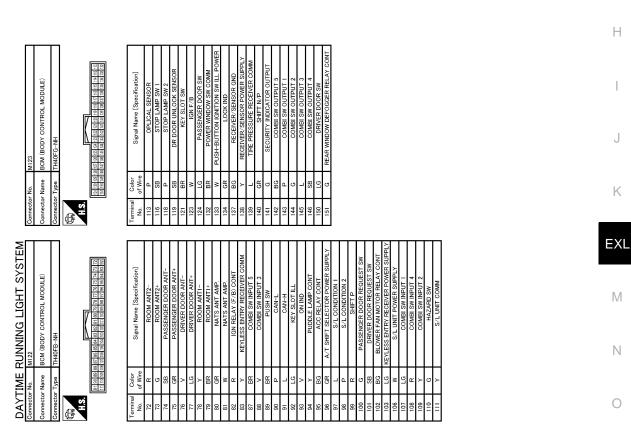
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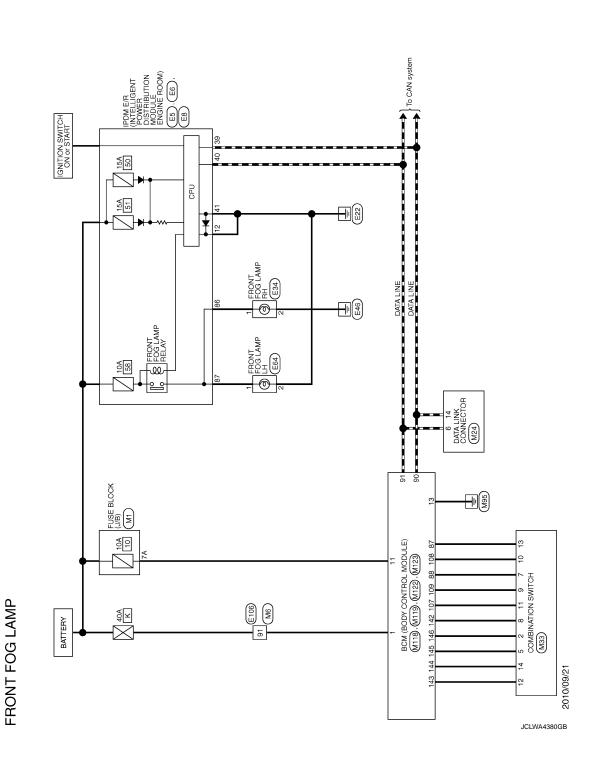
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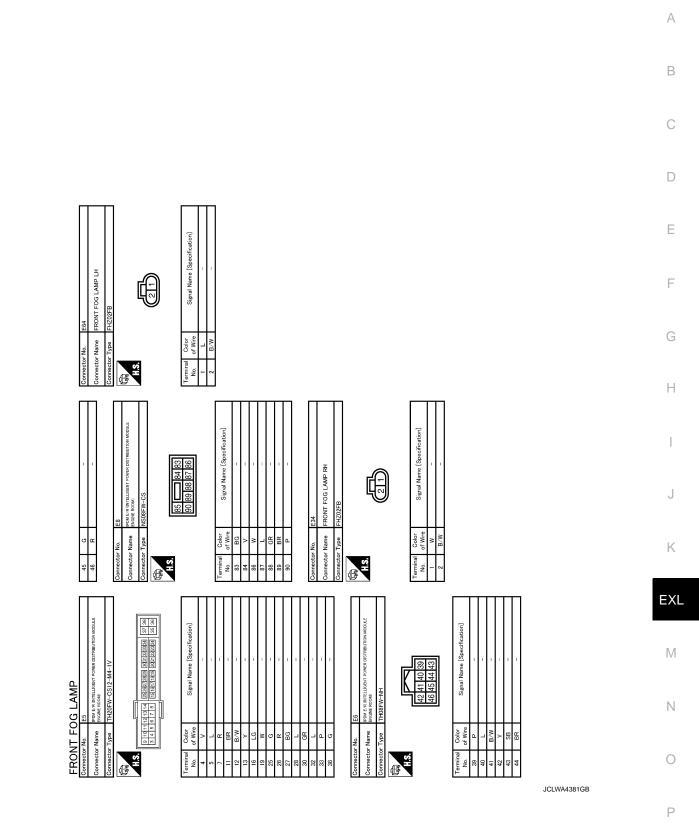
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FRONT FOG LAMP SYSTEM

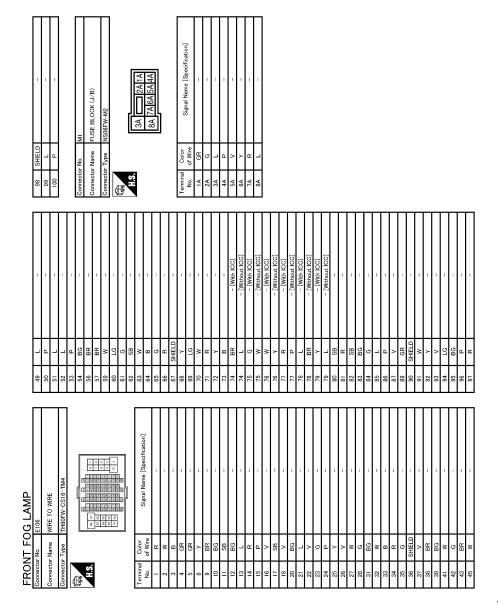
Wiring Diagram - FRONT FOG LAMP -

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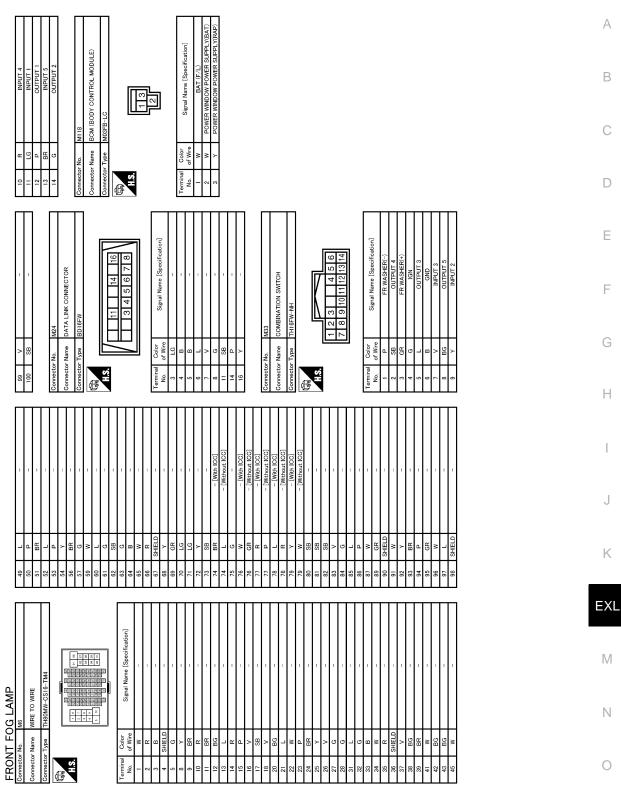
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FRONT FOG LAMP SYSTEM

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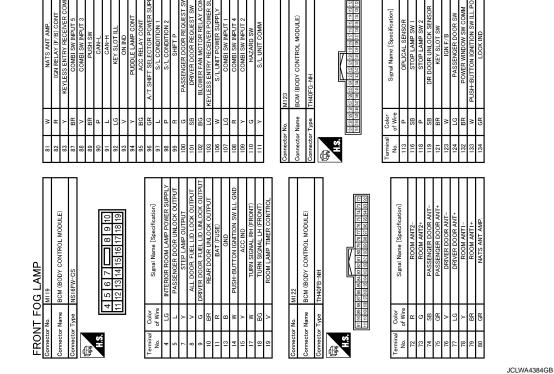
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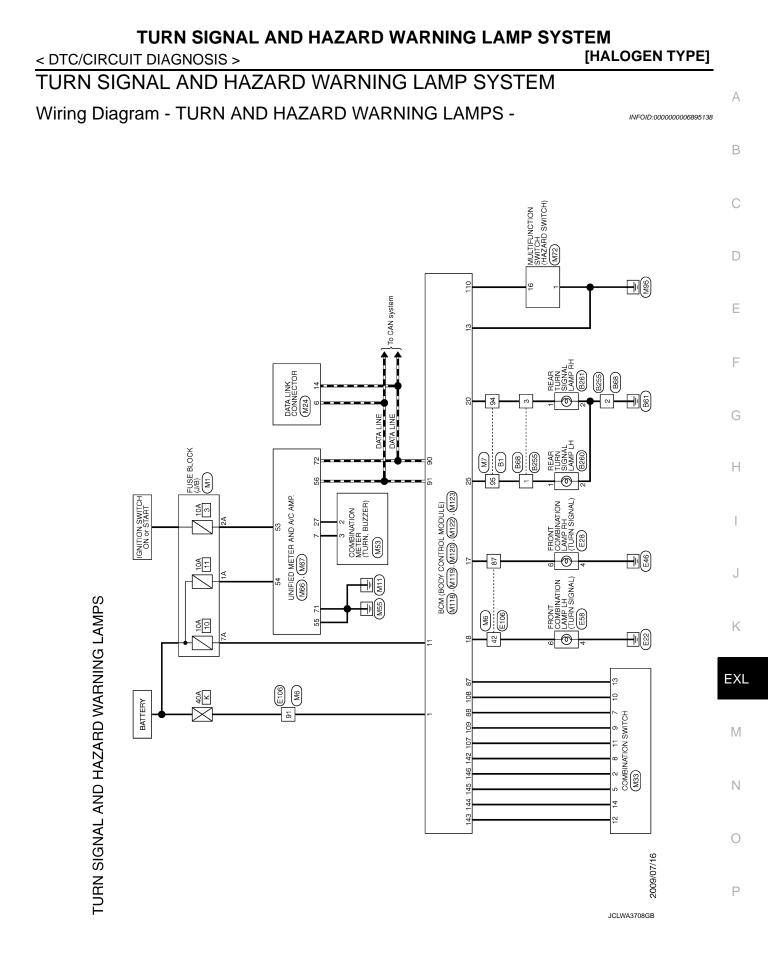
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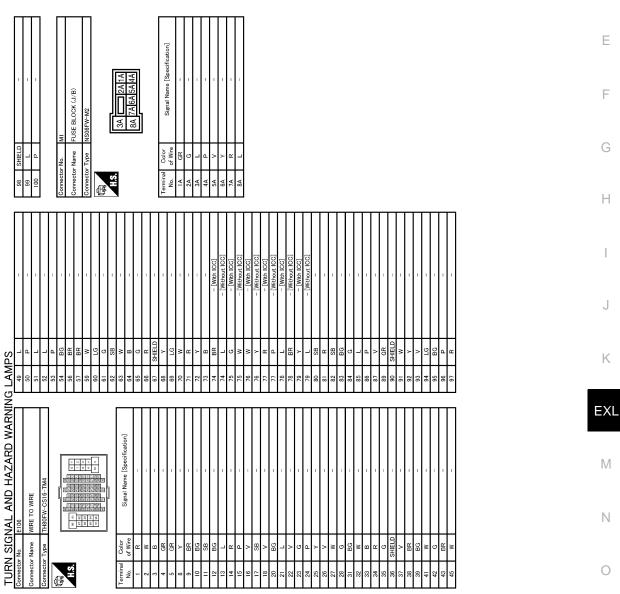


TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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



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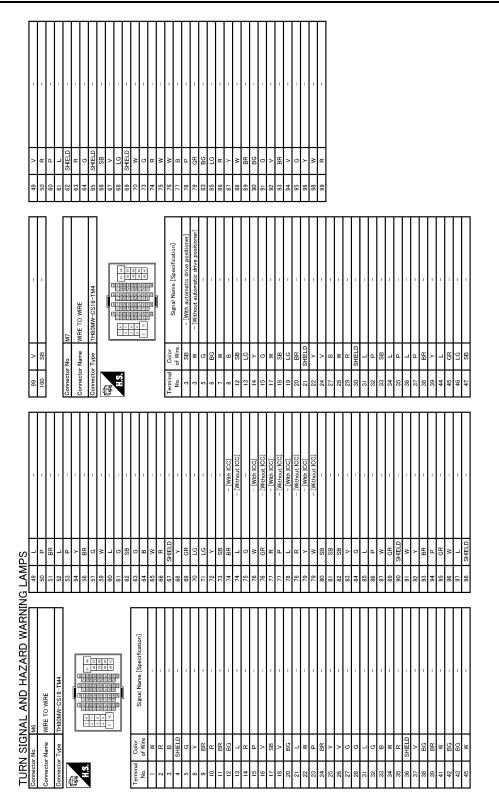
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

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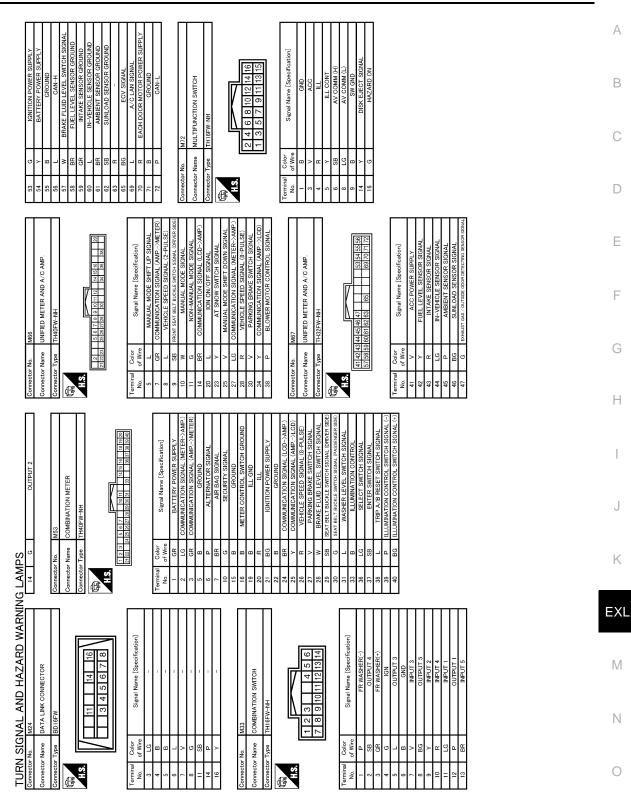
[HALOGEN TYPE]



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

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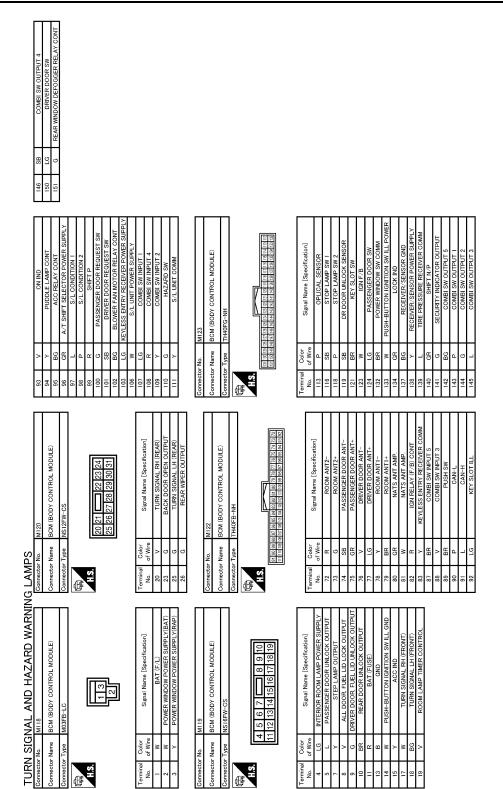


