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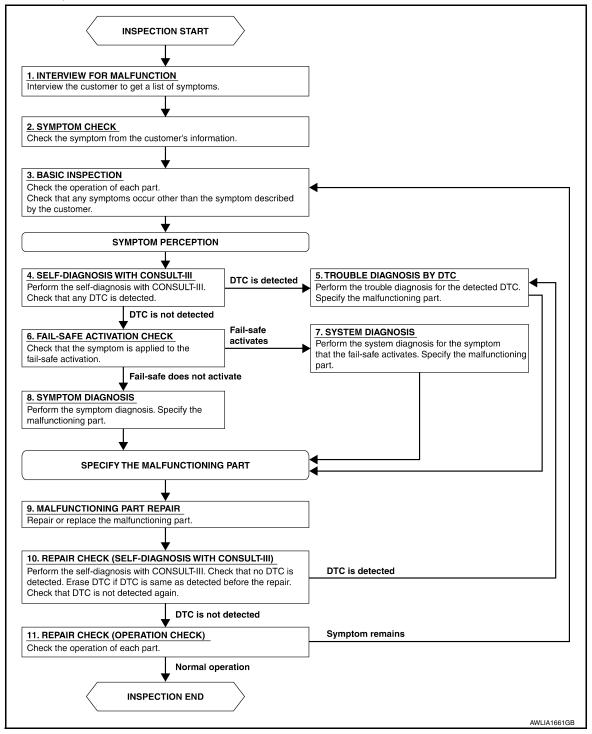
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BASIC INSPECTION

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 $oldsymbol{5}$. TROUBLE DIAGNOSIS BY DTC Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning part. >> GO TO 9 6. FAIL-SAFE ACTIVATION CHECK 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 11 10. REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT-III) Perform the self diagnosis with CONSULT-III. Verified that no DTCs are detected. Erase all DTCs detected prior to the repair. Verify that DTC is not detected again.

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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?

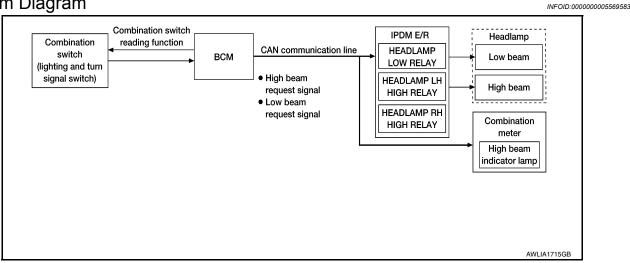
YES >> Inspection End.

NO >> GO TO 3

FUNCTION DIAGNOSIS

HEADLAMP

System Diagram



System Description

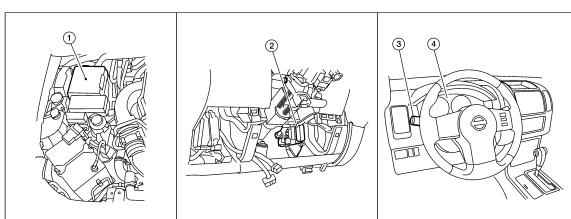
Control of the headlamp system operation is dependent upon the position of the combination switch (lighting and turn signal switch). When the combination switch (lighting and turn signal switch) is placed in the 2nd position, the BCM (body control module) receives input requesting the headlamps and park 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.

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.

Component Parts Location



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HEADLAMP

< FUNCTION DIAGNOSIS >

- 1. IPDM E/R E122, E123, E124
- BCM M18, M20 (view with lower instru- 3. ment panel LH removed)
- Combination switch (lighting and turn signal switch) M28

4. Combination meter M24

Component Description

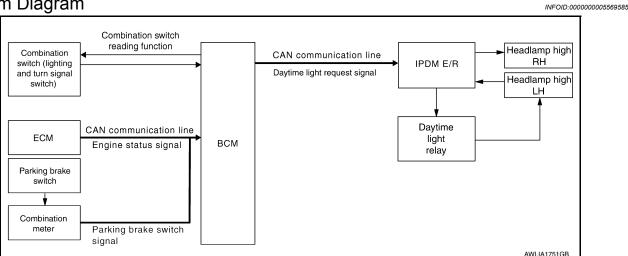
Part name	Description
ВСМ	 Receives combination switch (lighting and turn signal switch) request via BCM combination switch reading function. Sends headlamp high/low request signal to the IPDM E/R.
IPDM E/R	Activates the headlamp high and headlamp low relays upon request from the BCM.
Combination switch (lighting and turn signal switch)	Outputs lighting requests to the BCM.

DAYTIME RUNNING LIGHT SYSTEM

< FUNCTION DIAGNOSIS >

DAYTIME RUNNING LIGHT SYSTEM

System Diagram



System Description

The headlamp system for Canada vehicles is equipped with a daytime light control 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.

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.

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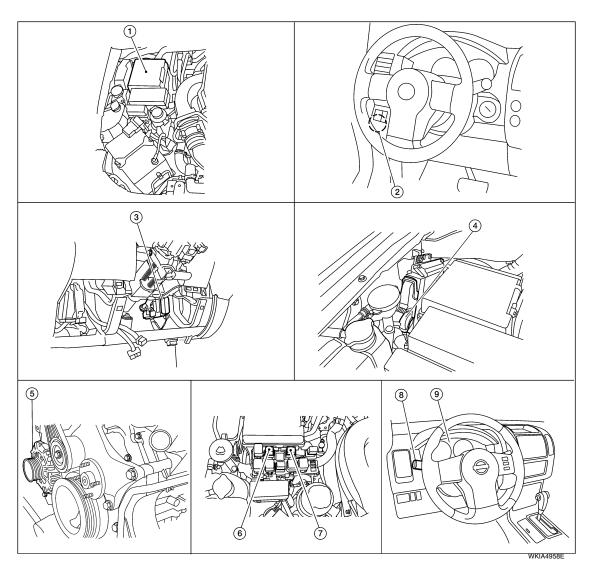
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Component Parts Location

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- 1. IPDM E/R E119, E122, E123, E124
- 4. ECM E16 (view with ECM cover removed)
- 7. Daytime light relay 2 E104
- 2. Parking brake switch B84
- 5. Generator E205, E209
- 8. Combination switch (lighting and turn 9. signal switch) M28
- 3. BCM M18, M20 (view with lower instrument panel LH removed)
- 6. Daytime light relay 1 E103
- 9. Combination meter M24

Component Description

Part name	Description
ВСМ	 Receives combination switch (lighting and turn signal switch) inputs via BCM combination switch reading function. Receives park brake applied input from the park brake switch. Receives engine running status from the ECM via CAN communication.
IPDM E/R	Receives daytime light request from the BCM and activates the daytime light relay.
Combination switch (lighting and turn signal switch)	Outputs lighting requests to the BCM.

DAYTIME RUNNING LIGHT SYSTEM

< FUNCTION DIAGNOSIS >

Parking brake switch	Outputs parking brake status to the combination meter which forwards that information to the BCM via CAN communication.
ECM	Outputs engine running status to the BCM.

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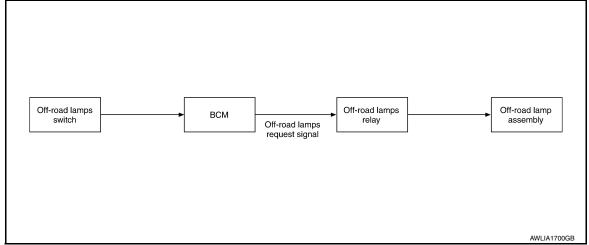
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OFF-ROAD LAMPS

System Diagram

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System Description

INFOID:0000000005268538

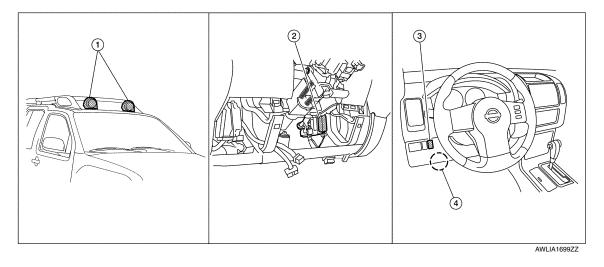
The off-road lamps are activated with the off-road lamps switch. The off-road lamps switch provides a request signal to the BCM. The BCM grounds the off-road lamps relay coil to activate the off-road lamps. The high beam headlamps must be ON and the off-road lamp covers removed in order for the BCM to activate the off-road lamps relay.

OFF ROAD LAMP OPERATION

When the off-road lamps switch is in the ON position, the lighting switch is in the 2nd position with the high beams activated and the off-road lamp covers removed, the BCM grounds the off-road lamp relay coil to activate the off-road lamps. The BCM monitors the off-road lamps switch, the lighting switch position via the combination switch reading function and the off-road lamp covers via the off-road lamp cover sensors. The off-road lamp cover sensor is a magnetic sensor which monitors for the presence of the off-road lamp covers.

Component Parts Location

INFOID:0000000005268539



- Off-road lamp assembly LH B527, B528 RH B529, B530
- 4. Off-road lamps relay M81
- BCM M18, M19, M20 (view with lower 3. Off-road lamps switch M80 instrument panel LH removed)

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OFF-ROAD LAMPS

< FUNCTION DIAGNOSIS >

Component Description

INFOID:0000000005268540

Part name	Description
ВСМ	 Receives lighting switch requests via BCM combination switch reading function. Receives off-road lamps request information from the off-road lamps switch. Receives off-road lamp cover installation status from the off-road lamp cover sensors. Grounds the off-road lamps relay to activate the off-road lamps.
Off-road lamps switch	Sends off-road lamps request signal to the BCM.
Combination switch (lighting and turn signal switch)	Monitors lighting switch position.
Off-road lamp cover sensors	Senses whether the off-road lamp covers are installed.

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FRONT FOG LAMP

System Diagram

Combination switch reading function | BCM | CAN communication line | FRONT FOG | LAMP RELAY | Front fog lamp request signal | Front fog lamp request signal | FRONT FOG | FRON

System Description

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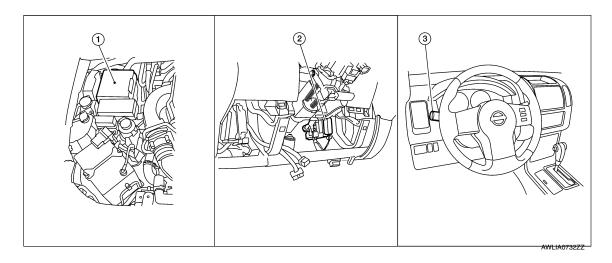
The front fog lamps are activated with the combination switch (lighting and turn signal switch). The combination switch (lighting and turn signal switch) signal to the BCM is monitored with the BCM combination switch reading function. When the fog lamps are turned ON with the combination switch (lighting 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.

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 (if equipped) position (headlamp is ON), the BCM detects FR FOG ON and the HEAD LAMP1 or 2 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.

Component Parts Location

INFOID:0000000005268543



IPDM E/R E122, E123, E124

2. BCM M18, M20 (view with lower instru- 3. ment panel LH removed)

Combination switch (lighting and turn signal switch) M28

FRONT FOG LAMP

< FUNCTION DIAGNOSIS >

Component Description

INFOID:0000000005268544

Part name	Description
BCM	 Receives lighting switch requests via BCM combination switch reading function. Sends headlamp high/low request signal to the IPDM E/R.
IPDM E/R	Activates the front fog lamp relay upon request from the BCM.
Combination switch (lighting and turn signal switch)	Outputs lighting requests to the BCM.

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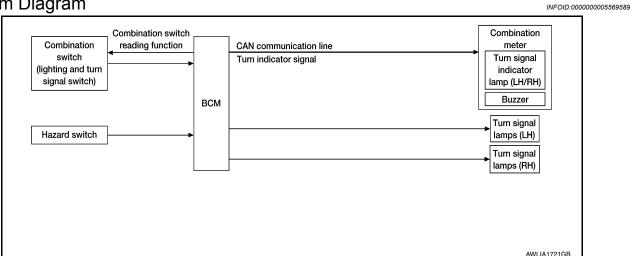
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TURN SIGNAL AND HAZARD WARNING LAMPS

System Diagram



System Description

INFOID:0000000005569590

TURN SIGNAL OPERATION

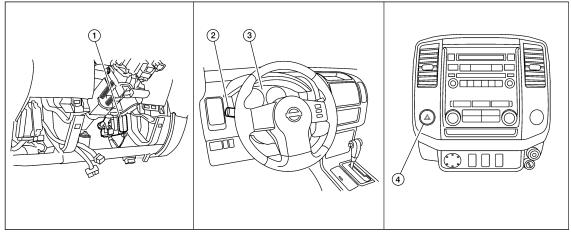
When the combination switch (lighting and turn signal switch) is in LH or RH position with the ignition switch in ON position, the BCM detects the TURN RH or TURN LH ON request. The BCM outputs the flasher signal to the respective turn signal lamp. The BCM also sends a turn indicator signal ON request 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.

Component Parts Location

INFOID:0000000005268547



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- 1. BCM M18, M20 (view with lower instrument panel LH removed)
- 4. Hazard switch M55
- Combination switch (lighting and turn 3. Combination meter M24 signal switch) M28

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TURN SIGNAL AND HAZARD WARNING LAMPS

< FUNCTION DIAGNOSIS >

Component Description

INFOID:0000000005268548

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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PARKING, LICENSE PLATE AND TAIL LAMPS

System Diagram

INFOID:0000000005569591 Combination switch IPDM E/R Combination reading function CAN communication line switch всм Position light (lighting and TAIL LAMP Front parking lamps request signal turn signal switch) RELAY License plate Tail lamps Front side marker lamps

System Description

INFOID:0000000005569592

AWLIA1723GB

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.

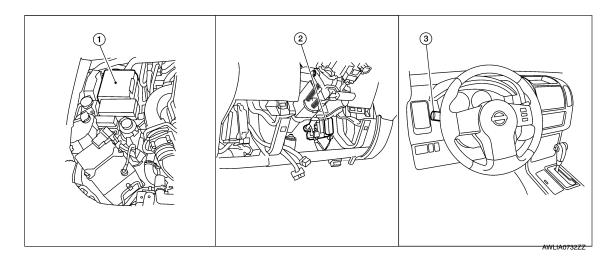
EXTERIOR LAMP BATTERY SAVER CONTROL

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>BCS-23</u>, "BATTERY SAVER : CONSULT-III Function (BCM - BATTERY SAVER)".

Component Parts Location



- 1. IPDM E/R E121, E122, E123, E124
- 2. BCM M18, M20 (view with lower instru- 3. ment panel LH removed)
- Combination switch (lighting and turn signal switch) M28

PARKING, LICENSE PLATE AND TAIL LAMPS

< FUNCTION DIAGNOSIS >

Component Description

INFOID:0000000005570633

Part name	Description
BCM	 Receives combination switch (lighting and turn signal 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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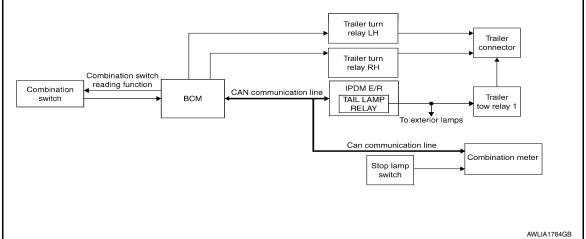
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TRAILER TOW

System Diagram

INFOID:0000000005570659

Trailer



System Description

INFOID:000000005570660

TRAILER TAIL LAMP OPERATION

The trailer tail lamps are controlled by the trailer tow relay 1 located in the IPDM E/R. With the combination switch (lighting and turn signal switch) in the 1st position, the 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 activates the trailer tow relay 1 and sends power to the trailer connector.

TRAILER TURN SIGNAL LAMP OPERATION

The trailer turn signal lamps are controlled by the BCM. When the combination switch (lighting and turn signal switch) is in the LH or RH position with the ignition switch ON, the combination switch (lighting and turn signal switch) sends a signal to the BCM. The BCM detects the TURN RH or TURN LH ON request. The BCM sends a control signal to the respective trailer turn relay which sends power to the trailer connector.

TRAILER HAZARD LAMP OPERATION

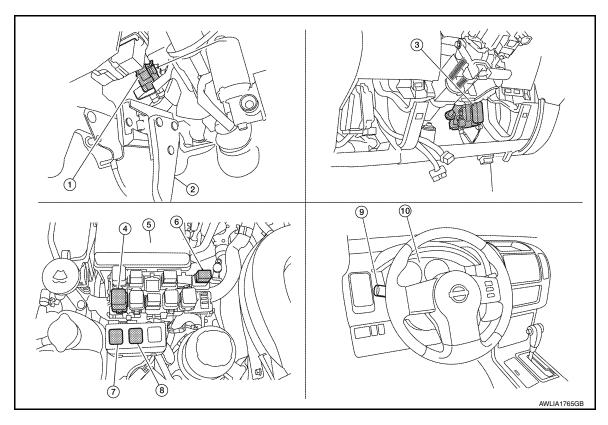
The trailer hazard lamps are controlled by the BCM. When the hazard switch is pressed, the BCM detects the the hazard ON request. The BCM then sends a control signal to both trailer turn relays which sends power to the trailer connector.

TRAILER BRAKE LAMP OPERATION

The trailer brake lamps are controlled by the BCM. When the brake pedal is depressed, the combination meter receives a stop lamp switch signal from the stop lamp switch. The combination meter then sends the brake signal to the BCM via the CAN communication lines. The BCM then sends a control signal to both trailer turn relays which sends power to the trailer connector.

Component Parts Location

INFOID:0000000005570661



- Stop lamp switch E38 (with M/T) or E39 (with A/T) (view with lower instrument panel LH removed)
- 4. Trailer turn relay LH E169
- 7. Trailer tow relay 2 E228
- 2. Brake pedal
- 5. IPDM E/R E119, E122, E124
- 8. Trailer tow relay 1 E227
- 3. BCM, M18, M19, M20 (view with lower instrument panel LH removed)
- 6. Trailer turn relay RH E170
- 9. Combination switch (lighting and turn signal switch) M28

10. Combination meter M24

Component Description

INFOID:0000000005570662

Part name	Description
всм	 Receives lighting and turn signal requests from combination switch (lighting and turn signal switch). Receives stop lamp signal requests from combination meter via CAN communication. Sends lighting signal request to the IPDM E/R to control the tail lamp relay via CAN communication. Sends turn/hazard/brake control signal to the trailer turn relays
IPDM E/R	Activates the tail lamp relay upon request from the BCM via CAN communication.
Combination meter	 Receives stop lamp switch signal from stop lamp switch. Sends stop lamp signal request to the BCM via CAN communication.
Combination switch (lighting and turn signal switch)	Outputs lighting and turn signal requests to the BCM.

