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CONTENTS

BASIC INSPECTION	4
DIAGNOSIS AND REPAIR WORKFLOW Work Flow	
FUNCTION DIAGNOSIS	7
HEADLAMP (HALOGEN TYPE) System Diagram System Description Component Parts Location Component Description	7 7 7
DAYTIME RUNNING LIGHT SYSTEM System Diagram System Description Component Parts Location Component Description	9 9
AUTO LIGHT SYSTEM System Diagram System Description Component Parts Location Component Description	11 11 12
FRONT FOG LAMP System Diagram System Description Component Parts Location Component Description	13 13 13
TURN SIGNAL AND HAZARD WARNING LAMPS	14 14 14
PARKING, LICENSE PLATE AND TAIL LAMPS	16

Component Parts Location	
COMBINATION SWITCH READING SYSTEM	
System Diagram System Description Component Parts Location	.18
DIAGNOSIS SYSTEM (BCM)	.23
COMMON ITEM	
BCM : CONSULT-III Function (BCM - BCM)	
BUZZER : CONSULT-III Function (BCM - BUZZ-ER)	
HEADLAMPHEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)	
FLASHER : CONSULT-III Function (BCM - FLASHER)	
COMB SW : CONSULT-III Function (BCM - COMB SW)	
BATTERY SAVERBATTERY SAVER : CONSULT-III Function (BCM - BATTERY SAVER)	
DIAGNOSIS SYSTEM (IPDM E/R)	.28
COMPONENT DIAGNOSIS	.33

POWER SUPPLY AND GROUND CIRCUIT .	33	STOP LAMP	86
BCM (BODY CONTROL MODULE)	22	Wiring Diagram	86
BCM (BODY CONTROL MODULE) : Diagnosis	აა	BACK-UP LAMP	٩r
Procedure	33	Wiring Diagram	
IPDM E/R (INTELLIGENT POWER DISTRIBU-		TRAILER TOW	94
TION MODULE ENGINE ROOM)	34	Wiring Diagram	
IPDM E/R (INTELLIGENT POWER DISTRIBU-		, ,	
TION MODULE ENGINE ROOM): Diagnosis Pro) –	ECU DIAGNOSIS	100
cedure	34	DCM (DODY CONTDOL MODULE)	400
HEADI AMD (HI) CIDCIIIT	26	BCM (BODY CONTROL MODULE)	
HEADLAMP (HI) CIRCUIT Description		Terminal Layout	
Component Function Check		Physical Values	
Diagnosis Procedure		Wiring Diagram	
		Fail Safe	
HEADLAMP (LO) CIRCUIT	38	DTC Inspection Priority Chart	
Description	38	DTC Index	
Component Function Check	38		
Diagnosis Procedure	38	IPDM E/R (INTELLIGENT POWER DISTRI-	
FRONT FOC LAMP OFFICER		BUTION MODULE ENGINE ROOM)	116
FRONT FOG LAMP CIRCUIT		Reference Value	116
Description		Terminal Layout	
Component Function Check		Physical Values	118
Diagnosis Procedure	40	Wiring Diagram	122
PARKING LAMP CIRCUIT	42	Fail Safe	
Description		DTC Index	127
Component Function Check		CAMBLOW DIVICIOSIS	400
Diagnosis Procedure		SYMPTOM DIAGNOSIS	128
TURN CIONAL LAMB CIRCUIT		EXTERIOR LIGHTING SYSTEM SYMPTOM	S.128
TURN SIGNAL LAMP CIRCUIT		Symptom Table	128
Description			
Component Function Check		NORMAL OPERATING CONDITION	
Diagnosis Procedure	46	Description	130
OPTICAL SENSOR	49	BOTH SIDE HEADLAMPS DO NOT SWITC	н
Description		TO HIGH BEAM	
Component Function Check		Description	
Diagnosis Procedure		Diagnosis Procedure	
		Blagnosis i roccaire	101
HEADLAMP		BOTH SIDE HEADLAMPS (LO) ARE NOT	
Wiring Diagram	51	TURNED ON	132
DAYTIME LIGHT SYSTEM	55	Description	
Wiring Diagram		Diagnosis Procedure	132
		DADICING LIGENCE DI ATE AND TAIL	
AUTO LIGHT SYSTEM	62	PARKING, LICENSE PLATE AND TAIL	
Wiring Diagram	62	LAMPS ARE NOT TURNED ON	
FRONT FOO LAMP OVOTEM		Description	
FRONT FOG LAMP SYSTEM		Diagnosis Procedure	133
Wiring Diagram	69	BOTH SIDE FRONT FOG LAMPS ARE NO	Т
TURN SIGNAL AND HAZARD WARNING		TURNED ON	
LAMP SYSTEM	72	Description	
Wiring Diagram		Diagnosis Procedure	
Trining Diagram	13	· ·	
PARKING, LICENSE PLATE AND TAIL		PRECAUTION	135
LAMPS SYSTEM	80	PRECAUTIONS	
Wiring Diagram	80	PRECAUTIONS	135

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN-SIONER"	35
ON-VEHICLE REPAIR13	37
ADJUSTMENT AND INSPECTION13	37
HEADLAMP13 HEADLAMP : Aiming Adjustment	37
FRONT FOG LAMP13 FRONT FOG LAMP : Aiming Adjustment	38
REMOVAL AND INSTALLATION14	40
HEADLAMP	40 40
AUTO LIGHT SYSTEM14 Removal and Installation 14	

	_
FRONT FOG LAMP	3
LIGHTING & TURN SIGNAL SWITCH 14 Removal and Installation	
HAZARD SWITCH14 Removal and Installation14	
PUDDLE LAMP	6
HIGH-MOUNTED STOP LAMP	7
REAR COMBINATION LAMP	8
SERVICE DATA AND SPECIFICATIONS (SDS)14	9
BULB SPECIFICATIONS 14 Headlamp 14 Exterior Lamp 14	9

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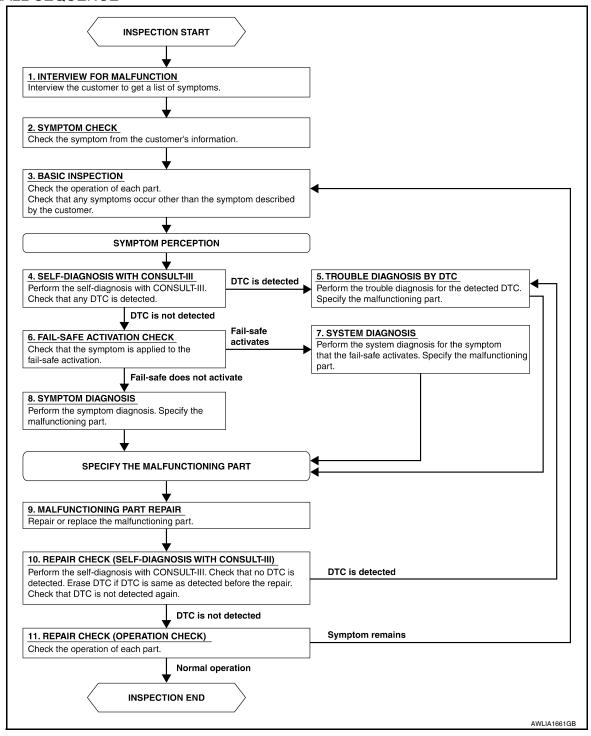
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

OVERALL SEQUENCE



DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION > **DETAILED FLOW** Α 1.INTERVIEW FOR MALFUNCTION Find out what the customer's concerns are. В >> GO TO 2. 2.SYMPTOM CHECK Verify the symptom from the customer's information. D >> GO TO 3. 3.BASIC INSPECTION Check the operation of each part. Check that any concerns occur other than those mentioned in the customer interview. >> GO TO 4. F f 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. TROUBLE DIAGNOSIS BY DTC Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning part. >> GO TO 9. 6. FAIL-SAFE ACTIVATION CHECK Determine if the customer's concern is related to fail-safe activation. Does the fail-safe activate? K YES >> GO TO 7. NO >> GO TO 8. **1.**SYSTEM DIAGNOSIS **EXL** Perform the system diagnosis for the system in which the fail-safe activates. Specify the malfunctioning part. M >> 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. Р >> GO TO 10. 10. REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT-III) Perform the self diagnosis with CONSULT-III. Verfied that no DTCs are detected. Erase all DTCs detected prior to the repair. Verify that DTC is not detected again.

Revision: April 2009 EXL-5 2010 Armada

Is any DTC detected?

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

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

11. REPAIR CHECK (OPERATION CHECK)

Check the operation of each part.

Does it operate normally?

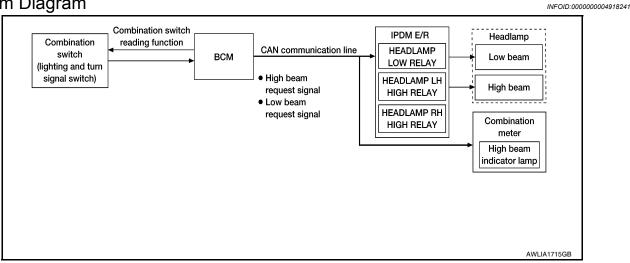
YES >> Inspection End.

NO >> GO TO 3.

FUNCTION DIAGNOSIS

HEADLAMP (HALOGEN TYPE)

System Diagram



System Description

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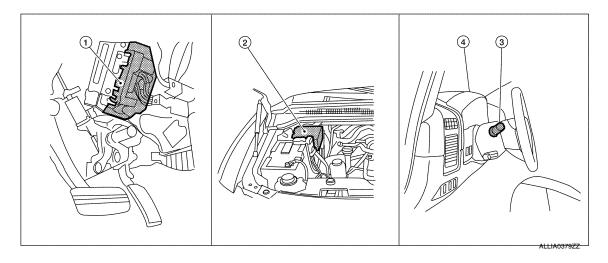
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Control of the headlamp system operation is dependent upon the position of the combination switch (lighting and turn signal switch). When the combination switch (lighting and turn signal switch) is placed in the 2nd position, the BCM (body control module) receives input requesting the headlamps and park lamps to illuminate. This input is communicated to the IPDM E/R (intelligent power distribution module engine room) via the CAN communication lines. The CPU (central processing unit) of the IPDM E/R controls the headlamp LH high, headlamp RH high and headlamp low relay coils. When energized, these relays direct power to the respective headlamps, which then illuminate.

Component Parts Location

INFOID:0000000004918243



- BCM M18, M20 (view with instrument 2. IPDM E/R E122, E123, E124 panel removed)
- 4. Combination meter M24

3. Combination switch (lighting and turnsignal switch) M28

Component Description

INFOID:0000000004918244

LOW BEAM OPERATION

Revision: April 2009 EXL-7 2010 Armada

HEADLAMP (HALOGEN TYPE)

< FUNCTION DIAGNOSIS >

When the combination switch (lighting and turn signal switch) is in 2ND position, the BCM receives input requesting the headlamps to illuminate. This input is communicated to the IPDM E/R via the CAN communication lines. The CPU of the IPDM E/R controls the headlamp low relay coil which supplies power to the low beam headlamps.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

With the combination switch (lighting and turn signal switch) in the 2ND position and placed in HIGH position, the BCM receives input requesting the headlamp high beams to illuminate. The flash to pass feature can be used any time and also sends a signal to the BCM. This input is communicated to the IPDM E/R via the CAN communication lines. The CPU of the combination meter controls the ON/OFF status off the HIGH BEAM indicator. The CPU of the IPDM E/R controls the headlamp high relay coil which supplies power to the high beam headlamps.

The combination meter receives a high beam request signal (ON) via the CAN communication lines and turns the high beam indicator lamp ON.

EXTERIOR LAMP BATTERY SAVER CONTROL

With the lighting switch (combination switch) in the 2nd position and the ignition switch is turned from ON or ACC to OFF, the battery saver feature is activated.

Under this condition, the headlamps remain illuminated for 5 minutes unless the lighting switch position is changed. If the lighting switch position is changed, then the headlamps are turned off.

This setting can be changed by CONSULT-III. Refer to <u>EXL-24</u>, "<u>HEADLAMP</u>: <u>CONSULT-III Function (BCM - HEAD LAMP</u>)".

DAYTIME RUNNING LIGHT SYSTEM

DAYTIME RUNNING LIGHT SYSTEM

System Diagram

INFOID:0000000004918245 Combination switch reading function Headlamp high Combination CAN communication line RH switch (lighting IPDM E/R Daytime light request signal and turn signal Headlamp high switch) Daytime CAN communication line **ECM** light Engine status signal всм relay Parking brake switch Combination Parking brake switch AWLIA1751GB

System Description

The headlamp system for Canada vehicles is equipped with a daytime light relay that activates the high beam headlamps at approximately half illumination whenever the engine is operating. If the parking brake is applied before the engine is started the daytime lights will not be illuminated. The daytime lights will illuminate once the parking brake is released. Thereafter, the daytime lights will continue to operate when the parking brake is applied.

Component Parts Location

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DAYTIME RUNNING LIGHT SYSTEM

< FUNCTION DIAGNOSIS >

- 1. IPDM E/R E119, E122, E123, E124
- Parking brake switch M11
- BCM M18, M20 (view with instrument panel removed)

- 4. Daytime running light relay E103
- Combination switch (lighting and turn 6. signal switch) M28
- Combination meter M24

Component Description

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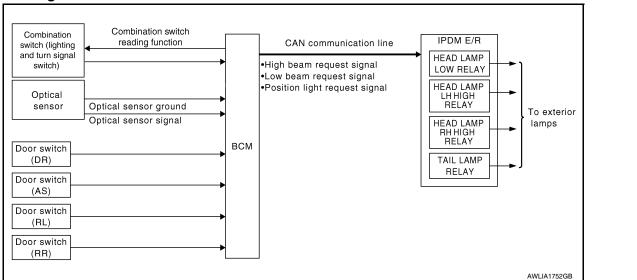
After starting the engine with the parking brake released and the combination switch (lighting and turn signal switch) in the OFF or 1ST position, the headlamp high beam automatically turns on at a reduced intensity. With the combination switch (lighting and turn signal switch) in the 2nd position or with autolamps ON, the headlamps function the same as conventional light systems.

OPERATION

The BCM monitors inputs from the parking brake switch and the combination switch (lighting and turn signal switch) to determine when to activate the daytime light system. The BCM sends a daytime light request to the IPDM E/R via the CAN communication lines. The IPDM E/R grounds the daytime light relay which in turn, provides power to the ground side of the LH high beam lamp. Power flows backward through the LH high beam lamp to the IPDM E/R, through the high beam fuses, through the RH high beam lamp circuit to the RH high beam lamp and on to ground. The high beam lamps are wired in series which causes them to illuminate at a reduced intensity.

AUTO LIGHT SYSTEM

System Diagram



System Description

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- BCM (Body Control Module) controls auto light operation according to signals from optical sensor, combination switch (lighting and turn signal switch) and ignition switch.
- IPDM E/R (Intelligent Power Distribution Module Engine Room) operates parking, license plate, tail and headlamps according to CAN communication signals from BCM.
- Optical sensor detects ambient brightness of 800 to 2,500 lux. And optical sensor converts light (lux) to voltage, then sends the optical sensor signal to BCM.

OUTLINE

The auto light control system has an optical sensor that detects outside brightness.

When the combination switch (lighting and turn signal switch) is in AUTO position, it automatically turns ON/ OFF the parking, license plate, tail and headlamps in accordance with the ambient light. Sensitivity can be adjusted in four steps. For the details of the setting, Refer to EXL-24, "HEADLAMP: CONSULT-III Function (BCM - HEAD LAMP)".

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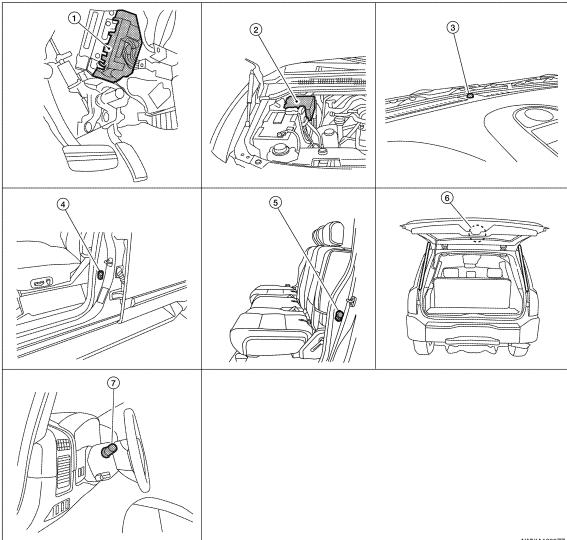
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Component Parts Location

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- BCM M18, M19, M20 (view with instru- 2. ment panel removed)
- Front door switch LH B8 **RH B108**

IPDM E/R E122, E123, E124

Rear door switch LH B18 **RH B116**

- Optical sensor M302
- Back door switch D502 (without power back door) Back door latch (door ajar switch) D503 (with power back door)

signal switch) M28

Combination switch (lighting and turn

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AUTO LIGHT OPERATION

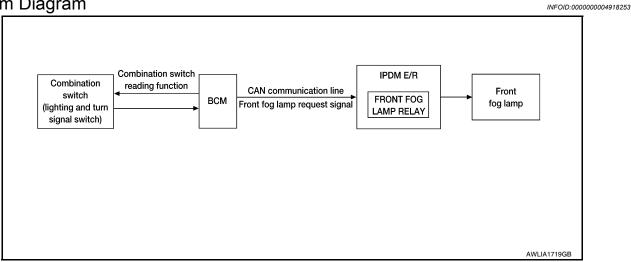
Component Description

The auto light system operates the low beam and high beam headlamps, parking lamps, tail lamps and license plate lamps. The BCM monitors the combination switch (lighting and turn signal switch) position as a part of the BCM combination switch reading function. When the combination switch (lighting and turn signal switch) is in the AUTO position, the BCM automatically turns the lamps ON/OFF according to ambient light brightness.

Timing for when lamps turn ON/OFF can be changed by the function setting of CONSULT-III. Refer to EXL-24. "HEADLAMP: CONSULT-III Function (BCM - HEAD LAMP)".

FRONT FOG LAMP

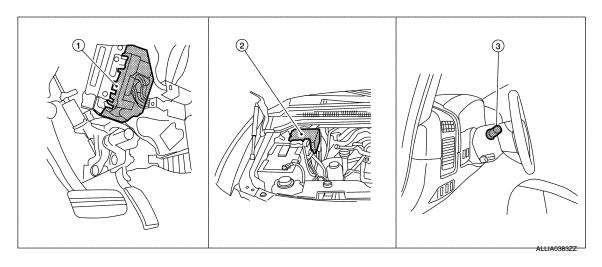
System Diagram



System Description

The front fog lamps are activated with the combination switch (lighting and turn signal switch). The combination switch (lighting and turn signal switch) signal to the BCM is monitored with the BCM combination switch reading function. When the fog lamps are turned ON with the combination switch (lighting and turn signal switch), the BCM sends a front fog lamp request signal via CAN communication lines to the IPDM E/R. The IPDM E/R grounds the front fog lamp relay coil to activate the front fog lamps.

Component Parts Location



BCM M18, M20 (view with instrument 2. IPDM E/R E122, E123, E124 panel removed)

3. Combination switch (lighting and turn signal switch) M28

Component Description

FRONT FOG LAMP OPERATION

When the combination switch (lighting and turn signal switch) is in front fog lamp ON position and also in 1ST or 2ND position or AUTO position (headlamp is ON), the BCM detects FR FOG ON and the HEAD LAMP1, 2 ON or the AUTO LIGHT ON. The BCM sends a front fog lamp request ON signal via the CAN communication lines to the IPDM E/R. The IPDM E/R then turns ON the front fog lamp relay sending power to the front fog lamps.

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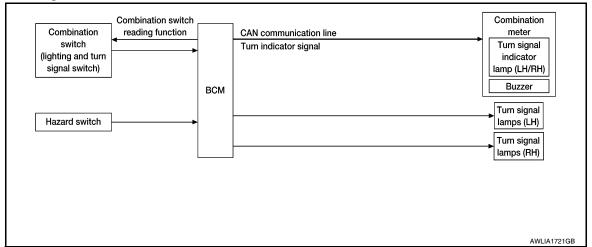
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TURN SIGNAL AND HAZARD WARNING LAMPS

TURN SIGNAL AND HAZARD WARNING LAMPS

System Diagram

INFOID:0000000004918257



System Description

INFOID:0000000004918258

TURN SIGNAL OPERATION

When the combination switch (lighting and turn signal switch) is in LH or RH position with the ignition switch in ON position, the BCM detects the TURN RH or TURN LH ON request. The BCM outputs the flasher signal to the respective turn signal lamp. The BCM also sends a turn indicator signal ON request via the CAN communication lines to the combination meter. The combination meter then activates the appropriate turn signal indicator and audible buzzer.

HAZARD LAMP OPERATION

When the hazard switch is in ON position, the BCM detects the hazard switch signal ON. The BCM outputs the flasher signal (right and left). The BCM sends a hazard indicator signal ON request via the CAN communication lines to the combination meter. The combination meter then activates the hazard indicator and audible buzzer.

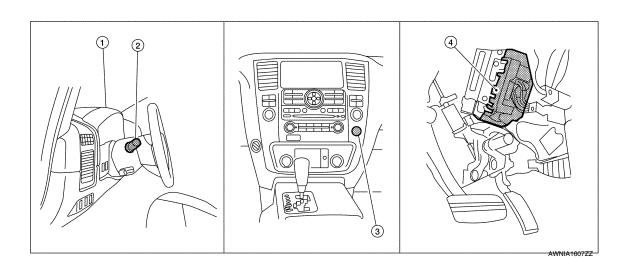
REMOTE KEYLESS ENTRY OPERATION

The remote keyless entry receiver transmits a hazard request signal to the BCM, then BCM controls hazard lamps.

Refer to <u>SEC-11</u>, "System Description".

Component Parts Location

INFOID:0000000004918259



TURN SIGNAL AND HAZARD WARNING LAMPS

< FUNCTION DIAGNOSIS >

- 1. Combination meter M24
- Combination switch (lighting and turn 3. Hazard switch M55 signal switch) M28

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4. BCM M18, M20 (view with instrument panel removed)

INFOID:0000000004918260

Component Description

Part name	Description
BCM	Controls turn signal and hazard flasher operation.
Combination switch (lighting and turn signal switch)	Lighting and turn signal switch requests are output to the BCM.
Hazard switch	Hazard flasher request signal is output to the BCM.
Combination meter	Outputs turn and hazard indicator as requested by the BCM.

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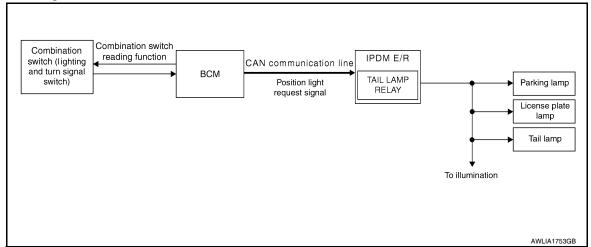
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PARKING, LICENSE PLATE AND TAIL LAMPS

System Diagram

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System Description

INFOID:0000000004918262

PARKING, LICENCE PLATE AND TAIL LAMPS OPERATION

When the combination switch (lighting and turn signal switch) is in 1ST position, BCM detects the LIGHTING SWITCH 1ST POSITION ON. The BCM sends a parking light ON request via the CAN communication lines to the IPDM E/R. The IPDM E/R then activates the tail lamp relay which sends power to the parking and instrument illumination circuits.

EXTERIOR LAMP BATTERY SAVER CONTROL

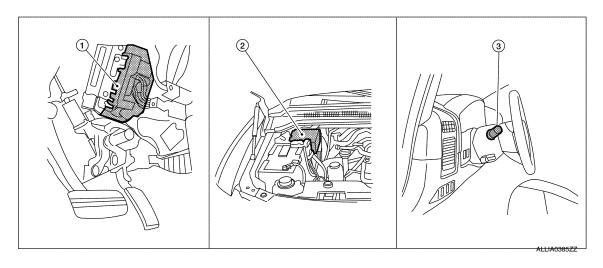
With the combination switch (lighting and turn signal switch) in the 2nd position and the ignition switch is turned from ON or ACC to OFF, the battery saver feature is activated.

Under this condition, the headlamps remain illuminated for 5 minutes unless the combination switch (lighting and turn signal switch) position is changed. If the combination switch (lighting and turn signal switch) position is changed, then the headlamps are turned off.

This setting can be changed by CONSULT-III. Refer to <u>EXL-27</u>, "<u>BATTERY SAVER</u>: <u>CONSULT-III Function</u> (<u>BCM</u> - <u>BATTERY SAVER</u>)".

Component Parts Location

INFOID:0000000004918263



 BCM M18, M20 (view with instrument 2. IPDM E/R E122, E124 panel removed) Combination switch (lighting and turn signal switch) M28

Revision: April 2009 EXL-16 2010 Armada

PARKING, LICENSE PLATE AND TAIL LAMPS

< FUNCTION DIAGNOSIS >

Component Description

INFOID:0000000004918264

Part name	Description	
BCM	 Recieves lighting switch requests via BCM combination switch reading function. Sends parking light request signal to the IPDM E/R. 	
IPDM E/R	Activates the tail lamp relay upon request of the BCM.	
Combination switch (lighting and turn signal switch)	Outputs lighting requests to the BCM.	

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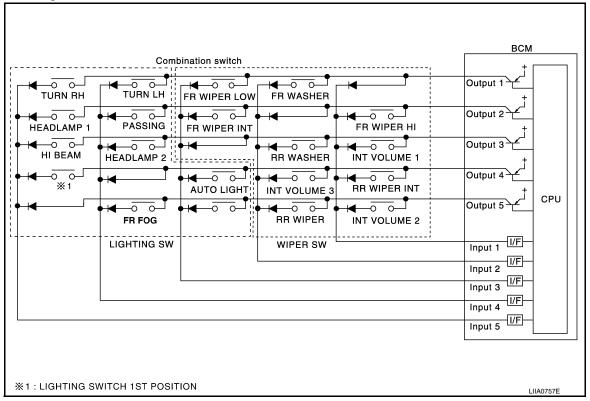
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< FUNCTION DIAGNOSIS >

COMBINATION SWITCH READING SYSTEM

System Diagram

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System Description

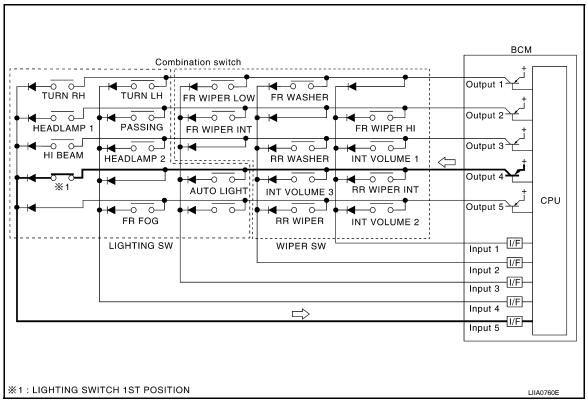
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OUTLINE

- BCM reads the status of the combination switch (light, turn signal, wiper and washer) and recognizes the status of each switch.
- BCM is a combination of 5 output terminals (OUTPUT 1 5) and 5 input terminals (INPUT 1 5). It reads a
 maximum of 20 switch status.

COMBINATION SWITCH MATRIX

Combination switch circuit



Combination switch INPL	JT-OUTPUT system list				
System	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4	OUTPUT 5
INPUT 1	_	FR WASHER	FR WIPER LOW	TURN LH	TURN RH
INPUT 2	FR WIPER HI	_	FR WIPER INT	PASSING	HEADLAMP 1
INPUT 3	INT VOLUME 1	RR WASHER	_	HEADLAMP 2	HI BEAM
INPUT 4	RR WIPER INT	INT VOLUME 3	AUTO LIGHT	_	TAIL LAMP
INPUT 5	INT VOLUME 2	RR WIPER	_	FR FOG	_

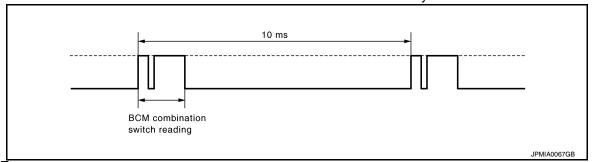
NOTE:

Headlamp has a dual system switch.

COMBINATION SWITCH READING FUNCTION

Description

BCM reads the status of the combination switch at 10 ms interval normally.



NOTE:

BCM reads the status of the combination switch at 20 ms interval when BCM is controlled at low power consumption control mode.

- BCM operates as follows and judges the status of the combination switch.
- INPUT 1 5 outputs the voltage waveforms of 5 systems simultaneously.
- It operates the transistor on OUTPUT side in the following order: OUTPUT $5 \rightarrow 4 \rightarrow 3 \rightarrow 2 \rightarrow 1$.