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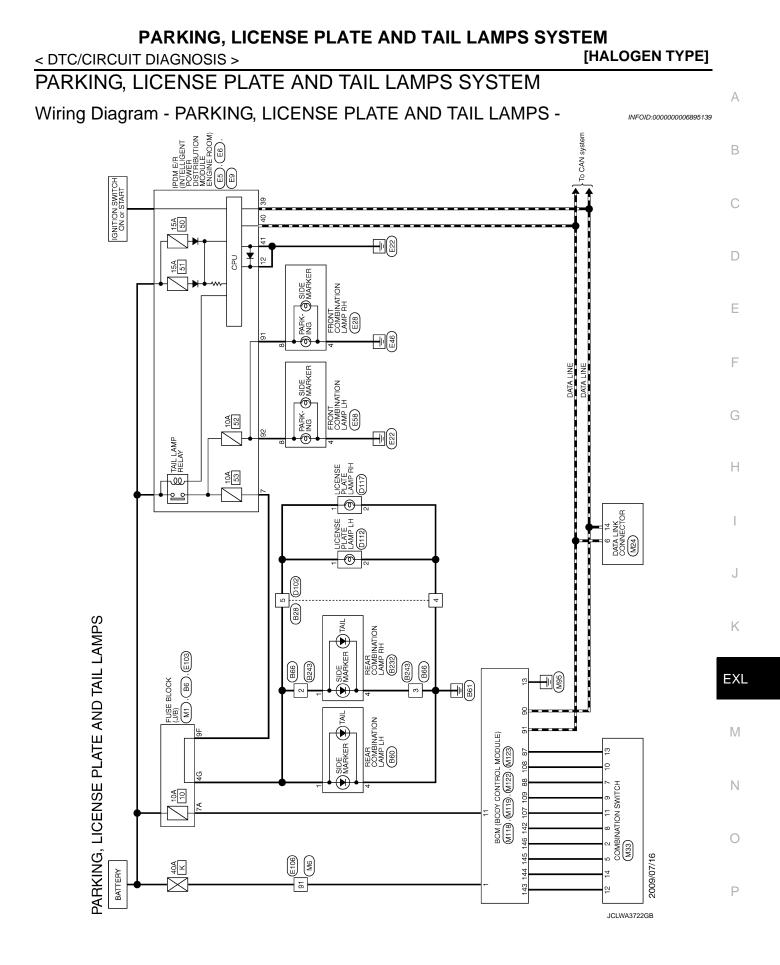
TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

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[HALOGEN TYPE]



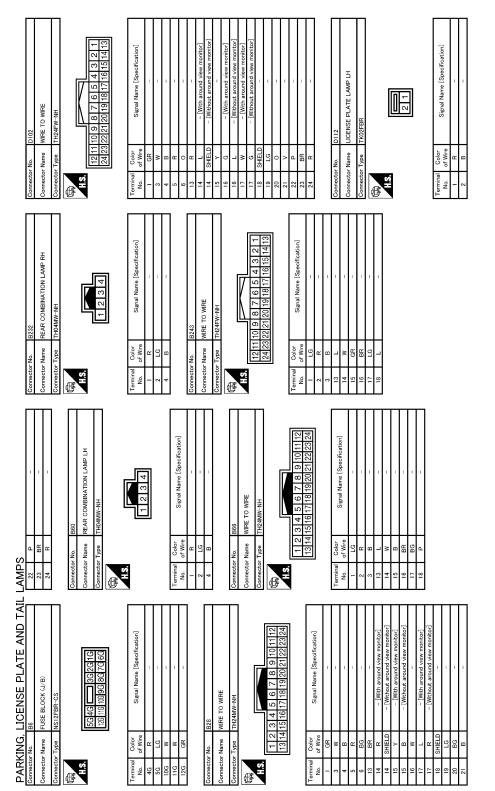
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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

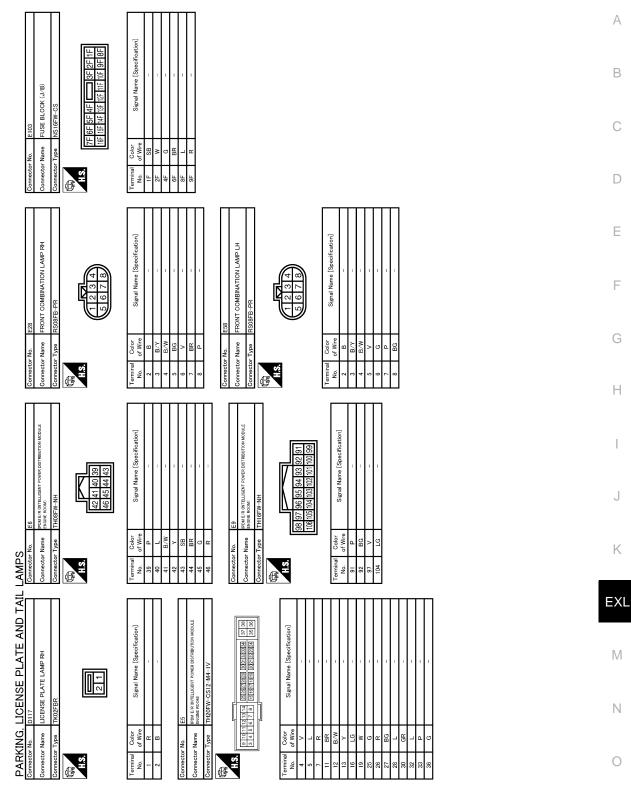


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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

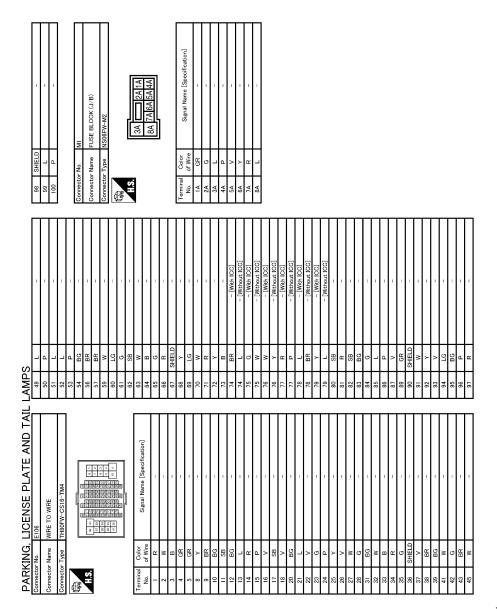
< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]



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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

Signal Name [Specification] BCM (BODY CONTROL MODULE) BAT (F/I Color of Wire nector Name Connector No. 晤 HS erminal No. Signal Name [Specification] Signal Name [Specification] DATA LINK CONNECTOR S d COMBINATION SWITCH ဖ 45 Э M24 Color of Wire P of Wire ype Color Connector Name Connector Name 8 R σ. BG m nnector 66 H.S. erminal No. AIS. ş 伢 Æ SHIELL 88 щ Ж U SB H LAMPS PARKING, LICENSE PLATE AND TAIL Signal Name [Specification] 7 2 2 2 8 8 2 8 2 8 8 2 8 8 8 3133333 3253333 3253333 WIRE TO WIRE Color of Wire GHELD SHIELD BG BR BG BG BG ctor Name ≻뚭 я на В ж ч > 88 > 8 <u>-</u> Ж σσ - > - × íis. rmina No. Ø

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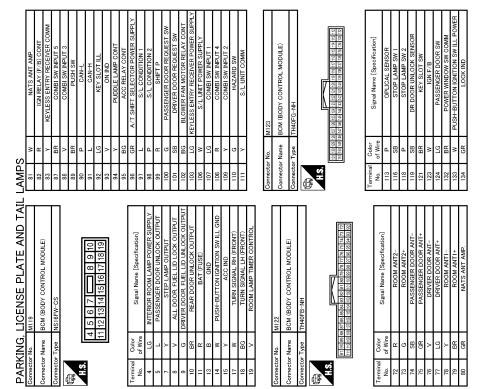
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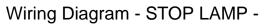
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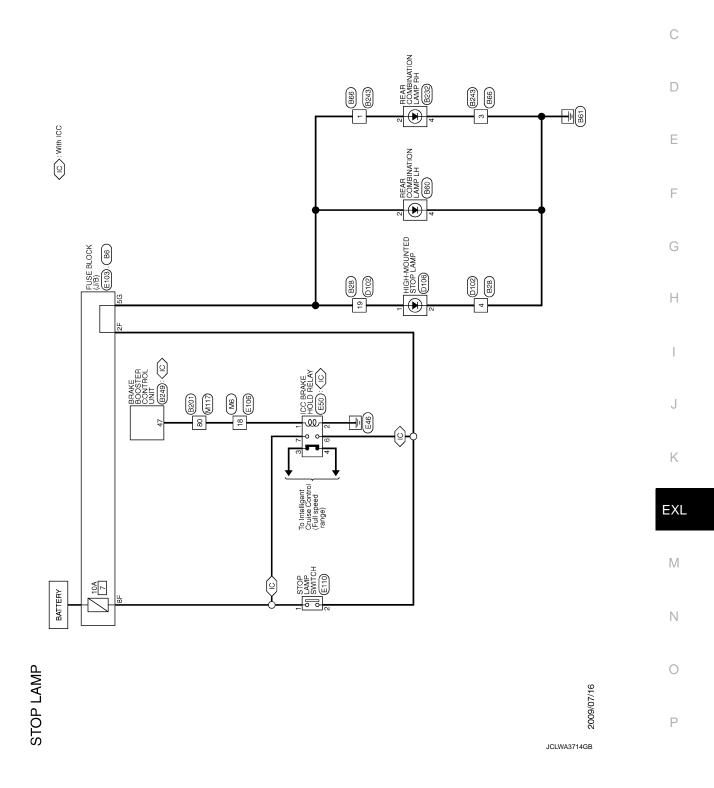
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RECEIVER/SENSOR GND	RECEIVER/SENSOR POWER SUPPLY	TIRE PRESSURE RECEIVER COMM	SHIFT N/P	SECURITY INDICATOR OUTPUT	COMBI SW OUTPUT 5	COMBI SW OUTPUT 1	COMBI SW OUTPUT 2	COMBI SW OUTPUT 3	COMBI SW OUTPUT 4	DRIVER DOOR SW	REAR WINDOW DEFOGGER RELAY CONT
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137	138	139	140	141	142	143	144	145	146	150	151



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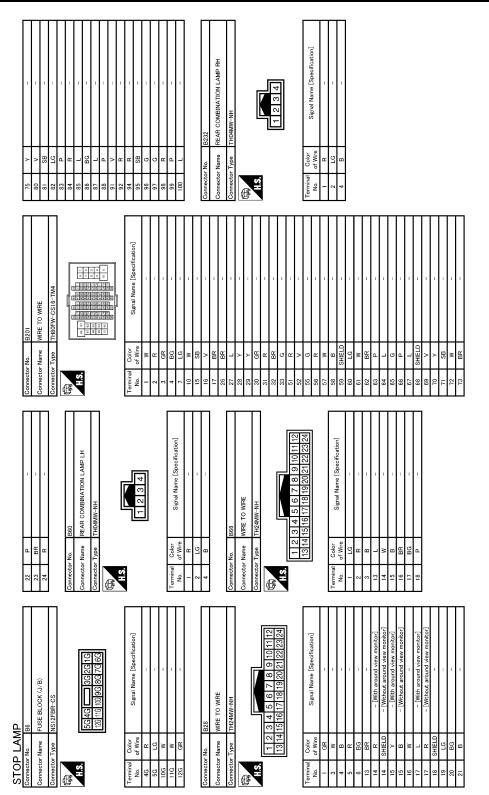


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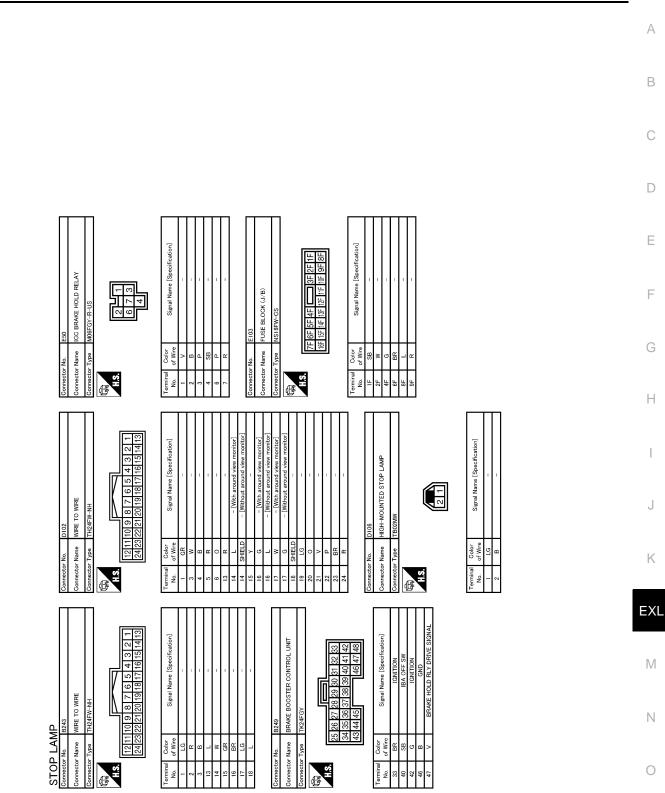
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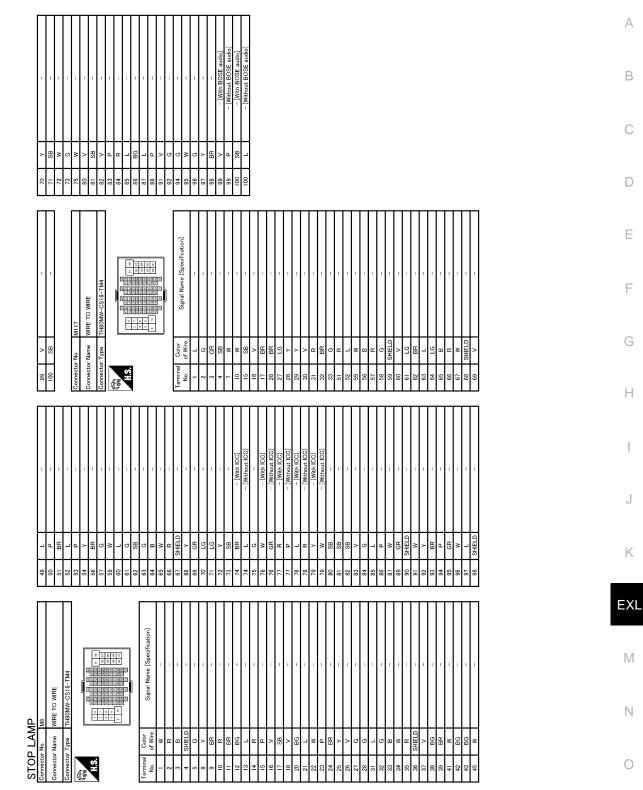
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< DTC/CIRCUIT DIAGNOSIS >

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< DTC/CIRCUIT DIAGNOSIS >



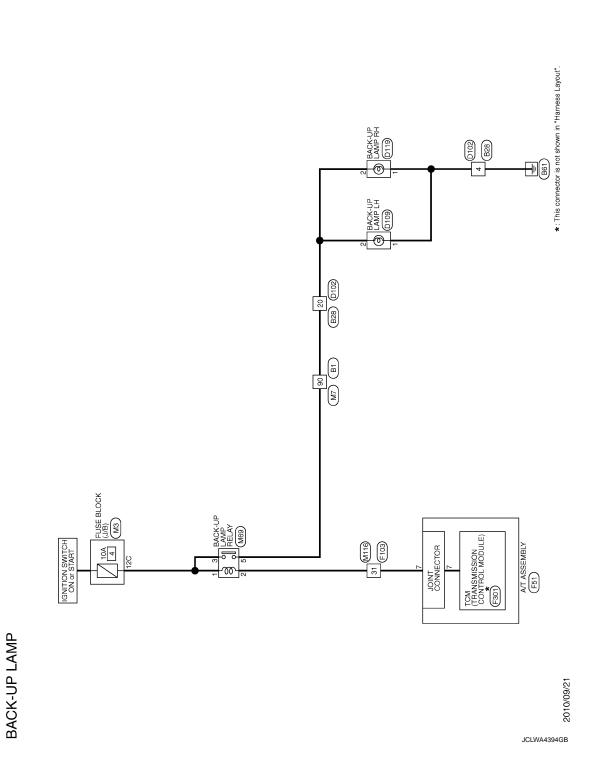
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BACK-UP LAMP