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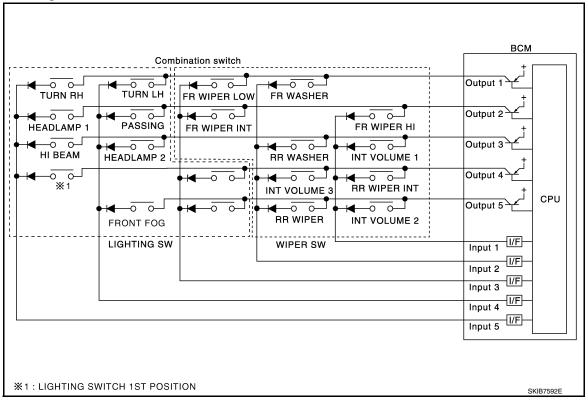
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< FUNCTION DIAGNOSIS >

COMBINATION SWITCH READING SYSTEM

System Diagram

INFOID:0000000005569593



System Description

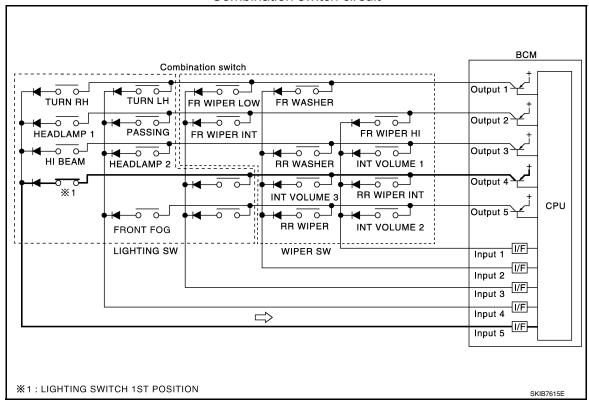
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OUTLINE

- 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 INPUT-OUTPUT system list

Combination switch har t	or corror by sterir 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	_	_	TAIL LAMP
INPUT 5	INT VOLUME 2	RR WIPER	_	FR FOG	_

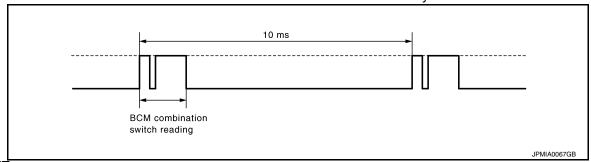
NOTE:

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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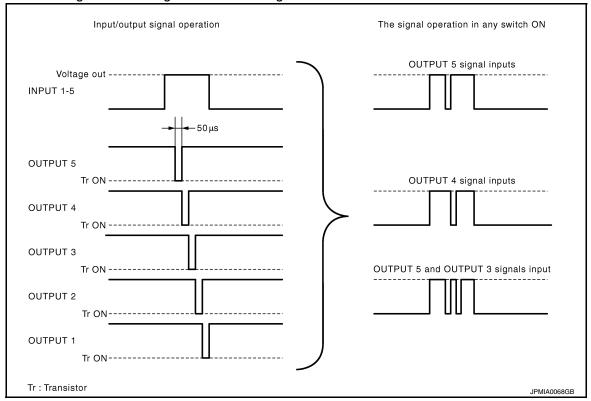
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EXL-23 2010 Xterra Revision: July 2009

< 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.

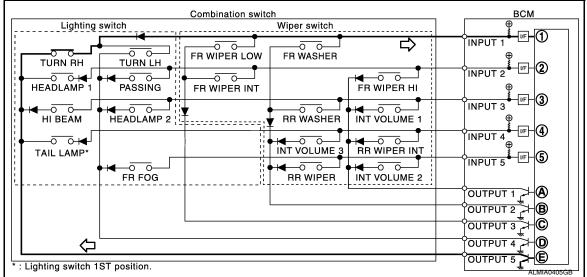


Operation Example

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.

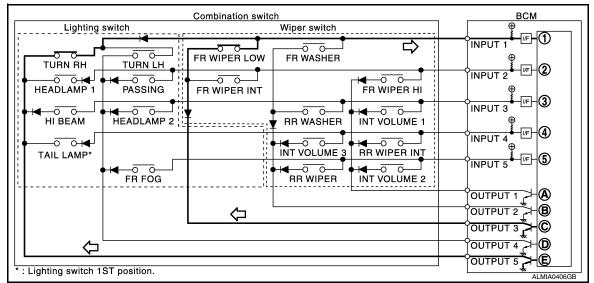


- BCM detects the combination switch status signal "1E" when the signal of OUTPUT 5 is input to INPUT 1.
- BCM judges that the TURN RH switch is ON when the signal "1E" is detected.

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.

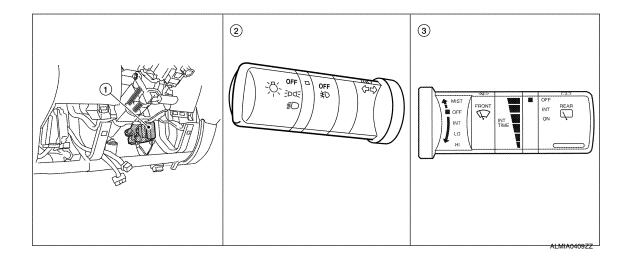


- BCM detects the combination switch status signal "1CE" when the signals of OUTPUT 3 and OUTPUT 5 are input to INPUT 1.
- BCM judges that the TURN RH switch and FR WIPER LOW switch are ON when the signal "1CE" is detected.

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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< FUNCTION DIAGNOSIS >

1. BCM M18, M19, M20 (view with low- 2. er instrument panel LH removed)

Combination switch (lighting and turn signal switch) M28

3. Combination switch (wiper and washer switch) M28

Revision: July 2009 EXL-26 2010 Xterra

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (BCM)

HEADLAMP

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

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WORK SUPPORT

Work Item	Setting item	Setting
BATTERY SAVER SET	ON*	With the exterior lamp battery saver function
DATENT GAVEROLI	OFF	Without the exterior lamp battery saver function

^{*:} Initial setting

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]	Fach quitch status that DCM indeed from the combination quitch reading function
PASSING SW [ON/OFF]	Each switch status that BCM judges from the combination switch reading function
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

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 cargo lamp request signal transmission.

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DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

FLASHER

FLASHER: CONSULT-III Function (BCM - FLASHER)

INFOID:0000000005569597

DATA MONITOR

Monitor Item [Unit]	Description	
IGN ON SW [ON/OFF]	Ignition switch (ON) status judged from IGN signal (ignition power supply)	
HAZARD SW [ON/OFF]	The switch status input from the hazard switch	
TURN SIGNAL R [ON/OFF]	Each switch condition that BCM judges from the combination switch reading functi	
TURN SIGNAL L [ON/OFF]		
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:0000000005569598

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 SW 1 [OFF/ON]	Displays the status of the HEADLAMP switch in combination switch judged by BCM with the combination switch reading function
HEAD LAMP SW 2 [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
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

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Monitor Item [Unit]	Description
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
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

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< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

AUTO ACTIVE TEST

Description

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

- · Oil pressure low warning indicator
- · Oil pressure gauge
- Rear window defogger
- · Front wipers
- · Tail, license and parking lamps
- Front fog lamps (if equipped)
- 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:

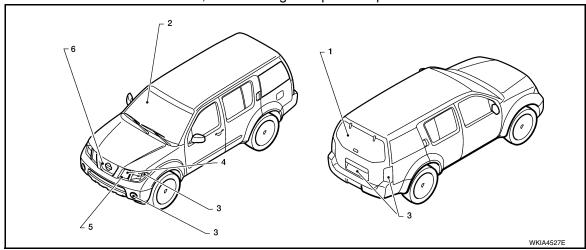
When auto active test mode has to be cancelled halfway through test, turn ignition switch OFF.

CAUTION:

- If auto active test mode cannot be actuated, check door switch system. Refer to DLK-24, "Description".
- · 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.

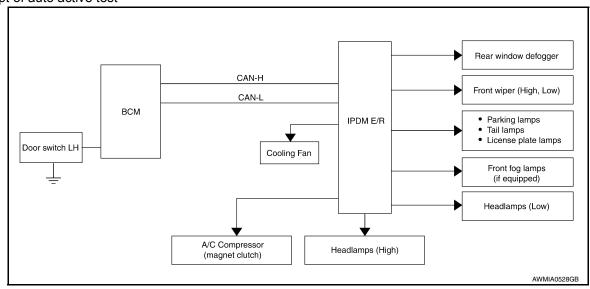


Item Number	Test Item	Operation Time/Frequency
1	Rear window defogger	10 seconds
2	Front wipers	LOW 5 seconds then HIGH 5 seconds
3	License plate, tail, parking and fog lamps (if equipped)	10 seconds

< FUNCTION DIAGNOSIS >

Item Number	Test Item	Operation Time/Frequency
4	Headlamps	LOW 10 seconds then HIGH ON-OFF 5 times
5	A/C compressor (magnet clutch)	ON-OFF 5 times
6	Cooling fan	LOW 5 seconds, then HIGH 5 seconds

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 warning indicator does not operate	Perform auto active test. Does the oil pressure low warning indicator operate?	YES	IPDM E/R signal input circuit ECM signal input circuit CAN communication signal between ECM and combination meter
		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

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< FUNCTION DIAGNOSIS >

Symptom	Inspection contents	Inspection contents		
		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 (if equipped) 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 exercise	Perform auto active test.	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	Does the A/C compressor operate?	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?		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:0000000005569600

APPLICATION ITEM

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

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

SELF DIAGNOSTIC

Refer to PCS-30, "DTC Index".

DATA MONITOR

Monitor item

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 BCM via CAN communication.

< FUNCTION DIAGNOSIS >

Monitor Item [Unit]	MAIN SIG- NALS	Description
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.
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]		Displays the status of the daytime light request signal received from BCM via CAN communication.
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
	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.
	1	OFF
MOTOD FANI	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		Operates the headlamp low relay.
	Н	Operates the headlamp low relay and the headlamp (LH/RH) high relays alternately at 1 second intervals.
	FOG	Operates the front fog lamp relay
HORN	ON	Operates horn relay for 20 ms.

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POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE): Diagnosis Procedure

INFOID:0000000005569601

Regarding Wiring Diagram information, refer to BCS-48, "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	Potton, nower supply	18 (10A)
70	Battery power supply	G (50A)
11	Ignition ACC or ON	4 (10A)
38	Ignition ON or START	1 (10A)

Is the fuse blown?

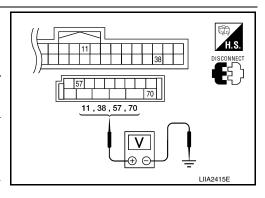
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

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

Connector	Term	inals	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	
M20	70	Ground	Battery power supply	Ignition switch OFF	Battery voltage	



Is the measurement value normal?

YES >> GO TO 3

NO >> Repair or replace harness.

 $oldsymbol{3}.$ CHECK GROUND CIRCUIT

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

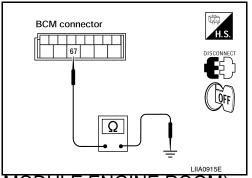
Check continuity between BCM harness connector and ground.

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 INFOID:0000000005569602

Regarding Wiring Diagram information, refer to PCS-25, "Wiring Diagram".

1. CHECK FUSIBLE LINKS

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

Terminal No.	Signal name	Fusible link No.
1		A, D
2	Battery	С
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EXL-35

Is the fusible link blown?

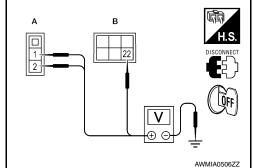
YES >> Replace the blown fusible link after repairing the affected circuit.

NO >> GO TO 2

2. CHECK BATTERY POWER SUPPLY CIRCUIT

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

(+) switch position (Approx		Terminals		Ignition	M-11 0.0	
Connector Terminal 1 E118 (A) 2 Ground OFF Battery	(+)	(-)	switch posi-	Voltage (V) (Approx.)	
2 Ground OFF Battery	Connector	Terminal	()	tion	(11 /	
2 Ground OFF Battery	E119 (A)	1			5	
Voltage	LIIO(A)	2	Ground	OFF	Battery voltage	
E120 (B) 22	E120 (B)	22			voitage	



Is there voltage on all pins?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

Turn ignition switch OFF.

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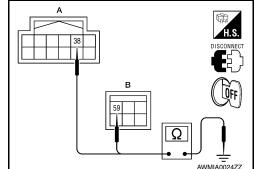
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POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

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

IPDM	E/R		Continuity
Connector	Terminal	Ground	Continuity
E122 (A)	38	Ground	Yes
E124 (B)	59		165



Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.

HEADLAMP (HI) CIRCUIT

< COMPONENT DIAGNOSIS >

HEADLAMP (HI) CIRCUIT

Description INFOID:0000000005570629

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

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1. CHECK HEADLAMP (HI) OPERATION

®WITHOUT CONSULT-III

Start IPDM E/R auto active test. Refer to <u>PCS-13, "Diagnosis Description"</u>.

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.

@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-37, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000005570636

Regarding Wiring Diagram information, refer to <u>EXL-58</u>, "Wiring <u>Diagram"</u> (without DTRL) or <u>EXL-62</u>, "Wiring <u>Diagram"</u> (with DTRL).

1. CHECK HEADLAMP (HI) FUSES

Turn the ignition switch OFF.

2. Check that the following fuses are not open.

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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.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

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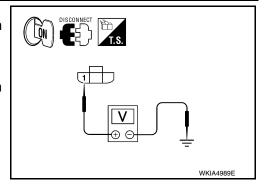
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HEADLAMP (HI) CIRCUIT

< COMPONENT DIAGNOSIS >

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector E7 (with DTRL), E11(without DTRL) or E107.
- 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 Terr		Terminal	(-)	voltage
LH	E7 (with DTRL)			
LII	E11 (without DTRL)	1	Ground	Battery voltage
RH	E107			



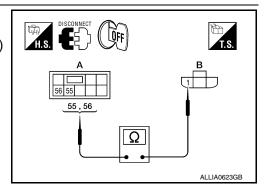
Is battery voltage present?

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

$3. \mathsf{CHECK}$ 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	E7 (with DTRL)		
LII	E123	33	E11 (without DTRL)	1	Yes
RH		56	E107		



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	E7 (with DTRL)			
LII	E11 (without DTRL)	2	Ground	Yes
RH	E107			

DISCONNECT OFF

Does continuity exist?

YES >> Inspect the headlamp bulb.

NO >> Repair the harness.

HEADLAMP (LO) CIRCUIT

< COMPONENT DIAGNOSIS >

HEADLAMP (LO) CIRCUIT

Description INFOID:0000000005268567

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:000000005268568

1. CHECK HEADLAMP (LO) OPERATION

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WITHOUT CONSULT-III

Start IPDM E/R auto active test. Refer to <u>PCS-13, "Diagnosis Description"</u>.

2. Check that the headlamp is turned ON.

NOTE:

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

(P)CONSULT-III

1. 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-39, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000005570637

Regarding Wiring Diagram information, refer to <u>EXL-58</u>, "Wiring <u>Diagram"</u> (without DTRL) or <u>EXL-62</u>, "Wiring <u>Diagram"</u> (with DTRL).

1. CHECK HEADLAMP (LO) FUSES

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- 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

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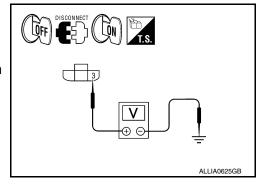
Revision: July 2009 EXL-39 2010 Xterra

HEADLAMP (LO) CIRCUIT

< COMPONENT DIAGNOSIS >

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector.
- 3. 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
LH	E7 (with DTRL)			
LII	E11 (without DTRL)	3	Ground	Battery voltage
RH	E107			



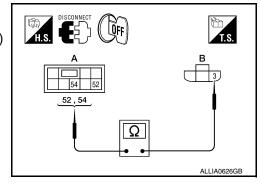
Is battery voltage present?

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

$3.\mathsf{CHECK}$ 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).

	Α		В		Continuity
Conn	ector	Terminal	Connector	Terminal	Continuity
LH		52	E7 (with DTRL)		
LII	E123	32	E11 (without DTRL)	3	Yes
RH		54	E107		



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	E7 (with DTRL)			
LIT	E11 (without DTRL)	2	Ground	Yes
RH	E107			

DISCONNECT OFF

Does continuity exist?

YES >> Inspect the headlamp bulb.

NO >> Repair the harness.

OFF-ROAD LAMPS SWITCH CIRCUIT

< COMPONENT DIAGNOSIS >

OFF-ROAD LAMPS SWITCH CIRCUIT

Description

The off-road lamps switch sends a momentary ground signal to the BCM requesting the off-road lamps be activated. The BCM controls the off-road lamps relay based on inputs from the combination switch, the off-road lamps switch and the off-road lamp covers are removed and the off-road lamps switch is activated, the BCM grounds the off-road lamp relay. When the off-road lamps relay is energized, power flows from the off-road lamps relay to the off-road lamps assembly.

Component Function Check

ent Function Check INFOID:0000000005268571

1. CHECK OFF-ROAD LAMPS SWITCH OPERATION

Check that the indicator lamp on the off-road lamps switch illuminates with the off-road lamps switch ON. Is the inspection result normal?

YES >> Off-road lamps switch function is OK.

NO >> Refer to EXL-41, "Diagnosis Procedure".

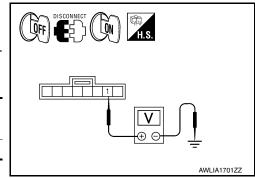
Diagnosis Procedure

Regarding Wiring Diagram information, refer to EXL-74, "Wiring Diagram".

1. CHECK OFF-ROAD LAMPS SWITCH VOLTAGE

- 1. Turn the ignition switch OFF.
- 2. Disconnect the off-road lamps switch connector M80.
- 3. Turn the ignition switch ON.
- 4. Check the voltage between the off-road lamps switch connector M80 terminal 1 and ground.

(+)		(-)	Voltage
Connector	Terminal	(-)	voltage
M80	1	Ground	5V



Is the inspection result normal?

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

2.CHECK OFF-ROAD LAMPS SWITCH SIGNAL CIRCUIT

- Turn the ignition switch OFF.
- 2. Disconnect BCM connector M18.
- 3. Check continuity between the off-road lamps switch harness connector M80 (A) terminal 1 and BCM harness connector M18 (B) terminal 31.

А		В		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M80	1	M18	31	Yes

4. Check continuity between the off-road lamps switch harness connector M80 (A) terminal 1 and ground.

Α			Continuity
Connector	Terminal		Continuity
M80	1	Ground	No

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OFF-ROAD LAMPS SWITCH CIRCUIT

< COMPONENT DIAGNOSIS >

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair the harness.

${\bf 3}.$ CHECK OFF-ROAD LAMPS SWITCH GROUND CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Check continuity between the off-road lamps switch harness connector M80 terminals 2, 6 and ground.

Connector	Terminal	_	Continuity	
M80	2	Ground	Yes	
	6	Ground	165	

DISCONNECT H.S. 2,6 Q AWLIA1703ZZ

Does continuity exist?

YES >> Inspection End.

NO >> Repair the harness or connector.

OFF-ROAD LAMP COVER SENSOR CIRCUIT

< COMPONENT DIAGNOSIS >

OFF-ROAD LAMP COVER SENSOR CIRCUIT

Description INFOID:000000005268573

The off-road lamp cover sensors sense the presence of the off-road lamp covers. If the off-road lamp covers are installed on the vehicle, the BCM will not activate the off-road lamps. The BCM controls the off-road lamps relay based on inputs from the combination switch, the off-road lamps switch and the off-road lamp cover sensors. When the off-road lamps relay is energized, power flows from the off-road lamps relay to the off-road lamps assembly.

Component Function Check

CHECK OFF-ROAD LAMPS SWITCH OPERATION

Check that the indicator lamp on the off-road lamps switch illuminates with the off-road lamps switch ON. Is the inspection result normal?

YES >> Off-road lamps switch function is OK.

>> Refer to EXL-43, "Diagnosis Procedure". NO

Diagnosis Procedure

Regarding Wiring Diagram information, refer to EXL-74, "Wiring Diagram".

1. CHECK OFF-ROAD LAMPS FUSE

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

Unit	Location	Fuse No.	Capacity
Off road lamp cover sensor	Fuse block (J/B)	12	10A

Is the fuse open?

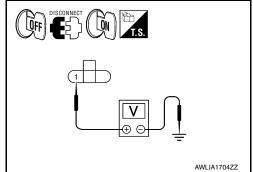
YES >> Repair the harness and replace the fuse.

NO >> GO TO 2

2.CHECK OFF-ROAD LAMP COVER SENSOR VOLTAGE

- Turn the ignition switch OFF.
- 2. Disconnect the off-road lamp assembly connectors.
- Turn the ignition switch ON.
- Check the voltage between the off-road lamp assembly connectors and ground.

