

D

# **CONTENTS**

XENON TYPE	System Diagram		
	System Description		
BASIC INSPECTION5	Component Parts Location		
DIAGNOSIS AND REPAIR WORKFLOW 5	Component Description	20	
Work Flow5	FRONT FOG LAMP SYSTEM	22	
VVOIR FIOW	System Diagram		
INSPECTION AND ADJUSTMENT7	System Description		H
	Component Parts Location		
ADDITIONAL SERVICE WHEN REPLACING	Component Description		
CONTROL UNIT7	Component Description	25	
ADDITIONAL SERVICE WHEN REPLACING	TURN SIGNAL AND HAZARD WARNING		- 1
CONTROL UNIT : Description7	LAMP SYSTEM	25	
ADDITIONAL SERVICE WHEN REPLACING	System Diagram		
CONTROL UNIT : Special Repair Requirement7	System Description		·
LEVELIZER ADJUSTMENT7	Component Parts Location		
LEVELIZER ADJUSTMENT : Description	Component Description		
LEVELIZER ADJUSTMENT : Special Repair Re-	·		k
quirement7	PARKING, LICENSE PLATE AND TAIL		
·	LAMPS SYSTEM		
SYSTEM DESCRIPTION8	System Diagram		E
HEAD! AND OVOTEN	System Description		
HEADLAMP SYSTEM8	Component Parts Location		
System Diagram8	Component Description	29	N
System Description8	EXTERIOR LAMP BATTERY SAVER SYS-		1 V
Component Parts Location10	TEM	20	
Component Description10	System Diagram		
AUTO LIGHT SYSTEM12	System Diagram System Description		
System Diagram12	Component Parts Location		
System Description	Component Description		
Component Parts Location13	Component Description		C
Component Description14	DIAGNOSIS SYSTEM (BCM)	32	
	COMMONITEM		
DAYTIME RUNNING LIGHT SYSTEM15	COMMON ITEM : CONSULT-III Function (BCM -	32	F
System Diagram15	,	20	
System Description15	COMMON ITEM)	32	
Component Parts Location16	HEADLAMP	33	
Component Description16	HEADLAMP : CONSULT-III Function (BCM -		
ACTIVE ADAPTIVE FRONT-LIGHTING SYS-	HEAD LAMP)	33	
TO HAT WALL HAT I WORK - FIGHTING 212.	,	-	

FLASHER	. 35	DTC Logic	62
FLASHER: CONSULT-III Function (BCM -		Diagnosis Procedure	
FLASHER)	. 35	POWER SUPPLY AND GROUND CIRCUIT	63
DIAGNOSIS SYSTEM (IPDM E/R)	. 37		
Diagnosis Description		BCM (BODY CONTROL MODULE)	63
CONSULT-III Function (IPDM E/R)		BCM (BODY CONTROL MODULE) : Diagnosis Procedure	63
DIAGNOSIS SYSTEM (AFS)	. 42	IDDU E/D (INTELLIGENT DOWED DIOTDIDI	
CONSULT-III Function (ADAPTIVE LIGHT)		IPDM E/R (INTELLIGENT POWER DISTRIBU- TION MODULE ENGINE ROOM)	63
DTC/CIRCUIT DIAGNOSIS	. 44	IPDM E/R (INTELLIGENT POWER DISTRIBU- TION MODULE ENGINE ROOM): Diagnosis Pro-	
B2503, B2504 SWIVEL ACTUATOR	. 44	cedure	63
Description		AFS CONTROL UNIT	64
DTC Logic		AFS CONTROL UNIT : Diagnosis Procedure	
Diagnosis Procedure		Al 3 CONTROL ONT . Diagnosis i locedule	04
Component Inspection	. 48	EXTERIOR LAMP FUSE	. 66
B2514 HEIGHT SENSOR UNUSUAL [RR]	50	Description	66
Description		Diagnosis Procedure	66
DTC Logic		LIEADI AMD (III) OIDOLIIT	
Diagnosis Procedure		HEADLAMP (HI) CIRCUIT	
Component Inspection		Description	
·		Component Function Check	
B2516 SHIFT SIGNAL [P, R]		Diagnosis Procedure	67
Description		HEADLAMP (LO) CIRCUIT	70
DTC Logic		Description	
Diagnosis Procedure	. 53	Component Function Check	
B2517 VEHICLE SPEED SIGNAL	E 4	Diagnosis Procedure	
Description		•	
DTC Logic		XENON HEADLAMP	
Diagnosis Procedure		Description	
Diagnosis i locedure	. 54	Diagnosis Procedure	72
B2519 LEVELIZER CALIBRATION	. 55	HEADLAMP LEVELIZER CIRCUIT	74
Description	. 55	Description	
DTC Logic	. 55	Component Function Check	
Diagnosis Procedure	. 55	Diagnosis Procedure	
DOCOA FOLLOIDOUIT		Diagnosis i roccadio	/ ¬
B2521 ECU CIRCUIT		FRONT FOG LAMP CIRCUIT	76
Description		Component Function Check	76
DTC Logic		Diagnosis Procedure	76
Diagnosis Procedure	. 56	DADIZING LAMB CIDCUIT	
C0126 STEERING ANGLE SENSOR SIGNAL.	. 59	PARKING LAMP CIRCUIT	
Description	. 59	Component Function Check	
DTC Logic		Diagnosis Procedure	78
Diagnosis Procedure	. 59	TURN SIGNAL LAMP CIRCUIT	80
		Description	
C0428 STEERING ANGLE SENSOR CALI-		Component Function Check	
BRATION		Diagnosis Procedure	
Description			
DTC Logic		OPTICAL SENSOR	
Diagnosis Procedure	. 60	Description	
U1000 CAN COMM CIRCUIT	61	Component Function Check	
Description		Diagnosis Procedure	83
DTC Logic		HAZARD SWITCH	20
Diagnosis Procedure		Description	
•		Component Function Check	
U1010 CONTROL UNIT (CAN)	62	Component i unotion oneok	00

Diagnosis Procedure86	Reference Value199
TAIL LAMD CIDCUIT	Wiring Diagram - ACTIVE AFS202
TAIL LAMP CIRCUIT88  Component Function Check88	Fail-Safe212
Diagnosis Procedure88	DTC Inspection Priority Chart212
Diagnosis Flocedule	DTC Index213
LICENSE PLATE LAMP CIRCUIT90	SYMPTOM DIAGNOSIS214
Component Function Check90	
Diagnosis Procedure90	EXTERIOR LIGHTING SYSTEM SYMPTOMS. 214
HEADLAMP SYSTEM91	Symptom Table214
Wiring Diagram - HEADLAMP91	NORMAL OPERATING CONDITION217
	Description217
AUTO LIGHT SYSTEM97	Description217
Wiring Diagram - AUTO LIGHT SYSTEM97	BOTH SIDE HEADLAMPS DO NOT SWITCH
HEADLAMP AIMING CONTROL SYSTEM	TO HIGH BEAM218
	Description218
(MANUAL)	Diagnosis Procedure218
Description105 Wiring Diagram - HEADLAMP AIMING CON-	BOTH SIDE HEADLAMPS (LO) ARE NOT
TROL SYSTEM (MANUAL)105	TURNED ON219
Component Inspection	Description219
·	Diagnosis Procedure219
DAYTIME RUNNING LIGHT SYSTEM109	
Wiring Diagram - DAYTIME LIGHT SYSTEM 109	PARKING, LICENSE PLATE AND TAIL
FRONT FOG LAMP SYSTEM116	LAMPS ARE NOT TURNED ON220
Wiring Diagram - FRONT FOG LAMP116	Description220
	Diagnosis Procedure220
TURN SIGNAL AND HAZARD WARNING	BOTH SIDE FRONT FOG LAMPS ARE NOT
LAMP SYSTEM122	TURNED ON221
Wiring Diagram - TURN AND HAZARD WARN-	Description221
ING LAMPS122	Diagnosis Procedure221
PARKING, LICENSE PLATE AND TAIL	
LAMPS SYSTEM131	PRECAUTION222
Wiring Diagram - PARKING LICENSE PLATE	PRECAUTIONS222
AND TAIL LAMPS 131	Precaution for Supplemental Restraint System
STOP LAMP139	(SRS) "AIR BAG" and "SEAT BELT PRE-TEN-
<b>STOP LAMP139</b> Wiring Diagram - STOP LAMP	SIONER"222
Willing Diagram - STOP LAMP139	Precautions For Xenon Headlamp Service222
BACK-UP LAMP146	PERIODIC MAINTENANCE223
Wiring Diagram - BACK-UP LAMP146	FERIODIC MAINTENANCE223
ECU DIAGNOSIS INFORMATION150	HEADLAMP AIMING ADJUSTMENT223
ECU DIAGNOSIS INFORMATION150	Description223
BCM (BODY CONTROL MODULE)150	Aiming Adjustment Procedure224
Reference Value150	EPONT FOR LAMP AIMING AD HISTMENT 225
Wiring Diagram - BCM174	FRONT FOG LAMP AIMING ADJUSTMENT . 225 Description225
Fail-safe180	Aiming Adjustment Procedure225
DTC Inspection Priority Chart183	All ling Adjustment i Tocedure220
DTC Index183	REMOVAL AND INSTALLATION227
IPDM E/R (INTELLIGENT POWER DISTRI-	FRONT COMPINATION LAMP
BUTION MODULE ENGINE ROOM)186	FRONT COMBINATION LAMP227
Reference Value186	Exploded View227 Removal and Installation228
Wiring Diagram - IPDM E/R193	Replacement228
Fail-safe196	Disassembly and Assembly229
DTC Index198	
AFS CONTROL UNIT199	FRONT FOG LAMP231
ALS CONTROL UNIT199	Exploded View231

Revision: 2009 August EXL-3 2010 FX35/FX50

	ATION LAMP240
	240
	tallation240
Exploded View233	241
Removal and Installation233 HIGH-MOUNTED	O STOP LAMP242
	242
Exploded View234	tallation242
BACK-UP LAMP	243
HEADLAMP AIMING SWITCH 235 Exploded View	243
Exploded View	tallation243
Removal and Installation235 Replacement	243
HAZARD SWITCH 236 LICENSE PLATE	E LAMP245
Exploded View236 Exploded View	245
AFS CONTROL UNIT 237 Removal and Ins	tallation245
Exploded View	245
D 1 11 4 11 4	A AND SPECIFICATIONS
STEERING ANGLE SENSOR 238 (SDS)	246
Removal and Installation238 SERVICE DATA	AND SPECIFICATIONS
HEIGHT SENSOR 239 (SDS)	246
	ns 246
Removal and Installation239	

[XENON TYPE] < BASIC INSPECTION >

# **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORKFLOW

Work Flow INFOID:0000000005244651 В

Α

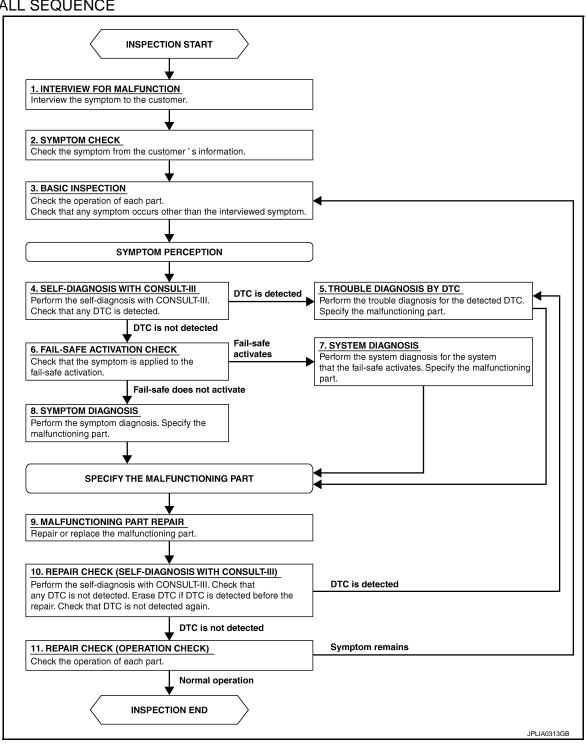
D

K

**EXL** 

Ν

#### **OVERALL SEQUENCE**



### **DETAILED FLOW**

## 1.INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

### **DIAGNOSIS AND REPAIR WORKFLOW**

< BASIC INSPECTION >

[XENON TYPE]

>> GO TO 2.

## 2.SYMPTOM CHECK

Check the symptom from the customer's information.

>> GO TO 3.

## 3.BASIC INSPECTION

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

>> GO TO 4.

### 4. SELF-DIAGNOSIS WITH CONSULT-III

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

#### Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 6.

### 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	
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Description	i52
Perform "LEVELIZER ADJUSTMENT" with CONSULT-III when replacing the height sensor.	
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Re-	
quirement	53
1.LEVELIZER ADJUSTMENT	
Perform "LEVELIZER ADJUSTMENT".	_
>> Refer to EXL-7, "LEVELIZER ADJUSTMENT : Special Repair Requirement". LEVELIZER ADJUSTMENT	
LEVELIZER ADJUSTMENT : Description	i54
Perform "LEVELIZER ADJUSTMENT" when installing, removing, and replacing the height sensor and the sus pension components.	<b>}-</b>
LEVELIZER ADJUSTMENT : Special Repair Requirement	55
1. CHECK VEHICLE CONDITION	
<ol> <li>Park the vehicle in the straight-forward position.</li> <li>Unload the vehicle (no passenger aboard).</li> </ol>	_
>> GO TO 2.	
2.LEVELIZER ADJUSTMENT	
CONSULT-III WORK SUPPORT     Select "LEVELIZER ADJUSTMENT" of ADAPTIVE LIGHT work support item.	_
2. Select "START". 3. When "ADJUSTMENT IS COMPLETED", select "END".	
CAUTION:  If "CAN NOT BE TESTED" is indicated, AFS control unit detects that the height sensor signal changes. The levelizer adjustment is cancelled. In this case, turn the ignition switch OFF to prevent the vehicle from the height change. Perform the levelizer adjustment again.	
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	

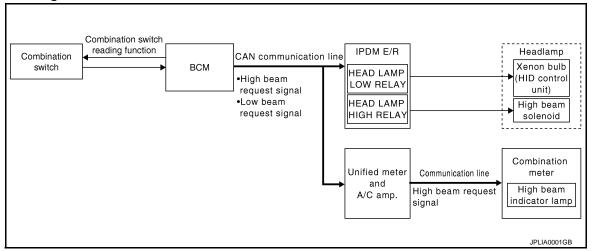
Revision: 2009 August EXL-7 2010 FX35/FX50

# SYSTEM DESCRIPTION

### **HEADLAMP SYSTEM**

### System Diagram

INFOID:0000000005244656



## System Description

INFOID:0000000005244657

#### **OUTLINE**

- Mobile valve shade type is adopted. Xenon headlamp switches the high beam and the low beam with one xenon bulb each on right and left.
- Headlamp is controlled by combination switch reading function and headlamp control function of BCM, and relay control function of IPDM E/R.

#### HEADLAMP BASIC 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 ON condition.

#### Headlamp ON condition

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

#### HEADLAMP HI/LO SWITCHING 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 high beam switching condition.

#### High beam switching condition

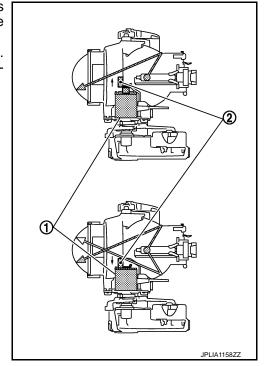
- Lighting switch HI with the headlamp ON
- Lighting switch PASS
- Combination meter turns the high beam indicator lamp ON according to the high beam request signal.
- IPDM E/R turns the integrated headlamp high relay ON, and turns the headlamp ON according to the high beam request signal.

### **HEADLAMP SYSTEM**

### < SYSTEM DESCRIPTION >

[XENON TYPE]

- When the headlamp high relay is turned ON, magnetic force is applied to the high beam solenoid (1) by a current. The mobile valve shade (2) is switched to the high beam position.
- When the headlamp high relay is turned OFF, the current stops.
   The mobile valve shade returns to the low beam position automatically.



Α

В

С

D

Е

F

G

Н

J

Κ

EXL

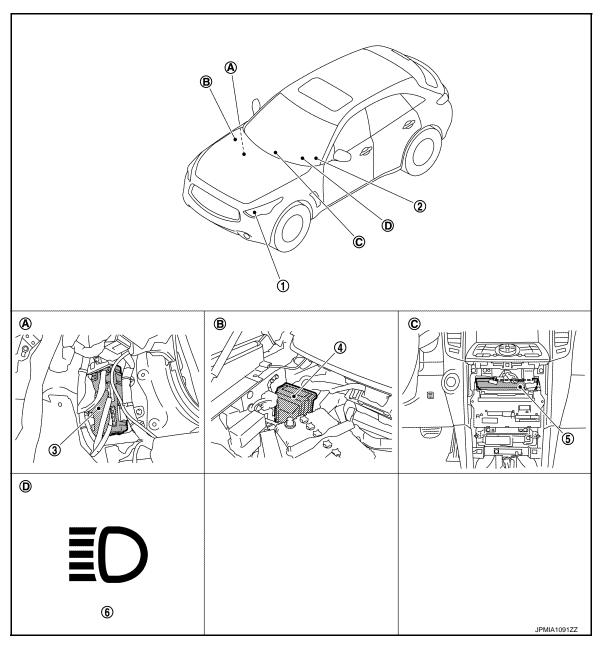
M

Ν

0

# **Component Parts Location**

INFOID:0000000005244658



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

# Component Description

Part	Description
BCM	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges that the headlamp is turned ON according to the vehicle condition.</li> <li>Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication).</li> <li>Requests the high beam indicator lamp ON to the combination meter [with CAN communication (through the unified meter and A/C amp.)].</li> </ul>
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).

## **HEADLAMP SYSTEM**

## < SYSTEM DESCRIPTION >

[XENON TYPE]

	Part	Description	
Combination switch (Lighting & turn sign		Refer to BCS-8, "System Diagram".	
Combination meter (High beam indicate	or lamp)	Turns the high beam indicator lamp ON according to the request from BCM [with CAN communication (through the unified meter and A/C amp.)].	
Headlamp assem-	HID control unit     Xenon bulb	Refer to EXL-72, "Description".	
bly	High beam solenoid	Refer to EXL-67, "Description".	

Α

В

С

D

Е

F

G

Н

J

Κ

EXL

 $\mathbb{N}$ 

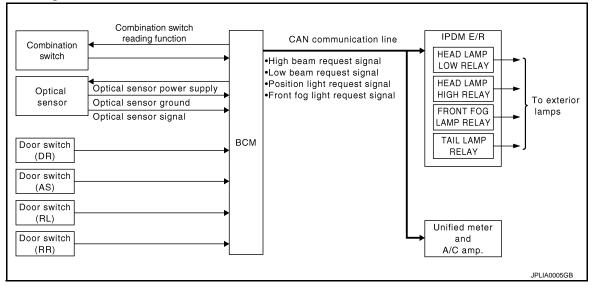
Ν

0

### **AUTO LIGHT SYSTEM**

### System Diagram

INFOID:0000000005244660



# System Description

INFOID:0000000005244661

#### **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, side marker lamp, tail lamp, license plate lamp and front fog lamp (Headlamp HI and front fog lamp depend on the combination switch condition.)

#### AUTO LIGHT FUNCTION

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

#### NOTE:

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

#### **DELAY TIMER FUNCTION**

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

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

- Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF.
- \*: The preset time is 45 seconds. The timer operating time can be set by CONSULT-III. Refer to <u>EXL-33</u>, <u>"HEADLAMP : CONSULT-III Function (BCM HEAD LAMP)"</u>.

#### NOTE:

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

### **Component Parts Location**

INFOID:0000000005244662

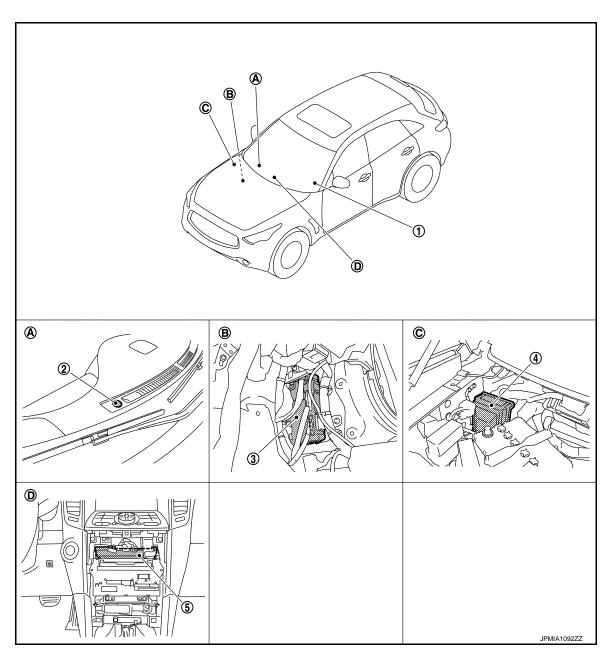
В

D

Е

F

Н



- 1. Combination switch
- 4. IPDM E/R
- A. Instrument upper panel (RH)
- D. Behind 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)

K

EXL

M

Ν

 $\cap$ 

## **AUTO LIGHT SYSTEM**

## < SYSTEM DESCRIPTION >

[XENON TYPE]

# Component Description

Part	Description
ВСМ	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges the outside brightness from the optical sensor signal.</li> <li>Judges the OFF timing according to the vehicle condition.</li> <li>Judges the ON/OFF status of the exterior lamp and each illumination according to the outside brightness and the vehicle condition.</li> <li>Requests ON/OFF of each relay to IPDM E/R (with CAN communication).</li> </ul>
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "System Diagram".
Optical sensor	Refer to EXL-83, "Description".

[XENON TYPE]

Α

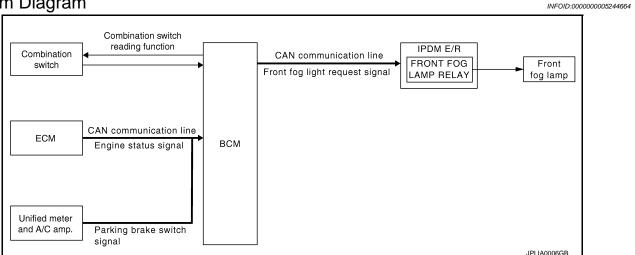
В

D

Н

# DAYTIME RUNNING LIGHT SYSTEM

System Diagram



# System Description

INFOID:0000000005244665

#### **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.

EXL

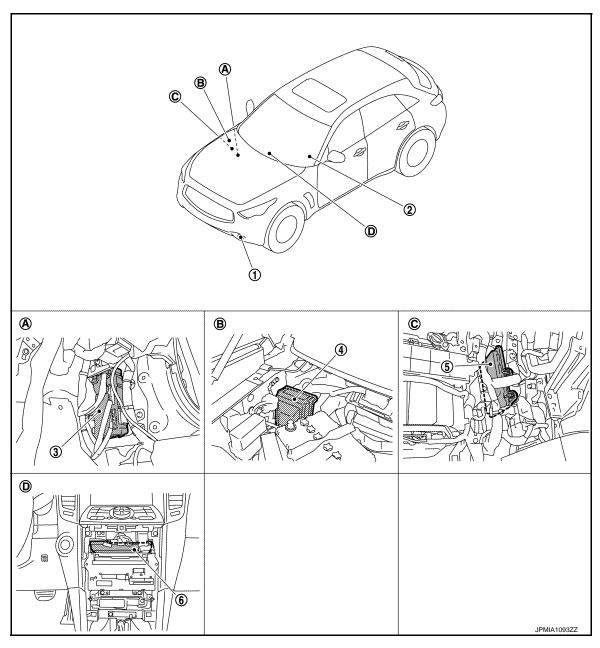
M

K

Ν

# **Component Parts Location**

INFOID:0000000005244666



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

# Component Description

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

## **DAYTIME RUNNING LIGHT SYSTEM**

## < SYSTEM DESCRIPTION >

[XENON TYPE]

Part	Description
Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "System Diagram".
ECM	Transmits the engine condition signal to BCM with CAN communication.
Unified meter and A/C amp.	Transmits the parking brake switch signal to BCM with CAN communication.

А

В

С

D

Е

F

G

Н

1

J

Κ

EXL

 $\mathbb{N}$ 

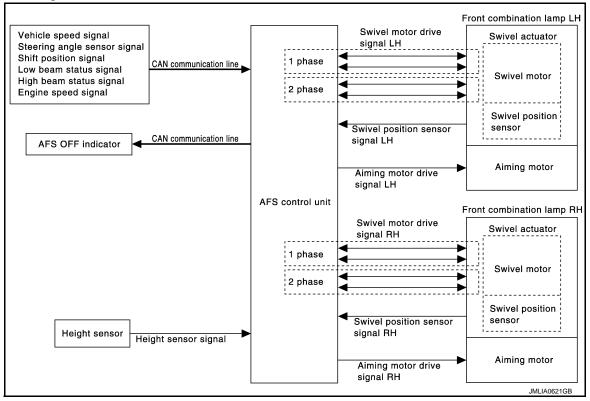
Ν

0

### ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

### System Diagram

INFOID:0000000005244668



## System Description

INFOID:0000000005244669

#### **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.

#### ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

< SYSTEM DESCRIPTION > [XENON TYPE]

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

Swivel Operation

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

NOTE:

The steering angle differs between right turn and left turn.

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

AFS OFF Indicator Lamp

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

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

#### HEADLAMP AUTO AIMING

Headlamp Auto Aiming Control Description

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

Headlamp auto aiming operation condition

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

**Headlamp Auto Aiming Operation** 

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

CAUTION:

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

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

EXL

K

В

D

Н

M

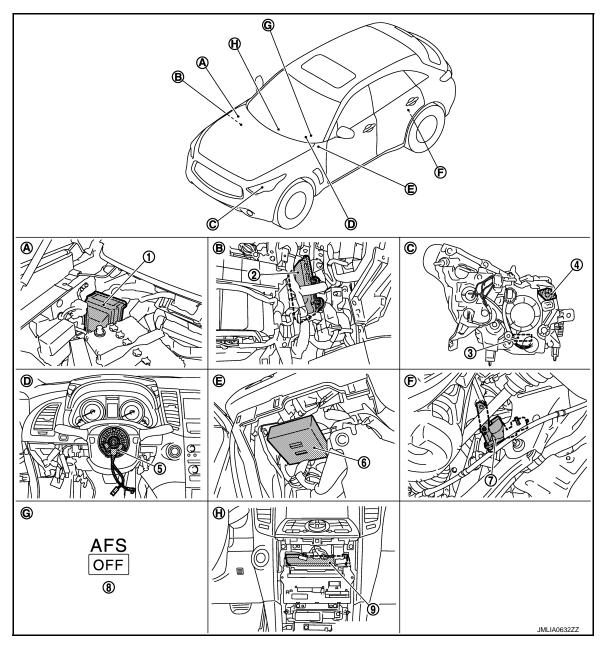
N

 $\cap$ 

Revision: 2009 August EXL-19 2010 FX35/FX50

# **Component Parts Location**

INFOID:0000000005244670



- 1. IPDM E/R
- 4. Aiming motor
- 7. Height sensor
- A. Engine room dash panel (RH)
- D. Steering column cover (inside)
- G. On the combination meter
- 2. ECM
- 5. Steering angle sensor
- 8. AFS OFF indicator lamp
- B. Behind the glove box
- E. Behind the instrument driver lower panel
- H. Behind the cluster lid C

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

# Component Description

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
Aiming motor	Refer to EXL-74, "Description".
Height sensor	Refer to EXL-50, "Description".
Steering angle sensor	Refer to EXL-59, "Description".
IPDM E/R	Transmits the headlamp (LO) ON signal and the headlamp (HI) ON signal to AFS control unit with CAN communication.
ECM	Transmits the engine speed signal to AFS control unit with CAN communication.
TCM	Refer to EXL-53, "Description".
Unified meter and A/C amp.	Refer to EXL-54, "Description".
Combination meter	Turns AFS OFF indicator lamp ON/OFF/blinking according to AFS control unit request [with CAN communication (through the unified meter and A/C amp.)].

Е

Α

В

С

D

F

G

Н

-

J

Κ

EXL

 $\mathbb{N}$ 

Ν

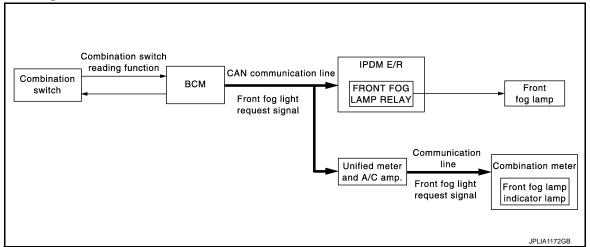
0

[XENON TYPE]

### FRONT FOG LAMP SYSTEM

### System Diagram

INFOID:0000000005244672



## System Description

INFOID:0000000005244673

### **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-15</u>, "System <u>Diagram"</u> for the detail.

#### FRONT FOG LAMP OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the front fog light request signal to IPDM E/R and the combination meter (through the unified meter and A/C amp.) 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.
- Combination meter turns the front fog lamp indicator lamp ON according to the front fog light request signal.

# **Component Parts Location**

INFOID:0000000005244674

Α

В

D

Е

F

Н

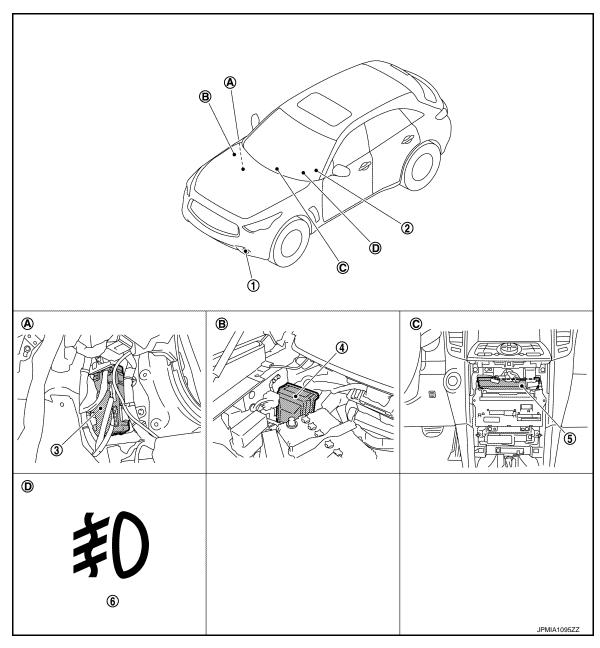
Κ

EXL

Ν

0

Р



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

# Component Description

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

## FRONT FOG LAMP SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

Part	Description	
Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "System Diagram".	
Combination meter (Front fog lamp indicator lamp)	Turns the front fog lamp indicator lamp ON according to the request from BCM [with CAN communication (through the unified meter and A/C amp.)].	

INFOID:0000000005244676

Α

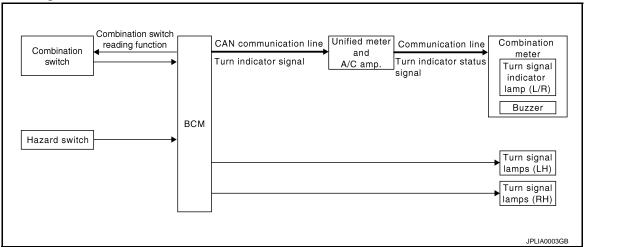
В

D

Н

### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

### System Diagram



## System Description

INFOID:0000000005244677

#### **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 by the terminal current value.
- · BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

#### NOTE:

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

EXL

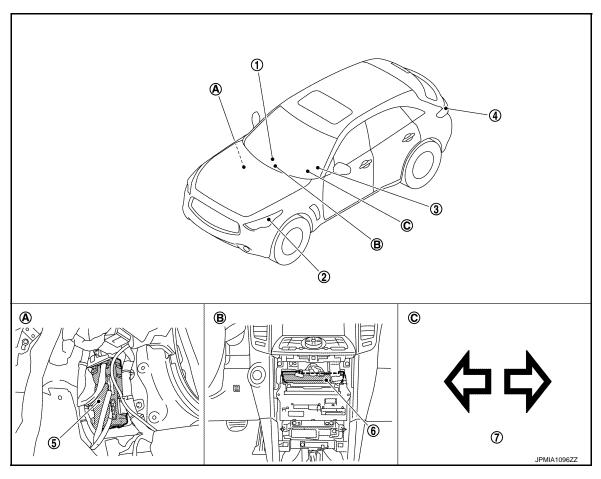
K

M

Ν

# **Component Parts Location**

INFOID:0000000005244678



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

# Component Description

Part	Description		
ВСМ	Detects each switch condition by the combination switch reading function.     Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks.  Requests the turn signal indicator lamp blink to the combination meter (with CAN communication).		
Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "System Diagram".		
Hazard switch (Multifunction switch)	Refer to EXL-86, "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 the unified meter and A/C amp.)].		

### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

Α

В

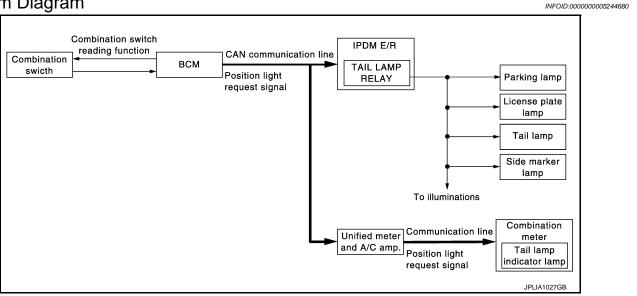
D

F

Н

## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

System Diagram



## System Description

INFOID:0000000005244681

**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
- IPDM E/R turns the integrated tail lamp relay ON and turns the parking lamp, 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.

EXL

K

N

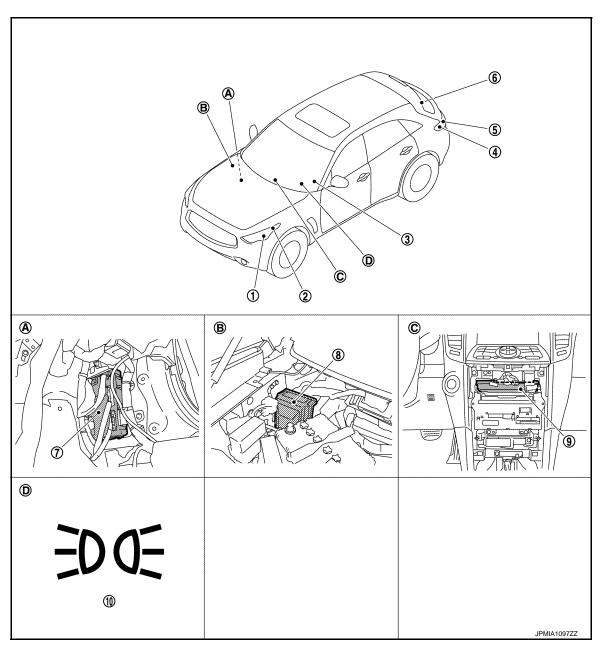
M

0

Р

Revision: 2009 August EXL-27 2010 FX35/FX50

# **Component Parts Location**



- 1. Parking lamp
- 4. Rear side marker lamp
- 7 BCM
- 10. Tail lamp indicator lamp
- A. Dash side lower (passenger side)
- D. On the combination meter
- 2. Front side marker lamp
- 5. Tail lamp
- 8. IPDM E/R
- B. Engine room dash panel (RH)
- 3. Combination switch
- 6. License plate lamp
- 9. Unified meter and A/C amp.
- C. Behind the cluster lid C

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< SYSTEM DESCRIPTION > [XENON TYPE]

# Component Description

INFOID:0000000005244683

Part	Description		
BCM	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges the ON/OFF status of the parking, license plate, side marker and tail lamps according to the vehicle condition. Requests the tail lamp relay ON to IPDM E/R (with CAN communication).</li> </ul>		
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).		
Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "System Diagram".		
Combination meter (Tail lamp indicator lamp)	Turn the tail lamp indicator lamp ON according to the request from BCM [with CAN communication (through the unified meter and A/C amp.)].		

F

Α

В

С

D

Е

G

Н

J

Κ

EXL

 $\mathbb{N}$ 

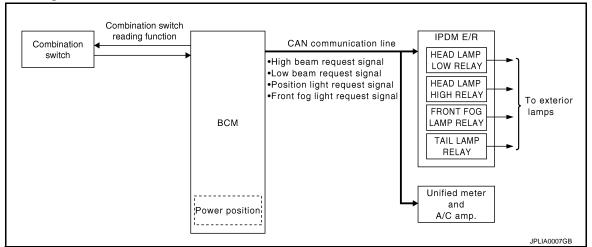
Ν

0

### EXTERIOR LAMP BATTERY SAVER SYSTEM

### System Diagram

INFOID:0000000005244684



# System Description

INFOID:0000000005244685

#### **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-12</u>, "System Diagram".

### **EXTERIOR LAMP BATTERY SAVER ACTIVATION**

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

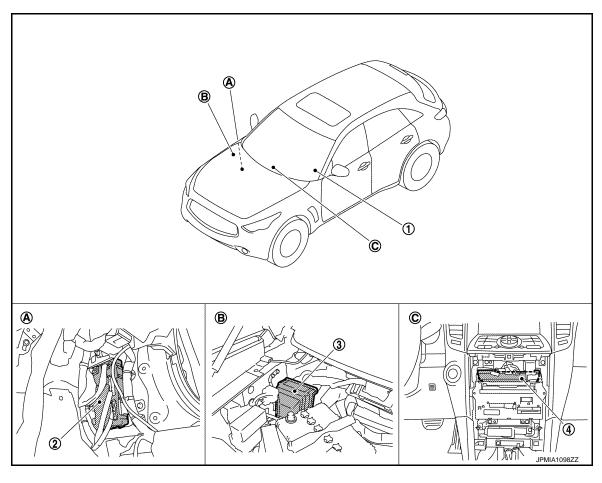
#### NOTE:

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

## [XENON TYPE]

# **Component Parts Location**

INFOID:0000000005244686



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

# Component Description

INFOID:0000000005244687

Part	Description
BCM	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges the exterior lamp OFF according to the vehicle condition. Requests each relay OFF to IPDM E/R (with CAN communication).</li> </ul>
IPDM E/R	Controls the integrated relay according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "System Diagram".

Ρ

Revision: 2009 August EXL-31 2010 FX35/FX50

В

Α

C

D

Е

F

G

Н

J

Κ

EXL

M

Ν

0

[XENON TYPE]

# DIAGNOSIS SYSTEM (BCM)

**COMMON ITEM** 

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

INFOID:0000000005619771

#### APPLICATION ITEM

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

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

#### SYSTEM APPLICATION

BCM can perform the following functions for each system.

#### NOTE:

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

×: Applicable item

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

#### NOTE:

#### FREEZE FRAME DATA (FFD)

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

<sup>\*:</sup> This item is displayed, but is not used.