Wiring Diagram - BACK-UP LAMP -

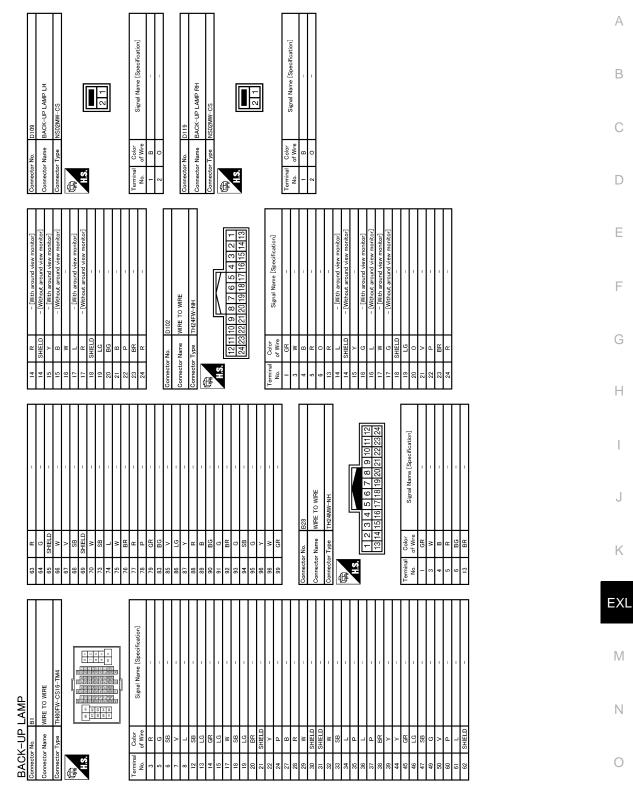
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BACK-UP LAMP

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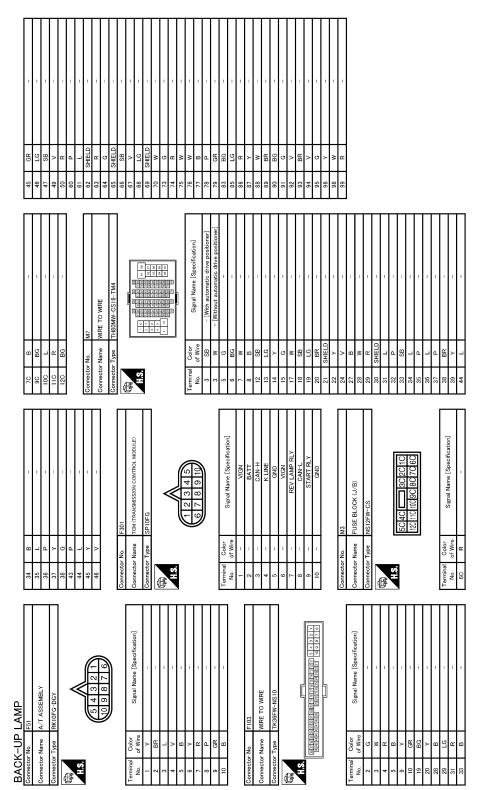
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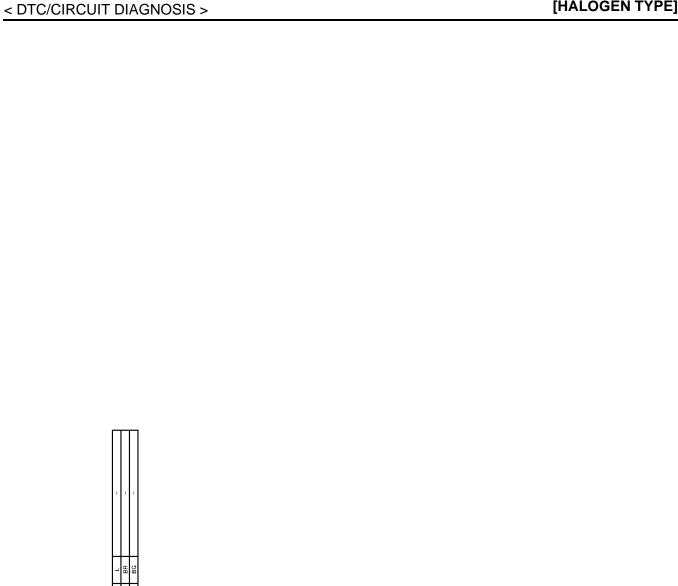
BACK-UP LAMP

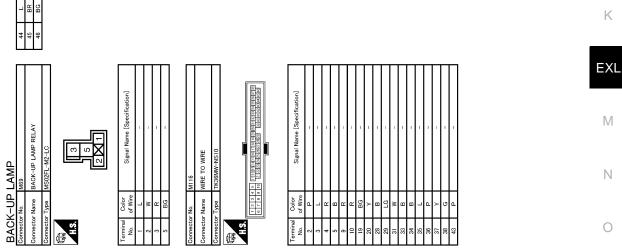
< DTC/CIRCUIT DIAGNOSIS >

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Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

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

INFOID:000000006893669

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Monitor Item	Condition	Value/Status	_
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off	
	Driver door closed	Off	_
DOOR SW-DR	Driver door opened	On	_
	Passenger door closed	Off	
DOOR SW-AS	Passenger door opened	On	
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	
DOOR SW-BK	Back door closed	Off	
	Back door opened	On	
CDL LOCK SW	Other than power door lock switch LOCK	Off	
SDE LOOK SW	Power door lock switch LOCK	On	
CDL UNLOCK SW	Other than power door lock switch UNLOCK	Off	
	Power door lock switch UNLOCK	On	
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off	_
	Driver door key cylinder LOCK position	On	
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off	
	Driver door key cylinder UNLOCK position	On	
KEY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off	
HAZARD SW	Hazard switch is OFF	Off	
	Hazard switch is ON	On	
REAR DEF SW	NOTE: The item is indicated, but not monitored.	Off	
FR CANCEL SW	NOTE: The item is indicated, but not monitored.	Off	
FR/BD OPEN SW	Back door opener switch OFF	Off	- 1
	While the back door opener switch is turned ON	On	
FRNK/HAT MNTR	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	
RKE-UNLOCK	UNLOCK button of the key is not pressed	Off	
	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	_
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	
	Bright outside of the vehicle	Close to 5 V	_
OPTICAL SENSOR	Dark outside of the vehicle	Close to 0 V	_

Revision: 2011 October

EXL-317

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Monitor Item	Condition	Value/Status			
REQ SW -DR	Driver door request switch is not pressed	Off			
REQ SW -DR	Driver door request switch is pressed	On			
DEO SW AS	Passenger door request switch is not pressed	Off			
REQ SW -AS	Passenger door request switch is pressed	On			
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off			
REQ SW -RL	W -RL NOTE: The item is indicated, but not monitored.				
REQ SW -BD/TR	Back door request switch is not pressed	Off			
	Back door request switch is pressed	On			
	Push-button ignition switch (push switch) is not pressed	Off			
PUSH SW	Push-button ignition switch (push switch) is pressed	On			
	Ignition switch in OFF or ACC position	Off			
IGN RLY2 -F/B	Ignition switch in ON position	On			
ACC RLY -F/B	NOTE: The item is indicated, but not monitored.	Off			
CLUCH SW	NOTE: The item is indicated, but not monitored.	Off			
	The brake pedal is depressed when No. 7 fuse is blown	Off			
BRAKE SW 1	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal	On			
	The brake pedal is not depressed	Off			
BRAKE SW 2	The brake pedal is depressed	On			
	Selector lever in P position	Off			
DETE/CANCL SW	Selector lever in any position other than P	On			
SFT PN/N SW	Selector lever in any position other than P and N	Off			
SET FIV/N SVV	Selector lever in P or N position	On			
S/L -LOCK NOTE:	Steering is unlocked	Off			
For models without steering lock unit, this item is not monitored.	Steering is locked	On			
S/L -UNLOCK	Steering is locked	Off			
NOTE: For models without steering lock unit, this item is not monitored.	Steering is unlocked	On			
S/L RELAY-F/B	Ignition switch in OFF or ACC position	Off			
NOTE: For models without steering lock unit, this item is not monitored.	Ignition switch in ON position	On			
· ,· · · · · · · · · · ·	Driver door is unlocked	Off			
UNLK SEN -DR	Driver door is locked	On			
	Push-button ignition switch (push-switch) is not pressed	Off			
PUSH SW -IPDM	Push-button ignition switch (push-switch) is pressed	On			
	Ignition switch in OFF or ACC position	Off			
IGN RLY1 -F/B	Ignition switch in ON position	On			
	Selector lever in any position other than P	Off			
DETE SW -IPDM	Selector lever in P position	On			
	Selector lever in any position other than P and N	Off			
SFT PN -IPDM		-			

Revision: 2011 October

EXL-318

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
SFT P -MET	Selector lever in any position other than P	Off
	Selector lever in P position	On
SFT N -MET	Selector lever in any position other than N	Off
	Selector lever in N position	On
	Engine stopped	Stop
ENGINE STATE	While the engine stalls	Stall
ENGINE STATE	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	Steering is unlocked	Off
NOTE: For models without steering lock unit, this item is not monitored.	Steering is locked	On
S/L UNLK-IPDM	Steering is locked	Off
NOTE: For models without steering lock unit, this item is not monitored.	Steering is unlocked	On
S/L RELAY-REQ NOTE:	Steering lock system is not the LOCK condition and the changing condi- tion from LOCK to UNLOCK.	Off
For models without steering lock unit, this item is not monitored.	Steering lock system is the LOCK condition or the changing condition from LOCK to UNLOCK.	On
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	Steering is locked	Reset
ID OK FLAG	Steering is unlocked	Set
PRMT ENG STRT	The engine start is prohibited	Reset
FRIMITEING STRT	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
	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-	

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
	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
	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
	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
	The ID of second key is not registered to BCM	Yet
TP 2	The ID of second key is registered to BCM	Done
	The ID of first key is not registered to BCM	Yet
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 REGST RL1	ID of rear LH tire transmitter is registered	Done
ID REGGI REI	ID of rear LH tire transmitter is not registered	Yet
	Tire pressure indicator OFF	Off
WARNING LAMP	Tire pressure indicator ON	On
DI 177ED	Tire pressure warning alarm is not sounding	Off
BUZZER	Tire pressure warning alarm is sounding	On

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

А

В

С

D

Ε

F

G

Н

J

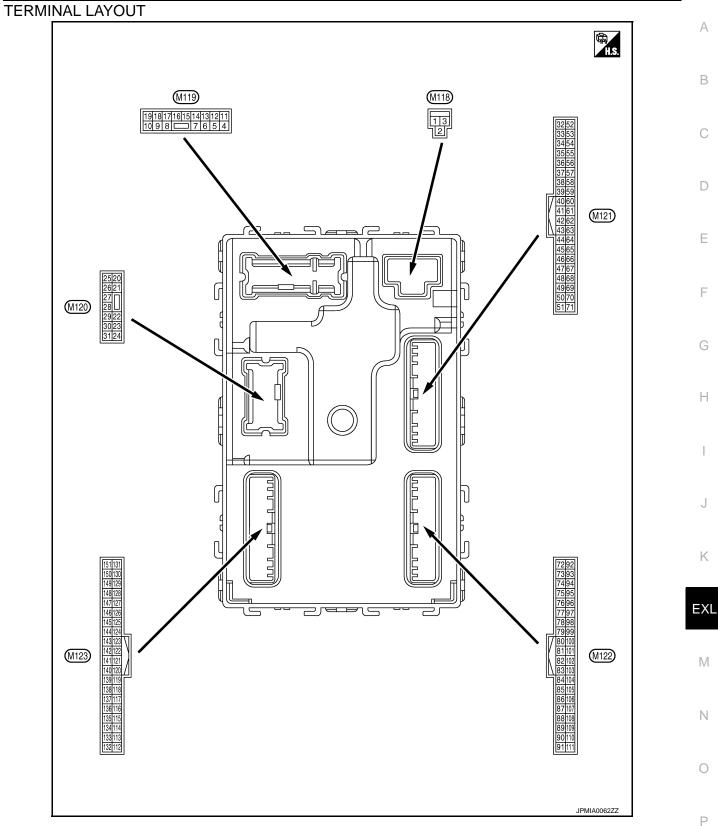
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PHYSICAL VALUES

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

Terminal No.		Description				Value	
(Wire +	e color) _	Signal name	Signal name Input/ Output		Condition	Value (Approx.)	
			Carpar		Turn signal switch OFF	0 V	
17 (W)	Ground	Turn signal RH (Front)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 FKID0926E 6.5 V	
					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 s 1 s PKID026E 6.5 V	
19	Ground	Room lamp timer	Output	Interior room	OFF	Battery voltage	
(V)		control		lamp	ON Turn signal switch OFF	0 V 0 V	
20 (V)	Ground	Turn signal RH (Rear)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 •••••••••••••••••••••••••••••••	
23	Ground	Back door open	Output	Back door	OPEN (Back door opener actuator is activated)	6.5 V Battery voltage	
(G)	Cround	Back door open	Caiput	Dauk 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	Ground	Rearwiner	Outout	Rear wipor	OFF (Stopped)	0 V	
(G)	Giound	Rear wiper	Output	Rear wiper	ON (Operated)	Battery voltage	

< ECU DIAGNOSIS INFORMATION >

	ninal No. e color)	Description		Condition		Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
34	Ground Luggage room anten- na (-) Output Ignition switch OFF Whe in the mer		Output	lanition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB
(SB)		When Intelligent Key is not in the passenger compart- ment	(V) 15 0 5 0 1 s JMKIA0063GB			
35	Ground	Luggage room anten- na (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1
(V)					When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1
38	Ground	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 1 1 1 1 1 1 1 1 1 1 1 1
(B)			Cutput		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	
39	Ground	Back door antenna	Output	When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 0 0 1 s JMKIA0062GB	
(W)	Giound	(+)	Culput	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 0 1 s JMKIA0063GB	
47	Ground	Ignition relay (IPDM	Output	Ignition switch	OFF or ACC	Battery voltage	
(Y)	Ground	E/R) control		Ignition switch	ON	0 V	
52	Ground	Starter relay control	Output	Ignition switch	When selector lever is in P or N position	Battery voltage	
(SB)) Ground Stanler relay control Output ON	ON	When selector lever is not in P or N position	0 V			
60* ¹	Ground	Push-button ignition	Innut	Push-button igni- tion switch (push	Pressed	0 V	
(BR)	Ground	switch (Push switch)	Input	switch)	Not pressed	Battery voltage	
					ON (Pressed)	0 V	
61 (W)	Ground	Back door opener re- quest switch	Input	Back door opener request switch	OFF (Not pressed)	(V) 15 10 10 10 10 10 10 10 10 10 10	
64 (V)	Ground	Intelligent Key warn- ing buzzer (Engine room)	Output	Intelligent Key warning buzzer (Engine room)	Sounding Not sounding	0 V Battery voltage	
65 (BG)	Ground	Rear wiper stop posi- tion	Input	Rear wiper	In stop position	(V) 15 0 5 10 10 ms 10 ms 1.0 V	
					Not in stop position	0 V	

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color) –	Signal name	Input/ Output		Condition	(Approx.)
66 (R)	Ground	Back door switch	Input	Back door switch	OFF (Door close)	(V) 15 0 10 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 0 10 ms JPMIA0011GB 11.8 V
					ON (Door open)	0 V