(+)			(-)	Voltage	
Connector		Terminal	(-)	voltage	
LH B527		1	Ground	Battery voltage	
RH B529		1	Giouna	Dattery Voltage	



Is battery voltage present?

YES >> GO TO 3

NO >> Repair harness or connector.

3.CHECK OFF-ROAD LAMP COVER SENSOR GROUND CIRCUIT

Turn the ignition switch OFF.

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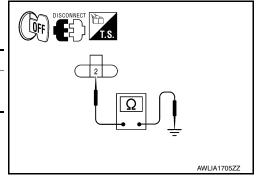
EXL-43 Revision: July 2009 2010 Xterra

OFF-ROAD LAMP COVER SENSOR CIRCUIT

< COMPONENT DIAGNOSIS >

2. Check continuity between the off-road lamp assembly harness connectors and ground.

Connector Termina		Terminal	_	Continuity
LH	B527	2	Ground	Yes
RH	B529	2	Ground	103



Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harness.

4. CHECK OFF-ROAD LAMP COVER SENSOR SIGNAL CIRCUIT

- Disconnect BCM connector M19.
- 2. Check continuity between the off-road lamp assembly harness connectors (A) and BCM harness connector (B).

A		В		Continuity	
Со	nnector	Terminal	Connector Terminal		Continuity
LH	B527	3	M19	42	Yes
RH	B529	3	10119	42	165

3. Check continuity between the off-road lamp assembly harness connector and ground.

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Α			Continuity		
Conr	nector	Terminal	_	Continuity	
LH	B527	3	Ground	No	
RH	B529	3	Ground	140	

Is inspection result normal?

YES >> Replace the off-road lamp cover sensor.

NO >> Repair the harness.

OFF-ROAD LAMPS CIRCUIT

< COMPONENT DIAGNOSIS >

OFF-ROAD LAMPS CIRCUIT

Description

The BCM controls the off-road lamps relay based on inputs from the combination switch, the off-road lamps switch and the off-road lamp cover sensors. When the off-road lamps relay is energized, power flows from the off-road lamps relay to the off-road lamps assembly.

Component Function Check

1. CHECK OFF-ROAD LAMPS SWITCH OPERATION

Check that the indicator lamp on the off-road lamps switch illuminates with the off-road lamps switch ON. Is the inspection result normal?

YES >> Off-road lamps switch function is OK.

NO >> Refer to EXL-45. "Diagnosis Procedure".

Diagnosis Procedure

Regarding Wiring Diagram information, refer to EXL-74, "Wiring Diagram".

1. CHECK OFF-ROAD LAMPS FUSE

- 1. Turn the ignition switch OFF.
- 2. Check that the following fuse is not open.

Unit	Unit Location		Capacity
Off road lamps assembly	Fuse block (J/B)	2	15A

Is the fuse open?

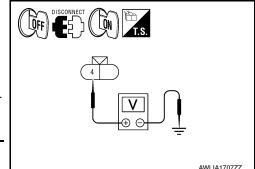
YES >> Repair the harness and replace the fuse.

NO >> GO TO 2

2.CHECK OFF-ROAD LAMPS VOLTAGE

- 1. Turn the ignition switch OFF.
- 2. Disconnect the off-road lamps assembly connectors.
- 3. Remove the off-road lamps covers.
- 4. Turn the ignition switch ON.
- 5. Turn the high beam headlamps ON.
- 6. Turn the off-road lamps ON.
- 7. Check the voltage between the off-road lamp assembly connectors and ground.

(+)			(-)	Voltage	
Connector		Terminal	(-)	voltage	
LH B528 4		4	Ground	Battery voltage	
RH	B530	4	Ground	Dattery Voltage	



Is the inspection result normal?

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

3.CHECK OFF-ROAD LAMPS GROUND CIRCUIT

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OFF-ROAD LAMPS CIRCUIT

< COMPONENT DIAGNOSIS >

Check continuity between the off-road lamps assembly harness connector terminal and ground.

Coni	nector	Terminal	_	Continuity	
LH	B528	5	Ground	Yes	
RH	B530	5	Ground	103	

DISCONNECT TIS.

Is the inspection result normal?

YES >> Inspect the off-road lamp bulb.

NO >> Repair the harness.

4. CHECK OFF-ROAD LAMPS RELAY

- 1. Turn the ignition switch OFF.
- 2. Disconnect the off-road lamps relay connector.
- Check off-road lamps relay. Refer to EXL-47, "Component Inspection".

Is the inspection result normal?

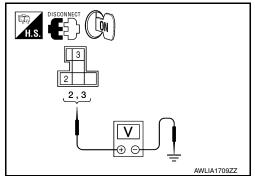
YES >> GO TO 5

NO >> Replace off-road lamps relay.

5. CHECK OFF-ROAD LAMPS RELAY POWER SUPPLY

- 1. Turn the ignition switch ON.
- 2. Check the voltage between the off-road lamps relay harness connector and ground.

(+)		(-)	Voltage	
Connector	Terminal	()	Voltage	
M81	2	Ground	Battery voltage	
IVIO I	3	Glound	Battery voltage	



Is the inspection result normal?

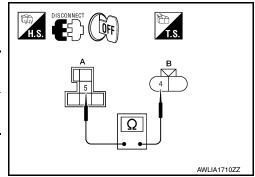
YES >> GO TO 6

NO >> Inspect harness or connector.

6.CHECK OFF-ROAD LAMPS POWER SUPPLY CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Check continuity between the off-road lamps relay harness connector (A) and off-road lamp assembly harness connectors (B).

Α		В			Continuity
Connector	Terminal	Connector		Terminal	Continuity
M81	5	LH	B528	4	Yes
IVIOI	5	RH	B530	4	ies



Is inspection result normal?

YES >> GO TO 7

NO >> Inspect harness or connector.

.CHECK OFF-ROAD LAMPS RELAY CONTROL CIRCUIT

1. Disconnect BCM connector.

OFF-ROAD LAMPS CIRCUIT

< COMPONENT DIAGNOSIS >

Check continuity between the off-road lamps relay harness connector (A) and BCM harness connectors (B).

Α			Continuity		
Connector	Terminal	Connector Terminal		Continuity	
M81	1	M19	50	Yes	

Is inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-56</u>, "Removal and Installation".

NO >> Inspect harness or connectors.

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Component Inspection

1. CHECK OFF-ROAD LAMPS RELAY

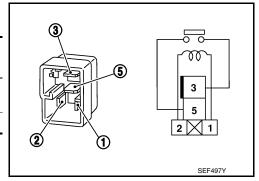
Check off-road lamps relay.

Terminal		Condition	Continuity	
Off-road I	amps relay	Gorialion	Continuity	
3	5	12V direct current supply between terminals 1 and 2.	Yes	
		No current supply	No	

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace roff-road lamps relay.



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FRONT FOG LAMP CIRCUIT

< COMPONENT DIAGNOSIS >

FRONT FOG LAMP CIRCUIT

Description

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:0000000005268581

1. CHECK FRONT FOG LAMP OPERATION

WITHOUT CONSULT-III

- Activate IPDM E/R auto active test. Refer to PCS-13, "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-48, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000005268582

Regarding Wiring Diagram information, refer to EXL-70, "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?

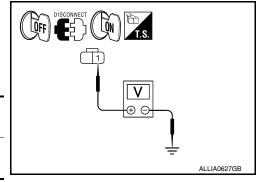
YES >> Repair the harness and replace the fuse.

NO >> GO TO 2

2.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

- 1. 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	
Сс	nnector	Terminal	(-)	voltage	
LH	E101	1	Ground	Battery voltage	
RH	E102	1	Glound	Battery voltage	



Is battery voltage present?

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

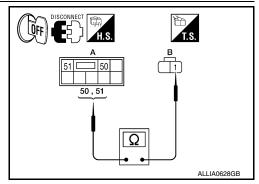
FRONT FOG LAMP CIRCUIT

< 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 and the front fog lamp harness connector.

Α			В	Continuity	
Conr	nector	Terminal	Connector	Terminal	Continuity
LH	E123	50	E101	1	Yes
RH	L123	51	E102	1	165



Does continuity exist?

YES >> GO TO 4

NO >> Repair the harnesses or connectors.

4. CHECK FRONT FOG LAMP GROUND CIRCUIT

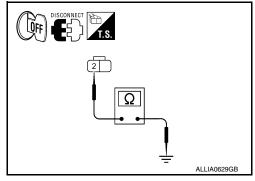
- 1. Disconnect the front fog lamp connector.
- 2. Check continuity between the front fog lamp harness connector terminal and ground.

Connector		Terminal	_	Continuity
LH	E101	2	Ground	Yes
RH	E102	2	Ground	165

Does continuity exist?

YES >> Inspect the fog lamp bulb.

NO >> Repair the harness.



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< COMPONENT DIAGNOSIS >

PARKING LAMP CIRCUIT

Description

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:0000000005268584

1. CHECK PARKING LAMP OPERATION

WITHOUT CONSULT-III

- Activate IPDM E/R auto active test. Refer to PCS-13, "Diagnosis Description".
- 2. 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-50, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000005268585

Regarding Wiring Diagram information, refer to EXL-85, "Wiring Diagram".

1. CHECK PARKING LAMP FUSES

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

Unit	Location	Fuse No.	Capacity
Darking Jampa	IPDM E/R	36	10A
Parking lamps	IFDIVI E/K	37	10A

Is the fuse open?

YES >> Repair the harness and replace the fuse.

NO >> GO TO 2

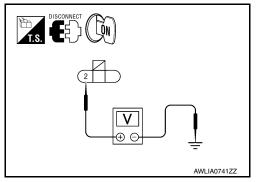
2.CHECK TAIL LAMP RELAY OUTPUT (VOLTAGE)

- 1. Turn the ignition switch OFF.
- Disconnect the front parking lamp connectors, front side marker lamp connectors, rear combination lamp connectors and license plate lamp connectors.
- 3. Turn the ignition switch ON.
- Turn the parking lamps ON.

< COMPONENT DIAGNOSIS >

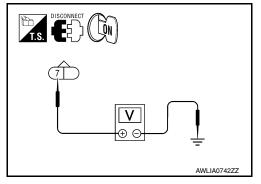
With the parking lamps ON, check voltage between the front parking lamp connectors and ground.

(+) Connector Terminal		(-)	Voltage		
		Terminal	(-)	voltage	
LH	E27	2	Cround	Patton, voltago	
RH	E111	2	Ground	Battery voltage	



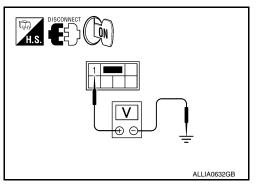
6. With the parking lamps ON, check voltage between the front side marker lamp connectors and ground.

(+)		(-)	Voltage		
	Connector	Terminal	(-)	voltage	
LH	E17	7	Ground	Battery voltage	
RH	E108	,	Ground	Dattery Voltage	



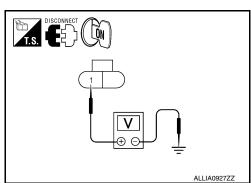
7. With the parking lamps ON, check voltage between the rear combination lamp connectors and ground.

(+)			(–)	Voltage	
	Connector		(-)	voltage	
LH	B35	1	Ground	Rattery voltage	
RH	B105	1	Giouna	Battery voltage	



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

(+)		(-)	Voltage	
Connector	onnector Terminal		voltage	
C12	1	Ground	Battery voltage	



Are voltage readings as specified?

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

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

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

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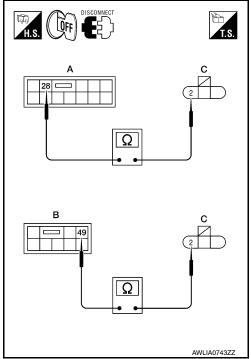
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< COMPONENT DIAGNOSIS >

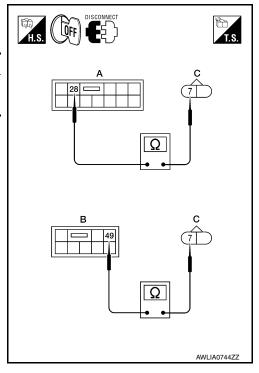
 Check continuity between the IPDM E/R harness connector (A)(B) and the front parking lamp harness connector (C).

Co	onnector	Terminal	Connector	Terminal	Continuity
LH	A: E121	28	C: E27	2	Yes
RH	B: E123	49	C: E111	2	163



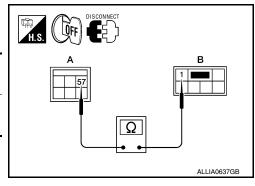
4. Check continuity between the IPDM E/R harness connector (A)(B) and the front side marker lamp harness connector (C).

C	onnector	Terminal	Connector	Terminal	Continuity
LH	A: E121	28	C: E17	7	Yes
RH	B: E123	49	C: E108	,	163



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

А			Continuity		
C	onnector	Terminal	Connector	Terminal	Continuity
LH	E124	57	B35	1	Yes
RH	E124	57	B105	'	165



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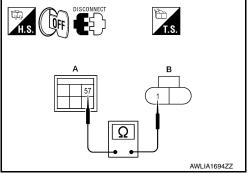
6. Check continuity between the IPDM E/R harness connector (A) and license plate lamp connector (B).

Α			Continuity	
Connector	Terminal	Connector	Terminal	Continuity
E124	57	C12	1	Yes

Are continuity results as specified?

YES >> GO TO 4

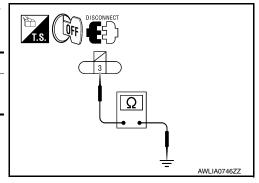
NO >> Repair the harnesses or connectors.



4. CHECK PARKING, LICENSE AND TAIL LAMP GROUND CIRCUITS

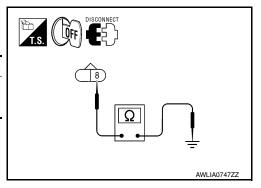
 Check continuity between the front parking lamp harness connectors and ground.

Connector		Terminal —		Continuity
LH	E27	3	Ground	Yes
RH	E111	3	Ground	



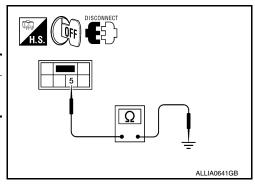
2. Check continuity between the front side marker lamp harness connectors and ground.

Co	onnector	Terminal	_	Continuity
LH	E17	Q	Ground	Yes
RH	E108	0	Ground	165



3. Check continuity between the rear combination lamp harness connectors and ground.

Connector		Terminal	_	Continuity	
LH	B35	5	Ground	Yes	
RH	B105	3	Ground	165	



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Revision: July 2009 EXL-53 2010 Xterra

< COMPONENT DIAGNOSIS >

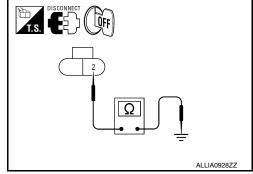
4. Check continuity between the license plate lamp harness connector and ground.

Connector	Terminal	_	Continuity
C12	2	Ground	Yes

Are continuity results as specified?

YES >> Inspect the parking lamp bulb.

NO >> Repair the harness.



TURN SIGNAL LAMP CIRCUIT

< COMPONENT DIAGNOSIS >

TURN SIGNAL LAMP CIRCUIT

Description INFOID:000000005268586

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

1.CHECK TURN SIGNAL LAMP

(E)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-55, "Diagnosis Procedure".

Diagnosis Procedure

Regarding Wiring Diagram information, refer to EXL-79, "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?

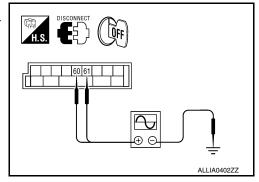
YES >> GO TO 2

NO >> Replace the bulb.

2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

- Turn the ignition switch OFF.
- Disconnect the front combination lamp connectors and 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



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Revision: July 2009 EXL-55 2010 Xterra

TURN SIGNAL LAMP CIRCUIT

< COMPONENT DIAGNOSIS >

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

Is voltage reading as specified?

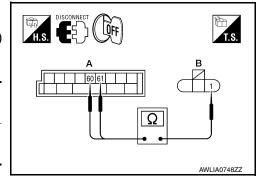
YES >> GO TO 3

NO >> Replace BCM. Refer to BCS-56, "Removal and Installation".

3.CHECK TURN SIGNAL LAMP CIRCUIT FOR OPEN

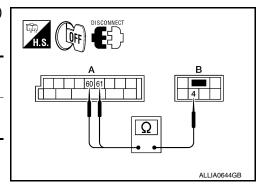
- 1. Turn the ignition switch OFF.
- 2. Disconnect BCM connector M20.
- 3. Check continuity between the BCM harness connector M20 (A) and the front combination lamps (B).

A				В	Continuity
Con	nector	Terminal	Connector	Terminal	Continuity
Front LH	M20	60	E27	1	Yes
Front RH	IVIZU	61	E111	'	163



4. Check continuity between the BCM harness connector M20 (A) and the rear combination lamp connectors (B).

А		I	3	Continuity	
Cor	nector	Terminal	Connector	Terminal	Continuity
Rear LH	M20	60	B35	4	Yes
Rear RH	IVIZO	61	B105	4	165



Are continuity results as specified?

YES >> GO TO 4

NO >> Repair the harnesses or connectors.

4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between the BCM harness connector M20 and ground.

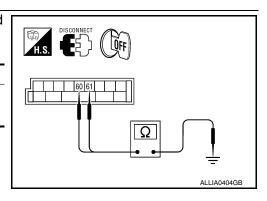
С	onnector	Terminal	_	Continuity
LH	M20	60	Ground	No
RH	M20	61	Giodila	NO

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 5

5. CHECK TURN SIGNAL LAMP GROUND CIRCUIT

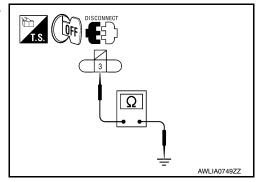


TURN SIGNAL LAMP CIRCUIT

< COMPONENT DIAGNOSIS >

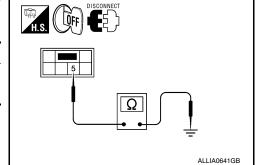
1. Check continuity between the front combination lamp harness connectors and ground.

Connector		Terminal	_	Continuity	
Front LH	E27	3	Ground	Yes	
Front RH	E111		Ground	165	



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

Conne	ector	Terminal	_	Continuity
Rear LH	B35		Ground	Yes
Rear RH	B105	5	Ground	163



Are continuity results as specified?

YES >> Replace the malfunctioning lamp.

NO >> Repair the harnesses or connectors.

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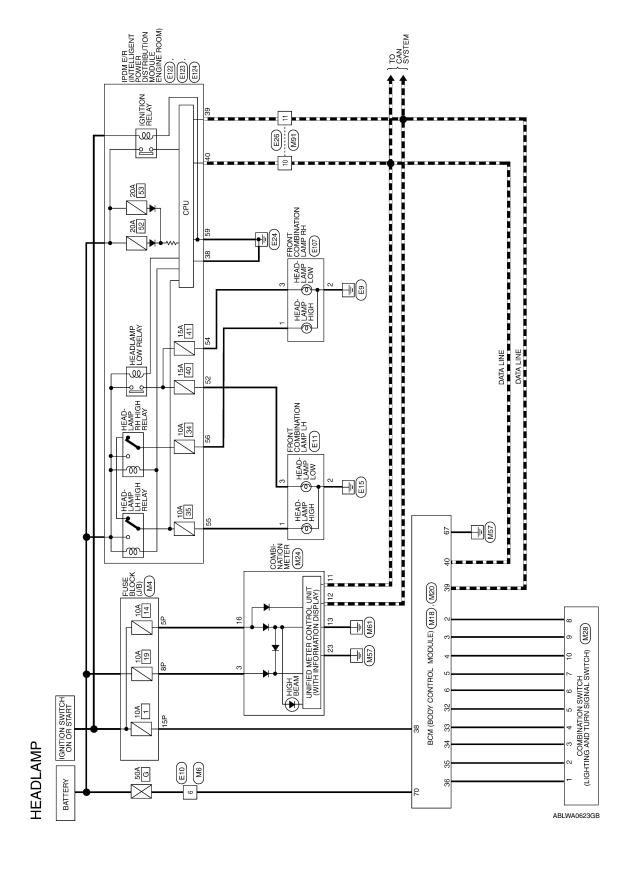
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HEADLAMP

Wiring Diagram



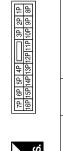
HEADLAMP CONNECTORS

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

Connector No. M6
Connector Name WIRE TO WIRE

Connector Color WHITE





Signal Ne	1	-	-	
Color of Wire	M/G	R/Υ	W/R	
Terminal No.	5P	8P	15P	

Signal Name

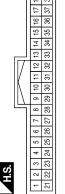
Terminal No.