# **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

[XENON TYPE]

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

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

INFOID:0000000005244689

Ρ

# WORK SUPPORT

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

Service item	Setting item	Setting		
	MODE 1*	45 sec.		
ILL DELAY SET	MODE 2	Without the function		
	MODE 3	30 sec.		
	MODE 4	60 sec.	Sets delay timer function timer operation time. (All doors closed)	
	MODE 5	90 sec.	(All doors closed)	
	MODE 6	120 sec.		
	MODE 7	150 sec.		
	MODE 8	180 sec.		

<sup>\*:</sup> Factory 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]			
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)		
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)		
DOOR SW-RR [On/Off]	The switch status input from rear door switch RH		
DOOR SW- RL [On/Off]	The switch status input from rear door switch LH		

## **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

[XENON TYPE]

Α

В

D

Е

F

Monitor item [Unit]	Description
DOOR SW-BK [On/Off]	NOTE: The item is indicated, but not monitored.
OPTICAL SENSOR [V]	The value of exterior brightness voltage input from the optical sensor

### **ACTIVE TEST**

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

# FLASHER

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

### **WORK SUPPORT**

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

<sup>\*:</sup> Factory setting

### DATA MONITOR

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

EXL

INFOID:0000000005244690

IVI

Ν

0

# **DIAGNOSIS SYSTEM (BCM)**

## < SYSTEM DESCRIPTION >

[XENON TYPE]

Monitor item [Unit]	Description	
TURN SIGNAL R [On/Off]	Each switch condition that BCM judges from the combination switch reading function	
TURN SIGNAL L [On/Off]		
HAZARD SW [On/Off]	The switch status input from the hazard switch	
RKE-LOCK [On/Off]	Lock signal status received from the remote keyless entry receiver	
RKE-UNLOCK [On/Off]	Unlock signal status received from the remote keyless entry receiver	
RKE-PANIC [On/Off]	Panic alarm signal status received from the remote keyless entry receiver	

## **ACTIVE TEST**

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

# DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[XENON TYPE]

# DIAGNOSIS SYSTEM (IPDM E/R)

## Diagnosis Description

INFOID:0000000005619772

Α

В

D

Е

F

#### **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 marker lamps
- Tail lamps
- Front fog lamps
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan (cooling fan control module)

#### Operation Procedure

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

#### NOTE:

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

- 2. Turn the ignition switch OFF.
- 3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 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
- The oil pressure warning lamp starts blinking when the auto active test starts.
- 6. After a series of the following operations is repeated 3 times, auto active test is completed.

#### NOTE:

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

- If auto active test mode cannot be actuated, check door switch system. Refer to DLK-69, "Component Function Check".
- Do not start the engine.

Inspection in Auto Active Test Mode

When auto active test mode is actuated, the following 5 steps are repeated 3 times.

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

<sup>\*:</sup> Outputs duty ratio of 50% for 5 seconds → duty ratio of 100% for 5 seconds on the cooling fan control module.

EXL

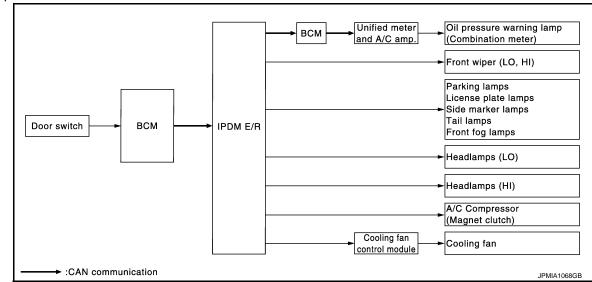
K

N

Р

**EXL-37** 2010 FX35/FX50 Revision: 2009 August

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
<ul> <li>Parking lamps</li> <li>License plate lamps</li> <li>Side marker lamps</li> <li>Tail lamps</li> <li>Front fog lamps</li> <li>Headlamp (HI, LO)</li> <li>Front wiper</li> </ul>	Perform auto active test. Does the applicable system operate?	NO	Lamp or motor Lamp or motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R
A/C compressor does not operate	Perform auto active test. Does the magnet clutch operate?	YES	<ul> <li>Unified meter and A/C amp. signal input circuit</li> <li>CAN communication signal between unified meter and A/C amp. and ECM</li> <li>CAN communication signal between ECM and IPDM E/R</li> </ul>
		NO	Magnet clutch     Harness or connector between IPDM E/R and magnet clutch     IPDM E/R
	Perform auto active test. Does the oil pressure warning lamp blink?	YES	Harness or connector between IPDM E/R and oil pressure switch     Oil pressure switch     IPDM E/R
Oil pressure warning lamp does not operate		NO	CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and unified meter and A/C amp. Combination meter

# **DIAGNOSIS SYSTEM (IPDM E/R)**

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

# CONSULT-III Function (IPDM E/R)

INFOID:0000000005619773

#### **APPLICATION ITEM**

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

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

#### SELF DIAGNOSTIC RESULT

Refer to EXL-198, "DTC Index".

#### **DATA MONITOR**

Monitor item

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

Revision: 2009 August EXL-39 2010 FX35/FX50

F

Α

В

D

Е

G

Н

ī

Κ

EXL

 $\mathbb{N}$ 

Ν

 $\circ$ 

Ρ

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 /INHI/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW [Off/On]		Displays the status of the A/T shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay request received from BCM via CAN communication.
S/L STATE [LOCK/UNLOCK/UNKWN]		Displays the status of the steering lock judged by IPDM E/R.
DTRL REQ [Off]		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]		NOTE: The item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN communication.
CRNRNG LMP REQ [Off]		NOTE: The item is indicated, but not monitored.

# **ACTIVE TEST**

Test item

Test item	Operation	Description
	Off	
CORNERING LAMP	LH	NOTE: The item is indicated, but cannot be tested.
	RH	The Rem le maleates, but carmet be tested.
HORN	On	Operates horn relay 1 and horn relay 2 for 20 ms.
	Off	OFF
FRONT WIPER	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper high relay.
	1	OFF
MOTOR FAN	2	Outputs 50% pulse duty signal (PWM signal) to the cooling fan control module.
WOTOK 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.

# DIAGNOSIS SYSTEM (IPDM E/R)

## < SYSTEM DESCRIPTION >

[XENON TYPE]

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

Α

В

D

С

Е

F

G

Н

1

J

Κ

EXL

 $\mathbb{N}$ 

Ν

0

# **DIAGNOSIS SYSTEM (AFS)**

# CONSULT-III Function (ADAPTIVE LIGHT)

INFOID:0000000005244693

#### **APPLICATION ITEM**

Diagnostic mode	Description
ECU Identification	Allows confirmation of AFS 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.

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

#### DATA MONITOR

Monitor item [Unit]	Description
STR ANGLE SIG [°]	The steering angle value judged by the steering angle sensor signal received from the steering angle sensor with CAN communication
VHCL SPD [km/h]	The vehicle speed signal value from the unified meter and A/C amp. with CAN communication
SLCT LVR POSI [P - 1]	The selector lever status judged by the position indicator signal received from TCM with CAN communication
HEAD LAMP [On/Off]	The headlamp On/Off status judged by the low beam headlamp (ON) signal received from IPDM E/R with CAN communication
AFS SW [On/Off]	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 control value judged by AFS control unit
SWVL SEN RH <sup>*</sup> [°]	The head lamp swivel angle value judged by AFS control unit received from the swiv-
SWVL SEN LH <sup>*</sup> [°]	el position sensor signal input from the swivel actuator
SWVL ANGLE RH <sup>*</sup> [°]	The guided angle command value to the guided mater judged by AES control unit
SWVL ANGLE LH * [°]	The swivel angle command value to the swivel motor judged by AFS control unit

<sup>\*:</sup> 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 $0^{\circ}$ 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 $0^{\circ}$ in the speed at the initialization.
	Peak Slow	Swivels the left headlamp to the swivel angle approximately 17° in the speed at the initialization.
LEVELIZER TEST	Origin	Changes the aiming motor drive signal to approximately 70% of the battery voltage. Moves the headlamp upward and downward.
	Peak	Changes the aiming motor drive signal to approximately 15% of the battery voltage. Moves the headlamp upward and downward.

#### NOTE:

Н

G

Α

В

D

Е

F

-

J

Κ

EXL

 $\mathbb{N}$ 

Ν

0

<sup>&</sup>quot;Fast" operation speed is as three times fast as "Slow".

# DTC/CIRCUIT DIAGNOSIS

# B2503, B2504 SWIVEL ACTUATOR

Description INFOID:000000005244694

#### 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
<ul> <li>AFS control unit indicates an applicable DTC when detecting any of the following conditions continuously for 2 seconds or more.</li> <li>AFS control unit-recognized swivel position differs extremely from the swivel position sensor-input value while the swivel operating.*</li> <li>The swivel position sensor signal does not change even though AFS control unit transmits the swivel motor driving signal while the swivel operating.*</li> <li>The swivel motor short and open is detected while the swivel operating.*</li> <li>The swivel position sensor power supply is 6 V or more, or 4 V or less.</li> <li>The swivel position sensor signal is 0.25 V or less, or 4.75 V or more.</li> </ul>	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

<sup>\*:</sup> 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.
- Shift the selector lever to "N".
- Steer to the right. (Rotate it once or more.)
- 6. Perform the self-diagnosis with CONSULT-III.

#### B2503, B2504 SWIVEL ACTUATOR

#### [XENON TYPE] < DTC/CIRCUIT DIAGNOSIS > Is "B2503" detected? Α YES >> Refer to EXL-45, "Diagnosis Procedure". NO >> Refer to GI-36, "Intermittent Incident". 4.DTC CONFIRMATION (B2504) В Steer to the straight-forward position. Start the engine. 2. Turn the headlamp ON. 3. Drive at 25 km/h (15.5 MPH) or more. 4. Steer to the left. (Rotate it once or more.) 6. Stop the vehicle. Perform the self-diagnosis with CONSULT-III. D Is "B2504" detected? YES >> Refer to EXL-45, "Diagnosis Procedure". NO >> Refer to GI-36, "Intermittent Incident". Е Diagnosis Procedure INFOID:0000000005244696 1. CHECK SWIVEL POSITION SENSOR SIGNAL INPUT F Turn the ignition switch ON. 2. Check the voltage between the AFS control unit harness connector and the ground. **Terminals** (+)(-)Voltage Н (Approx.) AFS control unit Connector Terminal Ground RH 9 M16 0.25 - 4.75 V LH Is the measurement value within the standard value? >> GO TO 2. Less than the standard value >>GO TO 6. Higher than the standard value>>GO TO 9. K 2.CHECK SWIVEL MOTOR Check the swivel motor. EXL-48, "Component Inspection". EXL Is the inspection result normal? YES >> GO TO 3. NO >> Replace the front combination lamp. M 3.CHECK SWIVEL MOTOR OPEN CIRCUIT Turn the ignition switch OFF. Disconnect AFS control unit connector and the headlamp swivel actuator connector. 2. Ν Check continuity between the AFS control unit harness connector and the headlamp swivel actuator harness connector.

	AFS contro	ol unit	Headlamp swivel actuator		Continuity
Co	onnector	Terminal	Connector	Terminal	
		11	3 2 E29	8	
RH		13		7	
IXII		32		3	
	M16	34		4	Existed
	IVITO	15		3	LXISIEU
LH		17	E59	4	
LII	LII	36	L39	8	
		38		7	

#### Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

## 4. CHECK SWIVEL MOTOR SHORT CIRCUIT

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

	AFS contro	l unit		Continuity	
	Connector	Terminal		Continuity	
		11			
RH	- M16	13			
ΝП		32 Ground	Cround		
			Giodila	Not existed	
		WITO	15		Not existed
LH		17			
LN		36			
		38			

#### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 5.

# 5. CHECK SWIVEL MOTOR CIRCUIT VOLTAGE OUTPUT

- 1. Connect AFS control unit connector.
- 2. Turn the ignition switch ON.
- 3. Turn the headlamp ON.
- 4. Select "LOW BEAM TEST RIGHT" or LOW BEAM TEST LEFT" of ADAPTIVE LIGHT active test item.
- 5. With operating the test item, check the voltage between the AFS control unit harness connector and the ground.

Α

В

D

Е

F

		Terminals		Condition	n	
	(+)		(-)	Condition	Voltage (Approx.)	
A	AFS contr	ol unit		0 : .1		
Con	nector	Terminal		Swivel motor		
DII		11				
RH		32		(V) 15 10	(V)	
	•	15			10	
LH	M16	36	Ground Ac	Active	0 → 100µs SKIB2408J 8 - 12 V	
RH	•	13				
КΠ		34		Stop	9.5 - 11.5 V	
LH		17		Stop	9.5 - 11.5 V	
LΠ	•	38				

#### Is the measurement value within the standard value?

YES >> Replace the front combination lamp.

NO >> Replace AFS control unit.

# 6.CHECK SWIVEL POSITION SENSOR SIGNAL OUTPUT

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

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

#### Is the measurement value normal?

YES >> GO TO 7.

NO >> GO TO 9.

# 7.CHECK SWIVEL POSITION SENSOR POWER SUPPLY CIRCUIT INPUT VOLTAGE

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

		Terminals		
-	(+)		(-)	Voltage
	Headlamp swive	el actuator		(Approx.)
Connector Terminal		Terminal	Ground	
RH	E29	2	Ground	5 V
LH	E59	2		3 V

#### Is the measurement value normal?

YES >> GO TO 8.

NO >> Repair the harnesses or connectors.

# 8.check swivel position sensor signal short circuit

EXL

K

M

Ν

0

#### < DTC/CIRCUIT DIAGNOSIS >

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

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

#### Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

# 9. CHECK SWIVEL POSITION SENSOR GROUND CIRCUIT VOLTAGE OUTPUT

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

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

#### Is the measurement value normal?

YES >> GO TO 10.

NO >> Replace AFS control unit.

# 10. CHECK SWIVEL POSITION SENSOR SHORT GROUND CIRCUIT

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

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

#### Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

# Component Inspection

INFOID:0000000005244697

# 1. CHECK SWIVEL MOTOR SINGLE PART

- 1. Disconnect the swivel actuator connector.
- 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 $\Omega$ or more

# B2503, B2504 SWIVEL ACTUATOR

	•	
DTC/CIRCUIT DIAGNOSIS >		[XENON TYPE]

Is the measurement value normal?

YES >> Swivel actuator is normal.

>> Replace the front combination lamp. NO

В

Α

С

D

Е

F

G

Н

Κ

EXL

M

Ν

0

Ρ

# 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.
- Check the self-diagnosis result. Refer to <u>EXL-213</u>, "<u>DTC Index</u>".

#### Is "B2514" detected?

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

NO >> Refer to GI-36, "Intermittent Incident".

# Diagnosis Procedure

INFOID:0000000005244700

# 1. CHECK HEIGHT SENSOR POWER SUPPLY OUTPUT

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

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

#### Is the measurement value within the standard value?

YES >> GO TO 2.

NO >> Replace AFS control unit.

# 2.CHECK HEIGHT SENSOR POWER SUPPLY INPUT

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

#### **B2514 HEIGHT SENSOR UNUSUAL [RR]**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Α

В

D

Е

F

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

#### Is the measurement value within the standard value?

YES >> Replace AFS control unit.

Less than the standard value >>GO TO 3.

Higher than the standard value>>GO TO 6.

# 3.check height sensor power supply circuit output voltage

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

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

#### Is the measurement value within the standard value?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

# 4. CHECK HEIGHT SENSOR SIGNAL OPEN CIRCUIT

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

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

#### Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

## 5. CHECK HEIGHT SENSOR SIGNAL SHORT CIRCUIT

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

Height sensor			Continuity
Connector	Terminal	Ground	Continuity
B32	2		Not existed

#### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace the height sensor.

#### O.CHECK HEIGHT SENSOR GROUND

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

EXL

K

D 4

Ν

# **B2514 HEIGHT SENSOR UNUSUAL [RR]**

#### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

(+) (-)			Voltage
AFS control unit			(Approx.)
Connector Terminal		Ground	
M16	8		0 V

#### Is the measurement value within the standard value?

YES >> GO TO 7.

NO >> Replace AFS control unit.

# 7.check height sensor ground circuit

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

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

#### Does continuity exist?

YES >> Replace the height sensor.

NO >> Repair the harnesses or connectors.

## Component Inspection

INFOID:0000000005244701

# 1. CHECK HEIGHT SENSOR

- 1. Remove the height sensor (the height sensor connector is connected).
- 2. Start the engine.
- Turn the light switch 2ND.
- 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 position	Moving be- tween two posi- tions	Smooth move- ment
		90° from stopper	4.5 V

#### Is the output value normal?

YES >> Height sensor is normal.

NO >> Replace the height sensor.

B2516 SHIFT SIGNAL [P, R]		
< DTC/CIRCUIT DIAGNOSIS >		[XENON TYPE]
B2516 SHIFT SIGNAL [P, R]		
Description		INFOID:000000005244702
AFS control unit receives the shift position signal from TC	M with CAN communication	ation.
DTC Logic		INFOID:000000005244703
DTC DETECTION LOGIC [B2516] Shift signal [P, R]		
DTC detection condition	DTC erase condition	Possible causes
The shift position signal is not received.	Ignition switch OFF	TCM AFS control unit
1.DTC ERASE  Erase the DTC memory of AFS with CONSULT-III.  >> GO TO 2.  2.DTC CONFIRMATION  1. Turn the ignition ON. 2. Select the self-diagnosis with CONSULT-III. 3. Check the self-diagnosis result. Refer to EXL-213, "E is "B2516" detected?  YES >> Refer to EXL-53, "Diagnosis Procedure". NO >> Refer to GI-36, "Intermittent Incident".  Diagnosis Procedure  1.TCM SELF-DIAGNOSIS	OTC Index".	INFOID:0000000005244704
Check the self-diagnosis result with CONSULT-III. Check Is any DTC detected?  YES >> Check TCM. Refer to TM-133, "Reference Value of the consult of the cons		ct any DTCs.
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.		
•		

Revision: 2009 August EXL-53 2010 FX35/FX50

Ρ

# **B2517 VEHICLE SPEED SIGNAL**

Description INFOID:000000005244705

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

DTC Logic (INFOID:000000005244708

#### 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 the ignition ON.
- 2. Select the self-diagnosis with CONSULT-III.
- 3. Check the self-diagnosis result. Refer to EXL-213, "DTC Index".

#### Is "B2517" detected?

YES >> Refer to <u>EXL-54</u>, "<u>Diagnosis Procedure</u>". NO >> Refer to <u>GI-36</u>, "<u>Intermittent Incident</u>".

# Diagnosis Procedure

INFOID:0000000005244707

# 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-95, "DTC Index".

NO >> GO TO 2.

# 2.DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

#### Is the memory erased?

YES >> Inspection end.

NO >> Replace AFS control unit.

#### **B2519 LEVELIZER CALIBRATION**

#### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

# **B2519 LEVELIZER CALIBRATION**

Description INFOID:0000000005244708

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

DTC Logic

[B2519] Levelizer calibration

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

# Diagnosis Procedure

INFOID:0000000005244710

# 1.LEVELIZER ADJUSTMENT

Perform the levelizer adjustment.

>> Refer to EXL-7, "LEVELIZER ADJUSTMENT : Special Repair Requirement".

F

Α

В

D

Е

Н

J

K

EXL

M

Ν

0

INFOID:0000000005244713

## **B2521 ECU CIRCUIT**

Description INFOID:0000000005244711

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

DTC Logic INFOID:0000000005244712

#### DTC DETECTION LOGIC

[B2521] ECU circuit

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

- Turn the ignition ON.
- Select the self-diagnosis with CONSULT-III.
- Check the self-diagnosis result. Refer to EXL-213, "DTC Index".

#### Is "B2521" detected?

YES >> Refer to EXL-56, "Diagnosis Procedure". >> Refer to GI-36, "Intermittent Incident".

# 1. CHECK EACH SENSOR POWER SUPPLY

Turn the ignition switch ON.

Diagnosis Procedure

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

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

#### Is the measurement value within the standard value?

>> GO TO 2.

Less than the standard value >>GO TO 3.

Higher than the standard value>>GO TO 4.

#### **B2521 ECU CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Α

В

D

Е

F

Н

# 2. CHECK EACH SENSOR SIGNAL

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

Terminals				
(+) (-)			Voltage	
AFS control unit			(Approx.)	
Connector	Terminal			
	9	Ground		
M16	28		0.25 - 4.	0.25 - 4.75 V
	29			

#### Is the measurement value within the standard value?

YES >> Replace AFS control unit.

Less than the standard value >>GO TO 5.

Higher than the standard value>>GO TO 6.

# 3.CHECK EACH SENSOR POWER SUPPLY SHORT CIRCUIT

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

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

#### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace AFS control unit.

# 4. CHECK EACH SENSOR POWER SUPPLY CIRCUIT

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

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

#### Is the measurement value normal?

YES >> Replace AFS control unit.

NO >> Repair the harnesses or connectors.

# 5. CHECK EACH SENSOR SIGNAL SHORT CIRCUIT

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

EXL

K

Ν

0

AFS control unit			Continuity
Connector	Terminal		Continuity
	9	Ground	
M16	28		Not existed
	29		

#### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace AFS control unit.

# 6. CHECK EACH SENSOR SIGNAL SHORT CIRCUIT

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

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

#### Is the measurement value normal?

YES >> Replace AFS control unit.

NO >> Repair the harnesses or connectors.

#### C0126 STEERING ANGLE SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Α

D

Е

F

Н

# C0126 STEERING ANGLE SENSOR SIGNAL

Description INFOID:0000000005244714

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

DTC Logic INFOID:0000000005244715

#### DTC DETECTION LOGIC

[C0126] Steering angle sensor signal

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

#### DTC CONFIRMATION PROCEDURE

#### 1.DTC FRASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

# 2.dtc confirmation

- Start the engine.
- Turn the steering wheel to the maximum right/left.
- Select the self-diagnosis with CONSULT-III.
- Check the self-diagnosis result. Refer to EXL-213, "DTC Index".

#### Is "C0126" detected?

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

>> Refer to GI-36, "Intermittent Incident". NO

## Diagnosis Procedure

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

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

#### Is any DTC detected?

YES >> Check ABS actuator and electrical unit (control unit).Refer to BRC-119, "DTC Index".

NO >> GO TO 2.

#### 2.DTC ERASE

Erase DTC memory of AFS with CONSULT-III.

#### Is the memory erased?

YES >> Inspection end.

NO >> Replace AFS control unit.

**EXL** 

K

INFOID:0000000005244716

M

Ν

#### **C0428 STEERING ANGLE SENSOR CALIBRATION**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

# C0428 STEERING ANGLE SENSOR CALIBRATION

Description INFOID:0000000005244717

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

DTC Logic

[C0428] Steering angle sensor calibration

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

# Diagnosis Procedure

INFOID:0000000005244719

# 1. STEERING ANGLE SENSOR NEUTRAL POSITION ADJUSTMENT

Perform the steering angle sensor neutral position adjustment.

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

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

#### **U1000 CAN COMM CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

#### U1000 CAN COMM CIRCUIT

Description INFOID:0000000005244720

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-30, "CAN Communication Signal Chart".

D **DTC** Logic INFOID:0000000005244721

#### DTC DETECTION LOGIC

[U1000] CAN communication circuit

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

## Diagnosis Procedure

1.PERFORM SELF DIAGNOSTIC

- Turn the ignition switch ON and wait for 2 seconds or more.
- Select the self-diagnosis with CONSULT-III. 2.
- Check the self-diagnosis result.

#### Is "CAN COMM CIRCUIT" displayed?

YES >> Refer to LAN-20, "Trouble Diagnosis Flow Chart".

NO >> Refer to GI-36, "Intermittent Incident".

**EXL** 

K

Ν

Р

**EXL-61** Revision: 2009 August 2010 FX35/FX50

INFOID:0000000005244722

Н

Е

Α

# **U1010 CONTROL UNIT (CAN)**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

# U1010 CONTROL UNIT (CAN)

DTC Logic

## DTC DETECTION LOGIC

[U1000] CAN communication circuit

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

# Diagnosis Procedure

INFOID:0000000005244724

# 1. REPLACE AFS CONTROL UNIT

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

>> Replace AFS control unit.

#### POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

# POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE): Diagnosis Procedure

INFOID:0000000005244725

Α

В

D

Е

F

Н

## 1. CHECK FUSE AND FUSIBLE LINK

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

Signal name	Fuse and fusible link No.	
Pottory navyor cumply	L	
Battery power supply	10	

#### Is the fuse fusing?

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

NO >> GO TO 2.

# 2. CHECK POWER SUPPLY CIRCUIT

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

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

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

## 3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM Connector Terminal			Continuity
		Ground	Continuity
M119	13		Existed

#### Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

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

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

# 1. CHECK FUSES AND FUSIBLE LINK

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

EXL

K

M

Ν

0

Р

Revision: 2009 August EXL-63 2010 FX35/FX50

#### POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

INFOID:0000000005244727

Signal name	Fuses and fusible link No.
	D
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 ground.

(+) IPDM E/R		(–)	Voltage (Approx.)
Connector	Terminal	Ground	
E4	1	Glound	Battery voltage

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

## 3.CHECK GROUND CIRCUIT

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

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

#### Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

#### AFS CONTROL UNIT

# AFS CONTROL UNIT: Diagnosis Procedure

## 1. FUSE INSPECTION

Check that the following fuses are not fusing.

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

#### Is the fuse fusing?

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

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

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

#### POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn the ignition switch OFF.

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

AFS control unit			Continuity
Connector Terminal		Ground	Continuity
M16	25		Existed

Does continuity exist?

YES >> Repair the harness or connector.

NO >> Power supply and ground circuit are normal.

В

Α

Е

D

G

F

Н

J

Κ

EXL

M

Ν

0

# **EXTERIOR LAMP FUSE**

Description INFOID:0000000005244728

#### Fuse list

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

# Diagnosis Procedure

INFOID:0000000005244729

# 1.CHECK FUSE

Check that the following fuses are not fusing.

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

#### Is the fuse fusing?

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

NO >> The fuse is normal.

Α

D

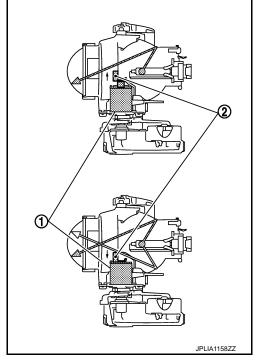
Е

# HEADLAMP (HI) CIRCUIT

Description INFOID:000000005244730

The high beam solenoid drives the mobile valve shade. And the mobile valve shade switches the high beam and low beam of headlamp.

- When the headlamp high relay is turned ON, magnetic force is applied to the high beam solenoid (1) by a current. The mobile valve shade (2) is switched to the high beam position.
- When the headlamp high relay is turned OFF, the current stops. The mobile valve shade returns to the low beam position automatically.



# Component Function Check

# 1. CHECK HEADLAMP (HI) OPERATION

RIPDM E/R AUTO ACTIVE TEST

- Activate IPDM E/R auto active test. Refer to <u>PCS-11</u>, "<u>Diagnosis Description</u>".
- Check that the headlamp switches to the high beam.

(P)CONSULT-III ACTIVE TEST

- Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- With operating the test items, check that the headlamp switches to the high beam.

Ηi : Headlamp switches to the high beam.

Off : Headlamp OFF

HI/LO is repeated 1 second each when using the IPDM E/R auto active test.

Does the headlamp switch to the high beam?

YES >> Headlamp (HI) circuit is normal.

>> Refer to EXL-67, "Diagnosis Procedure". NO

# Diagnosis Procedure

# 1. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

#### (P)CONSULT-III ACTIVE TEST

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

**EXL** 

K

N

INFOID:0000000005244732

INFOID:0000000005244731

2010 FX35/FX50

Terminals			Test item			
	(+) (-)		(-)	iest itemi	Voltage	
	IPDM E	/R		EXTERNAL	(Approx.)	
Cor	nnector	Terminal		LAMPS		
RH	89	89	89 Ground	Hi	Battery voltage	
	E8		Gloui	Ground	Off	0 V
LH			Hi	Battery voltage		
			Off	0 V		

#### Is the measurement value normal?

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

# 2.CHECK HEADLAMP (HI) OPEN CIRCUIT

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

IPDM E/R		Front combination lamp		Continuity	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E8	89	E28	1	Existed
LH	E0	90	E58	1	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 FRONT COMBINATION LAMP (HI) SHORT CIRCUIT

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

IPDM E/R				Continuity	
Connector		Terminal	Ground	Continuity	
RH	E8	89	Glound	Not existed	
LH	E0 ·	90		inoi 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.)

# **HEADLAMP (HI) CIRCUIT**

# < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

# $5.\mathsf{CHECK}$ HEADLAMP (HI) GROUND OPEN CIRCUIT

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

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

## Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

В

Α

С

D

Е

F

G

Н

Κ

EXL

M

Ν

0

Ρ

# HEADLAMP (LO) CIRCUIT

Description INFOID:000000005244733

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

For the details of HID control unit and the xenon headlamp, refer to EXL-72, "Description".

## Component Function Check

INFOID:0000000005244734

# 1. CHECK HEADLAMP (LO) OPERATION

#### **PIPDM E/R AUTO ACTIVE TEST**

- Activate IPDM E/R auto active test. Refer to PCS-11, "Diagnosis Description".
- 2. Check that the headlamp is turned ON.
- (P)CONSULT-III ACTIVE TEST
- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. With operating the test items, check that the headlamp is turned ON.

Low: Headlamp ON
Off: Headlamp OFF

#### Is the headlamp turned ON?

YES >> Headlamp (LO) is normal.

NO >> Refer to EXL-70, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000005244735

# 1.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

#### (P)CONSULT-III ACTIVE TEST

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

Terminals				Test item	
(+)			(-)	TOST ITCH	Voltage (Approx.)
IPDM E/R				EXTERNAL LAMPS	
Connector Terminal					
RH E8		83	Ground	Low	Battery voltage
	EΩ			Off	0 V
	LO	84		Low	Battery voltage
				Off	0 V

#### Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

# $2.\mathsf{CHECK}$ HEADLAMP (LO) OPEN CIRCUIT

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

## **HEADLAMP (LO) CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

IPDM E/R			Headla	Continuity	
Connector		Terminal	Connector	Terminal	Continuity
RH	E8	83	E25	1	Existed
LH	LO	84	E55	1	LAISIGU

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

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

IPDM E/R				Continuity
Connector Te		Terminal	Ground	Continuity
RH	- E8	83	Ground	Not existed
LH		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

Check continuity between the headlamp harness connector and the ground.

	Headlan	np		Continuity
Coni	nector	Terminal	Ground	Continuity
RH E25		2	Ground	Existed
LH	E55	2		LAISIGU

#### Does continuity exist?

YES >> Perform the xenon headlamp diagnosis. Refer to <a>EXL-72</a>, "Description".

NO >> Repair the harnesses or connectors.

A

В

С

D

Е

F

G

Н

EXL

K

Ν

#### XENON HEADLAMP

Description INFOID:000000005244736

#### **OUTLINE**

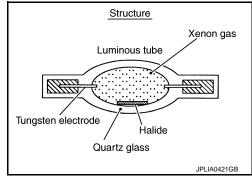
- The lamp light source is by the arch discharge by applying high voltage into the xenon gas-filled bulb instead
  of the halogen bulb filament.
- Sight becomes more natural and brighter because the amount of light are gained adequately and the color of light is sunshine-like white.
- The xenon bulb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

#### ILLUMINATION PRINCIPLE

- Discharging starts in high voltage pulse between bulb electrodes.
- Xenon gas is activated by current between electrodes. Pale light is emitted.
- The luminous tube (bulb) temperature elevates. Evaporated halide is activated by discharge. The color of light changes into white.

#### NOTE:

- Brightness and the color of light may change slightly immediately after the headlamp turned ON until the xenon bulb becomes stable. This is not malfunction.
- Illumination time lag may occur between right and left. This is not malfunction.



#### PRECAUTIONS FOR TROUBLE DIAGNOSIS

Representative malfunction examples are, "Light does not turn ON", "Light blinks", and "Brightness is inadequate." The cause often be the xenon bulb. Such malfunctions, however, are occurred occasionally by HID control unit malfunction or lamp case malfunction. Specify the malfunctioning part with diagnosis procedure.

#### WARNING.

- Never touch the harness, HID control unit, the inside and metal part of lamp when turning the headlamp ON or operating the light switch.
- · Never work with wet hands.

#### **CAUTION:**

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

#### NOTE:

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

# Diagnosis Procedure

INFOID:0000000005244737

# 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 >> GO TO 2.

## 2.CHECK HID CONTROL UNIT

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

Is the headlamp turned ON?

### **XENON HEADLAMP**

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

YES >> Replace HID control unit.

NO >> GO TO 3.

# 3.CHECK XENON HEADLAMP HOUSING ASSEMBLY

Install the normal xenon headlamp housing assembly to the applicable headlamp. Check that the xenon headlamp is turned ON.

Is the headlamp turned ON?

YES >> Replace the front combination lamp. (Xenon headlamp housing voltage converter malfunctions.)

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

D

Α

В

Е

F

G

Н

J

K

EXL

M

Ν

0

#### HEADLAMP LEVELIZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

### HEADLAMP LEVELIZER CIRCUIT

Description INFOID:0000000005244738

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

### Component Function Check

INFOID:0000000005244739

## 1. CHECK AIMING MOTOR OPERATION

### (P)CONSULT-III ACTIVE TEST

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

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

#### Is the operation normal?

>> Headlamp levelizer circuit is normal.

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

### Diagnosis Procedure

INFOID:0000000005244740

## 1. CHECK AIMING MOTOR DRIVE SIGNAL OUTPUT

### (P)CONSULT-III ACTIVE TEST

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

	Terminals			Test item			
	(+)		(-)	rest item	Voltage		
AFS control unit			LEVELIZER TEST	(Approx.)			
Con	nector	Terminal		LLVLLIZLIX 1L31			
RH		10	10	19	Ground	Origin	8.8 V
IXII	M16	13	Oround	Peak	1.9 V		
LH		40		Origin	8.8 V		
LN	40		Peak	1.9 V			

#### Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2.CHECK AIMING MOTOR DRIVE SIGNAL CIRCUIT INPUT

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

### **HEADLAMP LEVELIZER CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

	AFS contro	FS control unit Aiming motor			Continuity
Co	nnector	Terminal	Connector	Terminal	Continuity
RH	M16	19	E26	2	Existed
LH	IVITO	40	E56	2	LAISIGU

### Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses and connectors.

# 3.check aiming motor drive signal short circuit

Turn the ignition switch OFF.

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

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

AFS control unit				Continuity	
Con	Connector Terminal		Ground	Continuity	
RH	M16	19	Glound	Not existed	
LH		40	-	Not existed	

### Does continuity exist?

YES >> Repair the harness and connectors.

NO >> Replace AFS control unit.

Α

В

D

Е

F

Н

Κ

**EXL** 

M

Ν

0

[XENON TYPE]

## FRONT FOG LAMP CIRCUIT

### Component Function Check

INFOID:0000000005244741

# 1. CHECK FRONT FOG LAMP OPERATION

### **®IPDM E/R AUTO ACTIVE TEST**

- 1. Activate IPDM E/R auto active test. Refer to PCS-11, "Diagnosis Description".
- Check that the front fog lamp is turned ON.

#### (P)CONSULT-III ACTIVE TEST

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

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

#### Is the front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.

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

### Diagnosis Procedure

INFOID:0000000005244742

## 1. CHECK FRONT FOG LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#58	15 A

#### Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

# 2.CHECK FRONT FOG LAMP SHORT CIRCUIT

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

IPDM E/R				Continuity
Conr	Connector		Ground	Continuity
RH	E8	86	Gloulia	Not existed
LH	EO	87		Not existed

#### Does continuity exist?

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

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

### 3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

#### Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

# 4. CHECK FRONT FOG LAMP OUTPUT VOLTAGE

#### (P)CONSULT-III ACTIVE TEST

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

### FRONT FOG LAMP CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Α

В

D

Е

F

Н

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

	Terminals					
(+)			(-)	Test item	Voltage	
	IPDM E	/R		EXTERNAL	(Approx.)	
Cor	nnector	Terminal		LAMPS		
RH		86	Ground	Fog	Battery voltage	
	E8		Cround	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.

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

### Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

### 6.CHECK FRONT FOG LAMP GROUND CIRCUIT OPEN CIRCUIT

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

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

### Does continuity exist?

YES >> Replace the front fog lamp.

NO >> Repair the harnesses or connectors.

EXL

. .

Ν

[XENON TYPE]

### PARKING LAMP CIRCUIT

### Component Function Check

INFOID:0000000005244743

# 1. CHECK PARKING LAMP OPERATION

#### **PIPDM E/R AUTO ACTIVE TEST**

- Activate IPDM E/R auto active test. Refer to PCS-11, "Diagnosis Description".
- Check that the parking lamp is turned ON.

#### (P)CONSULT-III ACTIVE TEST

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. With operating the test items, check that the 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-78, "Diagnosis Procedure".

### Diagnosis Procedure

INFOID:0000000005244744

## 1. CHECK PARKING LAMP FUSE

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

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

#### Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

# 2.CHECK PARKING LAMP SHORT CIRCUIT

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

IPDM E/R				Continuity
Conr	Connector		Ground	Continuity
RH	E9	91	Giodila	Not existed
LH	E9	92		Not existed

#### Does continuity exist?

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

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

### 3.CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

#### Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

## 4. CHECK PARKING LAMP OUTPUT VOLTAGE

#### (P)CONSULT-III ACTIVE TEST

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

### **PARKING LAMP CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Α

В

D

Е

F

Н

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

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

#### Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

## 5. CHECK PARKING LAMP OPEN CIRCUIT

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

Continuity	ation lamp	Front combin	IPDM E/R		
Continuity	Terminal	Connector	Terminal	nector	Conr
Existed	4	E28	91	E9	RH
LAISIEU	4	E58	92	LJ	LH

### Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

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

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

Front combination lamp				Continuity		
Conr	Connector T				Ground	Continuity
RH	E28	3	Giodila	Existed		
LH	E58	3		Existed		

#### Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

EXL

K

M

Ν

0

### **TURN SIGNAL LAMP CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

### TURN SIGNAL LAMP CIRCUIT

Description INFOID:000000005244745

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

#### NOTE:

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

### Component Function Check

INFOID:0000000005244746

# 1. CHECK TURN SIGNAL LAMP

### (P)CONSULT-III ACTIVE TEST

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

LH: Turn signal lamp LH blinking
RH: Turn signal lamp RH blinking
Off: The turn signal lamp OFF

### Does the turn signal lamp blink?

YES >> Turn signal lamp circuit is normal.
NO >> Refer to <u>EXL-80</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:0000000005244747

### 1. CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb.

#### Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

# 2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

#### (P)CONSULT-III ACTIVE TEST

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

### **TURN SIGNAL LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

(+) BCM		(-)	Test item		
ВСМ		(-)		Voltage (Approx.)	
		FLASHER	vollage (Approx.)		
Connector	Terminal		FLASHER		
RH	17	Ground	RH	(V) 15 10 5 0 1 s	
M119		Orouna	Off	0 V	
LH	18	•	LH	(V) 15 10 5 0 1 s	
			Off	0 V	
Rear			•		

	Te	erminals		Test item	
	(+)		(-)	iest item	Voltage (Approx.)
BCM			FLASHER	vollage (Approx.)	
Conn	ector	Terminal		FLASHER	
RH		20	Ground	RH	(V) 15 10 5 0 1 s
	M120		Giodila	Off	0 V
LH	IVITZU	25		LH	(V) 15 10 5 0 1 s
				Off	0 V

Is the measurement value normal?