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

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

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< ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description			0	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
83	Ground	Remote keyless entry receiver communica-	Input/	During waiting		(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1
(Y)	Ground	tion	Output	When operating ei	ther button on the key	(V) 15 10 5 0 1 ms JMKIA0065GB
		Combination switch INPUT 5	Input	Combination switch	All switches OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0041GB 1.4 V
87 (BR)	Ground				Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0037GB 1.3 V
					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 2 ms JPMIA0039GB 1.3 V
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 2 ms JPMIA0040GB 1.3 V

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

(Wire color) Signal name Input Output Condition Utput (Approx) * - Signal name Output OFF Battery voltage 92 (LG) Ground Key slot illumination Output Key slot illumina- tion Blinking Imput 0 OFF Battery voltage 93 (UG) Ground ON indicator lamp Output Ignition switch OFF Battery voltage 94 (GG) Ground ON indicator lamp Output Ignition switch OFF Battery voltage 95 (BG) Ground ACC relay control Output Ignition switch OFF Dettery voltage 96 (GR) Ground ACC relay control Output Ignition switch OFF Dettery voltage 97 (L) Ground Steering lock condi- tion No. 1 Input Steering lock LOCK status 0 V 98 (R) Ground Steering lock condi- tion No. 1 Input Steering lock LOCK status 0 V 99 (R) Ground Steering lock condi- tion switch Input Steering lock condi- tion switch 0 V V 1000 (G)	Term	inal No.	Description				
92 (LG) Ground Key slot illumination Output Key slot illumina- tion Blinking Image: Constraint of the state of the sta			Signal name			Condition	Value (Approx.)
92 (LG) Ground Key slot Illumination Output Key slot Illumina- tion Blinking 10 0 10 0 0 0 0 0 93 (V) Ground ON indicator lamp Output Ignition switch OFF or ACC Battery voltage 94 (Y) Ground Puddle lamp control Output Puddle lamp OV 0 95 (BG) Ground ACC relay control Output Ignition switch OFF Battery voltage 96 (GR) Ground ACT relay control Output Ignition switch OFF 0 V 97 (B) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 97 (C) Ground Steering lock condi- tion No. 2 Input Steering lock UNLOCK status Battery voltage 99 (R) Ground Steering lock condi- tion No. 2 Input Steering lock status 0 V V 100 (G) Ground Steering lock condi- tion No. 2 Input Steering lock status 0 V 0 V 100 (G) Ground Passenger door re- quest switch Input Passenger door<						OFF	Battery voltage
Image: Construct of the second of t		Ground	Key slot illumination	Output		Blinking	10 0 1 s JPMIA0015GB
With Constraints Output Ignition switch ON 0 V 94 (Y) Ground Puddle lamp control Output Puddle lamp OFF Battery voltage 95 (BG) Ground ACC relay control Output Ignition switch OFF 0 V 96 (BG) Ground ACT shift selector (De- tention switch) power supply Output Ignition switch OFF 0 V 97*2 (L) Ground Steering lock condi- tion No. 1 Input Steering lock LOCK status 0 V 98*2 (P) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status 0 V 99*3 (R) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status 0 V 99*3 (R) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status 0 V 100 (G) Ground Steering lock condi- tion No. 2 Input Selector lever Position of 0 V 100 (G) Ground Passenger door re- quest switch Input Passenger door request switch OFF (Not pressed) 0 V 101						ON	
(V) Ground Output Output Output ON 0 V 94 Ground Puddle lamp control Output Puddle lamp OFF Battery voltage 95 Ground ACC relay control Output Ignition switch OFF 0 V 96 Ground ACT shift selector (Detention switch) power supply Output — Battery voltage 97*2 Ground Steering lock condition No. 1 Input Steering lock LOCK status 0 V 98*2 Ground Steering lock condition No. 2 Input Steering lock LOCK status Battery voltage 98*2 Ground Steering lock condition No. 2 Input Steering lock LOCK status 0 V 99*2 Ground Steering lock condition No. 2 Input Steering lock UNLOCK status Battery voltage 100 Ground Steering lock condition No. 2 Input Steering lock OFF (Not pressed) 0 V 100 Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 0 V 100 <t< td=""><td>93</td><td></td><td>2</td><td></td><td></td><td>OFF or ACC</td><td>Battery voltage</td></t<>	93		2			OFF or ACC	Battery voltage
Or Ground Puddle lamp control Output Puddle lamp 95 Ground ACC relay control Output Ignition switch OFF 0 V 96 Ground AT shift selector (Detection switch) Output - Battery voltage 97*2 Ground Steering lock condition No. 1 Input Steering lock 0 V 100 Ground Steering lock condition No. 2 Input Steering lock UNLOCK status Battery voltage 99*2 Ground Steering lock condition No. 2 Input Steering lock UNLOCK status Battery voltage 99*3 Ground Selector lever P position No. 2 Input Selector lever P position 0 V 99 Ground Selector lever P position switch Input Selector lever P position other than P Battery voltage 100 Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 105 Ground		Ground	ON indicator lamp	Output	Ignition switch	ON	0 V
(Y) Ground Puddle lamp control Output Puddle lamp 95 Ground ACC relay control Output Ignition switch OFF 0 V 96 Ground AT shift selector (Detection switch) power supply Output - Battery voltage 97 Ground Steering lock condition No. 1 Input Steering lock 0 V 0 V 98: Ground Steering lock condition No. 2 Input Steering lock UNLOCK status Battery voltage 98: Ground Steering lock condition No. 2 Input Steering lock UNLOCK status Battery voltage 98: Ground Selector lever P position No. 2 Input Selector lever P position OV OV 99 Ground Selector lever P position switch Input Selector lever P position other than P Battery voltage 100 Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 0V 101 Ground Driver door request Input Driver door request switch OFF (Not pressed) 0V 101	94				Puddlo Jamp	OFF	Battery voltage
(BG) Ground ACC relay control Output Ignition switch ACC or ON Battery voltage 96 (GR) Ground AT shift selector (De- tention switch) power supply Output - Battery voltage 97-2 (L) Ground Steering lock condi- tion No. 1 Input Steering lock LOCK status 0 V 98-2 (P) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 98-2 (P) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 98- (R) Ground Steering lock condi- tion switch Input Steering lock LOCK status 0 V 99 Ground Selector lever P posi- tion switch Input Selector lever P position other than P Battery voltage 100 (G) Ground Passenger door re- quest switch Input Passenger door request switch OFF (Not pressed) 0 V 101 (SB) Ground Driver door request switch Input Driver door re- quest switch OFF (Not pressed) 0V 101 (SB) Driver door request switch Input </td <td></td> <td>Ground</td> <td>Puddle lamp control</td> <td>Output</td> <td>Puddle lamp</td> <td>ON</td> <td>0 V</td>		Ground	Puddle lamp control	Output	Puddle lamp	ON	0 V
(BG) Ground ACC heary control Output Ignition switch 96 (GR) Ground AT shift selector (De- supply Output — Battery voltage 97*2 (L) Ground Steering lock condi- tion No. 1 Input Steering lock LOCK status 0 V 98*2 (P) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 98*2 (P) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 98*7 (P) Ground Steering lock condi- tion No. 2 Input Steering lock LOCK status Battery voltage 98*7 (P) Ground Selector lever P posi- tion switch Input Selector lever Position 0 V 98 (R) Ground Passenger door re- quest switch Input Passenger door request switch OFF (Not pressed) 0V 100 (G) Ground Driver door request switch Input Driver door re- quest switch OFF (Not pressed) 0V 101 (SB) Ground Driver door request switch Input Driver door re- quest switch OFF (Not pressed) 0V 102 Ground Blower fan motor re- quest switch Output OFF or ACC	95					OFF	0 V
96 (GR) Ground AT shift selector (De- tention switch) power supply Output		Ground	ACC relay control	Output	Ignition switch	ACC or ON	Battery voltage
Signal Ground tion No. 1 Input Steering lock UNLOCK status Battery voltage 98+2 (P) Ground Steering lock condition No. 2 Input Steering lock UNLOCK status Battery voltage 99 (R) Ground Selector lever P position No. 2 Input Selector lever P position 0 V 99 (R) Ground Selector lever P position switch Input Selector lever P position other than P Battery voltage 100 (G) Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 0 V 101 (SB Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 (SB Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 (SB Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 (SB Ground Blower fan motor re- switch Output OFF or ACC 0 V		Ground	tention switch) power	Output	_	I	
Lite Lite UNLOCK status Battery voltage 98*2 Ground Steering lock condition No. 2 Input Steering lock LOCK status Battery voltage 99 Ground Selector lever P position switch Input Selector lever P position other than P Battery voltage 100 Ground Selector lever P position switch Input Selector lever P position other than P Battery voltage 100 Ground Passenger door request switch Input Pessenger door request switch ON (Pressed) 0 V 100 Ground Driver door request switch Input Passenger door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input OFF (Not pressed) 0 V Input 102 Ground Blower fan motor re- Output Input OFF or ACC 0 V	97* ²	Ground		Input	Stooring lock	LOCK status	0 V
Second (P) Ground tion No. 2 Input Steering lock 99 (R) Ground Selector lever P position Input Selector lever P position 0 V 99 (R) Ground Selector lever P position switch Input Selector lever P position other than P Battery voltage 100 (G) Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 0 V 101 (S) Ground Driver door request switch Input Passenger door request switch ON (Pressed) 0 V 101 (S) Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 (S) Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 102 (S) Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 102 (S) Ground Blower fan motor re- quest switch OFF or ACC 0 V	(L)	Ground	tion No. 1	input	Sleening lock	UNLOCK status	Battery voltage
(P) uon No. 2 Passenger door lever P position Input Selector lever P position 0 V 99 Ground Selector lever P position switch Input Selector lever P position 0 V 100 Ground Passenger door request switch Input Passenger door request switch ON (Pressed) 0 V 101 Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch ON (Pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 102 Ground Blower fan motor re- Output Ignition switch OFF or ACC 0 V	98* ²	Cround	Steering lock condi-	locut	Stooring look	LOCK status	Battery voltage
Ground Ground Ground Ground Ground Ground Ground Input Selector lever 100 Ground Passenger door request switch Input Passenger door request switch ON (Pressed) 0 V 100 Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 10 101 Ground Driver door request switch Input Driver door request switch ON (Pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 102 Ground Blower fan motor re- Output Input Input OFF or ACC 0 V	(P)	Ground	tion No. 2	input	Steering lock	UNLOCK status	0 V
(R) Ground tion switch Input Selector reven Any position other than P Battery voltage 100 Ground Passenger door request switch Input Passenger door request switch ON (Pressed) 0 V 100 Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 0 ^V 101 Ground Driver door request switch Input Driver door request switch ON (Pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 102 Ground Blower fan motor re- Output Input OFF or ACC 0 V	99	Cround	Selector lever P posi-	lasut	Coloctor lover	P position	0 V
100 (G) Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) Imput 10 ms 1 m	(R)	Ground		input	Selector level	Any position other than P	Battery voltage
100 (G) Ground Passenger door request switch Input Passenger door request switch OFF (Not pressed) 10 101 (SB) Ground Driver door request switch Input Driver door request switch ON (Pressed) 0 V 101 (SB) Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0 V 101 (SB) Ground Driver door request switch Input Driver door request switch OFF (Not pressed) 0V 102 (D2 Ground Blower fan motor re- uest switch Other of the pressed) OFF or ACC 0 V						ON (Pressed)	0 V
101 (SB) Ground Driver door request switch Input Driver door re- quest switch OFF (Not pressed) Imput Imput Imput Imput OFF (Not pressed) Imput		Ground		Input		OFF (Not pressed)	10 5 0 10 ms JPMIA0016GB
101 (SB) Ground Driver door request switch Input Driver door re- quest switch OFF (Not pressed) 15 0 102 (DD) Ground Blower fan motor re- tor or total Output Ignition switch OFF or ACC 0 V						ON (Pressed)	0 V
(Do Ground Dioworkar Motor to Output Ignition switch		Ground		Input		OFF (Not pressed)	15 10 5 0 10 ms JPMIA0016GB
(Dec) Ground , Output I Ignition switch	102	0	Blower fan motor re-	0 • •	Inciding to the later	OFF or ACC	0 V
		Ground		Output	Ignition switch	ON	Battery voltage

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	٨
(VVir +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	А
103 (LG)	Ground	Remote keyless entry receiver power sup- ply	Output	Ignition switch OF	F	Battery voltage	В
106* ² (W)	Ground	Steering lock unit power supply	Output	Ignition switch	OFF or ACC ON	Battery voltage	С
					All switches OFF	(V) 15 10 2 ms JPMIA0041GB 1.4 V	D
					Turn signal switch LH	(V) 15 0 5 0 2 ms JPMIA0037GB 1.3 V	F G H
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	Г І
					Front wiper switch LO	(V) 15 0 2 ms JPMIA0038GB 1.3 V	M
					Front washer switch ON	(V) 10 50 50 50 50 50 50 50 50 50 5	N O P

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description	1	-		Value
(vvire +	e color) -	Signal name	Input/ Output		Condition	(Approx.)
					LOCK status	Battery voltage
111* ² (Y) Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK or UNLOCK	(V) 15 10 50 50 ms JMKIA0066GB	
					For 15 seconds after UN- LOCK	Battery voltage
					15 seconds or later after UNLOCK	0 V
113	Ground	Optical sensor	Input	Ignition switch	When bright outside of the vehicle	Close to 5 V
(P)	Cround	Optical sensor	mput	ON	When dark outside of the vehicle	Close to 0 V
116 (SB)	Ground	Stop lamp switch 1	Input	_		Battery voltage
		Stop lamp switch 2 (Without ICC) Stop lamp switch 2		Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
118	Ground		- Input		ON (Brake pedal is de- pressed)	Battery voltage
(P)	Cround				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)	mbly driver side Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 10 5 10 10 ms JPMIA0012GB 1.1 V
					UNLOCK status (Unlock switch sensor ON)	0 V
121	Ground	Key slot switch	Input	-	serted into key slot	Battery voltage
(BR)		•	<u> </u>	When the key is n	ot inserted into key slot	0 V
123 (W)	Ground	IGN feedback	Input	Ignition switch	OFF or ACC	0 V
()					ON	Battery voltage

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Terminal No. (Wire color)		Description				Value	
(Wire +	e color) –	Signal name	Input/ Output	Condition		(Approx.)	А
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch		(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V	B
					ON (Door open)	0 V	
132 (BR)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		(V) 15 0 10 10 ms JPMIA0013GB 10.2 V	F
					F or ACC	Battery voltage	
					ON (Tail lamps OFF)	9.5 V	H
133 (W)	Ground	Push-button ignition switch illumination	Output	Push-button igni- tion switch illumi- nation	ON (Tail lamps ON)	NOTE: The pulse width of this wave is varied by the illumination bright- ening/dimming level. (V) 15 10 5 0	J
							k
					OFF OFF	0 V	
134 (GR)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	OFF	Battery voltage 0 V	Ε>
137 (BG)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V	N
138	Ground	Receiver and sensor	Output	Ignition switch	OFF	0 V	1 V
(Y)	Ground	power supply	Output	ignition switch	ACC or ON	5.0 V	

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< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