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0.	BCM (BODY CONTROL MODULE)	BLACK	85 57 86 89 80 61 82 83 84 65 667 68 69 70	Signal Name	GND (POWER)	BAT (F/L)
). M20			565758	Color of Wire	В	>
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	29	02

Signal Name	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	>	Т	В	0	GR	១	BR	ГG	W/R	٦	Ь
Terminal No.	4	5	9	32	33	34	35	36	38	39	40

	Connector No. M18	9 Z
	Connector Name BCM (BODY CONTROL MODULE)	Connector Color WHITE
Connector Color WHITE		Connector Name BCM (BODY CONTROL MODULE)



Signal Name	INPUT 5	INPUT 4
Color of Wire	Ь	SB
Terminal No.	2	3

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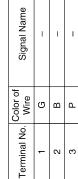
Signal Name	INPUT 4	INPUT 5	OUTPUT 1	OUTPUT 2	OUTPUT 5	OUTPUT 4	OUTPUT 3
Color of Wire	GR	0	Ж	7	Ь	SB	>
Terminal No.	4	2	9	7	8	6	10

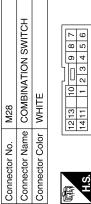
Signal Name	INPUT 4	INPUT 5	OUTPUT 1	OUTPUT 2	OUTPUT 5	OUTPUT 4	OUTPUT 3	
Color of Wire	GR	0	Ж	Г	Ь	SB	^	
Terminal No.	4	5	9	7	8	6	10	

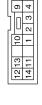


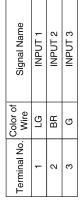


Connector Color BLACK

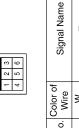








	WIRE					
	2	l			3	9
	Щ	lΕ			7	ĸ
E10	WIRE	WHITE			1	4
Ш	>	>		_		
-	-		1			





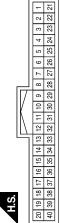


Connector No.	Connector Name	Connector Color	
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		l
Color of Wire	M	
Terminal No.	9	

M24	Connector Name COMBINATION METER	WHITE	
Connector No.	Connector Name	Connector Color WHITE	



Signal Name	BATTERY	CAN-L	CAN-H	GROUND	RUN START	POWER GND
Color of Wire	R/Υ	Ь	_	GR	W/G	В
Terminal No.	3	11	12	13	16	23

M91	WIRE TO WIRE	WHITE	6 5 4 3 2 1	16 15 14 13 12 11 10 9 8	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	<u></u>	116	2





Signe			
Color of Wire	Ь	٦	
Terminal No.	10	11	

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Connector No.). E122	2
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	olor WHITE	ITE
画 H.S.	42 41 48 47	41 40 39 38 37 47 46 45 44 43
Terminal No.	Color of Wire	Signal Name
38	В	GND (SIGNAL)
39	٦	CAN-H
40	Ь	CAN-L

42 41 40 39 38 37 48 47 46 45 44 43	Signal Name	GND (SIGNAL)	CAN-H	CAN-L
42 44 47 47 48 47	Wire	В	Γ	۵
原可 H.S.	Terminal No.	38	68	40

70	FRONT COMBINATION LAMP RH	BLACK	1 2 8	Signal Name	ı	1	1
. E107				Color of Wire	Г	В	æ
Connector No.	Connector Name	Connector Color	研 H.S.	Terminal No.	-	2	က

Connector No. E26
Connector Name WIRE TO WIRE

Connector Color WHITE

Signal Name	1	1	I	
Color of Wire	Г	В	н	
Terminal No. Wire	-	2	3	

			ı
Signal Name	ı	1	
Color of Wre	А	٦	
Terminal No. Wre	10	11	

4.	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	OK	29 88 62	Signal Name	(HEWOA) GNE
E124		lor BLA	9	Color of Wire	В
Connector No.	Connector Name	Connector Color BLACK	原动 H.S.	Terminal No.	29

Ω	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	BROWN	55 64 53 52	Signal Name	H/LAMP LO LH	H/LAMP LO RH	H/LAMP HI LH	H/LAMP HI RH
. E123			51	Color of Wire	۵	Œ	5	٦
Connector No.	Connector Name	Connector Color	ls.	Terminal No.	52	54	55	99

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EXL-61 2010 Xterra Revision: July 2009

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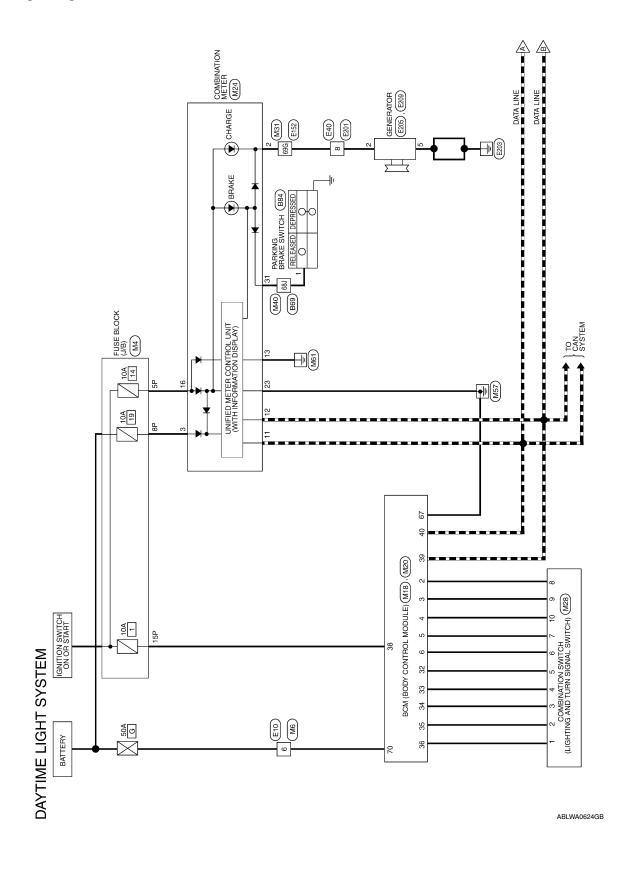
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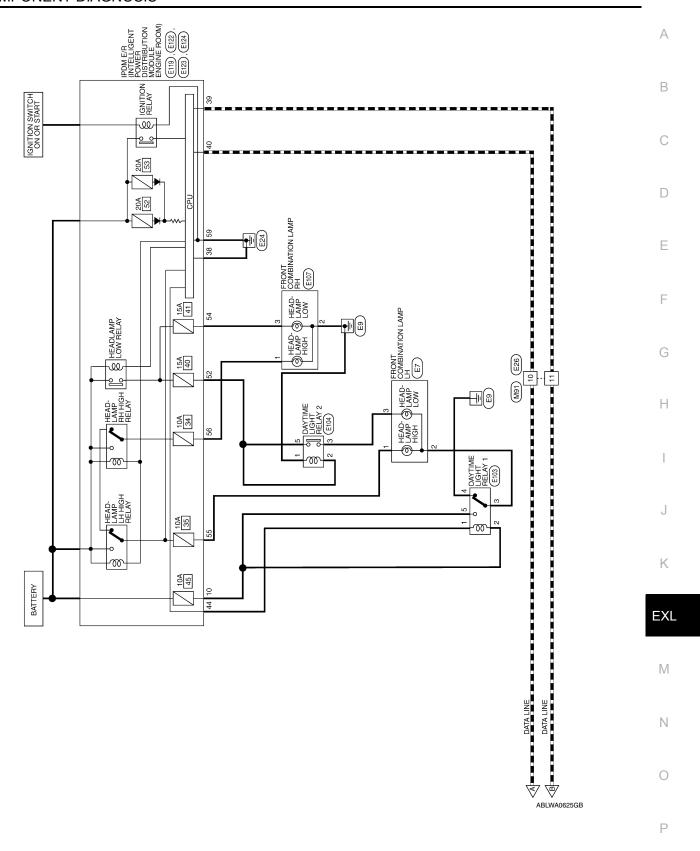
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DAYTIME LIGHT SYSTEM

Wiring Diagram





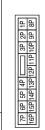
DAYTIME LIGHT SYSTEM CONNECTORS

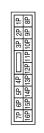
Connector No.	M4
Connector Name FUSE BLOCK (J/B)	-USE BLOCK (J/B)
Connector Color WHITE	VHITE

Connector Name WIRE TO WIRE

Connector No. M6

Connector Color WHITE









Signal Name	_	I	_
Color of Wire	M/G	R/Y	W/R
Terminal No.	5P	8P	15P

Signal Name	I
Color of Wire	8
erminal No.	9

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





Signal Name	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	^	Т	В	0	GR	G	BR	ГG	W/R	L	Ь
Terminal No.	4	2	9	32	33	34	35	36	38	39	40

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





Signal Name	INPUT 5	INPUT 4	
Color of Wire	Ь	SB	
Terminal No.	2	3	

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Γ						Τ																			F
	Connector Name COMBINATION SWITCH Connector Color WHITE	2 9 8 7 7 8 9 8 7 7	Signal Name	INPUT 1	INPUT 3	INPUT 4	INPUT 5	OUTPUT 1	OUTPUT 2	OUTPUT 5	OUTPUT 4	OUTPUT 3		Signal Name	1										G
	m28 ne COMBIN. or WHITE	12 13 10 14 11 1	Color of Wire	LG	H O	GR	0	æ	7	Ъ	SB	^	97 1	Wire	۵										Н
	Connector Name Connector Color	雨 H.S.	Terminal No.	- 0	N W	4	5	9	7	8	6	10		Terminal No.	569										J
			22 21		·										•									\exists	K
	M24 COMBINATION METER WHITE		10 9 8 7 6 5 4 3 30 29 28 27 26 25 24 23	Signal Name	CHARGE (ALT) INPUT	BATTERY	CAN-L	CAN-H	GROUND	RUN START	POWER GND	PARK BRAKE SW		TO WIBE	7		56 46 36 26 16 140c 96 86 76 66	00 00 00	21G 20G 19G 18G 17G 16G 15G 14G 13G 12G 11G 30G 29G 28G 27G 26G 25G 24G 23G 22G	41G 40G 39G 37G 36G 35G 34G 32G 31G 36G 49G 49G 46G 45G 44G 43G 42G 42G	61G 600G 590G 580G 570G 560G 550G 540G 530G 520G 510G	G 67G 66G 65G 64G 63G 62G	75G 74G 73G 72G 71G 80G 79G 78G 77G 76G		EXL
	o. M24 ame COMBII		20 19 18 17 16 15 14 13 12 11 14 0 14 0 39 38 37 36 35 34 33 32 31	Color of	<u> </u>	R/Y	Ь	7	GR	M/G	В	g		Connector Name WIBE TO WIBE	olor WHITE	_			21G 20G 19G 180 30G 29G 28	41G 40G 39G 38 50G 49G 48	616 606 596 58	70G 69G 68	[25] 85]		N
	Connector Name Connector Color	原南 H.S.	20 19 18 17 16 40 39 38 37 30	Terminal No.	8	က	11	12	13	16	23	31		Connector Nan	Connector Color		H.S.							╝	0
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Connector Name LAMP LH (WITH DAYTIME LIGHT SYSTEM) Connector Color BLACK ALS Terminal No. Wire Signal Name 2 B	Connector No. E40 Connector Name WIRE TO WIRE	Connector Color GRAY H.S. (1 2 3 4 5)	Terminal No. Color of Signal Name 8 P -
Connector Name WIRE TO WIRE	Connector No. E26 Connector Name WIRE TO WIRE	Connector Color WHITE	Terminal No. Wire Signal Name 10 P – 11 L –
Connector Name WIRE TO WIRE Connector Color WHITE Si 4J 3J 22 13 10J 9J 8J 77 6J 21J 20J 19J 18J 17J 16J 15J 14J 13J 12J 11J 21J 20J 19J 18J 17J 16J 15J 14J 13J 12J 11J 30J 29J 28J 27J 28J 28J 24J 23J 22J 41J 40J 39J 38J 37J 38J 38J 37J 38J 32J 31J 61J 60J 39J 38J 57J 58J 58J 64J 63J 62J 70J 69J 68J 67J 68J 68J 67J 78J 80J 73J 72J 77J 78J 77J 78J 80J 73J 72J 77J 78J 77J 78J	Terminal No. Wire Signal Name 68J G - Connector No. E10 Connector Name WIRE TO WIRE	Connector Color WHITE 1 2 3 4 5 6	Terminal No. Wire Signal Name 6 W –

Revision: July 2009 EXL-66 2010 Xterra

DAYTIME LIGHT SYSTEM

< COMPONENT DIAGNOSIS >

Connector Name DAYTIME LIGHT RELAY 2

Connector Name DAYTIME LIGHT RELAY 1

Connector No. E103

Connector Color BLACK

Connector No. E104

Connector Color BLUE

Connector No.). E107	20
Connector Name		FRONT COMBINATION LAMP RH
Connector Color		BLACK
所 H.S.		3 2 1
Terminal No.	Color of Wire	Signal Name
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Signal Name	1	-	I	
Color of Wire	٦	В	н	
Terminal No.	-	2	3	

Signal Name

Color of Wire

Terminal No.

Signal Name

Color of Wire

Terminal No.

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GR B/B

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2	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	BROWN	55 54 53 52	Signal Name	H/LAMP LO LH	H/LAMP LO RH	H/LAMP HI LH	H/I AMP HI BH
			21	Color of Wire	Ь	Я	В	_
COLLECTO NO.	Connector Name	Connector Color	雨 H.S.	Terminal No.	52	54	22	56

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Connector N	Connector C	原 用.S.	Terminal No.	52	54	ı
JGENT JTION ROOM)			lame	3NAL)	ī	
s/R (INTELLIGENT R DISTRIBUTION LE ENGINE ROOM)		39 38 37 45 44 43	Signal Name	GND (SIGNAL)	CAN-H	

E122	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	WHITE	42 41 40 39 38 37	of Signal Name	GND (SIGNAL)	CAN-H	CAN-L	TIVOO
			48 48	Color of Wire	m	_	۵	α
Connector No.	Connector Name	Connector Color	「南南 H.S.	Terminal No.	38	39	40	44

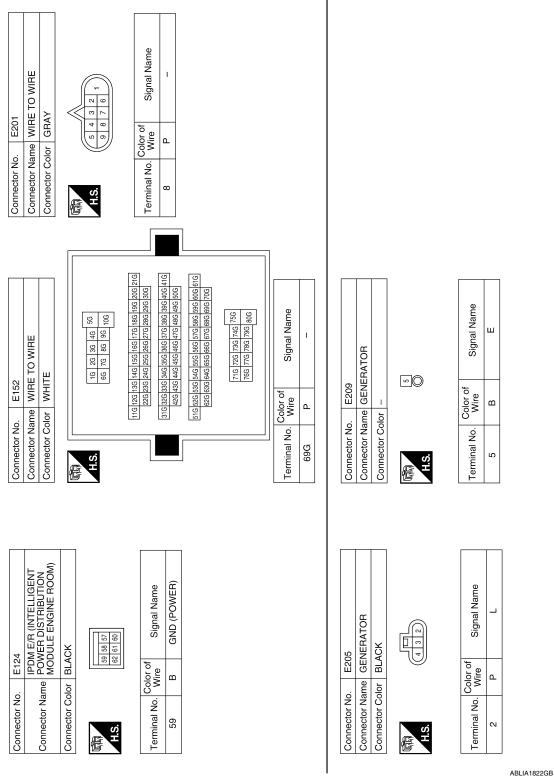
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	Signal Name	DTRL RLY SUPPLY
	Color of Wire	B/B
S.	Terminal No.	10

Connector No.	E119
Connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	WHITE
	9 8 7 6 5 4 3

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Revision: July 2009



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Connector No. B84 Connector Name PARKING BRAKE SWITCH Connector Color BLACK		Signal Name				
me PARKIN lor BLACK	-	Color of Wire G				
Connector No. Connector Name Connector Color	H.S.	Terminal No.				
	200/21.0	300 400 410 500 601 611	707] _ _		
VIRE	1.1 2.1 3.1 4.1 5.1 6.1 7.1 8.1 9.1 10.1 1.1 12.1 13.1 14.1 15.1 16.0 17.2 18.0 19.0 20.0 27.0	31.3 22.3 23.9 24.1 25.3 (28.1 27.3 (28.1 29.3) 30.1 31.3 22.3 (28.1 35.1 35.1 35.3 (38.1 39.1 40.1 41.1) 42.1 43.1 44.1 45.1 46.3 47.1 48.1 49.1 49.1 40.1 47.1 48.1 49.1 49.1 49.1 49.1 49.1 49.1 49.1 49	(22) (23) (24) (25) (25) (25) (25) (25) (25) (25) (25	Signal Name	1	
Connector No. B69 Connector Name WIRE TO WIRE Connector Color WHITE	1.1 2.1 3.1 E.1 2.1 E.1 15.1 15.1 15.1 15.1 15.1 15.1 15.	223 233 244 255 323 333 344 355 422 433 444 455	62J 63J 64J 65J 71J 72J 72 76J 77J 77J 77J 77	Color of Wire	5	
or No.	117	33				
Connector No. Connector Name Connector Color	H.S.			Terminal No.	681	

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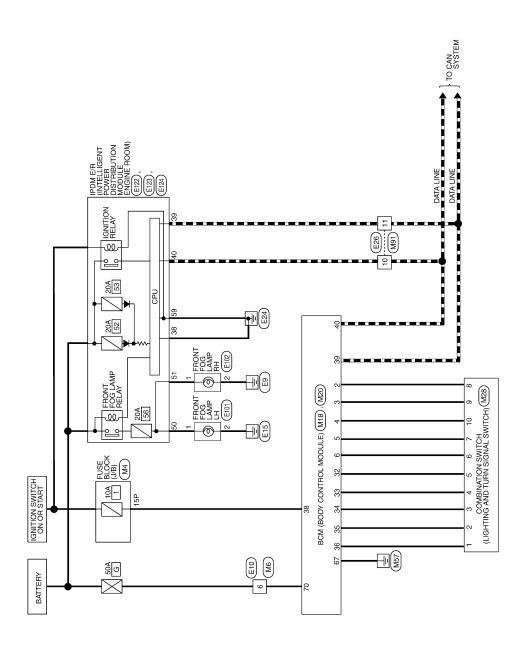
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FRONT FOG LAMP SYSTEM

Wiring Diagram



FRONT FOG LAMP

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Connector Name WIRE TO WIRE

Connector No. M6

Connector Color WHITE

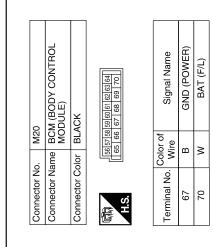
	Connector Name FUSE BLOCK (J/B)	<u> </u>	7P 69 5P 4P (Signal Name	ı
Α	ne FUS	or WH	7P 6P 5P 4P [16P 13P 1	Color of Wire	a/W
Connector No.	Connector Nar	Connector Color WHITE	画面 H.S.	Terminal No.	15P