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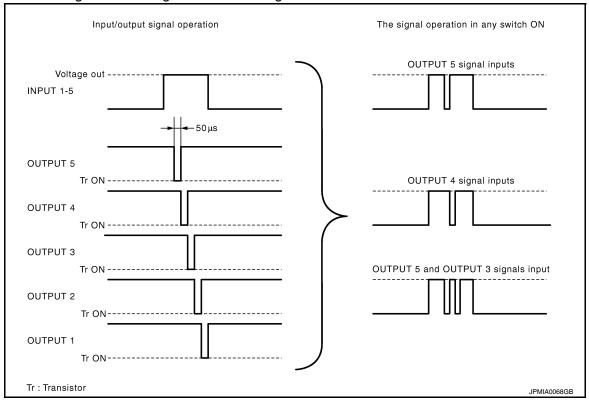
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EXL-19 Revision: April 2009 2010 Armada

< FUNCTION DIAGNOSIS >

- The voltage waveform of INPUT corresponding to the formed circuit changes according to the operation of the transistor on OUTPUT side if any (1 or more) switches are ON.
- It reads this change of the voltage as the status signal of the combination switch.

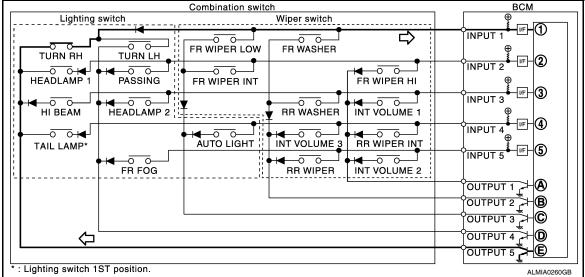


Operation Example

In the following operation example, the combination of the status signals of the combination switch is replaced as follows: INPUT 1 - 5 to "1 - 5" and OUTPUT 1 - 5 to "A - E".

Example 1: When a switch (TURN RH switch) is turned ON

The circuit between INPUT 1 and OUTPUT 5 is formed when the TURN RH switch is turned ON.

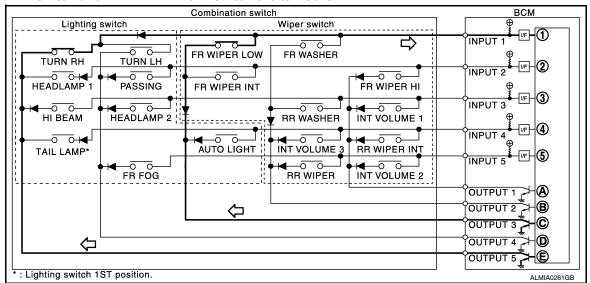


- BCM detects the combination switch status signal "1E" when the signal of OUTPUT 5 is input to INPUT 1.
- BCM judges that the TURN RH switch is ON when the signal "1E" is detected.

Example 2: When some switches (turn RH switch, front wiper LO switch) are turned ON

< FUNCTION DIAGNOSIS >

• The circuits between INPUT 1 and OUTPUT 5 and between INPUT 1 and OUTPUT 3 are formed when the TURN RH switch and FR WIPER LOW switch are turned ON.



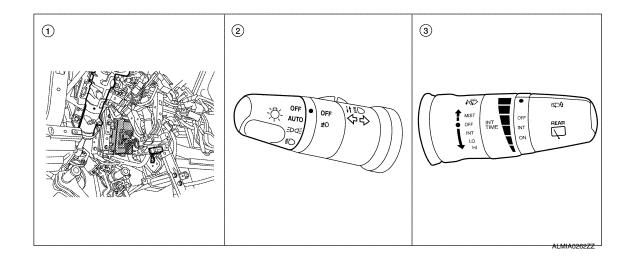
- BCM detects the combination switch status signal "1CE" when the signals of OUTPUT 3 and OUTPUT 5 are input to INPUT 1.
- BCM judges that the TURN RH switch and FR WIPER LOW switch are ON when the signal "1CE" is detected.

WIPER INTERMITTENT DIAL POSITION SETTING (FRONT WIPER INTERMITTENT OPERATION) BCM judges the wiper intermittent dial 1 - 7 by the status of INT VOLUME 1, 2 and 3 switches.

Wiper intermittent	Intermittent	INT VOLUME switch ON/OFF status			
dial position	operation delay interval	INT VOLUME 1 switch	INT VOLUME 2 switch	INT VOLUME 3 switch	
1	Short	ON	ON	ON	
2	↑	ON	ON	OFF	
3		ON	OFF	OFF	
4		OFF	OFF	OFF	
5		OFF	OFF	ON	
6	\	OFF	ON	ON	
7	Long	OFF	ON	OFF	

Component Parts Location

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Revision: April 2009 EXL-21 2010 Armada

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< FUNCTION DIAGNOSIS >

- 1. BCM M18, M19, M20 (view with in- 2. strument panel removed)
- Combination switch (lighting and turn signal switch) M28
- 3. Combination switch (wiper and washer switch) M28

< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

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APPLICATION ITEM

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

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
SELF-DIAG RESULTS	Displays the diagnosis results judged by BCM. Refer to BCS-55. "DTC Index".
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	 Enables to read and save the vehicle specification. Enables to write the vehicle specification when replacing BCM.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

System	Cub avotom coloction item	Diagnosis mode		
System	Sub system selection item	WORK SUPPORT	DATA MONITOR	ACTIVE TEST
BCM	BCM	×		
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER		×	×
Air conditioner	AIR CONDITONER		×	
Intelligent Key system*	INTELLIGENT KEY		×	
Combination switch	COMB SW		×	
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	×
RAP (retained accessory power)	RETAINED PWR	×	×	×
Signal buffer system	SIGNAL BUFFER		×	×
TPMS (tire pressure monitoring system)	AIR PRESSURE MONITOR	×	×	×
Vehicle security system	THEFT ALM	×	×	×
Panic alarm system	PANIC ALARM			×

^{*:} With Intelligent Key

BCM

Revision: April 2009 EXL-23 2010 Armada

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< FUNCTION DIAGNOSIS >

BCM : CONSULT-III Function (BCM - BCM)

INFOID:0000000005378026

WORK SUPPORT

Item	Description
RESET SETTING VALUE	Return a value set with WORK SUPPORT of each system to a default value in factory shipment.

BUZZER

BUZZER: CONSULT-III Function (BCM - BUZZER)

INFOID:0000000005378027

DATA MONITOR

Monitor Item [Unit]	Description
DOOR SW -DR [ON/OFF]	Front door switch (driver side) status judged by BCM
IGN ON SW [ON/OFF]	Ignition switch (ON) status judged by ignition power supply input
KEY ON SW [ON/OFF]	Key switch status
LIGHT SW 1ST [ON/OFF]	Lighting switch status judged by the lighting switch signal read with combination switch reading function
BUCKLE SW [ON/OFF]	Seat belt buckle switch status

ACTIVE TEST

Test Item	Description
SEAT BELT WARN TEST	The seat belt warning operation can be checked by operating the relevant function (On/Off).
LIGHT WARN ALM	The light reminder warning operation can be checked by operating the relevant function (On/Off).
IGN KEY WARN ALM	The key reminder warning operation can be checked by operating the relevant function (On/Off).

HEADLAMP

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

INFOID:0000000005378028

WORK SUPPORT

Work Item	Setting item	Setting					
BATTERY SAVER SET	ON*	With the exterior lamp battery saver function					
DATTERT SAVER SET	OFF	Without the exterior	Without the exterior lamp battery saver function				
	MODE1*	Normal					
CUSTOM A/LIGHT SET-	MODE2	More sensitive setting than normal setting (Turns ON earlier than normal operation.)					
TING	MODE3	More sensitive set	More sensitive setting than MODE 2 (Turns ON earlier than MODE 2.)				
	MODE4	Less sensitive setting than normal setting (Turns ON later than normal operation.)					
	MODE1*	45 sec.					
	MODE2	Without the function					
	MODE3	30 sec.					
ILL DELAY SET	MODE4	60 sec.	Sets delay timer function timer operation time				
	MODE5	90 sec.	(All doors closed)				
	MODE6	120 sec.					
	MODE7	150 sec.					
	MODE8	180 sec.					

^{*:} Initial setting

< FUNCTION DIAGNOSIS >

DATA MONITOR

Monitor Item [Unit]	Description	
IGN ON SW [ON/OFF]	Ignition switch (ON) status judged from IGN signal (ignition power supply)	
ACC ON SW [ON/OFF]	Ignition switch (ACC) status judged from ACC signal (accessory power supply)	
HI BEAM SW [ON/OFF]		
HEAD LAMP SW 1 [ON/OFF]		
HEAD LAMP SW 2 [ON/OFF]		
LIGHT SW 1ST [ON/OFF]		
AUTO LIGHT SW [ON/OFF]	Each switch status that BCM judges from the combination switch reading function	
PASSING SW [ON/OFF]		
FR FOG SW [ON/OFF]		
TURN SIGNAL R [ON/OFF]		
TURN SIGNAL L [ON/OFF]		
DOOR SW-DR [ON/OFF]	The switch status input from front door switch LH	
DOOR SW-AS [ON/OFF]	The switch status input from front door switch RH	
DOOR SW-RR [ON/OFF]	The switch status input from rear door switch RH	
DOOR SW-RL [ON/OFF]	The switch status input from rear door switch LH	
BACK DOOR SW [ON/OFF]	The switch status input from back door switch	
CARGO LAMP SW [ON/OFF]	Cargo lamp status that BCM judges from the vehicle condition	
OPTICAL SENSOR [ON/OFF]	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 tail lamp request signal transmission.
	HI	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).
HEAD LAMP	LO	Transmits the low beam request signal with CAN communication to turn the headlamp (LO).
	OFF	Stops the high & low beam request signal transmission.
FR FOG LAMP*	ON	Transmits the front fog lights request signal to IPDM E/R with CAN communication to turn the front fog lamp ON.
	OFF	Stops the front fog lights request signal transmission.
CARGO LAMP	ON	Transmits the cargo lamp request signal to IPDM E/R with CAN communication to turn the each lamp ON.
	OFF	Stops the day time running light request signal transmission.
DAYTIME RUNNING LIGHT*	ON	Transmits the day time running light request signal to IPDM E/R via CAN communication to turn the lamps ON.
	OFF	Stops the day time running light request signal transmission.

^{*:} If equipped.

FLASHER

FLASHER: CONSULT-III Function (BCM - FLASHER)

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DATA MONITOR

< FUNCTION DIAGNOSIS >

Monitor Item [Unit]	Description	
IGN ON SW [ON/OFF]	Ignition switch (ON) status judged from IGN signal (ignition power supply)	
HAZARD SW [ON/OFF]	The switch status input from the hazard switch	
TURN SIGNAL R [ON/OFF]	Each quitab condition that DCM judges from the combination quitab reading function	
TURN SIGNAL L [ON/OFF]	Each switch condition that BCM judges from the combination switch reading function	
BRAKE SW [ON/OFF]	The switch status input from the brake switch	

ACTIVE TEST

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

COMB SW

COMB SW: CONSULT-III Function (BCM - COMB SW)

INFOID:0000000005378030

DATA MONITOR

Monitor Item [Unit]	Description
TURN SIGNAL R [OFF/ON]	Displays the status of the TURN RH switch in combination switch judged by BCM with the combination switch reading function
TURN SIGNAL L [OFF/ON]	Displays the status of the TURN LH switch in combination switch judged by BCM with the combination switch reading function
HI BEAM SW [OFF/ON]	Displays the status of the HI BEAM switch in combination switch judged by BCM with the combination switch reading function
HEAD LAMP SW1 [OFF/ON]	Displays the status of the HEADLAMP switch in combination switch judged by BCM with the combination switch reading function
HEAD LAMP SW2 [OFF/ON]	Displays the status of the HEADLAMP switch in combination switch judged by BCM with the combination switch reading function
LIGHT SW 1ST [OFF/ON]	Displays the status of the HEADLAMP switch in combination switch judged by BCM with the combination switch reading function
PASSING SW [OFF/ON]	Displays the status of the PASSING switch in combination switch judged by BCM with the combination switch reading function
AUTO LIGHT SW [OFF/ON]	Displays the status of the AUTO LIGHT switch in combination switch judged by BCM with the combination switch reading function
FR FOG SW [OFF/ON]	Displays the status of the FR FOG switch in combination switch judged by BCM with the combination switch reading function
FR WIPER HI [OFF/ON]	Displays the status of the FR WIPER HI switch in combination switch judged by BCM with the combination switch reading function
FR WIPER LOW [OFF/ON]	Displays the status of the FR WIPER LOW switch in combination switch judged by BCM with the combination switch reading function
FR WIPER INT [OFF/ON]	Displays the status of the FR WIPER INT switch in combination switch judged by BCM with the combination switch reading function
FR WASHER SW [OFF/ON]	Displays the status of the FR WASHER switch in combination switch judged by BCM with the combination switch reading function
INT VOLUME [1 - 7]	Displays the status of wiper intermittent dial position judged by BCM with the combination switch reading function
RR WIPER ON [OFF/ON]	Displays the status of the RR WIPER switch in combination switch judged by BCM with the combination switch reading function

< FUNCTION DIAGNOSIS >

Monitor Item [Unit]	Description
RR WIPER INT [OFF/ON]	Displays the status of the RR WIPER INT switch in combination switch judged by BCM with the combination switch reading function
RR WASHER SW [OFF/ON]	Displays the status of the RR WASHER switch in combination switch judged by BCM with the combination switch reading function

BATTERY SAVER

BATTERY SAVER : CONSULT-III Function (BCM - BATTERY SAVER)

INFOID:0000000005378031

WORK SUPPORT

Work Item	Setting Item	Setting	
	MODE 1*	30 min.	
ROOM LAMP TIMER SET	MODE 2	60 min.	Sets the interior room lamp battery saver timer operating time.
	MODE 3	10 min.	

^{*:} Initial setting

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [ON/OFF]	Ignition switch (ON) status judges from IGN signal (ignition power supply)
KEY ON SW [ON/OFF]	The switch status input from key switch
DOOR SW-DR [ON/OFF]	The switch status input from front door switch (driver side)
DOOR SW-AS [ON/OFF]	The switch status input from front door switch (passenger side)
DOOR SW-RR [ON/OFF]	The switch status input from rear door switch RH
DOOR SW- RL [ON/OFF]	The switch status input from rear door switch LH
BACK DOOR SW [ON/OFF]	The switch status input from back door switch
KEY CYL LK-SW [ON/OFF]	Lock switch status input from door key cylinder switch
KEY CYL UN-SW [ON/OFF]	Unlock switch status input from door key cylinder switch
CDL LOCK SW [ON/OFF]	Lock switch status input from door lock and unlock switch
CDL UNLOCK SW [ON/OFF]	Unlock switch status input from door lock and unlock switch
I-KEY LOCK* [ON/OFF]	Lock signal status received from Intelligent Key unit by CAN communication
I-KEY UNLOCK* [ON/OFF]	Unlock signal status received from Intelligent Key unit by CAN communication
KEYLESS LOCK [ON/OFF]	Lock signal status received from remote keyless entry receiver (integrated in the BCM)
KEYLESS UNLOCK [ON/OFF]	Unlock signal status received from remote keyless entry receiver (integrated in the BCM)

^{*:} With Intelligent Key

ACTIVE TEST

Test Item	Operation	Description
BATTERY SAVER	OFF	Cuts the interior room lamp power supply to turn interior room lamps OFF.
	ON	Outputs the interior room lamp power supply to turn interior room lamps ON.*

^{*:} Each lamp switch is in ON position.

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< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

INFOID:0000000005378032

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 low/coolant pressure high warning indicator
- Oil pressure gauge
- Rear window defogger
- · Front wipers
- Tail, license and parking lamps
- Front fog lamps
- Headlamps (Hi, Lo)
- A/C compressor (magnetic clutch)
- Cooling fan

Operation Procedure

Close the hood and front door RH, and lift the wiper arms from the windshield (to prevent windshield damage due to wiper operation).

NOTE:

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

- 2. Turn ignition switch OFF.
- 3. Turn the ignition switch ON and, within 20 seconds, press the front door switch LH 10 times. Then turn the ignition switch OFF.
- 4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
- 5. After a series of the following operations is repeated 3 times, auto active test is completed.

NOTE:

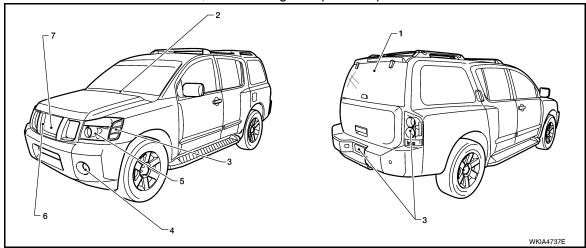
When auto active test mode has to be cancelled halfway through test, turn ignition switch OFF.

CAUTION:

- If auto active test mode cannot be actuated, check door switch system. Refer to DLK-73, "Description" (with Intelligent Key system), DLK-274, "Description" (without Intelligent Key system).
- Do not start the engine.

Inspection in Auto Active Test Mode

When auto active test mode is actuated, the following 7 steps are repeated 3 times.



Operation sequence	Inspection Location	Operation	
1	Rear window defogger	10 seconds	
2	Front wipers	LO for 5 seconds → HI for 5 seconds	

< FUNCTION DIAGNOSIS >

Operation sequence	Inspection Location	Operation
3	Tail, license and parking lamps	10 seconds
4	Front fog lamps	10 seconds
5	Headlamps	LO for 10 seconds → HI on-off for 5 seconds
6	A/C compressor	ON ⇔ OFF 5 times
7	Cooling fan	10 seconds

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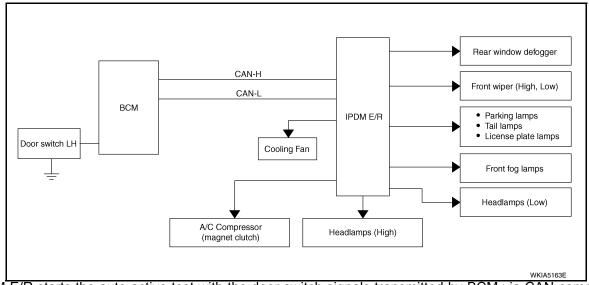
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Concept of auto active test



- 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
Oil pressure low/coolant temperature high warning indicator does not operate	Perform auto active test. Does the oil pressure low/ coolant temperature high warning indicator operate?	YES	IPDM E/R signal input circuit ECM signal input circuit CAN communication signal between ECM and combination meter
	warning indicator operate:	NO	CAN communication signal between IPDM E/R, BCM and combination meter
	Perform auto active test.	YES	IPDM E/R signal input circuit
Oil pressure gauge does not operate	Does the oil pressure gauge operate?	NO	CAN communication signal between IPDM E/R, BCM and combination meter
		YES	BCM signal input circuit
Rear window defogger does not operate	Perform auto active test. Does the rear window defogger operate?	NO	Harness or connector between A/C and AV switch assembly and AV control unit CAN communication signal between BCM and IPDM E/R

Revision: April 2009 EXL-29 2010 Armada

< FUNCTION DIAGNOSIS >

Symptom	Inspection contents		Possible cause
		YES	BCM signal input system
Any of the following components do not operate Front wipers Tail lamps License plate lamps Parking lamps Front fog lamps Headlamps (Hi, Lo)	Perform auto active test. Does the applicable system operate?	NO	Lamp or front wiper motor malfunction Lamp or front wiper motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R (integrated relay malfunction)
A/C compressor does not operate	Perform auto active test. Does the A/C compressor op-	YES	BCM signal input circuit CAN communication signal between BCM and ECM CAN communication signal between ECM and IPDM E/R
A/C compressor does not operate	erate?	NO	Magnetic clutch malfunction Harness or connector between IPDM E/R and magnetic clutch IPDM E/R (integrated relay malfunction)
		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 motor malfunction Harness or connector between IPDM E/R and cooling fan IPDM E/R (integrated relay malfunction)

CONSULT - III Function (IPDM E/R)

INFOID:0000000005378033

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

Refer to EXL-127, "DTC Index".

DATA MONITOR

Monitor item

< FUNCTION DIAGNOSIS >

Monitor Item [Unit]	MAIN SIG- NALS	Description
MOTOR FAN REQ [1/2/3/4]	×	Displays the status of the cooling fan speed request signal received from ECM via CAN communication.
A/C COMP REQ [OFF/ON]	×	Displays the status of the A/C request signal received from AV control unit 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 lamp request signal received from BCM via CAN communication.
HL WASHER REQ [OFF/ON]		NOTE: This item is displayed, but cannot be monitored.
FR WIP REQ [STOP/1LOW/LOW/HI]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [OFF/Block]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
ST RLY REQ [OFF/ON]		Displays the status of the starter request signal received from ECM via CAN communication.
IGN RLY [OFF/ON]	×	Displays the status of the ignition relay judged by IPDM E/R.
RR DEF REQ [OFF/ON]	×	Displays the status of the rear defogger request signal received from AV control unit via CAN communication.
OIL P SW [OPEN/CLOSE]		Displays the status of the oil pressure switch judged by IPDM E/R.
DTRL REQ [OFF]		NOTE: This item is displayed, but cannot be monitored.
HOOD SW [OPEN/CLOSE]		NOTE: This item is displayed, but cannot be 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.

ACTIVE TEST

Test item

Test item	Operation	Description	
REAR DEFOGGER	OFF	OFF	
REAR DEFOGGER	ON	Operates rear window defogger relay.	
	OFF	OFF	
FRONT WIPER	LO	Operates the front wiper relay.	
	HI	Operates the front wiper relay and front wiper high relay.	
HEAD LAMP WASHER	ON	_	

Revision: April 2009 EXL-31 2010 Armada

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< FUNCTION DIAGNOSIS >

Test item	Operation	Description	
	1	OFF	
MOTOR FAN	2	OFF	
MOTOR FAN	3	Operates the cooling fan relay.	
	4	Operates the cooling fan relay.	
	OFF	OFF	
	TAIL	Operates the tail lamp relay.	
EXTERNAL LAMPS	LO	Operates the headlamp low relay.	
	н	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.	
	FOG	Operates the front fog lamp relay	
HORN	ON	Operates horn relay for 20 ms.	

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE): Diagnosis Procedure

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Regarding Wiring Diagram information, refer to BCS-50, "Wiring Diagram".

1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
57	Pottony nower aunnly	22 (15A)
70	Battery power supply	F (50A)
11	Ignition ACC or ON	4 (10A)
38	Ignition ON or START	59 (10A)

Is the fuse blown?

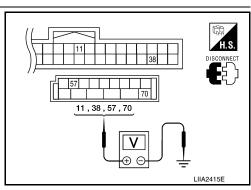
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

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

Connector	Terminals		Power	Condition	Voltage (V) (Ap-
Connector	(+)	(-)	source	Condition	prox.)
M18	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage
	38	Ground	Ignition power supply	Ignition switch ON or START	Battery voltage
M20	57	Ground	Battery power supply	Ignition switch OFF	Battery voltage
IVIZO	70	Ground	Battery power supply	Ignition switch OFF	Battery voltage
Is the measurement value normal?					



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3. CHECK GROUND CIRCUIT

>> Repair or replace harness.

>> GO TO 3

YES

NO

Revision: April 2009 EXL-33 2010 Armada

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

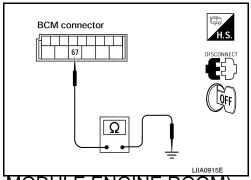
Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector Terminal		Ground	Continuity
M20	67		Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.



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

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

Regarding Wiring Diagram information, refer to PCS-24. "Wiring Diagram".

1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
1	Battery	A, D
2	Battery	С
12	Ignition switch ON or START	59

Is the fuse blown?

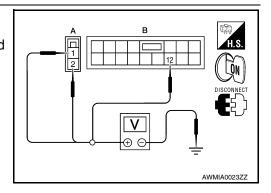
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

2. Check battery power supply circuit

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

Terminals			Ignition switch position		
(+)		(_)	OFF	ON	START
Connector	Terminal	(–)	OH	ON	OTAIN
E118 (A)	1	Ground	Battery voltage	Battery voltage	Battery voltage
	2		Battery voltage	Battery voltage	Battery voltage
E119 (B)	12		0V	Battery voltage	Battery voltage



Is the measurement value normal?

YES >> GO TO 3

NO >> Repair or replace harness.

$3.\,$ CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

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

IPDM	E/R	Ground	Continuity	
Connector	Terminal		Continuity	
E122 (A)	38	Giodila	Yes	
E124 (B)	59		res	

B DISCONNECT OFF

Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.

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HEADLAMP (HI) CIRCUIT

< COMPONENT DIAGNOSIS >

HEADLAMP (HI) CIRCUIT

Description INFOID:000000004918280

The IPDM E/R (intelligent power distribution module engine room) controls the headlamp LH high and headlamp RH high relays based on inputs from the BCM via the CAN communication lines. When the headlamp LH high and headlamp RH high relays are energized, power flows through fuses 34 and 35, located in the IPDM E/R. Power then flows to the front combination lamps to the headlamp high beam.

Component Function Check

INFOID:0000000004918281

1.CHECK HEADLAMP (HI) OPERATION

WITHOUT CONSULT-III

- 1. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
- 2. Check that the headlamp switches to the high beam.

NOTE:

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

(P)CONSULT-III

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

Hi : Headlamp switches to the high beam.

Off : Headlamp OFF

Does the headlamp switch to high beam?

YES >> Headlamp (HI) circuit is normal.

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

Diagnosis Procedure

INFOID:0000000004918282

Regarding Wiring Diagram information, refer to EXL-51, "Wiring Diagram".

1. CHECK HEADLAMP (HI) FUSES

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

Unit	Location	Fuse No.	Capacity
Headlamp HI (LH)	IPDM E/R	35	10A
Headlamp HI (RH)	IPDM E/R	34	10A

Is the fuse open?

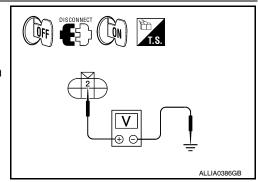
YES >> Repair the harness and replace the fuse.

NO >> GO TO 2.

$2.\mathsf{CHECK}$ HEADLAMP (HI) OUTPUT VOLTAGE

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector.
- 3. Turn the ignition switch ON.
- 4. Turn the high beam headlamps ON.
- 5. With the high beam headlamps ON, check the voltage between the combination lamp connector and ground.

(+)	(_)	Voltage	
Connector	Terminal	()	voltage



HEADLAMP (HI) CIRCUIT

< COMPONENT DIAGNOSIS >

LH	E11 (without DTRL)			Dettermusters
LII	E6 (with DTRL)	2	Ground	
RH	E107 (without DTRL)	2	Ground	Battery voltage
КП	E108 (with DTRL)			

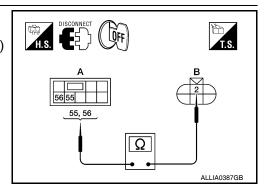
Are the voltage readings as specified?

YES >> GO TO 4. NO >> GO TO 3.

3.check headlamp (HI) circuit for open

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector E123.
- 3. Check continuity between the IPDM E/R harness connector (A) and the front combination lamp harness connector (B).

Α		В	Continuity		
Conn	ector	Terminal	Connector	Terminal	Continuity
LH		55	E11 (without DTRL)	2	
	E123	55	E6 (with DTRL)	2	Yes
ВП	L123	56	E107 (without DTRL)	2	165
RH		56	E108 (with DTRL)	2	



Does continuity exist?

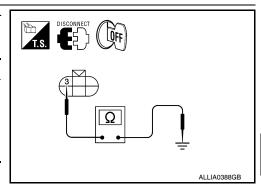
YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK FRONT COMBINATION LAMP (HI) GROUND CIRCUIT

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

Connector		Terminal	_	Continuity
LH	E11 (without DTRL)			
LIT	E6 (with DTRL)	3	Ground	Yes
RH	E107 (without DTRL)	J		
КΠ	E108 (with DTRL)			



Does continuity exist?

YES >> Inspect the headlamp bulb.

NO >> Repair the harness.

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Revision: April 2009 EXL-37 2010 Armada

HEADLAMP (LO) CIRCUIT

< COMPONENT DIAGNOSIS >

HEADLAMP (LO) CIRCUIT

Description INFOID:000000004918283

The IPDM E/R (intelligent power distribution module engine room) controls the headlamp low relay based on inputs from the BCM via the CAN communication lines. When the headlamp low relay is energized, power flows through fuses 40 and 41, located in the IPDM E/R. Power then flows to the front combination lamps to the headlamp low beam.

Component Function Check

INFOID:0000000004918284

1. CHECK HEADLAMP (LO) OPERATION

WITHOUT CONSULT-III

- 1. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
- Check that the headlamp is turned ON.

NOTE:

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

PCONSULT-III

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

Lo : Headlamp ON Off : Headlamp OFF

Is the headlamp turned ON?

YES >> Headlamp (LO) is normal.

NO >> Refer to EXL-38, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004918285

Regarding Wiring Diagram information, refer to EXL-51, "Wiring Diagram".

1. CHECK HEADLAMP (LO) FUSES

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

Unit	Location	Fuse No.	Capacity
Headlamp LO (LH)	IPDM E/R	40	15A
Headlamp LO (RH)	IPDM E/R	41	15A

Is the fuse open?