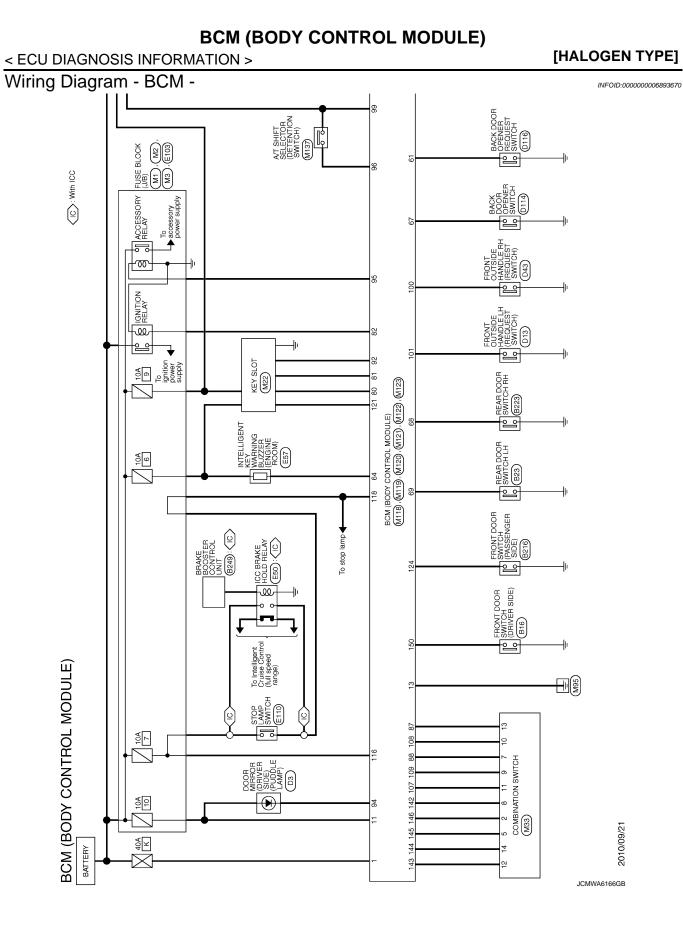
Terminal No.		Description				Value				
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)				
					All switches OFF (Wiper intermittent dial 4)	0 V				
					Front washer switch ON (Wiper intermittent dial 4)					
144 (G)	Ground	Combination switch OUTPUT 2	Output	Combination switch	Rear wiper switch ON (Wiper intermittent dial 4) Rear washer switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0				
				Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	2 ms JPMIA0033GB 10.7 V					
					All switches OFF	0 V				
					Front wiper switch INT					
				Combination	Front wiper switch LO	(V) 15				
145 (L)	Ground	Combination switch OUTPUT 3	Output	switch	Lighting switch AUTO	10 0 2 ms JPMIA0034GB 10.7 V				
					All switches OFF	0 V				
					Front fog lamp switch ON					
				Combination	Lighting switch 2ND	(V) 15				
146 (SB)	Ground	Combination switch OUTPUT 4	Output	Output	Output	Output	Output	Output switch (Wiper intermit- tent dial 4)	Lighting switch PASS	10 5 0 2 ms
						JPMIA0035GB 10.7 V				
150 (LG)	Ground	Driver door switch	Input	Driver door switch	OFF (Door close)	(V) 15 10 5 10 10 ms JPMIA0011GB 11.8 V				
					ON (Door open)	0 V				
151	0	Rear window defog-	0	Rear window de-	Active	0 V				
(G)	Ground	ger relay control	Output	fogger	Not activated	Battery voltage				

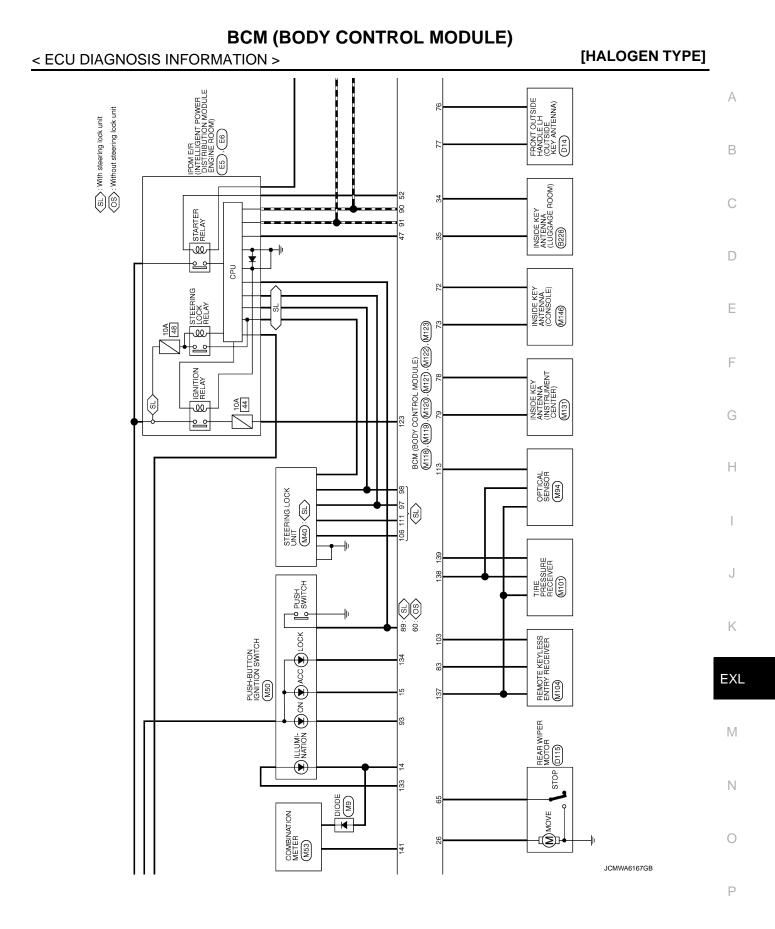
NOTE:

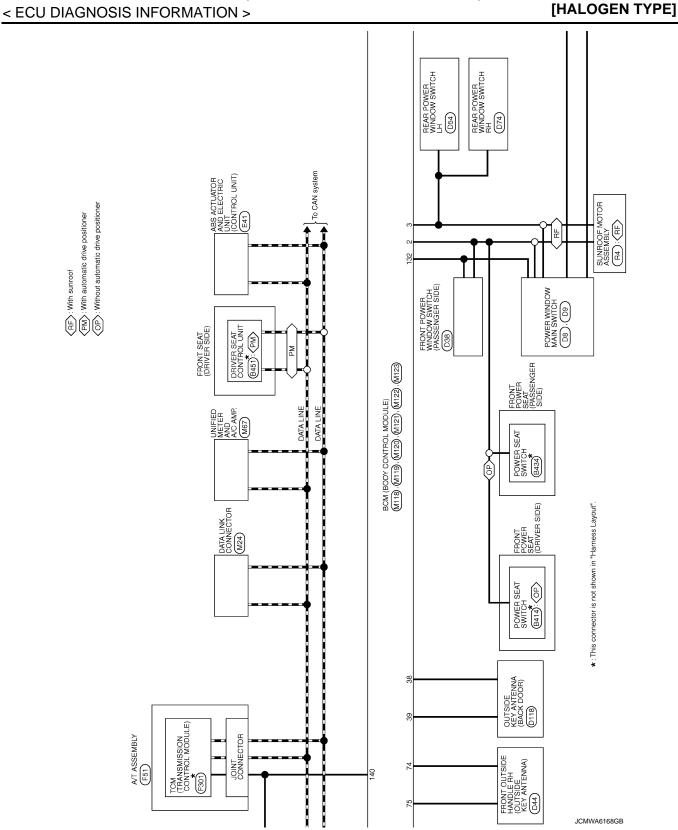
• *1: Without steering lock unit

• *2: With steering lock unit

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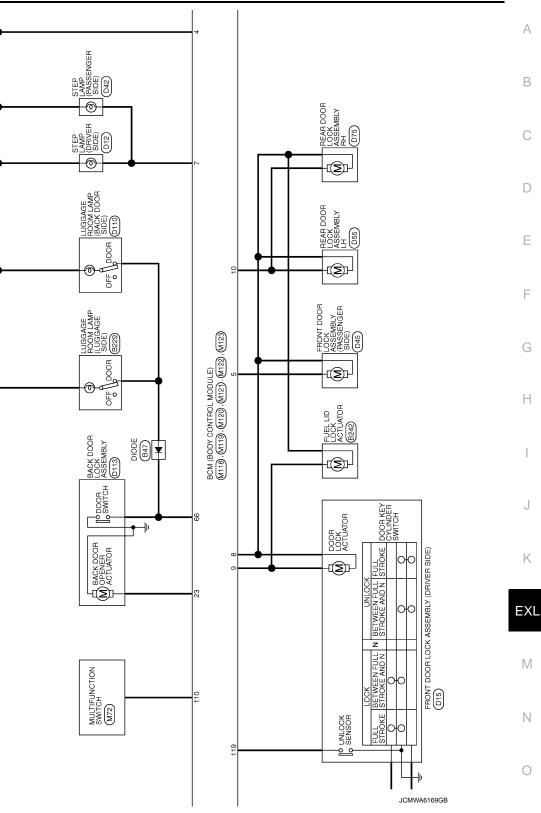


Revision: 2011 October

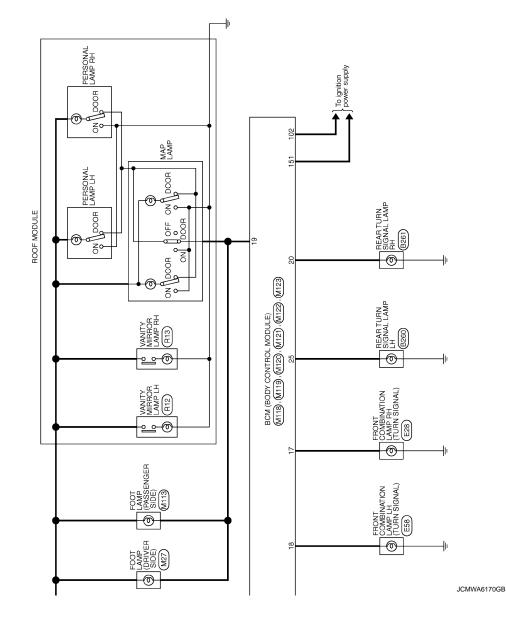
[HALOGEN TYPE]

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

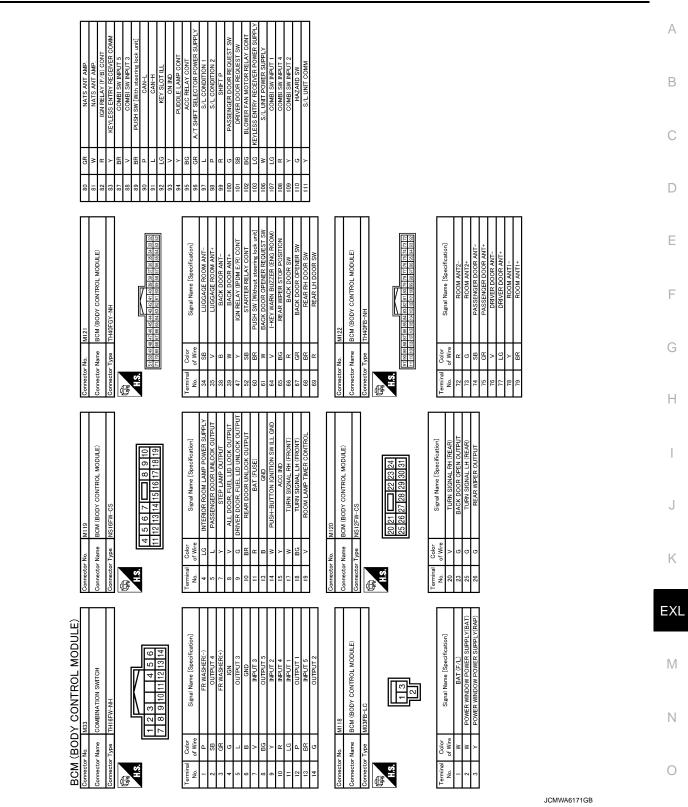


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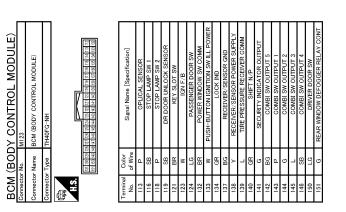
< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]



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< ECU DIAGNOSIS INFORMATION >



JCMWA6172GB

INFOID:000000006893671

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
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	Erase DTC
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch $ON \rightarrow OFF$
B2557: VEHICLE SPEED	Inhibit steering lock	When normal vehicle speed signals are received from ABS actua- tor and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	 500 ms after the following CAN signal communication status be- comes consistent Starter control relay signal Starter relay status signal
B2601: SHIFT POSITION	Inhibit steering lock	 500 ms after the following signal reception status becomes consistent Selector lever P position switch signal P range signal (CAN)
B2602: SHIFT POSITION	Inhibit steering lock	 5 seconds after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Vehicle speed: 4 km/h (2.5 MPH) or more
B2603: SHIFT POSI STATUS	Inhibit steering lock	 500 ms after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Selector lever P/N position signal: Except P and N positions (0 V)
B2604: PNP SW	Inhibit steering lock	 500 ms after any of the following BCM recognition conditions are fulfilled Status 1 Ignition switch is in the ON position Selector lever P/N position signal: P and N position (battery voltage) P range signal or N range signal (CAN): ON Status 2 Ignition switch is in the ON position Selector lever P/N position signal: Except P and N positions (0 V) P range signal and N range signal (CAN): OFF
B2605: PNP SW	Inhibit steering lock	 500 ms after any of the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Power position: IGN Selector lever P/N position signal: Except P and N positions (0 V) Interlock/PNP switch signal (CAN): OFF Status 2 Ignition switch is in the ON position Selector lever P/N position signal: P or N position (battery voltage) PNP switch signal (CAN): ON
B2606: S/L RELAY	Inhibit engine cranking	 500 ms after the following CAN signal communication status becomes consistent Steering lock relay signal (Request signal) Steering lock relay signal (Condition signal)

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Display contents of CONSULT	Fail-safe	Cancellation
B2607: S/L RELAY	Inhibit engine cranking	 500 ms after the following CAN signal communication status becomes consistent Steering lock relay signal (Request signal) Steering lock relay signal (Condition signal)
B2608: STARTER RELAY	Inhibit engine cranking	 500 ms after the following signal communication status becomes consistent Starter motor relay control signal Starter relay status signal (CAN)
B2609: S/L STATUS	Inhibit engine crankingInhibit steering lock	 When the following steering lock conditions agree BCM steering lock control status Steering lock condition No. 1 signal status Steering lock condition No. 2 signal status
B260A: IGNITION RELAY	Inhibit engine cranking	 500 ms after the following conditions are fulfilled IGN relay (IPDM E/R) control signal: OFF (Battery voltage) Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions are fulfilledPower position changes to ACCReceives engine status signal (CAN)
B2612: S/L STATUS	Inhibit engine crankingInhibit steering lock	 When any of the following conditions are fulfilled Steering lock unit status signal (CAN) is received normally The BCM steering lock control status matches the steering lock status recognized by the steering lock unit status signal (CAN from IPDM E/R)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM be- comes normal
B2619: BCM	Inhibit engine cranking	1 second after the steering lock unit power supply output control in- side BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization
B26E9: S/L STATUS	Inhibit engine crankingInhibit steering lock	 When BCM transmits the LOCK request signal to steering lock unit, and receives LOCK response signal from steering lock unit, the following conditions are fulfilled Steering condition No. 1 signal: LOCK (0 V) Steering condition No. 2 signal: LOCK (Battery voltage)

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:000000006893672

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)

< ECU DIAGNOSIS INFORMATION >

CO DIAGN	IUSIS INFORMATION >	
Priority	DTC	
3	 B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI SCANNING 	
	 B2013: ID DISCORD BCM-S/L B2014: CHAIN OF S/L-BCM B2553: IGNITION RELAY B2555: STOP LAMP B2556: PUSH-BTN IGN SW B2557: VEHICLE SPEED B2560: STARTER CONT RELAY B2601: SHIFT POSITION 	
	 B2602: SHIFT POSITION B2603: SHIFT POSI STATUS B2604: PNP SW B2605: PNP SW B2606: S/L RELAY B2607: S/L RELAY 	
4	 B2608: STARTER RELAY B2609: S/L STATUS B260A: IGNITION RELAY B260B: STEERING LOCK UNIT B260C: STEERING LOCK UNIT 	
	 B260D: STEERING LOCK UNIT B260F: ENG STATE SIG LOST B2612: S/L STATUS B2614: ACC RELAY CIRC B2615: BLOWER RELAY CIRC B2616: IGN RELAY CIRC 	
	 B2617: STARTER RELAY CIRC B2618: BCM B2619: BCM B261A: PUSH-BTN IGN SW B261E: VEHICLE TYPE B26E9: S/L STATUS B26EA: KEY REGISTRATION C1729: VHCL SPEED SIG ERR U0415: VEHICLE SPEED SIG 	
5	 C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR 	
5	 C1710: [NO DATA] RR C1711: [NO DATA] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL C1734: CONTROL UNIT 	
6	B2621: INSIDE ANTENNA B2622: INSIDE ANTENNA B2623: INSIDE ANTENNA	

DTC Index

NOTE:

The details of time display are as follows.