Signal Name

Terminal No. Wire

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Signal Name	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	>	_	ш	0	GR	g	BR	ГG	W/R	_	Д
Terminal No.	4	5	9	32	33	34	32	98	38	39	40

				19 20 39 40			
	BCM (BODY CONTROL MODULE)	щ		10 11 12 13 14 15 16 17 18 30 31 32 33 34 35 36 37 38	Signal Name	INPUT 5	INPUT 4
. M18		lor WHITE		6 7 8 9 26 27 28 29	Color of Wire	۵	SB
Connector No.	Connector Name	Connector Color	原 H.S.	1 2 3 4 5 21 22 23 24 25	Terminal No.	2	ღ

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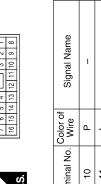
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FRONT FOG LAMP SYSTEM

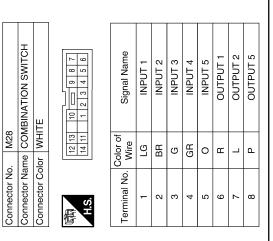
< COMPONENT DIAGNOSIS >

Connector No.	M91
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE

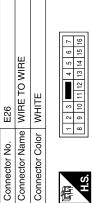


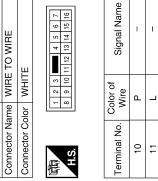
IE IO WIRE	TE	14 13 12 11 10 9 8 8	Signal Name	ı	-
me WIH	lor WHI	7 6 5 4 16 15 14 13	Color of Wire	Ь	7
Connector Name WIRE 10 WIRE	Connector Color WHITE	廟 H.S.	Terminal No.	10	11

Signal Name	OUTPUT 4	OUTPUT 3	
Color of Wire	SB	^	
Terminal No.	6	10	



Connector No.). E101	
Connector Name		FRONT FOG LAMP LH
Connector Color	olor BLACK	X
H.S.		
Terminal No.	Color of Wire	Signal Name
-	8	I
2	В	1





	WIRE TO WIRE	王	8 8	Signal Name	1
. E10	me WIR	lor WHITE	- 4 - 2 - 2	Color of Wire	8
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	9

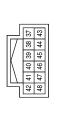
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FRONT FOG LAMP SYSTEM

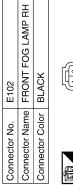
< COMPONENT DIAGNOSIS >

Connector No.	. E123	
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	lor BROWN	N
H.S.	51 86 85	54 53 52
Terminal No.	Color of Wire	Signal Name
20	×	FR FOG LAMP LH
51	>	FR FOG LAMP RH

22	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	ITE
No. E122	Name PO MC	Solor WF
Connector No.	Connector N	Connector Color WHITE



Signal Na	GND (SIGN	CAN-H	CAN-L
Color of Wire	В	٦	Р
Terminal No.	38	39	40





Signal Name	1	_
Color of Wire	>	В
Terminal No.	1	2

	. !
Connector Name	IPDM E/R (INTELL POWER DISTRIBL MODULE ENGINE
Connector Color BLACK	BLACK
E SH	59 58 57 62 61 60

S I capiN	GND (POW	
Color of	Wire	2
oly legiman	59 59	3

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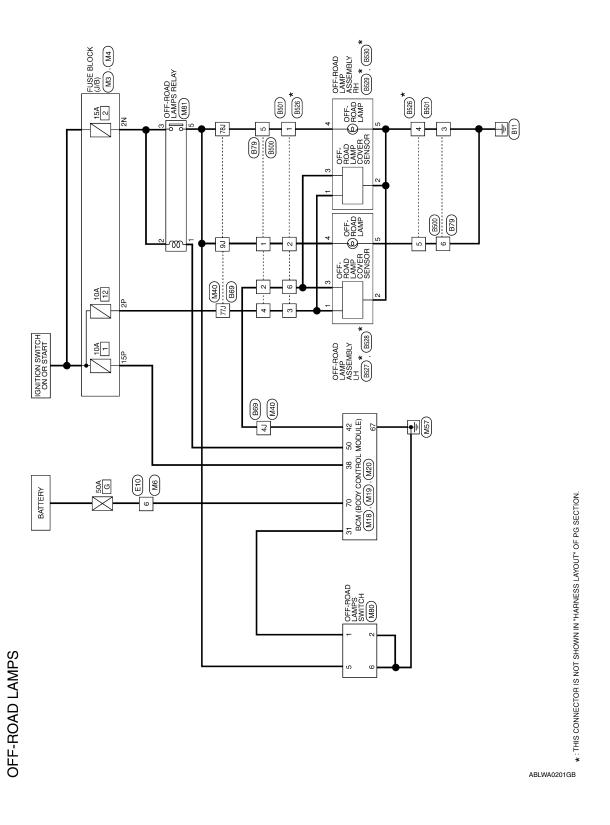
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OFF-ROAD LAMPS

Wiring Diagram



Connector No.	M3	Conn	Connector No.	M4		Connector No.	. Me	
Connector Nam	Connector Name FUSE BLOCK (J/B)	Conn	ector Name	Connector Name FUSE BLOCK (J/B)		Connector Name WIRE TO WIRE	me WIRE T	O WIRE
Connector Color WHITE	ır WHITE	Conn	Connector Color WHITE	WHITE		Connector Color WHITE	lor WHITE	
可 H.S.	3N	H.S.		7P 6P 6B 4P 7P 1P 1P 1P 1P 1P 1P 1	<u>41 d</u>	所 H.S.	0 0	<u> </u>
	30			7			70 10	
Terminal No. Wire	Wire Signal Name		Terminal No. Wire	lor or Vire Signal Name	ате	Terminal No. Wire	Wire	Signal Name
SN	W/R		2P W	– – – – – –		9	M	1
			15P W	W/R				

Connector Name BCM (B MODUL	Connector Name BCM MOI	Connector No. M18 Connector Name BCM (BODY CONTROL MODULE) Connector Color WHITE	Connector No. M19 Connector Name BCM (B MODUL	ame BCM MOD	Connector No. M19 Connector Name BCM (BODY CONTROL MODULE) Connector Color WHITE	Connector Name BCM (B MODUL	ame BCM MODU	Connector No. M20 Connector Name BCM (BODY CONTROL MODULE) Connector Color BLACK
H.S. 1 2 3 4 5 6 7 21 22 23 24 25 26 27		9 10 11 12 13 14 15 16 17 18 19 20	原 H.S.	41 42 4 50 51	50 51 52 53 54 55	€ H.S.	56 57 56 65 66 67	56 57 58 59 60 61 62 63 64 65 66 67 68 69 70
Terminal No.	Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name
31	æ	OFF ROAD LAMP SW	42	_	PCA OUTPUT	29	В	GND (POWER)
38	W/R	IGN SW	20	>	OFF ROAD LAMP	70	W	BAT (F/L)

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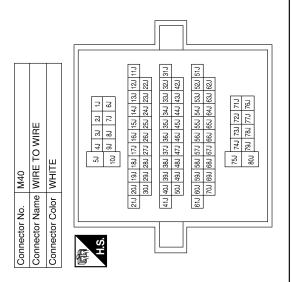
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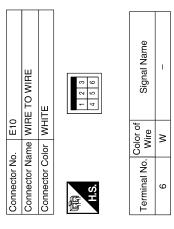
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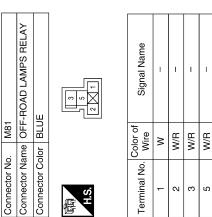
EXL-75 2010 Xterra Revision: July 2009

	Connector Name OFF-ROAD LAMPS SWITCH	47	5 4 3 2 1	Signal Name	ı	I	_	1
. M80	me OFF	lor GR/	9	Color of Wire	ھ	æ	W/R	М
Connector No.	Connector Na	Connector Color GRAY	H.S.	Terminal No.	-	2	2	9

Signal Name	1	1	1	-
Color of Wire	٦	W/R	W/G	W/R
Terminal No.	4)	93	L77	787







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OFF-ROAD LAMPS

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< COMPONENT DIAGNOSIS >

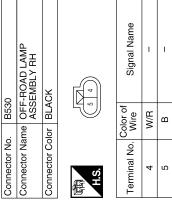
Connector No. B79	Connector No. B526
Terminal No. Color of Signal Name 4J L - - 9J W/R - - 77J W/R - - 78J W/R -	Connector No. B501 Connector Name WIRE TO WIRE Connector Color GRAY #S. \$2 1 Terminal No. Color of Wire Signal Name 2 W/R - 3 W/G - 4 B - 5 B - 6 L -
Connector No. B69 Connector Name WIRE TO WIRE Connector Color WHITE 13 23 34 45 54 14 12 13 144 153 164 170 183 183 203 20 11 12 13 12 13 144 153 165 170 183 183 203 140 141 22 23 23 24 25 25 25 25 25 25 25 25 25 25 25 25 25	Connector No. B500 Connector Name WIRE TO WIRE

Revision: July 2009 EXL-77 2010 Xterra

Connector No.). B529	59
Connector Name		OFF-ROAD LAMP ASSEMBLY RH
Connector Color	_	BLACK
原 H.S.		
Terminal No.	Color of Wire	Signal Name
-	M/G	ı
2	В	ı
8	7	1

Connector No.	. B528	8
Connector Na	me OFF ASS	Connector Name OFF-ROAD LAMP ASSEMBLY LH
Connector Color BLACK	lor BLA	CK
H.S.		4
Terminal No.	Color of Wire	Signal Name
4	W/R	-
5	В	-

Connector Name OFF-R ASSEM Connector Color BLACK H.S. Color of Terminal No. Wire	ASSEMBLY LH BLACK 3 2 1 or of Signal Name //G
2 B	_
3 T	-

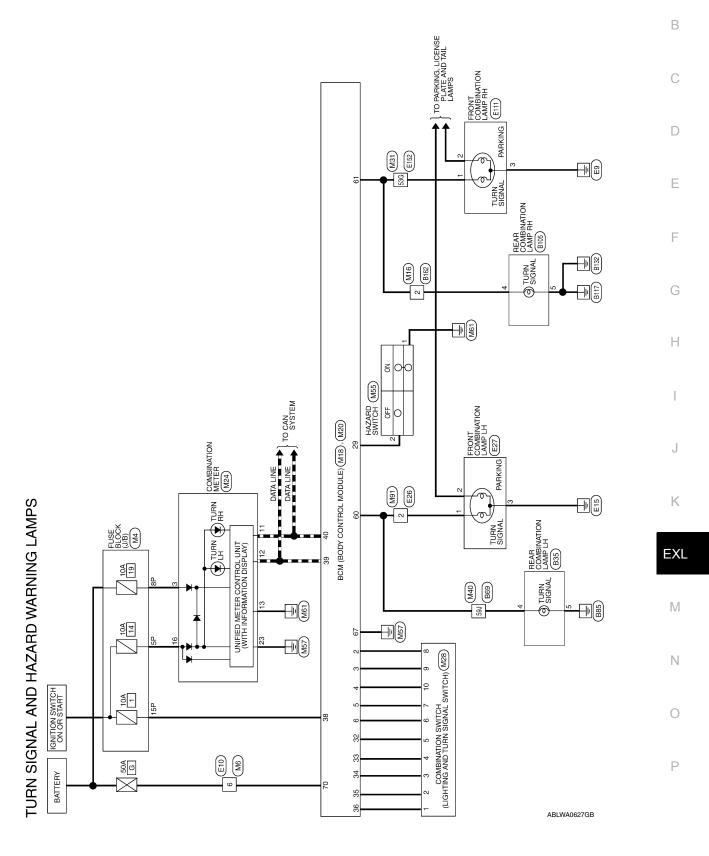


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Wiring Diagram

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| 56|57|58|59|60|61|62|63|64 | 65| 66| 67| 68| 69| 70

Connector Name | BCM (BODY CONTROL | MODULE)

M20

Connector No.

Connector Color | WHITE

Signal Name

Color of Wire

Terminal No.

Signal Name

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FLASHER OUTPUT (LEFT)

Б

9

Signal Name

Color of Wire

Terminal No.

FLASHER OUTPUT (RIGHT) GND (POWER)

 $^{\circ}$

61

BAT (F/L)

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Connector Name | WIRE TO WIRE Connector Color WHITE

M16

Connector No.

TURN SIGNAL AND HAZARD WARNING LAMPS CONNECTORS

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

Connector Name WIRE TO WIRE

M6

Connector No.

Jo.	M4
lame	Name FUSE BLOCK (J/B)
olor	Solor WHITE
7P	6P 5P 4P 3P 2P 1P
16P	16P 15P 14P 13P 12P 11P 10P 9P 8P





¥	r WHITE	Connector Color WHITE	Color	WHITE
4 5	6P 5P 4P 3P 2P 1P 6P 5P 4P 3P 2P 1P 4P 3P 3P 3P 3P 3P 3P	斯 H.S.		5 2 1
olor of Wire	Signal Name	Terminal No. Wire	Solo Vo	or of ire
W/G	_	9	_	W
R/Y	_			
W/R	_			

Signal Name	ı	ı	ı	
Color of Wire	M/G	R/Υ	W/R	
erminal No.	5P	8P	15P	

BCM (BODY CONTROL MODULE)

Connector Name Connector Color

M18

Connector No.

WHITE

Signal Name	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	MS NDI	CAN-H	CAN-L
Color of Wire	0	GR	В	BR	ГG	W/R	L	Д
Terminal No.	32	33	34	35	98	38	39	40

Signal Name

Terminal No. Wire

INPUT 4 INPUT 3 INPUT 2

SB

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Ŋ က 4 2 9

INPUT 5

Signal Name	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Wire	0	GR	g	BR	FG	W/R	Т	۵
Terminal No.	32	33	34	32	98	38	39	40

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HAZARD SW

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29

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INPUT 1

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WHITE 10 Signal Name 10 V N N N N N N N N N	6 01	Connector Color WHITE 10	Connector Color WHITE 10	Connector Color WHITE 10
Marketal No. Mark	WHITE WHITE WHITE WHITE WHITE WHITE WHITE WHITE Signal Name Wire Signal Name Wire NPUT 2 Signal Name NPUT 2 Signal NPUT 3 Signal NPUT 3 Signal NPUT 4 Signal NPUT 5 Si	Connector Name COMBINATION SWITCH Connector Color WHITE	Connector Name COMBINATION SWITCH	WHITE Connector Name COMBINATION SWITCH
M28	Connector No. M28		4 3 2 2 1 1 2 3 2 2 1 1 1 2 4 2 3 2 2 1 1 1 2 4 2 3 2 2 2 1 1 2 3 2 2 2 2 1 1 1 2 4 2 3 2 2 2 2 1 1 1 2 4 2 3 2 2 2 2 1 1 1 2 4 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	M24
M28	M28 Connector Name COMBINATIC Connector Color WHITE Connector Color WHITE Connector Color WHITE Connector Color of Color of Signature Si		6 3 2 2 3 3 3 3 3 3 3	M24 COMBINATION METER WHITE WHITE
	Connector No. Connector Col. A.S. Terminal No. 5 6 6 6 7 Terminal No.		24 4 3 2 2 2 1 1 2 2 2 1 1 1 2 2 2 1 1 1 1 2 2 2 2 1 1 1 1 2 2 2 2 1 1 1 1 2 2 2 2 1 1 1 1 2 2 2 2 1 1 1 1 2 2 2 2 1 1 1 1 2 2 2 2 1 1 1 1 2 2 2 2 1	M24 COMBINATION METER WHITE

Revision: July 2009 EXL-81 2010 Xterra

< COMPONENT DIAGNOSIS >

Connector No. M55 Connector Name HAZARD SWITCH Connector Color WHITE ALS Terminal No. Color of Signal Name 1 B - 2 G -	Connector No. E26 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No. Color of Wire Signal Name
Terminal No. Color of Signal Name S9J G –	Connector No. E10 Connector Name WIRE TO WIRE Connector Color WHITE	H.S. 4 5 6	Terminal No. Color of Signal Name 6 W
Connector No. M40 Connector Name WIRE TO WIRE Connector Color WHITE \$\frac{\sqrt{4}}{100} \frac{\sqrt{2}}{\sqrt{10}} \frac{\sqrt{1}}{101} \frac{\sqrt{1}}{\sqrt{1}} \	Connector No. M91 Connector Name WIRE TO WIRE Connector Color WHITE	7 6 5 4	Terminal No. Color of Signal Name 2 LG -

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< COMPONENT DIAGNOSIS >

								Connector No. B35	Connector Name REAR COMBINATION LAMP LH CONTROLL MILITER		S 80 - 4 - 50 - 50 - 50 - 50 - 50 - 50 - 50		Terminal No. Color of Signal Name	- G –	2 B			A B C D
	NO			ne				Φ										F
	FRONT COMBINATION LAMP RH			Signal Name	1	1		Signal Name	1									G H
No. E111	Name FRON LAMP	Color GRAY	132	Color of Wire	ŋ	GR		Color of Wire	ĝ o									I
Connector No.	Connector Name	Connector Color	师 H.S.	Terminal No.	-	0 0		Terminal No.	53G									J
					1 1		-					[<u>o</u>]			<u></u>			K
	Connector Name FRONT COMBINATION LAMP LH			Signal Name	1	ı			TO WIRE		1G 2G 3G 4G 3G 10G 10G	11G 12G 13G 14G 15G 16G 17G 18G 19G 20G 21G	246 256 266 276 286 286 306 41	426 436 446 456 466 476 486 496 506	51G 52G 53G 54G 55G 56G 57G 58G 59G 60G 61G 62G 63G 64G 65G 66G 67G 68G 69G 70G	716 726 736 746 756	908	EX
Jo. E27	Name FRON	Solor GRAY		Color of Wire	LG	œ (Vo. E152	Connector Name WIRE TO WIRE Connector Color WHITE		- 9	11G 12G 13G 1	316 326 336 3	426 436	51G 52G 53G 5 62G 63G 6	7		N
Connector No.	Connector N	Connector Color	师 H.S.	Terminal No.	-	2		Connector No.	Connector Name	E	S.							0
																ABLIA19	903GB	Р

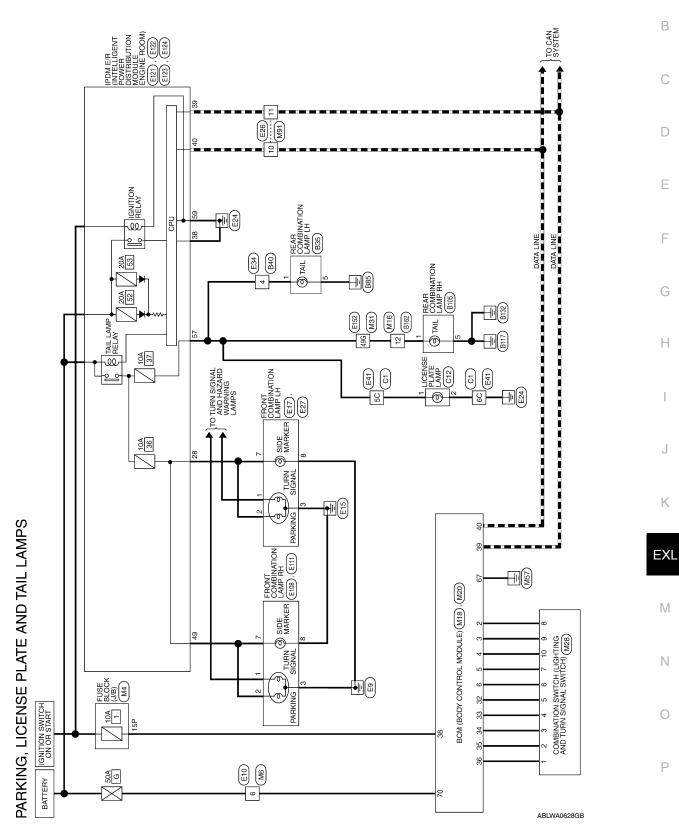
Revision: July 2009 EXL-83 2010 Xterra

Connector No. B105 Connector Name REAR COMBINATION LAMP Connector Color WHITE H.S. 1 Image: 1 molecular lamb Terminal No. Color of Wire Signal Name 4 G - 5 B -	
Terminal No. Color of Signal Name 59J G -	
Connector No. B69 Connector Name WIRE TO WIRE Connector Color WHITE 1.0 20 30 40 50 100 1.1 20 30 40 100 1.1 20 30 40 100 1.1 20 30 40 100 220 20 20 20 20 20 20 20 300 220 20 20 20 20 20 20 20 300 220 20 20 20 20 20 20 20 300 220 20 20 20 20 20 20 20 20 300 210 20 20 20 20 20 20 20 20 20 20 300 210 20 20 20 20 20 20 20 20 20 20 20 20 20	Connector No. B162 Connector Name WIRE TO WIRE Connector Color WHITE H.S. 1 2 3 4 5 6 1 11 12 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 12 13 14 15 13 14 15 12 13 14 15 15 14 15 14 15 14 15 14 15 15 14 15 15 15 15 15 15 15 15 15 15 15 15 15

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Wiring Diagram

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Connector Name BCM (BODY CONTROL MODULE)

M20

Connector No.