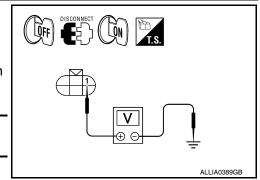
YES >> Repair the harness and replace the fuse.

NO >> GO TO 2.

2.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector.
- Turn the ignition switch ON.
- 4. Turn the low beam headlamps ON.
- 5. With the low beam headlamps ON, check the voltage between the combination lamp connector and ground.

(+)	(-)	Voltage	
Connector	Terminal	()	Voltage



HEADLAMP (LO) CIRCUIT

< COMPONENT DIAGNOSIS >

LH	E11 (without DTRL)			
LII	E6 (with DTRL)	1	Ground	Battery voltage
ВП	E107 (without DTRL)	I	Ground	Battery voltage
RH	E108 (with DTRL)			

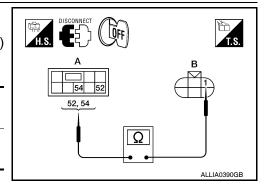
Is voltage reading as specified?

YES >> GO TO 4. NO >> GO TO 3.

$3.\mathtt{CHECK}$ HEADLAMP (LO) CIRCUIT FOR OPEN

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

А			В	Continuity	
Con	nector	Terminal	Connector	Terminal	Continuity
LH	E123	52	E11	1	Yes
RH	LIZJ	54	E107	1	165



Does continuity exist?

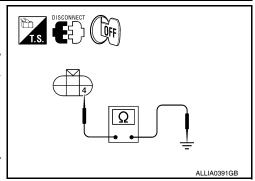
YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK FRONT COMBINATION LAMP (LO) GROUND CIRCUIT

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

	Connector	Terminal	_	Continuity
LH	E11 (without DTRL)			
LIT	E6 (with DTRL)	1	Ground	Yes
RH	E107 (without DTRL)	4	Giodila	165
	E108 (with DTRL)	•		



Does continuity exist?

YES >> Inspect the headlamp bulb.

NO >> Repair the harness.

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Revision: April 2009 EXL-39 2010 Armada

FRONT FOG LAMP CIRCUIT

< COMPONENT DIAGNOSIS >

FRONT FOG LAMP CIRCUIT

Description INFOID:000000004918286

The IPDM E/R (intelligent power distribution module engine room) controls the front fog lamp relay based on inputs from the BCM via the CAN communication lines. When the front fog lamp relay is energized, power flows from the front fog lamp relay in the IPDM E/R to the front fog lamps.

Component Function Check

INFOID:0000000004918287

1. CHECK FRONT FOG LAMP OPERATION

WITHOUT CONSULT-III

- Activate IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
- 2. Check that the front fog lamp is turned ON.

(P)CONSULT-III

- 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-40, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004918288

Regarding Wiring Diagram information, refer to EXL-69, "Wiring Diagram".

1. CHECK FRONT FOG LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	56	20A

Is the fuse open?

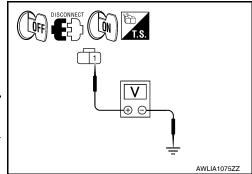
YES >> Repair the harness and replace the fuse.

NO >> GO TO 2.

2. CHECK FRONT FOG LAMP OUTPUT VOLTAGE

- Turn the ignition switch OFF.
- Disconnect the front fog lamp connector.
- 3. Turn the ignition switch ON.
- 4. Turn the front fog lamps ON.
- 5. Check the voltage between the fog lamp connector and ground.

	(+)		(-)	Voltage
Connector Terminal		Terminal	(-)	voltage
LH	E101	1	Ground	Rattory voltage
RH	E102	1	Giodila	Battery voltage



Are the voltage readings as specified?

YES >> GO TO 4.

NO >> GO TO 3.

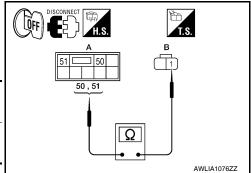
FRONT FOG LAMP CIRCUIT

< COMPONENT DIAGNOSIS >

3.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 (A) and the front fog lamp harness connector (B).

A			В		Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
LH	E123	50	E101	1	Yes
RH	E123	51	E102	1	ies



Does continuity exist?

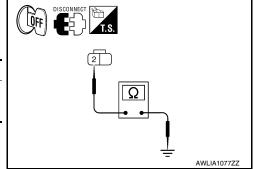
YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK FRONT FOG LAMP GROUND CIRCUIT

- 1. Disconnect the front fog lamp connector.
- 2. Check continuity between the front fog lamp harness connector terminal and ground.

Conr	nector	Terminal	_	Continuity
LH	E101	2	Ground	Yes
RH	E102	2	Ground	163



Does continuity exist?

YES >> Inspect the fog lamp bulb.

NO >> Repair the harness.

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Revision: April 2009 EXL-41 2010 Armada

< COMPONENT DIAGNOSIS >

PARKING LAMP CIRCUIT

Description INFOID:00000000491828S

The IPDM E/R (intelligent power distribution module engine room) controls the tail lamp relay based on inputs from the BCM via the CAN communication lines. When the tail lamp relay is energized, power flows through fuse 37, located in the IPDM E/R. Power then flows to the front and rear combination lamps.

Component Function Check

INFOID:0000000004918290

1. CHECK PARKING LAMP OPERATION

WITHOUT CONSULT-III

- Activate IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
- Check that the parking lamp is turned ON.

(P)CONSULT-III

- 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-42, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004918291

Regarding Wiring Diagram information, refer to EXL-80, "Wiring Diagram".

1. CHECK PARKING LAMP FUSES

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

Unit	Location	Fuse No.	Capacity
Parking lamps	IPDM E/R	37	10A

Is the fuse open?

YES >> Repair the harness and replace the fuse.

NO >> GO TO 2.

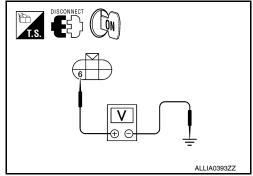
2.CHECK TAIL LAMP RELAY OUTPUT (VOLTAGE)

- Turn the ignition switch OFF.
- Disconnect the front combination lamp connector, rear combination lamp connector and license plate lamp connector.
- 3. Turn the ignition switch ON.
- 4. Turn the parking lamps ON.

< COMPONENT DIAGNOSIS >

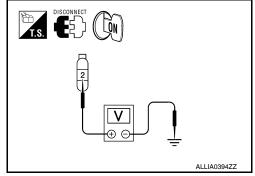
5. With the parking lamps ON, check voltage between the front combination lamp connectors and ground.

		(+)	(-)	Voltage	
Connector			Terminal	(-)	voltage
With	LH	E6			
DTRL	RH	E108	6	Ground	Battery voltage
Without	LH	E11	6		
DTRL	RH	E107			



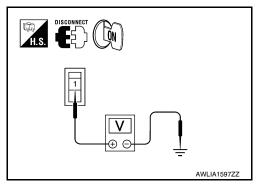
6. With the parking lamps ON, check voltage between the rear combination lamp connectors and ground.

(+)			(–)	Voltage	
Connector		Terminal	(-)	voltage	
LH	B70	2	Ground	Ratton, voltago	
RH	B130	2	Ground	Battery voltage	



7. With the parking lamps ON, check voltage between the license plate lamp connector and ground

(+)			(–)	Voltage	
Connector		Terminal	(-)	voltage	
LH	C106	1	Ground	Pattony voltage	
RH	C107	1	Ground	Battery voltage	



Are voltage readings as specified?

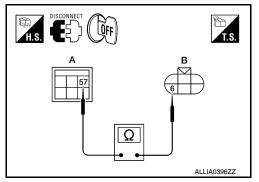
YES >> GO TO 4.

NO >> GO TO 3.

$3. \mathsf{CHECK}$ PARKING, LICENSE PLATE AND TAIL LAMP CIRCUIT (OPEN)

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

	АВ			В		Continuity	
Со	nnector	Terminal	Connector		Terminal	Continuity	
LH	E124	57	With DTRL	E6			
RH	□ □12 4	57	WITH DIRL	E108	6	Yes	
LH	E124	57	Without	E11	U		
RH	L124	37	DTRL		E107		



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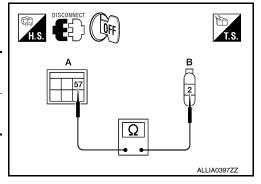
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< COMPONENT DIAGNOSIS >

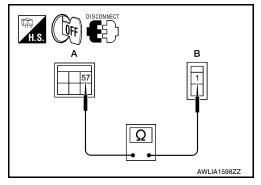
4. Check continuity between the IPDM E/R harness connector (A) and the rear combination lamp harness connector (B).

	Α			Continuity	
Co	onnector	Terminal	Connector	Terminal	Continuity
LH	E124	57	B70	2	Yes
RH	E124	37	B130	2	165



5. Check continuity between the IPDM E/R harness connector (A) and license plate lamp connector (B).

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E124	57	C106	1	Yes
E12 4	37	C107	1	res



Are continuity test results as specified?

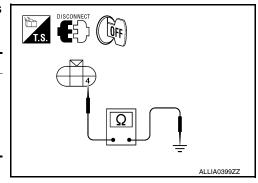
YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK PARKING, LICENSE AND TAIL LAMP GROUND CIRCUITS

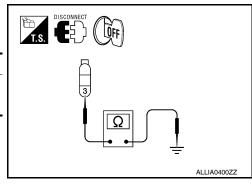
1. Check continuity between the front combination lamp harness connectors E11 and E107 terminal 4 and ground.

	Connector		Terminal	_	Continuity
With	LH	E6			
DTRL	RH	E108	4	Ground	Yes
Without	LH	E11	7	Ground	
DTRL	RH	E107			



2. Check continuity between the rear combination lamp harness connectors B70 and B130 terminal 3 and ground.

Connector		Terminal	_	Continuity
LH	B70	3	Ground	Yes
RH	B130	3	Giodila	163



< COMPONENT DIAGNOSIS >

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

Connector	Terminal	_	Continuity
C106	2	Ground	Yes
C107	2	Ordana	163

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Does continuity exist?

YES >> Inspect the parking lamp bulb.

NO >> Repair the harness.

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TURN SIGNAL LAMP CIRCUIT

< COMPONENT DIAGNOSIS >

TURN SIGNAL LAMP CIRCUIT

Description INFOID:000000004918292

The BCM monitors inputs from the combination switch (lighting and turn signal switch) to determine when to activate the turn signals. The BCM outputs voltage direction to the left and right turn signals during turn signal operation or both during hazard warning operation. The BCM sends a turn signal indicator request to the combination meter via the CAN communication lines.

The BCM performs the fast 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:0000000004918293

1. CHECK TURN SIGNAL LAMP

©CONSULT-III

- 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 blinkingRH: Turn signal lamp RH blinkingOff: The turn signal lamp OFF

Does the turn signal lamp blink?

YES >> Turn signal lamp circuit is normal.

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

Diagnosis Procedure

INFOID:0000000004918294

Regarding Wiring Diagram information, refer to EXL-73, "Wiring Diagram".

1. CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb to be sure the proper bulb standard is in use and the bulb is not open.

Is the bulb OK?

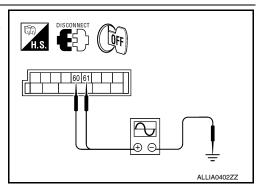
YES >> GO TO 2.

NO >> Replace the bulb.

2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

- Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector or the rear combination lamp connector.
- 3. Turn the ignition switch ON.
- 4. With turn signal switch operating, check the voltage between the BCM harness connector M20 and ground.

(+)	(+)		Voltage
Connector	Terminal	(-)	voltage



TURN SIGNAL LAMP CIRCUIT

< COMPONENT DIAGNOSIS >

	LH	60		
M20	RH	61	Ground	(V) 15 10 5 0 1 s PKID0926E

Is voltage reading as specified?

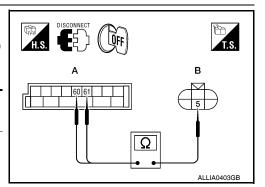
YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-60</u>, "Removal and Installation".

3.CHECK TURN SIGNAL LAMP CIRCUIT FOR OPEN

- 1. Turn the ignition switch OFF.
- 2. Disconnect BCM connector M20.
- 3. Check continuity between the BCM harness connector M20 (A) and the front combination lamp connectors (B).

	Α			В		Continuity
Con	nector	Terminal	Con	nector	Terminal	Continuity
Front LH		60	Without DTRL	E11		
Front RH	M20	61	DIKE	E107	5	Yes
Front LH	IVIZO	60	With DTRL	E6	3	163
Front RH		61	DIKE	E108		



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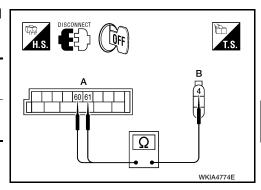
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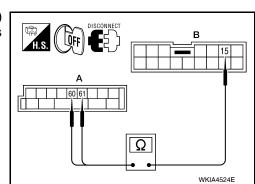
4. Check continuity between the BCM harness connector M20 and the rear combination lamp connectors.

А		I	В	Continuity	
Con	nector	Terminal	Connector	Terminal	Continuity
Rear LH	M20	60	B35	4	Yes
Rear RH	IVIZO	61	B105	4	165



 Check continuity between the BCM harness connector M20 (A) and the door mirror connectors (B) (if equipped with turn signals in the mirrors).

	Α		E	Continuity	
Conne	Connector		Connector	Terminal	Continuity
Door mirror LH	M20	60	D4	15	Yes
Door mirror RH		61	D107	15	ies



Are continuity test results as specified?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

TURN SIGNAL LAMP CIRCUIT

< COMPONENT DIAGNOSIS >

Check continuity between the BCM harness connector M20 and ground.

С	onnector	Terminal	_	Continuity
LH	M20	60	Ground	No
RH	IVIZO	61	Ground	140



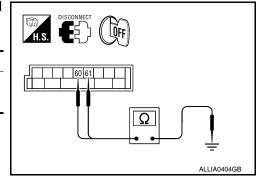
YES >> Repair the harnesses or connectors.

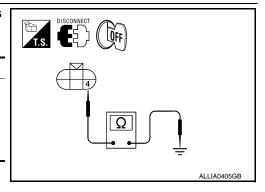
NO >> GO TO 5.

5. CHECK TURN SIGNAL LAMP GROUND CIRCUIT

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

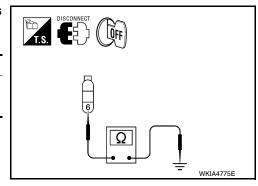
Connector		Terminal	_	Continuity	
Without	Front LH	E11			
DTRL	Front RH		Ground	Yes	
With	Front LH	E6	6	Ground	165
DTRL	Front RH	E108			





2. Check continuity between the rear combination lamp harnness connectors and ground.

Connector		Terminal	_	Continuity
Rear LH	B35	6	Ground	Yes
Rear RH	B105	0	Ground	res



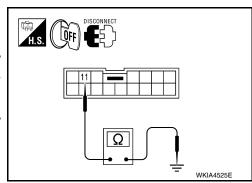
3. Check continuity between the door mirrors and ground (if equipped with turn signals in the mirrors).

Connector		Terminal	_	Continuity
Door mirror RH	D107	11 Ground		Vec
Door mirror LH	D4	11	Ground	Yes

Are continuity test results as specified?

YES >> Replace the malfunctioning lamp.

NO >> Repair the harnesses or connectors.



OPTICAL SENSOR

Description INFOID:000000004918295

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

Component Function Check

INFOID:0000000004918296

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1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT-III

(E)CONSULT-III

- 1. Turn the ignition switch ON.
- Select "OPTICAL SENSOR" of BCM (HEAD LAMP) DATA MONITOR item.
- 3. Turn the lighting switch to AUTO.
- 4. With the optical sensor illuminating, check the monitor status.

Monitor item	Condition	Voltage
OPTICAL SENSOR	When illuminating	3.1V or more *
	When shutting off light	0.6V or less

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

Is the item status normal?

YES >> Optical sensor is normal.

NO >> Refer to EXL-49. "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004918297

Regarding Wiring Diagram information, refer to EXL-62, "Wiring Diagram".

1.CHECK OPTICAL SENSOR GROUND CIRCUIT

- 1. Turn the ignition switch OFF.
- Disconnect BCM connector M18 and optical sensor connector M302.
- Check continuity between BCM harness connector M18 (A) terminal 18 and optical sensor harness connector M302 (B) terminal 3.

Α				
Connector	Terminal	Connector	Terminal	Continuity
M18	18	M302	3	Yes

Check continuity between BCM harness connector M18 (A) terminal 18 and ground.

H.S. DISCONNECT OFF	_
A 118	B 3
	ALLIA0406GB

	A	_	Continuity	
Connector	Terminal			
M18	18	Ground	No	

Are continuity test results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK OPTICAL SENSOR SIGNAL CIRCUIT

Revision: April 2009 EXL-49 2010 Armada

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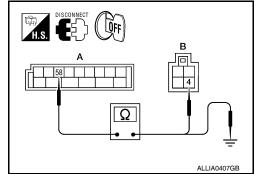
OPTICAL SENSOR

< COMPONENT DIAGNOSIS >

Check continuity between BCM harness connector M20 (A) terminal 58 and optical sensor harness connector M302 (B) terminal 4.

A				
Connector	Terminal	Connector	Terminal	Continuity
M20	58	M302	4	Yes

Check continuity between BCM harness connector M20 (A) terminal 58 and ground.



	A		Continuity
Connector	Terminal		Continuity
M20	58	Ground	No

Are the continuity test results as specified?

YES >> Replace the optical sensor. Refer to EXL-142, "Removal and Installation".

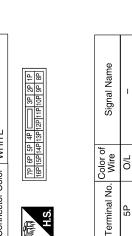
NO >> Repair harness or connector.

HEADLAMP Α Wiring Diagram INFOID:0000000004918298 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (E122), (E123), В С IGNITION RELAY (E152) (M31) ىھە D 20A 53 CPU Е 20A 52 F O LOW BEAM 15A HEADLAMP LOW RELAY G 15A 40 Н 10A (C) BEAM **⊕**HIGH **⊕**BEAM 10A J K FUSE BLOCK (J/B) M4 , M60 HIGH EXL BCM (BODY CONTROL MODULE) (M18), (M20) UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY) IGNITION SWITCH ON OR START ON OR START 10A M COMBINATION SWITCH 6 7 10 (LIGHTING AND TURN SIGNAL SWITCH) (M28) 4 4 Ν 10A 0 76 HEADLAMP E152 M31 50A BATTERY Р ABLWA0408GB

HEADLAMP CONNECTORS

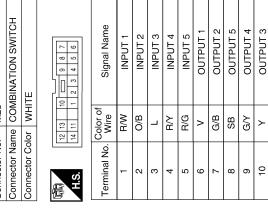
Connector No.	M4
Connector Name	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	WHITE



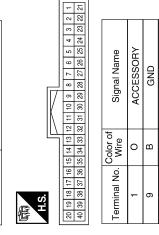


Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	SB	G/Y	Υ	G/B	^	R/G	R/Υ	Τ	O/B	B/W	M/L	Γ	Ь
Terminal No.	2	3	4	2	9	32	33	34	35	36	38	39	40

Connector No.	M28
Connector Name	Connector Name COMBINATION SWITCH
Connector Color WHITE	WHITE







	BCM (BODY CONTROL MODULE)	X	56 57 56 59 600 61 62 623 64	Signal Name	GND (POWER)	
_		olor BLACK	56 57 58 65 65 66 67 68 68 68 68 68 68	Color of Wire	В	
	Connector Name	Connector Color	H.S.	Terminal No.	29	i

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RUN/START

0/

CAN-H

_ _

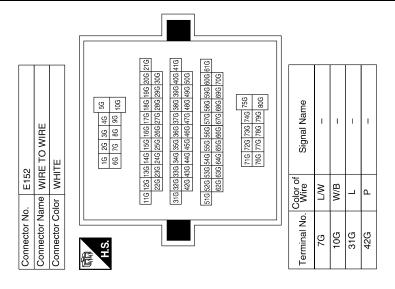
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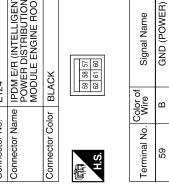
M20

Connector No.

		А
e e	TION (MOOM)	В
Connector No. M60 Connector Name FUSE BLOCK (J/B) Connector Color WHITE H.S. TIT TIT H.S. Color of Signal Name 6T O -	POWER DISTRIBUTION MODULE ENGINE ROOM) WHITE If of the fet 44 43 GND (SIGNAL) CAN-H CAN-H CAN-H CAN-H	С
Idme FUSE B color WHITE GISTATION OO O		D
Connector No. Connector Name Connector Color Terminal No. Col	Connector No. Connector Name Connector Color Terminal No. (Color 38 39 40 40	Е
		F
Signal Name	FRONT COMBINATION LAMP RH (WITHOUT DAYTIME LIGHT SYSTEM) BLACK or of Signal Name W	G
Color of Wire WIL L		ı
Terminal No. 7G 31G 31G 42G	Connector No. Connector Name Connector Color Terminal No. 2 L 2 L 4 4	J
		K
M31 N N N N N N N N N	Connector No. E11 FRONT COMBINATION Connector Name LAMP LH (WITHOUT DAYTIME LIGHT SYSTEM) Connector Color of BLACK H.S. (Color of Signal Name 2 G	EXL
M31 WIRE WHIT S0G 19G 30G 29G 50G 49G 70G 69G 70G 69G	B B B B B B B B B B B B B B B B B B B	IVI
ctor Nar	Connector No. Connector Name Connector Color Terminal No. Color 3 4 4	N
Conne		0
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Connector Name POWEF POWEF MODUL	Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BLACK
H.S.	09 19 28 85 85 85 85



Connector No.	E123
Connector Name	Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color BROWN	BROWN



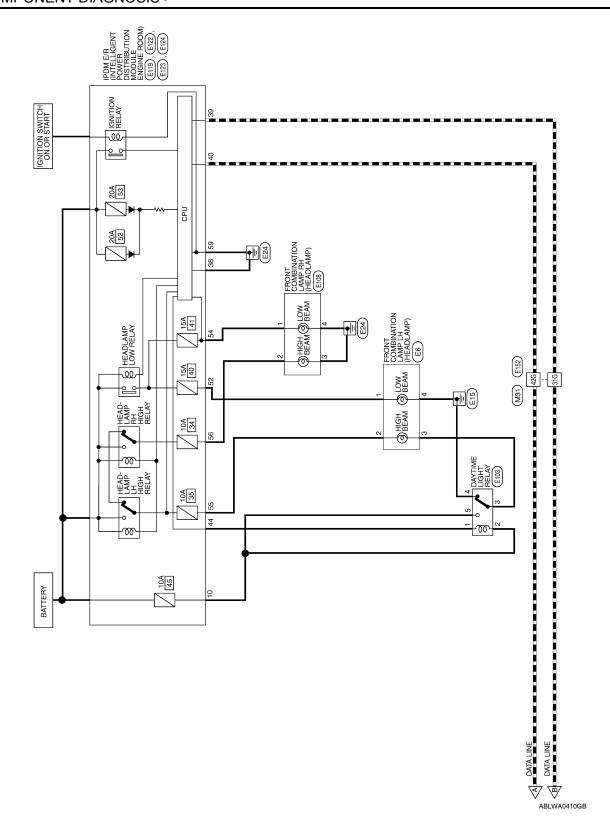




Signal Name	H/LAMP LO LH	H/LAMP LO RH	H/LAMP HI LH	H/LAMP HI LH
Color of Wire	Τ	R/Υ	5	M/l
Terminal No. Wire	52	54	55	99

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DAYTIME LIGHT SYSTEM Α Wiring Diagram INFOID:0000000004918299 В С D **★** BRAKE Е HIGH BEAM $\overline{\bullet}$ F UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY) FUSE BLOCK (J/B) (M4), (M60) G Н 10A 4 IGNITION SWITCH ACC OR ON 40A J Κ (M20) BCM (BODY CONTROL MODULE) (M18) EXL COMBINATION SWITCH (MZ8) (MZ8) IGNITION SWITCH ON OR START \mathbb{N} 5 DAYTIME LIGHT SYSTEM Ν E152 (M31) BATTERY 0 Р ABLWA0409GB



DAYTIME LIGHT SYSTEM CONNECTORS

Connector No.	M4
Connector Name	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	WHITE

Connector No. M11
Connector Name PARKING BRAKE SWITCH
Connector Color BLACK

_	_	1
무	8Ь	l
2P	96	l
ЗР	10P	
	12P 11P	
4	13P	
5P	14P	
99	15P	
7P	16P	

Signal Name	-
Color of Wire	O/L
Terminal No.	5P

	Signal Name
	Color of Wire
用.S.	Color of Wire 1 G
3P 2P 1P 1P 9P 8P	Signal Name

M20	Connector Name BCM (BODY CONTROL MODULE)	BLACK
Connector No.	Connector Name	Connector Color BLACK

5	COILLIECTOL INO.	Z N
Conn	Connector Name	88
Conn	Connector Color	BL

Section BLACK BLACK	ACK	56 57 58 59 60 61 62 63 64 65 66 67 68 69 70	Signal Ne	NOA) ans	BAT (F
H.S. H.S. Ferminal No. 67	olor BL/	56 57	Color of Wire	В	M/B
	Connector Co	H.S.	Terminal No.	<i>L</i> 9	02

Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	SB	G/Y	>	G/B	>	R/G	R/Υ	7	O/B	B/W	M/L	٦	۵
Terminal No.	2	က	4	5	9	32	33	34	35	36	38	39	40

				8	40	l
			,			
				8	38	l
				1	37	l
	ᅵᅥ			16	36	l
	Connector Name BCM (BODY CONTROL MODULE)			9 10 11 12 13 14 15 16 17 18 19	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39	l
	Ż			14	34	l
	I 당			13	33	l
	≿		l 117	12	32	l
			I IV	Ξ	31	l
	BCM (BOD MODULE)	Ш	I IN	9	30	l
ω	동문	듶			29	l
M18	B≥	×		ω	28	l
	Φ	_		^	27	l
Ċ.	띭	이		9	26	ı
ž	ž	ŏ		2	25	
₫	to	tor		4	24	ı
ec	99	ec	(6)	ო	23	
Connector No.	Ē	nu	H.S.	2	22	
ပ	ပိ	Connector Color WHITE	優王	L	21	
						_

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9 / G/B	Signal Name
7 G/B	OUTPUT 1
	OUTPUT 2
8 SB	OUTPUT 5
9 G/Y	OUTPUT 4
10 Y	OUTPUT 3

Connector No.		M28							
Connector Name COMBINATION SWITCH	ЭL	8	MBI	Ž	읃	Ž	≳	ļ.	
Connector Color WHITE	'n	≱	빝						
				4	Ľ	Ш	Ш		
F	12	12 13	10	Ш	П	9	~	7	
•	4	14 11	-	0	2 3 4 5 6	-	10	· ·	

Connector Name | COMBINATION METER

M24

Connector No.

Connector Color WHITE

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1 ln	3		
业	2		
100	+		
Ш			
5	11		
12	14	П	

Signal Name

Color of Wire R/W O/B

Terminal No.

INPUT 2

INPUT 3

INPUT 1

INPUT 4 INPUT 5

R/G R/G

2

是 H.S.	

			_
	-	21	
	2	22	
	က	23	
	4	24 23	
	2	25	
	9	26	
	7	27	
	8	28	
117	6	29	
IV.	9	30	
- 11	Ξ	31	
\	12	32	
	13	34 33	
	14	34	
	15	35	
	16	36	
	17	37	
.	20 19 18 17 16 15 14 13 12 11 10	38 37	
E.S.	19	40 39	
引 🔻	20	40	

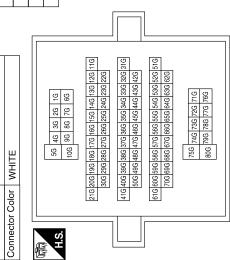
4	40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23								
t	24								
n	25		<u></u>	≿				一	ь
0	26		au	尚	_	т		ÌŽ	AB
`	27		<u>Z</u>	SS	GND	ż	ż	胎	ST.
0	28		na	岜	ਾਲ	CAN-H	CAN-L	×	ž
7 0 8 01 11 71 01 14 10 10 11 01 81 07	29		Signal Name	ACCESSORY			-	PARK BRAKE	RUN/START
2	30		0,	⋖				₾	۳
Ξ	31								
7	32								_
2	33		[o o						ᆫ
ţ	34		Color of Wire	0	В	_	□	മ	O/L
0	35								
0	36		0.						
-	37		=						
0	38		l a	-	െ	=	12	23	24
2	39		ΙĒΙ					``	``
2	40		Terminal No.						
_		-1							

Signal Name	_	-	-	-
Color of Wire	M/L	W/B	٦	Ь
Terminal No.	76	10G	31G	42G

Connector Name WIRE TO WIRE

M31

Connector No.