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

INFOID:000000006893673

< ECU DIAGNOSIS INFORMATION >

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to <u>EXL-241, "COM-MON ITEM : CONSULT-III Function (BCM - COMMON ITEM)"</u>.

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.		_	_		
U1000: CAN COMM CIRCUIT		—			BCS-38
U1010: CONTROL UNIT (CAN)	—	—	_	—	BCS-39
U0415: VEHICLE SPEED SIG	—	—	—	—	<u>BCS-40</u>
B2013: ID DISCORD BCM-S/L*	×	×			<u>SEC-49</u>
B2014: CHAIN OF S/L-BCM*	×	×			<u>SEC-50</u>
B2190: NATS ANTENNA AMP	×	—			<u>SEC-42</u>
B2191: DIFFERENCE OF KEY	×	—	_		<u>SEC-45</u>
B2192: ID DISCORD BCM-ECM	×	—	_		<u>SEC-46</u>
B2193: CHAIN OF BCM-ECM	×	—	_		<u>SEC-47</u>
B2195: ANTI SCANNING	×	_	_		<u>SEC-48</u>
B2553: IGNITION RELAY		×	_		PCS-50
B2555: STOP LAMP		×	_		<u>SEC-53</u>
B2556: PUSH-BTN IGN SW		×	×		<u>SEC-55</u>
B2557: VEHICLE SPEED	×	×	×		<u>SEC-57</u>
B2560: STARTER CONT RELAY	×	×	×		<u>SEC-58</u>
B2562: LOW VOLTAGE		×	_		BCS-41
B2601: SHIFT POSITION	×	×	×		<u>SEC-59</u>
B2602: SHIFT POSITION	×	×	×		<u>SEC-62</u>
B2603: SHIFT POSI STATUS	×	×	×		<u>SEC-64</u>
B2604: PNP SW	×	×	×		<u>SEC-67</u>
B2605: PNP SW	×	×	×		<u>SEC-69</u>
B2606: S/L RELAY*	×	×	×		<u>SEC-71</u>
B2607: S/L RELAY*	×	×	×		<u>SEC-72</u>
B2608: STARTER RELAY	×	×	×		<u>SEC-74</u>
B2609: S/L STATUS*	×	×	×		<u>SEC-76</u>
B260A: IGNITION RELAY	×	×	×		PCS-52
B260B: STEERING LOCK UNIT*	—	×	×	_	<u>SEC-80</u>
B260C: STEERING LOCK UNIT*		×	×		<u>SEC-81</u>
B260D: STEERING LOCK UNIT*	—	×	×	—	<u>SEC-82</u>
B260F: ENG STATE SIG LOST	×	×	×	_	<u>SEC-83</u>
B2612: S/L STATUS*	×	×	×		<u>SEC-87</u>
B2614: ACC RELAY CIRC	—	×	×	—	PCS-54
B2615: BLOWER RELAY CIRC	_	×	×		PCS-57
B2616: IGN RELAY CIRC	—	×	×	—	PCS-60
B2617: STARTER RELAY CIRC	×	×	×	—	<u>SEC-91</u>
B2618: BCM	×	×	×	—	PCS-63

< 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
B2619: BCM*	×	×	×		<u>SEC-93</u>	
B261A: PUSH-BTN IGN SW		×	×	_	<u>SEC-94</u>	С
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	—	<u>SEC-97</u>	0
B2621: INSIDE ANTENNA		×	_	_	DLK-59	D
B2622: INSIDE ANTENNA		×	_	—	DLK-61	
B2623: INSIDE ANTENNA	_	×	_	_	DLK-63	
B26E1: ENG STATE NO RES	×	×	×	—	<u>SEC-84</u>	E
B26E9: S/L STATUS*	×	×	imes (Turn ON for 15 seconds)	_	<u>SEC-85</u>	F
B26EA: KEY REGISTRATION	_	×	imes (Turn ON for 15 seconds)	_	<u>SEC-86</u>	
C1704: LOW PRESSURE FL			_	×		
C1705: LOW PRESSURE FR	_		_	×		G
C1706: LOW PRESSURE RR			_	×	<u>WT-23</u>	
C1707: LOW PRESSURE RL		—	_	×		Н
C1708: [NO DATA] FL	_	—	_	×		
C1709: [NO DATA] FR	—	—	_	×	WT-25	
C1710: [NO DATA] RR	_	—	_	×	<u>VV1-25</u>	I
C1711: [NO DATA] RL	—	—	—	×	1	
C1716: [PRESSDATA ERR] FL	—	—	—	×		J
C1717: [PRESSDATA ERR] FR		—	—	×	WT-28	
C1718: [PRESSDATA ERR] RR	—	—	—	×	<u>vv1-20</u>	
C1719: [PRESSDATA ERR] RL	—	—	—	×		Κ
C1729: VHCL SPEED SIG ERR	—	—	—	×	<u>WT-30</u>	
C1734: CONTROL UNIT	_	—	_	×	<u>WT-32</u>	EXI

*: For models without steering lock unit, this DTC is not applied.

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

Reference Value

INFOID:000000006893680

VALUES ON THE DIAGNOSIS TOOL

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

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

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Monitor Item	Cor	Value/Status	
	Ignition switch ON		Off
	At engine cranking		$INHI\:ON\toST\:ON$
ST/INHI RLY		control relay cannot be recognized by when the starter relay is ON and the	UNKWN
DETENT SW	Ignition switch ON	 Press the selector button with selector lever in P position Selector lever in any position other than P 	Off
	Release the selector button with se	lector lever in P position	On
S/L RLY -REQ	None of the conditions below are p	resent	Off
NOTE: For models without steering lock unit, this item is not mon- itored.	 Open the driver door after the igr seconds) Press the push-button ignition sw ed 	On	
S/L STATE	Steering lock is activated	LOCK	
NOTE: For models without steering	Steering lock is deactivated	UNLOCK	
lock unit, this item is not mon- itored.	[DTC: B210A] is detected	UNKWN	
DTRL REQ	NOTE: The item is indicated, but not monit	Off	
OIL P SW	Ignition switch OFF, ACC or engine	Open	
	Ignition switch ON	Close	
HOOD SW	Close the hood	the hood Off	
	Open the hood	On	
HL WASHER REQ	NOTE: The item is indicated, but not monit	ored.	Off
	Not operation		Off
 THFT HRN REQ Panic alarm is activated Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM 		• Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYS-	
HORN CHIRP	Not operating	t operating O	
	Door locking with Intelligent Key (he	On	
CRNRNG LMP REQ	NOTE: The item is indicated, but not monit	ored.	Off

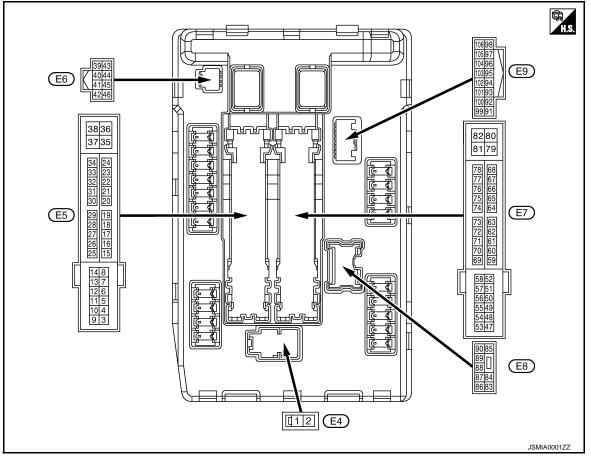
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< 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	tch OFF	Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
4	Crownd	FrontwinerLO	Output	Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
5	Ground	Front win or HI	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)	Giouna	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
				Ignition switch OFF	A few seconds after open- ing the driver door	Battery voltage
11* ² (BR)	Ground	Steering lock unit power supply	Output	Ignition switch LOCK	Press the push-button ig- nition switch	Battery voltage
				Ignition switch ACC or ON		0 V
12 (B/W)	Ground	Ground	—	Ignition switch ON		0 V

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

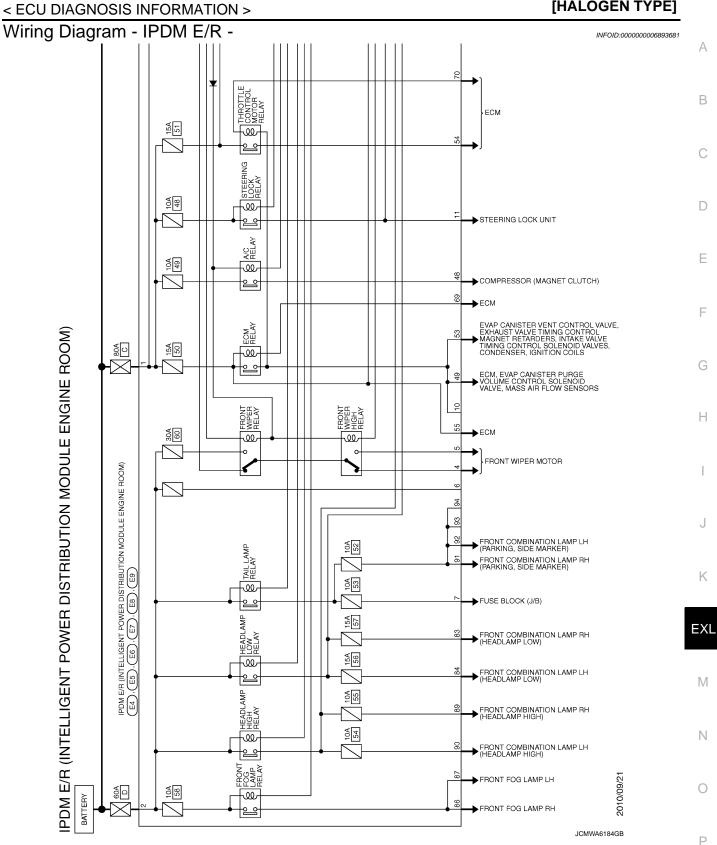
Terminal No.		Description				
(Wire color) + –		Signal name	Input/ Output	Condition		Value (Approx.)
46	Ground	Starter relay control	Input	Ignition Selector lever in any posi- tion other than P or N		0 V
(R)			•	switch ON	Selector lever P or N	Battery voltage
					A/C switch OFF	0 V
48 (L)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is oper- ating)	Battery voltage
49	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
(BG)				 Ignition switch ON Ignition switch OFF (For a few seconds after turning igni- tion switch OFF) 		Battery voltage
51	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
(Y)	Clound			Ignition sw	tch ON	Battery voltage
50	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
53 (W)				 Ignition switch ON Ignition switch OFF (For a few seconds after turning igni- tion switch OFF) 		Battery voltage
54	Ground	Throttle control motor re- lay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
54 (P)				 Ignition switch ON Ignition switch OFF (For a few seconds after turning igni- tion switch OFF) 		Battery voltage
55 (SB)	Ground	ECM power supply	Output	Ignition switch OFF		Battery voltage
56	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
(LG)				Ignition switch ON		Battery voltage
57	Ground	Ignition relay power supply	Output	Ignition sw	itch OFF	0 V
(G)				Ignition switch ON		Battery voltage
58	Ground	Ignition relay power supply	Output	Ignition switch OFF Ignition switch ON		0 V
(V)						Battery voltage
69	Ground	ECM relay control		Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage
(BR)			Output	 Ignition s 	witch ON witch OFF w seconds after turning igni- ch OFF)	0 – 1.5 V
70 (BG)	Ground	Throttle control motor re- lay control	Output		itch ON \rightarrow OFF	$0 - 1.0 V$ \downarrow Battery voltage \downarrow $0 V$
				Ignition sw	Itch ON	0 – 1.0 V

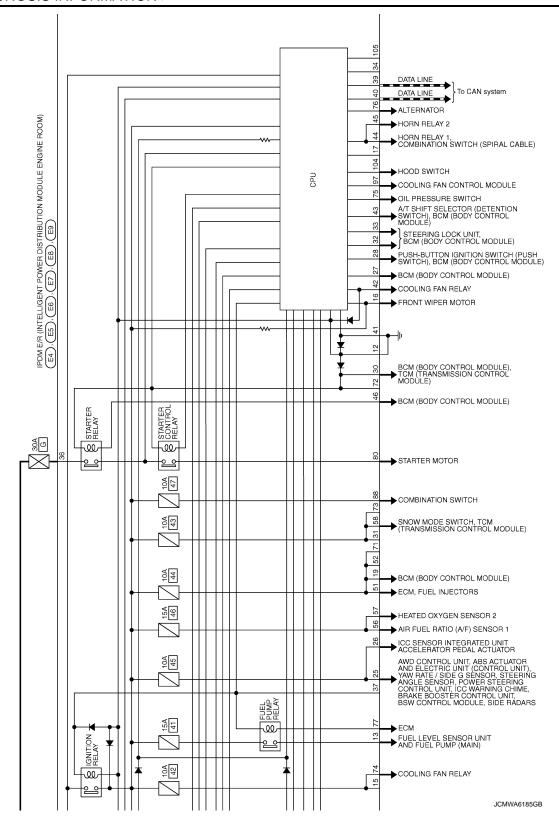
200		JSIS INFORMATION	<i>·</i>			
Terminal No. Description					Value	
(Wire +	e color) –	Signal name	Input/ Output	Condition		(Approx.)
74 (P)	Cround	Ignition relay power supply	Output	Ignition switch OFF		0 V
	Ground		Output	Ignition switch ON		Battery voltage
75 (SB) Grou	Ground	Oil pressure switch	Input	Ignition	Engine stopped	0 V
	Ciouna			switch ON	Engine running	Battery voltage
76 (Y)	Ground	Power generation com- mand signal	Output	Ignition switch ON		(V) 6 4 0 4 2 m 4 2 m 5 1 MA0001GB 6.3 V
				40% is set on "ACTIVE TEST", "AL- TERNATOR DUTY" of "ENGINE"		(V) 4 0 4 2 m
				80% is set on "ACTIVE TEST", "AL- TERNATOR DUTY" of "ENGINE"		(V) 6 2 0 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
77 (R)	Ground	Fuel pump relay control	Output	 Approximately 1 second after turning the ignition switch ON Engine running 		0 – 1.0 V
(· ·)				Approximately 1 second or more after turning the ignition switch ON		Battery voltage
80 (W)	Ground	Starter motor	Output	At engine cranking		Battery voltage
83	Ground	Headlamp LO (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
	Ground				Lighting switch 2ND	Battery voltage
84 (V)	Ground	Headlamp LO (LH)	Output	Ignition	Lighting switch OFF	0 V
	Ground			switch ON	Lighting switch 2ND	Battery voltage
86 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	Front fog lamp switch OFF	0 V
					 Front fog lamp switch ON Daytime running light activated (Only for Can- ada) 	Battery voltage