BLACK

Connector Color

PARKING, LICENSE PLATE AND TAIL LAMPS CONNECTORS

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

Connector No. M6
Connector Name WIRE TO WIRE

Connector Color WHITE

	(a/b)		3P 2P 1P 10P 9P 8P
4	tor Name FUSE BLOCK (J/B)	WHITE	7P 6P 5P 4P 3P 2P 1P 16P 15P 14P 13P 12P 11P 10P 9P 8P
tor No.	tor Name	tor Color WHITE	7P 16P

12P 11P 10P 9P 8P	Signal Name
7P 6P 5P 4P 16P 15P 14P 13P	Color of Wire
用.S.	Terminal No.

450 450 430 430 430 430 430	0 0 0 10 11 17		i	Signal Name	ı
16D 15D 1/D 12	1 10 10		Color of	Wire	W/B
		v <u>i</u>		rminal No.	15P

(E TO WIRE	IE II	1	Signal Name	I
. M16	me WIF	lor WH	6 5 4 3 11 10 9 9	Color of Wire	^
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No.	12

Signal Name	1
Color of	N N
Terminal No.	9

Signal Name	I	
Color of Wire	Μ	
No.		

Signal Name	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L	
Color of Wire	0	GR	g	BR	LG	W/R	Τ	Ь	
Terminal No.	35	33	34	35	36	38	68	40	

Signal Name	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	0	GR	g	BR	ГG	W/R	٦	Ь
Terminal No.	32	33	34	35	36	38	39	40

			19 20						
8	BCM (BODY CONTROL MODULE)	WHITE	9 10 11 12 13 14 15 16 17 18	Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPLIT 1
. M18			2 2 2 9 8 8	Color of Wire	۵	SB	>	ب	ď
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	2	က	4	5	y

GND (POWER)

BAT (F/L)

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Signal Name

Color of Wire

Terminal No.

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< COMPONENT DIAGNOSIS >

Terminal No. Color of Signal Name 49G V –									Connector Name FRONT COMBINATION LAMP LH Connector Color GRAY	88	Terminal No. Wire Signal Name	7 a a		
Termi								Conne	Conne	原 H.S.	Termi			
		[5] [5]												
	56 46 36 26 16 106 96 86 76 66	216 2006 196 186 176 186 186 186 189 129 116 306 296 286 276 286 286 286 282 282 282 416 406 396 396 376 386 356 346 339 326 316	500 490 480 47G 48G 45G 44G 43G 42G 61G 60G 59G 58G 57G 58G 55G 54G 53G 52G 51G	75G 74G 73G 72G 71G	80G 79G 78G 77G 76G						Name			
E TO WIRE		19G 18G 17G 16G 29G 28G 27G 266 39G 38G 37G 366	3 49G 48G 47G 460 3 59G 58G 57G 560	75G 74G 7	806 796 7				WIRE TO WIRE WHITE	1 00	Signal Name			
lame WIRE T		216 200	500	<u> </u>				1 1		1 4 C C C C C C C C C C C C C C C C C C	္ပိ>	>		
Connector Name WIRE TO WIRE Connector Color WHITE	那 H.S.							Connector No.	Connector Name	H.S.	Terminal No.	9		
	7												7	
Connector Name COMBINATION SWITCH Connector Color WHITE	2 3 4 5 6 7	Signal Name INPUT 1	INPUT 3 INPUT 4	INPUT 5 OUTPUT 1	OUTPUT 2 OUTPUT 5	OUTPUT 4	OUTPUT 3		WIRE	2 11 10 9 8	Signal Name	1 1		
ne COMBIN	⊣ - -	Color of Wire	A S AS	0 ш		SB	>	M91	ne WIRE TC	7 6 5 4 3 12 11 10	e of	د ا	-	
Connector Name Connector Color	H.S.	al No.	ν ε 4	6 5	7 8	6	10	Connector No.	Connector Name WIRE TO WIRE	哥 H.S.	9 8 8	11		
<u> ŭ ŭ</u>		<u> </u>						[Ŏ]	<u>Ŏ</u> ĮŎ		<u> </u>	ABLIA		

Revision: July 2009 EXL-87 2010 Xterra

< COMPONENT DIAGNOSIS >

Connector No. E34 Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No. Wire Signal Name 4 GR –	Connector No. E111 Connector Name FRONT COMBINATION LAMP RH Connector Color GRAY Terminal No. Wire Signal Name 1 G - 2 GR - 3 B - 3 B -
Connector No. E27 Connector Name FRONT COMBINATION LAMP LH Connector Color GRAY	Terminal No. Color of Wire Signal Name 1 LG - 2 R - 3 B -	Connector No. E108 Connector Name FRONT COMBINATION LAMP RH Connector Color GRAY A.S. R - 8 B - 8 B -
Connector No. E26 Connector Name WIRE TO WIRE Connector Color WHITE (a) 1 2 3	Terminal No. Color of Wire Signal Name 10 P - 11 L -	Connector No. E41

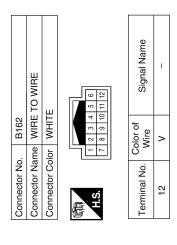
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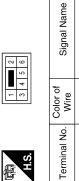
Connector No. E123 PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BROWN SS	Terminal No. Wire 49 GR ILLUMINATION	Connector No. B35	A B C
25. E122 IPDM E/R MODULE Dior WHITE WH	Terminal No. Color of Wire Signal Name 38 B GND (SIGNAL) 39 L CAN-H 40 P CAN-L	Connector No. E152 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE 16 26 36 46 56 106 10	F G H
Connector No. E121 IPDM E/R (INTELLIGENT Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BROWN	Terminal No. Wire Signal Name 28 R ILLUMINATION	Connector No. E124 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BLACK Signal Name S7 GR TAIL LAMP S9 B GND (POWER)	K EXL M

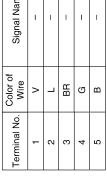
Revision: July 2009 EXL-89 2010 Xterra

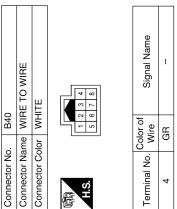
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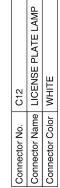


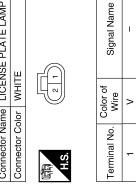


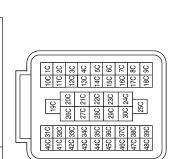












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Signal Name	ı	ı	
Color of Wire	^	В	
Terminal No.	2C	29	

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Connector Name WIRE TO WIRE

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Connector No.

Connector Color BLACK

STOP LAMP Α Wiring Diagram INFOID:0000000005268595 В (A) :WITH AT ⟨DC) :WITH HILL DESCENT CONTROL AND HILL START ASSIST ⟨M⟩ :WITH MT С D Е ABS/TCS/VDC CONTROL UNIT F G Н STOP LAMP (RELEASED BATTERY 50G M31 **ф** sтор J Κ STOP (A) EXL \mathbb{N} Ν 0 STOP LAMP Ρ ABLWA0629GB

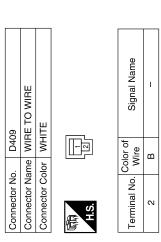
M31 WIRE TO WIRE State Stat	80G /95 /76 /76 /76 /76 /76 /76 /76 /76 /76 /76	Connector No. E39 STOP LAMP SWITCH Connector Name STOP LAMP SWITCH (WITH A/T) Connector Color WHITE Connector Color Co	f Signal Name Terminal No. Color of Wire Signal Name - 1 R/B - 2 Y -
Connector No. M16 Connector No. M31 Connector No. M31 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE Connector Color WHITE Connector Color WHITE Connector Color WHITE Signal Name Sign	Color of Wire 50G L	Connector No. E34 Connector Name WIRE TO WIRE Connector Color WHITE Connector Color BLACK #18.	Terminal No. Wire Signal Name 3 Y — Color of Terminal No. Wire Terminal No. Wire Wire 1 R/B

Connector No. E160 Connector Name FUSE BLOCK (J/B) Connector Color WHITE Solution Signal Name	Connector No. B48 Connector Name WIRE TO WIRE Connector Color WHITE 1 2	A B C
2002 21G 3000 41G 41G 41G 41G 41G 50G 61G 50G		F
E152 WHITE 16 26 36 46 56 106 106 106 106 206	Signal Name O WIRE Signal Name	G
E152 WIRE TO WIRE Or WHITE 1G 2G 3G 46 76 8G 9 42 42 42 42 42 42 42	B40 WIRE TO	Н
Connector No. Connector Color H.S.	Connector No. Connector Name Connector Color Connector Color Connector Color Terminal No. 3	J
8 9 3 19 19 19 19 19 19 19 19 19 19 19 19 19		K
CTUATOR AND TRIC UNIT (CONTROL K E 9 10 11 12 13 14 15 16 16	IBINATION LAMP	EXL
	TE BOOM	M
ctor No. Colc all No. Viii S S S S S S S S S	ctor No.	N
Conne Termir 3	O C C O D C C C O D C C C C C C C C C C	0
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Connector No.	. B105		Connector No. B162	Connector No. D402	
Connector Nar	me REAR CO	Connector Name REAR COMBINATION	Connector Name WIRE TO WIRE	Connector Name WIRE TO WIRE	
Connector Color WHITE	lor WHITE		Connector Color WHITE	Connector Color WHITE	
	-	2	1 2 3 4 5 6	1 2 2 1	
H.S.	3 4 5	9 2	9 10 11		
Terminal No. Wire	Wire	Signal Name	Terminal No. Wire Signal Name	Color of Terminal No. Wilre Signal Name	l Name
2	7	I			
2	В	ı			

Connector Name WIRE TO WIRE Connector Color WHITE H.S. Color of Signal Name 2 B -	Connector No.). D650	20
	Connector Na		RE TO WIRE
Color of Wire	Connector Co	lor WF	TE THE
Color of Wire B	原司 H.S.	- 2	
	Terminal No.	Color of Wire	
	2	В	ı



23	ЗН-MOUNTED STOP MP	нте		Signal Name	_	ı
		lor WF	2	Color of Wire	Ж	В
Connector No	Connector Na	Connector Co	H.S.	Terminal No.	-	2
	Connector No. D403	<u>—</u>	Je Jo	Connector No. D403 Connector Name HIGH-MOUNTED STOP LAMP Connector Color WHITE	Connector No. D403 Connector Name HIGH-MOUNTED STOP Connector Color WHITE H.S. Terminal No. Wire Signal Name	Connector No D403 Connector Name HIGH-MOUNTED STOP LAMP Connector Color WHITE Lamp LAMP Connector Color of Eli

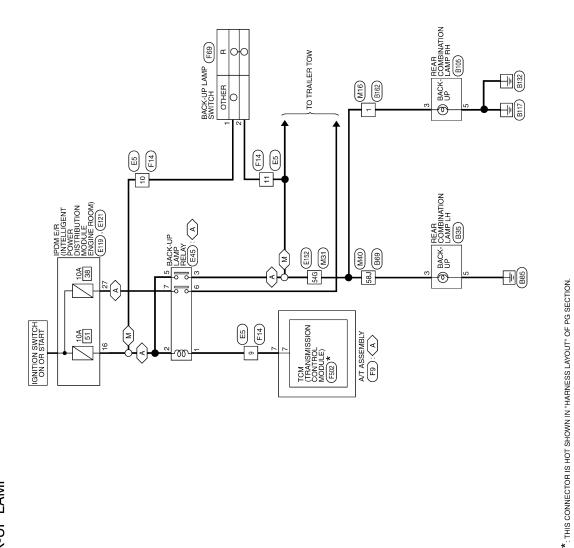
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BACK-UP LAMP

Wiring Diagram

A SWITH A/T

M SWITH M/T



BACK-UP LAMP

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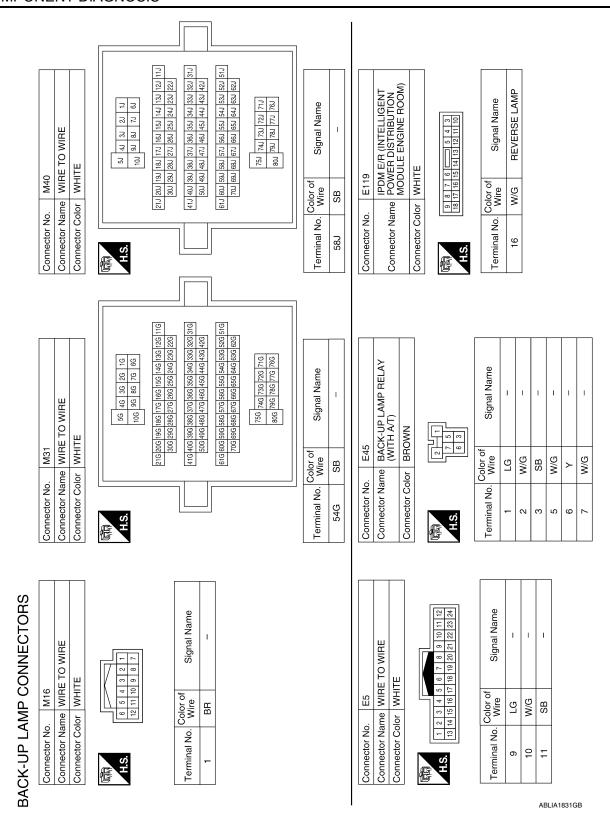
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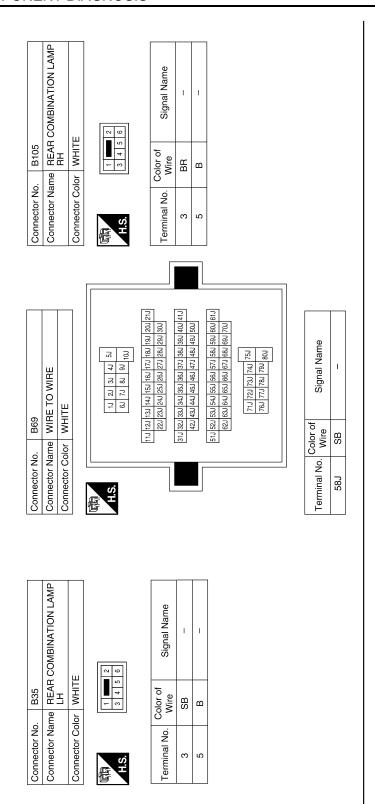
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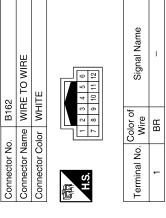


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Connector No. F9 Connector Name AT ASSEMBLY Connector Color GREEN Signal Name T LG Signal Name	Connector No. F502 Connector Name TCM (TRANSMISSION CONTROL MODULE) Connector Color GRAY Terminal No. Color of Signal Name 7 O REV LAMP RLY	A B C D
Connector Name WIRE TO WIRE Connector Name WHITE Connector Color Color Color Color Color C	Connector No. F69 Connector Name BACK-UP LAMP SWITCH Connector Color of Terminal No. Wire Signal Name 1 W/G - 2 SB -	F G H
Connector No. E121 Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BROWN Terminal No. Color of Signal Name 27 W T TOW REV LAMP	Connector No. F14	K EXL M N

EXL-97 Revision: July 2009 2010 Xterra

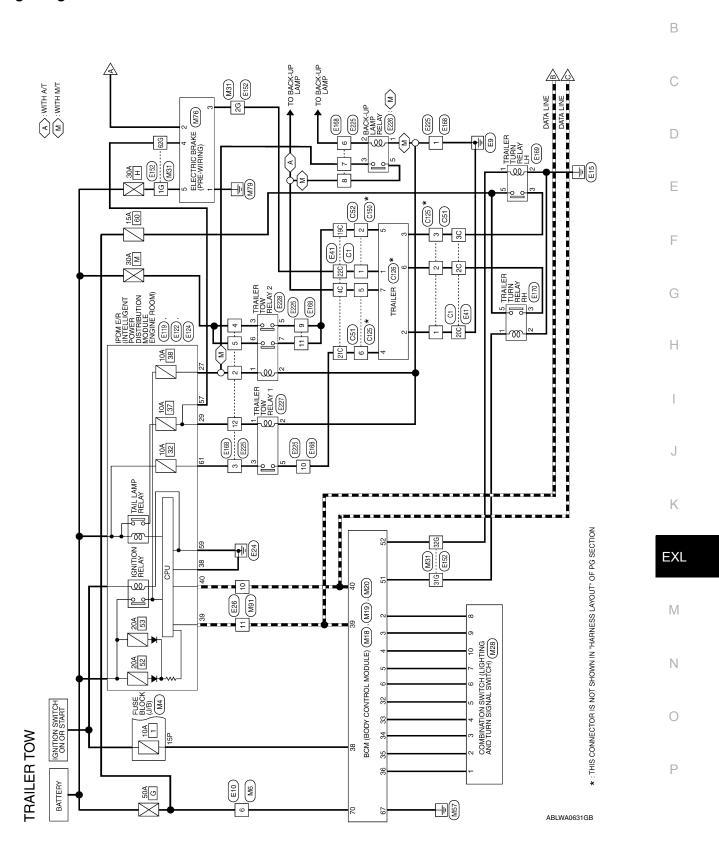




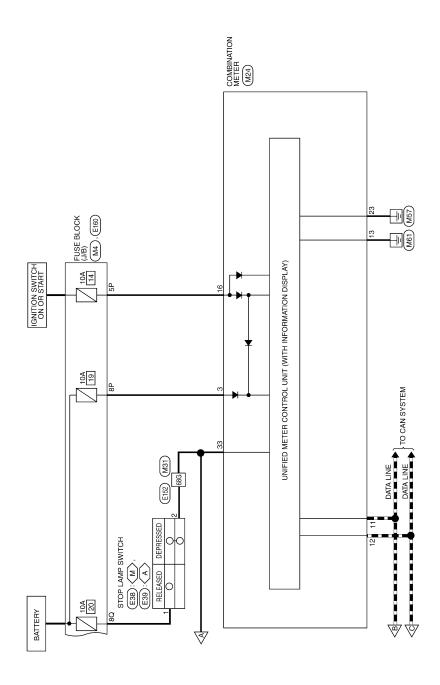
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TRAILER TOW

Wiring Diagram



⟨A⟩: WITH A/T
⟨M⟩: WITH M/T



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Connector Name BCM (BODY CONTROL MODULE)

M19

Connector No.

Connector Color WHITE

TRAILER FLASHER OUTPUT (RIGHT) TRAILER FLASHER OUTPUT (LEFT)

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Signal Name

Color of Wire

Terminal No.