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DAYTIME LIGHT SYSTEM

	DAYTIME LIGHT RELAY	BLACK	© © 4	Signal Name	1	1	1	1	
. E103				Color of Wire	BB	σ	7/6	В	
Connector No.	Connector Name	Connector Color	所.S.	Terminal No.	-	2	8	4	

Connector No.). E6	
Connector Name		FRONT COMBINATION LAMP LH (WITH DAYTIME LIGHT SYSTEM)
Connector Color		BLACK
in H.S.	4	2 5 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
Terminal No.	Color of Wire	Signal Name
-	٦	ı
2	g	ı
3	J//G	ı
4	В	1

	FUSE BLOCK (J/B)	믵	4T 3T	Signal Name	1
. M60	me FUS	lor WHITE	2T 1T 1T 1T 8T	Color of Wire	0
Connector No.	Connector Name	Connector Color	所 H.S.	Terminal No.	19

Connector No.	E122	
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	or WHITE	IE II
师 H.S.	42 41	40 39 38 37
Terminal No.	Color of Wire	Signal Name
38	В	GND (SIGNAL)
39	٦	CAN-H
40	Д	CAN-L
44	ä	DTBI BI V CONT

Connector No.	E119		_
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	
Connector Color WHITE	MH	TE	_
H.S.	9 8 7 118 17 16	18 17 16 15 14 13 12 11 10	
			_
Terminal No.	Color of Wire	Signal Name	
10	G	DTRL RLY SUPPLY	_
			_

Signal Name	_	_	ı	ı
Color of Wire	R/Υ	>	<u>_</u>	В
Terminal No.	1	2	က	4
	Color of Wire	Color of Wire R/Y	Color of Wire R/Y	Color of Wire R/Y Y

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Revision: April 2009 EXL-59 2010 Armada

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E124	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	or BLACK
Connector No.	Connector Name	Connector Color BLACK







GND (POWER) Signal Name

В

Terminal No. 59

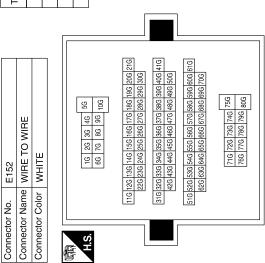
E123	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	or BROWN	
Connector No. E	Connector Name P(Connector Color BROWN	





Signal Name	H/LAMP LO LF	H/LAMP LO RI	H/LAMP HI LH	H/LAMP HI RF
Color of Wire	٦	R/Y	G	У
Terminal No.	52	54	22	26

Signal Name	1	1	ı	ı	
Color of Wire	MΠ	M/B	_	Д	
Terminal No.	76	10G	31G	42G	



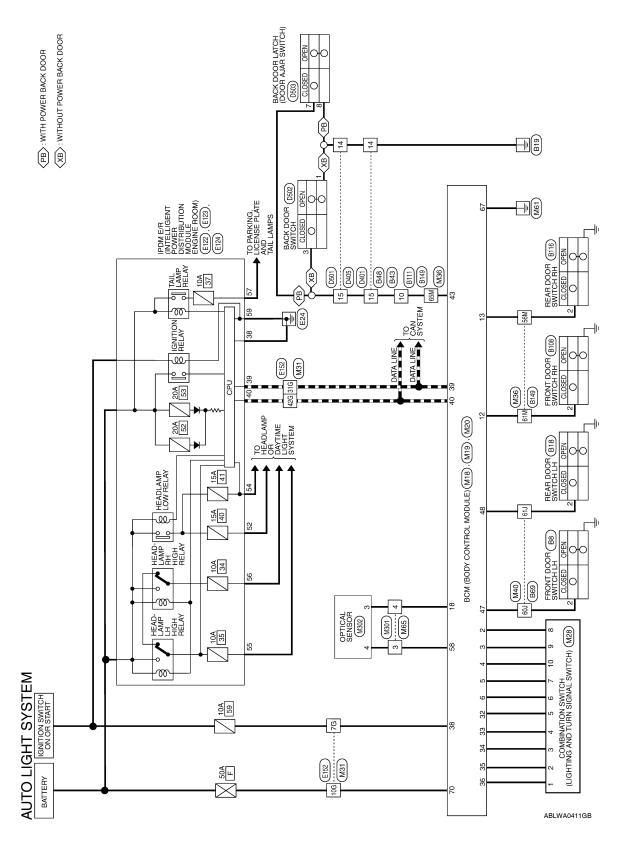
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DAYTIME LIGHT SYSTEM

Connector No. F14 Connector Name WIRE TO WIRE Connector Color WHITE Connector Color WHITE Lat I 10 9 8 7	Terminal No. Color of Signal Name 51J L – 52J P –	A B C D
		F
аше	B69 WIRE TO WIRE WIRE TO WIRE WHITE	G
Signal Name	NHE TO WIRE NHITE 11 21 31 41 51 12 23 24 25 25 23 24 25 24 25 25 24 23 24 25 25 25 25 23 24 25 25 25 25 25 23 24 25 25 25 25 26 23 24 25 25 25 25 27 27 27 25 25 25 27 27 27 27 27 25 27 27 27 27 27 27 27 27	Н
Color of Wire W/// W// W// W// B	31. B69 ame WIRE T blor WHITE 1.1 1.1 22. Say 3 31. Say 3 3	I
76 76 106 316 426	Connector No. B69	J
	Reorder Condensity	K
16 152 16 16 16 10 16 16 10 16 10 10		EXL
11TE 11G 26 36 46 56 66 270 280 280 280 280 280 280 280 280 280 28	13 14 15 16 17 18 19 19 19 19 19 19 19	M
Connector No. E152 Connector Name WIRE TO WIRE Connector Color WHITE H.S. 16 26 36 46 96 976 86 976 86 976 86 976 86 976 86 976 86 976 86 976 86 976 86 976 976 976 976 976 976 976 976 976 97	Connector No. B40 B75 Connector Name WIRE TO WIRE Connector Color WHPRE BROW Terminal No. Wire Z3 1 P Z4 2 L LA1357GB	N
Connector No. Connector Color H.S.	Connector No. Connector Name Connector Name Connector Color Connector Color	0
	ABLIA1357GB	Р

AUTO LIGHT SYSTEM

Wiring Diagram



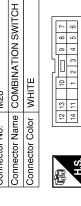
AUTO LIGHT SYSTEM CONNECTORS

ŏ	Connector No.	ect	or	ž		_	M18	8											
ŏ	Connector Name BCM (BODY CONTROL MODULE)	ect	ō	lg.	Ĕ	-	l%≥	BCM (BOE MODULE)	l <u>ĕ</u> ∃		<u>~</u>	18	Z	ř	占				
ပြ	Connector Color WHITE	ect	5	ပြ	ō	_	՛≶	≒	ш										
9	را	•																ı	
j	F																		
1	H.S.	46					L					-							
		1					ī	$ \rangle$	Λ	V	17								
-	2	က	4	2	9	7	80	6	10	Ξ	12	5	4	15	16	17	18	9 10 11 12 13 14 15 16 17 18 19 20	20
21	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39	23	54	25	26	27	28	29	30	31	32	33	34	35	36	37	38		40
J				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

	BCM (BODY CONTROL MODULE)	ITE	41 42 43 44 45 46 47 48 49	Signal Name	BACK DOOR SW	DOOR SW (DR)	DOOR SW (RL)
M19		or WHITE	41 42 43	Color of Wire	R/B	SB	R/Υ
Connector No.	Connector Name	Connector Color		Terminal No.	43	47	48

Signal Name	INPUT 5	INPUT 4	NPUT 3	INPUT 2	INPUT 1	DOOR SW (AS)	DOOR SW (RR)	KEYLESS AND AUTO LIGHT SENSOR GND	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	MS NÐI	CAN-H	CAN-L
Color of Wire	SB	G/Y	\	G/B	>	B/L	GR	Ь	B/G	R/Y	٦	O/B	B/W	M/L	٦	Ь
Terminal No.	2	က	4	5	9	12	13	18	32	33	34	35	36	38	39	40

		OCIV
r		
40		Oppositor No



M20

Connector No.

Connector Name Connector Color

П		1
3 64	20	
62 6	69	
0 61	89	
9 69	67	
7 58	99	
26 5	99	
		J

Signal Name	AUTO LIGHT SENSOR INPUT 2	GND (POWER)	BAT (F/L)
Color of Wire	W/R	В	M/B
Terminal No. Wire	58	29	70

ABL	IA1	35	RGF

Signal Name OUTPUT 5 OUTPUT 4 OUTPUT 3 OUTPUT 2 INPUT 2 INPUT 3 INPUT 5 OUTPUT 1 INPUT 4 INPUT 1 Color of Wire ₩. O/B R/Υ R/G G/B SB G/Y Terminal No. 9 2 9 ω 6

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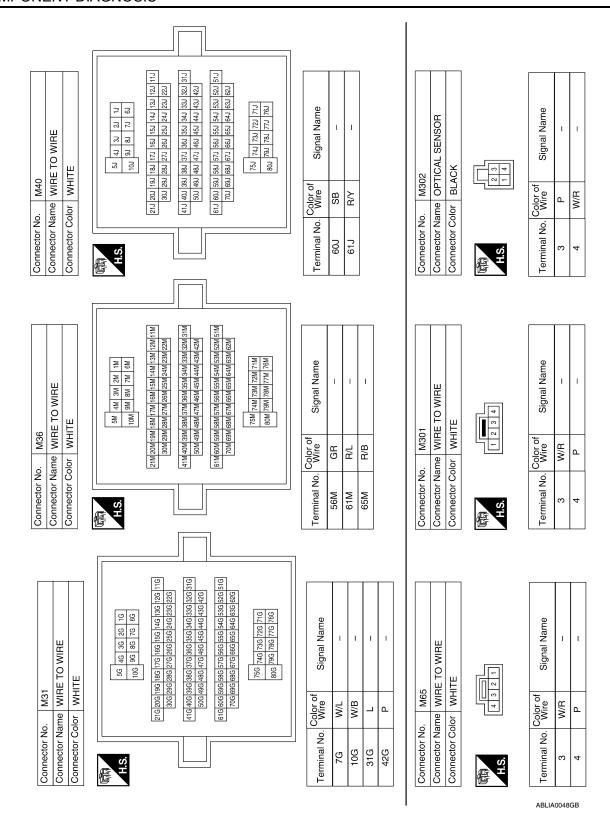
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Connector No. E124 Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BLACK	(成本)	Terminal No. Wire Signal Name 57 R/L TAIL LAMP	59 B GND (POWER)			Connector Name FRONT DOOR SWITCH LH Connector Color WHITE	-		H.S.	200	ال ماده مؤ	Terminal No. Wire Signal Name	2 SB –		
Connector No. E123 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BROWN	(5) (5) (4) (5) (4) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	Terminal No. Wire Signal Name 52 L H/LAMP LO LH	54 R/Y H/LAMP LO RH 55 G H/LAMP HI LH	56 L/W H/LAMP HI RH	Terminal No. Color of Signal Name	M/L	10G W/B –	31G L –	42G P –						
Connector No. E122 Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color WHITE	42 41 46 89 38 37 48 47 46 46 44 43	Terminal No. Wire Signal Name 38 B GND (SIGNAL)	39 L CAN-H 40 P CAN-L		Connector No. E152		CONTRACTOR COLOR WHILE		16 26 36 46 56	98 97 99	11G 12G 13G 14G 15G 16G 17G 18G 19G 20G 21G 2ng 2ng 2ng 2ng 2ng 2ng 2ng 2ng 2ng 2ng		42G 43G 44G 45G 46G 47G 48G 50G	51G 82G 83G 84G 55G 56G 57G 58G 89G 60G 61G 82G 83G 84G 65G 66G 67G 88G 89G 70G	

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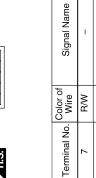
Connector No. B48 Connector Name WIRE TO WIRE Connector Color WHITE H.S. 10 9 8 7 6 5 4 3 2 1 1 H.S. 10 10 10 10 10 10 10 10 10 10 10 10 10	Connector No. B111	
Connector No. B43 Connector Name WIRE TO WIRE Connector Color WHITE 7 6 5 4	Connector No. B108 Connector Name FRONT DOOR SWITCH RH Connector Color WHITE ALS. Eginal Name 2 R/L	
Connector No. B18 Connector Name REAR DOOR SWITCH LH Connector Color WHITE H.S. Terminal No. Color of Signal Name 2 R/Y -	Connector No. B69 Connector Name WIRE TO WIRE Connector Color WHITE 10 20 30 40 50 100 100 100 100 100 100 100 100 100	Terminal No. Wire Signal Name 60J SB -

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Signal Name	1	ı	ı			WIRE			Signal Name	1	1		В
Color of Wire		R/L	B/W		Vo. D501	-	Solor WHITE	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Color of Wire	В	B/W		D
Terminal No.	26M	61M	65M		Connector No.	Connector I	Connector Color	原 H.S.	Terminal No.	14	15		Е
		7	F	01M 11M 01M 01M 01M 01M 01M 01M 01M 01M									F
	TO WIRE	ш		1M 2M 3M 4M 5M 5M 6M 10M 22M 22M 24M 25M 25M		TO WIRE	ш	10 9 8 7 6 5 4 3 2 1 18 17 16 15 14 13 12 11	Signal Name	ı	1		G
o. B149	ame WIRE T	_		11M 12M 13M 22M 23M 33M 42M 43M 62M 63M 62M 63M 62M 63M). D405	ame WIRE	olor WHITE	10 9 8 7 6 18 17 16 1	Color of Wire	В	R/W		I
Connector No.	Connector Name WIRE TO WIRE			Σ. T.	Connector No.	Connector Name WIRE TO WIRE	Connector Color	原 H.S.	Terminal No.	14	15		J
													K
	Connector Name REAR DOOR SWITCH RH	ш		Signal Name		E TO WIRE	巴巴		Signal Name	ı	1		EXL
). B116	ame REAF	III M		Color of Wire GR	D401	ame WIRE	olor WHITE	1 2 3 4 5 11 11 12 13 14	Color of Wire	В	R/W		N
Connector No.	Connector Name			minal No.	Connector No.	Connector Name WIRE TO WIRE	Connector Color	E.S.	Terminal No.	14	15		0
											ABLI	A0050GB	Р

Revision: April 2009 EXL-67 2010 Armada

Connector No.	D503
Connector Name	Connector Name BACK DOOR LATCH
Connector Color WHITE	WHITE







D502	Connector Name BACK DOOR SWITCH	WHITE	
Connector No.	connector Name	Connector Color WHITE	



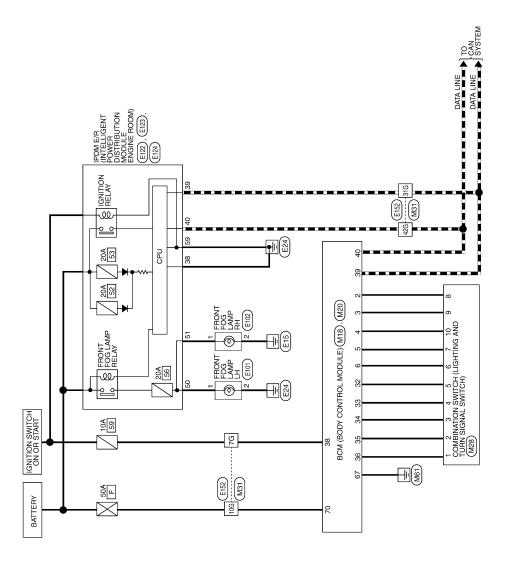


Signal Name	-	-
Color of Wire	В	B/W
erminal No.	1	3

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FRONT FOG LAMP SYSTEM

Wiring Diagram



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FRONT FOG LAMP

Connector Name BCM (BODY CONTROL MODULE)

Connector No.

Connector Color BLACK

FRONT FOG LAMP CONNECTORS

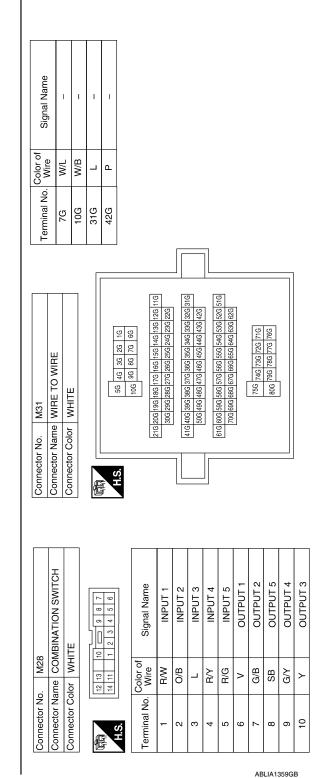
Connector No.	M18
onnector Name	Connector Name BCM (BODY CONTROL MODULE)
Connector Color WHITE	WHITE

		50	40
		19	39
		28	38
		17	37
		16	36
		15	35
		14	34
	ᆜ	13	33
	117	10 11 12 13 14 15 16 17 18 19	32
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	IN.	10	30
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	Ħ	~	28
		7	27
		3 4 5 6 7	26
		S	25
		4	24
		က	23
"4		2	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39
	- 1	-	딟

56 57 58 59 60 61 62 63 64	Signal Name	GND (POWER)	BAT (F/L)
56 57 58 6	Color of Wire	В	M/B
H.S.	Terminal No. Wire	29	20

Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	SB	G/Y	\	G/B	>	B/G	R/Y	Γ	O/B	B/W	M/L	L	Ч
Terminal No.	2	3	4	5	9	32	33	34	32	36	38	39	40

		L		
	lſ	8	40	l
	li	9	39	
		9 10 11 12 13 14 15 16 17 18 19 20	38	
		17	37	l
		16	36	
		15	35	l
	$\ [$	14	34	l
_		13	33	l
- 117		12	32	l
IV.		11	31	l
- 11		10	30	l
		6	29	l
	1	7 8	28	l
		7	27	
		9	26	
	Ц	2	25	l
	Ц	4	24	l
d		2 3 4 5 6	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	
Ģ		7	22	
•	l	-	21	



FRONT FOG LAMP SYSTEM

Vo. E122	Name POWER DISTRIBUTION MODULE ENGINE ROOM)	Solor WHITE	42 41 40 38 37 48 47 46 44 43	Color of Signal Name	B GND (SIGNAL)	L CAN-H	P CAN-L
Connector No.	Connector Name	Connector Color	H.S.	Terminal No. Vo	38	39	40

.2	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	WHITE	40 39 88 37 46 45 44 43	Signal Name	GND (SIGNAL)	CAN-H	CAN-L	
. E122		_	42 41	Color of Wire	В	_	۵	
Connector No.	Connector Name	Connector Color	(南) H.S.	Terminal No.	38	39	40	

α	Connector Name FRONT FOG LAMP RH	CK		Signal Name	I	I
. E102	me FRC	lor BLACK		Color of Wire	W/R	В
Connector No.	Connector Na	Connector Color	麻 H.S.	Terminal No.	ļ	7

Connector Name FRONT FOG LAMP LH

Connector No. E101

Connector Color BLACK

Terminal	-	2	
Signal Name	I	1	
Color of Wire	W/R	В	
Terminal No.	-	2	

.4	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	BLACK	09 19 6 25 88 6	Signal Name	GND (POWER)
. E124		-	29	Color of Wire	В
Connector No.	Connector Name	Connector Color	明.S.	Terminal No.	29
	•				

_		_	1		_	_
3	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	BROWN	55 54 53 52	Signal Name	FR FOG LAMP LH	FR FOG LAMP RH
. E123			56 55	Color of Wire	W/R	W/B
Connector No.	Connector Name	Connector Color	所.S.	Terminal No.	20	51

IPDM E/R (II POWER DIS MODULE EI	BLACK	59 58 57 62 61 60	f Sig	GN				
e M M P			Color of Wire	В				
Connector Name POWER DIS	Connector Color	(A)	Terminal No.	59				
Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	WN	56 54 53 52	Signal Name	FR FOG LAMP LH	FR FOG LAMP RH			
ne POW MOC	or BROWN	51 56 55	Color of Wire	W/R	M/R			
Connector Nan	Connector Color	所.S.H	Terminal No. Wire	20	51			
							АВ	LIA0053G

EXL-71 Revision: April 2009 2010 Armada

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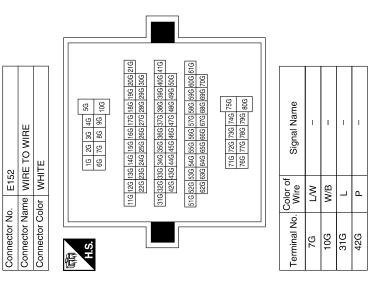
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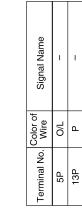
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM Α Wiring Diagram INFOID:0000000004918302 29 В D101 С D B132 Е <u></u> FRONT COMBINATION LAMP RH (E107): (ND) F P Н COMBINATION METER M24 TURN M31 E152 0 TURN RH . M20 J BCM (BODY CONTROL MODULE) (M18) TURN SIGNAL AND HAZARD WARNING LAMPS FUSE BLOCK (J/B) (M4) TURN UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY) Κ BUZZER DOOR MIRROR LH 3 TOA EXL M8 02 10A IGNITION SWITCH ACC OR ON M 10A - [][9] 1 2 3 4 5 6 7 10 2 3 4 4 5 10 CLGHTING AND TURN SIGNAL SWITCH) (M28) Ν IGNITION SWITCH ON OR START 10A 59 76 33 0 33 E152 50A 32 BATTERY <u> 5</u> Р 29 ABLWA0413GB

TURN SIGNAL AND HAZARD WARNING LAMPS CONNECTORS

M4	Connector Name FUSE BLOCK (J/B)	WHITE
Connector No.	Connector Name	Connector Color WHITE

otor No	777
CIOI INO.	M4
ctor Name	ctor Name FUSE BLOCK (J/B)
ctor Color WHITE	WHITE
7P 6	7P 6P 5P 4P 3P 2P 1P
16P 1	6P15P14P13P12P11P10P 9P 8P



connector No.	. ا	_	Σ							
Sonnector Name WIRE TO WIRE	ıme	_	M	묾	ĭ	^	ĕ	Ä		
Sonnector Color WHITE	olo	_	∀	≒	ш					
						ľ			I	
NHI	7	9	5	4	Ц	П	3	2	-	
SH	16	15	14	16 15 14 13 12 11 10 9 8	12	11	10	6	8	

	Signal Name	_	
Color of	Wire	В	
	l erminal No.	14	

M20	Connector Name BCM (BODY CONTROL MODULE)	BLACK	
Connector No.	Connector Name	Connector Color BLACK	

Connector No. M20 Connector Name BCM (BO) MODULE; Connector Color BLACK		
ne n	BLACK	Connector Color
	BCM (BOI MODULE)	Connector Name
	M20	Connector No.

[65 67 68 69 70 L	Signal Name	FLASHER OUTPUT (LEFT)	FLASHER OUTPUT (RIGHT)	GND (POWER)	BAT (E/I)
99 99	Color of Wire	G/B	G/Y	В	0///
_	Terminal No. Wire	09	19	29	70

Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	HAZARD SW	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	SB	G/Y	Y	G/B	۸	M/B	R/G	R/Y	٦	O/B	R/W	W/L	L	Ь
Terminal No.	2	3	4	2	9	59	32	33	34	32	36	38	39	40

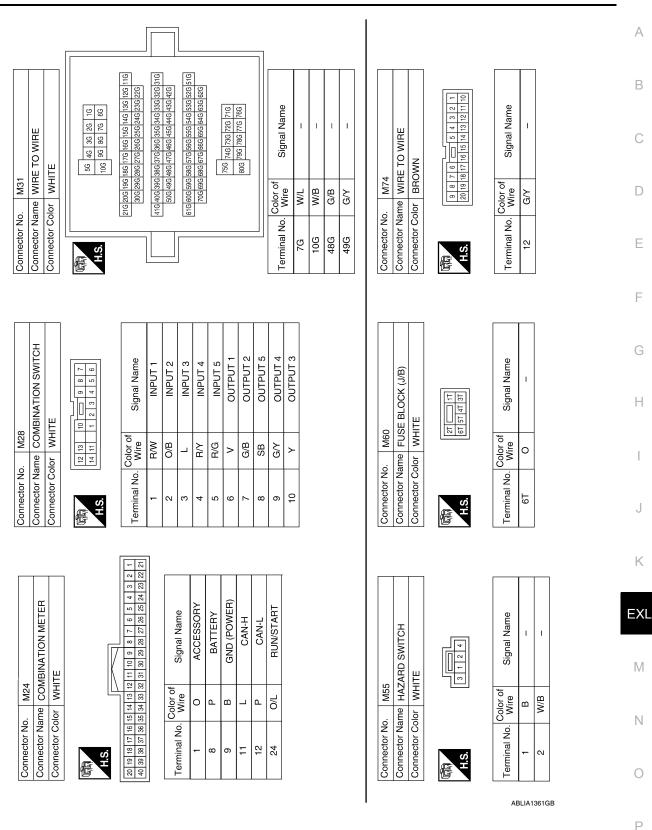
			8	40
]	П	19	39
		$\ \ $	18	38
		Ш	17	36 37
Q		$\ \ $	9	36
		$\ \ $	10 11 12 13 14 15 16 17 18 19	28 29 30 31 32 33 34 35
16			14	34
Ö][13	33
ᇈ	10	П	12	32
[윤백]	I I/		11	31
BCM (BOE MODULE) WHITE	I IN	ſ	우	30
당하는		V	6	29
m̃∑ ≤	_	٦[8	28
ح ا ج			7	27
a a		1[9	22 23 24 25 26 27
		Ш	വ	25
[용 [용		1[4	24
je je	Ś		က	23
Connector Name BCM (BODY CONTROL MODULE) Connector Color WHITE	E.S.		7	
O O	The state of the s		-	21
		_		

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M18

Connector No.