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

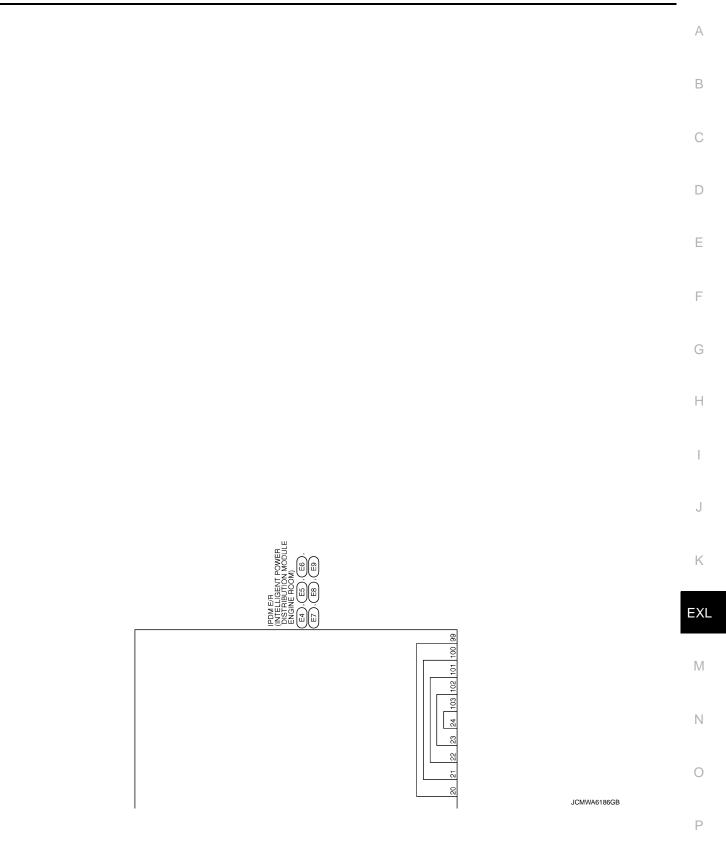
Terminal No.		Description				Value	
(Wire +	e color) _	Signal name	Input/ Output	Condition		(Approx.)	
	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	Front fog lamp switch OFF	0 V	
87 (L)					 Front fog lamp switch ON Daytime running light activated (Only for Can- ada) 	Battery voltage	
88 (GR)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

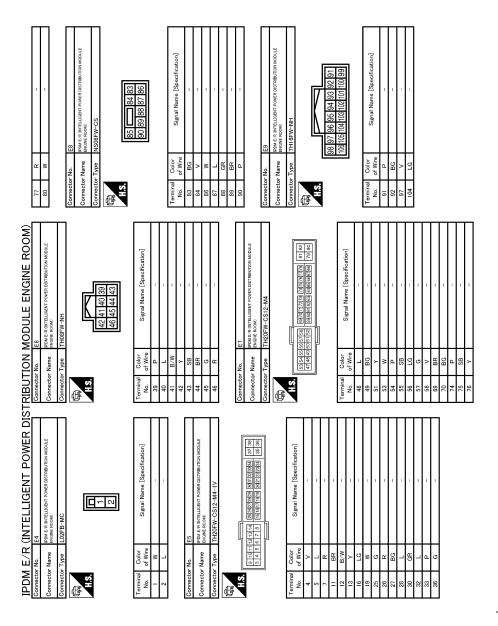
*¹: Only for the models with ICC system
*²: Models with steering lock unit





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





JCMWA6187GB

INFOID:000000006893682

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With ECM

Fail-safe

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

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

If No CAN Communication Is Available With BCM

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

*: For models with steering lock unit

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.

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

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

< ECU DIAGNOSIS INFORMATION >

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

NOTE:

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

STARTER MOTOR PROTECTION FUNCTION

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

DTC Index

NOTE:

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

		×: Applicable
CONSULT display	Fail-safe	Reference
No DTC is detected. further testing may be required.	_	_
U1000: CAN COMM CIRCUIT	×	PCS-15
B2098: IGN RELAY ON	×	PCS-16
B2099: IGN RELAY OFF	-	PCS-17
B2108: S/L RELAY ON*	-	<u>SEC-98</u>
B2109: S/L RELAY OFF*	-	<u>SEC-99</u>
B210A: S/L STATE SW*	-	<u>SEC-100</u>
B210B: START CONT RLY ON	-	<u>SEC-104</u>
B210C: START CONT RLY OFF	-	<u>SEC-105</u>
B210D: STARTER RELAY ON	-	<u>SEC-106</u>
B210E: STARTER RELAY OFF	-	<u>SEC-107</u>
B210F: INTRLCK/PNP SW ON	-	<u>SEC-109</u>
B2110: INTRLCK/PNP SW OFF	-	<u>SEC-111</u>

*: For models without steering lock unit, this DTC is not applied.

INFOID:000000006893683

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS > SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

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CAUTION:

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

Sym	ptom	Possible cause	Inspection item
Headlamp (HI) is not turned ON.	One side	 Fuse Halogen bulb (HI) Harness between IPDM E/R and the headlamp high Daytime running light relay (with daytime running light system) IPDM E/R 	Headlamp (HI) circuit Refer to <u>EXL-254</u> .
	Both sides	Symptom diagnosis	
Headlamp (HI) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (HI) A Refer to <u>EXL-368</u> .	RE NOT TURNED ON"
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_
High beam indicator lamp [The headlamp (HI) is turr		Combination meter	 Combination meter Data monitor "HI-BEAM IND" BCM (HEAD LAMP) Active test "HEADLAMP"
Headlamp (LO) is not turned ON.	One side	 Fuse Halogen bulb (LO) Harness between IPDM E/R and the headlamp low IPDM E/R 	Headlamp (LO) circuit Refer to <u>EXL-256</u> .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-369</u> .	
Headlamp (LO) is not	When ignition switch is turned ON.		
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_
Headlamp is not turned O	N/OFF with the lighting	 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-83</u> .
switch AUTO.		 Optical sensor Harness between the optical sensor and BCM BCM 	Optical sensor Refer to <u>EXL-264</u> .
Front fog lamp is not turned ON.	One side	 Front fog lamp bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R 	Front fog lamp circuit Refer to <u>EXL-258</u> .
	Both side	Symptom diagnosis	
Front fog lamp is not turned ON.		"BOTH SIDE FRONT FOG LAMPS Refer to <u>EXL-371</u> .	S ARE 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 	Parking lamp circuit Refer to <u>EXL-260</u> .

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[HALOGEN TYPE]

Symp	tom	Possible cause	Inspection item
Tail lamp is not turned ON.		 Harness between IPDM E/R and the rear combination lamp Rear combination lamp 	Tail lamp circuit Refer to <u>EXL-269</u> .
License plate lamp is not to	License plate lamp is not turned ON.		License plate lamp circuit Refer to <u>EXL-271</u> .
Tail lamp and the license plate lamp are not turned ON.		 Fuse Harness between IPDM E/R and the rear combination lamp IPDM E/R 	Tail lamp circuit Refer to <u>EXL-269</u> .
 Parking lamp, the tail lamp and the license plate lamp are not turned ON. Parking lamp, the tail lamp and the license plate lamp are not turned OFF. (Each illumination is turned ON/OFF.) 		Symptom diagnosis "PARKING, LICENSE PLATE AND ON" Refer to <u>EXL-370</u> .	TAIL LAMPS ARE NOT TURNED
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (The applicable side performs the high flash- er activation.)	 Harness between BCM and each turn signal lamp Turn signal lamp bulb 	Turn signal lamp circuit Refer to <u>EXL-262</u> .
Diink.	Indicator lamp is includ- ed	 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-83</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 <u>EXL-267</u> .

< SYMPTOM DIAGNOSIS >

NORMAL OPERATING CONDITION

Description

AUTO LIGHT SYSTEM

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

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BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description

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

Diagnosis Procedure

1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to <u>BCS-83, "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

©CONSULT-III DATA MONITOR

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

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

Monitor item	Con	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-86, "Exploded View"</u>.

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

Check the headlamp (HI) circuit. Refer to EXL-254, "Component Function Check".

Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

INFOID:000000006346510

INFOID:00000006346509

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

	\GNOSIS >			[HALOGEN TYPE]
BOTH SIDE	HEADLA	MPS (LO)	ARE NOT TURNED ON	
Description				INFOID:00000006346511
Both side headlan	nps (LO) are i	not turned ON	in any condition.	
Diagnosis Pro	cedure			INFOID:00000006346512
1. СНЕСК СОМВ	SINATION SW	/ITCH		
Check the combin	nation switch.	Refer to BCS-8	83, "Symptom Table".	
Is the combination YES >> GO T		<u>al?</u>		
	-	he malfunction	ing part.	
2.CHECK HEAD	LAMP (LO) R	EQUEST SIG	NAL INPUT	
CONSULT-III D				
2. With operating	g the lighting	DM E/R data mo switch, check t	the monitor status.	
2. With operating Monitor item	g the lighting	DM E/R data mo switch, check t		
2. With operating Monitor item	g the lighting	DM E/R data mo switch, check t	the monitor status.	
2. With operating Monitor item HL LO REQ Li Is the item status I YES >> GO TO NO >> Repla	g the lighting Conc ighting switch normal? O 3. ace BCM. Refe	OM E/R data me switch, check t lition 2ND OFF er to <u>BCS-86, '</u>	the monitor status. Monitor status On	
2. With operating Monitor item HL LO REQ Li Is the item status YES >> GO TO NO >> Repla 3. HEADLAMP (L	g the lighting Conc ighting switch normal? O 3. ace BCM. Ref .O) CIRCUIT	OM E/R data me switch, check t lition 2ND OFF er to <u>BCS-86, '</u> INSPECTION	Monitor status. Monitor status On Off	
2. With operating Monitor item HL LO REQ Li Is the item status YES NO SRepla 3.HEADLAMP (L Check the headlar	g the lighting Conc ighting switch normal? O 3. ace BCM. Ref .O) CIRCUIT mp (LO) circu	OM E/R data me switch, check t lition 2ND OFF er to <u>BCS-86, '</u> INSPECTION it. Refer to <u>EXI</u>	the monitor status. Monitor status On Off	
2. With operating Monitor item HL LO REQ Li Is the item status I YES >> GO TO NO >> Repla 3.HEADLAMP (L Check the headlar Is the headlamp (I YES >> Repla	g the lighting Conc ighting switch normal? O 3. ace BCM. Refu O CIRCUIT mp (LO) circu LO) circuit no ace IPDM E/R	DM E/R data mo switch, check t lition 2ND OFF er to <u>BCS-86, '</u> INSPECTION it. Refer to <u>EXI</u> rmal?	the monitor status. Monitor status On Off "Exploded View". L-256, "Component Function Check"	

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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:000000006346514

INFOID:00000006346513

1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to <u>BCS-83, "Symptom Table"</u>.

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

CONSULT-III DATA MONITOR

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

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

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

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

3.TAIL LAMP CIRCUIT INSPECTION

Check the tail lamp circuit. Refer to EXL-269. "Component Function Check".

Is the tail lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON Description The front fog lamps are not turned ON in any condition. Diagnosis Procedure			UNIF	UG LAMPS ARE NU	[HALOGEN TYPE]
The front fog lamps are not turned ON in any condition. Diagnosis Procedure $\begin{array}{c} \text{I.cOMBINATION SWITCH INSPECTION} \\ \hline \\ \text{Check the combination switch. Refer to BCS-83, "Symptom Table".} \\ \hline \\ \text{Is the combination switch normal?} \\ \hline \\ \text{YES} & > \text{GOTO 2.} \\ \text{NO} & >> \text{Repair or replace the malfunctioning part.} \\ \hline \\ \text{2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT} \\ \hline \\ \hline \\ \text{CONSULT-III DATA MONITOR} \\ 1. \text{ Select "FR FOG REQ" of IPDM E/R data monitor item.} \\ \hline \\ \text{2. With operating the front fog lamp switch, check the monitor status.} \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \text{Refore REQ} \hline \\ \hline \\ \text{Front fog lamp switch 2ND) \hline \\ \hline \\ \hline \\ \text{OFF} \hline \\ \\ \hline \\ \text{Sthe item status normal?} \\ \hline \\ \hline \\ \text{YES} >> \text{GOTO 3.} \\ \text{NO} >> \text{Replace BCM.} \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \text{Check the front fog lamp circuit. Refer to EXL-258. "Component Function Check".} \\ \hline \\ \hline \\ \text{Is the front fog lamp circuit normal?} \\ \hline \\ \hline \\ \text{YES} >> \text{Replace IPDM E/R.} \\ \hline \end{array}$			LAM	PS ARE NOT TUR	
The front fog lamps are not turned ON in any condition. Diagnosis Procedure 1.COMBINATION SWITCH INSPECTION Check the combination switch. Refer to BCS-83, "Symptom Table". Is the combination switch normal? YES \Rightarrow GO TO 2. NO \Rightarrow Repair or replace the malfunctioning part. 2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT [®] CONSULT-III DATA MONITOR 1. Select "FR FOG REQ" of IPDM E/R data monitor item. 2. With operating the front fog lamp switch, check the monitor status. No interview in the interview of the interview in the interview of the i	Description				INFOID:00000006346515
Diagnosis Procedure Image: Noncommercial Structure 1.comBINATION SWITCH INSPECTION Check the combination switch. Refer to BCS-83, "Symptom Table". Is the combination switch normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT CONSULT-III DATA MONITOR 1. Select "FR FOG REQ" of IPDM E/R data monitor item. 2. With operating the front fog lamp switch, check the monitor status. Monitor item Condition Monitor status FR FOG REQ Front fog lamp switch ON On OI 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-258. "Component Function Check". Is the front fog lamp circuit normal? YES >> Replace IPDM E/R.	•	mps are not turned OI	N in anv	condition.	
1.COMBINATION SWITCH INSPECTION Check the combination switch. Refer to BCS-83, "Symptom Table". Is the combination switch normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT CONSULT-III DATA MONITOR 1. Select "FR FOG REQ" of IPDM E/R data monitor item. 2. With operating the front fog lamp switch, check the monitor status. Monitor item Condition FR FOG REQ Front fog lamp 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-258. "Component Function Check". Is the front fog lamp circuit normal? YES >> Replace IPDM E/R.	•		,,		INFOID:00000006346516
Check the combination switch. Refer to BCS-83, "Symptom Table". Is the combination switch normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT \bigcirc CONSULT-III DATA MONITOR 1. Select "FR FOG REQ" of IPDM E/R data monitor item. 2. With operating the front fog lamp switch, check the monitor status. $\boxed{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-258, "Component Function Check". Is the front fog lamp circuit normal? YES >> Replace IPDM E/R. $					
$\label{eq:stepson} \begin{array}{llllllllllllllllllllllllllllllllllll$				33 "Symptom Table"	
NO >> Repair or replace the malfunctioning part. 2. CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT CONSULT-III DATA MONITOR 1. Select "FR FOG REQ" of IPDM E/R data monitor item. 2. With operating the front fog lamp switch, check the monitor status. $\frac{Monitor item Condition Monitor status}{FR FOG REQ Front fog lamp switch 2ND} On On (Lighting switch 2ND) OFF Off$ 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-258. "Component Function Check". Is the front fog lamp circuit normal? YES >> Replace IPDM E/R.				<u>, oyniptom tablo</u> .	
2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT					
	^			•	
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 item Condition FR FOG REQ Front fog lamp switch (Lighting switch 2ND) ON 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-258. "Component Function Check". Is the front fog lamp circuit normal? YES >> Replace IPDM E/R.	Z.CHECK FR	ONT FOG LAMP REQ	UEST S	GNAL INPUT	
$\begin{array}{ c c c c c }\hline FR \ FOG \ REQ & Front \ fog \ lamp \ switch \ (Lighting \ switch \ 2ND) & OFF & Off \\\hline \hline Is the item \ status \ normal? \\ YES \ >> \ GO \ TO \ 3. \\ NO \ >> \ Replace \ BCM. \\\hline \textbf{3.FRONT FOG \ LAMP \ CIRCUIT \ INSPECTION \\\hline \hline Check \ the \ front \ fog \ lamp \ circuit \ normal? \\\hline Check \ the \ front \ fog \ lamp \ circuit \ normal? \\\hline \textbf{Sthe front \ fog \ lamp \ circuit \ normal? \\\hline YES \ >> \ Replace \ IPDM \ E/R. \\\hline \end{array}$	1. Select "FR	FOG REQ" of IPDM E			
FR FOG REQ Homogramp switch (Lighting switch 2ND) OFF Off Is the item status normal? YES >> GO TO 3. YES >> GO TO 3. NO >> Replace BCM. 3.FRONT FOG LAMP CIRCUIT INSPECTION Check the front fog lamp circuit. Refer to EXL-258. "Component Function Check". Is the front fog lamp circuit normal? YES >> Replace IPDM E/R.	Monitor item	Condition		Monitor status	
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-258. "Component Function Check". Is the front fog lamp circuit normal? YES >> Replace IPDM E/R.	FR FOG REQ		ON	On	
YES >> GO TO 3. NO >> Replace BCM. 3.FRONT FOG LAMP CIRCUIT INSPECTION Check the front fog lamp circuit. Refer to EXL-258. "Component Function Check". Is the front fog lamp circuit normal? YES >> Replace IPDM E/R.			OFF	Off	
NO >> Replace BCM. 3. FRONT FOG LAMP CIRCUIT INSPECTION Check the front fog lamp circuit. Refer to EXL-258, "Component Function Check". Is the front fog lamp circuit normal? YES >> Replace IPDM E/R.					
3.FRONT FOG LAMP CIRCUIT INSPECTION Check the front fog lamp circuit. Refer to <u>EXL-258</u> . "Component Function Check". Is the front fog lamp circuit normal? YES >> Replace IPDM E/R.					
Check the front fog lamp circuit. Refer to <u>EXL-258</u> , "Component Function Check". <u>Is the front fog lamp circuit normal?</u> YES >> Replace IPDM E/R.	•	•	PECTIO	N	
<u>Is the front fog lamp circuit normal?</u> YES >> Replace IPDM E/R.					Check".
		•			
NO >> Repair or replace the malfunctioning part.					
	NO >> Re	pair or replace the ma	lfunction	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.