YES >> GO TO 3.

NO >> Replace BCM.

# 3.check turn signal lamp open circuit

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

Revision: 2009 August EXL-81 2010 FX35/FX50

Α

В

С

D

Е

F

G

Н

J

K

EXL

M

Ν

0

### **TURN SIGNAL LAMP CIRCUIT**

[XENON TYPE]

#### < DTC/CIRCUIT DIAGNOSIS >

Front turn signal lamp

	BCM Front combination lam		ination lamp	Continuity	
Conr	nector	Terminal	Connector Terminal		Continuity
RH	M119	17	E28	2	Existed
LH	WITTE	18	E58	2	LXISIGU

Rear turn signal lamp

BCM		Rear combination lamp		Continuity	
Conr	nector	Terminal	Connector Terminal		Continuity
RH	M120	20	B232	3	Existed
LH	IVITZU	25	B60	3	LAISIGU

#### Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

## 4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between the BCM harness connector and the ground.

#### Front

BCM				Continuity	
Connector		Terminal Ground		Continuity	
RH	M119	17	Glound	Not existed	
LH	WILLA	18		Not existed	

#### Rear

всм				Continuity
Cor	Connector Termi		Ground	Continuity
RH	M120	20	Glound	Not existed
LH	IVITZU	25		Not existed

#### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 5.

### ${f 5.}$ CHECK TURN SIGNAL LAMP GROUND OPEN CIRCUIT

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

#### Front turn signal lamp

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

#### Rear turn signal lamp

Rear combination lamp				Continuity
Connector Termin		Terminal	Ground	Continuity
RH	B232	4	Giodila	Existed
LH	B60	4		Existed

### Does continuity exist?

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

NO >> Repair the harnesses or connectors.

[XENON TYPE]

INFOID:0000000005244749

INFOID:0000000005244750

Α

D

Е

### **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

### (P)CONSULT-III DATA MONITOR

- 1. Turn the ignition switch ON.
- 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 SENSOR	Optical sensor	When illuminating	3.1 V or more *
		When shutting off light	0.6 V or less

<sup>\*:</sup> 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-83, "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.)
Optica	sensor		(Approx.)
Connector	Terminal	Ground	
M94	1		5 V
	•		•

### Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 4.

### 2.CHECK OPTICAL SENSOR GROUND INPUT

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

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

#### Is the measurement value normal?

YES >> GO TO 3. NO >> GO TO 6.

Revision: 2009 August

# 3.check optical sensor signal output

EXL-83

2010 FX35/FX50

EXL

K

M

Ν

O

#### < 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 sensor			Optical sen- (Approx.	(Approx.)
Connector	Terminal		sor	
M94 2	Ground	When illumi- nating	3.1 V or more *	
	2		When shut- ting off light	0.6 V or less

<sup>\*:</sup> Illuminate the optical sensor. The value may be less than the standard if brightness is weak.

#### Is the measurement value normal?

YES >> GO TO 7.

NO >> Replace the optical sensor.

### 4. CHECK OPTICAL SENSOR OPEN CIRCUIT

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

Optica	l sensor	В	CM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M94	1	M123	138	Existed

#### Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

### 5. CHECK OPTICAL SENSOR SHORT CIRCUIT

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

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

#### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

### 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	sensor	В	CM	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 the BCM connector.

### **OPTICAL SENSOR**

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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

Optica	sensor	В	CM	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.

Optical sensor			Continuity
Connector	Terminal	Ground	Continuity
M94	2		Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

Ε

D

Α

В

F

G

Н

Κ

EXL

M

Ν

0

### HAZARD SWITCH

**Description** 

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

### Component Function Check

INFOID:0000000005244752

### 1. CHECK HAZARD SWITCH SIGNAL BY CONSULT-III

### (E)CONSULT-III DATA MONITOR

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

Monitor item	Condition		Monitor status
HAZARD SW Hazard switch	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-86, "Diagnosis Procedure".

### Diagnosis Procedure

INFOID:0000000005244753

## 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 (Approx.)	
ВС	BCM		Hazard switch	voltage (Approx.)	
Connector	Terminal		Hazaru Switch		
			While pressing the switch	0 V	
M122	110	Ground	While not pressing the switch	(V) 15 10 5 0 10 ms JPMIA0012GB	

#### Is the measurement value normal?

YES >> Replace BCM.

NO >> GO TO 2.

# 2. CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

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

Multifunct	tion switch	В	CM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M72	16	M122	110	Existed

### **HAZARD SWITCH**

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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.

Multifunction 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.

Multifunction 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.

EXL

M

Ν

0

Р

Revision: 2009 August EXL-87 2010 FX35/FX50

С

Α

В

D

Е

F

0

Н

-

K

- \/ 1

#### [XENON TYPE]

### TAIL LAMP CIRCUIT

### Component Function Check

#### INFOID:0000000005244754

### 1. CHECK TAIL LAMP OPERATION

#### **RIPDM E/R AUTO ACTIVE TEST**

- Activate IPDM E/R auto active test. Refer to PCS-11, "Diagnosis Description".
- Check that the tail lamp is turned ON.

#### (P)CONSULT-III ACTIVE TEST

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

TAIL : Tail lamp ON
Off : Tail lamp OFF

#### Is the tail lamp turned ON?

YES >> Tail lamp circuit is normal.

NO >> Refer to EXL-88, "Diagnosis Procedure".

### Diagnosis Procedure

INFOID:0000000005244755

## 1. CHECK TAIL LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
<ul><li>Tail lamp</li><li>Rear side marker lamp</li><li>License plate lamp</li></ul>	IPDM E/R	#53	10 A

#### Is the fuse fusing?

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

NO >> GO TO 2.

## 2. CHECK TAIL LAMP OUTPUT VOLTAGE

### ©CONSULT-III ACTIVE TEST

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

	Terminals		Test item	
(-	+)	(-)	163t Item	Voltage
IPDM	1 E/R		EXTERNAL	(Approx.)
Connector	Terminal		LAMPS	
E5	7	Ground	TAIL	Battery voltage
			Off	0 V

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R.

# 3. CHECK TAIL LAMP OPEN CIRCUIT

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

### TAIL LAMP CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Α

В

D

Е

F

Н

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	E3	7	B60	1	Existed

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TAIL LAMP GROUND OPEN CIRCUIT

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

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

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

EXL

K

M

Ν

0

[XENON TYPE]

## LICENSE PLATE LAMP CIRCUIT

### Component Function Check

INFOID:0000000005244756

#### NOTE:

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

### CHECK LICENSE PLATE LAMP OPERATION

### **PIPDM E/R AUTO ACTIVE TEST**

- 1. Activate IPDM E/R auto active test. Refer to PCS-11, "Diagnosis Description".
- 2. Check that the license plate lamp is turned ON.

#### (P)CONSULT-III ACTIVE TEST

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

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

#### Is the license plate lamp turned ON?

YES >> License plate lamp circuit is normal.
NO >> Refer to EXL-90, "Diagnosis Procedure".

### Diagnosis Procedure

INFOID:0000000005244757

### 1. CHECK LICENSE PLATE LAMP BULB

Check the applicable lamp bulb.

#### Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

# 2.CHECK LICENSE PLATE LAMP OPEN CIRCUIT

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

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

### Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

# 3.check license plate lamp ground open circuit

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

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

#### Does continuity exist?

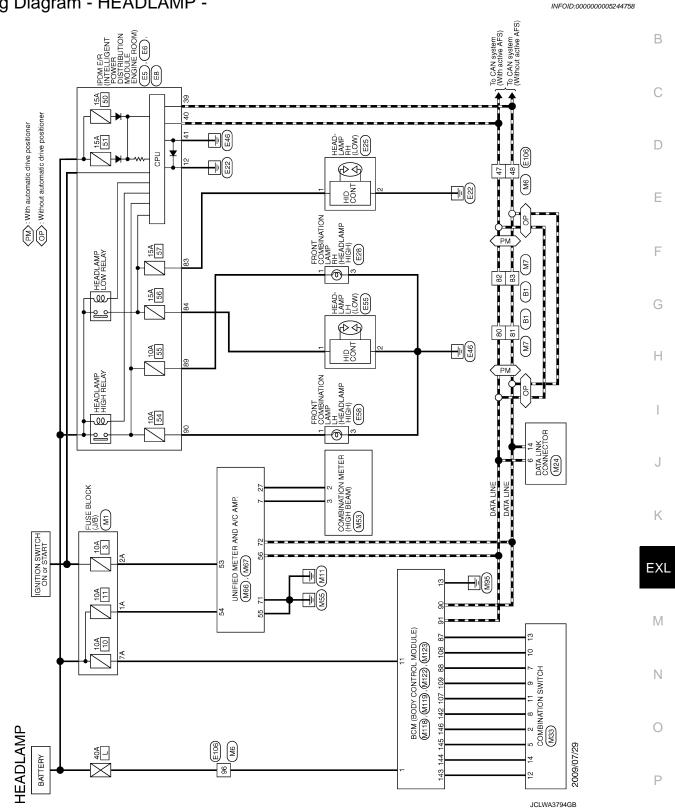
YES >> Replace the license plate lamp.

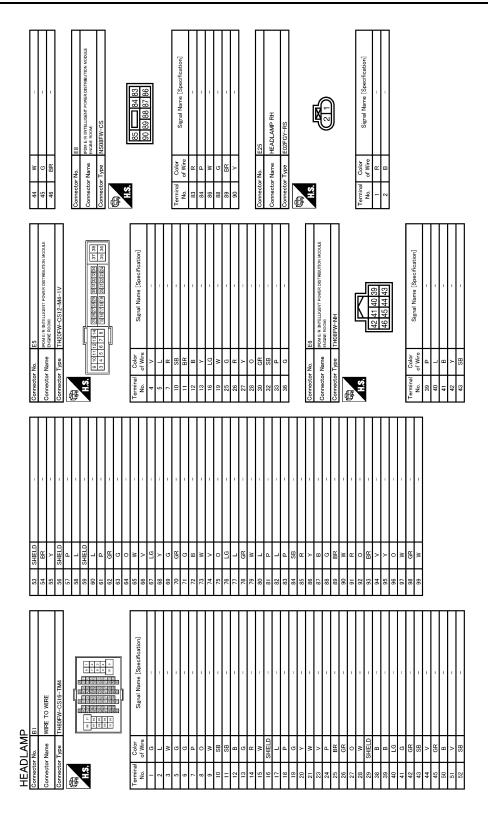
NO >> Repair the harnesses or connectors.

Α

### **HEADLAMP SYSTEM**

Wiring Diagram - HEADLAMP -





JCLWA3795GB

### **HEADLAMP SYSTEM**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

90 BR	Connector Type   NS0FFW-M2   Signal Name [Specification]   NS0FFW-M2   Signal Name [Specification]   Signal Name [Specificat	
0 W W W W W W W W W W W W W W W W W W W	S S S S S S S S S S S S S S S S S S S	
30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<del>+++++++++</del>	
E106 WIPE TO WIPE TH80FW-CS16-TM4	Signal Name (Specification)  Signal Name (Specification)	
<del>                                     </del>	S	
1   Y   2   3   B   3   4   0   O   O   O   O   O   O   O   O   O	vi	
HEADLAMP Connector No. E28 Connector Name FRONT COMBINATION LAMP RH Connector Type RSO4FB-PR	Cornector No.   Color   Signal Name [Specification]   Colorector Name   FRONT COMBINATION LAMP LH	

Revision: 2009 August EXL-93 2010 FX35/FX50

В

Α

С

D

Е

F

G

Н

J

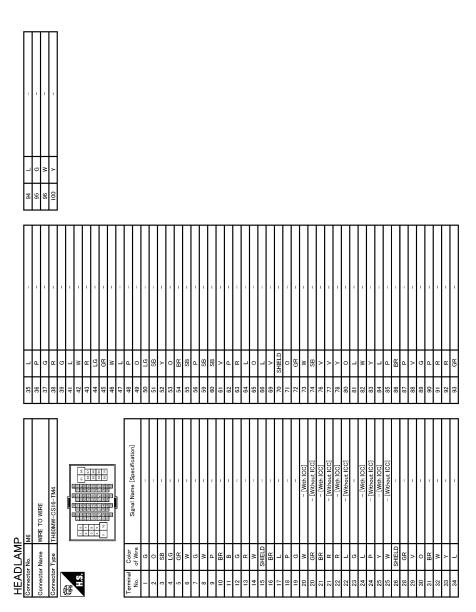
Κ

EXL

 $\mathbb{N}$ 

Ν

0



JCLWA3797GB

Α

В

С

D

Е

F

G

Н

Κ

EXL

 $\mathbb{N}$ 

12   P   NIPUT 5	
Commercior No.   Mi24	
553 SHIELD 569 V P P 570 SHIELD 571 P P 572 P P 573 P P 574 P P 575 P P 575 P P 576 P P 576 P P 577 SHELD 577 P P 578 P P 579 P P 570	
HEADLAMP    Connector No. M7   M7	

N

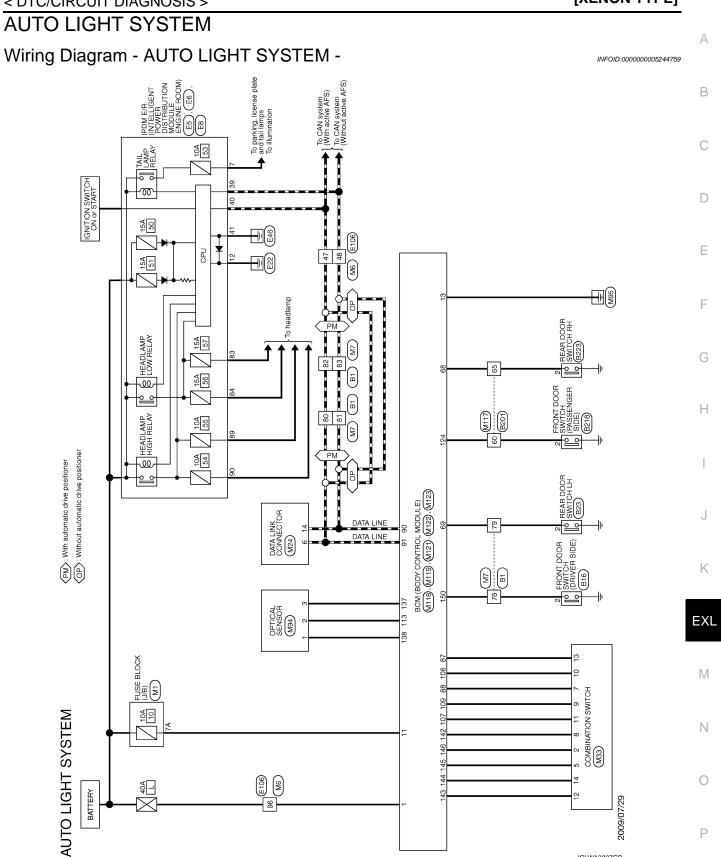
0

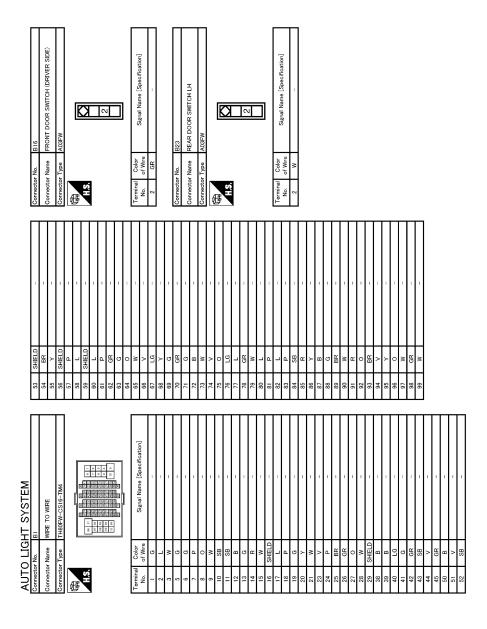
HEADL Connector No.	HEADLAMP	AP IM66	45 P	AMBIENT SENSOR SIGNAL	Terminal	Color	3	86	<u>م</u>	S/L CONDITION 2	
			46		ž	_	Signal Name [Specification]	66	· ·	SHIFT P	
Connec	Connector Name	UNIFIED METER AND A/C AMP.	L	_	4	۵	INT ROOM LAMP PWR SUPPLY (BAT SAVE)	100	-	PASSENGER DOOR REQUEST SW	
Connector Type	or Type	TH40FW-NH	53 G	91	2	>	PASSENGER DOOR UNLOCK OUTPUT	101	Ľ	DRIVER DOOR REQUEST SW	
ą	_		54 0	BATTERY POWER SUPPLY	7	<b>\</b>	STEP LAMP OUTPUT	102	2 0	BLOWER FAN MOTOR RELAY CONT	
事			55 B		00	>	ALL DOOR, FUEL LID LOCK OUTPUT	=	3 BR	KEYLESS ENTRY RECEIVER POWER SUPPLY	
H.S.			+	$\dashv$		ŋ	DRIVER DOOR, FUEL LID UNLOCK OUTPUT	=	$\dashv$	S/L UNIT POWER SUPPLY	
		4 5 6 7 8 9 10 11 14 15 16	+	BR	Ц Т	æ	REAR DOOR UNLOCK OUTPUT	107	7	COMBI SW INPUT 1	
	21 22 23	25 26 27 28 30 34 36 38 40	+	FUEL LEVEL SENSOR GROUND	= :	ه م	BAT (FUSE)	80 5	۲ ×	COMBI SW INPUT 4	
			F -	<u> </u>	2 ;	n ;	GND	3 ;	+	COMBI SW INPUL 2	
			00 61	+		- 3	TIIBN SIGNAL BH (FRONT)	= =	5 E	S/I LINIT COMM	
Terminal	Color		ł	_	: e	: 0	TURN SIGNAL LH (FRONT)		┨		
No.	_		Н		61	SB	ROOM LAMP TIMER				
4	۵	STOP LAMP SWITCH SIGNAL	65 0					Con	Connector No.	M123	
2	_ (	MANUAL MODE SHIFT UP SIGNAL	+	+	_ _	1	***************************************	Con	Connector Name	BCM (BODY CONTROL MODULE)	
م م	5	COMMINIONATION STONAL (AND -) METED)	9 7	EACH DOOK MOTOR POWER SUPPLY	T	Connector No.	M122	č	Contract Time	HIM OHOME	
- α	5 -	VEHICLE SPEED SIGNAL (AMPL-)METER)	72		Connec	Connector Name	BCM (BODY CONTROL MODULE)	000	Connector 1 ype	I H40FG-NH	
6	88	FRONT SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)	1	_	Connec	Connector Type	TH40FB-NH	E .	_		
10	Α	MANUAL MODE SIGNAL			[] [			٦	H.S.		
=	g	NON-MANUAL MODE SIGNAL	Connector No.	M118	彦						
4	HH.	COMMUNICATION SIGNAL (LCD->AMP.)	Connector Name	BCM (BODY CONTROL MODULE)	H.S.	_			151 150 14	8 128 127 127 128 128 128 129 129 129 129 129 139 139 137 138 138 138 138 138 138 138 138 138 138	
5 50	<u>-</u>  >	ION SENSOR SIGNAL	Tanapara	O TOUR	T	91 90 89	88 87 86 85 84 83 82 81 80 79 78 77 76 75 74 73 72				
25	-  >	MANUAL MODE SHIFT DOWN SIGNAL	ooliiloo	٦.	7	11.1 110 109	108 107 106 105 104 109 109 101 101 99 98 97 96 95 94 93 92				
26	ŋ	PADDLE SHIFTER DOWN SIGNAL	F					Termina	⊢	Simpl Name [Specification]	
27	ΓC	COMMUNICATION SIGNAL (METER->AMP.)	H.S.					Š	of Wire		
58	œ ;	VEHICLE SPEED SIGNAL (8-PULSE)		1 3	Termina	al Color	Signal Name [Specification]	112	4	RAIN SENSOR SERIAL LINK	
90	>   ;	PARKING BRAKE SWITCH SIGNAL			No.	or wire		2 5	+	OPLICAL SENSOR	
8	<u>-</u>	COMMUNICATION SIGNAL (AMP>LCD)			72	2 (	ROOM ANT2-	9 5	9 8	STOP LAMP SW 1	
39	_	BLOWER MOTOR CONTROL SIGNAL			5 2	5 8	DASSENGED DOOD ANT-	2 2	+	DE DOOR LINI OCK SENSOR	
			Terminal Color		75	B B	PASSENGER DOOR ANT+	121	╁	KEY SLOT SW	
Connector No.	or No.	M67	No. of Wire	fire Signal Name [Specification]	76	>	DRIVER DOOR ANT-	123	H	IGN F/B	
Jones	Ometer Memo	INIFICO METER AND A C AMP	1 W	H		FG	DRIVER DOOR ANT+	124	4 LG	PASSENGER DOOR SW	
500	o Marine		2 Y	POWER WINDOW POWER SUPPLY (BAT)	78	Υ	ROOM ANT1-	132	Н	POWER WINDOW SW COMM	
Connector Type	or Type	TH32FW-NH	3	DOWER WINDOW POWER SUPPLY (RAP)	79	BR	ROOM ANT1+	2	134 GR	LOCK IND	
1	_				80	胺	NATS ANT AMP.	137	7 B	RECEIVER/SENSOR GND	
季					<u>≅</u> ]	≥	NATS ANT AMP.	138	4	SENSOR POWER SUPPLY	
S E			Connector No.	M119	82	؛ ۵	IGN RELAY (F/B) CONT	5	+	SHIFT N/P	
	41 42 4	13 44 45 46 47   53 54 55 56	Connector Name	e BCM (BODY CONTROL MODULE)	88 8	g g	KEYLESS ENTRY RECEIVER SIGNAL	14	+	SECURITY INDICATOR OUTPUT	
	57 58 5	58 59 60 61 62 63 65 65 69 70 71 72	F	00 1107014	ò	š ;	COMBI SW INPOL 3	7 5	+	COMBI SW CUITOI 3	
			Connector Type	7	8 8	> {	COMBI SW INPUT 3	7	+	COMBLEW OUTPULT	
			<b>€</b>		8 8	9 4	PUSH SW	<u> </u>	5 -	COMBI SW CUIPUL 2	
Terminal	Color		2		90	-	CAN-H	146	146 SR L	COMBLSW OUTPUL 3	
Š	_	Signal Name [Specification]	ė	4567   8 9 10	92	9	KEY SLOT ILL	120	╁	DRIVER DOOR SW	
41	>	ACC POWER SUPPLY		-	93	>	ON IND	151	1 G	REAR WINDOW DEFOGGER RELAY CONT	
42	>	FUEL LEVEL SENSOR SIGNAL			95	0	ACC RELAY CONT				
43	œ 9	INTAKE SENSOR SIGNAL			96	g .	A/T SHIFT SELECTOR POWER SUPPLY				
44	PC	IN-VEHICLE SENSOR SIGNAL			97	_	S/L CONDITION 1				

JCLWA3799GB

Р

JCLWA3807GB





JCLWA3808GB

### **AUTO LIGHT SYSTEM**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

D000E	А
Signal Name [Specification]	В
	С
Terminal   Color   C	D
If cartion	Е
PERIOR FRONT DOOR SWITCH (PASSENGER SIDE)  Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]  EB  THEORY CS12-M4-1V  THEORY CS12-M4-1V  THEORY CS12-M4-1V  THEORY CS12-M4-1V	F
Name	G
Connector Nar Connector Nar Connector Nar Connector Nar Connector Type Connector Nar C	Н
Without ICC   - [With ICC   - [Without	I
	J
X       X	K
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
	EXL
Signal Name (Specification)  Signal Name (Specification)  Signal Name (Specification)  Signal Name (Specification)  Without certeriainment system)  Without entertainment system  Without entertainment system)  Without entertainment system)	M
AUTO LIGHT SYSTEM  Journector No. B201  Somector No. B201  This Democrator Name  WRE TO WIRE  THISDFW-CSIG-TMA  THISDFW-	Ν
AUTO LIGA  Connector Name  Vegetary  Connector Name  Vegetary  Connector Name  Vegetary  Vegetar	_
	0
JCLWA3809GB	Р

AN	АОТО ШĞНТ	HISYSIEM						
Connector No.	or No.	E8	17	٦	-	1.1	ŋ	-
3	Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE	18	Ь	-	72	5	-
	Malico	ENGINE ROOM)	19	9	-	73	٣	-
Connector Type	or Type	NS08FW-CS	20	۸	– [With ICC]	74	BR	-
þ			20	А	- [Without ICC]	192	٦	-
厚			21	BR	-	7.7	W	-
			22	ч	- [With ICC]	78	Ь	-
	_	85	22	۸	- [Without ICC]	80	SB	_
		90 88 87 86	23	5	1	81	٦	-
		20 00 00 00	24	7	- [With ICC]	82	М	1
			24	۵	- [Without ICC]	83	ΓC	1
			25	≻	- [With ICC]	84	æ	1
Terminal	_	9.00	25	_	- [Without ICC]	85	g	1
N	of Wire		26	SHIELD	1	98	۵	1
83	œ	1	28	g	1	87	Μ	1
84	۵	1	29	9	1	88	0	1
98	М	1	30	0	1	68	PΠ	1
88	g	1	31	æ	1	06	BR	1
68	æ	1	32	*	1	16	æ	
06	>-	1	33	>	1	95	æ	1
			34	0	1	93	SB	1
			35	SB	1	94	×	1
Connector No.	ı	E106	36	۵	1	95	>-	1
	;	L Carr	37	>	1	96	М	1
Connect	or Name	Connector Name   WIKE   U WIKE	38	æ	1	100	>-	1
Connector Type	or Type	TH80FW-CS16-TM4	39	97 19	ſ			
[	_		14	97	1			
修		ď	42	>	1	Connector No.	No. MI	-
VIIC		11 12 13 13 13 13 13 13 13 13 13 13 13 13 13	43	۳	1		Γ	
			44	g	1	Connector Name		FUSE BLUCK (J/B)
			45	æ	1	Connector Type	Г	NS06FW-M2
		20 00 00 00 00 00 00 00 00 00 00 00 00 0	46	>	1	ı	1	
		8 8 8 8 8 8 8 8 8	47	-	1	B		
			48	۵	,	\ <u></u>		
Termina	Color		49	S	1			3A3A
Š		Signal Name [Specification]	20	ä	1			V 2 V Z
-	G	1	51	В	1			8A /A 0A 3A 4A
2	0	1	52	>	1			]
က	g	1	23	0	1			
4	9	1	54	۳	1	Terminal	_	2
2	Υ	1	22	SB	1	Ñ.	of Wire	Olghai Ivaine [Opecindadori]
9	Α	1	26	۵	1	41	0	1
7	5	1	69	а	1	2A	5	1
œ	>	1	09	SB	1	3A	_	1
6	۲	-	19	۸	-	4A	Ь	_
10	BR	1	62	Ь	1	2A	^	1
=	В	1	63	97	-	6A	٨	1
12	9	-	64	7	-	7.A	ď	-
13	۲	_	65	0	_	8A	٦	_
14	Μ	-	99	٦	1			
15	SHIELD	1	69	_	1			
16	SB	1	70	SHIELD				

JCLWA3810GB

Α

В

С

D

Е

F

G

Н

96 0 W Y 001				
	1 1 1 1		1 1 1 1 1 1 1 1 1 1 1 1	
	SB LG	> 0 8 8 0 8 8 >	SHIELD O O O O O O O O O O O O O O O O O O O	S x x x 0 0 < 0 8 7 1 0 8 7 0 < 0 < 0 0 8 8 8 8 9 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
35 36 38 38 38 41 41 42 44 44 45 46 46 47 47 47 47 47 47 47 47 47 47 47 47 47	48 49 50 51	52 54 55 56 50 60	65 65 66 66 69 70 71 73	77 77 78 80 81 82 83 84 84 86 86 86 87 87 88 80 90 90
AUTO LIGHT SYSTEM Cornector No. M6 Cornector Name WIRE TO WIRE Cornector TH80MW-CS16-TM4  Cornector Type TH80MW-CS16-TM4  Line The Cornector TH80MW-CS16-TM4  The Cornector The Cornector Th80MW-CS16-TM4  The Cornector Th80MW-CS16-TM4  The Cornector Th80MW-CS16-TM4  The Cornector Th80MW-CS16-TM4	O'color of Wire G O	SSB		BR
AUTO LIG Connector Name Connector Type	leui.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<del> </del>	22 22 22 22 22 23 23 24 24 25 25 25 25 25 25 25 25 25 25 25 25 25
Comm	F Z			

EXL

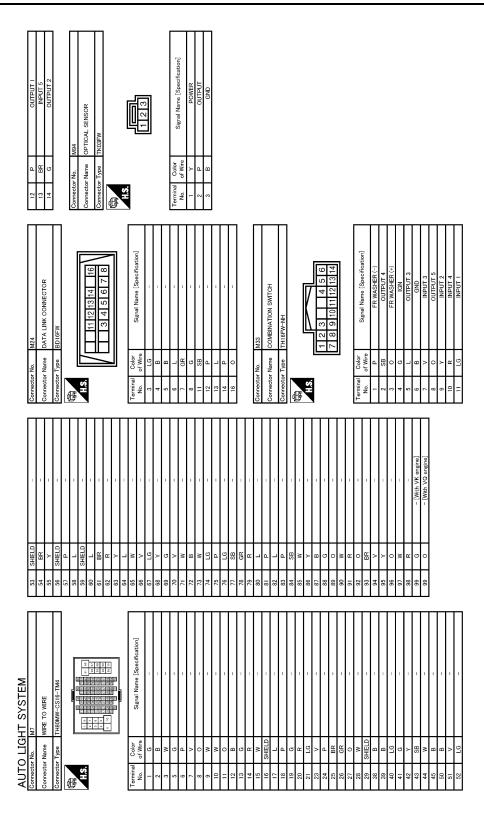
Κ

M

Ν

0

JCLWA3811GB



JCLWA3812GB

Α

В

С

D

Е

F

G

Н

**EXL-103** Revision: 2009 August 2010 FX35/FX50

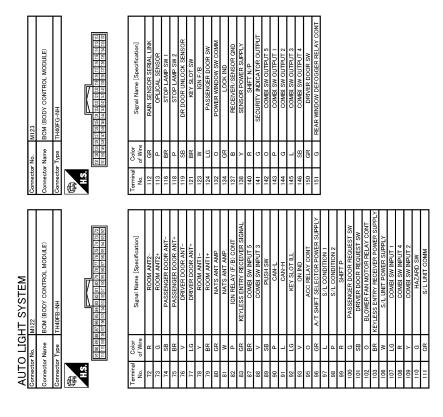
Κ

 $\mathbb{N}$ 

EXL

Ν

0



JCLWA3814GB

Description

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

Wiring Diagram - HEADLAMP AIMING CONTROL SYSTEM (MANUAL) - INFOID:000000005244761

IGNINONS SWITCH

AMPT

FEOUNT

AMPT

FEOUNT

MOTORI

AMPT

FEOUN

MOTORI

FEOUN

Н

Α

В

C

D

Е

F

Κ

EXL

M

Ν

0

Р

2009/07/29

JCLWA3825GB

HEADLAMP AIMING CONTROL (MANUAL)

[XENON TYPE]

	E	L	- M 48	0	H	90 BR -	Н	L	SB	94 W -	95 Y –	- M 96	100 Y   001																																					
	- [Without ICC]	1	1	1		-	-				-			1	1	1	1	1	-	-	-	1	1	1		11 11	1	1	1		1	1	1		1	-	ſ	1	1	-	1	1	-	1	1	1	1	1	I	
	25 L	26 SHIELD	28 G	H	30 0	31 BR	32 W	33 Y	Н	+	36 P	+	+	39 F.G	╀	╀	H	45 GR	Н	Н	4	+	+	21. 22.	1 26	2 2	+	+	╀	╀	H	62 P	63 LG	64 L	0 99	7 99	7	φ	+	+	H	74 BR	7 9 <i>L</i>	W 77	78 Y	80 SB	$\dashv$	82 W	83 LG	┥
	_	1	1	-	_	-	-	_			E106	WIRE TO WIRE		TH80FW-CS16-TM4			8	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				Signal Name [Specification]		1	ı	1 1	1		1	1	1	1	_	_	_	_	1	1	1	-	_	- [With ICC]	- [Without ICC]	-	- [With ICC]	- [Without ICC]	-	- [With ICC]	- [Without ICC]	– [With ICC]
<u>(</u>	IF SB	┞	3F Y	4F G	0F 0	38 T	9F R	10F L		- [	Connector No.	Connector Name	ŀ	Connector Type	4	V.					- 1	Terminal Color	†	о - «	$^{+}$	S SB	t	ł	ł	>	9 R	H	11 B	12 G	13 R	Н	Š	16 SB	4	18 P		20 W	20 Y	21 BR	22 R	Н	23 G	24 L	24 P	25 Y
HEADLAMP AIMING CONTROL (MANUAL)	Connector No. E26	THE CONTRACTOR OF TAXABLE PARTY.		Connector Type RK03FB	ģ	医	<		(123)	)	0		Signal Name [Specification]	of Wire	1	-			Connector No. E56	Connector Name FRONT COMBINATION I AMP I H		Connector Type RK03FB	1	A Artis	<b>→</b>		1213	)			No. of Wire Signal Name [Specification]	5	2 0 -	3 B -		- 1	Connector No. E103	Connector Name FUSE BLOCK (J/B)		Connector Type NS16FW-CS	á	图		7F 6F 5F 4F 1 3F 2F 1F	14F 14F 14F 13F 13F 11F 10F 9F 8F	5			Terminal Color Signal Name [Specification]	of Wire

JCLWA3826GB

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Α

В

C

D

Е

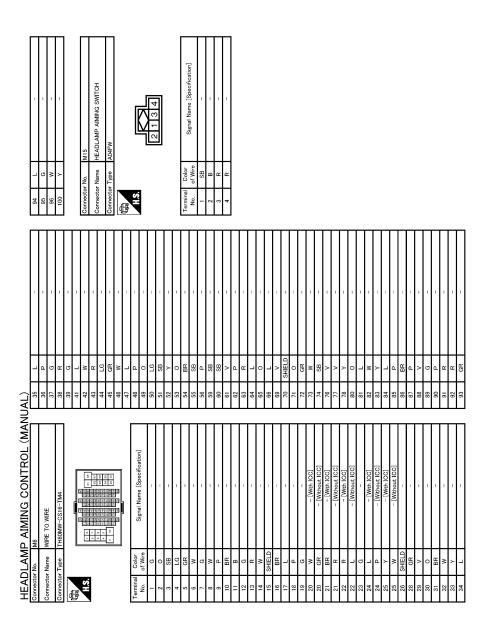
F

G

Н

J

Κ



EXL

M

Ν

0

JCLWA3827GB

INFOID:0000000005244762

## **Component Inspection**

# 1. CHECK HEADLAMP AIMING SWITCH

1. Remove the headlamp aiming switch.

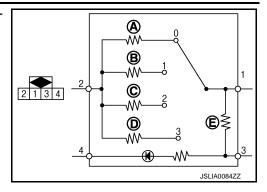
Revision: 2009 August **EXL-107** 2010 FX35/FX50

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Check the resistance among each headlamp aiming switch terminal.

<u>-</u>	aiming switch	Condition Switch position	Resistance (Approx.)
		0	Α: 910 Ω
	2	1	B: 680 Ω
1	2	2	C: 510 Ω
		3	D: 390 Ω
	3	_	E: 390 Ω



### Is the measurement value normal?

YES >> Headlamp aiming switch is normal.

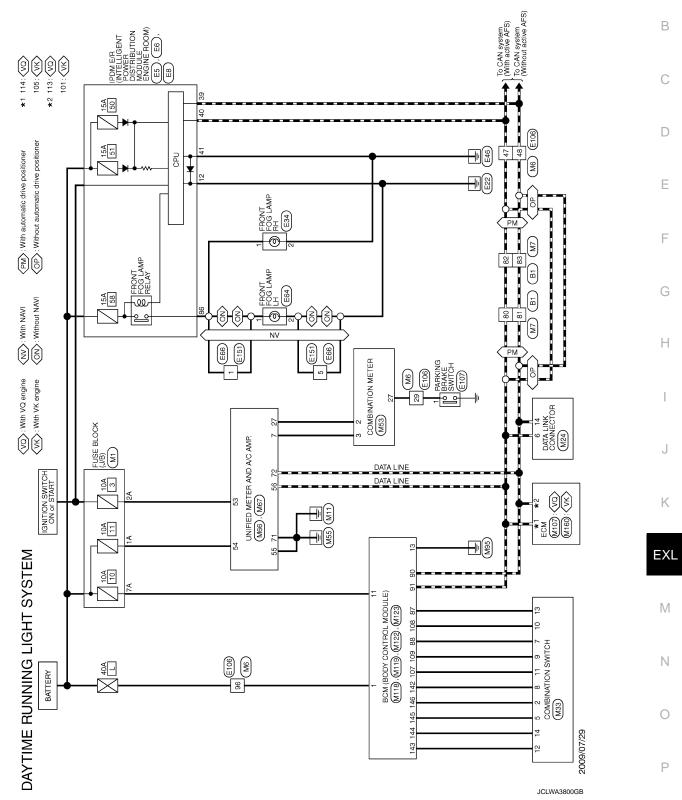
NO >> Replace the headlamp aiming switch.