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

Connector Name WIRE TO WIRE

Connector No. M6

Connector Color WHITE

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Signal Name	_	_	-	
Color of Wire	M/G	R/Υ	W/B	
Terminal No.	5P	8P	15P	

Connector Name BCM (BODY CONTROL MODULE)

M18

Connector No.

Connector Color WHITE

Signal Name	-	-	=	
al No. Wire	9/M	Y/A	W/R	
al No.				

Signal Name

Color of Wire

Terminal No. 9

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Signal Name	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	0	GR	Ø	BR	FIG	W/B	7	Ф
Terminal No.	32	33	34	35	36	38	39	40

OUTPUT OUTPUT OUTPUT IGN SW CAN-H CAN-L	G GR GR LG LG LG LG LG LG P L LG P LG P	33 33 33 34 35 34 35 36 36 36 36 36 36 36 36 36 36 36 36 36
OUTPUT	G	34
OUTPUT	GR	33
OUTPUT	0	32
Signal Nam	Color of Wire	Terminal No.



Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	
Color of Wire	۵	SB	>	_	В	
Terminal No.	2	ဗ	4	5	9	

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Connector No. Connector Name		M20 BCM (BODY CONTROL MODULE) BLACK	Connector No. Connector Name	o. M24 ame COMBI	M24 COMBINATION SWITCH WHITE	Connector No. Connector Name Connector Color	No. M28 Name COM	Connector No. M28 Connector Name COMBINATION SWITCH Connector Color WHITE	
画 H.S.	56 57 58	[65 66 67 68 69 70	明.S.			明.S.	12 13 14 11	1 1 2 3 4 5 6	
			20 19 18 17 16	15 14 13 12 11	11 10 9 8 7 6 5 4 3 2 1	Terminal No.	Color of	f Signal Name	
Terminal No.	Color of Wire	Signal Name	00 00 00 04	5 5	21 20 23 24 27 27 27 24 27 27 27				
29	В	GND (POWER)	Terminal No.	Color of Wire	Signal Name	2	BB	INPUT 2	
70	M	BAT (F/L)	m	B/Y	BATTERY		В	INPUT 3	
) -		CAN-I	4	GR	INPUT 4	
			12		CAN-H	2	0	INPUT 5	
			13	GB	GROUND	9	œ	OUTPUT 1	
			16	5/M	RUN START	7	_	OUTPUT 2	-
			23	В	POWER GND	ω	<u>Ф</u>	OUTPUT 5	
			33	<u>c</u>	BBAKE PEDAL SW	6	SB	OUTPUT 4	
			3	3		10	>	OUTPUT 3	
Connector No.			Terminal No.	Color of Wire	Signal Name	Connector No.	. No. M76	9,	
Connector Color	_	WIRE TO WIRE	16	0		Connecto	· Name EL	Connector Name ELECTRIC BRAKE (PRF-WIRING)	
	_		2G	BB	1	Connector Color	<u> </u>	WHITE	
E			31G	0	ı				7
S.		3G 2G	32G	ا ا	1			2 0	
		10G 9G 8G 7G 6G	62G	Я	1	SH	رك	3 4 5	
	240	00 100 100 100 100 100 100 100 100 100	68G	LG	ı				
	30.7	306 296 286 276 286 256 246 236 226				Terminal No.	Vo. Color of Wire	f Signal Name	
	416 40	416 406 396 386 376 366 356 346 336 326 316				-	В	GROUND	
)5]	50G 49G 48G 47G 46G 45G 44G 43G 42G				2	P	STOP	
	619 60	61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G				က	BB	-	
	×.	706 696 686 676 666 656 646 636 626				4	Œ	ILL (TAIL)	
		75G 74G 73G 72G 71G				S	0	+B	
		80G 79G 77G 77G 76G							

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TRAILER TOW

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Connector No. E26 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No. Color of Wire Signal Name 10 P – 11 L –	Connector No. E41	Connector Name WIRE TO WIRE Connector Color BLACK		H.S. 1c 100 19C 300 26C 10C 300 12C 20C 26C 30C 47C	21C 27C 22C 28C	23C 29C	77. 18C 24C 30C 37C 48C 25C 39C 48C 25C 38C 48C 25C 38C 48C 38C 48C 38C 48C 38C 48C 38C 48C 48	Terminal No. Wire Signal Name	2C G –	3C V –	4C Y –	19C V –	20C B –	21C R –	22C BR –	
Connector No. E10 Connector Name WIRE TO WIRE Connector Color WHITE	H.S. 4 5 6	Terminal No. Wire Signal Name 6 W -	Connector No. E39		Connector Color WHITE	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Terminal No. Color of Signal Name	1 R/B –										
Connector Name WIRE TO WIRE Connector Color WHITE	7 6 5 4	Terminal No. Wire Signal Name 10 P – 11 L – 11 L	Connector No. E38		Connector Color BLACK	H.S.	Terminal No. Color of Signal Name	1 R/B –	- X									

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Connector No. E124 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BLACK	Terminal No.		Connector Color WHI E	Terminal No. Color of Signal Name 8Q R/B -	
E/R (42 41 40 59 58 37 40 50 50 50 50 50 50 50 50 50 50 50 50 50	الم Signal Name	1 1 1 1	1	
o g	Color Wira	Color of Wire	BB O D	re	
Connector No. Connector Name Connector Color	Terminal No. 38	Terminal No.	2G 31G 32G 62G	980	
Connector No. E121 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BROWN 20 28	H.S. Color of Wire Signal Name 27 W/G T TOW REV LAMP 29 G TRAILER RLY CONT	Connector No. E152 Connector Name WIRE TO WIRE Connector Color WHTE	⊣ Ⅱ	11G 12G 13G 14G 15G 16G 17G 18G 19G 20G 21G 22G 22G 23G 23G	716 726 736 746 730 786 776 786 796 806

Revision: July 2009 EXL-104 2010 Xterra

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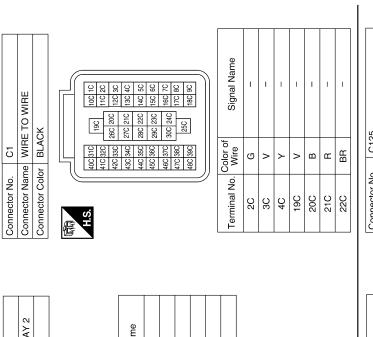
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MATTER STATE OF WHILE STATE OF	L	Connector Name		TRAILER TURN RELAY LH	Connector Nar	ne THAILI	Connector Name TRAILER TURN RELAY RH
12 11		Connector Color	Solor BLUE		Connector Color	or BLUE	
	10 9 8 7 6	同 H.S.	2 2		原 H.S.	2	
Terminal No. Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
В	ı	-	P	1	-	0	ı
2 W/G	ı	2	В	1	2	В	1
3 R/B	I	က	>	1	က	ŋ	I
4 GR	I	ιΩ	_	ı	ιΩ	_	I
5 ×	ı						
А 9	1						
7 W/G	ı						
>-	ı						
>	I						
10 R	ı						
7 \	ı						
12 G	1						
Connector No. E225	2	Terminal No	Color of	Signal Name	Connector No.	E226	
Connector Name WIR	WIRE TO WIRE		WIFE		Connector Name	ne BACK-	BACK-UP LAMP RELAY
Connector Color WHITE	ITE	7	D/W	1		(WITH	M/T)
-		80	SB	ı	Connector Color	or BLUE	
1 2 3	4 5	6	_	1			
7		10	Œ	1		က	
		11	0	1	H.S.	7 2 2	
Terminal No. Wire	Signal Name	12	5	ı			1
- B					Terminal No.	Wire	Signal Name
2 W/G	1				-	В	ı
3 R/B	1				2	BB	ı
4 GR	1				က	M/G	ı
2 M	ı				2	SB	-
6 BR	1						

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5	WIRE TO WIRE	٨٨	2 1 6 5 6 5	Signal Name	ı	I	I	ı	ı
. C125	me WIF	lor GRAY	8 4 8	Color of Wire	>	ŋ	>	В	aa
Connector No.	Connector Name	Connector Color	原动 H.S.	Terminal No.	-	2	3	5	ď

]							
3	TRAILER TOW RELAY 2	NWO	8 2 4	Signal Name	I	-	-	I	I	_
E228		r BROWN		Color of Wire	M/G	В	GR	_	>	0
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	-	2	3	5	9	7

	WIRE TO WIRE	X		Signal Name	-	ı	
. C52		lor BLACK		Color of Wire	BR	^	
Connector No.	Connector Name	Connector Color	原 H.S.	Terminal No.	-	0	

Connector No.	. E227	
Connector Na	ıme TRA	Connector Name TRAILER TOW RELAY 1
Connector Color	lor BLUE	E
		8
H.S.	<u>√</u> □□	
Terminal No.	Color of Wire	Signal Name
-	G	ı
2	В	ı
3	B/B	I
5	œ	ı

		_		1							1
		WIRE TO WIRE	AY	4 8 P	Signal Name	ı	ı	-	ı	ı	
	. C51		lor GRAY		Color of Wire	В	g	>	>	æ	
	Connector No.	Connector Name	Connector Color	H.S.	Terminal No.		2	8	5	9	

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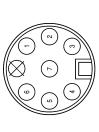
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C150	WIRE TO WIRE	BLACK
Connector No.	Connector Name WIRE TO WIRE	Connector Color BLACK



Signal Name	-	ı
Color of Wire	Ж	_
Terminal No.	٦	2

C126	RAILER	-ACK	
Connector No. C1	Connector Name TRAILER	Connector Color BLACK	



Signal Name	_	_	ı	I	1	ı	ı
Color of Wire	В	M	>	BR	٦	ŋ	В
Terminal No. Wire	-	2	3	4	2	9	7

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
IGN ON SW	Ignition switch OFF or ACC	OFF
IGN ON SW	Ignition switch ON	ON
KEY ON SW	Mechanical key is removed from key cylinder	OFF
RET ON SW	Mechanical key is inserted to key cylinder	ON
CDL LOCK SW	Door lock/unlock switch does not operate	OFF
CDL LOCK 3W	Press door lock/unlock switch to the lock side	ON
CDL UNLOCK SW	Door lock/unlock switch does not operate	OFF
CDL UNLOCK SW	Press door lock/unlock switch to the unlock side	ON
DOOD SW DD	Driver's door closed	OFF
DOOR SW-DR	Driver's door opened	ON
DOOR SW-AS	Passenger door closed	OFF
DOOR SW-AS	Passenger door opened	ON
DOOR SW-RR	Rear RH door closed	OFF
DOOR SW-RR	Rear RH door opened	ON
DOOR SW-RL	Rear LH door closed	OFF
DOOR SW-RL	Rear LH door opened	ON
BACK DOOR SW	Back door closed	OFF
BACK DOOK SW	Back door opened	ON
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	OFF
KET CTE EK-SW	Driver door key cylinder LOCK position	ON
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	OFF
RET CTE ON-SW	Driver door key cylinder UNLOCK position	ON
KEYLESS LOCK	"LOCK" button of key fob is not pressed	OFF
KL I LLOS LOOK	"LOCK" button of key fob is pressed	ON
KEYLESS UNLOCK	"UNLOCK" button of key fob is not pressed	OFF
KL I LLOS UNLOCK	"UNLOCK" button of key fob is pressed	ON
ACC ON SW	Ignition switch OFF	OFF
ACC ON SW	Ignition switch ACC or ON	ON
DEAD DEE SW	Rear window defogger switch OFF	OFF
REAR DEF SW	Rear window defogger switch ON	ON
LIGHT SW 1ST	Lighting switch OFF	OFF
LIGHT SW 131	Lighting switch 1ST	ON
BUCKLE SW	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF]	OFF
DOONLE OW	The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON]	ON
KEYLESS PANIC	PANIC button of key fob is not pressed	OFF
RETELOO FAINIO	PANIC button of key fob is pressed	ON

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
HI BEAM SW	Lighting switch OFF	OFF
11 BEAIN SW	Lighting switch HI	ON
	Lighting switch OFF	OFF
HEAD LAMP SW 1	Lighting switch 2ND	ON
JEAD LAMB OW	Lighting switch OFF	OFF
HEAD LAMP SW 2	Lighting switch 2ND	ON
	Other than lighting switch PASS	OFF
PASSING SW	Lighting switch PASS	ON
	Front fog lamp switch OFF	OFF
FR FOG SW	Front fog lamp switch ON	ON
	Turn signal switch OFF	OFF
TURN SIGNAL R	Turn signal switch RH	ON
	Turn signal switch OFF	OFF
TURN SIGNAL L	Turn signal switch LH	ON
	Cargo lamp switch OFF	OFF
CARGO LAMP SW	Cargo lamp switch ON	ON
	Ignition switch OFF or ACC	OFF
GN SW CAN	Ignition switch ON	ON
	Front wiper switch OFF	OFF
FR WIPER HI	Front wiper switch HI	ON
	Front wiper switch OFF	OFF
FR WIPER LOW	Front wiper switch LO	ON
	Front wiper switch OFF	OFF
FR WIPER INT	Front wiper switch INT	ON
	Front washer switch OFF	OFF
FR WASHER SW	Front washer switch ON	ON
NT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
TTT VOLUME	Any position other than front wiper stop position	OFF
FR WIPER STOP	Front wiper stop position	ON
VEHICLE SPEED	While driving	Equivalent to speedometer reading
VETHOLE OF LLD	Rear wiper switch OFF	OFF
RR WIPER ON	Rear wiper switch ON	ON
	Rear wiper switch OFF	OFF
RR WIPER INT	Rear wiper switch INT	ON
	Rear washer switch OFF	OFF
RR WASHER SW	Rear washer switch ON	ON
		OFF
RR WIPER STOP	Any position other than rear wiper stop position	
	Rear wiper stop position	ON
HAZARD SW	Hazard switch OFF	OFF
	Hazard switch ON	ON
BRAKE SW	Brake pedal is not depressed	OFF
	Brake pedal is depressed	ON
	Blower fan motor switch OFF	OFF

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Monitor Item	Condition	Value/Status
AIR COND SW	Compressor ON is not requested from auto amp. (A/C indicator OFF, blower fan motor switch OFF or etc.)	OFF
AIR COND SW	Compressor ON is requested from auto amp. (A/C indicator ON and blower fan motor switch ON).	ON
OIL PRESS SW	Ignition switch OFF or ACC Engine running	OFF
	Ignition switch ON	ON
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	ID of front LH tire transmitter is registered	DONE
ID REGOT FLT	ID of front LH tire transmitter is not registered	YET
ID REGST FR1	ID of front RH tire transmitter is registered	DONE
ID NEGOT TIXT	ID of front RH tire transmitter is not registered	YET
ID REGST RR1	ID of rear RH tire transmitter is registered	DONE
ID REGGI KKI	ID of rear RH tire transmitter is not registered	YET
ID REGST RL1	ID of rear LH tire transmitter is registered	DONE
ID NEGOT KET	ID of rear LH tire transmitter is not registered	YET
WARNING LAMP	Tire pressure indicator OFF	OFF
VVAINING LAWF	Tire pressure indicator ON	ON
BUZZER	Tire pressure warning alarm is not sounding	OFF
DULLER	Tire pressure warning alarm is sounding	ON

< ECU DIAGNOSIS > Terminal Layout INFOID:0000000005570639 Α В С (M18) D 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 Е \bigcirc F G Н _____ _____ K **EXL** (M20) M

Physical Values

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INFOID:0000000005570640

			Signal		Measuring condition	
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
1	BR	Ignition keyhole illumi-	Output	OFF	Door is locked (SW OFF)	Battery voltage
ı	DK	nation	Output	OFF	Door is unlocked (SW ON)	0V
2	Р	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 +-5ms SKIA5291E
3	SB	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **5ms SKIA5292E
4	٧	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 + 5ms SKIA5291E
5	L	Combination switch input 2				(V)
6	R	Combination switch input 1	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
		Front door lock as-			ON (open, 2nd turn)	Momentary 1.5V
7	GR	sembly LH (key cylin- der switch) and back door key cylinder switch (unlock)	Input	OFF	OFF (closed)	0V
		Front door lock as-			ON (open)	Momentary 1.5V
8	SB	sembly LH (key cylin- der switch) and back door key cylinder switch (lock)	Input	OFF	OFF (closed)	0V
9	Y	Rear window defogger	Input	ON	Rear window defogger switch ON	0V
		switch	input		Rear window defogger switch OFF	5V
11	G/B	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	LG	Front door switch RH	Input	OFF	ON (open)	0V
14		. TOTA GOOF OWNORD INT	mpat	0.1	OFF (closed)	Battery voltage

< ECU DIAGNOSIS >

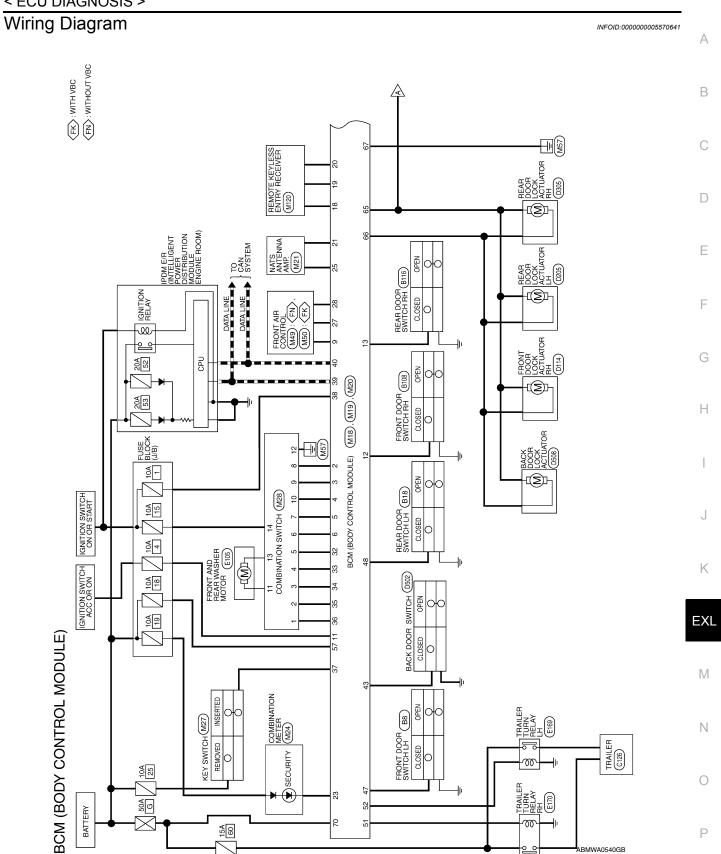
	Wire		Signal		Measuring condition	Reference value or waveform
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)
12	,	Poor door switch DU	Input	OFF	ON (open)	0V
13	L	Rear door switch RH	Input	OFF	OFF (closed)	Battery voltage
15	W	Tire pressure warning check connector	Input	OFF	_	5V
18	BR	Remote keyless entry receiver (ground)	Output	OFF	_	0V
19	V	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	(V) 6 4 2 0 ****50 ms
20	G	Remote keyless entry	Input	OFF	Stand-by (keyfob buttons released)	(V) 6 4 2 0 • 50 ms LIIA1894E
20	Ü	receiver (signal)	mput	Si i	When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	(V) 6 4 2 0 +-50 ms
21	GR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
23	G	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 \rightarrow ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
27	W	Compressor ON sig-	Input	ON	A/C switch OFF	5V
_1	٧٧	nal	прис	O1 4	A/C switch ON	0V
28	R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
-	•		1, 2, 2		Front blower motor ON	0V
29	G	Hazard switch	Input	OFF	ON	0V
			•		OFF	5V
31	R	Off-road lamps switch	Input	ON	ON	0V
					OFF	5V