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< PERIODIC MAINTENANCE > PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

Description

PREPARATION BEFORE ADJUSTING

NOTE:

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

Before performing aiming adjustment, check the following.

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

NOTE:

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

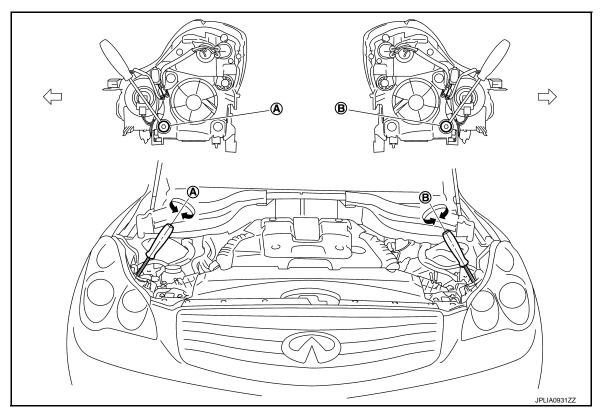
• Wipe out dirt on the headlamp.

CAUTION:

Never use organic solvent (thinner, gasoline etc.)

• Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



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

C: Vehicle center

NOTE:

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

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN TYPE]

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

Aiming Adjustment Procedure

INFOID:000000006346519

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

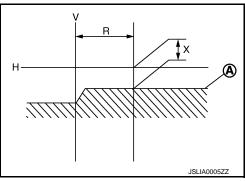
Shut off the headlamp light with the board to prevent from illuminating the adjustment screen. **CAUTION:**

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

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

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

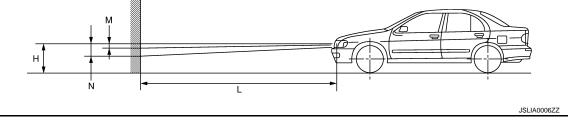
Low beam distribution on the screen



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

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





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

FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >
FRONT FOG LAMP AIMING ADJUSTMENT

Description

PREPARATION BEFORE ADJUSTING NOTE:

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

Before performing aiming adjustment, check the following.

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

NOTE:

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

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

AIMING ADJUSTMENT SCREW

• Turn the aiming adjusting screw for adjustment.

A: UP

B: DOWN

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

NOTE:

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

Aiming Adjustment Procedure

1. Place the screen.

NOTE:

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

NOTE:

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

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

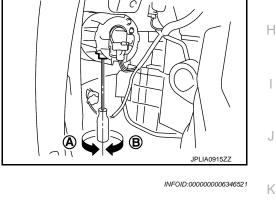
4. Adjust the cutoff line height (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 200 mm (7.87 in).

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[HALOGEN TYPE]

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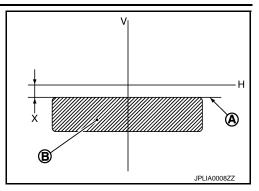
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FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

Front fog lamp light distribution on the screen

[HALOGEN TYPE]



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

< REMOVAL AND INSTALLATION >

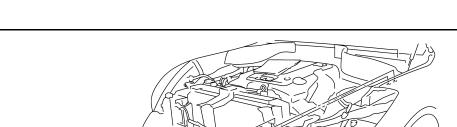
REMOVAL AND INSTALLATION FRONT COMBINATION LAMP

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Exploded View

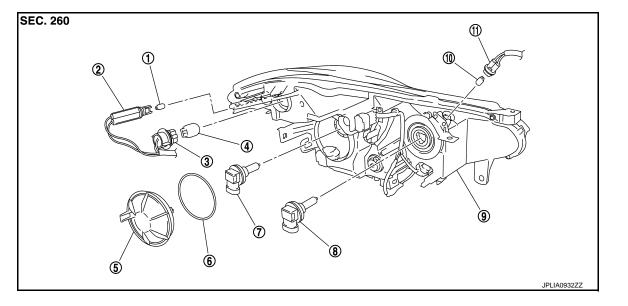
SEC. 260

REMOVAL



1. Front combination lamp

DISASSEMBLY



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

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

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[HALOGEN TYPE]

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Revision: 2011 October

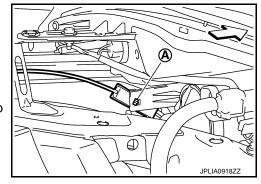
FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

Disconnect the battery negative terminal or remove the fuse.

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

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



INSTALLATION

Install in the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to EXL-373, "Description".

Replacement

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CAUTION:

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

HEADLAMP BULB (LO)

- 1. Remove the fender rubber protector in the engine room. Keep a service area.
- 2. Rotate the resin cap counterclockwise and unlock it.
- 3. Disconnect the headlamp (LO) bulb connector.
- 4. Rotate the bulb counterclockwise and unlock it.
- 5. Remove the bulb from the headlamp housing assembly.

HEADLAMP BULB (HI)

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

PARKING LAMP BULB

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

FRONT TURN SIGNAL LAMP BULB

- 1. Remove the fender rubber protector in the engine room. Keep a service area.
- 2. Rotate the bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the bulb socket.

FRONT SIDE MARKER LAMP BULB

- 1. Remove the fender rubber protector in the engine room. Keep a service area.
- 2. Rotate the bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the bulb socket.

FRONT COMBINATION LAMP

< R	EMOVAL AND INSTALLATION >	[HALOGEN TYPE]
Dis	assembly and Assembly	INFOID:00000006346525
DIS	ASSEMBLY	
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.

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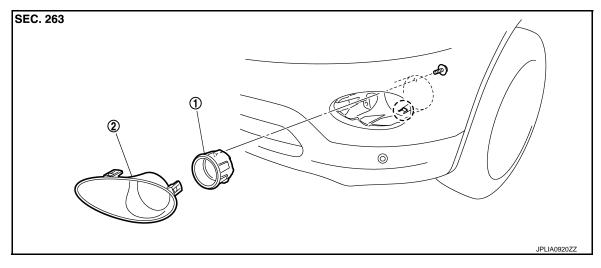
FRONT FOG LAMP

< REMOVAL AND INSTALLATION >

FRONT FOG LAMP

Exploded View

INFOID:000000006346526



1. Front fog lamp

2. Front fog lamp finisher

(`) : Pawl

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

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

INSTALLATION

Installation is the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to EXL-375. "Description"

Replacement

CAUTION:

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

FRONT FOG LAMP BULB

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

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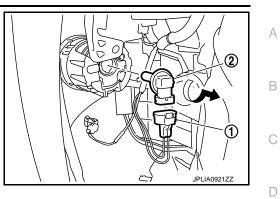
FRONT FOG LAMP

< REMOVAL AND INSTALLATION >

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

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

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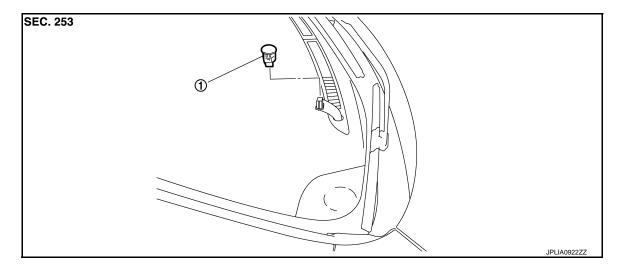
OPTICAL SENSOR

< REMOVAL AND INSTALLATION >

OPTICAL SENSOR

Exploded View

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1. Optical sensor

Removal and Installation

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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. BCS-87, "Exploded View".

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HAZARD SWITCH

Exploded View

The hazard warning switch is integrated in the multifunction switch. Refer to AV-133, "Exploded View".

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REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

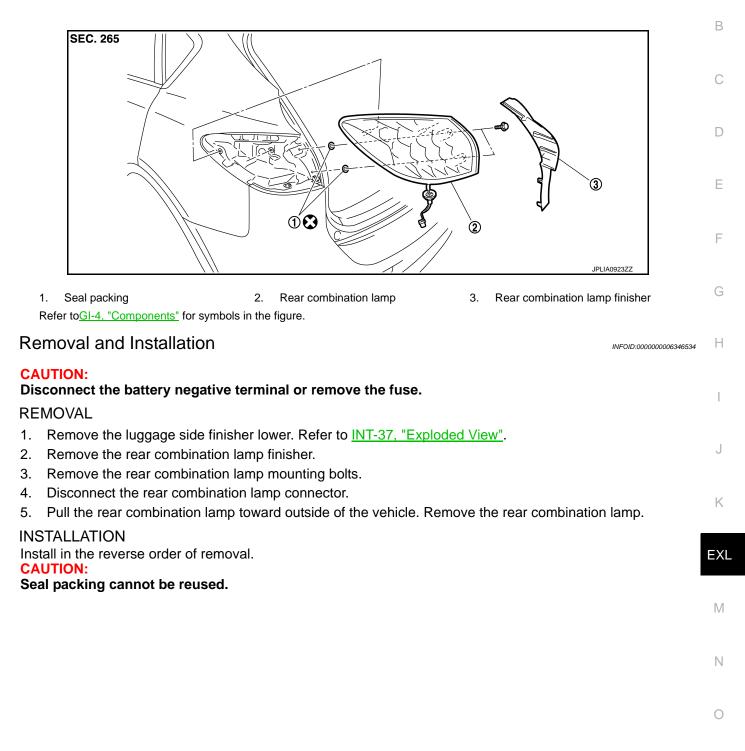
REAR COMBINATION LAMP

[HALOGEN TYPE]

Exploded View

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REAR TURN SIGNAL LAMP

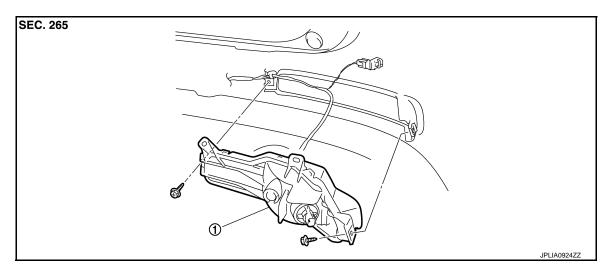
< REMOVAL AND INSTALLATION >

REAR TURN SIGNAL LAMP

Exploded View

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[HALOGEN TYPE]



1. Rear turn signal lamp

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

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

INSTALLATION

Install in the reverse order of removal.

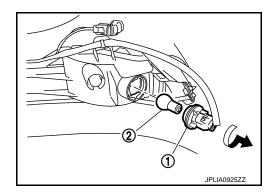
Replacement

CAUTION:

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

REAR TURN SIGNAL LAMP BULB

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



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HIGH-MOUNTED STOP LAMP

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HIGH-MOUNTED STOP LAMP

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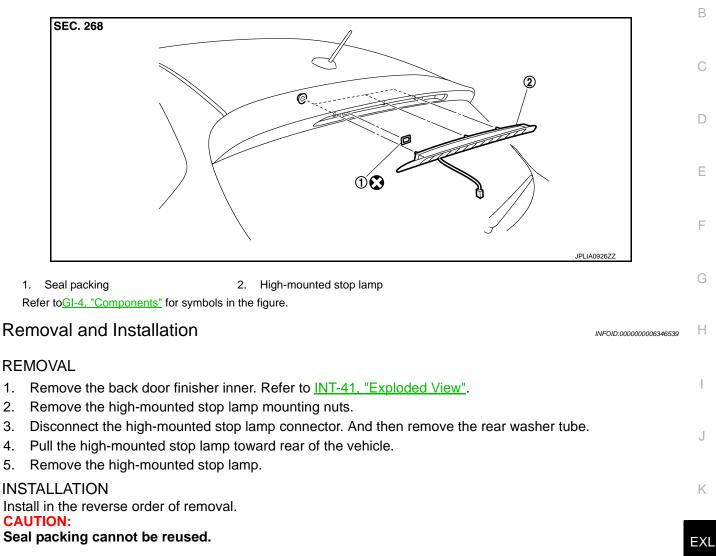
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Revision: 2011 October

< REMOVAL AND INSTALLATION >

BACK-UP LAMP

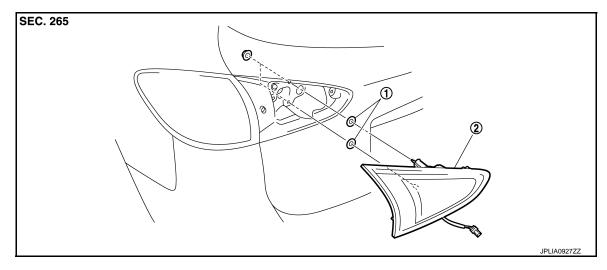
Exploded View

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[HALOGEN TYPE]



1. Seal packing

2. Back-up lamp

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the back door finisher inner. Refer to INT-41, "Exploded View".
- 2. Remove the back-up lamp mounting nuts.
- 3. Disconnect the back-up lamp connector. And then remove the back-up lamp.

INSTALLATION

Install in the reverse order of removal.

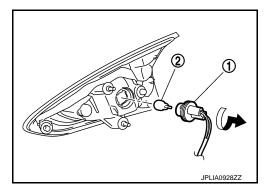
Replacement

CAUTION:

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

BACK-UP LAMP BULB

- 1. Remove the back-up lamp. Refer to EXL-388, "Exploded View".
- 2. Turn the bulb socket (1) counterclockwise and unlock it.
- 3. Remove the bulb (2) from the socket.



< REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

Exploded View

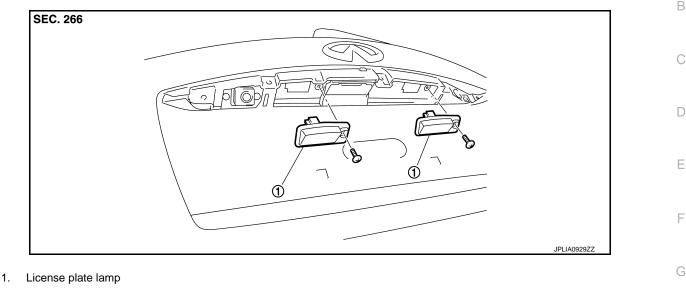
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[HALOGEN TYPE]



Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

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

INSTALLATION

Install in the reverse order of removal.

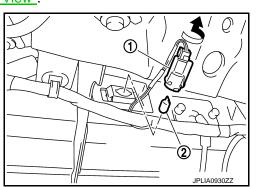
Replacement

CAUTION:

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

LICENSE PLATE LAMP BULB

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



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< SERVICE DATA AND SPECIFICATIONS (SDS)

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Bulb Specifications

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[HALOGEN TYPE]

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	_