INFOID:0000000005244763

Α

### DAYTIME RUNNING LIGHT SYSTEM

Wiring Diagram - DAYTIME LIGHT SYSTEM -



DAYTIME RUNNING LIGHT SYSTEM							
Connector No. B1	23	SHIELD	-	Connector No.	П	2	W
Connector Name WIRE TO WIRE	55	뚭 >	1 1	Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	45 G 46 BB
Connector Type TH80FW-CS16-TM4	92	SHIFLD	1	Connector Type	1	TH20FW-CS12-M4-1V	
	22	а	_	ą	1		
	28	٦	_	厚			Connector No. E8
	26	SHIELD	-	HS			Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE
	9	-	I		9 10 11 12 13 14	13 14 2526272629 3031323334 37 38	Т
7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	61	ا ۵	1		3 4 5	1516171819 2021222223	Connector Type NS08FW-CS
	62	SR.	1	9	ľ		Œ
	83	g	ı				THE STATE OF THE S
- 1-	94	0			ŀ		
Terminal Color Signal Name [Specification]	65	*	ſ	Terminal	Color	Signal Name [Specification]	85   84 83
	99	>	1	o O	of Wire		98 88 88 82 88
- C	67	LG		4	>	1	
2 L –	89	<b>&gt;</b>	I	5	٦	1	
3 W =	69	g	_	7	œ	_	
- 0 9	70	GR	-	10	SB	1	Jal
5 9	7.1	5	1	=	æ	1	No. of Wire
7 P -	72	В	1	12	В	1	83 R
- 0 8	73	W	1	13	>	1	
L	74	>	1	16	5 D	1	- M 98
H	75	0	1	19	×	1	9
╀	76	91	1	25	c	1	
ł	77	-	1	36		1	H
╀	78	ı g	ſ	27	:    -	Ē	
14 B	79	W	I	28	c	ı	
+	ç (8	-	1	8 8	9 8		Connector No. 1534
Į,	8 8	1 0		8	9		т
Ť	5 8	-		35 55	9 0		Connector Name FRONT FOG LAMP RH
+	70 60	_ 0	1	200			Commonton Time
0 0	3 8	r g		90	5	in in	ector Type
+	÷ 5	9 0					
+	98	: >	ı	Connector No.	No	60	V =
╀	87				Г	OM E/B ONTELLIGENT POWER DISTRIBUTION MODULE	
24 P	88	g	1	Connector Name		ENGINE ROOM)	
F	68	HH	1	Connector Type	Г	TH08FW-NH	
L	06	W	1	4			
	91	ч	-	图			
	95	0	-	E.S.		<u>K</u>	- a
29 SHIELD -	93	BR				3	No. of Wire
38 B –	94	>	_			42 41 40 39	1 W -
H	92	Υ				46 45 44 43	2 B/W -
F	96	0	1				
41 G –	97	W	-				
42 GR –	86	GR	-	Terminal	Color	Sirmal Nama [Spacification]	
43 SB –	66	W	_	No.	of Wire	oigha riaine Lobeomoadori	
$\dashv$				39	Д	1	
45 GR –				40	_	I	
4				41	ш		
-				42	<b>-</b>	1	
52 SB –				43	SB		

JCLWA3801GB

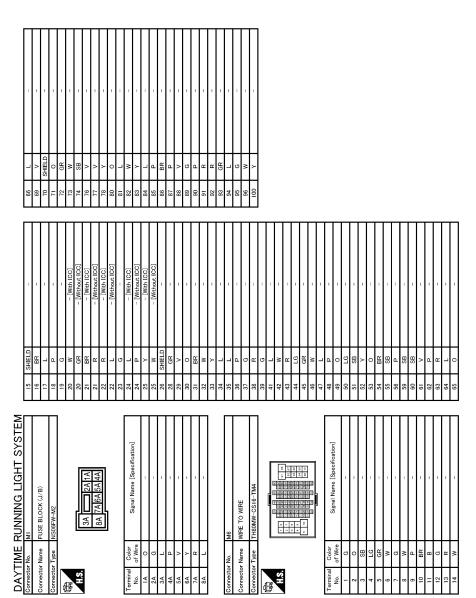
#### **DAYTIME RUNNING LIGHT SYSTEM**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

E107  PARKING BRAKE SWITCH TBOIFW  Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]	В
100   Y   Y   Y   Y   Y   Y   Y   Y   Y	C D
	Е
	F
38   37   4   4   4   4   4   4   4   4   4	G H
Signature   Sign	I
E106  WIFE TO WRE TH80FW-CSI6-TMA  TH80FW-CSI6-TMA  Signal Name (Specification)  Signal Name (Specification)	J
Connector No. Connector No. Connector Name W Connector Name W Connector Type Translation of W Color No. Co	К
SYSTEM cation]	EXL
Signal Name [Specification]  Signal Name [Specification]  - [With uAVI] - [With uavII]	M
SA COLOR Name ector Type ector Ty	N O
O O O O O O O O O O O O O O O O O O O	JCLWA3802GB

**EXL-111** Revision: 2009 August 2010 FX35/FX50



JCLWA3803GB

#### **DAYTIME RUNNING LIGHT SYSTEM**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

IN THE STORY OF STORY	А
NAST COURTOUT 2  OUTPUIT 2  OUTPUIT 2  OUTPUIT 2  OUMBINATION METER  THADFW-NH  Signal Name [Speedfoatbrid]  Signal Name [Speedfoatbrid]  BATTERY POWER SUPPLY COMMUNICATION SIGNAL (MAPTER-)AMP-) COMMUNICATION SIGNAL (MAP-)METER ALTERATOR SIGNAL (MAP-)METER GROUND  ALTERATOR SIGNAL (MAP-)METER GROUND  ALTERATOR SIGNAL (MAP-)METER GROUND  METER CONTROL SMITCH SIGNAL  SECURITY NUOLATOR SIGNAL (L.CD-)AMP-) COMMUNICATION SIGNAL (MAP-)AMP-) COMMUNICATION SIGNAL (MAP-)AMP-) DOMMUNICATION SIGNAL (MAP-)AMP-) COMMUNICATION SIGNAL (MAP-)AMP-) DOMMUNICATION SIGNAL (MAP-)AMP-) FOR COMMUNICATION SIGNAL (MAP-)AMP-) COMMUNICATION SIGNAL (MAP-)AMP-) COMMUNICATION SIGNAL (MAP-)AMP-) FOR COMMUNICATION SIGNAL (MAP-) FOR COMMUNICATION SIGN	В
	С
12   P   14   G   Commector No.   Commector No.   Commector No.   Commector Type   Commec	D
	Е
NE21   NEW CONNECTOR   BDIEFW   NEW CONNECTOR   Signal Name   Specification   NEW SHER (+)   N	F
M24 BD16FW BD16F	G
Connector No.	Н
[euißit	I
	J
	K
25	
SYSTEM Strong St	EXL
WWEE CSIG-TMA Signal Name (Specification)	M
Connector No.   M7   Connector No.   M7   Connector No.   M7   Connector No.   M7   Connector No.   M8   Connector Type   Theometical No.   Connector Type   Connector Type   Theometical No.   Connector Type   Connector Type   Theometical No.   Connector Type   Connector Type   Theometical No.   Connector Type   C	N
IIM	
	0
JCLWA3804GB	Р

DA√	TIME	DAYTIME RUNNING LIGHT SYSTEM		(		;	,		,	}	an interior of the contract
Connector No.	T	Mbb	42		AMBIEN SENSOR SIGNAL	2	<u> </u>	IACHO		<u> </u>	SIEP LAMP CUIPUI
Connect	Connector Name	UNIFIED METER AND A/C AMP.	46	0 >	SUNLOAD SENSOR SIGNAL GAS SENSOR SIGNAL	1112	0 >	AVCC-PDPRESS GND-A	∞ σ	> 0	ALL DOOR, FUEL LID LOCK OUTPUT
Connector Type	Т	TH40FW-NH	23	. 5	IGNITION POWER SUPPLY	113	. a	VEHCAN-L1	ł.	١	REAR DOOR UNLOCK OUTPUT
ą	_		54	0	BATTERY POWER SUPPLY	114	_	VEHCAN-H1	11	œ	BAT (FUSE)
等			22	В	GROUND	116	W	GNDA-PDPRES	13	В	GND
H.S.			26	_	CAN-H	117	GR	KLINE	15	>	ACC IND
	2 3 4	15 6 7 8 9 10 11 14 15 16   120	57	> 1	BRAKE FLUID LEVEL SWITCH SIGNAL	121	P C	cDCV	17	> (	TURN SIGNAL RH (FRONT)
	21 22 23	25 26 27 28 30 34 36 38 40	88 8	a (	FUEL LEVEL SENSOR GROUND	122	، ۵	BRAKE	00 9	0 8	TURN SIGNAL LH (FRONT)
			8 8	<u>-</u>	IN TAKE SENSOR GROUND	124	۵ ۵	ONS	+	9	ROOM LAWP LIMER
			9	H H	AMBIENT SENSOR GROUND	125	. E	VBR			
Terminal	_	Simpl Name [Specification]	62	SB	SUNLOAD SENSOR GROUND	126	BR	BNC SW			
No	of Wire	Ogna marie Lobecincadori	63	ч	ION MODE SIGNAL	127	В	GND			
4	۵.	STOP LAMP SWITCH SIGNAL	65	٥.	ECV SIGNAL	128	B	GND			
n «	ا د	DADDI E SHIETED LID SIGNAL	8 5	۵ ـ	EACH DOOR MOTOR DOWER SLIDE! Y						
^	g	COMMUNICATION SIGNAL (AMP>METER)	17	£ @	GROUND	Connector No.	or No. M118	8			
∞	_	VEHICLE SPEED SIGNAL (2-PULSE)	72	۵	CAN-L		Ι.	(S III DOM TOUTHOU MODIFIED			
6	SB	FRONT SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)				Collifect		W (BODT CONTROL MODOLE)			
10	M	MANUAL MODE SIGNAL				Connector Type	П	M03FB-LC			
Ξ	g	NON-MANUAL MODE SIGNAL	Connector No.		M107	qĮ					
4	H.	COMMUNICATION SIGNAL (LCD->AMP.)	Connector Name		ECM	事					
50	-	ION SENSOR SIGNAL		_		H.S.					
23	> :	AT SNOW SWITCH SIGNAL	Connector Type	1	RH24FGY-RZ8-R-LH-Z			1 3			
52	>	MANUAL MODE SHIFT DOWN SIGNAL	ą.								
26		PADDLE SHIFTER DOWN SIGNAL	AL STATES	Ц	Ц			]			
7 8	3 6	COMMUNICATION SIGNAL (METER-SAMP.)	Ν̈́E		120						
87	Υ >	DADKING BDAKE SMITCH STONAL			123 119 115 111 107 108	Tanamaina	L				
8 8	> >	COMMINICATION SIGNAL (AMB-N CD)			122 118114110	No	of Wire	Signal Name [Specification]			
5 8	-	BI OWER MOTOR CONTROL SIGNAL		_		-	*	BAT (F/1)			
3						- 2	t	POWER WINDOW POWER SUPPLY (BAT)			
			Terminal	Color	Signal Name [Specification]	3	0 P	POWER WINDOW POWER SUPPLY (RAP)			
Connector No.		M67	No.	of Wire	O'B' is 1 value [Observed of						
Connect	Connector Name	UNIFIED METER AND A/C AMP.	97	œ	APS1						
	П		98	×	APS2 [With ICC]	Connector No.	or No. M119	61			
Connector Type	٦	TH32FW-NH	86	۵	APS2 [Without ICC]	Connector Name		BCM (BODY CONTROL MODILIE)			
1			66	g .	AVCC-APS1 [With ICC]		Т				
李			66	_	AVCC-APS1 [Without ICC]	Connector Type	٦	NS16FW-CS			
HS.			100	×	GND-A(APS1)	₫.	_				
	44 40 49	2 44 45 46 47	101	8	ASCDSW	手					
	57 58 59	52 63 65 69	102	9	FTPRS	H.S.					
		200	103	_	AVCC-APS2 [With ICC]		4	6 7 6 9			
			103	o 8	AVCC-APS2 [Without ICC]		11 12	13 14 15 16 17 18 19			
ŀ	L		104	¥ 6	GND-A(APSZ) [with ICC]						
No.	of Wire	Signal Name [Specification]	105	<u> </u>	GND-A(APSZ) [Without ICC] PDPRESS						
4	>	ACC POWER SUPPLY	106	3	11	Termina	Color				
42	>	FUEL LEVEL SENSOR SIGNAL	107	ä	AVCC-FTPRS	Š	_	Signal Name [Specification]			
43	· œ	INTAKE SENSOR SIGNAL	108	>	GNDA ASCD	4	-	INT ROOM LAMP PWR SUPPLY (BAT SAVE)			
44	97	IN-VEHICLE SENSOR SIGNAL	109	g	NEUT-H	2	T	PASSENGER DOOR UNLOCK OUTPUT			

JCLWA3805GB

LE)	96 001	J 6 6 -	AVCC2-APS2 [With ICG] AVCC2-APS2 [Without ICG] AVCC-APS1 [With ICG] AVCC-APS1 [Without ICG]
	101	а	VEHCAN-L
	102	SB	ASCDSW
	104	Я	APS1
Ē	105	٦	VEHCAN-H
5 114 113 112	106	٦	IGNSW
	108	٨	APS2 [With ICC]
	108	d	APS2 [Without ICC]
	110	Ь	BRAKE
	111	>	GNDA-ASCDSW
actorij	112	97	FPCMCK
LINK	114	GR	K-LINE
œ	115	BR	GNDA-APS2 [With ICC]
1	115	HD.	GNDA-APS2 [Without ICC]
2	116	Ð	NEUT-H
NSOR	117	BR	BNCSW
	118	В	BATT
	119	М	GNDA-APS1
SW	120	М	TF
DOMM	121	GR.	VBR
	123	В	GND
GND	125	В	FPCM
PPLY	127	57	CDCV
	128	В	GND
THULL			

Connector No.	r No.	MI23
Connector Name	r Name	BCM (BODY CONTROL MODULE)
Connector Type	r Type	TH40FG-NH
H.S.	131 (93) (23) (23) (23) (13) (13) (13) (13) (13) (13) (13) (1	
Terminal	Color	
No.	of Wire	
112	GR	
113	۵ ا	AL SENSO
118	ž a	STOP LAMP SW I
119	SB	loci
121	H :	KEY SLOT SW
123	≥ ⊆	DASSENGER DOOR SW
132	0	POWER WINDOW SW COMM
134	GR	LOCK IND
137	8	RECEIVER/SENSOR GND
138	≻	SENSOR POWER SUPPLY
140	œ (	SHIFT N/P
142	5 0	
143	۵	
144	5	SW OUTPUT
145	7	SW OUTPUT
146	SB 5	COMBI SW OUTPUT 4
151	¥5 e	DRIVER DOOR SW  DEAD WINDOW DEFORGER BELAY CONT
	,	
Connector No.	r No.	M160
Connector Name	r Name	ECM
Connector	r Type	RH24FGY-RZ8-R-LH-Z
€		
H.S.		116112
		125 121 117   108 101 97
Terminal No.	Color of Wire	Signal Name [Specification]
97	۵	TACHO

DAYTIME	DAYTIME RUNNING LIGHT SYSTEM
Connector No.	M122
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH
唇 HS.	
91 90 89 81	90 89 88 87 88 85 84 83 82 81 80 73 77 87 87 87 78 72 72 72 74 77 87 87 87 87 88 88 88 88 88 88 88 88

-																																		
Signal Name [Specification]	ROOM ANT2-	ROOM ANT2+	PASSENGER DOOR ANT-	PASSENGER DOOR ANT+	DRIVER DOOR ANT-	DRIVER DOOR ANT+	ROOM ANTI-	ROOM ANT1+	NATS ANT AMP.	NATS ANT AMP.	IGN RELAY (F/B) CONT	KEYLESS ENTRY RECEIVER SIGNAL	COMBI SW INPUT 5	COMBI SW INPUT 3	PUSH SW	CAN-L	CAN-H	KEY SLOT ILL	ON IND	ACC RELAY CONT	A/T SHIFT SELECTOR POWER SUPPLY	S/L CONDITION 1	S/L CONDITION 2	SHIFT P	PASSENGER DOOR REQUEST SW	DRIVER DOOR REQUEST SW	BLOWER FAN MOTOR RELAY CONT	KEYLESS ENTRY RECEIVER POWER SUPPLY	S/L UNIT POWER SUPPLY	COMBI SW INPUT 1	COMBI SW INPUT 4	COMBI SW INPUT 2	HAZARD SW	S/L UNIT COMM
Color of Wire	æ	9	SB	BR	۸	9 <b>7</b>	У	BR	GR	W	Ь	GR	BR	۸	SB	Ь	7	LG	۸	0	GR	L	Ь	В	G	SB	0	BR	W	LG	ď	У	G	GR
Terminal No.	72	73	74	75	9/	1.1	78	79	80	81	82	83	87	88	68	06	91	92	93	92	96	97	98	66	100	101	102	103	106	107	108	109	110	111

JCLWA3806GB

Α

В

С

D

Е

F

G

Н

ľ

J

Κ

EXL

 $\mathbb{N}$ 

Ν

0

Р

INFOID:0000000005244764

JCLWA3828GB

## FRONT FOG LAMP SYSTEM

Wiring Diagram - FRONT FOG LAMP -

To CAN system
(With active AFS)

To CAN system
(Without active AFS) POWER DISTRBUTION DODULE ENGINE ROOM) (ES), (E6), IGNITION SWITCH ON or START DATA LINE ⟨PM⟩: With automatic drive positioner ⟨OP⟩: Without automatic drive positioner 15A 50 CPU 15A 51 ⟨NV⟩: With NAVI ⟨ON⟩: Without NAVI 6 14 DATA LINK CONNECTOR (M24) 91 FUSE BLOCK (J/B) 10A BCM (BODY CONTROL MODULE) (M118) (M119) (M122) (M123) COMBINATION SWITCH FRONT FOG LAMP BATTERY 2009/07/29

#### FRONT FOG LAMP SYSTEM

				EO IPOM E/R (INTELLIGENT POWER DISTRIBUTION MODULE				Ш	84	8 87 86			Signal Name [Specification]	-		1	-				AMP RH				ſŕ	<u>C</u>				Signal Name [Specification]		1 1																	E	
	5 B	á	83	Τ,	-	rpe NS08FW-CS			85	8 68 06			е	ч	۵. ٤	. 5	BR	×		b. E34	ame FRONT FOG LAMP RH	Т			L		<del>ال</del> ا			Color		w w																	(	)
H	45	1	N rotogona	O N	Connector No	Connector Type	E	H.S.					2	Н	+	+	88	06		Connector No.	Connector Name	Connector Type		厚	H.S.					Terminal	o,	- 0	7																	)
	IBUTION MODULE				37 38	35 36			oification]																	IBUTION MODULE									oification	uncauoni													E	Ξ
	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	TH20FW-CS12-M4-1V			2526272829 3031323334	1516171819 2021222			Signal Name [Specification]	1	ı	1 1	1	1		1	1		I	ı	1					IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	HN-A				42 41 40 39	45 44	2		Signal Name [Snecification]	Olgital Natific Lope	I		1	1									F	=
N act	au.	Connector Type TH20FV			9 10 11 12 13 14	3 4 5 6 7 8			al Color of Wire		ا ر	ar 8%	BR	В	> =	2 ×	9	œ >	- 0	GR	SB c	1 0			Τ	Connector Name ENGINE RC	Connector Type TH08FW-NH	1		_			=		al Color		Д	_	۸ ک	SB									(	)
oW actooms?	Connect	Connect	1	\(\frac{1}{2}\)		T			Terminal	4	S 1	r   £	=	12	13	61	25	<sup>5</sup> 28	28	30	32	3 %	] 		Connector No.	Connect	Connect		E □	HS	Т		_		Terminal	Š	39	9 5	45	43									-	-
		1			1				1 1	-	1	1 1	-	_			-		ı	1			1	-					1				1	1		-														
																																																		J
4	-	н	$\neg$	SHIELD	$\overline{}$	a 8	+	Н	≥ >	+	Н	+	5 5	Н	× >	+	Н	+	<u></u> ≤	_	+	۵	H	Н	+	+	╀	╁	۳	+	+	> >	. 0	H	GR	Н													ŀ	(
L	8 25 %			29	9	19	83 83	64	65	67	89	69	17	72	57 2	75	76	77	79	8	<u>8</u>	8 8	84	82	98	8	8 8	6	91	95	93	94	96	97	86	66				_									<b>E</b> \	ΚL
		TM4		- FI		191518	13. I		Signal Name [Specification]	-		1 1	-	-		1	-	1 1	I	1	1		1	1	1		1	1	1		1		1	1		-			1 1											
FRONT FOG LAMP	WIRE TO WIRE	TH80FW-CS16-T			2 S 2 S 2 S 2 S 2 S 2 S 2 S 2 S 2 S 2 S							1														$\downarrow$																							1	1
FRONT F	Connector Name	Connector Type	4	SI					Terminal Color No. of Wire		2 L	e .c.	9	Н	0 3 8 0	+	П	12 13 14	т	П	T	2 0	Т	П	7	T	Т	Т	27 0	┪	┱	20 G	╀	L	Н	Н	Н	45 GR	20 21 20 20 20 20 20 20 20 20 20 20 20 20 20	52 SB										)
٥					•			_		•		•			•			•		_						•												•		_		JCLV	VA3	829	ЗB					
																																																	F	1

FRONT FOG LAMP	Connector No.	E106	98	٩		- A 36
_		Т	6	ł		
Connector Name FRONT FOG LAMP LH	Connector Name	ne WIRE TO WIRE	è e	- 8		*>
Compactor Time	Contactor Time	THOODING THAT	8 8	ł		
acco Lybe	Collifector 196	7	8 3	$^{+}$		
4	Œ		<u>'</u>	2 :	ı	-
A TOTAL TOTA	1		74 5	+	1	Connector No.
ES.	H.S.		3	+	ı	Connector Name WIRE TO WIRE
			4	-	1	
((5 1))			45	GR GR	1	Connector Type RS08MB-PR
)		8	46	W	1	ģ
			47	, ,	1	
			4	<u>م</u>	1	
	Terminal	Color	49	╀	1	
No. of Wire Signal Name [Specification]	_	of Wire Signal Name [Specification]	200	╀	1	(7234)
t	t	1		ł	1	(5 6 7 8
	-   "		1	$^{+}$		
CAN EMICHANI	$^{+}$		8 8	+		
ER.	+		ó	+	1	ŀ
2 B/W – [Without NAVI]	+	- 57	24	+	1	ıa
	2	Τ .	Š	$\dashv$	1	No. of Wire
Ī	9	M	26	$\dashv$	I	
Connector No. E66	7	5	20	$\dashv$	1	2 L –
Connector Name MIDE TO WIDE	8		90	SB (	1	3 Y
	6		19	^	1	4 R
Connector Type RS08FB-PR	10 B	BR -	62	2 P	-	5 GR -
4	Ξ	- 8	9	97 8	-	6 BR -
医	12	ı	94	1	ī	- M L
<u>[</u>	L		65	0	Т	8 SHIELD -
		M	99	L	11	
ų,	H	SHIELD	9	_	ı	
8 7 6 5	S 91	- SB	2	SHIELD	1	Connector No. M1
)	ł		7	T		Γ
	╀	,	- 62	╀		Connector Name FUSE BLOCK (J/B)
	19		1 5	0	1	Connector Type NS06EW=M2
No of Wire Signal Name [Specification]	+	- [With ICC]	2 2	Ŧ		7
т	╀	-	1, 7,	$^{+}$	1	1
1	╀		-	3	1	
7 2	$^{+}$	[001 H30]	, F	$^{+}$		24 10 10 10 10 10 10 10 10 10 10 10 10 10
- 0	+		0 8	- 8		]
t	+		5	$^{+}$		8A 7A 6A 5A 4A
M/M	57 5	501 1980	5 S	+	1	
	+		3 6	+	1	
T	+		3 3	$^{+}$	1	⊢
8 SHIELD =	+	Y = [With ICC]	8	+	1	g
	52	- [Without ICC]	82	<i>5</i>	1	No. or wire
	┪	SHIELD -	ĕ	+	1	0
	+	- 5	87	+	1	2A G -
	$\dashv$		88	$\dashv$	I	T
	30	- 0	ő	-	1	4A P –
			ŏ	+	-	>
	+		<u></u>	+	1	4
	$\dashv$	Τ.	95	$\dashv$		7A R -
	34	- 0	6	3 SB	1	8A L –
	Н		<u>க்</u>	Α	-	

JCLWA3830GB

Α

В

С

D

Е

F

G

Н

	94 L	1 0	>> 3	ł	ł																																														
	-			1		-	- M		DT			7	- П			SB		- 0		SB -								- 0		Α .	SHIELD -				90 >			- 0		- M		-		BR -		-	- 5			-	
	35	35	+	ł	39	H	F	H	44	H	Н	47	$\dashv$	+	20	+	+	+	54 E	+	+	+	+	+	4	$\dashv$	64	Н	99	69	T	+	+	$^{+}$	+	2, 2,	╁	H	H	L	H	84	L	H	H	L	H	H	H	92	ł
EDON'T EOC - AMB		Т	me WIRE TO WIRE	De THROMW-CS16-TM4				\$ 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	88 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8				Color Signal Name [Specification]					DT	GR -								R -	M	SHIELD -	BR -	-	1			= [Without ICc]			L - [Without ICC]	5	L – [With ICC]	P – [Without ICC]	Y - [With ICC]	W – [Without ICC]	Q-	GR -	-	- 0		- M		
Ę	Connector No.	١	Connector Name	Connector Type	١.		S.	_					Terminal	₽	4	4		1	1	4	4	4	4	1	4	Ц	Ц		SH	Ĺ	Ц	4	1	1	1	1	$\downarrow$	L	L	L	L	L	L	동	Ľ	L	L	Ľ	L	Ļ	ļ

Κ

EXL

 $\mathbb{N}$ 

Ν

0

JCLWA3831GB

Р

JCLWA3832GB

Connector No. M123
Connector Name BCM (BODY CONTROL MODULE)
Connector Type TH40FG-NH

MA

A.S.

Extract:

FRONT FOG LAMP

Terminal	Color	Signal Name [Specification]	Tern
No.	of Wire	Dispersional company and the	Ž
72	ч	ROOM ANT2-	Ξ
73	5	ROOM ANT2+	Ξ
74	BS	PASSENGER DOOR ANT-	F
75	BR	PASSENGER DOOR ANT+	Ξ
9/	^	DRIVER DOOR ANT-	=
7.7	97	DRIVER DOOR ANT+	12
78	Å	ROOM ANTI-	12
79	BR	ROOM ANT1+	12
80	GR	NATS ANT AMP.	13
81	М	NATS ANT AMP.	13
82	Д	IGN RELAY (F/B) CONT	13
83	GR	KEYLESS ENTRY RECEIVER SIGNAL	13
87	BR	COMBI SW INPUT 5	14
88	۸	COMBI SW INPUT 3	14
88	SB	WS HSU4	14
90	а	CAN-L	14
91	7	CAN-H	14
92	97	KEY SLOT ILL	14
93	^	ONI NO	14
98	0	ACC RELAY CONT	15
96	ВD	A/T SHIFT SELECTOR POWER SUPPLY	15
6	٦	S/L CONDITION 1	
98	Д	S/L CONDITION 2	
66	œ	SHIFT P	
100	ŋ	PASSENGER DOOR REQUEST SW	
101	SB	DRIVER DOOR REQUEST SW	
102	0	BLOWER FAN MOTOR RELAY CONT	
103	BR	KEYLESS ENTRY RECEIVER POWER SUPPLY	
106	W	S/L UNIT POWER SUPPLY	
107	LG	COMBI SW INPUT 1	
108	œ	COMBI SW INPUT 4	
109	Υ	COMBI SW INPUT 2	
110	G	HAZARD SW	
111	GR	WWOD LIND 1/S	

В

Α

С

D

Е

F

G

Н

J

Κ

EXL

 $\mathbb{N}$ 

Ν

0

JCLWA3833GB

Ρ

INFOID:0000000005244765

## TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

Wiring Diagram - TURN AND HAZARD WARNING LAMPS -

MULTIFUNCTION SWITCH (HAZARD SWITCH) (M72) To CAN system (Without active AFS) To CAN system (With active AFS) REAR COMBINATION LAMP RH (TURN SIGNAL) DATA LINK CONNECTOR M24 -B201) W117 0 76 REAR COMBINATION LAMP LH (TURN SIGNAL) (B60) FUSE BLOCK (J/B) M1 ) <del>[</del>6] M7 FRONT COMBINATION LAMP RH (TURN SIGNAL) UNIFIED METER AND A/C AMP. (M66) (M67) BCM (BODY CONTROL MODULE) (M118) (M119) (M129) (M123) COMBINATION METER (TURN, BUZZER) (M53) IGNITION SWITCH ON or START 10A 42 10A FRONT COMBINATION LAMP LH (TURN SIGNAL) (E58) M6 E106 ₽ 10 10 <u>E100</u> (M6 **₩** BATTERY COMBINATION SWITCH 2009/07/29

TURN SIGNAL AND HAZARD WARNING LAMPS

JCLWA3834GB

#### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

. B60	ame REAR COMBINATION LAMP LH	TH04MW-NH	1				1 2 3 4				Color Signal Name [Specification]				- 5																																				
Connector No.	Connector Name	Connector Type	1	F	H.S.						Terminal	7	1	7 .	,,,	4																																			
G LAMPS	54 BR -	SHEID	Н	T	59 SHIELD –	+		+	4	4	<b>M</b> 2	+	7	<b>→</b> (	+	E.	+	8	4	4	75 0 -	- LG -	- T L	78 GR -	_ M 62	L	- I8	Ł	ł	- 87	╀	╀	87 B	┞		H	ŀ	L	F	H	- × × × × ×	╀	╀	ľ	- M 66	ł					
TURN SIGNAL AND HAZARD WARNING LAMPS	r Name WIRE TO WIRE	Type TH80FW-CS16-TM4	1								Color Signal Name [Specification]	e.	25		M (	5	5		- 0		I BS	SB -	B -		1	- M	SHIELD -	1	1			- M	_ ^		BR -	GR -	0	- M	SHIELD -	-		1	- 5		S	-	GR	- i	1		
TURN S	Connector Name	Connector Type	á	摩	H.S.						Terminal	No.	-[	7 .	20	c ·	9	-	œ	თ	10	11	12	13	14	15	16	17	2	9	202	2.1	23	24	25	26	27	28	29	38	39	Ψ	41	42	43	44	45	30	51	52	;

В

Α

D

Е

F

G

Н

J

K

EXL

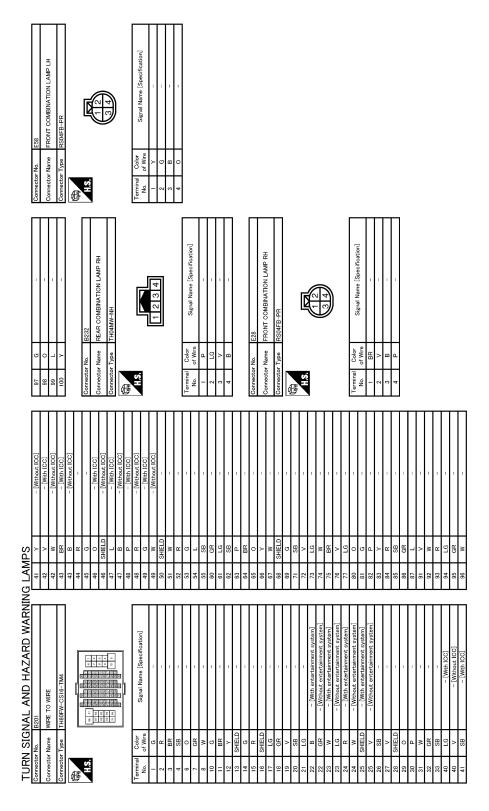
M

Ν

0

JCLWA3835GB

Р



JCLWA3836GB

### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS > [XENON TYPE]

Κ

Α

В

С

D

Е

F

G

Н

EXL

 $\mathbb{N}$ 

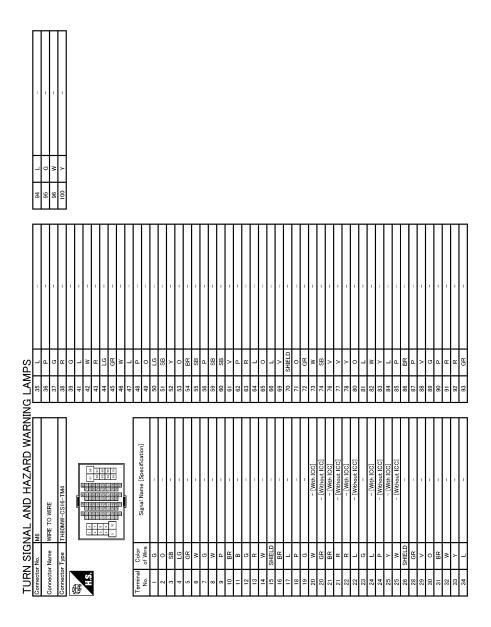
Ν

0

JCLWA3837GB

Р

Revision: 2009 August **EXL-125** 2010 FX35/FX50



JCLWA3838GB

#### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

[XENON TYPE] < DTC/CIRCUIT DIAGNOSIS >

NATER)  NATER  N	А
M63  COMBINATION METER  THOFW-NH  THOFW-NH  Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]  BATTERY POWER SUPPLY  COMMUNICATION SIGNAL (METER->MATER  ALERNATORS SIGNAL  ARE BAG SIGNAL  SECURITY INDICATOR SIGNAL  ARE BAG SIGNAL  SECURITY INDICATOR SIGNAL  GROUND  METER CONTROL SMITCH SIGNAL  GROUND  COMMUNICATION SIGNAL (LOD->MAP)  GOOMED SIGNAL  SECURITY INDICATOR SIGNAL  ARE BAG SIGNAL  GROUND  COMMUNICATION SIGNAL (LOD->MAP)  GOOMED SIGNAL  SECURITY INDICATOR SIGNAL  SECURITY INDICATOR SIGNAL  SECURITY INDICATOR SIGNAL  THEN CON OUT  SELECT SWITCH SIGNAL  THEN SWITCH SIGNAL  THEN SWITCH SIGNAL  THEN SWITCH SIGNAL  THEN SWITCH SIGNAL  SELECT SWITCH SIGNAL  THEN SWITCH SWITCH SIGNAL  THEN SWITCH SWITCH SIGNAL  THEN SWITCH	В
	С
12   P     14   G   Gonnector Name   Gonnector Name   Gonnector Type   Gonnector Type   Gonnector Type   Gold Wife   Gold Wi	D
16   16   17   16   17   17   17   17	Е
1   1   1   1   1   1   1   1   1   1	F
M24 M33 M33 M33 M33 M33 M33 M33 M33 M33 M3	G
Connector No.   Connector No.	Н
	I
- (With	J
O	K
NG   AMPS   Strict	
AZARD WARR	EXL
MY AND H MY WIRE TO WIRE THROWN-CSIE-TMA Signal Name	N
Connector Name   Connector Name   Connector Name   Connector Name   Connector Type   Conn	0
	A3839GB
	Р

**EXL-127** Revision: 2009 August 2010 FX35/FX50

TUR	TURN SIGNAL	NAL AND HAZARD WARNING	NG LAN	LAMPS	
Connector No.	or No.	M66	45	۵	AMBIENT SENSOR SIGNAL
Connecto	Connector Name	UNIFIED METER AND A/C AMP.	46	0	SUNLOAD SENSOR SIGNAL
			47	>	GAS SENSOR SIGNAL
Connector Type	or Type	TH40FW-NH	53	5	IGNITION POWER SUPPLY
	  _		54	0	BATTERY POWER SUPPLY
修			55	В	GROUND
E			26	٦	CAN-H
		(	22	Μ	BRAKE FLUID LEVEL SWITCH SIGNAL
	e 8	4 5 6 7 8 9 10 11 14 15 16 20	28	<u>a</u>	FUEL LEVEL SENSOR GROUND
	27 22 12	G+ 00 00 +tc 00 00 17 07 07	29	GR.	INTAKE SENSOR GROUND
			09	_	IN-VEHICLE SENSOR GROUND
			61	ä	AMBIENT SENSOR GROUND
Terminal	Color	3	62	gg	SUNLOAD SENSOR GROUND
Š	_	Signal Name [Specification]	63	۵	ION MODE SIGNAL
4	۵	STOP LAMP SWITCH SIGNAL	65	0	ECV SIGNAL
2	_	MANUAL MODE SHIFT UP SIGNAL	69	_	A/C LAN SIGNAL
9	0	PADDLE SHIFTER UP SIGNAL	70	œ	EACH DOOR MOTOR POWER SUPPLY
7	g	COMMUNICATION SIGNAL (AMP>METER)	17		GROUND
80	_	VEHICLE SPEED SIGNAL (2-PULSE)	72	۵	CAN-L
6	SB	FRONT SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)			
10	Α	MANUAL MODE SIGNAL			
Ξ	g	NON-MANUAL MODE SIGNAL	Connector No.	r No.	M72
14	æ	COMMUNICATION SIGNAL (LCD->AMP.)			TOTAL STATE OF THE
20	_	ION SENSOR SIGNAL	Connector Name	y Name	MOLITICAL SWITCH
23	>	AT SNOW SWITCH SIGNAL	Connector Type	or Type	TH16FW-NH
25	>	MANUAL MODE SHIFT DOWN SIGNAL	4		
56	ŋ	PADDLE SHIFTER DOWN SIGNAL	厚		
27	ΓG	COMMUNICATION SIGNAL (METER->AMP.)	H.S.		<u> </u>
28	œ	VEHICLE SPEED SIGNAL (8-PULSE)		_	1 6 0 11116
30	>	PARKING BRAKE SWITCH SIGNAL			0
34	>	COMMUNICATION SIGNAL (AMP>LCD)			1 3 5 9
38	_	BLOWER MOTOR CONTROL SIGNAL			
			ŀ		
Connector No	r No	M67	No.	of Wire	Signal Name [Specification]
			-	<u>a</u>	UND
Connect	Connector Name	UNIFIED METER AND A/C AMP.	· 65	>	ACC
Connector Type	or Type	TH32FW-NH	4	~	
			9	œ	ILL CONT
追			۳	57.	AV COMM (H)
Ę			00	97	AV COMM (L)
		7	G.	ä	SW GND
	41 42 43	3 44 45 46 47 53 54 55 56	14	67.	DISK EJECT SIGNAL
	88	59 60 61 62 63   65     69 70 71 72	19	g	HAZARD ON
Terminal No.	I Color of Wire	Signal Name [Specification]			
41	>	ACC POWER SUPPLY			
42	>	FLIEL LEVEL SENSOB SIGNAL			
43	œ	INTAKE SENSOR SIGNAL			
44	-	IN-VEHICLE SENSOR SIGNAL			
1	3	. III VEHICLE SERVICE SERVICE			

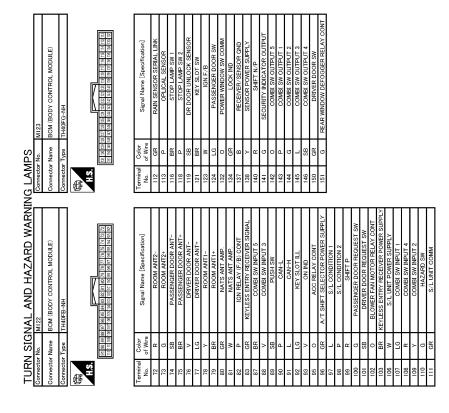
JCLWA3840GB

#### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS > [XENON TYPE]

	А
ROOM LAMP TIMER	В
8	С
Terminal No. 20 Sometime No. 2	D
MODULE)	Е
CONTROL   CONTRO	F
	G
10   10   10   10   10   10   10   10	Н
(100]   (100	I
- [With ICC] - [Without ICC] - [With VG engine] - [W	J
	K
NG   A	
NAME OF THE PROPERTY OF THE PR	EXL
Connector Name   MII   Connector Name   MII   Connector Name   MII   Connector Name   MII   Connector Type   THEOMW-CS16-ThM   Connector Type   THEOMW-CS16-ThM   Connector Type   THEOMW-CS16-ThM   Connector Type   ThEOMW-CS16-ThM   Connector Type   Connector	M
MITTY WIRE TO WIRE TH80MW-CS16-TMA TH80MW-CS16-TMA Signal Name Signal Name - [With enter - [Without enter -	Ν
Connector Name   Conn	0
JCLWA3841GB	
	Р