< COMPONENT DIAGNOSIS >



Revision: April 2009 EXL-75 2010 Armada

E6	FRONT COMBINATION LAMP LH (WITH DAYTIME LIGHT SYSTEM)	BLACK
Connector No.	Connector Name	Connector Color BLACK

Connector Name WIRE TO WIRE Connector Color WHITE

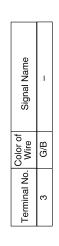
Connector Name WIRE TO WIRE Connector Color WHITE

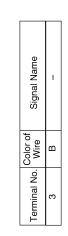
Connector No. M75

Connector No. M158

2 2 5	Signal Name	1	1
	Color of Wire	В	G/B
H.S.	erminal No. Wire	4	2







Connector No.	E107	
Connector Nan	FROI LAMF DAYT	Connector Name LAMP RH (WITHOUT DAYTIME LIGHT SYSTEM
Connector Color BLACK	r BLAC	X

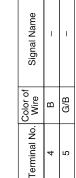
ı	G/Y	2
_	В	4
Signal Name	Color of Wire	Terminal No.
2 2 2	4	H.S.
CK	lor BLACK	Connector Color
LAMP RH (WITHOUT DAYTIME LIGHT SYS		Connector Name

Connector No.	Ñ		_	E34	4									
Connector Name WIRE TO WIRE	ž	Ĕ	(n)	₹	뿐	Į <u>Ē</u>	16	Į₹	닕					
Connector Color WHITE	ő	흥	 	∣₹	₩	ш								
			1											
1						لم	4							_
N THE	11	10	6	8	7	Ш	П	9	2	4	3	7	1	
SH	54	24 23 22 21 20 19 18 17 16 15 14 13	22	21	20	19	18	17	16	15	4	13	12	
		ı	ı	ı	ı	ı	ı	ı	ı	ı	ı		ı	_

Signal Name	ı	
Color of Wire	G/B	
Terminal No.	15	

Connector No.	E11
Connector Name	FRONT COMBINATION LAMP LH (WITHOUT DAYTIME LIGHT SYSTEM)
Connector Color	BLACK
原 H.S.	2 S S





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< COMPONENT DIAGNOSIS >

2 E TO WIRE	16 26 36 46 56 66 76 86 96 106 1	11G 32G 33G 34G 35G 36G 37G 38G 38G 44G 45G 46G 47G 48G 48G 56G 51G 51G	76G 77G 78G 73G 80G		1 1	1 1		REAR COMBINATION LAMP RH	X		Signal Name	ı	1	
o. E152 ame WIRE T	116 126 1:	31G 32G 3 42G 4 51G 52G 55 62G 66	Color of Wiro		M/B	Q√ Q√). B105		olor BLACK	4 6 9	Color of Wire	G/Y	В	
Connector No. E152 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.		Terminal No.	7.6	10G	49G	Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	4	9	
E TO WIRE	2 S - 4	Signal Name						WIRE TO WIRE	ш	1 2 3 4 5 6 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	Signal Name	ı		
ame WIRE T	3 7 6 2 4 1	Color of Wire G/Y					. B40		_	1 2 3 4 5 12 13 14 15 16	Color of Wire	G/B		
Connector No. E139 Connector Color WHITE	H.S.	Terminal No.					Connector No.	Connector Name		H.S.	Terminal No.	15		
Connector No. E108 FRONT COMBINATION Connector Name LAMP RH (WITH DAYTIME LIGHT SYSTEM)	X	Signal Name						REAR COMBINATION LAMP LH	CK		Signal Name	ı	ı	
E108 FRON ame LAMP LIGHT	BLAC	Color of Wire B					o. B35		olor BLACK	4 10 0	Color of Wire	G/B	В	
Connector No.	Connector Color	Terminal No.					Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	4	9	
							1				ABLIA	13630	GB	

Revision: April 2009 EXL-77 2010 Armada

< COMPONENT DIAGNOSIS >

E TO WIRE	1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0	Signal Name	1		
ne WIR or WHI	<u>- 8</u>	Solor of Wire	G/B		
Connector No. D3 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No. Wire	3		
E TO WIRE	2 3 4 5 6 7 10 11 12 13 14 15 16	Signal Name	ı		
D2 ne WIRE or WHI	8 9 10 1	Color of Wire	В		
Connector No. D2 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No.	14		
E TO WIRE		Signal Name	1		
B107 ne WIRE or WHIT	4 1 2 9	Solor of Wire	G/Y		
Connector No. B107 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No. Wire	2		

20	RE TO WIRE	BROWN	5 14 15 16 17 18 19 20	Signal Name	ı
). D102	ıme WIF	_	10 11 12 13 14 5 11 12 13 14	Color of Wire	G/Y
Connector No.	Connector Name WIRE TO WIRE	Connector Color	H.S.	Terminal No.	12

11	RE TO WIRE	ITE	7 8 9 10 10	Signal Name	_
). D101	ıme WIF	lor WHITE	1 C C C C C C C C C C C C C C C C C C C	Color of Wire	α
Connector No.	Connector Name WIRE TO WIRE	Connector Color	点 H.S.	Terminal No.	3
			•		

Connector Name		DOOR MIRROR LH (WITH AUTOMATIC DRIVE POSITIONER)
Connector Color	olor WHITE	ПТЕ
(内) H.S.	10 11 12 1 2 3	4 5 6 7 8 9
Terminal No.	Color of Wire	Signal Name
11	В	I
15	G/B	1

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Connector No. D4

< COMPONENT DIAGNOSIS >

D107	Connector Name (WITH AUTOMATIC DRIVE POSITIONER)	WHITE	
connector No.	onnector Name	connector Color WHITE	



Signal Name	-	I
Color of Wire	В	G/Y
Terminal No.	-	15

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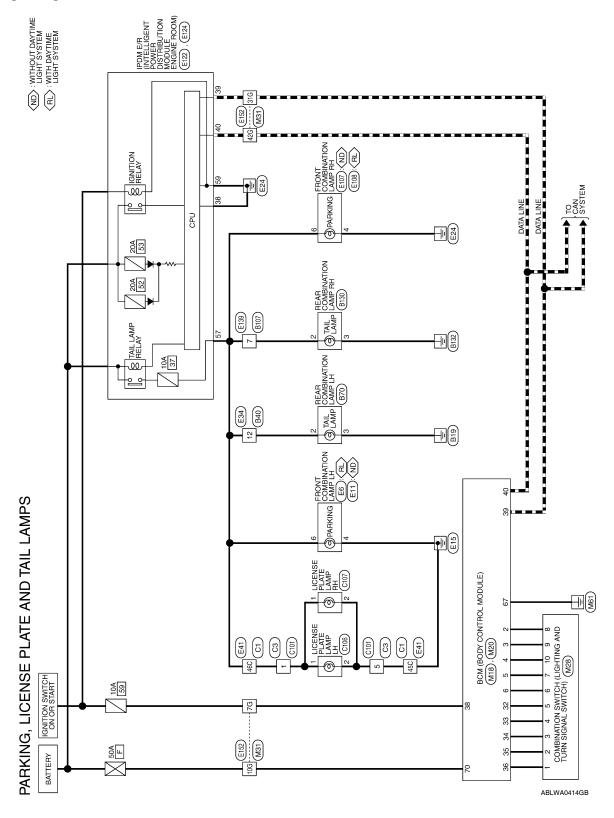
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Wiring Diagram



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< COMPONENT DIAGNOSIS >

Connector No. M18 Connector Name BCM (BODY CONTRO)		al No.	Color of Wire	Signal Name	Connector No. Connector Name	e	M20 BCM (BODY CONTROL MODULE)
MODULE) Connector Color WHITE		ν m	g/S	INPUT 4	Connector Color	$\overline{}$	OK OK
-		4	>	INPUT 3			
		5	G/B	INPUT 2	F	56 57 5	56 57 58 59 60 61 62 63 64 65 66 67 68 69 70
S. H		9	>	INPUT 1	H.S.	3	
	<u> </u>	32	B/G	OUTPUT 5			
		33	R/Y	OUTPUT 4			
3 4 5 6 7 8 9 10 11 12 13 14 15 16 23 24 25 26 27 28 29 30 31 32 33 34 35 36	34 35 36 37 38 39 40	34	Г	OUTPUT 3	Terminal No	Color of	Signal Name
		35	O/B	OUTPUT 2	2		
		36	B/W	OUTPUT 1	/9	מ ני	GND (POWER)
		38	M/L	IGN SW	0/	M/W	BAT (F/L)
		39	7	CAN-H			
		40	۵	CAN-L			
NOIT A INI ON OO	T	Connector Name		WIDE TO WIDE	reminal No.	Wire	olginal Name
-		Connector Name		I O WIRE	76	M/L	1
Connector Color WHIIE			MHII E	Ш	10G	M/B	1
					31G	7	1
		H.S.		56 46 36 26 16	42G	Д.	1
Color of Signal Name Wire			18618081861	21G 20G 19G 13G 17G 11G			
1 R/W INPUT 1			30G 29G	30G 29G 28G 27G 26G 25G 24G 23G 22G			
2 O/B INPUT 2			41G 40G 39G	416 406 396 386 376 366 356 346 336 326 316			
3 L INPUT3			50G 49G	50G 49G 48G 47G 46G 45G 44G 43G 42G			
4 R/Y INPUT 4			61G 60G 59G	61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G			
5 R/G INPUT 5			70G 69G	70G 69G 68G 67G 66G 65G 64G 63G 62G			
6 V OUTPUT 1				32			
7 G/B OUTPUT 2			·	746 736 726 716			
8 SB OUTPUT 5				806 199 199 199			
9 G/Y OUTPUT 4							

< COMPONENT DIAGNOSIS >



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13			
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15		lar	L
24 23 22 21 20 19 18 17 16 15 14 13 12		Signal Name	·
17		âuŝ	
18		S	
19			
20		u_	
21		e of	_
22		Nir	R/L
23		\ S	
24		ું	
		Color of Wire	١.,
SH	3	l in	12
€	1	e.	

Signal Name	I	
Color of Wire	B/L	
Terminal No.	12	

	FRONT COMBINATION Connector Name LAMP RH (WITH DAYTIME LIGHT SYSTEM)	X	\(\begin{array}{c} - \\ \qquad	Signal Name	-
E108	FRO ne LAM LIGF	or BLA		Color of Wire	В
Confinector INC.	Connector Nar	Connector Color BLACK	H.S.	Terminal No.	4





E11

Connector No.



Olginal Na	1	ı	
Wire	В	R/L	
2	4	9	

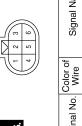


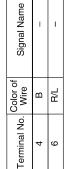
Signal Name	I	I
Color of Wire	В	R/L
Terminal No.	4	9

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E41	WIRE TO WIRE	GRAY	
Connector No.	Connector Name WIRE TO WIRE	Connector Color GRAY	

2C 3C 4C 5C	15C 16C 17C 18C 19C 20C 21C	25C 26C 27C 28C 29C 30C 31C	35C 36C 37C 38C 39C 40C 41C	C 45C 46C 47C	49C 50C 51C 52C
10 10 80 27 80	12C 13C 14C 15C 16C	22C 23C 24C 25C 26C	32C 33C 34C 35C 36C	42C 43C 44C	48C

Signal Name	-	_	
Color of Wire	В	R/L	
Terminal No.	45C	46C	

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< COMPONENT DIAGNOSIS >

So	Connector No.). E122	2		COLLINGTON NO.		+	1					
5	Connector Name	_	IPDM E/R (INTELLIGENT POWER DISTRIBITION		Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION		Connector Name	lame WIRE	WIRE TO WIRE		
5			DULE ENGINE ROOM)				DULE ENGINE ROOM		Connector Color WHITE	olor WHIT	ш		
Co	Connector Color	olor WHITE	ITE		Connector Color	-	BLACK				[-		
Œ					€	٥			H.S.	8 7 6 5 4	5 4		
T T	H.S.	42 41	42 41 40 39 38 37 48 47 46 45 44 43		H.S.		59 58 57 62 61 60						
				Γ		1		Г	Terminal No.	Color of Wire	Signal Name	0	
Te	Terminal No.	Wire	Signal Name		Terminal No.	. Wire	Signal Name		7	R/L	ı		
	38	В	GND (SIGNAL)		22	B/L	TAIL LAMP						
	39	_	CAN-H		29	В	GND (POWER)	<u> </u>					
	40	Ъ	CAN-L										
	Connector No.). E152				Color of			Connector No.	0.			
Ċ	inector Na	idiwi emi	Connector Name WIDE TO WIDE		Terminal No.		Signal Name		Connector Name WIBE TO WIBE	ame WIBE	TO WIBE		
ြင်	Connector Color	olor WHITE	TE TE		5/2	Γ/M	1		Connector Color	Color GRAY	7 .		
			1	_ [10G	M/B	-			- 1			
E					31G	_	I						
	y I	<u> </u>	δ 5		42G	Ь	-		S I	25	4C 3C 2C		
			90							110 100 90	80 70	၁၉၂၂	
		116 126 136	116 126 136 146 156 166 176 186 196 206 216							21C 20C 19C 18	21C 20C 19C 18C 17C 16C 15C 14C 13C 12C	13C 12C	
	_	226 236	22G 23G 24G 25G 26G 27G 28G 29G 30G							310 300 290 280 270	C 27C 26C 25C 24C 23C 22C	23C 22C	
		316 326 336	316 326 336 346 356 366 376 386 396 406 416	16						41C 40C 39C 38	41C 40C 39C 38C 37C 36C 35C 34C 33C 32C	33C 32C	
_		DC+ DZ+	DOC							47C 46C 45C	44C 43	44C 43C 42C	
		51G 52G 53G 62G 63G	51G 52G 53G 54G 55G 56G 57G 58G 59G 60G 61G 62G 63G 64G 65G 66G 67G 68G 69G 70G	<u>a</u>						52C	510 500 490	48C	
									"				
		115	71G 72G 73G 74G 75G 76G 77G 78G 79G 80G						Terminal No.	Color of Wire	Signal Name	Φ.	
									45C	В	1		
									46C	R/L	1		
0	1.4	Ν	EXI	K	J	I	G H	F	Е	D	С	В	Α

Revision: April 2009 EXL-83 2010 Armada

Connector No. C106 Connector Name LICENSE PLATE LAMP LH Connector Color GRAY		Signal Name	1	1	
C106 or GRA		Color of Wire	R/L	В	
Connector No. C106 Connector Name LICEN Connector Color GRAY	H.S.	Terminal No. Wire	-	2	
					1
E TO WIRE	0 0 L	Signal Name	1	ı	
C101 ne WIRE or GRA	0 0 0	Color of Wire	R/L	В	
Connector No. C101 Connector Name WIRE TO WIRE Connector Color GRAY	E H.S.	Terminal No. Wire	-	2	
TO WIRE	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Signal Name	1	1	
C3 ne WIRE or GRAY	4 8	Color of Wire	R/L	В	
Connector No. C3 Connector Name WIRE TO WIRE Connector Color GRAY	EH.S.	Terminal No. Wire	-	2	

	REAR COMBINATION LAMP LH	BLACK	[Signal Name	ı	ı
. B70				Color of Wire	R/L	В
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	2	8
						•

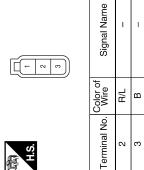
	WIRE TO WIRE	빝	16 17 18 19 20 21 22 23 24	Signal Name	1
. B40		lor WHITE	1 2 3 4 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Color of Wire	R/L
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	12

70	LICENSE PLATE LAMP RH	AY		Signal Name	_	-
C107	OIT eur	lor GRAY		Color of Wire	B/L	<u>س</u>
Connector No.	Connector Name	Connector Color	献 H.S.	Terminal No. Wire	-	٥

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< COMPONENT DIAGNOSIS >

Connector No. B130 Connector Name REAR COMBINATION LAMP RH Connector Color BLACK		
Connector Name REAR COMBINAT LAMP RH Connector Color BLACK		
Connector Color BLACK	nector Name REAR COMBIN	ATION
	nector Color BLACK	



ctor No. B107	ctor Name WIRE TO WIRE	ctor Color WHITE	4 2 4 5 6 7 8 8 8 8 8 8 8 8 8	al No. Wire Signal Name	B/L –
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	7

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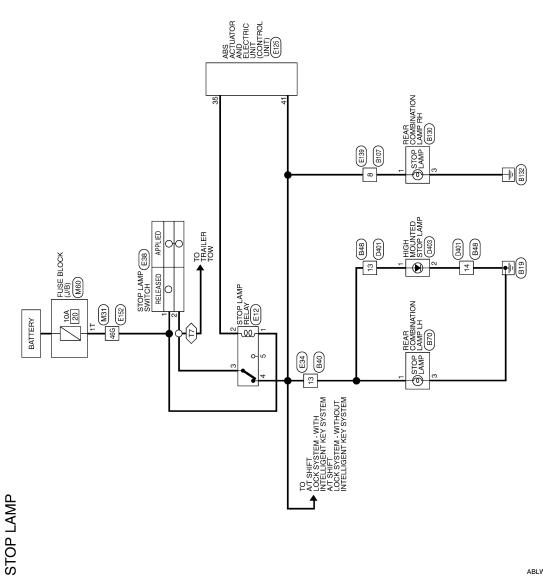
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STOP LAMP

Wiring Diagram

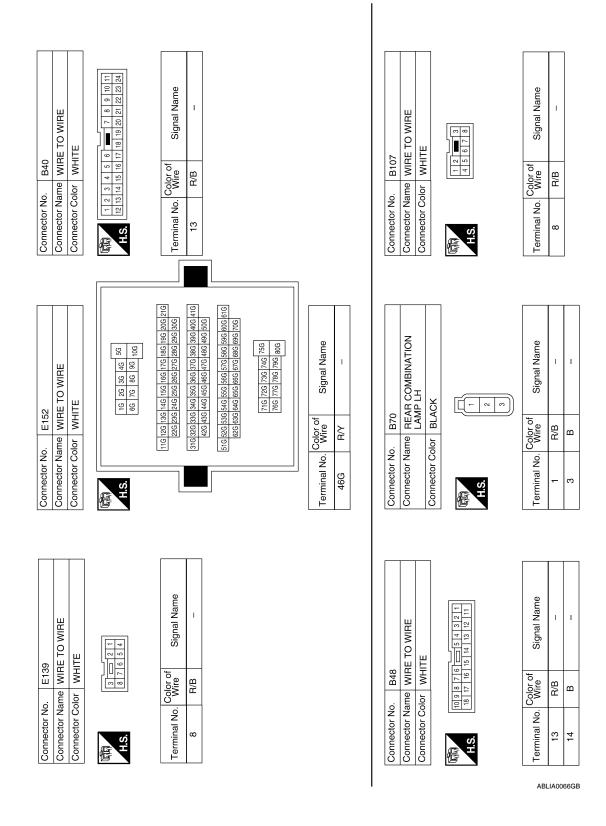
(T7): TRAILER TOW 7 PIN



ABLWA0444GB

Connector No. E12 Connector Name STOP LAMP RELAY	Connector No. E125 Connector Name	A B C D
Connector No. M60 Connector Name FUSE BLOCK (J/B) Connector Color WHITE Terminal No. Wire Signal Name 1T R/V -	Connector No. E38	G H J
Connector Name WIRE TO WIRE	R/Y R/Y R/Y R/Y R/Y R/B Color of Wire R/B R/B	K EXL M N

Revision: April 2009 EXL-87 2010 Armada

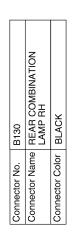


Connector Name HIGH MOUNTED STOP LAMP Connector Color GRAY	me HIGH MOUNTED STOP LAMP
Connector Color GRAY	
	or GRAY

Signal Name	-	
Color of Wire	B/B	а
Terminal No. Wire	Ļ	c

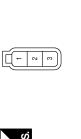
GRAY	2
Connector Color	H.S.

Signal Name	I	_	
Color of Wire	B/B	В	
Terminal No.	13	14	



Connector No. D401
Connector Name WIRE TO WIRE

Connector Color WHITE



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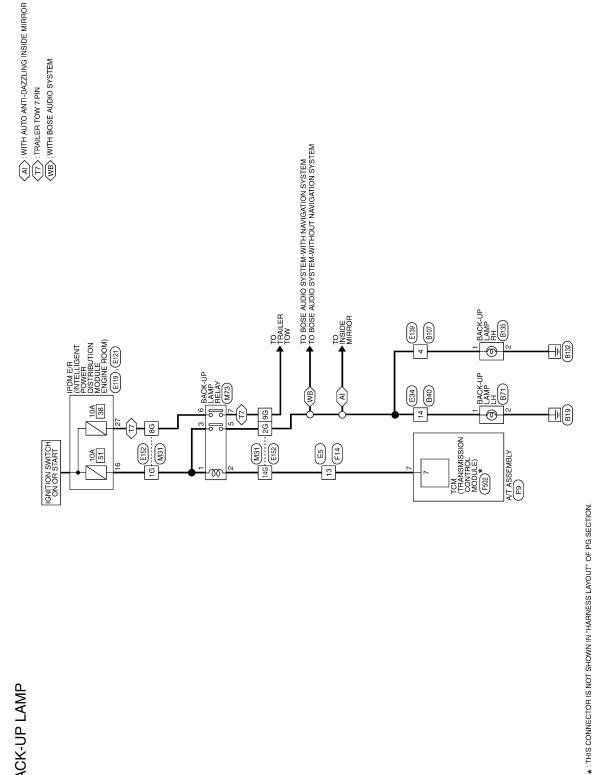
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BACK-UP LAMP

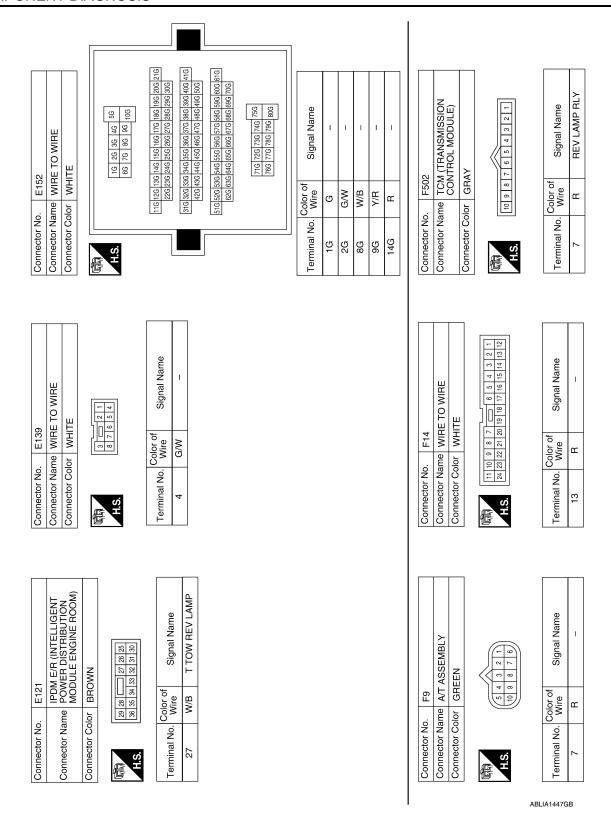
Wiring Diagram INFOID:0000000004918305



BACK-UP LAMP

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		RELAY						ame								LLIGENT SUTION E ROOM)		⋒	Vame	ELAMP		В
	6	BACK-UP LAMP RELAY				9		Signal Name	ı	I	1	ı	1		6	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	WHITE	9 8 7 6 5 4 3 18 17 16 15 14 13 12 11 10	Signal Name	REVERSE LAMP		С
			-	Ľ	"			Color of Wire	ŋ	æ	ŋ	G/W	Y/R		o. E119			9 8 7 18 16	Color of Wire	ŋ		D
	Connector No.	Connector Name				ó.		Terminal No.	-	2	3	വ	0		Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	16		Е
																						F
	Signal Name	ı	1	ı	-	1											4 3 2 1	18 17 16 15 14 13 12	Signal Name			G
	Signal															WIRE TO WIRE WHITE		19 18 17 16	Signal			Н
	Color of Wire	5	G/W	M/B	Y/R	œ). E34	-	10 9 8 7 6 5	23 22 21 20	Color of Wire	G/W		I
	Terminal No.	16	2G	8G	96	14G		_							Connector No.	Connector Name		ا ک	Terminal No.	14		J
				ſ]								K
BACK-UP LAMP CONNECTORS		TO WIRE			56 46 36 26 16	10G 9G 8G 7G 6G	RG 17G 16G 15G 14G 13G 12G 11G	30G 29G 28G 27G 26G 25G 24G 23G 22G	416 406 396 386 376 366 356 346 336 326 316	486 476 496 436 446 436 426	61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G 70G 69G 68G 67G 68G 65G 64G 63G 63G		/56 74G 73G 72G 71G			TO WIRE	6 7 8 9 10 11	19 20 21 22	Signal Name	1		EXL
MP CO	M31	ne WIRE	MHIII				21G 20G 19G 1	30G 29G	41G 40G 39G	30G 48G	61G 60G 59G t				E2	ne WIRE T or WHITE	2 3 4 5 6	14 15	Color of Wire	æ		b.1
K-UP LAN	Connector No.	Connector Name WIRE TO WIRE				6									Connector No.	Connector Name WIRE TO WIRE Connector Color WHITE		H.S.	Terminal No.	13		N O
BAC						_									I					A00680	ЭВ	
																						Р



BT1 Connector Name WIRE TO		Name	
BACK-UP LAMP LH BLACK ire Signal Name	Connector Name WIRE TO WIRE Connector Color WHITE The state of the st	Color of Signal G/W	
	9 5	al No. Color of G/Wire B	

2	Connector Name BACK-UP LAMP RH	BLACK		Signal Name	1	ı
	me BA	_		Color of Wire	G/W	В
	Connector Na	Connector Color	原 H.S.	Terminal No.	-	2

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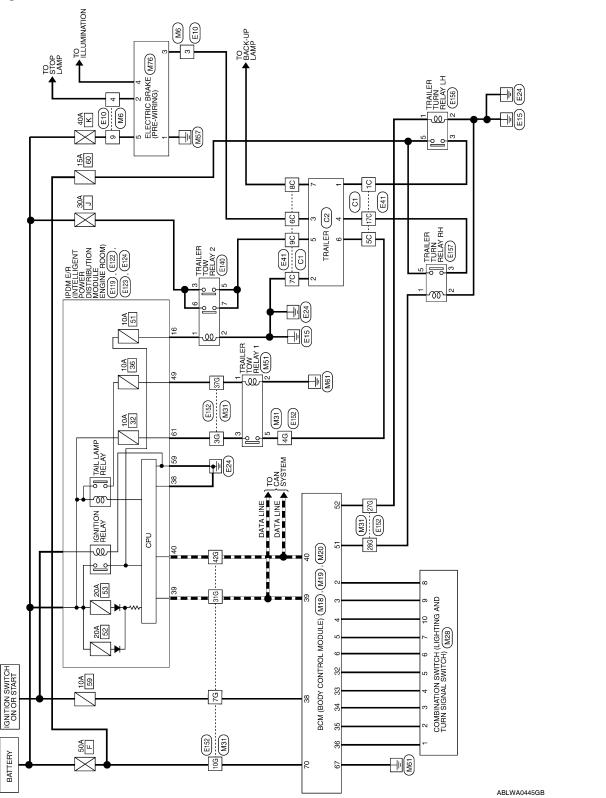
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TRAILER TOW

Wiring Diagram

TRAILER TOW

BATTERY



Signal Name

Color of Wire

Terminal No.

SB

INPUT 4

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INPUT 3

INPUT 2

G/B

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TRAILER TOW CONNECTORS

Ne	NO	WIRE TO WIRE	WHITE	
oly rotogaco	COLLIDOR NO.	Connector Name WIRE TO WIRE	Connector Color WHITE	

7 6 5 1	Signal Name	ı	-	1
0 0 8 8 8	Color of Wire	BR/W	R/G	а
H.S.	Terminal No.	င	4	0

			. [19 20 39 40	
M18	BCM (BODY CONTROL MODULE)	WHITE		10 11 12 13 14 15 16 17 18 30 31 32 33 34 35 36 37 38	
Connector No.	Connector Name	Connector Color	H.S.	1 2 3 4 5 6 7 8 9 21 22 23 24 25 26 27 28 29	

OUTPUT 3 OUTPUT 2

OUTPUT 1

R/W

O/B

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W/L

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IGN SW CAN-H CAN-L

OUTPUT 4

OUTPUT 5

R/G

INPUT 1

35 33 32 35

	M28	Connector Name COMBINATION SWITCH	WHITE
	Connector No. M28	Connector Name	Connector Color WHITE
	Connector No. M20	Connector Name BCM (BODY CONTROL	MODULE)
	Conne	Conne	
	M19	BCM (BODY CONTROL	
	nector No.	nector Name BCM (BODY	

Connector Name BCM (BODY CONTROL MODULE)	4CK	100 100	Signal Name	GND (POWER)	BAT (F/L)
ame BCI MO	olor BLACK	56 57 58 59 6 65 66 67	Color of Wire	В	M/B
Connector Na	Connector Color	H.S.	Terminal No.	29	02

Signal Name

Terminal No. Wire

INPUT 2

0/B

0 0

INPUT 1

B/W

INPUT 3

	BCM (BODY CONTROL MODULE)	WHITE	41 42 43 44 45 46 47 48 49 49 49 49 49 49 49	Signal Name	TRAILER FLASH OUTPUT (RIGHT)	TRAILER FLASH OUTPUT (LEFT)
. M19			50 51	Color of Wire	Ç√	G/B
Connector No.	Connector Name	Connector Color	原 用.S.	Terminal No.	51	52

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OUTPUT 3

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OUTPUT 2

G/B

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OUTPUT 1

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OUTPUT 5 OUTPUT 4

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INPUT 5

B/G

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INPUT 4

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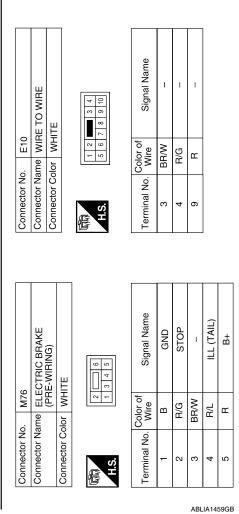
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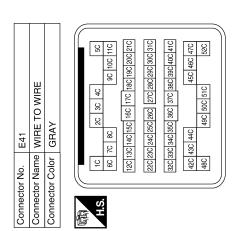
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Connector No.). E119	6
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	olor WHITE	TE TE
H.S.	9 8 7 6 17 16 15	9 8 7 6 5 4 3 18 17 16 15 14 13 12 11 10
Terminal No.	Color of Wire	Signal Name
16	ŋ	REVERSE LAMP

Signal Name	1	ı	1	1	1	ı	1
Color of Wire	G/B	Œ	BR/W	В	Y/R	M/L	A//B
Terminal No. Wire	1	2C	90	2/	28	36	17C



Connector No.	o. E124	14
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color		BLACK
用.S.	62 83	188 57
Terminal No.	Color of Wire	Signal Name
59	В	GND (POWER)
61	BB.	TRAILER BIY SUPPLY

COLINECTOR INC.		E123	ກ
Sonnector Name	ıme	PON MOI	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROON
Connector Color	jo	BR(BROWN
H.S.		51 56 55	51 CT 50 49 50 55 54 53 52 54
Ferminal No.	Color of Wire	r of re	Signal Name
49	22	R/L	ILLUMINATION

ΟI	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	믵	47 46 45 44 43	Signal Name	GND (SIGNAL)	CAN-H	LINVO
E122		or WHITE	48 47 4	Color of Wire	В	_	۵
Connector No.	Connector Name	Connector Color	所 H.S.	Terminal No.	38	39	40

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Color of Signal Name	BR –	ı		W/B –	G/B –	Y/B	- -	R/L –	- П												
Terminal No. V	36	4G	7.6	10G V	27G	28G		37G	42G												
Connector No. E152 Connector Name WIRE TO WIRE	Connector Color WHITE	_		16 26 36 46 56	98 92 99]	116 126 136 146 156 166 176 186 196 206 216	22G 23G 24G 25G 26G 27G 28G 29G 30G	316 226 336 346 356 366 370 386 306 416	42G 43G 44G 49G 46G 48G 49G 90G	51G 52G 53G 54G 55G 56G 57G 58G 59G 60G 61G		716 726 736 746	Connector No. E157	Connector Name TRAILER TURN RELAY RH Connector Color BLUE	H.S.	Terminal No. Color of Signal Name	1 Y/B –	2 B -	3 Y/B –	2
Connector No. E140 Connector Name TBAII FR TOW RFLAY 2			Œ		<u></u>		Signal Name	ı	1	ı	1	ı	1		TRAILER TURN RELAY LH BLUE		Signal Name	ı	ı	1	ı
No. E140 Name TBAII	Color BBOWN	-	권		9	-	Color of O. Wire	5	5 @	>	M/L	>	M/L	No. E156	Name TRAIL		Color of Wire	G/B	В	G/B	7
Connector No.	Connector Color			V.	1		Terminal No.	-	. ~	က	5	9	7	Connector No.	Connector Name Connector Color	H.S.	Terminal No.	-	2	3	5

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C2	TRAILER	BLACK	
Connector No.	Connector Name TRAILER	Connector Color	



Signal Name	ı	I	-	ı	ı	I	-
Color of Wire	G/B	В	BR/W	Y/B	M/L	В	Y/R
Terminal No.	1	2	3	4	5	9	7

Signal Name

Terminal No. Wire

G/B

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BR/W

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Y/R Y/B



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Connector Name WIRE TO WIRE Connector Color GRAY

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Connector No.