Revision: 2009 August **EXL-129** 2010 FX35/FX50



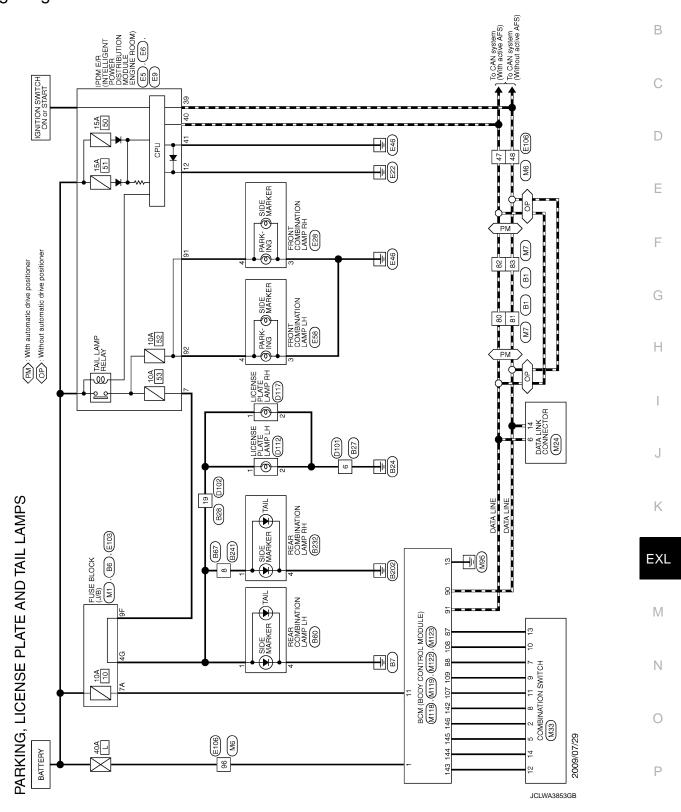
JCLWA3842GB

INFOID:0000000005244766

Α

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

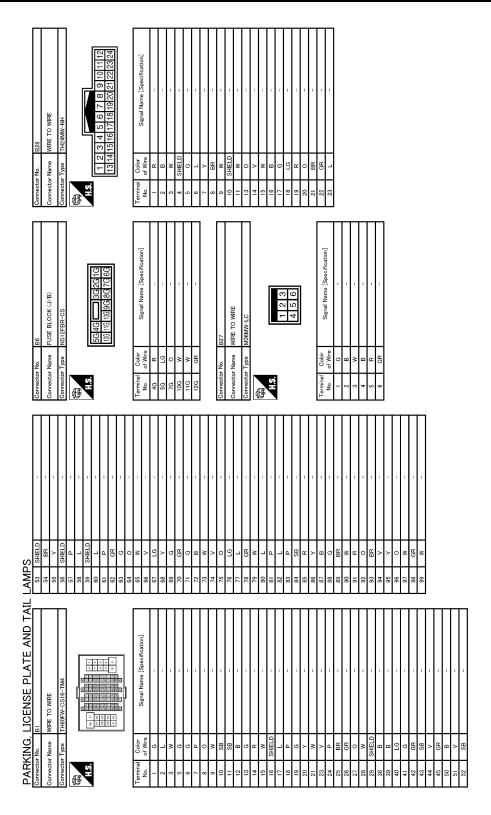
Wiring Diagram - PARKING LICENSE PLATE AND TAIL LAMPS -



### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



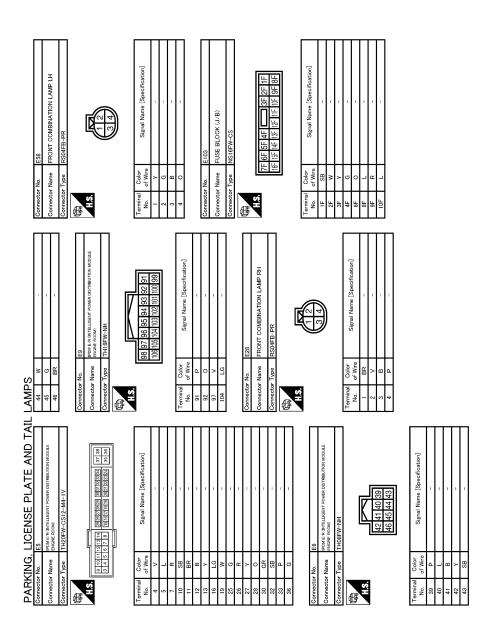
JCLWA3854GB

## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

[XENON TYPE] < DTC/CIRCUIT DIAGNOSIS >

	А
Signal Name [Specification]	В
LUCENSE TROOFFBR	С
18	D
orification]	Е
Name (Sp. 1   1   1   1   1   1   1   1   1   1	F
Signal   Color   Col	G
Connector No.   Connector No	Н
Pareoffication)	I
REAR COMBINATION LAMP RH THOAMW-NH  Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]	J
APS  Retar Name  Retar Type	K
	EXL
MBINATION LAMP LH  WIFE  CS  Signal Name [Specification]  Signal Name [Specification]	M
Connector Name   REAR COMBINATION LAMP LH	Ν
HAS  Terminal Colorector Type  Connector Name  Connector Type  Connector Name  Connector Name	0
JCLWA3855GB	Р

**EXL-133** Revision: 2009 August 2010 FX35/FX50



JCLWA3856GB

## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< DTC/CIRCUIT DIAGNOSIS > [XENON TYPE]

PAR	ζING,	PARKING, LICENSE PLATE AND TAIL LAMPS	- LAME	ပ္သ		١			
Connecto	r No.	E106	36	۵	1	92			
Occupator Name	Nomo.	MIDE TO MIDE	37		1	6		M	
	Maile	WINE TO WINE	38	GR	-	100	, 0		
Connecto	Connector Type	TH80FW-CS16-TM4	39	LG	-				
q			4	LG	1			1	
手			42	>	_	Conn	Connector No.	M1	
E			43	œ	-	ć	Connector Name	ELISE BLOCK (1/B)	
			44	5	1	3	10000		
		9 T 10 S 20 S	42	æ	1	Conn	Connector Type	e NS06FW-M2	
		10 20 20 20 20 20 20 20 20 20 20 20 20 20	46	Μ	-	þ			
			47	٦	1	ß	_		
			48	۵		4	SH		
Terminal	Color		49	SB	ı		3	3A 7 2A 1A	
Š		Signal Name [Specification]	20	æ	1			V 9 V 2	
-	g	1	51	а	1			84 / YO YO W / 48	
2	٥		52	>	1				
е.	ď		53	С					
4	9	1	2	۵		Tarmina	L	Solos	
· u	}		ı u	: 0		Z	_	Signal Name [Specification]	
0			8 8	3		-	t		
о г	× (		96	1		<u>₹</u> ;	+		
	5 :		e i	1		\$	+		
œ	>	1	09	g		ξ	+		
6	œ	1	61	>	1	44	4		
10	BR	-	62	۵	-	9A		- ~	
11	8	1	63	97	1	49		- A	
12	g	ſ	64	_	1		L	1	
5	œ	1	65	С	1	84	ł		
2	W		99	-					
<u>.</u>	× 1		8 8	1					
2	SHIELD		So i	1					
91	95	1	0/	SHIELD					
17	-	1	71	g	1				
18	۵	-	72	g	1				
19	5	1	73	œ	1				
20	Μ	- [With ICC]	74	BR	-				
20	>	- [Without ICC]	9/	_	-				
21	æ		7.1	≥					
22	۵	- [Wah ICC]	82	: >	1				
33	: >	- [Without ICC]	Q Q	. g					
77	,	Constant	8 5	3 -					
ç,	5 .	Coor rang	•	4 3					
24	-	- [With ICC]	85	3	1				
24	۵	- [Without ICC]	83	ΓC	_				
25	Υ	- [With ICC]	84	GR	-				
25	_	- [Without ICC]	82	g					
56	SHIELD		98	۵					
28	c	,	87	Χ	1				
56	٥	1	88	c					
G C	3		g	9 -					
90	ا		0 0	2 2					
31	ž	1	90	ž					
32	×	1	91	ਲ					
33	<b>\</b>	1	95	BR	1				
34	0	-	93	SB	-				
35	SB		94	Χ	-				
				l					

EXL

Κ

Α

В

С

D

Е

F

G

Н

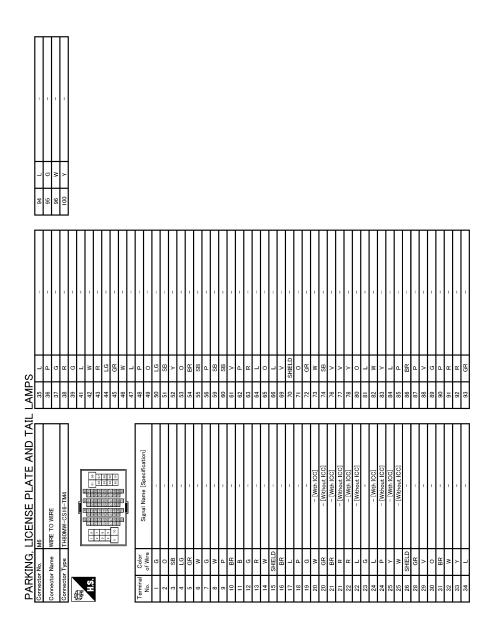
M

Ν

0

JCLWA3857GB

Р



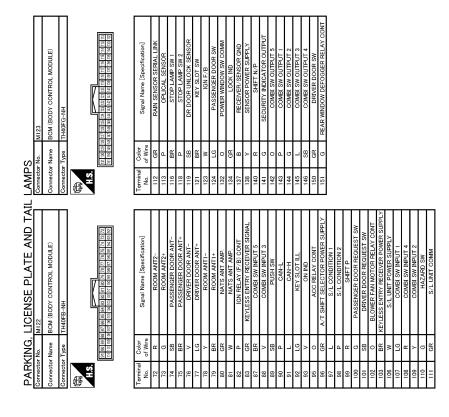
JCLWA3858GB

## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

[XENON TYPE] < DTC/CIRCUIT DIAGNOSIS >

SWE	А
NODULE)  MODULE)  MODULE)  MER SUPPLY (GAT ENULOCK OUTT ENULOCK OUTT ENULOCK OUTT ENULOCK OUTT ENULOCK OUTT ENULOCK OUT ENULOC	В
	С
12   P     14   Gomector No.   Connector No.	D
Stion Sti	Е
M24   DATA LINK CONNECTOR	F
M24	G
Connector No.   Connector Name   Connector Name   Connector Name   Connector No.   Connector No.   Connector No.   Connector No.   Connector Name   Connector No.   Connecto	Н
	I
100 - 100 -	J
So	K
I   AMP   S   S   S   S   S   S   S   S   S	
Specification]	EXL
WIRE TO WIRE THROWN-CSIG-TMA Signal Name [	N
A SHELD C SHEL	0
PARPH   PARP	
	Р

**EXL-137** Revision: 2009 August 2010 FX35/FX50



JCLWA3860GB

STOP LAMP

Wiring Diagram - STOP LAMP -

INFOID:0000000005244767

Α

В

С

D

Е

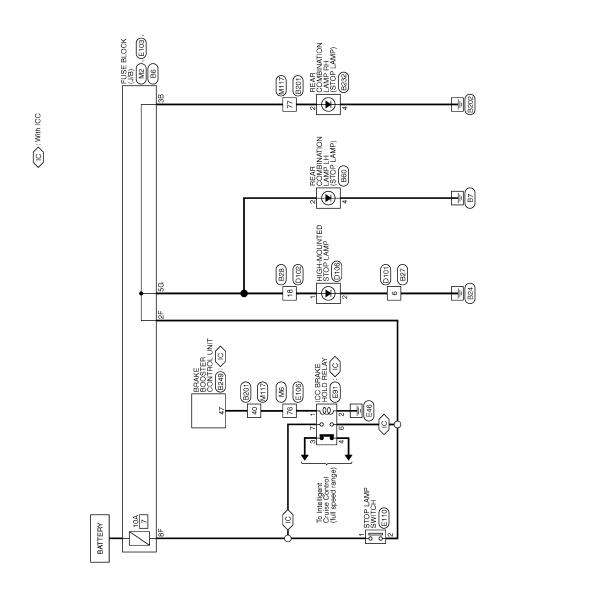
F

G

Н

J

Κ



EXL

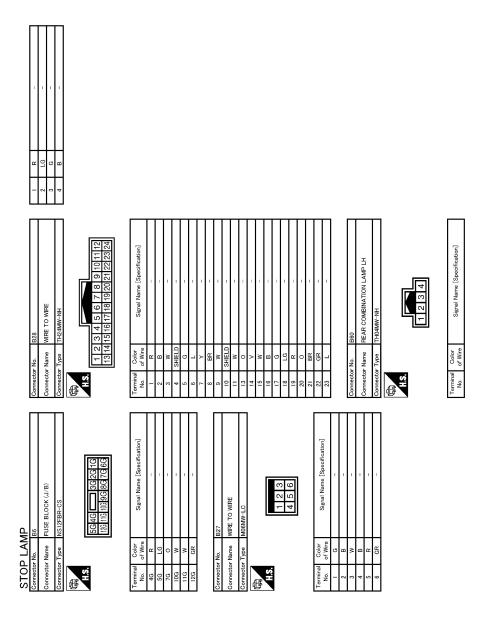
Ν

 $\mathbb{N}$ 

0

67/20/06000 P

STOP LAMP



JCLWA3844GB

Α

В

С

D

Е

F

G

Н

Κ

EXL

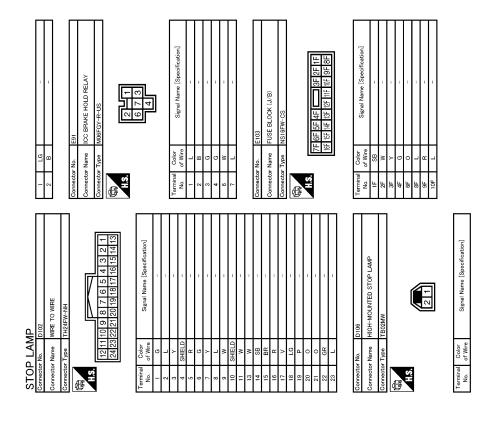
 $\mathbb{N}$ 

Ν

0

Р

Connector No. D101 Connector Name WIRPE TO WIRPE Connector Type M06FW-LC  13 2 1 6 5 4	Terminal   Color   No. of Wive   Signal Name [Specification]	
97 G	Terminal   Color   Signal Name [Specification]   Color   Connector No.   BE49   Connector No.   BE49   Connector No.   Conne	
> > × × × × × × × × × × × × × × × × × ×	48 P P - (Without ICC) 49 G P - (Without ICC) 50 Sign P - (Without ICC) 52 G C - (Without ICC) 53 G G P - (Without ICC) 54 G G P - (Without ICC) 55 G G P - (Without ICC) 56 Sign P - (Without ICC) 57 G G P - (Without ICC) 58 Sign P - (Without ICC) 59 G G P - (Without ICC) 50 G G P - (Without ICC) 50 G G P - (Without ICC) 51 W P - (Without ICC) 52 Sign P - (Without ICC) 53 Sign P - (Without ICC) 54 Sign P - (Without ICC) 55 Sign P - (Without ICC) 56 G P - (Without ICC) 57 C P - (Without ICC) 58 Sign P - (Without ICC) 58 Sign P - (Without ICC) 58 Sign P - (Without ICC) 59 G P - (Without ICC) 50 G P - (Without ICC) 50 G P - (Without ICC) 51 C P - (Without ICC) 52 Sign P - (Without ICC) 53 Sign P - (Without ICC) 54 G P - (Without ICC) 55 Sign P - (Without ICC) 56 Sign P - (Without ICC) 57 C P - (Without ICC) 58 Sign P - (Without ICC) 58 Sign P - (Without ICC) 58 Sign P - (Without ICC) 59 G P - (Without ICC) 50 C P - (Without ICC) 50	
STOP LAMP Connector No. B201 Connector Name WIRE TO WIRE Connector Type TH80FV-CS16-TM4  H.S.	Terminal   Color   Signal Name (Specification)   1   0   0   1   1   0   0   0   0   0	



JCLWA3846GB

Α

В

С

D

Е

F

G

Н

STO	STOP LAMP	ΔW							
Connector No.	or No.	E106	36	۵	-	92	λ.	-	
Connector Name	ar Name	WIRE TO WIRE	37	Υ	_	96	W	-	
000	o Marino	, with	38	GR	1	100	Y	-	
Connector Type	or Type	TH80FW-CS16-TM4	38	2					
<b>€</b>			14 6	: C		N and a sum of	2440		
Ē		80 80 80 81 81 81 81 81 81 41 81	42 42	> 0		Collifector IV	Т		
2			44	د د	,	Connector Name	me STOP LAMP SWITCH	MTCH	
			45	, g		Connector Type	pe M04FW-LC		
			46	>	1		1		
			47	Ľ	1	修			
			48	۵	,	\ \ \ \	L	ſſ	
Terminal	_	Contract of the second	49	SB	ı		7	Ī	
No.			20	Æ	1		ο ,	+ (	
-	5	1	21	В	-		1 2	2	
2	0	1	25	Y	1		]	1	
3	8S	-	53	0	-				
4	PT	ı	24	٣	1	<u>_a</u>		9	
2	>	1	22	SB		No. of	of Wire	Name Lopechication	
9	Μ	1	99	۵	,	-	1	1	
7	g	1	29	۵	1	2	W	I	
∞	>	ı	09	SB		က	5	1	
6	œ	1	61	>	1	4	BR	1	
10	BR	-	62	Ь	-				
11	В	-	63	PΠ	-				
12	ŋ	1	64	٦_	I	Connector No.	. M2		
13	۳	1	65	0	1	Connector Name	me FLISF BLOCK (1/B)	(B)	
14	*	1	99	_	1		╗	ì	
12	SHIELD	-	69	_	1	Connector Ty	Type NS10FW-CS		
91	SB	1	70	SHELD		þ			
17	_	1	17	g	1	<b>F</b>			
20	۵	1	72	g	1	HS			
19	ŋ	1	73	ď	1		4B 3B	<b>■</b> 28 18	
20	Χ	- [With ICC]	74	BR	1		108 9B 8B 7B 6B 5B	7B 6B 5B	
50	>	- [Without ICC]	9/	_	1	_			
21	ä		77	≥ :	1				
22	<u>ا</u>	- [With ICC]	9 ;	<u>}</u>		-	-		
22	>	- [Without ICC]	8	gg .		ā	Color Signal	Signal Name [Specification]	
23	5	1	50	1	-	7			
24	4	- [With ICC]	85	≥		=	9	1	
24	۵	- [Without ICC]	83	5	1	88	<u>а</u>	1	
25	≻	- [With ICC]	84	gR	_	48	g		
22	_	- [Without ICG]	82	g		2B	0	1	
26	SHIELD	_	98	۵	_	99	٨	-	
28	5	1	87	Α	-	78	1	-	
59	ΓG	1	88	0	1	4	ď	1	
30	0	1	88	LG	-	Н	3R	-	
31	BR	-	90	BR	-				
32	W	_	16	GR	_				
33	<b>&gt;</b>	1	95	BR	-				
34	0	1	93	SB	-				
35	SB	_	94	Μ	-				

EXL

Κ

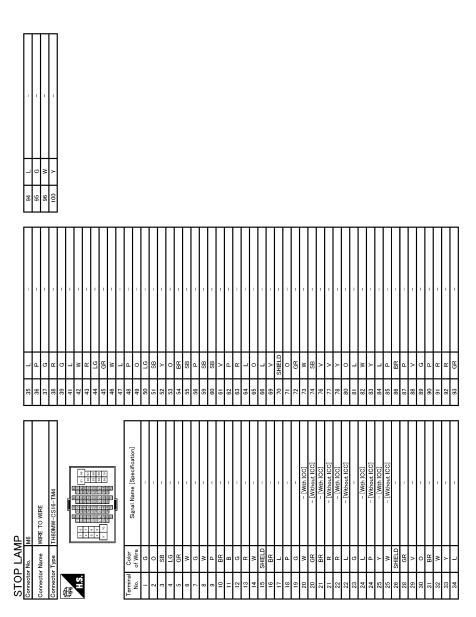
 $\mathbb{N}$ 

Ν

0

JCLWA3847GB

Р



JCLWA3848GB

Α

В

С

D

Е

F

G

Н

^	- <u>9</u>	- D		T	Υ -																																													
92	96	97	86	66	100																																													
- [With ICC]	- [Without ICC]	- [With ICC]	- [Without ICC]	_	<ul><li>[With ICC]</li></ul>	- [Without ICC]	- [With ICC]	- [Without ICC]	- [With ICC]	- [Without ICC]	- [With ICC]	- [Without ICC]	- [With ICC]	- [Without ICC]	-	-		-	1	1		1	-	-	ſ	1	-	1	_	ı	1	1	1	Dates very	- [With VR engine]	- [with vol engine]				1	1	1	1	1	1	-	-	1		
>	W	Ь	В	ч	٦	ŋ	0	SHIELD	_	8	۵	œ	5	W	SHIELD	0	GR	5	7	Ь	PC	œ	SB	>	>	BR	0	М	SHIELD	ŋ	SB	> 1	> [	2 0	× 5	ř >	> 4	2 0	٠.	-  - ;	-	0	×	SB	В	Ь	7	_	g	
42	42	43	43	44	45	45	46	46	47	47	48	48	49	49	20	51	52	23	54	22	09	19	62	63	64	69	99	┪	99	69	-	72	۲ ک	4/4	2,0	0/	0 [	. 8	8 3	- S	78	83	84	82	98	87	16	95	93	
M117	E STAN OF BOW	wine 10 wine	TH80MW-CS16-TM4	_		11 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	20 00 00 00 00 00 00 00 00 00 00 00 00 0	11 20 30 43 50 50 73 84 50 50 50 50 50 50 50 50 50 50 50 50 50		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			olgnal Name [opecification]	1	-	-	1	1	1	1	1	1	-	1	Table 1	I	1	1	1	I	1	1	- [With entertainment system]	- [Without entertainment system]	- [with entertainment system]		Dazet a	- [Without entertainment system]	Liviti encertainment system)	- [Without entertainment system]	1	1	1	1	I	-	-	ı		
Connector No. M11			Connector Type									_	of Wire	GR	BR	۸	SB	٨	В	М	۸	BR	GR	SHIELD	_	۵	SHIELD	>	٨	PP	SS	P.G	n (	¥ =	* >	> c	٤ ٤	× 1	onic D	r 8	<u> </u>	>	SHIELD	0	۵	W	M	SB	>	
necto	1	mecro	nnecto		手	Š						Terminal	No.	_	2	3	4	9	7	8	10	=	12	13	14	15	91	17	18	19	20	21	77	77	27	52	, [	44	22	67	ę,	27	28	29	30	31	32	33	40	

K

EXL

 $\mathbb{N}$ 

Ν

0

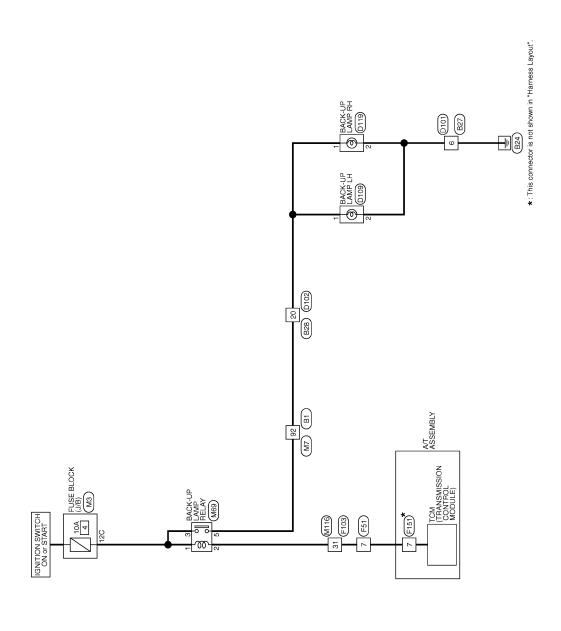
JCLWA3849GB

Р

# **BACK-UP LAMP**

Wiring Diagram - BACK-UP LAMP -

INFOID:0000000005244768



BACK-UP LAMP

JCTMW1804CB

Control   Cont	C   C   C   C   C   C   C   C   C   C	58 59 60 61	SHIELD C		Connector Type	MOGMAV-LC MOGMAV-LC  1 2 3  4 5 6		D101	
1		63 64 65	R 0 0 ≥	1 1 1 1		Signal Name (Specification)		WIRE TO WIRE M06FW-LC	
1	C	99	> 5				H.S.		
1	SB S	89	> 0	1 1	3 W	1 1		3 2 1	
1	SB S	0/	GR		Н	1		6 5 4	
No.     No.   No.   No.     No.	SB S	17	5 E	1 1	+	1 1			
Simple   S	S   S   S   S   S   S   S   S   S   S	73	×	1	1			Signal Name [Specifi	cation
Signature   17   1.4	SB S	75	> 0		Connector No	868		1	
Control of the cont	SHELD   SHEL	92	LG C		Connector Name	MIDE TO MIDE	H	-	
Section   Sect	W   W   W   W   W   W   W   W   W   W	77	7	1			+	-	
Street   S	W   N   N   N   N   N   N   N   N   N	8/ 6/	¥ ≥	1 1	ector lype	I H24MW-NH	+	1	
Similar   Signed	NHELD  N	80	-	-	匮		Н	1	
1   2   3   4   5   7   8   9   9   10   10   10   10   10   10	SHELD SHELD 18 B B B B B B B B B B B B B B B B B B	- 6 6	- ا	1 1	_				
V   V   V   V   V   V   V   V   V   V	0	83	а В	-	1 2	9 10 11			
No.   Color		84	SB a	1	10 14	7 77 77			
No.   No.	<del>                                     </del>	8 8	۷ >						
No. of Wire	<del></del>	87	В	-		Signal Name [Specification]			
State   Stat		88 8	ڻ ا	1	No. of Wire				
No.   No.		8 8	¥ ≥						
SHELD		91	æ	-					
State   Stat	+++	95	0 8	1					
10   10   10   10   10   10   10   10	т	98	<u>د</u> >						
CR	Т	92	>	-	H	-			
SB	t	96	0	-	+	=			
1	+	97	> 0	ı	7	1			
S S S S S S S S S S S S S S S S S S S	+	88 8	¥ ≥		$^{+}$	1 1			
CB B B C C C C C C C C C C C C C C C C	90 >	88	A		+	1 1			
	) a				+	f 1			
	K5 aa				+	1			
	- >				Н	_			
	BS				Н	1			

Revision: 2009 August **EXL-147** 2010 FX35/FX50

Marie To Wile To Will To Wile To Wil	Signal Name   Specification   Connector Name   Connecto	$_{\wedge}$ $\Box$	0 0	П	П
The strict Harman   Convector Name   Dictor Care   Type   The strict Harman   Convector Name   Convector N	Type   The   The	ector Name WIRE TO WIRE		Connector Name WIRE TO WIRE	Connector Name TCM (TRANSMISSION CONTROL MODULE)
Connecter Name   Color   Col	Terminal   Colore   Signal Name   Specification   Colorector Name   Colorector Name   Specification   Colorector Name   Specification   Colorector Name   Specification   Colorector Name   Colorector Name   Specification   Colorector Name   Colorector Name   Specification   Colorector Name   C	П	- 1	П	П
Signal Mann Speedination   Convector Type   Floating   Convector Type	Convector Type   Signal Name   Specification   Convector Type   Texation   Convector Type   Texation   Convector Type   Texation   Color   Color			v.	<b>₩</b>
Signal Name (Specification)   Convenience Type	Terminal Color   Term	12 11 10 9 8 7 6 5 4 24 23 22 21 20 19 18 17 16	П	(영화의 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등	1 2 3 4 6 7 8 9
Signal Name (Specification)   Terminal Color   Terminal	Color   Signal Name   Specification   Color   Terminal   Color   Ter		H.S.		- 1
Converted Fig.   Conv	Freminal   Color   Signal Name   Specification   Specification   Signal Name   Specification	Color of Wire	21	Color of Wire	Color of Wire
Terminal Color   Term	V	- 5		1 SHELD –	W
1	No.   Signal Name   Specification    Signal Name   Signal Name   Specification    Signal Name   Signa	7 >	Color	+	ω α
Convector Name   Conv	No.   Signal Name   Specification    Signal Name   Signal Name   Specification    Signal Name   Signal	Ħ	of Wire	GR	0
Cornector No.   Fist   Cornector No.   Fist	Y   Connector No.   Fair	α	Н	œ	9
Corrector No.   F51	V	9	_	œ	GR
Convector Name   Conv	SHELD	> -		В	_ 8
Corrector Name   A.T. A.S.E.Mell V   Signal   Name   Specification   Corrector Name   Cor	SHELD	13	Г	Ť	¥ >
Connector Name   Conn	W   Connector Name   Color	SHIELD	Ι	× ×	M/B
Corrector Type   RKIOFG-DGY   10 GR	SB	W		Α.	
10 GR	10 GR   17 GR   18 GR   19 G	Ц	П	7	
1	No.   D109   D	+		8 8	_
Terminal Color   Line   Li	V   Color	╁		<u> </u>	
Terminal Color   Col	Li	: >		: 0	П
Teminal Color   Teminal Colo	P	PI	4 3 2	٨	q
Terminal Color   Term	Color   Signal Name   Specification   Color   Color	<u>а</u> (	9 8 7	H .	A STATE OF THE STA
Terminal Color   Terminal Color   Co	Color   Signal Name   Specification   Color   Signal Name   Specification   Color   Signal Name   Specification   Specification	0 0		_ a	18 L
No.   Of Wire   Signal Name   Specification   31   R	No of Wire   Signal Mane   Specification    No of wire	GR.	Color	97	2000
1	No.   D109	7	of Wire	В	10 00 00 01 01 01 01 01 01 01 01 01 01 0
Ding	No.         D109         2         R         — [With VK engine]         35         BrX           Name         BACK-UP LAMP LH         3         L         — [With VC engine]         35         Y           Type         TB02FW-IV         5         B         —         44         L           7         R         P         —         44         L           8         P         —         44         L           9         LG         — [With VK engine]         46         V           9         GR         — [With VK engine]         46         V           9         GR         — [With VK engine]         A         Color           6         Signal Mane [Specification]         B         — [With VK engine]         A		> 0	97 97	
March   Marc	Manual   Manual   Specification    Signal	Γ	× 8	¥8 ×	olog
BACK-UP LAMP LAMP LAMP LAMP LAMP LAMP LAMP LAM	Name   BACK-UP LAMP LH	Τ	á	: >-	of Wire
TB02FW-1 V   5   B     43   P     70     10     10     10     10     10     10     10     10     10     10     10       10	Type         TB02FW-IV         5         B         -         43         44         45         <		>	<b>&gt;</b>	Ħ
1	Color   Signal Name [Specification]   Color   Color		В	Н	Н
10C   11C   12C   11C   12C   12C	Color Signal Name [Specification]		<b>&gt;</b>		$\dashv$
11C   12C   11C   12C   12C	Color   Signal Name [Specification]   Signal Name [Specification]   Color		+	+	4
10 B	Color Signal Name [Specification]		a (	4	+
	Color Signal Name [Specification]		2 8		4
	Golor of Wire	2 1	jα		
	Color of Wire				
200		of Wire			

JCLWA3851GB

Α

В

С

D

Е

F

G

Н

Κ

EXL

 $\mathbb{N}$ 

Ν

0

Р

28 B		
Connector No. M69 Connector Name BACK-UP LAMP RELAY Connector Type MSIZEH-MZ-LC  MSIZEH-MZ-LC  MSIZEH-MZ-LC  MSIZEH-MZ-LC  MSIZEH-MZ-LC	Terminal   Color   Signal Name   Specification   Color	
9 9	64	
BACK-UP LAMP  Connector Name WIRE TO WIRE  Connector Type THEOMW-CS16-TMA  H.S  Line Connector Type Line CS16-TMA  Line Connector Type Line CS16-TMA	Terminal   Color   Signal Name [Specification]   1   0   0   0   0   0   0   0   0   0	JCLWA3852GB

Revision: 2009 August **EXL-149** 2010 FX35/FX50

[XENON TYPE]

# **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
FR WIPER III	Front wiper switch HI	On
ED WIDED LOW	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
ED WIDED INT	Other than front wiper switch INT/AUTO	Off
FR WIPER INT	Front wiper switch INT/AUTO	On
ED WIDER STOR	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
RR WIPER ON	Rear wiper switch ON	On
DD WIDED INT	Other than rear wiper switch INT	Off
RR WIPER INT	Rear wiper switch INT	On
DD WACHED OW	Off	
RR WASHER SW	Rear washer switch ON	On
DD WIDED CTOD	Rear wiper is in STOP position	Off
RR WIPER STOP	Rear wiper is not in STOP position	On
TUDNI CIONAL D	Other than turn signal switch RH	Off
TURN SIGNAL R	Turn signal switch RH	On
TUDNI CIONAL I	Other than turn signal switch LH	Off
TURN SIGNAL L	Turn signal switch LH	On
TAIL LAND CVA	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
HI BEAIN SW	Lighting switch HI	On
LIEAD LAMB CM/4	Other than lighting switch 2ND	Off
HEAD LAMP SW 1	Lighting switch 2ND	On
HEAD LAMB CW/2	Other than lighting switch 2ND	Off
HEAD LAMP SW 2	Lighting switch 2ND	On
PASSING SW	Other than lighting switch PASS	Off
FAJOING OW	Lighting switch PASS	On
ALITO LICUT OW	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On
ED EOC CW	Front fog lamp switch OFF	Off
FR FOG SW	Front fog lamp switch ON	On

#### < 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
DOOK SW-DK	Driver door opened	On
DOOR SW-AS	Passenger door closed	Off
OOR SW-AS	Passenger door opened	On
OOR SW-RR	Rear RH door closed	Off
OOK SW-KK	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
OOK SW-KE	Rear LH door opened	On
OOOR SW-BK	Back door closed	Off
OOK SW-BK	Back door opened	On
CDL LOCK SW	Other than power door lock switch LOCK	Off
CDL LOCK SW	Power door lock switch LOCK	On
DL UNLOCK SW	Other than power door lock switch UNLOCK	Off
DE ONFOCK 200	Power door lock switch UNLOCK	On
EY CYL LK-SW	Other than driver door key cylinder LOCK position	Off
CET CTL LK-SW	Driver door key cylinder LOCK position	On
(EY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off
ET CTL UN-3W	Driver door key cylinder UNLOCK position	On
EY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off
HAZARD SW	Hazard switch is OFF	Off
IAZARD SW	Hazard switch is ON	On
EAR DEF SW	NOTE: The item is indicated, but not monitored.	Off
R CANCEL SW	NOTE: The item is indicated, but not monitored.	Off
R/BD OPEN SW	Back door opener switch OFF	Off
R/DD OPEN SW	While the back door opener switch is turned ON	On
RNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
DKE I OCK	LOCK button of the Intelligent Key is not pressed	Off
KE-LOCK	LOCK button of the Intelligent Key is pressed	On
OKE TIMEOOK	UNLOCK button of the Intelligent Key is not pressed	Off
RKE-UNLOCK	UNLOCK button of the Intelligent Key is pressed	On
RKE-TR/BD	NOTE: The item is indicated, but not monitored.	Off
DE DANIO	PANIC button of the Intelligent Key is not pressed	Off
KE-PANIC	PANIC button of the Intelligent Key is pressed	On
KE DAM OBEN	UNLOCK button of the Intelligent Key is not pressed	Off
KE-P/W OPEN	UNLOCK button of the Intelligent Key is pressed and held	On
KE-MODE CHG	LOCK/UNLOCK button of the Intelligent Key is not pressed and held simultaneously	Off
	LOCK/UNLOCK button of the Intelligent Key is pressed and held simultaneously	On
DTION OFFICE	Bright outside of the vehicle	Close to 5 V
PTICAL SENSOR	Dark outside of the vehicle	Close to 0 V

**EXL-151** Revision: 2009 August 2010 FX35/FX50

### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
REQ SW -DR	Driver door request switch is not pressed	Off
INEQ 3W -DIN	Driver door request switch is pressed	On
REQ SW -AS	Passenger door request switch is not pressed	Off
REQ 3W -A3	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
REQ SW -BD/TR	Back door request switch is not pressed	Off
REQ 3W -BD/TR	Back door request switch is pressed	On
DUCU CW	Push-button ignition switch (push switch) is not pressed	Off
PUSH SW	Push-button ignition switch (push switch) is pressed	On
ION DIVO E/D	Ignition switch in OFF or ACC position	Off
IGN RLY2 -F/B	Ignition switch in ON position	On
CLUCH SW	NOTE: The item is indicated, but not monitored.	Off
BRAKE SW 1	The brake pedal is depressed when No. 7 fuse is blown	Off
BRAKE SW I	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal	On
DDAKE OW O	The brake pedal is not depressed	Off
BRAKE SW 2	The brake pedal is depressed	On
DETE (CANCL CVA)	Selector lever in P position	Off
DETE/CANCL SW	Selector lever in any position other than P	On
OFT DAI/ALOVA/	Selector lever in any position other than P and N	Off
SFT PN/N SW	Selector lever in P or N position	On
2/1 1 0 0 1 /	Steering is unlocked	Off
S/L -LOCK	Steering is locked	On
0/1 11011 0017	Steering is locked	Off
S/L -UNLOCK	Steering is unlocked	On
0/L DEL AV E/D	Ignition switch in OFF or ACC position	Off
S/L RELAY-F/B	Ignition switch in ON position	On
INII K OEN DD	Driver door is unlocked	Off
UNLK SEN -DR	Driver door is locked	On
DUOLLOW IDDM	Push-button ignition switch (push-switch) is not pressed	Off
PUSH SW -IPDM	Push-button ignition switch (push-switch) is pressed	On
ION DIVA E/D	Ignition switch in OFF or ACC position	Off
IGN RLY1 -F/B	Ignition switch in ON position	On
DETE OW IDDA	Selector lever in any position other than P	Off
DETE SW -IPDM	Selector lever in P position	On
OFT DAL IDDA4	Selector lever in any position other than P and N	Off
SFT PN -IPDM	Selector lever in P or N position	On
OFT D. MET	Selector lever in any position other than P	Off
SFT P -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

#### < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Α

В

С

D

Е

F

G

Н

Κ

EXL

 $\mathbb{N}$ 

Ν

0

Р

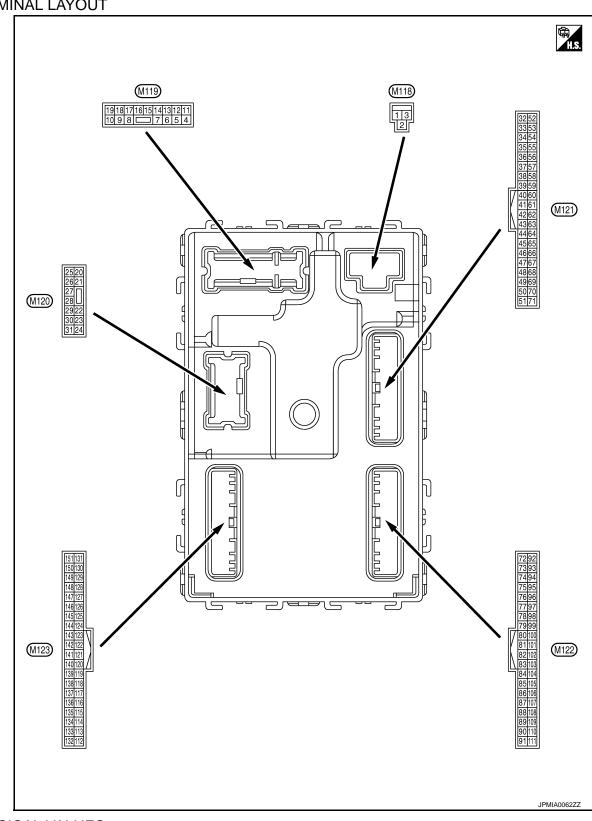
Monitor Item	Condition	Value/Status
	Engine stopped	Stop
ENGINE STATE	While the engine stalls	Stall
LINGINE STATE	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	Steering is unlocked	Off
S/L LOOK-II DIVI	Steering is locked	On
S/L UNLK-IPDM	Steering is locked	Off
3/L UNLK-IF DIVI	Steering is unlocked	On
S/L RELAY-REQ	Steering lock system is not the LOCK condition and the changing condition from LOCK to UNLOCK	Off
S/L NLLAI-NLQ	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 ON FLAG	Steering is unlocked	Set
PRMT ENG STRT	The engine start is prohibited	Reset
TRWIT ENG OTHER	The engine start is permitted	Set
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset
KEY SW -SLOT	The Intelligent Key is not inserted into key slot	Off
KET 3W -3LOT	The Intelligent Key is inserted into key slot	On
RKE OPE COUN1	During the operation of the Intelligent Key	Operation frequency of the Intelligent Key
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	_
CONFRM ID ALL	The key ID that the key slot receives is not recognized by any key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with any key ID registered to BCM.	Done
CONFIDM ID4	The key ID that the key slot receives is not recognized by the fourth key ID registered to BCM.	Yet
CONFIRM ID4	The key ID that the key slot receives is recognized by the fourth key ID registered to BCM.	Done
CONFIDM ID2	The key ID that the key slot receives is not recognized by the third key ID registered to BCM.	Yet
CONFIRM ID3	The key ID that the key slot receives is recognized by the third key ID registered to BCM.	Done
CONFIDMIDO	The key ID that the key slot receives is not recognized by the second key ID registered to BCM.	Yet
CONFIRM ID2	The key ID that the key slot receives is recognized by the second key ID registered to BCM.	Done

Revision: 2009 August **EXL-153** 2010 FX35/FX50

#### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
CONFIRM ID1	The key ID that the key slot receives is not recognized by the first key ID registered to BCM.	Yet
CONFIRMIDI	The key ID that the key slot receives is recognized by the first key ID registered to BCM.	Done
TP 4	The ID of fourth Intelligent Key is not registered to BCM	Yet
17 4	The ID of fourth Intelligent Key is registered to BCM	Done
TP 3	The ID of third Intelligent Key is not registered to BCM	Yet
IF 3	The ID of third Intelligent Key is registered to BCM	Done
TP 2	The ID of second Intelligent Key is not registered to BCM	Yet
IF Z	The ID of second Intelligent Key is registered to BCM	Done
TP 1	The ID of first Intelligent Key is not registered to BCM	Yet
IF I	The ID of first Intelligent Key is registered to BCM	Done

TERMINAL LAYOUT



PHYSICAL VALUES

Α

В

С

D

Е

F

G

Н

J

Κ

EXL

M

Ν

0

Р

Term	inal No.	Description				
	e color)	-	Input/		Condition	Value
+	_	Signal name	Output			(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
2 (Y)	Ground	P/W power supply (BAT)	Output	Ignition switch OF	F	12 V
3 (O)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		12 V
4		Interior room lamp			battery saver is activated. oom lamp power supply)	0 V
4 (P)	Ground	power supply (Battery saver signal)	Output	ed.	battery saver is not activat- or room lamp power supply)	12 V
5	Ground	Passenger door UN-	Output	Passenger door	UNLOCK (Actuator is activated)	12 V
(V)	Orouna	LOCK	Output	i asseriger door	Other than UNLOCK (Actuator is not activated)	0 V
7	Ground	Step lamp	Output	Step lamp	ON	0 V
(Y)	Ground	Step lamp	Output	Step lamp	OFF	12 V
8	Ground	All doors, fuel lid	Output	All doors, fuel lid	LOCK (Actuator is activated)	12 V
(V)	Orouna	LOCK	Output	All doors, ruer lid	Other than LOCK (Actuator is not activated)	0 V
9	Ground	Driver door, fuel lid	Output	Driver door, fuel	UNLOCK (Actuator is activated)	12 V
(G)	Giouna	UNLOCK	Output	lid	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)	12 V
(BR)	Oround	LOCK	Output	and rear LH door	Other than UNLOCK (Actuator is not activated)	0 V
11 (R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
13 (B)	Ground	Ground	_	Ignition switch ON		0 V
15 (Y)	Ground	ACC indicator lamp	Output	Ignition switch	OFF (LOCK indicator is not illuminated)	Battery voltage
					ACC or ON	0 V
					Turn signal switch OFF	0 V
17 (W)	Ground	Turn signal RH (Front)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 1 s
						6.5 V

## < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
			-		Turn signal switch OFF	0 V
18 (O)	Ground	Turn signal LH (Front)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 PKID0926E
				Other than under	condition	6.5 V 5.0 V
19 (SB)	Ground	Room lamp timer	Output	Interior room lar     (Door is unlocke	mp timer is activated.	0 V
					Turn signal switch OFF	0 V
20 (V)	Ground	Turn signal RH (Rear)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0
					Turn signal switch OFF	PKID0926E 6.5 V 0 V
25 (G)	Ground	Turn signal LH (Rear)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s PKID0926E 6.5 V
26	0	December	0	Danning	OFF (Stopped)	0 V
(P)	Ground	Rear wiper	Output	Rear wiper	ON (Operated)	12 V
34	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB
(SB)	Giouna	na (–)	Output	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB

Term	inal No.	Description				
+ (Wire	e color)	Signal name	Input/ Output		Condition	Value (Approx.)
35	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0  JMKIA0062GB
(V)	Glound	na (+)	Output	OFF	When Intelligent Key is not in the passenger compartment	(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  JMKIA0062GB
(B)	Cidana	)	Cuipui	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
39	Ground	Back door antenna	Qutput	When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(W)	Ciounu	(+)	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
47 (Y)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC	12 V 0 V

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)
48	Ground	Back door opener	Output	Back door opener	Not pressed	12 V
(W)	Ground	switch operation	Output	switch	Pressed	0 V
52	Ground	Starter relay control	Output	Ignition switch	When selector lever is in P or N position	12 V
(LG)	Orouna	Clarici Tolay control	- Catput	ON	When selector lever is not in P or N position	0 V
					ON (Pressed)	0 V
61 (W)	Ground	Back door opener request switch	Input	Back door request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V
64	_	Intelligent Key warn-		Intelligent Key	Sounding	0 V
(L)	Ground	ing buzzer (Engine room)	Output	warning buzzer (Engine room)	Not sounding	12 V
65 (O)	Ground	Rear wiper stop position	Input	Rear wiper	In stop position	(V) 15 10 5 0 10 ms
					No.	1.0 V
					Not in stop position  OFF (Door close)	0 V 12 V
66 (LG)	Ground	Back door switch	Input	Back door switch	ON (Door open)	0 V
()					Pressed	0 V
					riesseu	0 0
67 (P)	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	(V) 15 10 5 0 JPMIA0594GB
						8.5 - 9.0 V
68 (BR)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (Door close)	(V) <sub>15</sub> 10 5 0
					8.5 - 9.0 V	
					ON (Door open)	0 V

#### < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description			One distant	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
69 (R)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (Door close)	(V) <sub>15</sub> 10 5 0
					ON (Door open)	0 V
72	Ground	ound Room antenna 2 (–) (Center console) Output OFF		When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 JMKIA0062GB	
(R)	Glound		Cutput	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB
73	Ground	Room antenna 2 (+) (Center console)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
/3 (G)	Ground				When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB

## < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)
74		Passenger door an-		When the passenger door re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(SB) Groun	Ground	tenna (-)	Output	quest switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 1
75 (BR) Ground	Passenger door an-		When the passenger door re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	
	Ground	tenna (+)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB
76 (V) Gro	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
	Ground				When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0  JMKIA0063GB

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
77	Ground	Driver door antenna		When the driver door request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 11 1 s  JMKIA0062GB
(LG)	Clound	(+)	Output	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB
78	Ground	Room antenna 1 (–) (Instrument panel)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(Y)	Ground				When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
79	Ground	Room antenna 1 (+) (Instrument panel)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(BR)	Ground				When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB

#### < ECU DIAGNOSIS INFORMATION >

#### [XENON TYPE]

	inal No.	Description				Value	Δ
+ (Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)	Α
80 (GR)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	В
81 (W)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	С
82	Ground	Ignition relay [Fuse	Output	Ignition switch	OFF or ACC	0 V	
(P)	Giodila	block (J/B)] control	Output	ignition switch	ON	12 V	D
83	Remote keyless entry		Input/ Output	During waiting		(V) 15 10 5 0 1 ms JMKIA0064GB	E
(GR)	Cidana	receiver communication		When operating either button on the Intelligent Key		(V) 15 10 5 0 1 ms JMKIA0065GB	G H

Κ

EXL

 $\mathbb{N}$ 

Ν

0

P

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+ (VVIre	e color)	Signal name	Input/ Output		Condition	(Approx.)
	Ground	Combination switch INPUT 5	Input	Combination switch	All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB
87					Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB
(BR)					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V
					Any of the conditions below with all switches OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 6  • Wiper intermittent dial 7	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V

## < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output		Condition	Value (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 5 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
					Rear washer switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0039GB
					Any of the conditions below with all switches OFF  Wiper intermittent dial 1  Wiper intermittent dial 2  Wiper intermittent dial 3	(V) 15 10 2 ms  JPMIA0040GB
89 (SB)	Ground	Push-button ignition switch (Push switch)	Input	Push-button ignition switch (Push switch)	Pressed  Not pressed	1.3 V 0 V 12 V
90 (P)	Ground	CAN-L	Input/ Output		_	
91 (L)	Ground	CAN-H	Input/ Output		_	_

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
					OFF	12 V
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	Blinking	(V) 15 10 5 0 1 s
					ON	6.5 V 0 V
93 (V)	Ground	ON indicator lamp	Output	Ignition switch	OFF (LOCK indicator is not illuminated)	Battery voltage
(V)					ON or ACC	0 V
95	Ground	ACC relay control	Output	Ignition switch	OFF	0 V
(O)	Oroana		Catpat	iginion evitori	ACC or ON	12 V
96 (GR)	Ground	A/T shift selector (Detention switch) power supply	Output		_	12 V
97	Cround	Steering lock condi-	Innut	Stooring look	LOCK status	0 V
(L)	Ground	tion No. 1	Input	Steering lock	UNLOCK status	12 V
98		Input	Steering lock	LOCK status	12 V	
(P)		'	Steering look	UNLOCK status	0 V	
99	Ground	Selector lever P posi-	Input	Selector lever	P position	0 V
(R)		tion switch	'		Any position other than P	12 V
100 (G)	Ground	Passenger door request switch	Input	Passenger door request switch	ON (Pressed)  OFF (Not pressed)	0 V  (V) 15 10 5 10 ms  JPMIA0016GB 1.0 V
					ON (Pressed)	0 V
101 (SB)	Ground	Driver door request switch	Input	Driver door request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V
102	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0 V
(O)	Giound	lay control	Output	Igililion switch	ON	12 V
103 (BR)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OF	F	12 V

## < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	Λ
(Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)	Α
106 (W)	Ground	Steering lock unit power supply	Output	Ignition switch	OFF or ACC	12 V 0 V	В
		Combination switch INPUT 1	Input	Combination switch (Wiper intermittent dial 4)	All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB	C D
					Turn signal switch LH	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V	F
107 (LG)	Ground				Turn signal switch RH	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V	H I J
					Front wiper switch LO	JPMIA0038GB	K
					Front washer switch ON	(V)	M N

#### < ECU DIAGNOSIS INFORMATION >

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

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	Δ.
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)	Α
					All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB	B C D
		Combination switch INPUT 2	Input	Combination switch (Wiper intermittent dial 4)	Lighting switch PASS	(V) 15 10 2 ms JPMIA0037GB	E F
109 (Y)	Ground				Lighting switch 2ND	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V	G H I
					Front wiper switch INT/ AUTO	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3 V	J K
					Front wiper switch HI	(V) 15 10 5 0 2 ms JPMIA0040GB	M
					ON	0 V	0
110 (G)	Ground	Hazard switch	Input	Hazard switch	OFF	(V) 15 10 5 0 10 ms JPMIA0012GB	Р

	inal No.	Description				_
	e color)	<u> </u>	Input/		Condition	Value
+	_	Signal name	Output			(Approx.)
					LOCK status	12 V
111 (GR)	Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK or UNLOCK	(V) 15 10 5 0 50 ms JMKIA0066GB
					For 15 seconds after UN- LOCK	12 V
					15 seconds or later after UNLOCK	0 V
112 (GR)	Ground	Rain sensor serial link	Input/ Output	Ignition switch ON		(V) 15 10 5 0 JPMIA0156GB 8.7 V
113	Ground	Optical conser	Innut	Ignition switch	When bright outside of the vehicle	Close to 5 V
(P)	Ground	Optical sensor	Input	ŎN	When dark outside of the vehicle	Close to 0 V
116 (BR)	Ground	Stop lamp switch 1	Input		_	Battery voltage
		Stop lamp switch 2 (Without ICC)	_ Input	Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
118	Ground				ON (Brake pedal is depressed)	Battery voltage
(P)		Stop lamp switch 2		Stop lamp switch OFF (Brake pedal is not depressed) and ICC brake hold relay OFF		0 V
		(With ICC)		Stop lamp switch ( pressed) or ICC bi	ON (Brake pedal is de- rake hold relay ON	Battery voltage
119 (SB)	Ground	Front door lock assembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) <sub>15</sub> 10 5 0
					UNLOCK status	8.5 - 9.0 V 0 V
				When the Intelligen	(Unlock switch sensor ON)  nt Key is inserted into key slot	12 V
121 (BR)	Ground	Key slot switch	Input	_	nt Key is not inserted into key	0 V
123	Ground	IGN feedback	Input	Ignition switch	OFF or ACC	0 V
(W)	Cround	1311 133413401	input	.g.maon switch	ON	Battery voltage

## < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	Λ
+	e color) –	Signal name	Input/ Output		Condition	(Approx.)	Α
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door close)	(V) 15 10 5 0 10 MIAO594GB	C
					ON (Door opene)	8.5 - 9.0 V 0 V	
132 (O)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		(V) 15 10 5 0 10 ms JPMIA0013GB	F
				Ignition switch OF	F or ACC	10.2 V 12 V	
134				LOCK indicator	OFF	Battery voltage	-
(GR)	Ground	LOCK indicator lamp	Output	lamp	ON	0 V	- 1
137 (B)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V	
138	Ground	Sensor power supply	Output	Ignition switch	OFF	0 V	
(Y)					ACC or ON	5.0 V	,
140 (R)	Ground	Selector lever P/N position	Input	Selector lever	P or N position  Except P and N positions	12 V 0 V	
()		,			ON ON	0 V	ŀ
141 (G)	Ground	Security indicator	Output	Security indicator	Blinking	(V) 15 10 5 0 JPMIA0014GB	<b>=</b> >
					OFF	12 V	1
					All switches OFF Lighting switch 1ST	0 V	
				Combination	Lighting switch HI	(V) 15 10 0	(
142 (O)	Ground	Combination switch OUTPUT 5	Output	switch (Wiper intermit-	Lighting switch 2ND	10	
(0)		0017013		tent dial 4)	Turn signal switch RH	2 ms JPMIA0031GB	I

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description	ı			Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
					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
(P)	Ground	OUTPUT 1	Output	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 10.7 V
					All switches OFF (Wiper intermittent dial 4)	0 V
					Front washer switch ON (Wiper intermittent dial 4)	
144		Combination switch OUTPUT 2	Output	Combination switch	Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10
(G)	Ground				Rear washer switch ON (Wiper intermittent dial 4)	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
					All switches OFF	0 V
					Front wiper switch INT/ AUTO	(V)
145	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	Front wiper switch LO	15
(L)					Lighting switch AUTO	2 ms JPMIA0034GB
						10.7 V
					All switches OFF	0 V
					Front fog lamp switch ON	(V)
146 (SB)	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper intermit-	Lighting switch 2ND Lighting switch PASS	15 10 5 0
(30)		3011 01 4		tent dial 4)	Turn signal switch LH	2 ms
						10.7 V

#### < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

	inal No.	Description				Value
(Wire	Signal name Input/ Output			Condition	(Approx.)	
150 (GR)	Ground	Driver door switch	Input	Driver door switch	OFF (Door close)	(V) <sub>15</sub> 10 5 0
					ON (Door open)	0 V
151	Ground	Rear window defog-	Output	Rear window de-	Active	0 V
(G)	Giodila	ger relay control	Cuipui	fogger	Not activated	Battery voltage

F

Α

В

С

D

Е

G

Н

J

Κ

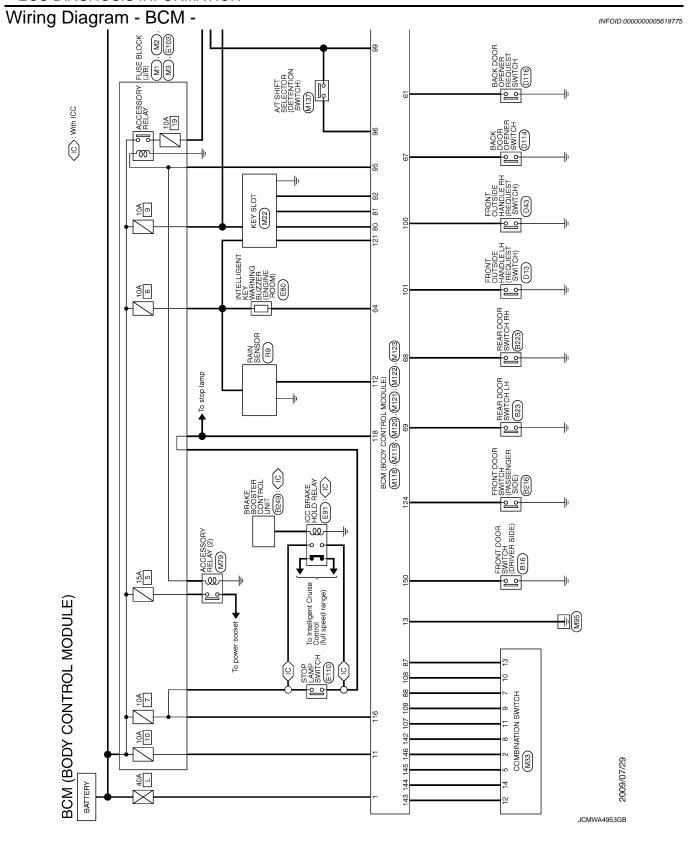
EXL

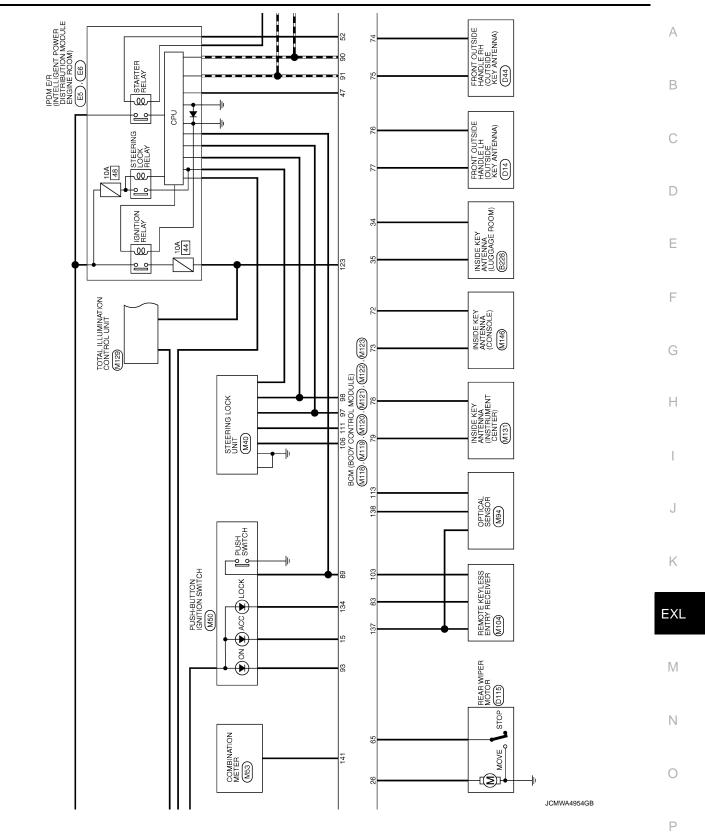
 $\mathbb{N}$ 

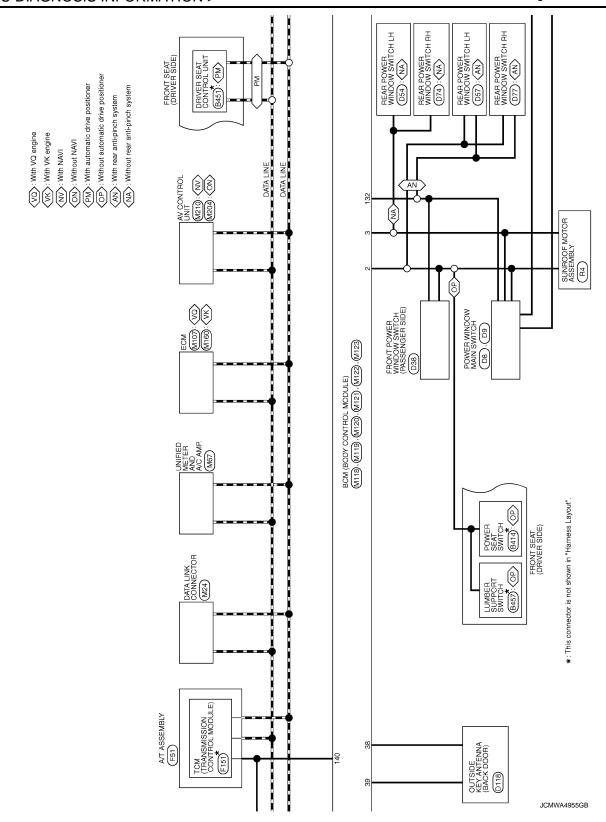
Ν

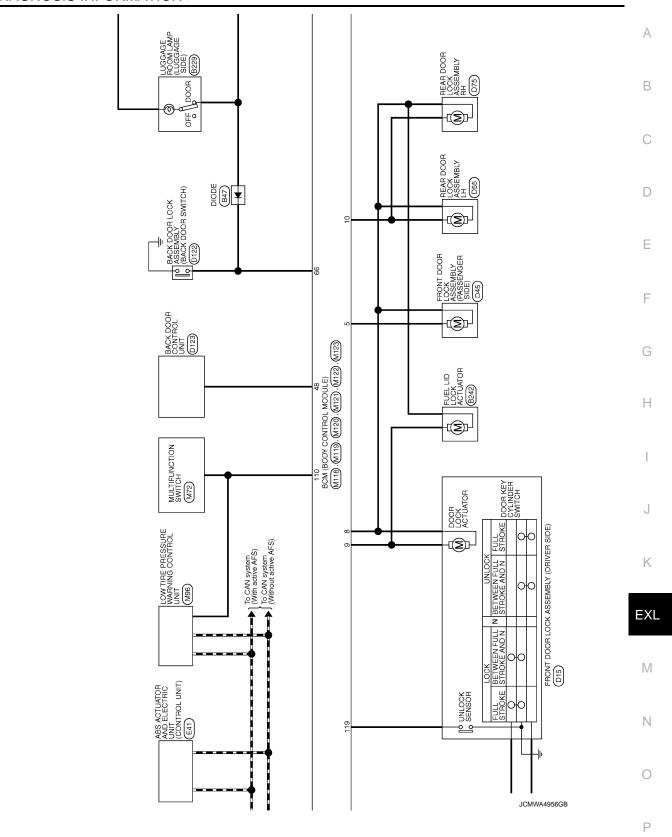
0

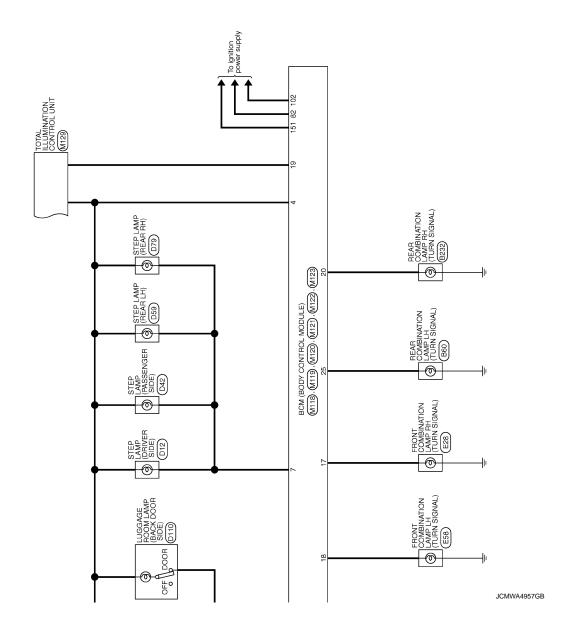
Р







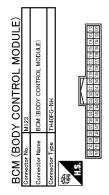




Ρ

NAL.  NAL.  NOMT  NOMT  NAT.	А
NATS ANT AMP  NATS ANT AMP  NATS ANT AMP  TON	В
<del>                                      </del>	С
88 88 88 88 88 88 88 88 88 88 88 88 88	D
Lie	Е
Name	F
	G
Connector No.   Connector No	Н
Signal Name [Specification]  Signal Name [Specification]  INT ROOM LAMP PMR SUPPLY (BAT SAVE) PASSENGER DOOR UNLOCK OUTPUT REAR DOOR LULLOCK OUTPUT REAR WIPER OUTPUT REAR WIPER OUTPUT REAR WIPER SIGNAL LH (REAR) TURN SIGNAL LH (REAR)	I
BOW (BODY CONTROL MODULE)   INSTIGHT   INS	J
Connector No.    Connector Name   Bit	K
JLE	EXL
Content of Type	M
COMEINATION SWITCH THISFW-NH THISFW-NH THISFW-NH THISFW-NH THISFW-NH THISFW-NH INPUT OUTPUT OUTPUT INPUT INP	Ν
Connector Name   Connector Name   Connector Name   Connector Type   Connector Type   Connector Type   Connector Type   Connector Type   Connector Name   Conn	0
JCMWA4958GB	Б

**EXL-179** Revision: 2009 August 2010 FX35/FX50



Terminal	Color	Cinnal Mama [Cnacification]
No.	of Wire	Ogna Maria Lopecinicación
112	SR	RAIN SENSOR SERIAL LINK
113	Ь	OPLICAL SENSOR
116	BR	STOP LAMP SW 1
118	Ь	STOP LAMP SW 2
119	SB	DR DOOR UNLOCK SENSOR
121	BR	KEY SLOT SW
123	M	IGN F/B
124	PT	PASSENGER DOOR SW
132	0	POWER WINDOW SW COMM
134	ВD	LOCK IND
137	8	RECEIVER/SENSOR GND
138	Υ	SENSOR POWER SUPPLY
140	ď	SHIFT N/P
141	5	SECURITY INDICATOR OUTPUT
142	0	COMBI SW OUTPUT 5
143	Р	COMBI SW OUTPUT 1
144	g	COMBI SW OUTPUT 2
145	٦ _	COMBI SW OUTPUT 3
146	SB	COMBI SW OUTPUT 4
150	GR	DRIVER DOOR SW
151	5	REAR WINDOW DEFOGGER RELAY CONT

JCMWA4959GB

INFOID:0000000005619776

FAIL-SAFE CONTROL BY DTC

Fail-safe

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

# < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	Erase DTC
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch ON → OFF
B2557: VEHICLE SPEED	Inhibit steering lock	When normal vehicle speed signals are received from ABS actuator and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status becomes consistent  • Starter control relay signal  • Starter relay status signal
B2601: SHIFT POSITION	Inhibit steering lock	500 ms after the following signal reception status becomes consistent  • Selector lever P position switch signal  • P range signal (CAN)
B2602: SHIFT POSITION	Inhibit steering lock	5 seconds after the following BCM recognition conditions are 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	<ul> <li>500 ms after the following BCM recognition conditions are fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> </ul>
B2604: PNP SW	Inhibit steering lock	<ul> <li>500 ms after any of the following BCM recognition conditions are fulfilled</li> <li>Status 1</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: P and N position (battery voltage)</li> <li>P range signal or N range signal (CAN): ON</li> <li>Status 2</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> <li>P range signal and N range signal (CAN): OFF</li> </ul>
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	<ul> <li>500 ms after the following CAN signal communication status becomes consistent</li> <li>Steering lock relay signal (Request signal)</li> <li>Steering lock relay signal (Condition signal)</li> </ul>

**EXL-181** Revision: 2009 August 2010 FX35/FX50

#### < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

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

#### HIGH FLASHER OPERATION

BCM detects the turn signal lamp circuit status by the current value.

BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

#### NOTE:

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

#### FAIL-SAFE CONTROL BY RAIN SENSOR MALFUNCTION

- BCM judges the rain sensor serial link error by the rain sensor serial link condition and detects the rain sensor malfunction by rain sensor malfunction signal.
- When BCM detects the rain sensor serial link error or the rain sensor malfunction while front wiper AUTO operation, BCM operates a fail-safe control.

#### NOTE:

If rain sensor malfunction is detected when ignition switch is turned OFF  $\Rightarrow$  ON and front wiper switch is INT position, BCM operates a fail-safe control.

#### 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.

#### < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

- Turn rear wiper switch OFF.
- Operate the rear wiper switch or rear washer switch.

# DTC Inspection Priority Chart

INFOID:0000000005619777

Α

В

Ρ

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 U1010: CONTROL UNIT(CAN)	
3	B2190: NATS ANTENNA AMP     B2191: DIFFERENCE OF KEY     B2192: ID DISCORD BCM-ECM     B2193: CHAIN OF BCM-ECM     B2195: ANTI SCANNING	
	<ul> <li>B2013: ID DISCORD BCM-S/L</li> <li>B2014: CHAIN OF S/L-BCM</li> <li>B2553: IGNITION RELAY</li> <li>B2555: STOP LAMP</li> <li>B2556: PUSH-BTN IGN SW</li> <li>B2557: VEHICLE SPEED</li> <li>B2560: STARTER CONT RELAY</li> <li>B2601: SHIFT POSITION</li> </ul>	
	<ul> <li>B2602: SHIFT POSITION</li> <li>B2603: SHIFT POSI STATUS</li> <li>B2604: PNP SW</li> <li>B2605: PNP SW</li> </ul>	
4	<ul> <li>B2606: S/L RELAY</li> <li>B2607: S/L RELAY</li> <li>B2608: STARTER RELAY</li> <li>B2609: S/L STATUS</li> <li>B260A: IGNITION RELAY</li> <li>B260B: STEERING LOCK UNIT</li> <li>B260C: STEERING LOCK UNIT</li> </ul>	
	<ul> <li>B260D: STEERING LOCK UNIT</li> <li>B260F: ENG STATE SIG LOST</li> <li>B2612: S/L STATUS</li> <li>B2614: ACC RELAY CIRC</li> </ul>	
	<ul> <li>B2615: BLOWER RELAY CIRC</li> <li>B2616: IGN RELAY CIRC</li> <li>B2617: STARTER RELAY CIRC</li> <li>B2618: BCM</li> <li>B2619: BCM</li> <li>B261A: PUSH-BTN IGN SW</li> </ul>	
	<ul> <li>B261E: VEHICLE TYPE</li> <li>B26E9: S/L STATUS</li> <li>B26EA: KEY REGISTRATION</li> <li>U0415: VEHICLE SPEED SIG</li> </ul>	
5	B2621: INSIDE ANTENNA     B2622: INSIDE ANTENNA     B2623: INSIDE ANTENNA	
6	B26E7: TPMS CAN COMM	

DTC Index

INFOID:0000000005619778

#### NOTE:

The details of time display are as follows.

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

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

CONSULT display	Fail-safe	Freeze Frame Data  •Vehicle Speed  •Odo/Trip Meter  •Vehicle Condition	Intelligent Key warn- ing lamp ON	Reference page
No DTC is detected. Further testing may be required.	_	_	_	_
U1000: CAN COMM	_	_	_	BCS-35
U1010: CONTROL UNIT(CAN)	_	_	_	BCS-36
U0415: VEHICLE SPEED SIG	_	_	_	BCS-37
B2013: ID DISCORD BCM-S/L	×	×	_	SEC-50
B2014: CHAIN OF S/L-BCM	×	×	_	SEC-51
B2190: NATS ANTENNA AMP	×	_	_	SEC-42
B2191: DIFFERENCE OF KEY	×	_	_	SEC-45
B2192: ID DISCORD BCM-ECM	×	_	_	SEC-46
B2193: CHAIN OF BCM-ECM	×	_	_	SEC-48
B2195: ANTI SCANNING	×	_	_	<u>SEC-49</u>
B2553: IGNITION RELAY	_	×	_	PCS-50
B2555: STOP LAMP	_	×	_	SEC-54
B2556: PUSH-BTN IGN SW	_	×	×	SEC-56
B2557: VEHICLE SPEED	×	×	×	SEC-58
B2560: STARTER CONT RELAY	×	×	×	SEC-59
B2562: LOW VOLTAGE	_	×	_	BCS-38
B2601: SHIFT POSITION	×	×	×	SEC-60
B2602: SHIFT POSITION	×	×	×	SEC-63
B2603: SHIFT POSI STATUS	×	×	×	SEC-65
B2604: PNP SW	×	×	×	SEC-68
B2605: PNP SW	×	×	×	SEC-70
B2606: S/L RELAY	×	×	×	SEC-72
B2607: S/L RELAY	×	×	×	SEC-73
B2608: STARTER RELAY	×	×	×	<u>SEC-75</u>
B2609: S/L STATUS	×	×	×	SEC-77
B260A: IGNITION RELAY	×	×	×	PCS-52
B260B: STEERING LOCK UNIT	_	×	×	SEC-81
B260C: STEERING LOCK UNIT	_	×	×	SEC-82
B260D: STEERING LOCK UNIT	_	×	×	SEC-83
B260F: ENG STATE SIG LOST	×	×	×	<u>SEC-84</u>
B2612: S/L STATUS	×	×	×	<u>SEC-88</u>
B2614: ACC RELAY CIRC	_	×	×	PCS-54
B2615: BLOWER RELAY CIRC		×	×	PCS-56
B2616: IGN RELAY CIRC	_	×	×	PCS-58
B2617: STARTER RELAY CIRC	×	×	×	<u>SEC-92</u>
B2618: BCM	×	×	×	PCS-60
B2619: BCM	×	×	×	<u>SEC-94</u>
B261A: PUSH-BTN IGN SW	_	×	×	<u>SEC-95</u>
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	<u>SEC-98</u>

# < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

CONSULT display	Fail-safe	Freeze Frame Data  •Vehicle Speed  •Odo/Trip Meter  •Vehicle Condition	Intelligent Key warn- ing lamp ON	Reference page
B2621: INSIDE ANTENNA	_	×	_	DLK-61
B2622: INSIDE ANTENNA	_	×	_	DLK-63
B2623: INSIDE ANTENNA	_	×	_	DLK-65
B26E7: TPMS CAN COMM	_	_	_	BCS-39
B26E9: S/L STATUS	×	×	× (Turn ON for 15 seconds)	<u>SEC-86</u>
B26EA: KEY REGISTRATION	_	×	× (Turn ON for 15 seconds)	SEC-87

Е

Α

В

С

D

F

G

Н

Κ

EXL

 $\mathbb{N}$ 

Ν

0

Р

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

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

Reference Value

#### VALUES ON THE DIAGNOSIS TOOL

Monitor Item		Condition	Value/Status			
RAD FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 – 100 %			
		A/C switch OFF	Off			
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On			
TAIL&CLR REQ	Lighting switch OFF		Off			
IAILACLK REQ	Lighting switch 1ST, 2ND, HI or	AUTO (light is illuminated)	On			
HL LO REQ	Lighting switch OFF		Off			
nl lo keQ	Lighting switch 2ND HI or AUTO	) (light is illuminated)	On			
III III DEO	Lighting switch OFF		Off			
HL HI REQ	Lighting switch HI		On			
		Front fog lamp switch OFF	Off			
FR FOG REQ	Lighting switch 2ND or AUTO (light is illuminated)	<ul> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul>	On			
		Front wiper switch OFF	Stop			
ED WID DEO	Ignition switch ON	Front wiper switch INT	1LOW			
FR WIP REQ		Front wiper switch LO	Low			
		Front wiper switch HI	Hi			
		Front wiper stop position	STOP P			
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P			
		Front wiper operates normally	Off			
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe operation	BLOCK			
IGN RLY1 -REQ	Ignition switch OFF or ACC	Ignition switch OFF or ACC				
IGN KEIT -KEQ	Ignition switch ON	On				
IGN RLY	Ignition switch OFF or ACC		Off			
IGN KLI	Ignition switch ON	On				
PUSH SW	Release the push-button ignition	n switch	Off			
I USIT SVV	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			
ST RLY CONT	Ignition switch ON		Off			
OT INCH COM	At engine cranking		On			
IHRT DIV DEO	Ignition switch ON		Off			
IHBT RLY -REQ	At engine cranking		On			

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Cor	ndition	Value/Status
	Ignition switch ON	Off	
07/11/11 21/1/	At engine cranking		$INHI \to ST$
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
	None of the conditions below are pr	resent	Off
S/L RLY -REQ	Open the driver door after the ign seconds)     Press the push-button ignition sw ed	On	
	Steering lock is activated	LOCK	
S/L STATE	Steering lock is deactivated	UNLOCK	
	[DTC: B210A] is detected	UNKWN	
DTRL REQ	NOTE: The item is indicated, but not monit	Off	
OIL D CW	Ignition switch OFF, ACC or engine	Open	
OIL P SW	Ignition switch ON	Close	
HOOD OW	Close the hood	Off	
HOOD SW	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 \$ TEM	On	
LIODN CHIED	Not operating		Off
HORN CHIRP	Door locking with Intelligent Key (ho	orn chirp mode)	On
CRNRNG LMP REQ	NOTE: The item is indicated, but not monit	ored.	Off