< ECU DIAGNOSIS >

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

AIR COND SW	Monitor Item	Condition	Value/Status
AC switch ON Outside of the room is dark OFF Outside of the room is bright ON AUTO LIGHT SW Lighting switch OFF Lighting switch AUTO ON BACK DOOR SW Back door closed Back door opened ON CARGO LAMP SW Cargo lamp switch OFF Cargo lamp switch OFF Cargo lamp switch OFF Cargo lamp switch ON ON Door lock/unlock switch to the LOCK side ON Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Front door RH closed OFF Front door RH opened ON DOOR SW-RR Rear door LH opened ON DOOR SW-RR Rear door LH opened ON Rear door RH closed OFF Rear door LH opened ON DOOR SW-RR Rear door RH closed OFF Rear door LH opened ON DOOR SW-RR Rear door LH opened ON Rear door RH closed OFF Front door RH closed OFF Rear door LH opened ON DOOR SW-RR Rear door LH opened ON Rear door RH closed OFF Rear door LH opened ON Pront door RH closed OFF Rear door LH opened ON ON ON PRESS Rear door RH closed OFF Rear door LH opened ON ON ON PRESS Rear door RH closed OFF Rear door RH opened ON ON ON PRESS Rear door RH closed OFF Front with opened ON ON PRESS Rear door RH closed OFF Rear door RH opened ON ON ON PRESS Rear door RH closed OFF Front washer switch OFF Front tog lamp switch OFF Front fog lamp switch OFF Front washer switch ON ON PROVINGEN Switch OFF Front washer switch OFF Front wiper switch OFF Front wip	AID COND SW	A/C switch OFF	OFF
AUTO LIGHT SYS Outside of the room is bright ON AUTO LIGHT SW Lighting switch OFF OFF Lighting switch OFF OFF Lighting switch OFF ON Back door closed OFF Back door closed OFF CARGO LAMP SW Cargo lamp switch OFF OFF CDL LOCK SW Door lock/unlock switch does not operate OFF CDL LOCK SW Door lock/unlock switch does not operate OFF CDL UNLOCK SW Press door lock/unlock switch to the LOCK side ON DOOR SW-AS Front door RH closed OFF Press door lock/unlock switch to the UNLOCK side ON DOOR SW-DR Front door RH closed OFF Front door RH closed OFF Front door LH opened ON DOOR SW-RL Rear door LH opened ON DOOR SW-RR Rear door RH closed OFF Rear door RH closed OFF DOOR SW-RR Rear door RH opened ON Engline stopped OFF Engline stopped OFF	AIR COND SW	A/C switch ON	ON
AUTO LIGHT SW	ALIT LICHT EVE	Outside of the room is dark	OFF
AUTO LIGHT SW	AUI LIGHT 515	Outside of the room is bright	ON
Lighting switch AUTO	ALITO LIQUIT CVA	Lighting switch OFF	OFF
Back door opened	AUTO LIGHT SW	Lighting switch AUTO	ON
Back door opened ON CARGO LAMP SW Cargo lamp switch OFF OFF CDL LOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the LOCK side ON CDL UNLOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Front door RH closed OFF Front door RH opened ON DOOR SW-DR Front door LH closed OFF Front door LH closed OFF Rear door LH closed OFF Rear door LH opened ON DOOR SW-RL Rear door RH closed OFF Rear door RH opened ON Engine stopped OFF Engine stopped OFF Engine stopped OFF Engine running ON FR FOG SW Front fog lamp switch OFF OFF Front waper switch OFF OFF Front waper switch OFF OFF Front wiper switch OFF OFF Front wiper switch OFF <t< td=""><td>DACK DOOD CW</td><td>Back door closed</td><td>OFF</td></t<>	DACK DOOD CW	Back door closed	OFF
CARGO LAMP SW Cargo lamp switch ON ON CDL LOCK SW Door lock/unlock switch does not operate OFF CDL UNLOCK SW Press door lock/unlock switch to the LOCK side ON CDL UNLOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Front door RH closed OFF Front door RH opened ON DOOR SW-DR Front door LH olosed OFF Front door LH opened ON DOOR SW-RR Rear door LH closed OFF Rear door RH closed OFF Rear door RH opened ON ENGINE RUN Engine stopped OFF Engine stopped OFF Engine running ON FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch OFF OFF Front washer switch OFF OFF Front washer switch OF OFF Front wiper switch OFF OFF Front wiper switch OFF OFF Front wiper switch OFF <td< td=""><td>BACK DOOK SW</td><td>Back door opened</td><td>ON</td></td<>	BACK DOOK SW	Back door opened	ON
CDL LOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch does not operate OFF CDL UNLOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch does not operate OFF Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Front door RH closed OFF Front door RH closed OFF Front door LH closed OFF DOOR SW-DR Rear door LH opened ON DOOR SW-RR Rear door LH opened OFF Rear door LH opened ON OFF Bear door RH closed OFF OFF Rear door RH opened ON ON Engine stopped OFF OFF Engine stopped OFF OFF Engine stopped OFF OFF Front fog lamp switch OFF OFF Front fog lamp switch OFF OFF Front washer switch OFF OFF Front wiper switch OFF OFF Front wiper switch OFF OFF Front	CARCO LAMB OW	Cargo lamp switch OFF	OFF
CDL LOCK SW Press door lock/unlock switch to the LOCK side ON CDL UNLOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Front door RH closed OFF DOOR SW-DR Front door LH closed OFF DOOR SW-DR Front door LH closed OFF DOOR SW-RL Rear door LH closed OFF Rear door LH closed OFF DOOR SW-RR Rear door RH opened ON ENGINE RUN Engine stopped OFF Engine stopped OFF Engine running ON FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch OFF OFF Front washer switch OFF OFF Front washer switch OFF OFF Front wiper switch OFF OFF </td <td>CARGO LAMP SW</td> <td>Cargo lamp switch ON</td> <td>ON</td>	CARGO LAMP SW	Cargo lamp switch ON	ON
Press door lock/unlock switch to the LOCK side ON Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Front door RH closed OFF Front door LH closed OFF DOOR SW-DR Front door LH closed OFF DOOR SW-RL Rear door LH closed OFF DOOR SW-RR Rear door RH closed OFF DOOR SW-RR Rear door RH closed OFF Front wiper switch OFF OFF Front fog lamp switch OFF OFF Front og lamp switch OFF OFF Front washer switch OFF OFF Front wiper switch OFF OFF Front wiper switch OFF OFF Front wip		Door lock/unlock switch does not operate	OFF
CDL UNLOCK SW Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Front door RH closed OFF Front door RH opened ON OFF DOOR SW-DR Front door LH closed OFF DOOR SW-RL Rear door LH closed OFF Rear door LH opened ON ON DOOR SW-RR Rear door RH closed OFF Rear door RH opened ON ON ENGINE RUN Engine stopped OFF Engine stopped OFF OFF FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch OFF OFF Front washer switch OFF OFF Front washer switch OFF OFF Front wiper switch OFF OFF	CDL LOCK SW	Press door lock/unlock switch to the LOCK side	ON
Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Front door RH closed OFF Front door RH opened ON DOOR SW-DR Front door LH closed OFF BOOR SW-RL Rear door LH opened ON BOOR SW-RR Rear door RH closed OFF Rear door RH opened ON ON ENGINE RUN Engine stopped OFF Engine running ON ON FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch ON ON ON FR WASHER SW Front washer switch OFF OFF Front wiper switch OFF OFF OFF Fro		Door lock/unlock switch does not operate	OFF
DOOR SW-AS Front door RH opened ON DOOR SW-DR Front door LH closed OFF Front door LH opened ON ON DOOR SW-RL Rear door LH closed OFF Rear door RH closed OFF Rear door RH closed ON Rear door RH opened ON ENGINE RUN Engine stopped OFF Engine running ON FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch ON ON FR WASHER SW Front washer switch OFF OFF Front washer switch OFF OFF Front wiper switch OFF	CDL UNLOCK SW	Press door lock/unlock switch to the UNLOCK side	ON
Front door RH opened	DOOD OW 40	Front door RH closed	OFF
DOOR SW-DR Front door LH opened ON DOOR SW-RL Rear door LH closed OFF Rear door LH opened ON DOOR SW-RR Rear door RH closed OFF Rear door RH opened ON Engine stopped OFF Engine stopped OFF Engine running ON FR FOG SW Front fog lamp switch OFF OFF Front washer switch ON ON FR WASHER SW Front washer switch OFF OFF Front wiper switch OFF OFF F	DOOR SW-AS	Front door RH opened	ON
Front door LH opened		Front door LH closed	OFF
DOOR SW-RL Rear door LH opened ON DOOR SW-RR Rear door RH closed OFF Rear door RH opened ON ENGINE RUN Engine stopped OFF Engine running ON FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch ON ON FR WASHER SW Front washer switch OFF OFF Front washer switch ON ON FR WIPER LOW Front wiper switch OFF OFF Front wiper switch INT ON Any position other than front wiper stop position OFF Front wiper stop position ON When hazard switch is not pressed OFF	DOOR SW-DR	Front door LH opened	ON
Rear door LH opened		Rear door LH closed	OFF
DOOR SW-RR Rear door RH opened ON ENGINE RUN Engine stopped OFF Engine running ON FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch ON ON FR WASHER SW Front washer switch OFF OFF Front wiper switch OFF OFF Front wiper switch OFF OFF Front wiper switch OFF OFF FR WIPER HI Front wiper switch OFF OFF FR WIPER INT Front wiper switch OFF OFF Front wiper switch INT ON Any position other than front wiper stop position OFF Front wiper stop position ON When hazard switch is not pressed OFF	DOOR SW-RL	Rear door LH opened	ON
Rear door RH opened		Rear door RH closed	OFF
ENGINE RUN Engine running ON FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch ON ON FR WASHER SW Front washer switch OFF OFF Front washer switch ON ON FR WIPER LOW Front wiper switch OFF OFF Front wiper switch LO ON FR WIPER HI Front wiper switch OFF OFF Front wiper switch HI ON FR WIPER INT Front wiper switch INT ON FR WIPER STOP Any position other than front wiper stop position OFF Front wiper stop position ON When hazard switch is not pressed OFF	DOOR SW-RR	Rear door RH opened	ON
Engine running	ENOINE DUN	Engine stopped	OFF
FR FOG SW Front fog lamp switch ON ON FR WASHER SW Front washer switch OFF OFF Front washer switch ON ON FR WIPER LOW Front wiper switch OFF OFF Front wiper switch LO ON ON FR WIPER HI Front wiper switch OFF OFF Front wiper switch OFF OFF OFF Front wiper switch OFF OFF OFF Front wiper switch INT ON ON FR WIPER STOP Any position other than front wiper stop position OFF HAZARD SW When hazard switch is not pressed OFF	ENGINE RUN	Engine running	ON
Front fog lamp switch ON	ED EOO 0W/	Front fog lamp switch OFF	OFF
FR WASHER SW Front washer switch ON FR WIPER LOW Front wiper switch OFF Front wiper switch LO ON FR WIPER HI Front wiper switch OFF Front wiper switch HI ON FR WIPER INT Front wiper switch OFF Front wiper switch OFF Front wiper switch INT ON Any position other than front wiper stop position FR WIPER STOP HAZARD SW When hazard switch is not pressed OFF OFF OFF OFF OFF OFF OFF OFF OFF	FR FOG SW	Front fog lamp switch ON	ON
Front washer switch ON FR WIPER LOW Front wiper switch OFF Front wiper switch LO ON Front wiper switch OFF Front wiper switch OFF Front wiper switch HI ON FR WIPER INT Front wiper switch OFF Front wiper switch OFF Front wiper switch INT ON Any position other than front wiper stop position FR WIPER STOP Any position ON When hazard switch is not pressed OFF	ED MACHED CM	Front washer switch OFF	OFF
FR WIPER LOW Front wiper switch LO ON FR WIPER HI Front wiper switch OFF Front wiper switch HI ON FR WIPER INT Front wiper switch OFF Front wiper switch INT ON Any position other than front wiper stop position FR WIPER STOP HAZARD SW Front wiper switch IS not pressed OFF OFF OFF OFF Front wiper stop position ON ON OFF	FR WASHER SW	Front washer switch ON	ON
Front wiper switch LO FR WIPER HI Front wiper switch OFF Front wiper switch HI ON FR WIPER INT Front wiper switch OFF Front wiper switch INT ON Any position other than front wiper stop position FR WIPER STOP Any position ON When hazard switch is not pressed When hazard switch is not pressed OFF	ED MIDED I OM	Front wiper switch OFF	OFF
FR WIPER INT Front wiper switch HI Front wiper switch OFF Front wiper switch INT ON Any position other than front wiper stop position FR WIPER STOP Any position OFF Front wiper stop position ON When hazard switch is not pressed OFF	FR WIPER LOW	Front wiper switch LO	ON
Front wiper switch HI ON FR WIPER INT Front wiper switch OFF Front wiper switch INT ON Any position other than front wiper stop position Front wiper stop position ON When hazard switch is not pressed OFF	ED WIDED III	Front wiper switch OFF	OFF
FR WIPER INT Front wiper switch INT ON Any position other than front wiper stop position Front wiper stop position ON When hazard switch is not pressed OFF	FR WIPER HI	Front wiper switch HI	ON
Front wiper switch INT ON Any position other than front wiper stop position OFF Front wiper stop position ON When hazard switch is not pressed OFF	ED MUDED INT	Front wiper switch OFF	OFF
FR WIPER STOP Front wiper stop position ON When hazard switch is not pressed OFF	FR WIPER INT	Front wiper switch INT	ON
Front wiper stop position ON When hazard switch is not pressed OFF	ED WIDED OTOD	Any position other than front wiper stop position	OFF
HAZARD SW	FR WIPER STOP	Front wiper stop position	ON
When hazard switch is pressed ON	114.74.DD 0'*'	When hazard switch is not pressed	OFF
	HAZARD SW	When hazard switch is pressed	ON

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
LIGHT SW 1ST	Lighting switch OFF	OFF
IGHT SW 131	Lighting switch 1st	ON
HEAD LAMP SW1	Headlamp switch OFF	OFF
TEAD LAIMP SWI	Headlamp switch 1st	ON
HEAD LAMP SW2	Headlamp switch OFF	OFF
HEAD LAIVIP SWZ	Headlamp switch 1st	ON
	High beam switch OFF	OFF
HI BEAM SW	High beam switch HI	ON
ICNI ONI CIMI	Ignition switch OFF or ACC	OFF
GN ON SW	Ignition switch ON	ON
	Ignition switch OFF or ACC	OFF
GN SW CAN	Ignition switch ON	ON
NT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
	LOCK button of Intelligent Key is not pressed	OFF
-KEY LOCK ¹	LOCK button of Intelligent Key is pressed	ON
	UNLOCK button of Intelligent Key is not pressed	OFF
-KEY UNLOCK ¹	UNLOCK button of Intelligent Key is pressed	ON
	Door key cylinder LOCK position	ON
KEY CYL LK-SW	Door key cylinder other than LOCK position	OF
	Door key cylinder UNLOCK position	ON
KEY CYL UN-SW	Door key cylinder other than UNLOCK position	ON
	Mechanical key is removed from key cylinder	OFF
KEY ON SW	Mechanical key is inserted to key cylinder	ON
	LOCK button of key fob is not pressed	OFF
KEYLESS LOCK ²	LOCK button of key fob is pressed	ON
	UNLOCK button of key fob is not pressed	OFF
KEYLESS UNLOCK ²	UNLOCK button of key fob is pressed	ON
OIL PRESS SW	Ignition switch OFF or ACC Engine running	OFF
	Ignition switch ON	ON
	Bright outside of the vehicle	Close to 5V
OPTICAL SENSOR	Dark outside of the vehicle	Close to 0V
	Other than lighting switch PASS	OFF
PASSING SW	Lighting switch PASS	ON
	Return to ignition switch to LOCK position	OFF
PUSH SW ¹	Press ignition switch	ON
	Rear window defogger switch OFF	OFF
REAR DEF SW	Rear window defogger switch ON	ON
	LOCK/UNLOCK buttons of key fob not pressed at same time	OFF
RKE LCK-UNLCK	LOCK/UNLOCK buttons of key fob pressed at same time	ON
	UNLOCK button of key fob is not pressed	OFF
RKE KEEP UNLK	UNLOCK button of key fob is pressed	ON
	Rear washer switch OFF	OFF
RR WASHER SW	Treat waster switch of t	OI I

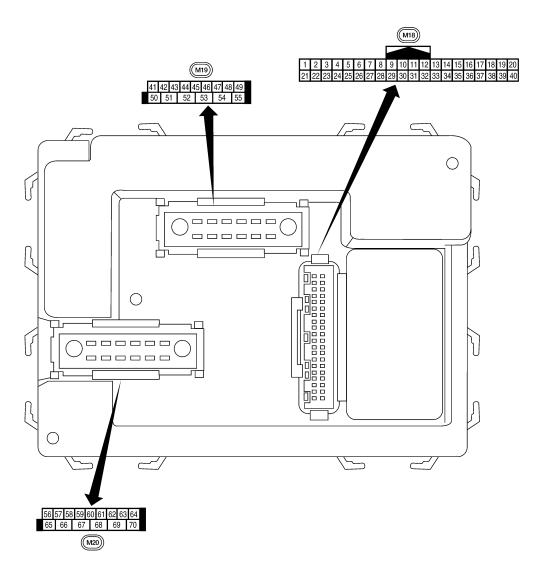
EXL-101 Revision: April 2009 2010 Armada

Monitor Item	Condition	Value/Status
RR WIPER INT	Rear wiper switch OFF	OFF
RR WIPER IN	Rear wiper switch INT	ON
RR WIPER ON	Rear wiper switch OFF	OFF
RR WIFER ON	Rear wiper switch ON	ON
RR WIPER STOP	Rear wiper stop position	OFF
RR WIPER STOP	Other than rear wiper stop position	ON
RR WIPER STP2	Rear wiper stop position	OFF
RR WIPER 51P2	Other than rear wiper stop position	ON
TRNK OPNR SW	When back door opener switch is not pressed	OFF
TRINK OPINK SW	When back door opener switch is pressed	ON
TURN SIGNAL L	Turn signal switch OFF	OFF
TURN SIGNAL L	Turn signal switch LH	ON
TURN SIGNAL R	Turn signal switch OFF	OFF
I UKIN SIGNAL K	Turn signal switch RH	ON
VEHICLE SPEED	While driving	Equivalent to speedometer reading

^{1:} With Intelligent Key

^{2:} With remote keyless entry system

Terminal Layout



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Physical Values

			Cianal		Measuring condition	
Terminal	Wire color	Signal name	Signal input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
4	BR/W	Ignition keyhole illumi-	Outrout	OFF	Door is locked (SW OFF)	Battery voltage
1	BR/W	nation	Output	OFF	Door is unlocked (SW ON)	0V
2	SB	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 +
3	G/Y	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 ***5ms
4	Y	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 ***5ms SKIA5291E
5	G/B V	Combination switch input 2 Combination switch input 1	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 ***5ms
9	GR/R	Rear window defogger	Input	ON	Rear window defogger switch ON	0V
		switch	•		Rear window defogger switch OFF	5V
10		Hozord lamp flack	lan: ·	OFF	ON (opening or closing)	0V
10	G	Hazard lamp flash	Input	OFF	OFF (other than above)	Battery voltage
11	0	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	R/L	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open)	OV
		Tiro processos successos			OFF (closed)	Battery voltage
15	L/W	Tire pressure warning check connector	Input	OFF	_	5V
18	Р	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	_	0V

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	Wire		Signal	Measuring condition		Reference value or waveform	
Terminal cold		Signal name	input/ output	Ignition switch Operation or condition		(Approx.)	
19	V/W	Remote keyless entry receiver (power sup- ply)	Output	OFF	Ignition switch OFF	(V) 6 4 2 0 +	
20	G/W	Remote keyless entry	lnout	OFF	Stand-by (keyfob buttons re- leased)	(V) 6 4 2 0 ++50 ms	
20	G/W	receiver (signal)	Input	OFF	When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	(V) 6 4 2 -1	
21	G	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF \rightarrow ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.	
22	W/V	BUS	_	_	Ignition switch ON or power window timer operates	(V) 15 10 5 0 200 ms	
23	G/O	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V	
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON) Just after turning ignition ON: Pointer of tester some for approx. 1 secon return to battery volt		
26	Y/L	Rear wiper auto stop switch 2	Input	ON	Rise up position (rear wiper arm on stopper)	0V	
					A Position (full clockwise stop position)	0V	
					Forward sweep (counterclock- wise direction)	Fluctuating	
					B Position (full counterclockwise stop position)	Battery voltage	
					Reverse sweep (clockwise direction)	Fluctuating	
27	W/R	Compressor ON sig-	Input	ON	A/C switch OFF	5V	
۷1	V V/1\	nal	input	CIN	A/C switch ON	0V	

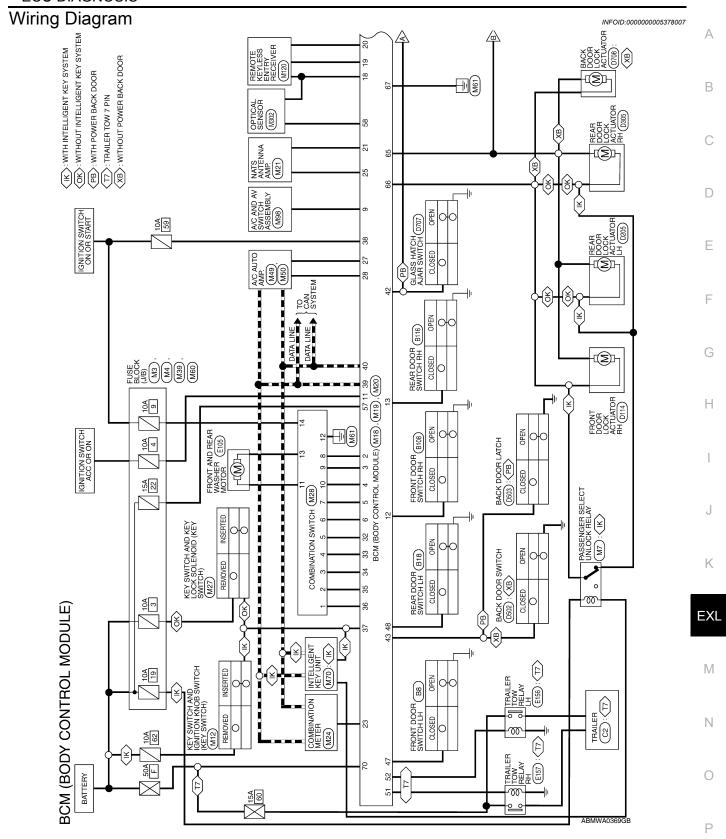
	Wire		Signal	Measuring condition		Reference value or waveform	
Terminal color		Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)	
28	L/R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage	
		Tronc blower monitor	IIIput	0.1	Front blower motor ON	0V	
29	W/B	Hazard switch	Input	OFF	ON	0V	
					OFF	5V	
32	R/G	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **5ms SKIA5291E	
33	R/Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 +	
34	L	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **-5ms SKIA5291E	
35	O/B	Combination switch output 2				(V)	
36	R/W	Combination switch output 1	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	6 4 2 0 → + 5 ms SKIA5292E	
37 ¹	B/R	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage	
JI	5/11			011	Intelligent Key inserted	0V	
37 ²	B/R	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage	
	14/4			011	Key inserted	0V	
38	W/L	Ignition switch (ON)	Input	ON	_	Battery voltage	
39	L	CAN I	_	_	_	_	
40	Р	CAN-L			Class batch anan	0	
42	GR	Glass hatch ajar switch	Input	ON	Glass hatch open Glass hatch closed	Battery	
		Back door switch			ON (open)	0V	
43	R/B	(without power back door) or back door latch (door ajar switch) (with power back door)	Input	OFF	OFF (closed)	Battery voltage	

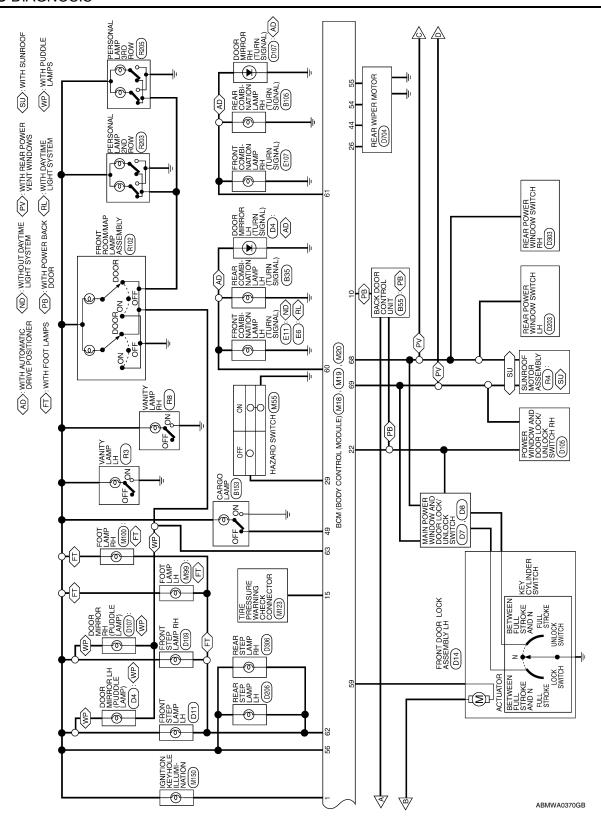
Townsia at Wir		e	Signal	Measuring condition		Reference value or waveform	
ērminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)	
44		Rear wiper auto stop switch 1	Input	ON	Rise up position (rear wiper arm on stopper)	0V	
					A Position (full clockwise stop position)	Battery voltage	
	0				Forward sweep (counterclockwise direction)	Fluctuating	
					B Position (full counterclockwise stop position)	0V	
					Reverse sweep (clockwise direction)	Fluctuating	
47	SB	B Front door switch LH	Input	OFF	ON (open)	0V	
	0.5				OFF (closed)	Battery voltage	
48	R/Y	Y Rear door switch LH	Input	OFF	ON (open)	0V	
-70	101				OFF (closed)	Battery voltage	
49 R	R	Cargo lamp	Output	OFF	Any door open (ON)	0V	
	'\	Jaigo lailip	Cuipui		All doors closed (OFF)	Battery voltage	
51	G/Y	Trailer turn signal (right)	Output	ON	Turn right ON	(V) 15 10 500 ms SKIA3009J	
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	(V) 15 10 5 0 500 ms	
				ON	Rise up position (rear wiper arm on stopper)	0V	
		Rear wiper output cir- cuit 2	Input		A Position (full clockwise stop position)	0V	
54	Y				Forward sweep (counterclockwise direction)	0V	
					B Position (full counterclockwise stop position)	Battery voltage	
					Reverse sweep (clockwise direction)	Battery voltage	
55	SB	Rear wiper output cir- cuit 1	Output	ON	OFF	0	
				OIN	ON	Battery voltage	
56	R/G	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V	
				ON	_	Battery voltage	
57	Y/R	Battery power supply	Input	OFF	_	Battery voltage	