M

Κ

EXL

Α

В

С

D

Е

F

G

Н

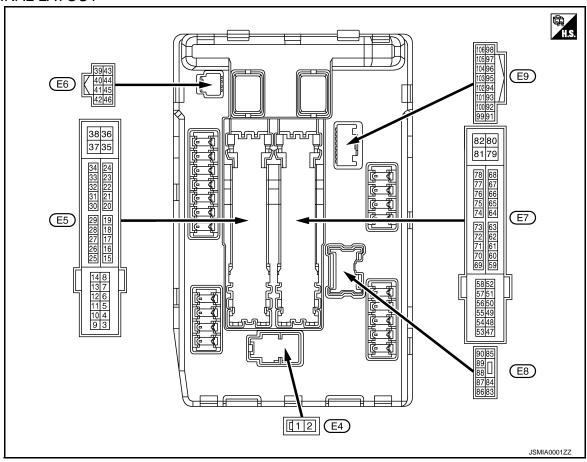
Ν

0

Ρ

< ECU DIAGNOSIS INFORMATION >

# 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	Ground	Front wiper I O	Output	Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
5	Cround	Front winer III	Output	Ignition	Front wiper switch OFF	0 V
(L)	Ground	Front wiper HI	Output	switch ON	Front wiper switch HI	Battery voltage
7	Craund	Tail, license plate lamps &	Outrout	Ignition	Lighting switch OFF	0 V
(R)	Ground	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
40*1				Ignition swi (More than ignition swi	a few seconds after turning	0 V
10 <sup>*1</sup> (SB)	Ground	ECM relay power supply	Output	<ul> <li>Ignition switch ON</li> <li>Ignition switch OFF         (For a few seconds after turning ignition switch OFF)</li> </ul>		Battery voltage

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
+	e color)	Signal name	Input/ Output	Condition		(Approx.)	
				Ignition switch OFF	A few seconds after opening the driver door	Battery voltage	
11 (BR)	Ground	Steering lock unit power supply	Output	Ignition switch LOCK	Press the push-button ig- nition switch	Battery voltage	
				Ignition sw	itch ACC or ON	0 V	
12 (B)	Ground	Ground	_	Ignition sw	itch ON	0 V	
10					tely 1 second or more after ignition switch ON	0 V	
13 (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 stop position	Input	switch ON	Any position other than front wiper stop position	Battery voltage	
19	Ground	gnition relay power supply	Output	Ignition sw	itch OFF	0 V	
(W)	Ground	ignition relay power supply	Output	Ignition sw	itch ON	Battery voltage	
25	Ground	Ignition relay power supply	Output	Ignition switch OFF Ignition switch ON		0 V	
(G)	Ground	ignition relay power supply	Output			Battery voltage	
26 <sup>*2</sup>	Ground	Ignition relay power supply	Output	Ignition sw	itch OFF	0 V	
(R)	Ground		Output	Ignition sw	itch ON	Battery voltage	
27	Ground	Ignition relay monitor	Input -	Ignition sw	itch OFF or ACC	Battery voltage	
(Y)	Ground	ignition relay monitor	iliput	Ignition sw	itch ON	0 V	
28	Ground	Push-button ignition	Input	Press the p	oush-button ignition switch	0 V	
(O)	Ground	switch	при	Release th	e push-button ignition switch	Battery voltage	
30 (GR)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any position other than P or N	0 V	
(011)				SWILOTT OT	Selector lever P or N	Battery voltage	
32	Ground	Steering lock unit condi-	Input	Steering lo	ck is activated	0 V	
(SB)	Cround	tion-1	mpat	Steering lo	ck is deactivated	Battery voltage	
33	Ground	Steering lock unit condi-	Input	Steering lo	ck is activated	Battery voltage	
(P)	O. Suria	tion-2	put	Steering lo	ck is deactivated	0 V	
36 (G)	Ground	Battery power supply	Input	Ignition sw	itch OFF	Battery voltage	
39 (P)	_	CAN-L	Input/ Output		_	_	
40 (L)	_	CAN-H	Input/ Output		_	_	
41 (B)	Ground	Ground	_	Ignition sw	itch ON	0 V	
42	Ground	Cooling fan relay control	Input	Ignition sw	itch OFF or ACC	0 V	
(Y)	Ciodila	Sosing fair rolay control	mpat	Ignition sw	itch ON	0.7 V	-

**EXL-189** Revision: 2009 August 2010 FX35/FX50

0

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description			0 1111	Value											
+	-	Signal name	Input/ Output		Condition	(Approx.)											
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	Ground	Horn relay control	Input	The horn is	deactivated	Battery voltage											
(W)	Giodila	Hom relay control	Input	The horn is	activated	0 V											
45	Ground	Anti theft horn relay control	Input	The horn is	deactivated	Battery voltage											
(G)	Glodila	This their non-relay control	три	The horn is	activated	0 V											
46 (BB)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any position other than P or N	0 V											
(BR)				SWILCH 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 operating)	Battery voltage											
49															Ignition swi (More than ignition swi	a few seconds after turning	0 V
(W)*1 (SB)*3	Ground	ECM relay power supply	Output	<ul><li>Ignition s</li><li>Ignition s</li><li>(For a fe tion switch</li></ul>	switch OFF w seconds after turning igni-	Battery voltage											
51	Cravad	lanition relevance comple	Outnut	Ignition swi	itch OFF	0 V											
(G)	Ground	Ignition relay power supply	Output	Ignition swi	itch ON	Battery voltage											
52	Ground	Ignition relay power supply	Output	Ignition swi	itch OFF	0 V											
(W)	Glodila	ignition relay power supply	Output	Ignition swi	itch ON	Battery voltage											
53				Ignition swi (More than ignition swi	a few seconds after turning	0 V											
(W)	Ground	ECM relay power supply	Output	Ignition s	w seconds after turning igni-	Battery voltage											
54		Throttle control motor re-		Ignition swi (More than ignition swi	a few seconds after turning	0 V											
(R)	Ground	lay power supply	Output	Ignition switch ON     Ignition switch OFF     (For a few seconds after turning ignition switch OFF)		Battery voltage											
55 (BR)	Ground	ECM power supply	Output	Ignition swi	itch OFF	Battery voltage											
56				Ignition swi	itch OFF	0 V											
(O)*1 (V)*3	Ground	Ignition relay power supply	Output	Ignition swi	itch ON	Battery voltage											
57	Ground	lanition relay nower cupaly	Output	Ignition swi	itch OFF	0 V											
(LG)	Giodild	Ignition relay power supply	Output	Ignition swi	itch ON	Battery voltage											

**EXL-190** Revision: 2009 August 2010 FX35/FX50

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Wil .
(Wire	e color)	Signal name	Input/ Output		Condition	Value (Approx.)
58 (Y)	Ground	Ignition relay power supply	Output	Ignition swit		0 V Battery voltage
60				Ignition swi	tch OFF a few seconds after turning	Battery voltage
69 (W)	Ground	ECM relay control	Output	<ul><li>Ignition s</li><li>Ignition s</li><li>(For a fewtion switch</li></ul>	witch OFF w seconds after turning igni-	0 – 1.5 V
70 (O)	Ground	Throttle control motor re- lay control	Output	Ignition swit	tch ON → OFF	0 − 1.0 V ↓ Battery voltage ↓ 0 V
				Ignition swi	tch ON	0 – 1.0 V
74		Leading and	0 .	Ignition swit		0 V
(G)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
75 (Y)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine stopped Engine running	0 V Battery voltage
				Ignition swit	tch ON	6 4 2 0 <b>→</b> 2ms JPMIA0001GB 6.3 V
76 (P)*1 (V)*3	Ground	Power generation command signal			on "ACTIVE TEST", "AL- R DUTY" of "ENGINE"	(V) 6 4 2 0 2ms JPMIA0002GB 3.8 V
				80% is set on "ACTIVE TEST", "AL- TERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 2 2 ms JPMIA0003GB 1.4 V
77 (B) <sup>*1</sup>	Ground	Fuel pump relay control	Output	the ignition		0 – 1.0 V
(L)*3					ely 1 second or more after ignition switch ON	Battery voltage
80	Ground	Starter motor	Output	turning the ignition switch ON  At engine cranking		Battery voltage

< ECU DIAGNOSIS INFORMATION >

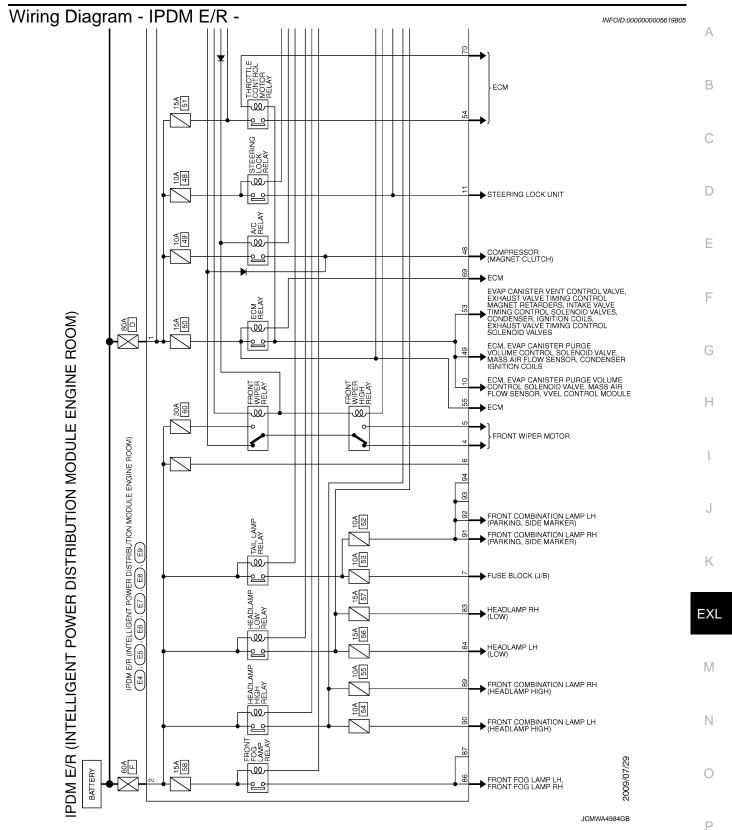
	inal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output	Condition		(Approx.)
83	Ground	Hoodlamp I O (DH)	Output	Ignition	Lighting switch OFF	0 V
(R)	Ground	Headlamp LO (RH)	Output	switch ON	Lighting switch 2ND	Battery voltage
84	Ground	Headlamp LO (LH)	Output	Ignition	Lighting switch OFF	0 V
(P)	Giodila	neadiamp LO (Ln)	Output	switch ON	Lighting switch 2ND	Battery voltage
86 (W)	Ground	Front fog lamp	Output	Lighting switch 2ND	<ul> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul>	Battery voltage
					Front fog lamp switch OFF	0 V
88 (G)	Ground	Washer pump power supply	Output	Ignition swi	tch ON	Battery voltage
89	Ground	Headlamp HI (RH)	4) ( ) ( ) ( ) ( ) ( ) ( ) ( )	Ignition switch ON	<ul><li>Lighting switch HI</li><li>Lighting switch PASS</li></ul>	Battery voltage
(BR)				SWILCH ON	Lighting switch OFF	0 V
90 (Y)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	<ul><li>Lighting switch HI</li><li>Lighting switch PASS</li></ul>	Battery voltage
(1)				SWILCH ON	Lighting switch OFF	0 V
91	Ground	Parking lamp (RH)	Output	Ignition	Lighting switch 1ST	Battery voltage
(P)	Giodila	Faiking lamp (KH)	Output	switch ON	Lighting switch OFF	0 V
92	Ground	Parking lamp (LH)	Output	Ignition	Lighting switch 1ST	Battery voltage
(O)	Giodila	Tarking lamp (LIT)	Odiput	switch ON	Lighting switch OFF	0 V
97 (V)	Ground	Cooling fan control	Output	Engine idlir	ng	0 – 5 V
104	Ground	Hood switch	Input	Close the h	nood	Battery voltage
(LG)	(LG) Ground Hood switch		IIIput	Open the hood		0 V

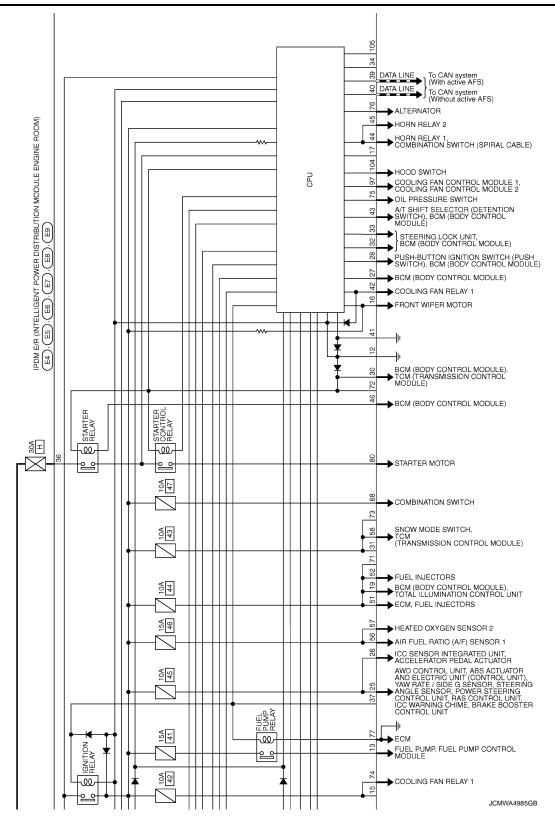
<sup>\*1:</sup> VK engine models

<sup>\*2:</sup> Only for the models with ICC system

<sup>\*3:</sup> VQ engine models

< ECU DIAGNOSIS INFORMATION >

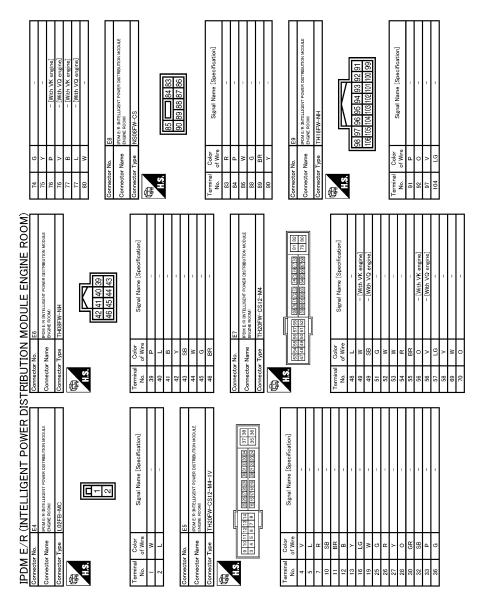




< ECU DIAGNOSIS INFORMATION >

Α В С D Е F G Н J Κ EXL M Ν 0 JCMWA4986GB Р

**EXL-195** Revision: 2009 August 2010 FX35/FX50



JCMWA4987GB

#### Fail-safe

#### INFOID:0000000005619806

#### CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With ECM

< ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe operation
Cooling fan	<ul> <li>Outputs the pulse duty signal (PWM signal) 100% when the ignition switch is turned ON</li> <li>Outputs the pulse duty signal (PWM signal) 0% when the ignition switch is turned OFF</li> </ul>
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	<ul> <li>Turns ON the headlamp low relay when the ignition switch is turned ON</li> <li>Turns OFF the headlamp low relay when the ignition switch is turned OFF</li> <li>Headlamp high relay OFF</li> </ul>
<ul><li>Parking lamps</li><li>License plate lamps</li><li>Side marker lamps</li><li>Illuminations</li><li>Tail lamps</li></ul>	<ul> <li>Turns ON the tail lamp relay when the ignition switch is turned ON</li> <li>Turns OFF the tail lamp relay when the ignition switch is turned OFF</li> </ul>
Front wiper	<ul> <li>The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed.</li> <li>The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.</li> </ul>
Front fog lamps	Front fog lamp relay OFF
Horn	Horn OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF
Steering lock unit	Steering lock relay OFF

#### IGNITION RELAY MALFUNCTION DETECTION FUNCTION

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

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

**EXL-197** Revision: 2009 August 2010 FX35/FX50

Ν

K

Α

В

D

Е

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

#### NOTE:

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

#### STARTER MOTOR PROTECTION FUNCTION

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

DTC Index INFOID:0000000005619807

#### NOTE:

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

v. Applicable

		×: Applicable
CONSULT display	Fail-safe	Reference
No DTC is detected. further testing may be required.	_	_
U1000: CAN COMM CIRCUIT	×	PCS-16
B2098: IGN RELAY ON	×	PCS-17
B2099: IGN RELAY OFF	_	PCS-18
B2108: STRG LCK RELAY ON	_	SEC-99
B2109: STRG LCK RELAY OFF	_	SEC-100
B210A: STRG LCK STATE SW	_	SEC-101
B210B: START CONT RLY ON	_	SEC-105
B210C: START CONT RLY OFF	_	SEC-106
B210D: STARTER RELAY ON	_	<u>SEC-107</u>
B210E: STARTER RELAY OFF	_	SEC-108
B210F: INTRLCK/PNP SW ON	_	SEC-110
B2110: INTRLCK/PNP SW OFF	_	<u>SEC-112</u>

[XENON TYPE]

Α

В

C

D

Е

F

Н

Κ

**EXL** 

M

Ν

0

Р

# **AFS CONTROL UNIT**

Reference Value

#### VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item	Condition	on	Value/Status
STR ANGLE SIG	Stooring	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
LIEAD LAMD	Links with	2ND	On
HEAD LAMP	Light switch	Other than 2ND	Off
AFS SW	NOTE: The item is indicated, but not monitore	d.	
		Unloaded vehicle condition	Approx. 2.5 V
HI SEN OTP RR	Vehicle rear height	Low (Leveling operation	Approx. 1.6 V (With 20-inch wheel)
		downward edge)	Approx. 1.8 V (With 21-inch wheel)
		Unloaded vehicle condition	Approx. 70.0%
LEV ACTR VLTG	Headlamp leveling	Low (Leveling operation	Approx. 40.8% (With 20-inch wheel)
		downward edge)	Approx. 41.8% (With 21-inch wheel)
CMA/L CENIBLL	Dight handlams surival activation	Standard position	Approx. 0°
SWVL SEN RH	Right headlamp swivel activation	Activation	Positive degree (+°)
SWVL SEN LH	Left headlemp out to lective ties	Standard position	Approx. 0°
SWAL SEIN FU	Left headlamp swivel activation	Activation	Positive degree (+°)
SWVL ANGLE RH	Pight headlamp swivel activation	Standard position	Approx. 0°
SWAL ANGLE KU	Right headlamp swivel activation	Activation	Positive degree (+°)
SWVL ANGLE LH	Left headlamp swivel activation	Standard position	Approx. 0°
SWYL ANGLE LIT	Left headlamp swivel activation	Activation	Positive degree (+°)

**TERMINAL LAYOUT** 

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

PHYSICAL VALUES

	inal No. e color)	Description		Conditio	an .	Value
+	_	Signal name	Input/ output	Condition	on	(Approx.)
1 (Y)	Ground	Ignition power supply	Input	Ignition switch ON		Battery voltage
2 (LG)	Ground	Right swivel position sensor ground	Input	Ignition switch ON		0 V
4 (Y)	Ground	Right swivel position sensor power supply	Output	Ignition switch ON		5 V
6 (W)	Ground	Height sensor power supply	Output	Ignition switch ON		5 V
7 (P)	Ground	CAN-L	Input/ output	_		_
8 (B)	Ground	Height sensor ground	Input	Ignition switch ON		0 V
9	Ground	Right swivel position sensor	Output	Right headlamp	0°	0.7 V
(GR)	Cround	signal	Output	swivel angle	15°	2.8 V
11 (R)	Ground	Right swivel motor 1-phase (-)	Output	Right headlamp swivel	Activation	Reference waveform  (V) 15 10 5 0  SKIB2408J 8 - 12 V
13 (B)	Ground	Right swivel motor 2-phase (–)	Output	Right headlamp swivel	Stopped	9.5 - 11.5 V
15 (G)	Ground	Left swivel motor 1-phase (+)	Output	Left headlamp swivel	Activation	Reference waveform  (V) 15 10 5 0 SKIB2408J 8 - 12 V
17 (W)	Ground	Left swivel motor 2-phase (+)	Output	Left headlamp swivel	Stopped	9.5 - 11.5 V
					Unloaded vehicle condition	8.8 V
19 (SB)	Ground	Right levelizer signal	Output	Right headlamp lev- eling	Leveling operation down-	5.1 V (With 20-inch wheel)
					ward edge	5.2 V (With 21-inch wheel)
24 (V)	Ground	Left swivel position sensor power supply	Output	Ignition switch ON	5 V	
25 (B)	Ground	Ground	_	Ignition switch ON	0 V	
27 (BR)	Ground	Left swivel position sensor ground	Output Left headlamp swivel Stopped  Unloaded vehicle condition  Right headlamp leveling  Leveling operation downward edge  Output Ignition switch ON			0 V

# **AFS CONTROL UNIT**

# < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Α

В

С

D

Е

F

Н

	inal No. e color)	Description		Conditio		Value
+	_	Signal name	Input/ output	Coriditio	on .	(Approx.)
					Unloaded vehicle condition	2.5 V
28 (SB)	Ground	Height sensor signal	Output	Vehicle rear height	Low (Leveling operation	1.6 V (With 20-inch wheel)
					downward edge)	1.8 V (With 21-inch wheel)
29 (O)	Ground	Left swivel position sensor sig-	Output	Left headlamp swivel angle	0°	0.7 V
		nal		arigie	17°	3.0 V
30 (L)	Ground	CAN-H	Input/ output	_		_
						Reference waveform
32 (G)	Ground	Right swivel motor 2-phase (+)	Output	Right headlamp swivel	Activation	(V) 15 10 10 10 10 10 10 10 10 10 10 10 10 10
34 (W)	Ground	Right swivel motor 1-phase (+)	Output	Right headlamp swivel	Stopped	9.5 - 11.5 V
36 (R)	Ground	Left swivel motor 2-phase (-)	Output	Left headlamp swivel	Activation	Reference waveform  (V) 15 10 +100µs SKIB2408J  8 - 12 V
38 (B)	Ground	Left swivel motor 1-phase (-)	Output	Left headlamp swivel	Stopped	9.5 - 11.5 V
					Unloaded vehicle condition	8.8 V
40 (O)	Ground	Left levelizer signal	Output	Right headlamp lev- eling	Leveling oper- ation down-	5.1 V (With 20-inch wheel)
					ward edge	5.2 V (With 21-inch wheel)

EXL

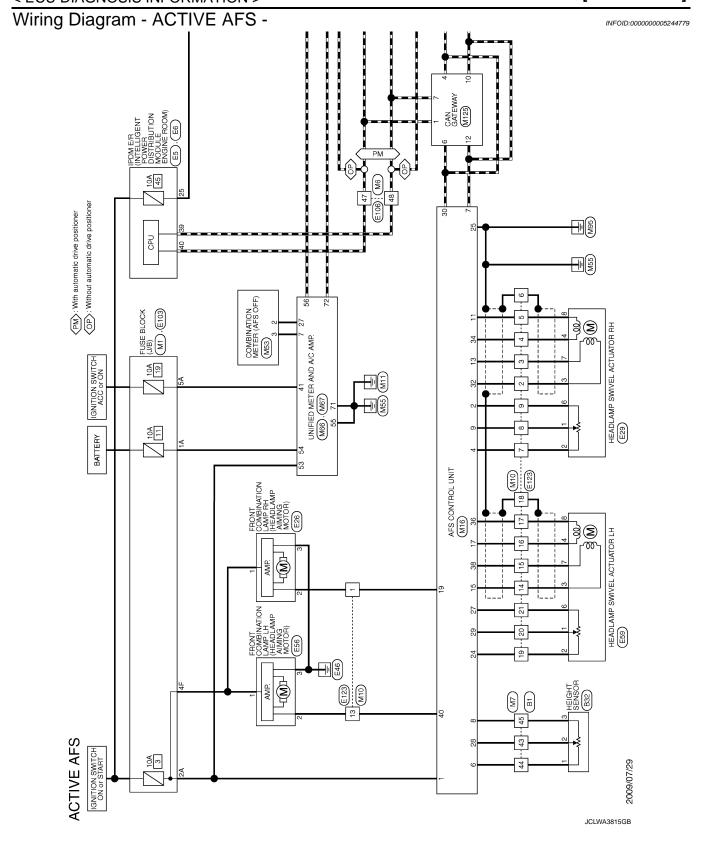
Κ

I\ /I

Ν

0

Р



Α

В

С

D

Е

F

G

Н

J

Κ

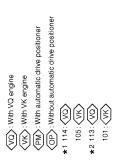
EXL

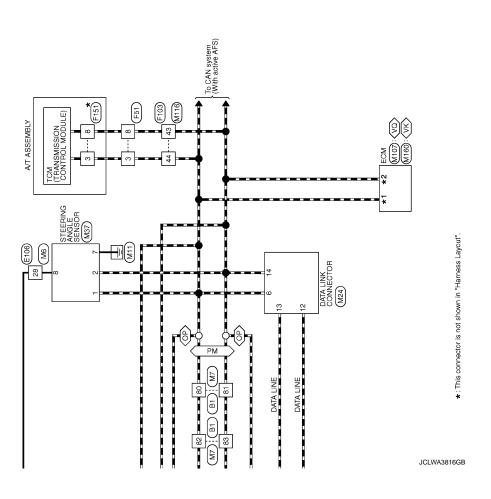
 $\mathbb{N}$ 

Ν

0

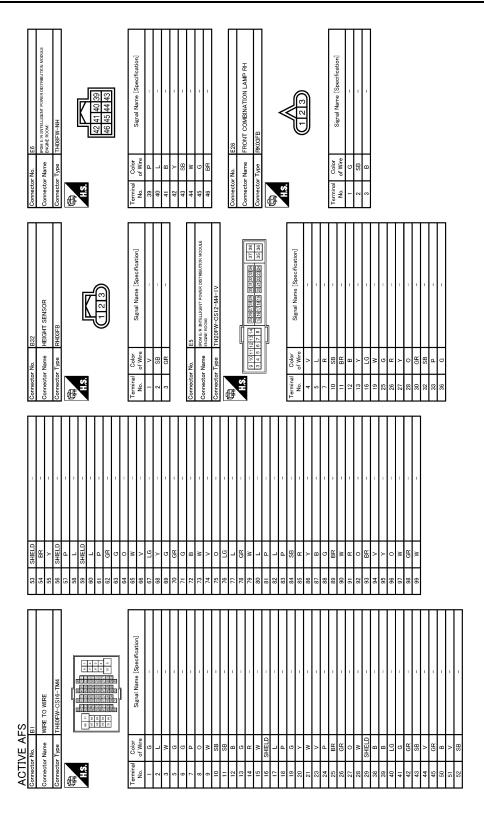
Ρ





**EXL-203** 

2010 FX35/FX50



JCLWA3817GB

Α

В

С

D

Е

F

G

Н

ACTIVE AFS Connector No. E29 Connector Name HEA	FS E29 HEADLAMP SWIVEL ACTUATOR RH	Connector No.	r No.	ES9 HEADLAMP SWIVEL ACTUATOR LH
Connector Type 開	RSUBFOY-PR	Connector Type	r Type	Rsoa-сут-ря 4 3 2 1
Terminal Color	Signal Name [Specification]	Terminal	Color	Signal Name [Specification]
g		-	0	1
<b>&gt;</b>	1	- 2	>	1
G	1	e	α	1
*	1	4	g	ı
PP	1	9	BR	1
В	-	7	М	-
۳	1		В	1
Connector No.	F56	Connector No.	r No	F103
Connector Name	FRONT COMBINATION LAMP LH	Connector Name	r Name	FUSE BLOCK (J/B)
Connector Type	RK03FB	Connector Type	r Type	NS16FW-CS
	<	€ S	<u>[</u>	
_			7F 16F	6F   5F   4F
Terminal Color No. of Wire	Signal Name [Specification]	Terminal No.	Color of Wire	Signal Name [Specification]
g	1	<u> </u> =	SB	1
0	1	2F	×	I
В	-	3F	>	-
		4F	5	_
		96F	0	ı
		F8	٦	I
		ь	œ	1
		10E	_	1

JCLWA3818GB

EXL

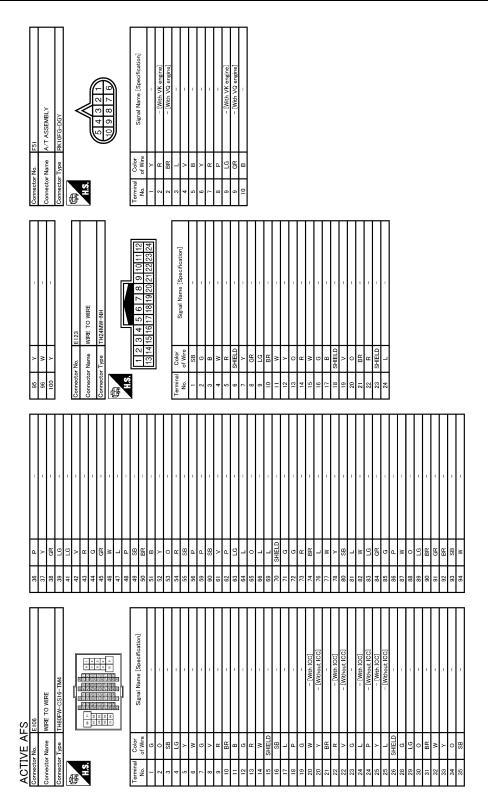
Κ

M

Ν

0

Р



JCLWA3819GB

Α

В

С

D

Е

F

G

Н

	F151	TCM (TRANSMISSION CONTROL MODULE)	SP10FG	•	<b>«</b>	2 3 4	6 7 8 9 10	Signal Name [Specification]	VIGN	BATT	CAN-H	K LINE	GND	VIGN	REV LAMP RLY	CAN-L	START RLY	GND			M1	FUSE BLOCK (J/B)		NS06FW-M2			3A2A 1A	8A 7A 6A 5A 4A				Signal Name [Specification]		-	-	_	-	-	-	-	1
	r No.	r Name	r Type					Color of Wire	*	ш	α	0	5	GR	-	BR	>	M/B			r No.	r Name	,	r Iype								Color	of Wire	0	ŋ	٦	а	^	Ь	œ	-
	Connector No.	Connector Name	Connector Type	1	H.S.			Terminal No.	1	2	3	4	5	9	7	œ	6	10			Connector No.	Connector Name		Connector Type	(F	Ę.						Terminal	No.	1A	2A	3A	4A	5A	6A	7A	84
ACTIVE AFS	or No. F103	Connector Name WIRE TO WIRE	Connector Type TK36FW-NS10					Color   Signal Name [Specification]	SHIELD -			-		R – [With VK engine]	B – [With VQ engine]	SHIELD -			Y – [With VQ engine]	-	GR – [With VQ engine]	GR –		0 3	- 88	-		TG		Te	BR -		Α .	λ	d		- · · · · · · · · · · · · · · · · · · ·	۰ -			
ACT	Connector No.	Connect	Connect	16	H.S.			Terminal No.	-	2	3	4	4	9	2	9	7	6	6	2	10	17	20	6	50 20 20	27	28	59	31	34	32	36	37	38	43	44	45	46			

EXL

Κ

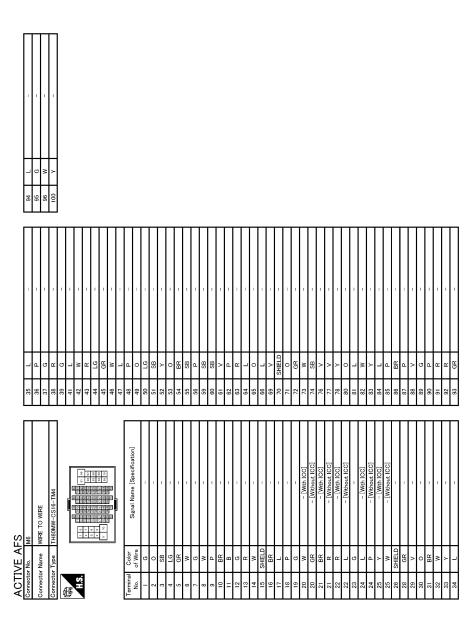
M

Ν

0

JCLWA3820GB

Ρ



JCLWA3821GB

# **AFS CONTROL UNIT**

																																																											А	
																												F		_		-1	ı	Γ,	[uo																							1	Α	
3	PSG-R	PSV-R	HSV-R	LSG-D	BS-B	MR-1 (-)	MR-2 (-)	ML-1 (+)	ML-2 (+)	MDS-R	PSV-L	GND	P3G-L	H-00	CAN-H	MR-2 (+)	MR-1 (+)	ML-2 (-)	ML-1 (-)	AMDS-L				CTOR					196	2	6 7 8			9	Signal Name [Specification]		-	-	_	1	1	1	-	1	1														В	
						IS	SI	S	S	•						100	ls s	S	S	4				DATA LINK CONNECTOR		*			11 10 13 11	01 21 11	3 4 5 6 7 8			:	Signal Nan																								С	
,	. FG	>	× (	1 "	a ag	œ	В	g	*	SB	> 4	n :	H 6	9 0	) _	, e	× ×	· c	В	0		ſ	M24		2	DO DO			F		_			olor	of Wire	re	В	В		GR	9	SB	۵		۵	. 0												,		
-	- 2	+	9 -	- α	ł	H	L	Н	+	+	+	2 5	+	+	30	╀	ł	╀	38	H			Connector No.	Connector Name	T. T	OILIGOTO 13	4	Į	į.				•		No.		H	L	9	7	8	H	┞	╁	╄	╀												ı	D	
Γ	I	 	_ 7			_			_				T	T	T	T	T	T		Г	' П	Т	T	T	T	T	Ť	T	T	Τ	Τ	Τ	1	_	Γ	Γ	_	 	l				_		_	_	, Г	1												
							2 :	51413			fication]																																17 19	38 40			fication												Ε	
					7	֧֧֧֓֞֝֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֟֝֓֓֓֟֝	121110987654321	181/181			Signal Name [Specification]					,	1	1	-	-	1	1	1	1	1						ŀ	,									ſ		11 13 15	8			Signal Name [Specification]	200											F	
	WIRE TO WIRE		THZ4FW-NH			֓֞֞֜֜֜֓֓֓֓֓֓֓֓֓֓֓֓֟֓֓֓֓֓֟֟֓֓֓֓֓֓֓֓֓֟֓֓֓֟	ν ς Ω Θ	20 19			Signal																								9	DOLLAR	AFS CONTROL UNIT	TH40FW-NH				М	9	ଷ			Signal	5												
ON.	Т					3,	01 17 7	24 23 22		ŀ	Color of Wire	o wire	9 0	5 0	2 3	: 02	SHELD	>-	GR	PT	В	*	0	ت ا ت	<u> </u>	£ 0	4 1	ONICE.D	> 0	, 8	<u> </u>	SHIFLD			. No.	П		Type TH					1 2 3 4 6 7 8	24 25			Color	of Wire										(	G	
Connector No	Connector Name		Connector Type	Œ	È	į					Terminal	ġ,	- 0	7 (	9 4	· un	9	7	8	6	10	=	5	14	<u>.</u>	2 5	2 9	0 9	8 0	3 5	Т	Т	7		Connector No.		Connector Name	Connector Type	þ	图	S.						Terminal	Š											Н	
				T						T			Ī		Ī	Ī										Ī	Ī		T	T	Ī	Ī	Ī		Ī										]															
																																											( engine]	engine]																
		1	1		ı	1	-	1			I	I			ľ		1	1	-	-	1			1	1								1	1		1	1	1				ľ	- [With VK engine]	- [With VQ engine]															J	
	П	$\neg$	SHELD	+	7	т	L	2	> ~	4	+	+	+	- 0	+	╀	╀	H	H	Н	Н	77 SB	+	+	-  c	+	ه اد	+	+	+	+	╀	╀	╀	╀	┞	L	H	×	0	Н	H	⊢	۰	1														K	
L	Ш	22	_	i i	35	9	19	62	8	§	99	š ;	٥١٥	8 8	8 6	2 -	72	57	74	75	76	-	78	79	* i			3 6	8 8	3 8	8 6	18	8 8	96	16	6	83	94	96	96		_	_	66	1	_		_										Ε	ΥI	
											tion]																																																^	
			4		82	202	8 8 8 2 8 2	423	88		Signal Name [Specification]			.		,	1	1	-	-		1	1	ı	1				.				1	1	1	1	1	-	1	1	-	,	1				1	1										ľ	VI	
	WIRE TO WIRE		TH80MW-CS16-TM4		11 23 40 51 65		0 0		2 2 2		Signal Nar																																																N I	
AFS	Т	T	7		-	- 14	D 0	2		-	Color	a Mile	5 0	α 3	2 0	, .	. >	. 0	W	w	0	<u>а</u>	g	<b>∝</b> :	× [	SPIELD	10		5 0	2 0	2 >		. 8	GR.	0	×	SHIELD	В	В	P7	9	<b>&gt;</b>	SB	×	- m		>	FG											Ν	
ACTIVE /	Connector Name		Connector Type	Œ	ě						Terminal Co		- 0	7 0	o 10	+	ł		H	10	11	+	+	+	+	01	ł	+	+	+	$^{+}$	╁	+	H	╁	┞	H	H	39	H	H	L	L	H	ł	╀	Н	52										(	О	
~ <u>[c</u>	, <u> </u>	<u> </u>	<b>-1</b>			3				Ľ	•		1			_	_												_		_	_	_	_			<u> </u>	·		_		_	<u> </u>	_	_	_		_		JC	LWA	438	220	GΒ						
																																																											Ρ	

**EXL-209** Revision: 2009 August 2010 FX35/FX50

ACTIV	ACTIVE AFS								ı
Connector No.	4o. M37	+	WASHER LEVEL SWITCH SIGNAL	Connector No.	M67	Termina		Signal Name [Specification]	
Connector Name	Name STEERING ANGLE SENSOR	+	ILL CON OUT	Connector Name	UNIFIED METER AND A/C AMP.	Š S	of Wire		_
Connector Time	TU000M-NU	30	ENTED SWITCH SIGNAL	Connector Time	UN-WEGGET.	6 8	<u></u> >	FOOT WHAT CODE	т
	٦.	╁	TRIP A/B RESET SWITCH SIGNAL	200	17011	8 8		APS2 [Without ICG]	т
修		39 B	ILLUMINATION CONTROL SWITCH SIGNAL (-)	修		66		AVCC-APS1 [With ICC]	т
S	K	H	ILLUMINATION CONTROL SWITCH SIGNAL (+)	S		66	٦	AVCC-APS1 [Without ICC]	
	4				/	100	W	GND-A(APS1)	
	9			41 42	42/43/44/45/46/47/20/28/29/29/29/29/29/29/29/29/29/29/29/29/29/	101	SB	ASCDSW	
	1 4 5	Connector No.	M66	00 /0	01 02 02 03 03 03	102	P.	FTPRS	_
		Connector Name	UNIFIED METER AND A/C AMP.			103	_	AVCC-APS2 [With ICC]	_
ŀ				ŀ		103	+	AVCC-APS2 [Without ICC]	_
la l	Color Signal Name [Specification]	Connector Type	TH40FW-NH	la la	Signal Name [Specification]	104	+	GND-A(APS2) [With ICC]	_
No.	of Wire	q <u>E</u>		No. of Wire		104	æ	GND-A(APS2) [Without ICC]	_
- 0	CAN-H	AHA		<del>1</del> 4	ACC POWER SUPPLY	105	+	PDPRESS	т
7 -	P CAN-L	ģ		42 Y	MITALY SENSOR SIGNAL	9 5	≥ 6	TI OOVV	_
- 00		2 3	3 4 5 6 7 8 9 10 11 14 15 16 20	F	IN-VEHICLE SENSOR SIGNAL	108	╀	GNDA ASCD	Т
		21 22 23	25/25/27/28 30 1 34 36 38 40	┞	AMBIENT SENSOR SIGNAL	109	g	NEUT-H	Т
				46 0	SUNLOAD SENSOR SIGNAL	110	œ	ТАСНО	
Connector No.	Vo. M53			47 \	GAS SENSOR SIGNAL	111	0	AVCC-PDPRESS	П
Connector Name	Jame COMBINATION METER	lec	Signal Name [Specification]	53 G	IGNITION POWER SUPPLY	112	>	GND-A	
		No. of Wire		54 0	BATTERY POWER SUPPLY	113	Ь	VEHCAN-L1	
Connector Type	TH40FW-NH	4 P	STOP LAMP SWITCH SIGNAL	55 B	GROUND	114	٦	VEHCAN-H1	
q		2 F	MANUAL MODE SHIFT UP SIGNAL	2e F	CAN-H	116	_	GNDA-PDPRES	
事		0 9	PADDLE SHIFTER UP SIGNAL	27 W	BRAKE FLUID LEVEL SWITCH SIGNAL	117	GR	KLINE	
E S		7 GR	COMMUNICATION SIGNAL (AMP>METER)	58 B	FUEL LEVEL SENSOR GROUND	121	ΓG	CDCV	
	/	8 8	VEHICLE SPEED SIGNAL (2-PULSE)	59 GR	INTAKE SENSOR GROUND	122	Ь	BRAKE	
100	1 22 23 24 25 26 27 28 29 20 31 33 24 38 37 38 39 40	9 SB	FRONT SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)	7 09	IN-VEHICLE SENSOR GROUND	123	В	GND	_
4		10 W	MANUAL MODE SIGNAL	+	AMBIENT SENSOR GROUND	124	В	GND	_
		+	NON-MANUAL MODE SIGNAL		SUNLOAD SENSOR GROUND	125	æ	VBR	_
L		14 BR	COMMUNICATION SIGNAL (LCD->AMP.)	+	ION MODE SIGNAL	126	8	BNC SW	Т
Terminal	Golor Signal Name [Specification]	20 L	ION SENSOR SIGNAL	65 0	ECV SIGNAL	127	+	GND	Т
+	e e	Z3	AT SNOW SWITCH SIGNAL	+	A/C LAN SIGNAL	128	9	GND	٦
- (	BATTERY POWER SUPPLY	+	MANUAL MODE SHIFT DOWN SIGNAL	+	EACH DOOR MOTOR POWER SUPPLY				
7 6	COMMUNICATION SIGNAL (METER-SAME)	20 27	COMMINICATION SIGNAL (METER-) AMD)	73	GROUND				
ı c	GROLIND	ł	VEHICLE SPEED SIGNAL (8-DIII SE)	$\frac{1}{1}$	1				
9	ALTEF	╀	PARKING BRAKE SWITCH SIGNAL						
7	P AIR BAG SIGNAL	34 Y	COMMUNICATION SIGNAL (AMP>LCD)	Connector No.	M107				
10	G SECURITY INDICATOR SIGNAL	38 L	BLOWER MOTOR CONTROL SIGNAL	Connector Name	ECM				
15	B GROUND				LOW				
91	MET			Connector Type	RH24FGY-RZ8-R-LH-Z				
21	IGNITION			ą					
22	+			ANT.					
24	BR COMMUNICATION SIGNAL (LCD->AMP.)				128 124 120 116 112 108 104 100				
25	Y COMMUNICATION SIGNAL (AMP>LCD)				123				
07	+				126 122 11811411010610298				
27	W PARKING BRAKE SWITCH SIGNAL				[ 125   121   117   118   108   108   101   97   ]				
07	+								
30	Δ.								

JCLWA3823GB

Α

В

С

D

Е

F

G

Н

J

Κ

EXL

 $\mathbb{N}$ 

Ν

0

JCLWA3824GB

Р

Fail-Safe

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

# **DTC Inspection Priority Chart**

INFOID:0000000005244781

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

#### NOTE:

- If DTC U1000 is displayed with other DTC, first perform the trouble diagnosis for DTC U1000.
- If DTC U1010 is displayed with other DTC, first perform the trouble diagnosis for DTC U1010.

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

# **AFS CONTROL UNIT**

# < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

DTC Index

×: Applicable

Α

В

С

D

Е

F

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"

G

Н

Κ

EXL

 $\mathbb{N}$ 

Ν

0

Р

[XENON TYPE]

# SYMPTOM DIAGNOSIS

# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

Symptom Table

#### **CAUTION:**

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

Symptom		Possible cause	Inspection item
Headlamp does not switch to the high beam.	One side	Fuse     Harness between IPDM E/R and the front combination lamp     Front combination lamp (High beam solenoid)     IPDM E/R	Headlamp (HI) circuit Refer to <u>EXL-67</u> .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM" Refer to EXL-218.	
High beam indicator lamp is not turned ON. (Headlamp switches to the high beam.)		Combination meter     Unified meter and A/C amp.	Unified meter and A/C amp. Data monitor "HI-BEAM IND"     BCM (HEAD LAMP) Active test "HEADLAMP"
	One side	Front combination lamp (High beam solenoid)	_
Headlamp does not switch to the low beam.	Both sides	Combination switch     Harness between the combination switch and BCM     BCM	Combination switch Refer to <u>BCS-81</u> .
		High beam request signal  BCM IPDM E/R	IPDM E/R Data monitor "HL HI REQ"
		IPDM E/R	_
Headlamp is not turned ON.	One side	Fuse     Xenon bulb     Harness between IPDM E/R and the front combination lamp     Front combination lamp (xenon headlamp)     IPDM E/R	Headlamp (LO) circuit Refer to EXL-70.
	Both sides	Symptom diagnosis	
Headlamp is not turned OFF.	When the ignition switch is turned ON	"BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-219</u> .	
	The ignition switch is turned OFF (After activating the battery saver.)	IPDM E/R	_
Headlamp is not turned ON/OFF with the lighting switch AUTO.		Combination switch     Harness between the combination switch and BCM     BCM	Combination switch Refer to <u>BCS-81</u> .
		Optical sensor     Harness between the optical sensor and BCM     BCM	Optical sensor Refer to <u>EXL-83</u> .

# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

Symptom		Possible cause Inspection item		
Front fog lamp is not turned ON.	One side	Front fog lamp bulb     Harness between IPDM E/R and the front fog lamp     IPDM E/R	Front fog lamp circuit Refer to EXL-76.	
	Both side	Symptom diagnosis	A DE MOT TURNER ON	
Front fog lamp is not turned ON.		"BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to <u>EXL-221</u> .		
Front fog lamp indicator lamp is not turned ON. (Front fog lamp is turned ON.)		Combination meter     Unified meter and A/C amp.	Unified meter and A/C amp. Data monitor "FR FOG IND" BCM (HEAD LAMP) Active test "FR FOG LAMP"	
Parking lamp is not turned ON.		<ul> <li>Fuse</li> <li>Parking lamp bulb</li> <li>Harness between IPDM E/R and the front combination lamp</li> <li>Front combination lamp</li> <li>IPDM E/R</li> </ul>	Parking lamp circuit Refer to EXL-78.	
Tail lamp is not turned ON.		Harness between IPDM E/R and the rear combination lamp     Rear combination lamp	Tail lamp circuit Refer to EXL-88.	
License plate lamp is not turned ON.		Harness between IPDM E/R and the license plate lamp     License plate lamp	License plate lamp circuit Refer to EXL-90.	
Tail lamp and 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 EXL-88.	
<ul> <li>Parking lamp, side marker lamp, tail lamp and license plate lamp are not turned ON.</li> <li>Parking lamp, side marker lamp, tail lamp and license plate lamp are not turned OFF.</li> <li>(Each illumination is turned ON/OFF.)</li> </ul>		Symptom diagnosis "PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-220.		
Tail lamp indicator lamp is not turned ON. (Parking and tail lamps are turned ON.)		Combination meter     Unified meter and A/C amp.	Unified meter and A/C amp. Data monitor "LIGHT IND"     BCM (HEAD LAMP) Active test "TAIL LAMP"	
Turn signal lamp does not blink.	Indicator lamp is normal. (The applicable side performs the high flasher activation.)	Harness between BCM and each turn signal lamp     Turn signal lamp bulb	Turn signal lamp circuit Refer to EXL-80.	
	Indicator lamp is included	Combination switch     Harness between the combination switch and BCM     BCM	Combination switch Refer to BCS-81.	
Turn signal indicator lamp does not blink. (The turn signal indicator lamp is normal.)	One side	Combination meter	_	
	Both sides (Always)	<ul> <li>Turn signal indicator lamp signal</li> <li>Unified meter and A/C amp.</li> <li>BCM</li> <li>Combination meter</li> </ul>	Unified meter and A/C amp. Data monitor "TURN IND"     BCM (FLASHER) Active test "FLASHER"	
	Both sides (Only when activating the hazard warning lamp with the ignition	The combination meter power supply and the ground circuit Combination meter	Combination meter Power supply and the ground circuit Refer to MWI-58.	

Revision: 2009 August **EXL-215** 2010 FX35/FX50

# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

Symptom	Possible cause	Inspection item
<ul> <li>Hazard warning lamp does not activate.</li> <li>Hazard warning lamp continues activating.</li> <li>(Turn signal is normal.)</li> </ul>	Hazard switch     Harness between the hazard switch and BCM     BCM	Hazard switch Refer to <u>EXL-86</u> .
Headlamp auto aiming does not activate. (AFS is normal.)	Harness between AFS control unit and aiming motor     Front combination lamp (Aiming motor)     AFS control unit	Headlamp levelizer circuit Refer to EXL-74.
AFS OFF indicator lamp is not turned ON.	<ul> <li>AFS OFF indicator lamp signal</li> <li>Unified meter and A/C amp.</li> <li>AFS control unit</li> <li>Combination meter</li> </ul>	Unified meter and A/C amp. Data monitor "AFS OFF IND"

### NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS > [XENON TYPE]

## NORMAL OPERATING CONDITION

Description A

### XENON HEADLAMP

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

### **AUTO LIGHT SYSTEM**

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

Е

В

C

D

F

G

Н

Κ

EXL

M

Ν

0

## BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

## BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

Description INFOID:000000005244785

The headlamp (both sides) does not switch to the high beam when setting to the lighting switch HI or PASS.

## Diagnosis Procedure

INFOID:0000000005244786

## 1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-81, "Symptom Table".

### Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

## 2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

### (E)CONSULT-III DATA MONITOR

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

Monitor item	Con	dition	Monitor status
	Lighting switch	HI or PASS	On
HL HI REQ	(2ND)	Except for HI or PASS	Off

### Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

## 3. HEADLAMP (HI) CIRCUIT INSPECTION

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

### Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

## **BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON**

[XENON TYPE] < SYMPTOM DIAGNOSIS > BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON Α Description INFOID:0000000005244787 The headlamps (both sides) are not turned ON in any condition. В Diagnosis Procedure INFOID:0000000005244788 1.COMBINATION SWITCH INSPECTION Check the combination switch. Refer to BCS-81, "Symptom Table". Is the combination switch normal? D YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT Е **©CONSULT-III DATA MONITOR** Select "HL LO REQ" of IPDM E/R data monitor item. With operating the lighting switch, check the monitor status. F Monitor item Condition Monitor status 2ND On **HL LO REQ** Lighting switch OFF Off Is the item status normal? Н YES >> GO TO 3. NO >> Replace BCM. 3.HEADLAMP (LO) CIRCUIT INSPECTION Check the headlamp (LO) circuit. Refer to EXL-70. Is the headlamp (LO) circuit normal? YES >> Replace IPDM E/R. NO >> Repair or replace the malfunctioning part.

**EXL** 

K

M

Ν

Р

**EXL-219** Revision: 2009 August 2010 FX35/FX50

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

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

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

Description INFOID:000000005244789

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

## Diagnosis Procedure

INFOID:0000000005244790

## 1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-81, "Symptom Table".

### Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

## 2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

### (P)CONSULT-III DATA MONITOR

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

Monitor item	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-88.

### Is the tail lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON [XENON TYPE] < SYMPTOM DIAGNOSIS > BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON Α Description INFOID:0000000005244791 The front fog lamps are not turned ON in any condition. В Diagnosis Procedure INFOID:0000000005244792 1.COMBINATION SWITCH INSPECTION Check the combination switch. Refer to BCS-81, "Symptom Table". Is the combination switch normal? D YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT Е PCONSULT-III DATA MONITOR Select "FR FOG REQ" of IPDM E/R data monitor item. With operating the front fog lamp switch, check the monitor status. F Monitor item Condition Monitor status ON On Front fog lamp switch FR FOG REQ (Lighting switch 2ND) OFF Off Is the item status normal? Н YES >> GO TO 3. NO >> Replace BCM. 3.FRONT FOG LAMP CIRCUIT INSPECTION Check the front fog lamp circuit. Refer to EXL-76. Is the front fog lamp circuit normal? YES >> Replace IPDM E/R. NO >> Repair or replace the malfunctioning part.

EXL

K

M

Ν

O

Р

Revision: 2009 August **EXL-221** 2010 FX35/FX50

< PRECAUTION > [XENON TYPE]

## **PRECAUTION**

### **PRECAUTIONS**

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

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

#### **WARNING:**

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

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

#### **WARNING:**

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

Precautions For Xenon Headlamp Service

INFOID:0000000005244794

#### **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.).

## PERIODIC MAINTENANCE

## HEADLAMP AIMING ADJUSTMENT

Description B

#### PREPARATION BEFORE ADJUSTING

#### NOTE

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

Before performing aiming adjustment, check the following.

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

### NOTE:

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

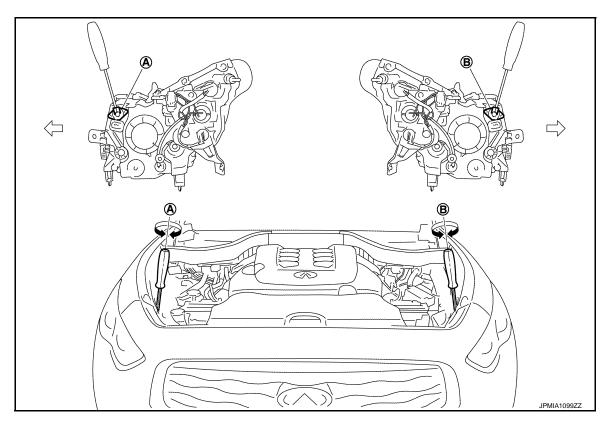
Wipe out dirt on the headlamp.

#### **CAUTION:**

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

- Ride alone on the driver seat.
- Headlamp aiming switch sets to "0". (with manual headlamp aiming control system.)

### AIMING ADJUSTMENT SCREW



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

∀: Vehicle center

#### NOTE:

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

Revision: 2009 August **EXL-223** 2010 FX35/FX50

D

Е

F

Α

. .

K

EXL

M

Ν

0

	Adjustment screw	Screw driver rotation	Facing direction
Α	Headlamp RH (UP/DOWN)	Clockwise	UP
^	Headianip KH (OF/DOWN)	Counterclockwise	DOWN
В	Headlamp LH (UP/DOWN)	Clockwise	UP
Ь	neadianip En (OP/DOWN)	Counterclockwise	DOWN

## Aiming Adjustment Procedure

INFOID:0000000005244796

Place the screen.

#### NOTE:

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

#### NOTE:

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

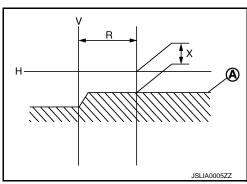
#### **CAUTION:**

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

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

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

Low beam distribution on the screen

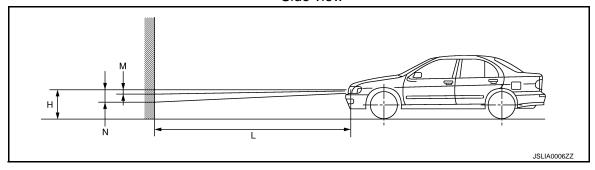


 Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

unit: mm (in)

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

### Side view



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

### FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

Α

В

D

Е

F

Н

## FRONT FOG LAMP AIMING ADJUSTMENT

Description INFOID:0000000005244797

### PREPARATION BEFORE ADJUSTING

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

Before performing aiming adjustment, check the following.

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

### NOTE:

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

Wipe out dirt on the headlamp.

#### **CAUTION:**

Never use organic solvent (thinner, gasoline etc.)

Ride alone on the driver seat.

#### AIMING ADJUSTMENT SCREW

Turn the aiming adjusting screw for adjustment.

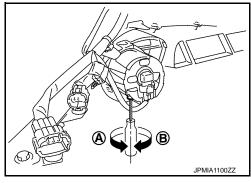
A: UP

**B: DOWN** 

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

### NOTE:

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



INFOID:0000000005244798

# Aiming Adjustment Procedure

1. Place the screen.

#### NOTE:

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

#### NOTE:

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

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

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

EXL

M

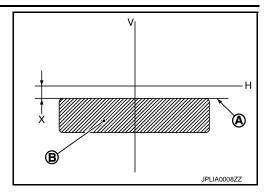
Ν

## FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

Front fog lamp light distribution on the screen



A : Cutoff line

B : High illuminance area

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

X : Cutoff line height

Α

В

D

Е

F

Н

K

EXL

M

Ν

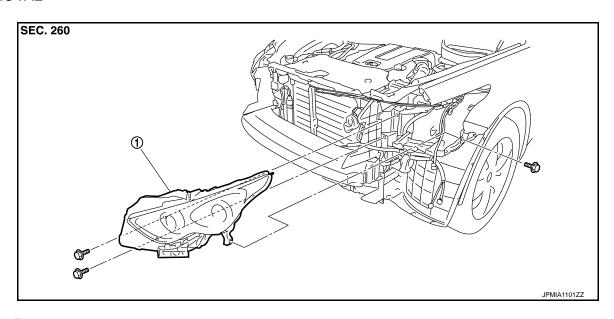
Р

# REMOVAL AND INSTALLATION

## FRONT COMBINATION LAMP

**Exploded View** INFOID:0000000005244799

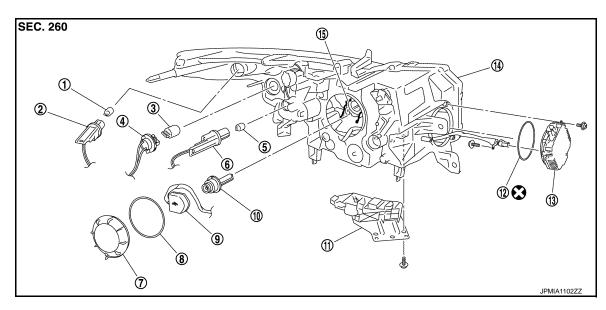
**REMOVAL** 



Front combination lamp

### DISASSEMBLY

Without AFS

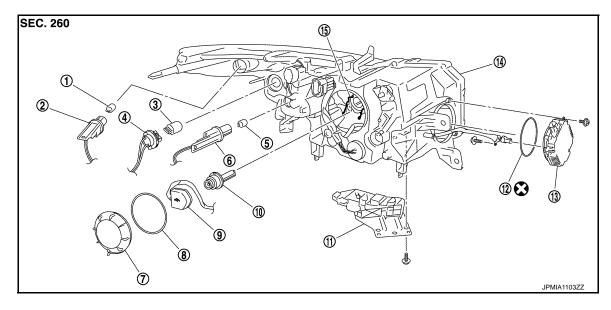


- Front side marker lamp bulb
- Front turn signal lamp bulb socket
- 7. Resin cap
- 10. Xenon bulb
- HID control unit

- 2. Front side marker lamp bulb socket
- 5. Parking lamp bulb
- Seal packing
- 11. Bumper bracket
- 14. Headlamp housing assembly
- Front turn signal lamp bulb 3.
- 6. Parking lamp bulb socket
- 9. Xenon bulb socket
- 12. Seal packing
- 15. Retaining spring

Refer to GI-4, "Components" for symbols not described above.

With AFS



- Front side marker lamp bulb
- Front turn signal lamp bulb socket
- 7. Resin cap
- 10. Xenon bulb
- 13. HID control unit

- Front side marker lamp bulb socket
- 5. Parking lamp bulb
- 8. Seal packing
- 11. Bumper bracket
- 14. Headlamp housing assembly
- Front turn signal lamp bulb
- 6. Parking lamp bulb socket
- 9. Xenon bulb socket
- 12. Seal packing
- 15. Retaining spring

Refer to GI-4, "Components" for symbols not described above.

### Removal and Installation

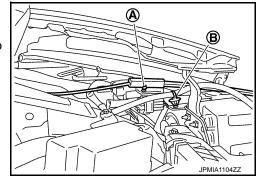
INFOID:0000000005244800

### **REMOVAL**

#### **CAUTION:**

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

- Remove the front bumper fascia. Refer to EXT-12, "Exploded View".
- Remove the headlamp mounting bolts.
- Remove the holding clip (A)\* and the harness clip (B). \*: 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.

After installation, perform aiming adjustment. Refer to EXL-223, "Description".

Replacement INFOID:0000000005244801

#### **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.

### FRONT COMBINATION LAMP

### < REMOVAL AND INSTALLATION >

[XENON TYPE]

Α

В

D

Е

F

Н

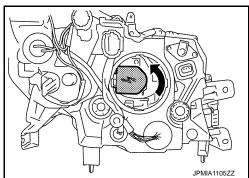
 Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

#### HEADLAMP BULB

- Remove the engine room cover\*. Refer to EM-174, "Exploded View". \*: VK Engine Models
- Remove the fender rubber protector. Keep a service area.
- Rotate the resin cap counterclockwise and unlock it. 3.
- Rotate the bulb socket counterclockwise and unlock it.
- 5. Remove the retaining spring lock. Remove the bulb from the headlamp.

#### **CAUTION:**

Never break the xenon bulb ceramic tube when replacing



#### PARKING LAMP BULB

- Remove the engine room cover\*. Refer to EM-174, "Exploded View". \*: VK Engine Models
- Remove the fender rubber protector. Keep a service area.
- Rotate the bulb socket counterclockwise and unlock it.
- Remove the bulb from the bulb socket.

#### FRONT TURN SIGNAL LAMP BULB

- Remove the engine room cover\*. Refer to EM-174, "Exploded View". \*: VK Engine Models
- Remove the fender rubber protector. Keep a service area.
- Rotate the bulb socket counterclockwise and unlock it.
- Remove the bulb from the bulb socket.

#### FRONT SIDE MARKER LAMP BULB

- 1. Remove the engine room cover\*. Refer to EM-174, "Exploded View". \*: VK Engine Models
- 2. Remove the fender rubber protector. Keep a service area.
- 3. Rotate the bulb socket counterclockwise and unlock it.
- Remove the bulb from the bulb socket.

## Disassembly and Assembly

### DISASSEMBLY

- Rotate the resin cap counterclockwise and unlock it.
- Rotate the xenon bulb socket counterclockwise and unlock it. 2.
- Remove the retaining spring lock. Remove the xenon bulb.
- Remove the bumper bracket.
- Remove the HID control unit installation screw.
- 6. Remove the screw. Disconnect the connector from HID control unit.
- Pull out the xenon bulb socket from the headlamp housing assembly.
- 8. Rotate the parking lamp bulb socket counterclockwise and unlock it.
- Remove the bulb from the parking lamp bulb socket.

**EXL** 

K

INFOID:0000000005244802

N

Р

2010 FX35/FX50

10. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it.

11. Remove the bulb from the front turn signal lamp bulb socket.

### FRONT COMBINATION LAMP

### < REMOVAL AND INSTALLATION >

[XENON TYPE]

- 12. Rotate the front side marker lamp bulb socket counterclockwise and unlock it.
- 13. Remove the bulb from the front side marker lamp bulb socket.

### **ASSEMBLY**

Assemble in the reverse order of disassembly.

### **CAUTION:**

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

Α

В

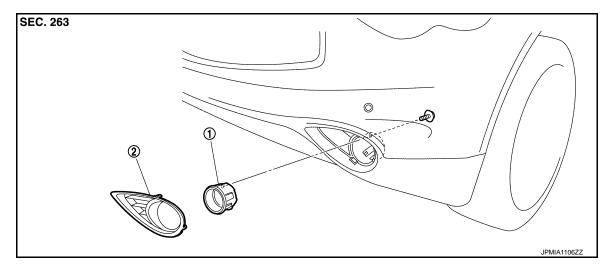
D

Е

F

## FRONT FOG LAMP

Exploded View



Front fog lamp

Front fog lamp finisher

( ) : Pawl

Removal and Installation

INFOID:0000000005244804

#### **CAUTION:**

Disconnect the battery negative terminal or remove the fuse.

#### REMOVAL

- 1. Remove the front fender protector. Keep a service area. Refer to <a href="EXT-25">EXT-25</a>, "FENDER PROTECTOR: Exploded View".
- Remove the front fog lamp connector.
- 3. Remove the screw.
- 4. 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-225, "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 a service area. Refer to <u>EXT-25, "FENDER PROTECTOR: Exploded View"</u>.

EXL

M

Ν

K

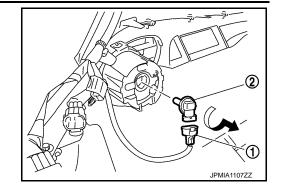
Revision: 2009 August **EXL-231** 2010 FX35/FX50

## **FRONT FOG LAMP**

## < REMOVAL AND INSTALLATION >

[XENON TYPE]

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



Α

В

D

Е

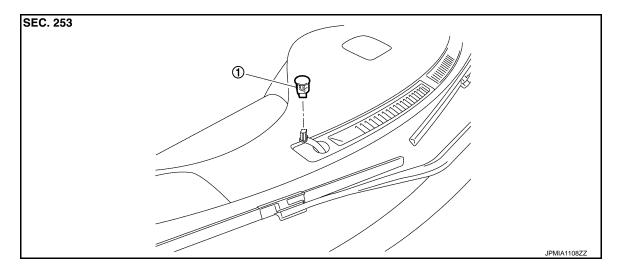
F

Н

INFOID:0000000005244807

## **OPTICAL SENSOR**

Exploded View



1. Optical sensor

### Removal and Installation

REMOVAL

- Insert an appropriate tool between the optical sensor and the instrument upper panel. Pull out the optical sensor upward.
- Disconnect the connector. Remove the optical sensor.

### **INSTALLATION**

Install in the reverse order of removal.

EXL

K

M

Ν

0

## **LIGHTING & TURN SIGNAL SWITCH**

< REMOVAL AND INSTALLATION >

[XENON TYPE]

## **LIGHTING & TURN SIGNAL SWITCH**

Exploded View

The lighting & turn signal switch is integrated in the combination switch. BCS-84, "Exploded View".

INFOID:0000000005244809

Α

В

D

Е

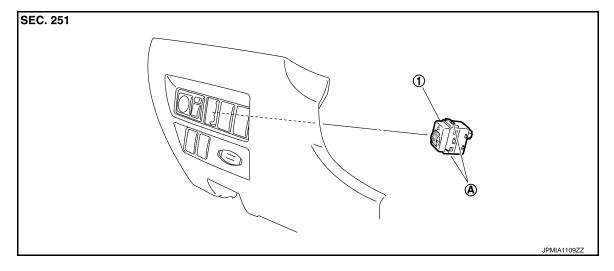
F

Н

INFOID:0000000005244810

## **HEADLAMP AIMING SWITCH**

## **Exploded View**



- 1. Headlamp aiming switch
- A. Pawls

### Removal and Installation

### **REMOVAL**

- Remove the instrument driver lower panel. Refer to <u>IP-11, "Exploded View"</u>.
- 2. Disengage the pawls. And then remove the headlamp aiming switch.

### **INSTALLATION**

Install in the reverse order of removal.

EXL

K

M

Ν

0

## **HAZARD SWITCH**

< REMOVAL AND INSTALLATION >

[XENON TYPE]

# HAZARD SWITCH

Exploded View

The hazard switch is integrated in the multifunction switch. Refer to AV-148, "Exploded View".

Α

В

C

D

Е

F

Н

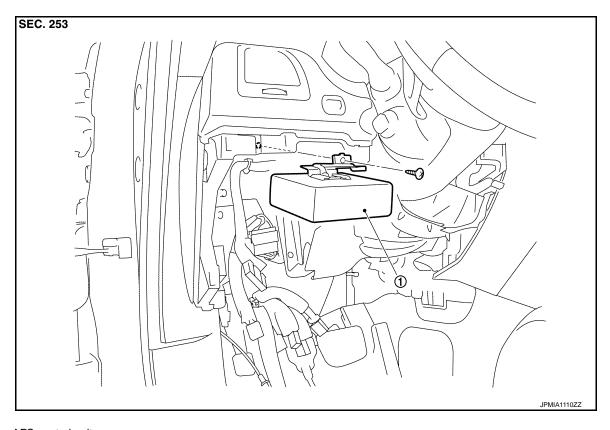
J

K

INFOID:0000000005244813

## **AFS CONTROL UNIT**

Exploded View



1. AFS control unit

## Removal and Installation

REMOVAL

- 1. Remove the instrument driver lower panel. Refer to IP-11, "Exploded View".
- 2. Remove the AFS control unit mounting bolt.
- 3. Disconnect the AFS control unit connector.
- Remove the AFS control unit.

### **INSTALLATION**

Install in the reverse order of removal.

EXL

M

Ν

0

## STEERING ANGLE SENSOR

< REMOVAL AND INSTALLATION >

[XENON TYPE]

## STEERING ANGLE SENSOR

Removal and Installation

INFOID:0000000005244814

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

Α

В

D

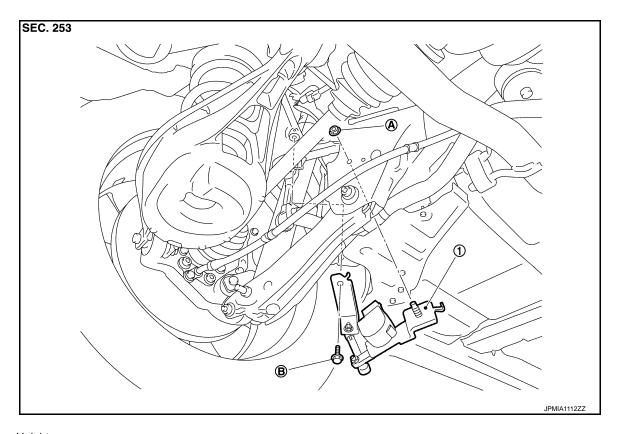
Е

F

Н

## **HEIGHT SENSOR**

Exploded View



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

### Removal and Installation

INFOID:0000000005244818

### **REMOVAL**

- 1. Remove the height sensor mounting nut.
- 2. Remove the height sensor lever link bracket mounting bolt.
- 3. Disconnect the height sensor connector.
- 4. Remove the height sensor.

### **INSTALLATION**

Install in the reverse order of removal.

### **CAUTION:**

Perform the levelizer adjustment when removing the height sensor. Refer to <u>EXL-7</u>, "<u>LEVELIZER ADJUSTMENT</u>: <u>Special Repair Requirement</u>".

EXL

M

Ν

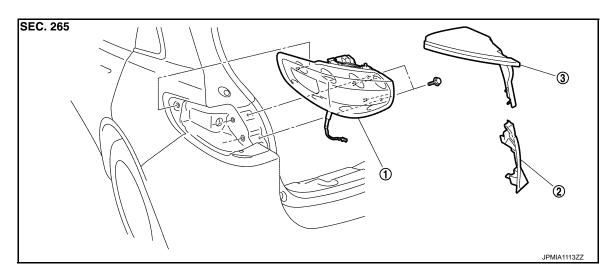
Р

0

## REAR COMBINATION LAMP

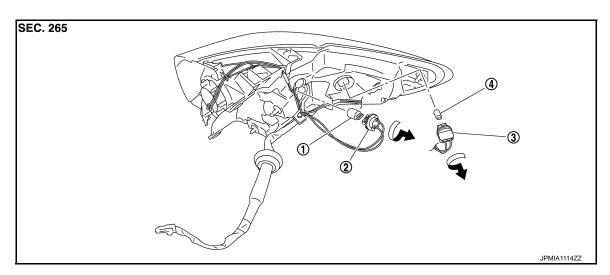
Exploded View

### **REMOVAL**



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

### **DISASSEMBLY**



- Rear turn signal lamp bulb
- 2. Rear turn signal lamp bulb socket
- 3. Rear side marker lamp bulb socket

INFOID:0000000005244820

4. Rear side marker lamp bulb

## Removal and Installation

### **CAUTION:**

Disconnect the battery negative terminal or remove the fuse.

### **REMOVAL**

- 1. Remove the rear combination lamp lower and upper finisher.
- 2. Remove the rear combination lamp mounting bolts.
- 3. Disconnect the rear combination lamp connector.
- 4. Pull the rear combination lamp toward outside of the vehicle. Remove the rear combination lamp.

### **INSTALLATION**

Install in the reverse order of removal.

### **REAR COMBINATION LAMP**

### < REMOVAL AND INSTALLATION >

[XENON TYPE]

Α

В

C

D

Е

F

Н

Replacement INFOID:0000000005244821

#### **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.

### STOP/TAIL LAMP

Replacement integral with rear combination lamp assembly. Refer to EXL-240, "Exploded View".

#### REAR SIDE MARKER LAMP BULB

- Remove the rear combination lamp. Refer to EXL-240, "Exploded View".
- Rotate the rear side marker lamp bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the rear side marker lamp bulb socket.

### REAR TURN SIGNAL LAMP BULB

- Remove the rear combination lamp. Refer to EXL-240, "Exploded View".
- Rotate the rear turn signal lamp bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the rear turn signal lamp bulb socket.

**EXL** 

Ν

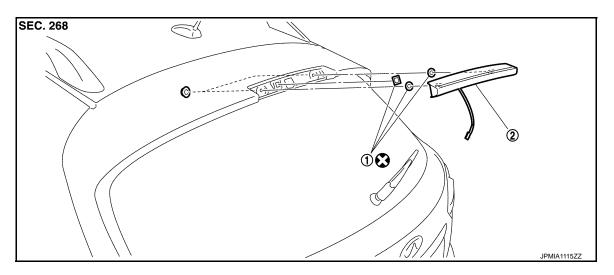
Р

**EXL-241** Revision: 2009 August 2010 FX35/FX50

K

## **HIGH-MOUNTED STOP LAMP**

Exploded View



1. Seal packing

2. High-mounted stop lamp

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

### Removal and Installation

INFOID:0000000005244823

### **REMOVAL**

- 1. Remove the back door plate. Refer to <a href="INT-32">INT-32</a>, "Exploded View".
- 2. Remove the high-mounted stop lamp mounting nuts.
- 3. Disconnect the high-mounted stop lamp connector.
- 4. Pull the high-mounted stop lamp toward rear of the vehicle. Remove the high-mounted stop lamp.

### **INSTALLATION**

Install in the reverse order of removal.

### **CAUTION:**

Seal packing cannot be reused.

Α

В

D

Е

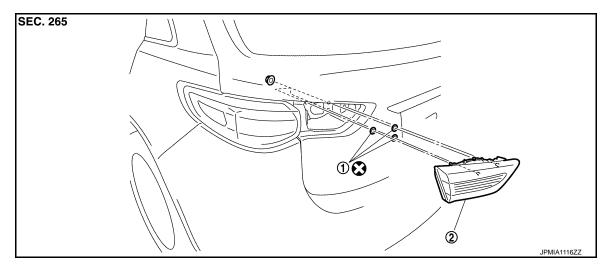
F

INFOID:0000000005244825

INFOID:0000000005244826

## **BACK-UP LAMP**

Exploded View



Seal packing

Back-up lamp

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

### Removal and Installation

#### **CAUTION:**

Disconnect the battery negative terminal or remove the fuse.

#### REMOVAL

- Remove the back door finisher inner. Refer to INT-32, "Exploded View".
- 2. Remove the back-up lamp mounting nuts.
- Disconnect the back-up lamp connector. And then remove the back-up lamp.

### **INSTALLATION**

Replacement

Install in the reverse order of removal.

#### **CAUTION:**

Seal packing cannot be reused.

**3** ... ....

### **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**

Remove the back door finisher inner. Refer to INT-32, "Exploded View".

⊏VI

K

EXL

M

Ν

Р

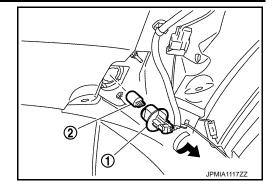
2010 FX35/FX50

## **BACK-UP LAMP**

## < REMOVAL AND INSTALLATION >

[XENON TYPE]

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



INFOID:0000000005244828

Α

В

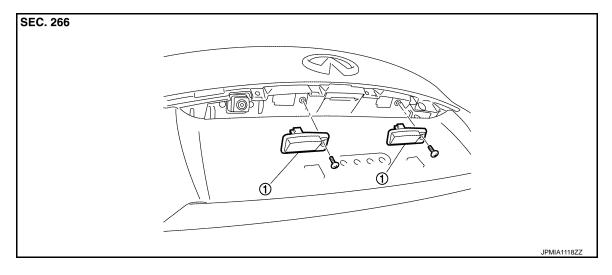
D

Е

Н

## LICENSE PLATE LAMP

Exploded View



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-49, "Exploded View".
- 2. Remove the screw. And then remove the license plate lamp.
- 3. Disconnect the license plate lamp connector.

#### INSTALLATION

Install in the reverse order of removal.

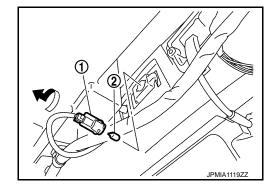
Replacement INFOID:000000005244829

### **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 <a href="INT-32">INT-32</a>, "Exploded View".
- 2. Rotate the bulb socket (1) counterclockwise and unlock it.
- Remove the bulb (2) from the socket.



EXL

K

M

Ν

0

Ρ

## SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[XENON TYPE]

# SERVICE DATA AND SPECIFICATIONS (SDS)

# SERVICE DATA AND SPECIFICATIONS (SDS)

# **Bulb Specifications**

INFOID:0000000005244830

	Item	Type	Wattage (W)
Front combination lamp	Headlamp (HI/LO)	D2S (Xenon)	35
	Front turn signal lamp	WY21W (Amber)	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 turn signal lamp	W21W	21
	Rear side marker lamp	W5W	5
Back-up lamp		W21W	21
License plate lamp		W5W	5
High-mounted stop lamp		LED	_