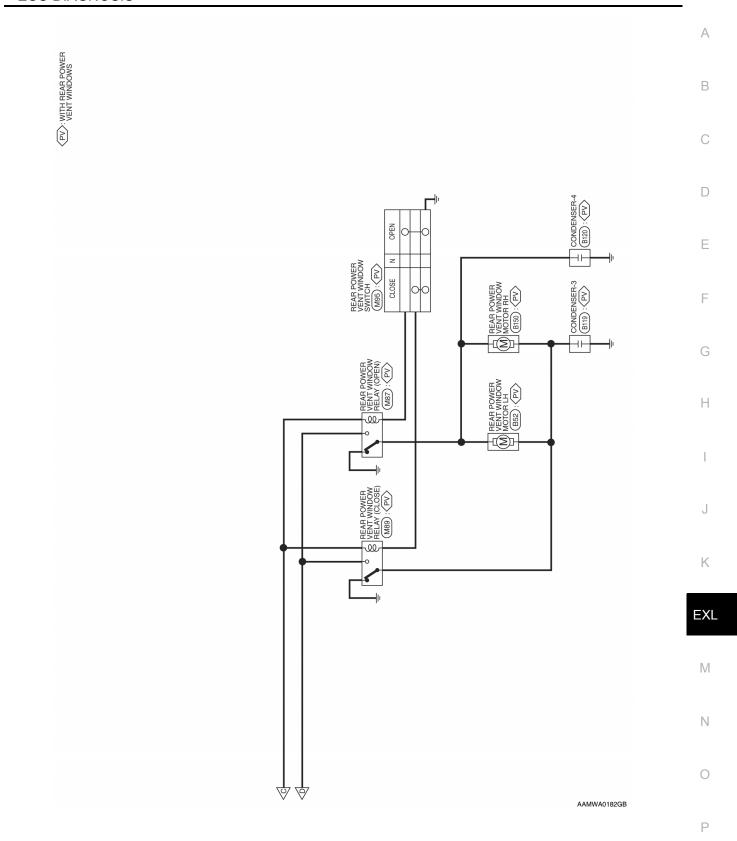
	Wire		Signal	Measuring condition		Reference value or waveform		
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition		(Approx.)	
50	W/D	Optical sensor	1 (ON	When optical sensor is illuminated		3.1V or more	
58 \\	W/R		Input		When optical sensor is not illuminated		0.6V or less	
		Front door lock as-	0	055	OFF (neutral)		0V	
59	G	sembly LH actuator (unlock)	Output	OFF	ON (unlock)		Battery voltage	
60	G/B	Turn signal (left)	Output	ON	Turn left ON		(V) 15 10 50 500 ms SKIA3009J	
61	G/Y	Turn signal (right)	Output	ON	Turn right ON		(V) 15 10 5 0 500 ms	
	DAM	Otan Janes III and DII	0	OFF	ON (any door open)		0V	
62	R/W	Step lamp LH and RH	Output		OFF (all doors	closed)	Battery voltage	
63		Interior room/map lamp	Output	OFF	Any door	ON (open)	0V	
03	L				switch	OFF (closed)	Battery voltage	
G.E.	V	All door lock actuators	Output	OFF	OFF (neutral)		0V	
65	V	(lock)	Output	OFF	ON (lock)		Battery voltage	
66	G/Y	Front door lock actuator RH, rear door lock actuators LH/RH and back door lock actuator (unlock)	Output	OFF	OFF (neutral) ON (unlock)		0V Battery voltage	
67	В	Ground	Input	ON	_		0V	
					Ignition switch ON		Battery voltage	
68	W/L	Power window power supply (RAP)	Output	_	Within 45 seconds after ignition switch OFF		Battery voltage	
					More than 45 seconds after ignition switch OFF		0V	
					When front door LH or RH is open or power window timer operates		0V	
69	W/R	Power window power supply	Output	_	_		Battery voltage	
70	W/B	Battery power supply	Input	OFF	_		Battery voltage	

^{1:} With Intelligent Key system

^{2:} With remote keyless entry system







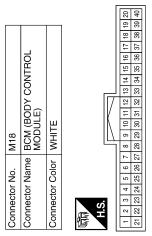
BCM (BODY CONTROL MODULE) CONNECTORS

M19	Connector Name BCM (BODY CONTRO) MODULE)	or WHITE	
Connector No.	Connector Nar	Connector Color WHITE	
			٩

Connector Name BCM (BODY CONTROL MODULE)	ITE	50 51 52 53 54 55	Signal Name	
me BCI MO	lor WH	41 42 43 44 4 50 51 52	Color of Wire	
Connector Na	Connector Color WHITE	赋动 H.S.	Terminal No. Wire	

Signal Name		GLASS HATCH SW	BACK DOOR SW	REAR WIPER AUTO STOP SW1	ı	I	DOOR SW (DR)	DOOR SW (RL)	LUGGAGE LAMP OUTPUT	-	TRAILER FLASHER OUTPUT (RIGHT)	TRAILER FLASHER OUTPUT (LEFT)	ı	REAR WIPER MOTOR OUTPUT 2	REAR WIPER MOTOR OUTPUT 1
Color of Wire		GR	R/B	0	ı	1	SB	R/Υ	æ	1	G/Y	G/B	1	>	SB
Terminal No.	41	42	43	44	45	46	47	48	49	20	51	52	53	54	55

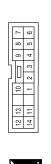
Terminal No.	Color of Wire	Signal Name
16	-	1
17	1	I
18	А	KEYLESS AND AUTO LIGHT SENSOR GND
19	W/N	KEYLESS TUNER POWER SUPPLY OUTPUT
20	G/W	KEYLESS TUNER SIGNAL
21	g	IMMOBILIZER ANTENNA SIGNAL (CLOCK)
22	W/V	ANTI-PINCH SERIAL LINK (RX,TX)
23	G/O	SECURITY INDICATOR OUTPUT
24	1	1
25	BR	IMMOBILIZER ANTENNA SIGNAL (RX,TX)
56	Y/L	REAR WIPER AUTO STOP SW2
22	W/R	AIRCON SW
28	L/R	BLOWER FAN SW
29	M/B	HAZARD SW
30	ı	1
31	1	1
32	R/G	OUTPUT 5
33	Rγ	OUTPUT 4
34	Г	OUTPUT 3
35	O/B	OUTPUT 2
36	B/W	OUTPUT 1
37	B/R	KEY SW
38	M/L	IGN SW
39	_	CAN-H
40	Ь	CAN-L



Terminal No.	Color of Wire	Signal Name
-	BR/W	KEY RING OUTPUT
2	SB	INPUT 5
3	G/Y	INPUT 4
4	Y	INPUT 3
5	G/B	INPUT 2
6	^	INPUT 1
7	-	-
8	-	-
6	GR/R	REAR DEFOGGER SW
10	В	IVCS INPUT
11	0	ACC SW
12	R/L	DOOR SW (AS)
13	GR	DOOR SW (RR)
14	_	-
15	LW	TPMS MODE TRIGGER SW

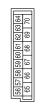
ABMIA1055GB

	Connector No. M28 Connector Name COMBINATION SWITCH Connector Color WHITE
	or Color WHITE
Connector Color WHITE	or Name COMBINATION SWITCH
Connector Name COMBINATION SWITCH Connector Color WHITE	



Signal Name	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5	OUPUT 1	OUPUT 2	OUPUT 5	OUPUT 4	OUPUT 3	WASHER MOTOR	GND	WASHER MOTOR	IGN
Color of Wire	W/A	O/B	_	Ρ/Υ	R/G	>	G/B	SB	G/Y	У	M/A	В	W/R	R/L
Terminal No.	-	2	3	4	2	9	7	80	6	10	11	12	13	14

M20	Connector Name BCM (BODY CONTROL MODULE)	BLACK	
Connector No.	Connector Name	Connector Color BLACK	





Signal Name	BATTERY SAVER OUTPUT	BAT (FUSE)	AUTO LIGHT SENSOR INPUT 2	DOOR UNLOCK OUTPUT (DR)	FLASHER OUTPUT (LEFT)	FLASHER OUTPUT (RIGHT)	STEP LAMP OUTPUT	ROOM LAMP OUTPUT	-	DOOR LOCK OUTPUT (ALL)	DOOR UNLOCK OUTPUT (OTHER)	GND (POWER)	POWER WINDOW POWER SUPPLY (LINKED TO RAP)	POWER WINDOW POWER SUPPLY (BAT)	BAT (F/L)
Color of Wire	R/G	Y/R	W/R	В	G/B	G/Y	B/W	٦	-	>	G/Y	В	W/L	W/R	M/B
Terminal No.	56	22	28	59	09	61	62	63	64	65	99	29	68	69	70

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Fail Safe

Fail-safe index

BCM performs fail-safe control when any DTC listed below is detected.

Revision: April 2009 EXL-113 2010 Armada

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Display contents of CONSULT	Fail-safe	Cancellation
U1000: CAN COMM CIRCUIT	Inhibit engine cranking	When the BCM re-establishes communication with the other modules.

DTC Inspection Priority Chart

INFOID:0000000005378009

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

Priority	DTC
1	U1000: CAN COMM CIRCUIT
2	B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2013: STRG COMM 1 B2552: INTELLIGENT KEY B2590: NATS MALFUNCTION
3	C1729: VHCL SPEED SIG ERR C1735: IGNITION SIGNAL
4	 C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1712: [CHECKSUM ERR] FL C1713: [CHECKSUM ERR] FR C1714: [CHECKSUM ERR] RR C1715: [CHECKSUM ERR] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL C1720: [CODE ERR] FL C1721: [CODE ERR] FR C1722: [CODE ERR] RR C1723: [CODE ERR] RR C1724: [BATT VOLT LOW] FL C1726: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RL

DTC Index

NOTE:

Details of time display

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

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	_	_	_	BCS-33
B2013: STRG COMM 1	_	_	_	SEC-28

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2190: NATS ANTENNA AMP	_	_	_	SEC-31 (with I- Key), SEC-134 (without I-Key)
B2191: DIFFERENCE OF KEY	_	_	_	SEC-34 (with I- Key), SEC-137 (without I-Key)
B2192: ID DISCORD BCM-ECM	_	_	_	SEC-35 (with I- Key), SEC-138 (without I-Key)
B2193: CHAIN OF BCM-ECM	_	_	_	SEC-37 (with I- Key), SEC-140 (without I-Key)
B2552: INTELLIGENT KEY	_	_	_	SEC-39
B2590: NATS MALFUNCTION	_	_	_	SEC-40
C1708: [NO DATA] FL	_	_	_	<u>WT-14</u>
C1709: [NO DATA] FR	_	_	_	<u>WT-16</u>
C1710: [NO DATA] RR	_	_	_	<u>WT-16</u>
C1711: [NO DATA] RL	_	_	_	<u>WT-16</u>
C1712: [CHECKSUM ERR] FL	_	_	_	<u>WT-16</u>
C1713: [CHECKSUM ERR] FR	_	_	_	<u>WT-16</u>
C1714: [CHECKSUM ERR] RR	_	_	_	<u>WT-16</u>
C1715: [CHECKSUM ERR] RL	_	_	_	<u>WT-16</u>
C1716: [PRESSDATA ERR] FL	_	_	_	<u>WT-18</u>
C1717: [PRESSDATA ERR] FR	_	_	_	<u>WT-16</u>
C1718: [PRESSDATA ERR] RR	_	_	_	<u>WT-16</u>
C1719: [PRESSDATA ERR] RL	_	_	_	<u>WT-16</u>
C1720: [CODE ERR] FL	_	_	_	<u>WT-16</u>
C1721: [CODE ERR] FR	_	_	_	<u>WT-16</u>
C1722: [CODE ERR] RR	_	_	_	<u>WT-16</u>
C1723: [CODE ERR] RL	_	_	_	<u>WT-16</u>
C1724: [BATT VOLT LOW] FL	_	_	_	<u>WT-16</u>
C1725: [BATT VOLT LOW] FR	_	_	_	<u>WT-16</u>
C1726: [BATT VOLT LOW] RR	_	_	_	<u>WT-16</u>
C1727: [BATT VOLT LOW] RL	_	_	_	<u>WT-16</u>
C1729: VHCL SPEED SIG ERR	_	_	_	<u>WT-19</u>
C1735: IGN_CIRCUIT_OPEN	_	_	_	_

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< ECU DIAGNOSIS >

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

Reference Value

VALUES ON THE DIAGNOSIS TOOL

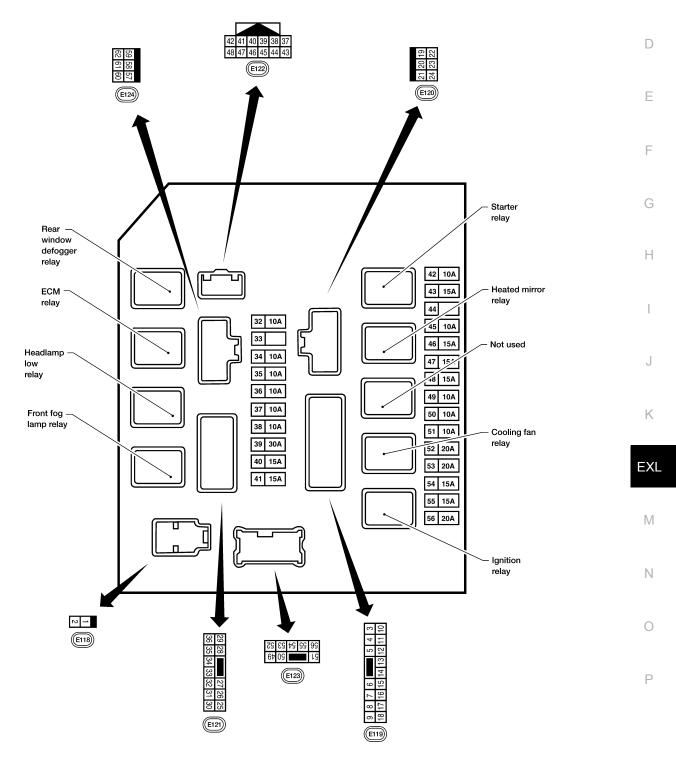
Monitor Item	Con	dition	Value/Status			
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 - 100 %			
A/C COMP REQ	A/C switch OFF		OFF			
A/C COIVIP REQ	A/C switch ON		ON			
TAIL&CLR REQ	Lighting switch OFF		OFF			
IAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or AU	TO (Light is illuminated)	ON			
HL LO REQ	Lighting switch OFF		OFF			
TIL LO REQ	Lighting switch 2ND HI or AUTO (Li	ght is illuminated)	ON			
111 111 PEO	Lighting switch OFF		OFF			
HL HI REQ	Lighting switch HI		ON			
		ghting switch HI Front fog lamp switch OFF Front fog lamp switch ON Daytime light activated (Canad only) Front wiper switch OFF Front wiper switch INT Front wiper switch LO Front wiper switch HI Front wiper stop position Any position other than front wiper stop position Front wiper operates normally				
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	Daytime light activated (Canada	ON			
		Front wiper switch OFF	STOP			
		Front wiper switch INT	1LOW			
FR WIP REQ	Ignition switch ON	Front wiper switch LO	LOW			
		Front wiper switch HI	HI			
		Front wiper stop position	STOP P			
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P			
		Front wiper operates normally	OFF			
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe operation	BLOCK			
OT DLY DEO	Ignition switch OFF or ACC	,	OFF			
ST RLY REQ	Ignition switch START		ON			
ION BLV	Ignition switch OFF or ACC		OFF			
IGN RLY	Ignition switch ON		ON			
DD DEE DEO	Rear defogger switch OFF		OFF			
RR DEF REQ	Rear defogger switch ON		ON			
OIL D CW	Ignition switch OFF, ACC or engine	running	OPEN			
OIL P SW	Ignition switch ON		CLOSE			
DTRL REQ	NOTE: This item is displayed, but cannot be	e monitored.	OFF			
	Not operated		OFF			
THFT HRN REQ	Panic alarm is activated Horn is activated with VEHICLE S TEM	SECURITY (THEFT WARNING) SYS-	ON			

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
HORN CHIRP	Not operated	OFF
HOIN CHIRF	Door locking with keyfob or Intelligent Key (if equipped) (horn chirp mode)	ON

Terminal Layout

TERMINAL LAYOUT — TYPE A



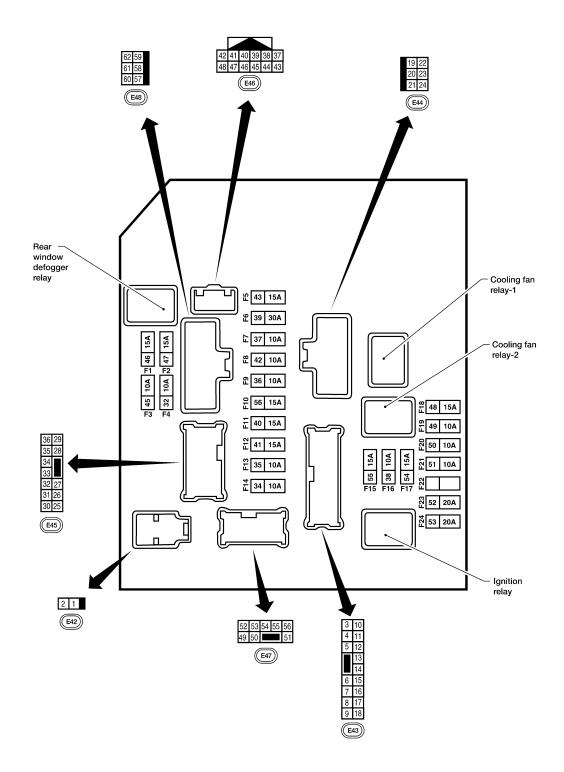
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TERMINAL LAYOUT — TYPE B



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NOTE

Numbers preceded by an "F" represent the fuse numbers imprinted on the IPDM E/R. The other numbers represent the fuse numbers as they appear in the wiring diagrams.

Physical Values

PHYSICAL VALUES

< ECU DIAGNOSIS >

			Signal		Measuring condition	
Terminal	Wire color	Signal name	input/ output	Igni- tion switch	Operation or condition	Reference value (Approx.)
1	B/Y	Battery power supply	Input	OFF	_	Battery voltage
2	R	Battery power supply	Input	OFF	_	Battery voltage
3	BR	ECM relay	Output		Ignition switch ON or START	Battery voltage
3	DΚ	ECIVI Telay	Output	_	Ignition switch OFF or ACC	0V
4	W/L	ECM relay	Output		Ignition switch ON or START	Battery voltage
7	VV/L	Low relay	Output		Ignition switch OFF or ACC	0V
6	L	Throttle control motor	Output		Ignition switch ON or START	Battery voltage
O	_	relay	Output		Ignition switch OFF or ACC	0V
7	W/B	ECM relay control	Input		Ignition switch ON or START	0V
	VV/D	Low relay control	mpat		Ignition switch OFF or ACC	Battery voltage
8	R/B	Fuse 54	Output		Ignition switch ON or START	Battery voltage
0	IVD	1 use 54	Output		Ignition switch OFF or ACC	0V
10	G	Fuse 45	Output	ON	Daytime light system active	0V
10	0	(Canada only)	Output	ON	Daytime light system inactive	Battery voltage
11	Y/B	A/C compressor	Output	ON or	A/C switch ON or defrost A/C switch	Battery voltage
	175	740 compressor	Output	START	A/C switch OFF or defrost A/C switch	0V
12	L/W	Ignition switch sup-	Input	_	OFF or ACC	0V
12	L/ * *	plied power	mpat		ON or START	Battery voltage
13	B/Y	Fuel pump relay	Output		Ignition switch ON or START	Battery voltage
		. co. pap .o.ay	- Catpat		Ignition switch OFF or ACC	0V
14	Y/R	Fuse 49	Output	_	Ignition switch ON or START	Battery voltage
		. 455 .6	- Catpat		Ignition switch OFF or ACC	0V
15	LG/B	Fuse 50	Output	_	Ignition switch ON or START	Battery voltage
.0		. 400 00			Ignition switch OFF or ACC	0V
16	G	Fuse 51	Output	_	Ignition switch ON or START	Battery voltage
. •					Ignition switch OFF or ACC	0V
17	W	Fuse 55	Output	_	Ignition switch ON or START	Battery voltage
			Carput		Ignition switch OFF or ACC	0V
19	W/R	Starter motor	Output	START	_	Battery voltage
21	BR	Ignition switch sup-	Input	_	OFF or ACC	0V
	Σ	plied power	pat		START	Battery voltage
22	G	Battery power supply	Output	OFF	_	Battery voltage
23	GR/W	Door mirror defogger	Output	_	When rear defogger switch is ON	Battery voltage
	2.211	output signal			When raker defogger switch is OFF	0V
24	L	Cooling fan relay	Output	_	Conditions correct for cooling fan operation	Battery voltage
			• • • •		Conditions not correct for cooling fan operation	0V

EXL-119 Revision: April 2009 2010 Armada

< ECU DIAGNOSIS >

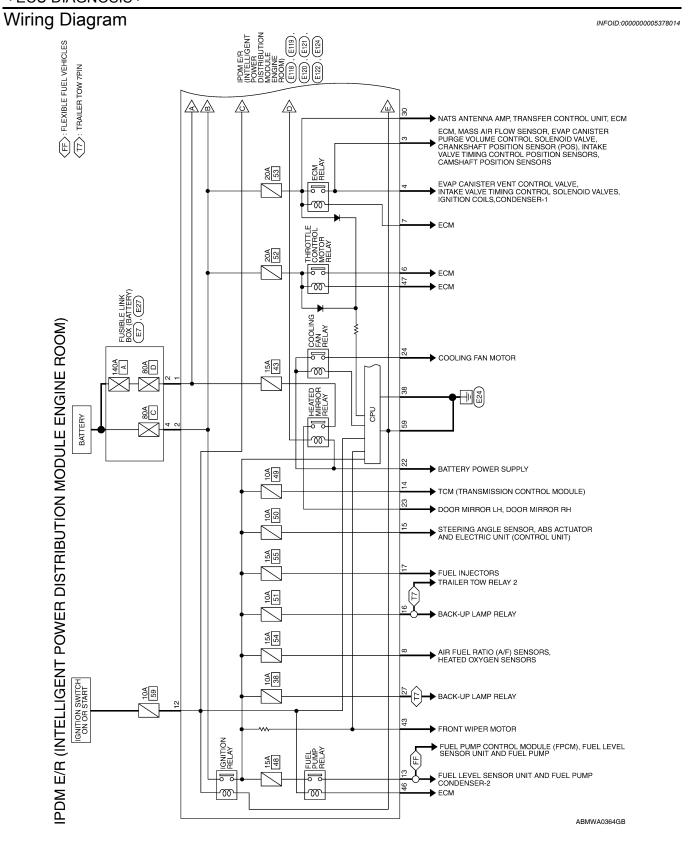
			Signal		Measuring con	dition	Defenses value	
Terminal	Wire color	Signal name	input/ output	lgni- tion switch	Operation or condition		Reference value (Approx.)	
27	W/B	Fuse 38	0.45.4		Ignition switch	ON or START	Battery voltage	
27	VV/B	(With trailer tow)	output tion switch a 38	Ignition switch	OFF or ACC	0V		
20	10/	F 50			Ignition switch	ON or START	Battery voltage	
30	W	Fuse 53	Output	_	Ignition switch	OFF or ACC	0V	
32	L	Wiper low speed sig-	Output	ON or	Wiper switch	OFF	Battery voltage	
32	L	nal	Output	START	wiper switch	LO or INT	0V	
25	L/B	Wiper high speed sig-	Output		Wiper switch	OFF, LO, INT	Battery voltage	
35	L/D	nal	Output	START	wiper switch	HI	0V	
					Ignition switch	ON	(V) 6 4 2 0 2 2ms JPMIA000 6.3 V	
37	Y	Power generation command signal	Output	_	40% is set on "Active test," "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 ► 2ms JPMIA000: 3.8 V	
					40% is set on "Active test," "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 2ms JPMIA000	
38	В	Ground	Input		-	_	0V	
39	L	CAN-H			-	_	_	
40	Р	CAN-L		ON	-	_		
42	GR	Oil pressure switch	Input	_	Engine running		Battery voltage	
					Engine stoppe	d	0V	
43	L/Y	Wiper auto stop signal	Input	ON or START	Wiper switch	OFF, LO, INT	Battery voltage	
		Daytime light relay			Daytime light s	system active	0V	
44	BR	control (Canada only)	Input	ON		system inactive	Battery voltage	
45	G/W	Horn relay control	Input	ON		ks are operated r Intelligent Key DFF → ON)*	Battery voltage → 0V	

< ECU DIAGNOSIS >

			Signal		Measuring con	dition	Deference velve	
Terminal	Wire color	Signal name	input/ output	Igni- tion switch	Operation	or condition	Reference value (Approx.)	
46	GR	Fuel pump relay con-	Input		Ignition switch	ON or START	0V	
	OI C	trol	прис		Ignition switch	OFF or ACC	Battery voltage	
47	0	Throttle control motor	Input	_	Ignition switch	ON or START	0V	
.,	J	relay control	put		Ignition switch		Battery voltage	
48	B/R	Starter relay (inhibit switch)	Input	ON or START	Selector lever tion	in "P" or "N" any other posi-	0V Battery voltage	
		Trailer tow relay			Lighting	OFF	0V	
49	R/L	(With trailer tow) Illumination (Without trailer tow)	Output	ON	switch must be in the 1st position	ON	Battery voltage	
					Lighting	OFF	0V	
50	W/R	Front fog lamp (LH)	Output	ON or START	switch must be in the 2nd position (LOW beam is ON) and the front fog lamp switch	ON	Battery voltage	
					Lighting	OFF	0V	
51	W/R	Front fog lamp (RH)	Output	ON or START	switch must be in the 2nd position (LOW beam is ON) and the front fog lamp switch	ON	Battery voltage	
52	L	LH low beam head- lamp	Output	_	Lighting switch	in 2nd position	Battery voltage	
54	R/Y	RH low beam head- lamp	Output	_	Lighting switch	in 2nd position	Battery voltage	
55	G	LH high beam head- lamp	Output	_	Lighting switch in 2nd position and placed in HIGH or PASS position		Battery voltage	
56	Y (With DTRL)	RH high beam head- lamp	Output	_	Lighting switch in 2nd position and placed in HIGH or PASS position		Battery voltage	
56	L/W (Without DTRL)	RH high beam head- lamp	Output	_		in 2nd position HIGH or PASS	Battery voltage	
F-7	D."	Parking, license, and	Out 1	CN	Lighting	OFF	0V	
57	R/L	tail lamp	Output	ON	switch 1st po- sition	ON	Battery voltage	
59	В	Ground	Input	_	-	_	0V	
60	DAA	Rear window defog-	Ot. 1	ON or	Rear defogger	switch ON	Battery voltage	
60	B/W	ger relay	Output	START	Rear defogger	switch OFF	0V	
61	BR	Fuse 32 (With trailer tow)	Output	OFF	-	_	Battery voltage	

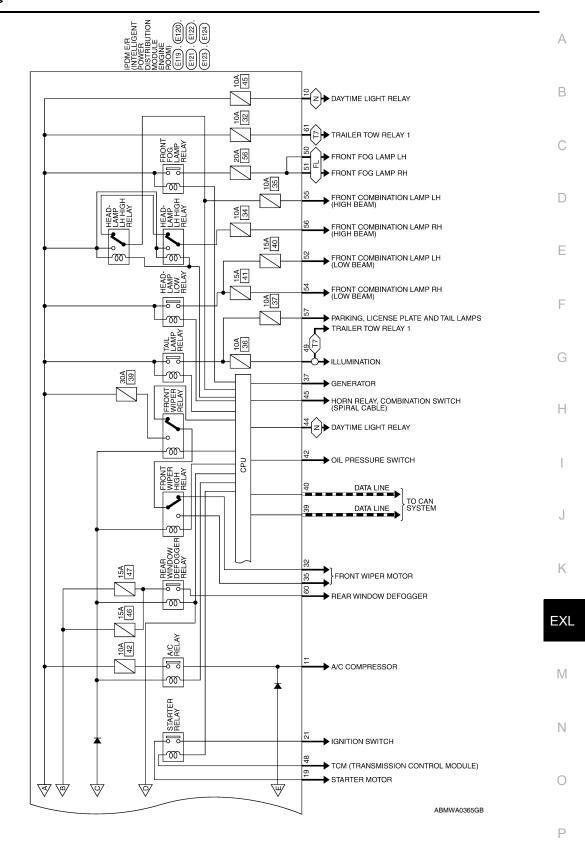
^{*:} When horn reminder is ON

< ECU DIAGNOSIS >



< ECU DIAGNOSIS >

 $\langle E_L \rangle$: WITH FRONT FOG LAMP $\langle N \rangle$: FOR CANADA $\langle T_L \rangle$: TRAILER TOW 7PIN



CORS	or No. E118
OM) CONNEC	Connect
DOULE ENGINE RO	E27
DISTRIBUTION MC	Connector No.
M E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) CONNECTORS	E7
IPDM E/R (INTE	Connector No.

Connector No.	E7	Connector No. E27	E27	 Con
Connector Name	Connector Name FUSIBLE LINK BOX (BATTERY)	Connector Name	Connector Name FUSIBLE LINK BOX (BATTERY)	Con
Connector Color GRAY	GRAY	Connector Color BROWN	BROWN	
				 Con

8	IPDM E/R (INTELLIGEN POWER DISTRIBUTION MODULE ENGINE ROC	BLACK	2	Signal Name	F/L USM	F/L MAIN
- E118		-		Color of Wire	В/У	Œ
Connector No.	Connector Name	Connector Color	明 H.S.	Terminal No.	-	2

- «

E191	L121	IPDM E/R (INTELLIGENT POWER DISTRIBITION	MODULE ENGINE ROOM)	BROWN	
Connector No		Connector Name		Connector Color BROWN	

nnector Name	аше		로운동	<u> </u>	고믒금	~===	IPDM E/R (IN I ELLIGEN POWER DISTRIBUTION MODULE ENGINE ROC	
nnector Color BROWN	양	_	HH	Q	₹	_		
							Г	
	29	29 28		П	27	7 26 25	ĸ	
	Ü	20	70	00	20	06 26 26 26 26 36	6	





Signal Name	ı	ı	TTOW REV LAMP	-	-	ECM BAT	I	FR WIPER LO	ı	I	FR WIPER HI	ı
Color of Wire	ı	ı	W/B	_	_	8	-	٦	ı	1	L/B	ı
Terminal No.	25	26	27	28	29	30	31	32	33	34	35	36

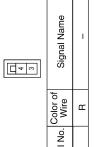
E120	ne POWER DISTRIBLE MODULE ENGINE	or WHITE
Connector No.	Connector Name	Connector Color WHITE





Signal Name	STARTER MTR	1	IGN SW (ST)	F/L MOTOR FAN	HEATED MIRROR	MOTOR FAN 2	
Color of Wire	W/R	ı	BR	Б	GR/W	٦	
Terminal No.	19	20	21	22	23	24	

1	
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Signal Name

Color of Wire B∕

Ferminal No.

Signal Name	_		
Color of Wire	æ		
minal No.	4		

E119	nnector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	WHITE	
nnector No.	nnector Name	nnector Color WHITE	







Signal Name	IGN COIL	ECM	1	ETC	ECM RLY CONT	02 SENSOR	1	DTRL RLY SUPPLY	A/C COMPRESSOR	IGN SW (IG)	FUEL PUMP	A/T CU IGN SUPPLY	ABS IGN SUPPLY	REVERSE LAMP	INJECTOR	
Color of Wire	BR	M/L	1	_	M/B	B/B	1	9	Y/B	Μ	Β/Y	Y/R	LG/B	G	W	
erminal No.	3	4	2	9	7	8	6	10	11	12	13	14	15	16	17	

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< ECU DIAGNOSIS >

Connector No. E123 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BROWN BROWN				ı										
Color Will Will Will Will Will Will Will Wil	53	OM E/R (INTELLIGENT WER DISTRIBUTION ODULE ENGINE ROOM)	OWN	54 53	Signal Name	ILLUMINATION	FR FOG LAMP LH	FR FOG LAMP RH	H/LAMP LO LH	1	H/LAMP LO RH	H/LAMP HI LH	H/LAMP HI RH (WITHOUT DAYTIME LIGHT)	H/LAMP HI RH (WITH DAYTIME LIGHT)
Connector No Connector No Connector No Connector Co Connector Co Connector Co Connector Co Connector No Conne					Color of Wire	P/L	W/R	W/R	_	ı	R/Υ	១	N/	>
	Connector No	Connector Na	Connector Co	原 H.S.	Terminal No.	49	20	51	52	53	54	55	56	56

Signal Name	ALT-C CONT	GND (SIGNAL)	CAN-H	CAN-L	I	OIL PRESSURE SW	AUTO STOP SW	DTRL RLY CONT	ANT THEFT HORN	FUEL PUMP RLY CONT	ETC RLY CONT	INHIBIT SW
Color of Wire	>	В	_	Д	ı	GR	ζ	BR	G/W	GR	0	B/R
Terminal No.	37	38	39	40	41	42	43	44	45	46	47	48

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	WHITE
H.S.	42 41 40 39 88 37 48 47 46 45 44 43

Signal Name	TRAIL RLY SUPPLY	ı
Color of Wire	BR	-
Terminal No.	61	62

Connector No.	. E124	4
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	lor BLACK	CK
H.S.	29	58 57 61 60
Terminal No.	Color of Wire	Signal Name
22	R/L	TAIL LAMP
58	-	ı
65	В	GND (POWER)
09	B/W	RR DEF

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Fail Safe

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 >

Control part	Fail-safe in operation
Cooling fan	 Turns ON the cooling fan relay when the ignition switch is turned ON Turns OFF the cooling fan relay when the ignition switch is turned OFF

If No CAN Communication Is Available With BCM

Control part	Fail-safe in operation
Headlamp	 Turns ON the headlamp low relay when the ignition switch is turned ON Turns OFF the headlamp low relay when the ignition switch is turned OFF Headlamp high LH/RH relays OFF
Parking lamps License plate lamps Tail lamps	Turns ON the tail lamp relay when the ignition switch is turned ON Turns OFF the tail lamp relay when the ignition switch is turned OFF
Front wiper	 The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.
Rear window defogger	Rear window defogger relay OFF
A/C compressor	A/C relay OFF
Front fog lamps	Front fog lamp 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.

Ignition switch	Ignition relay	Tail lamp relay
ON	ON	_
OFF	OFF	_

NOTE:

The tail lamp turns OFF when the ignition switch is turned ON.

FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper auto stop signal.

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

Ignition switch	Front wiper switch	Auto stop signal
ON	OFF	Front wiper stop position signal cannot be input 10 seconds.
	ON	The 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.

< ECU DIAGNOSIS >

DTC Index

CONSULT-III display	Fail-safe	TIME	NOTE	Refer to
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	×	CRNT	1 – 39	PCS-16

NOTE:

The details of TIME display are as follows.

- CRNT: The malfunctions that are detected now
- 1 39: The number is indicated when it is normal at present and a malfunction was detected in the past. It increases like 0 → 1 → 2 ··· 38 → 39 after returning to the normal condition whenever IGN OFF → ON. It is fixed to 39 until the self-diagnosis results are erased if it is over 39. It returns to 0 when a malfunction is detected again in the process.

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EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

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.

Symp	otom	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 relay) IPDM E/R	Headlamp (HI) circuit Refer to <u>EXL-36</u> .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM" Refer to EXL-131.	
High beam indicator lamp (Headlamp switches to the		Combination meter BCM	Combination meter. Data monitor "HI-BEAM IND" BCM (HEAD LAMP) Active test "HEADLAMP"
	One side	Front combination lamp (Low beam relay)	_
Headlamp does not switch to the low beam.	Both sides	Combination switch (lighting and turn signal switch) Harness between the combination switch and BCM BCM	Combination switch Refer to BCS-39.
		High beam request signal BCM IPDM E/R	IPDM E/R Data monitor "HL HI REQ"
		IPDM E/R	_
Headlamp does not turn ON.	One side	Fuse Bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R	Headlamp (LO) circuit Refer to <u>EXL-38</u> .
Both sides		Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) A Refer to EXL-132, "Description".	RE NOT TURNED ON"
Headlamp does not turn OFF.	When the ignition switch is turned ON	BCM Combination switch (lighting and turn signal switch)	Combination switch (lighting and turn signal switch) Refer to BCS-39.
Headlamp is not turned ON/OFF with the lighting switch AUTO.		Combination switch (lighting and turn signal switch) Harness between the combination switch and BCM BCM	Combination switch (lighting and turn signal switch) Refer to BCS-39.
		Optical sensor Harness between the optical sensor and BCM BCM	Optical sensor Refer to <u>EXL-49</u> .

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

Symp	otom	Possible cause	Inspection item
Daytime light system does not activate.		Either high beam bulb Parking brake switch Combination switch (lighting and turn signal switch) BCM IPDM E/R Daytime light relay Harness between IPDM E/R and daytime light relay.	Daytime light system description. Refer to EXL-9. "System Description".
One side Front fog lamp is not turned ON.		Front fog lamp bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R	Front fog lamp circuit Refer to EXL-40.
	Both side	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS Refer to EXL-134.	S ARE NOT TURNED ON"
Parking lamp is not turned ON.	One side	Fuse Parking lamp bulb Harness between IPDM E/R and the front/rear combination lamp Front/rear combination lamp IPDM E/R	Parking lamp circuit Refer to EXL-42.
Both sides		Symptom diagnosis "PARKING, LICENSE PLATE AND ON" Refer to EXL-133.	TAIL LAMPS ARE NOT TURNED
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 Door mirror (if equipped with turn signals in the door mirrors)	Turn signal lamp circuit Refer to EXL-46.
	One side	Combination meter	_
Turn signal indicator lamp	Both sides (Always)	Turn signal indicator lamp signal Combination meter BCM	Combination meter. Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER"
does not blink.	Both sides (Does blink when activating the hazard warning lamp with the ignition switch OFF)	The combination meter power supply and the ground circuit Combination meter	Combination meter Power supply and the ground circui Refer to MWI-32.

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NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

NORMAL OPERATING CONDITION

Description INFOID:000000004918321

AUTO LIGHT SYSTEM

The auto light system may not turn the headlamp ON/OFF immediately after passing a dark area or a bright area (short tunnel, sky bridge, shadowed area etc.). This is normal.

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

Description INFOID:0000000004918322

The headlamps (both sides) do not switch to high beam when the combination switch (lighting and turn signal switch) is in the HI or PASS setting.

Diagnosis Procedure

INFOID:0000000004918323

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1. COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) INSPECTION

Check the combination switch (lighting and turn signal switch). Refer to <u>BCS-39</u>, "<u>Diagnosis Procedure</u>". Is the combination switch (lighting and turn signal switch) normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

(P)CONSULT-III DATA MONITOR

- 1. Select "HL HI REQ" of IPDM E/R DATA MONITOR item.
- 2. With operating the combination switch (lighting and turn signal switch), check the monitor status.

Monitor item	Condition		Monitor status
	Combination switch (lighting	HI or PASS	ON
HL HI REQ	and turn signal switch) (2ND)	Except for HI or PASS	OFF

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-60, "Removal and Installation".

3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-36, "Description".

Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation of IPDM E/R".

NO >> Repair or replace the malfunctioning part.

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Revision: April 2009 EXL-131 2010 Armada

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description INFOID:000000004918324

The headlamps (both sides) do not turn ON in any combination switch (lighting and turn signal switch) setting.

Diagnosis Procedure

INFOID:0000000004918325

1.combination switch (Lighting and turn signal switch) inspection

Check the combination switch (lighting and turn signal switch). Refer to BCS-39, "Description".

Is the combination switch (lighting and turn signal switch) normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

©CONSULT-III DATA MONITOR

- 1. Select "HL LO REQ" of IPDM E/R DATA MONITOR item.
- 2. With operating the combination switch (lighting and turn signal switch), check the monitor status.

Monitor item	Condition		Monitor status
HL LO REQ	Combination switch (lighting	2ND	ON
TIL LO NEQ	and turn signal switch)	OFF	OFF

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-60, "Removal and Installation".

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-38, "Description".

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation of IPDM E/R".

NO >> Repair or replace the malfunctioning part.

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

Description INFOID:0000000004918326

The parking, license plate and tail lamps do not turn ON in with any combination switch (lighting and turn signal switch) setting.

Diagnosis Procedure

1. COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) INSPECTION

Check the combination switch (lighting and turn signal switch). Refer to BCS-39, "Description".

Is the combination switch (lighting and turn signal 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 combination switch (lighting and turn signal switch), check the monitor status.

Monitor item	Condition		Monitor status
TAIL & CLR	Combination switch (lighting and turn	1ST	ON
REQ	signal switch)	OFF	OFF

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-60, "Removal and Installation".

3. PARK LAMP CIRCUIT INSPECTION

Check the parking lamp circuit. Refer to EXL-42, "Description".

Is the tail lamp circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation of IPDM E/R".

NO >> Repair or replace the malfunctioning part.

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Revision: April 2009 EXL-133 2010 Armada

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description INFOID:000000004918328

The front fog lamps do not turn ON in any combination switch (lighting and turn signal switch) setting.

Diagnosis Procedure

INFOID:0000000004918329

1. COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) INSPECTION

Check the combination switch (lighting and turn signal switch). Refer to BCS-39, "Description".

Is the combination switch (lighting and turn signal switch) normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

(P)CONSULT-III DATA MONITOR

- 1. Select "FR FOG REQ" of IPDM E/R DATA MONITOR item.
- 2. With operating the combination switch (lighting and turn signal switch), check the monitor status.

Monitor item	Condition		Monitor status
5D 500 D50	Combination switch (lighting	ON	ON
FR FOG REQ	and turn signal switch) (2ND)	OFF	OFF

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-60, "Removal and Installation".

3.FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-40, "Description".

Is the front fog lamp circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation of IPDM E/R".

NO >> Repair or replace the malfunctioning part.

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRF-TFNSIONER"

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 SR and SB section 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 SR section.
- 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 Airbag Diagnosis Sensor Unit or other Airbag 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.

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

NOTE:

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both battery cables.
- · After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the battery disconnected or discharged, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

Connect both battery cables.

NOTE:

Supply power using jumper cables if battery is discharged.

- 2. Carry the Intelligent Key or insert it to the key slot and turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
- 3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
- Perform the necessary repair operation.

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PRECAUTIONS

< PRECAUTION >

- 5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
- 6. Perform self-diagnosis check of all control units using CONSULT-III.

General precautions for service operations

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- When removing or disassembling any part, be careful not to damage or deform it. Protect parts which may get in the way with cloth.
- When removing parts with a screw driver or other tool, protect parts by wrapping them with vinyl or tape.
- Keep removed parts protected with cloth.
- If an non-reuseable part is removed, replace it with a new one.
- · After re-assembly has been completed, make sure each part functions correctly.
- · Never work with wet hands.
- Turn the combination switch (lighting and turn signal switch) OFF before disconnecting and connecting the connector.
- Do not use organic solvent (paint thinner or gasoline) to clean lamps or remove sealant residue.

ADJUSTMENT AND INSPECTION

< ON-VEHICLE REPAIR >

ON-VEHICLE REPAIR

ADJUSTMENT AND INSPECTION HEADLAMP

HEADLAMP: Aiming Adjustment

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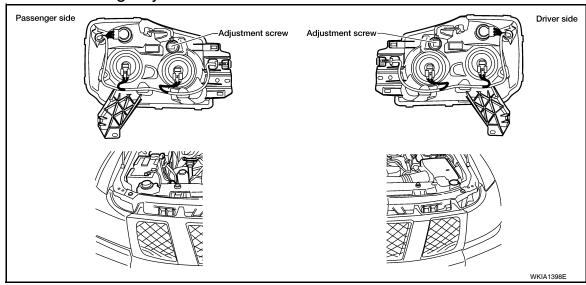
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NOTE:

- For details, refer to the regulations in your state.
- If the vehicle front body has been repaired and/or the headlamp assembly has been replaced, check aiming.
- Before performing aiming adjustment, check the following:
- Ensure all tires are inflated to correct pressure.
- Place vehicle and screen on level surface.
- Ensure there is no load in vehicle other than the driver (or equivalent weight placed in driver's position). Coolant and engine oil filled to correct level, and fuel tank full.
- Confirm spare tire, jack and tools are properly stowed.
- Aim each headlamp individually and ensure other headlamp beam pattern is blocked from screen.

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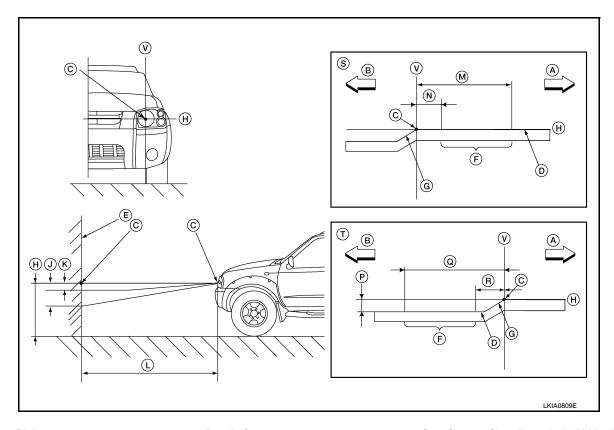
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Revision: April 2009 EXL-137 2010 Armada

HEADLAMP: Headlamp Aiming

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- A. Right
- D. Cutoff line
- G. Step
- K. 37 mm (1.46 in.)
- N. 133 mm (5.24 in.)
- R. 200 mm (7.87 in.)
- V. Vertical center line of headlamp
- B. Left
- E. Screen
- H. Horizontal center line of headlamp
- L. 7.62 m (25 ft.)
- P. 53.2 mm (2.09 in.)
- S. RH headlamp aiming screen
- C. Center of headlamp bulb (H-V point)
- F. Aim evaluation segment
- J. 103 mm (4.06 in.)
- M. 399 mm (15.71 in.)
- Q. 466 mm (18.35 in.)
- T. LH headlamp aiming screen

NOTE:

Basic illuminating area for adjustment should be within the range shown on the aiming chart. Adjust head-lamps accordingly.

LOW BEAM AND HIGH BEAM

- 1. Turn headlamp low beam on.
- Use adjusting screw to perform aiming adjustment.

FRONT FOG LAMP

FRONT FOG LAMP: Aiming Adjustment

INFOID:0000000004918332

The fog lamp is a semi-sealed beam type which uses a replaceable halogen bulb. Before performing aiming adjustment, make sure of the following.

- · Keep all tires inflated to correct pressure.
- · Place vehicle on level ground.
- See that vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in driver seat.

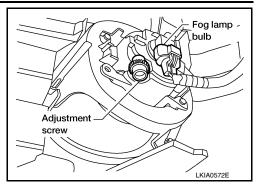
ADJUSTMENT AND INSPECTION

< ON-VEHICLE REPAIR >

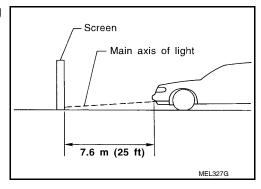
Adjust aiming in the vertical direction by turning the adjustment screw.

NOTE:

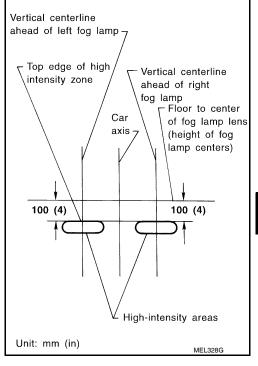
Access adjustment screw from underneath front bumper. Use a Phillips screwdriver to adjust. Turn screw clockwise to raise pattern and counterclockwise to lower pattern.



- 1. Set the distance between the screen and the center of the fog lamp lens as shown.
- 2. Turn front fog lamps ON.



- 3. Adjust front fog lamps using adjusting screw so that the top edge of the high intensity zone is 100 mm (4 in) below the height of the fog lamp centers as shown.
 - When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.



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REMOVAL AND INSTALLATION

HEADLAMP

Bulb Replacement

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WARNING:

Do not touch bulb by hand right after being turned off. Burning may result. CAUTION:

- Turn headlamp switch OFF before disconnecting headlamp harness connector.
- Do not touch the glass of bulb directly by hand. Keep grease and other oily substances away from it.
- Do not leave bulb out of front combination lamp assembly for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp. When replacing headlamp bulb, be sure to replace it with a new one.
- After installing the bulb, be sure to install the bulb socket securely to ensure watertightness.

HEADLAMP - LOW/HIGH BEAM

Removal

- Remove combination lamp assembly (front). Refer to EXL-140, "Removal and Installation".
- 2. Disconnect electrical connector.
- 3. Turn headlamp bulb counterclockwise.
- Remove headlamp bulb.

Installation

Installation is in the reverse order of removal.

FRONT TURN SIGNAL/PARKING LAMP

Removal

- 1. Remove combination lamp assembly (front). Refer to EXL-140, "Removal and Installation".
- Turn bulb socket counterclockwise.
- 3. Remove bulb socket.
- 4. Pull bulb to remove it from the socket.

Installation

Installation is in the reverse order of removal.

FRONT SIDE MARKER LAMP

Removal

- Remove combination lamp assembly (front). Refer to <u>EXL-140</u>, "Removal and Installation".
- Turn the bulb socket counterclockwise.
- Remove bulb socket.
- 4. Pull bulb to remove it from the socket.

Installation

Installation is in the reverse order of removal.

Removal and Installation

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COMBINATION LAMP ASSEMBLY (FRONT)

WARNING:

Do not touch bulb by hand right after being turned off. Burning may result.

CAUTION:

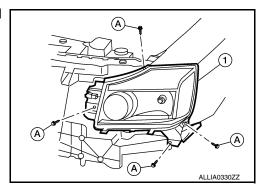
- Turn headlamp switch OFF before disconnecting headlamp harness connector.
- Do not touch the glass of bulb directly by hand. Keep grease and other oily substances away from it.
- Do not leave bulb out of combination lamp assembly (front) for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp. When replacing bulb, be sure to replace it with a new one.

HEADLAMP

< REMOVAL AND INSTALLATION >

Removal

- 1. Partially remove fender protector (forward edge), refer to EXT-21, "Removal and Installation".
- Remove front grille, refer to EXT-17, "Removal and Installation".
- Remove the bolts (A), disconnect the electrical connector, and 3. remove the front combination lamp assembly (1).

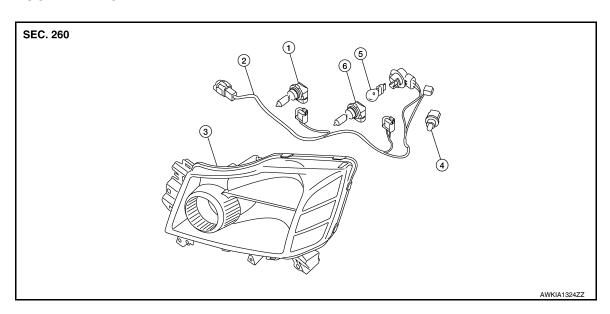


Installation

Installation is in the reverse order of removal.

Disassembly and Assembly

FRONT COMBINATION LAMP



- 1. Headlamp bulb (high beam)
- 2. Wiring harness assembly (inner)
- 3. Headlamp assembly

- 4. Side marker lamp (front) bulb
- 5. Turn signal/parking lamp (front) bulb 6. Headlamp bulb (low beam)

Disassembly

- Turn high beam bulb counterclockwise to unlock and remove high beam bulb.
- Turn low beam bulb counterclockwise to unlock and remove low beam bulb. 2.
- Turn turn signal/parking lamp (front) bulb socket counterclockwise to unlock and remove turn signal/parking lamp (front) bulb.
- Side marker lamp (front) bulb socket counterclockwise to unlock and remove side marker lamp (front) bulb.

Assembly

Assembly is in the reverse order of disassembly.

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AUTO LIGHT SYSTEM

< REMOVAL AND INSTALLATION >

AUTO LIGHT SYSTEM

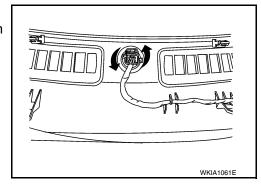
Removal and Installation

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OPTICAL SENSOR

Removal

- 1. Remove defroster grille. Refer to IP-11, "Exploded View".
- 2. Disconnect the optical sensor connector.
- 3. Turn the optical sensor counterclockwise to remove it from defroster grille.



Installation

Installation is in the reverse order of removal.

FRONT FOG LAMP

Bulb Replacement

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FRONT FOG LAMP

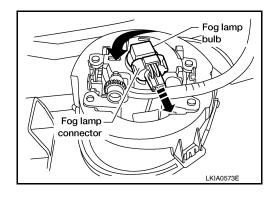
WARNING:

Do not touch bulb by hand while it is lit or right after being turned off. Burning may result. CAUTION:

- Do not leave bulb out of fog lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of fog lamp. When replacing bulb, be sure to replace it with new one.
- Do not touch the glass of bulb directly by hand. Keep grease and other oily substances away from it.

Removal

- 1. Disconnect front fog lamp connector.
- 2. Turn front fog lamp socket counterclockwise to remove it.



Installation

Installation is in the reverse order of removal.

Removal and Installation

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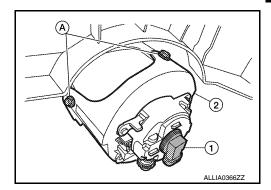
FRONT FOG LAMP

Removal

WARNING:

Do not touch bulb by hand while it is lit or right after being turned off. Burning may result. **CAUTION**:

- Do not leave bulb out of fog lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of fog lamp. When replacing bulb, be sure to replace it with new one.
- Do not touch the glass of bulb directly by hand. Keep grease and other oily substances away from it.
- 1. Disconnect the electrical harness connector from socket (1).
- 2. Remove the bolts (A), and remove the fog lamp assembly (2).



Installation

Installation is in the reverse order of removal.

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Revision: April 2009 EXL-143 2010 Armada

LIGHTING & TURN SIGNAL SWITCH

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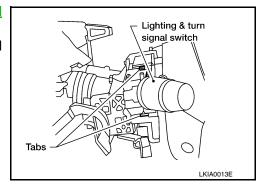
LIGHTING & TURN SIGNAL SWITCH

Removal and Installation

INFOID:0000000004918339

REMOVAL

- 1. Remove steering column cover. Refer to <u>IP-14, "Removal and Installation"</u>.
- 2. While pressing tabs, pull lighting and turn signal switch toward driver door and disconnect from the base.



INSTALLATION

Installation is in the reverse order of removal.

HAZARD SWITCH

< REMOVAL AND INSTALLATION >

HAZARD SWITCH

Removal and Installation

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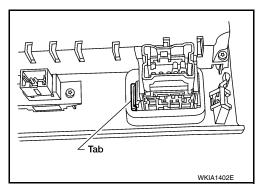
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REMOVAL

- 1. Remove cluster lid C. Refer to IP-15, "Removal and Installation".
- 2. While pressing the tab, push out the hazard switch.



INSTALLATION

Installation is in the reverse order of removal.

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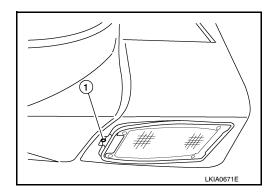
PUDDLE LAMP

Removal and Installation

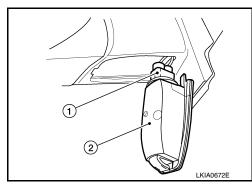
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REMOVAL

1. Depress tab (1) on outer edge of puddle lamp housing.



- 2. Lower outer edge and slide puddle lamp housing out of door mirror.
- 3. Twist puddle lamp socket (1) counterclockwise to remove from puddle lamp housing (2).



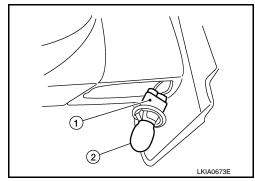
INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

REMOVAL

- 1. Remove puddle lamp housing. Refer to EXL-146. "Removal and Installation".
- 2. Pull puddle lamp bulb (2) straight out from puddle lamp socket (1) to remove.



INSTALLATION

Installation is in the reverse order of removal.

HIGH-MOUNTED STOP LAMP

< REMOVAL AND INSTALLATION >

HIGH-MOUNTED STOP LAMP

Bulb Replacement

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REMOVAL AND INSTALLATION

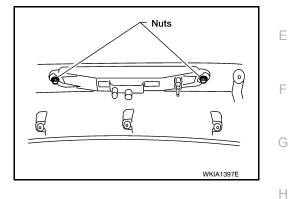
High-mounted stop lamp bulbs are not serviceable.

Removal and Installation

INFOID:0000000004918343

REMOVAL

- 1. Remove back door upper finisher. Refer to INT-21, "Removal and Installation".
- 2. Remove 2 nuts and remove high-mounted stop lamp assembly.



INSTALLATION

Installation is in the reverse order of removal.

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REAR COMBINATION LAMP

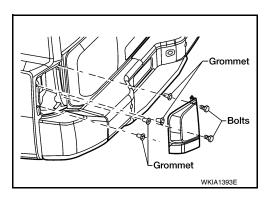
< REMOVAL AND INSTALLATION >

REAR COMBINATION LAMP

Bulb Replacement

REMOVAL

1. Remove rear combination lamp bolts.



- 2. Pull rear combination lamp to remove.
- 3. Turn bulb socket counterclockwise and unlock it.
- 4. Remove bulb.

INSTALLATION

Installation is in the reverse order of removal.

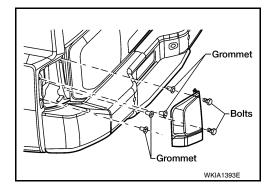
Removal and Installation

INFOID:0000000004918345

INFOID:0000000004918344

REMOVAL

- 1. Remove rear combination lamp bolts.
- 2. Pull rear combination lamp to remove.
- 3. Disconnect rear combination lamp connector.



INSTALLATION

Installation is in the reverse order of removal.

BULB SPECIFICATIONS

< SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

BULB SPECIFICATIONS

Headlamp INFOID:0000000004918346

Item	Wattage (W)*
Low	51/55
High	60/65

^{*:} Always check with the Parts Department for the latest parts information.

Exterior Lamp INFOID:0000000004918347

Item		Wattage (W)*
Front combination lamp	Turn signal lamp/parking lamp	27/8
	Side marker	3.8
Rear combination lamp	Stop/Tail lamp	27/7
	Turn signal lamp	27
	Back-up lamp	16
Fog lamp		27
Side turn signal (if equipped)		LED*
High-mounted stop lamp		*
License plate lamp		5
Puddle lamp		13

^{*:} Always check with the Parts Department for the latest parts information.

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EXL-149 Revision: April 2009 2010 Armada Α

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