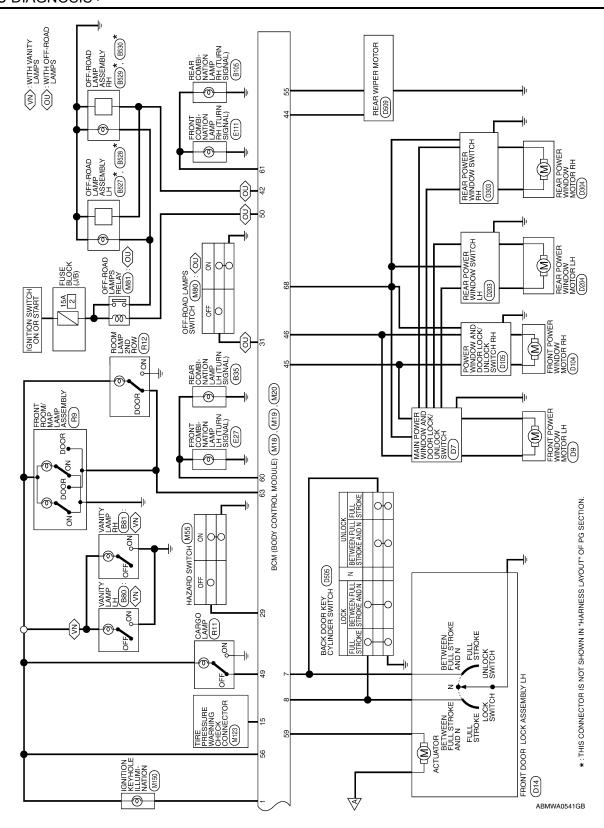
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	\\/:ro		Signal		Measuring condit	ion	Deference value or waveform
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or	condition	Reference value or waveform (Approx.)
32	0	Combination switch output 5	Output	ON	Lighting, turn, wi Wiper dial position		(V) 6 4 2 0 ++5ms SKIA5291E
33	GR	Combination switch output 4	Output	ON	Lighting, turn, wi Wiper dial position		(V) 64 20 •••5ms SKIA5292E
34	G	Combination switch output 3	Output	ON	Lighting, turn, wi Wiper dial position		(V) 6 4 2 0 ***5ms SKIA5291E
35	BR	Combination switch output 2					
36	LG	Combination switch output 1	Output	ON	Lighting, turn, wi Wiper dial position		(V) 6 2 0 ++5ms SKIA5292E
27	В	Key switch and key	lanut	OFF	Key inserted		Battery voltage
37	В	lock solenoid	Input	OFF	Key inserted		0V
38	W/R	Ignition switch (ON)	Input	ON	_		Battery voltage
39	L	CAN-H	_	_	_		_
40	Р	CAN-L	_	_	_		_
42	L	Off-road lamps	Output	ON	Oll-10au	ON OFF	0V Battery voltage
43	Y	Back door switch	Input	OFF	ON (open)		0V
	•	230. 0		J	OFF (closed)		Battery voltage
					Rise up position arm on stopper)	(rear wiper	0V
					A Position (full cl position)	ockwise stop	Battery voltage
44	0	Rear wiper auto stop switch	Input	ON	Forward sweep (wise direction)	counterclock-	Fluctuating
					B Position (full co		0V
					Reverse sweep (rection)	(clockwise di-	Fluctuating

	Wire		Signal		Measuring condition	Reference value or waveform
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)
45	V	Lock switch	lanut	OFF	ON (lock)	0V
45	V	LOCK SWITCH	Input	OFF	OFF	Battery voltage
46	1.0	I lala ak awitah	lmmt	OFF	ON (unlock)	0V
46	LG	Unlock switch	Input	OFF	OFF	Battery voltage
47	GR	Front door switch LH	Input	OFF	ON (open)	0V
41	GR	FIGHT GOOL SWITCH FI	iliput	OFF	OFF (closed)	Battery voltage
48	Р	Rear door switch LH	Input	OFF	ON (open)	0V
70	'	rteal door switch Em	input	011	OFF (closed)	Battery voltage
49	L	Cargo lamp	Output	OFF	Any door open (ON)	0V
43	_	Cargo lamp	Output	011	All doors closed (OFF)	Battery voltage
50	W	Off-road lamps relay	Output	ON	Off-road ON	0V
		on road lamps relay	Output	011	lamps switch OFF	Battery voltage
51	0	Trailer turn signal (right)	Output	ON	Turn right ON	(V) 15 10 5 0 500 ms SKIA3009J
52	LG	Trailer turn signal (left)	Output	ON	Turn left ON	(V) 15 10 5 0
55	W	Rear wiper output cir-	Output	ON	OFF	0
	**	cuit 1	Cutput		ON	Battery voltage
56	R/Y	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	_	Battery voltage
57	R/Y	Battery power supply	Input	OFF	_	Battery voltage
59	GR	Front door lock as- sembly LH actuator	Output	OFF	OFF (neutral)	0V
J3	GIX	(unlock)	Output	511	ON (unlock)	Battery voltage
60	LG	Turn signal (left)	Output	ON	Turn left ON	(V) 15 10 5 0 ->

	\ <i>\\\</i> i=0		Signal		Measuring cond	dition	Deference value or waveform
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation	or condition	Reference value or waveform (Approx.)
61	G	Turn signal (right)	Output	ON	Turn right ON		(V) 15 10 5 0 500 ms SKIA3009J
63	BR	Interior room/map	Output	OFF	Any door	ON (open)	0V
00	DIX	lamp	Output	011	switch	OFF (closed)	Battery voltage
65	V	All door lock actuators	Output	OFF	OFF (neutral)		0V
	· ·	(lock)			ON (lock)		Battery voltage
66	L	Front door lock actua- tor RH, rear door lock actuators LH/RH and back door lock actua- tor (unlock)	Output	OFF	OFF (neutral) ON (unlock)		0V Battery voltage
67	В	Ground	Input	ON	-	_	0V
					Ignition switch	ON	Battery voltage
					Within 45 seco		Battery voltage
68	0	Power window power supply (RAP)	Output	_	More than 45 s nition switch O	econds after ig- FF	0V
					When front do open or power operates		0V
70	W	Battery power supply	Input	OFF		_	Battery voltage





Signal Name	ı	SECURITY INDICATOR OUTPUT	-	IMMOBILIZER ANTENNA SIG (RX,TX)	ı	AIRCON SW	BLOWER FAN SW	HAZARD SW	I	OFF ROAD LAMP SW	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	KEY SW	IGN SW	CAN-H	CAN-L
Color of Wire	1	g	1		ı	>	Œ	g	1	Œ	0	GR	g	BB	FG	В	W/R	7	Ь
Terminal No.	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
7	GR	KEY CYLINDER UNLOCK SW
8	SB	KEY CYLINDER LOCK SW
6	>	DEFOGGER SW
10	ı	1
11	G/B	ACC_SW
12	ГG	DOOR SW (AS)
13	٦	DOOR SW (RR)
14	1	ı
15	×	TPMS MODE TRIGGER SW
16	1	1
17	_	1
18	BB	KEYLESS & AUTO LIGHT SENSOR GND
19	>	KEYLESS TUNER POWER SUPPLY OUTPUT
20	ŋ	KEYLESS TUNER SIGNAL
21	GR	IMMOBILIZER ANTENNA SIGNAL (CLOCK)

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				20	9
_			,	19	33
				18	æ
	١.			17	37
	ᅵᅥ			19	98
	띰			15	35
	<u>اچ</u>			14	용
	႘			10 11 12 13 14 15 16 17 18	æ
	∣≿		l 17	12	32
	님		l IV	Ξ	31
	<u>@</u> 5	Щ	I IN	9	93
ω	BCM (BOE MODULE)	두		6	53
M18	⊠≥	∣≶		8	28
	d)	H.		7	27
٠.	ΙĔ	호		9	92
2	👸	ပြ		S	22
ō	ö	ō		4	24
6	60	ect		က	೫
ΙĚ	딤	Connector Color WHITE	H.S.	2	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37
Connector No.	Connector Name BCM (BODY CONTROL MODULE)	ပြ	肾	-	7
_					

Signal Name	KEY RING OUTPUT	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1
Color of Wire	BR	Ь	SB	>	Τ	В
Terminal No.	-	2	3	4	2	9

BCM (BODY CONTROL MODULE) CONNECTORS

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ABMIA0363GB

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Connector No.	M28	8
Connector Name		COMBINATION SWITCH
Connector Color	Ė	WHITE
E	12 13	10 1 2 3 4 5 7 7 8 6 7
S		-
Terminal No.	Color of Wire	Signal Name
-	LG	INPUT 1
2	BR	INPUT 2
က	В	INPUT 3
4	GR	INPUT 4
5	0	INPUT 5
9	Ж	OUTPUT 1
2	٦	OUTPUT 2
8	Р	OUTPUT 5
6	SB	OUTPUT 4
10	>	OUTPUT 3
#	0	WASH FR (-) RR (+)
12	В	GND
13	L	WASH FR (+) RR (-)
14	W/G	IGN

Connector No		MOOM	
Connector Name	e e		BCM (BODY CONTROL MODULE)
Connector Co	Color	BLACK	CK
H.S.	565	99 29	56 57 58 59 60 61 62 63 64 65 66 67 68 69 70
Terminal No.	Color o Wire	₽ ®	Signal Name
56	Ρ/Υ		BATTERY SAVER OUTPUT
57	R/Y		BAT (FUSE)
58	1		ı
59	ВÐ		DOOR UNLOCK OUTPUT (DR)
09	рη		FLASHER OUTPUT (LEFT)
61	9		FLASHER OUTPUT (RIGHT)
62	ı		ı
63	BB		ROOM LAMP OUTPUT
64	1		_
65	۸		DOOR LOCK OUTPUT (ALL)
99	٦		DOOR UNLOCK OUTPUT (OTHER)
67	В		GND (POWER)
68	0		POWER WINDOW POWER SUPPLY OUT (LINKED TO RAP)
69	1		ı
70	8		BAT (F/L)

53 - C.
54 –
BEAB
4 T

ABMIA1427GB

Fail Safe

Fail-safe index

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

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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:0000000005570643

Α

В

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	D
2	B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM	E
3	C1729: VHCL SPEED SIG ERR C1735: IGNITION SIGNAL	F
	 C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR 	G
	 C1710: [NO DATA] RR C1711: [NO DATA] RL C1712: [CHECKSUM ERR] FL C1713: [CHECKSUM ERR] FR 	Н
4	 C1714: [CHECKSUM ERR] RR C1715: [CHECKSUM ERR] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR 	I
	 C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL C1720: [CODE ERR] FL 	J
	 C1721: [CODE ERR] FR C1722: [CODE ERR] RR C1723: [CODE ERR] RL C1724: [BATT VOLT LOW] FL 	K
	 C1725: [BATT VOLT LOW] FR C1726: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RL 	EXL

DTC Index INFOID:0000000005570644

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 \rightarrow ON again.

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

CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_
U1000: CAN COMM CIRCUIT	_	_	BCS-30

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CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
B2190: NATS ANTENNA AMP	_	_	<u>SEC-18</u>
B2191: DIFFERENCE OF KEY	_	_	SEC-21
B2192: ID DISCORD BCM-ECM	_	_	<u>SEC-22</u>
B2193: CHAIN OF BCM-ECM	_	_	<u>SEC-24</u>
C1708: [NO DATA] FL	_	_	<u>WT-14</u>
C1709: [NO DATA] FR	_	_	<u>WT-14</u>
C1710: [NO DATA] RR	_	_	<u>WT-14</u>
C1711: [NO DATA] RL	_	_	<u>WT-14</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-18</u>
C1718: [PRESSDATA ERR] RR	_	_	<u>WT-18</u>
C1719: [PRESSDATA ERR] RL	_	_	<u>WT-18</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: IGNITION SIGNAL	_	_	_

< ECU DIAGNOSIS >

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

Reference Value

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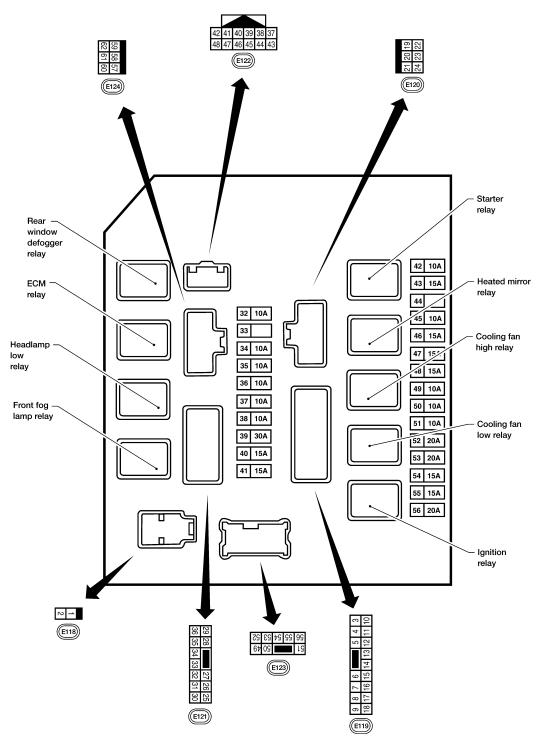
VALUES ON THE DIAGNOSIS TOOL

Monitor Item		Condition	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 DEO	A/C switch OFF		OFF
A/C COMP REQ	A/C switch ON		ON
TAIL&CLR REQ	Lighting switch OFF		OFF
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	r AUTO (Light is illuminated)	ON
HL LO REQ	Lighting switch OFF		OFF
HE LO REQ	Lighting switch 2ND HI or AUT	O (Light is illuminated)	ON
UL ULDEO	Lighting switch OFF		OFF
HL HI REQ	Lighting switch HI		ON
	Linking and the ONE	Front fog lamp switch OFF	OFF
FR FOG REQ	Lighting switch 2ND	Front fog lamp switch ON	ON
		Front wiper switch OFF	STOP
ED WID DEO	lawitian awitah ON	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 DLV DEO	Ignition switch OFF or ACC	OFF	
ST RLY REQ	Ignition switch START	ON	
ION DIV	Ignition switch OFF or ACC		OFF
IGN RLY	Ignition switch ON		ON
	Rear defogger switch OFF		OFF
RR DEF REQ	Rear defogger switch ON		ON
	Ignition switch OFF, ACC or en	gine running	OPEN
OIL P SW	Ignition switch ON		CLOSE
D.T.D.I. D.E.O.	Daytime light system requested	d OFF with CONSULT-III.	OFF
DTRL REQ	Daytime light system requested	d ON with CONSULT-III.	ON
	Not operated		OFF
THFT HRN REQ	Panic alarm is activated Horn is activated with VEHIC TEM	CLE SECURITY (THEFT WARNING) SYS-	ON
LIODN CLUDE	Not operated		OFF
HORN CHIRP	Door locking with keyfob (horn	chirp mode)	ON

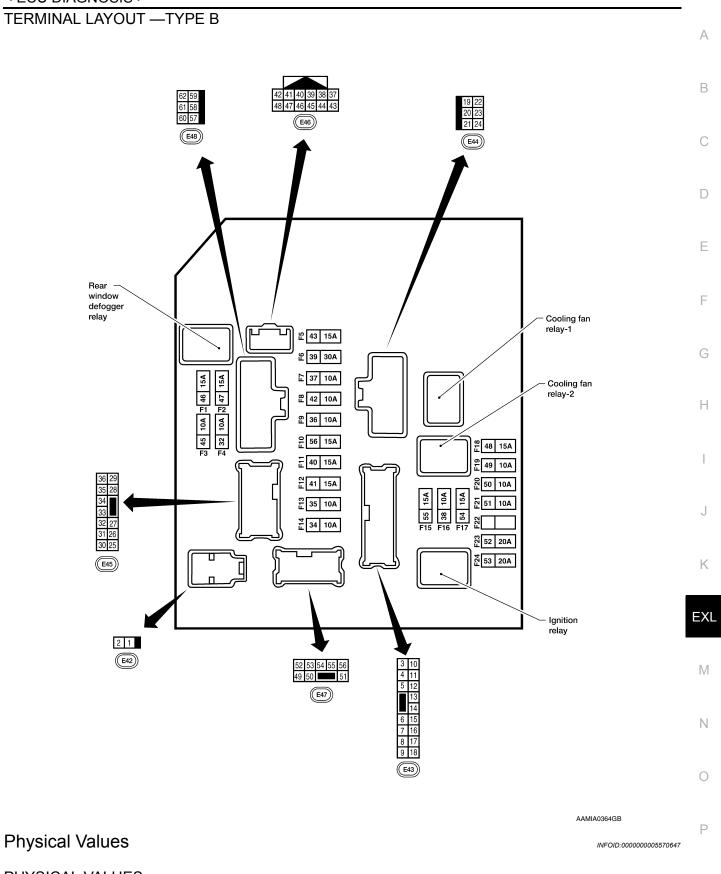
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Terminal Layout

TERMINAL LAYOUT —TYPE A



WKIA5883E



PHYSICAL VALUES

			0:1		Measuring condition			
Terminal	Wire color	Signal name	Signal input/ output	Igni- tion switch	Operation or condition	Reference value (Approx.)		
1	W	Battery power supply	Input	OFF	_	Battery voltage		
2	R	Battery power supply	Input	OFF	_	Battery voltage		
3	G	ECM relay	Output		Ignition switch ON or START	Battery voltage		
3	G	Low relay	Output	_	Ignition switch OFF or ACC	0V		
4	Р	ECM relay	Output		Ignition switch ON or START	Battery voltage		
7	'	Low relay	Output		Ignition switch OFF or ACC	0V		
6	V	Throttle control motor	Output		Ignition switch ON or START	Battery voltage		
0	V	relay	Output	_	Ignition switch OFF or ACC	0V		
7	BR	ECM relevionatrol	Innut		Ignition switch ON or START	0V		
,	אם	ECM relay control	Input		Ignition switch OFF or ACC	Battery voltage		
8	W/R	Fuse 54	Outout		Ignition switch ON or START	Battery voltage		
ō	W/R	Fuse 54	Output	_	Ignition switch OFF or ACC	0V		
10	D/D	Fuen 45	Outout	ON	Daytime light system active	0V		
10	R/B	Fuse 45	Output	ON	Daytime light system inactive	Battery voltage		
11	Y	A/C 000000000	Output	ON or	A/C switch ON or defrost A/C switch	Battery voltage		
11	Ť	A/C compressor	Output	START	A/C switch OFF or defrost A/C switch	0V		
40	MUC	Ignition switch sup-	lan: it		OFF or ACC	0V		
12	W/G	plied power	Input	_	ON or START	Battery voltage		
40	R	Firel arrange rates	Outout		Ignition switch ON or START	Battery voltage		
13	K	Fuel pump relay	Output		Ignition switch OFF or ACC	0V		
4.4	\\\(\(\)\(\)	F 40	Outout		Ignition switch ON or START	Battery voltage		
14	W/G	Fuse 49	Output	_	Ignition switch OFF or ACC	0V		
15	\\/\D	Fire FO (ADC)	Outout		Ignition switch ON or START	Battery voltage		
15	W/R	Fuse 50 (ABS)	Output	_	Ignition switch OFF or ACC	0V		
40	14//0	E 54	0.1.1		Ignition switch ON or START	Battery voltage		
16	W/G	Fuse 51	Output		Ignition switch OFF or ACC	0V		
4-	14//0		0		Ignition switch ON or START	Battery voltage		
17	W/G	Fuse 55	Output	_	Ignition switch OFF or ACC	0V		
19	W	Starter motor	Output	START	_	Battery voltage		
20	BR	Cooling fan motor (low)	Output	ON or START	_	Battery voltage		
0.4		Ignition switch sup-			OFF or ACC	0V		
21	GR	plied power	Input	_	START	Battery voltage		
22	G	Battery power supply	Output	OFF	_	Battery voltage		
23	LG	Door mirror defogger	Output	_	When rear defogger switch is ON	Battery voltage		
		output signal	- Carpar		When raker defogger switch is OFF	0V		

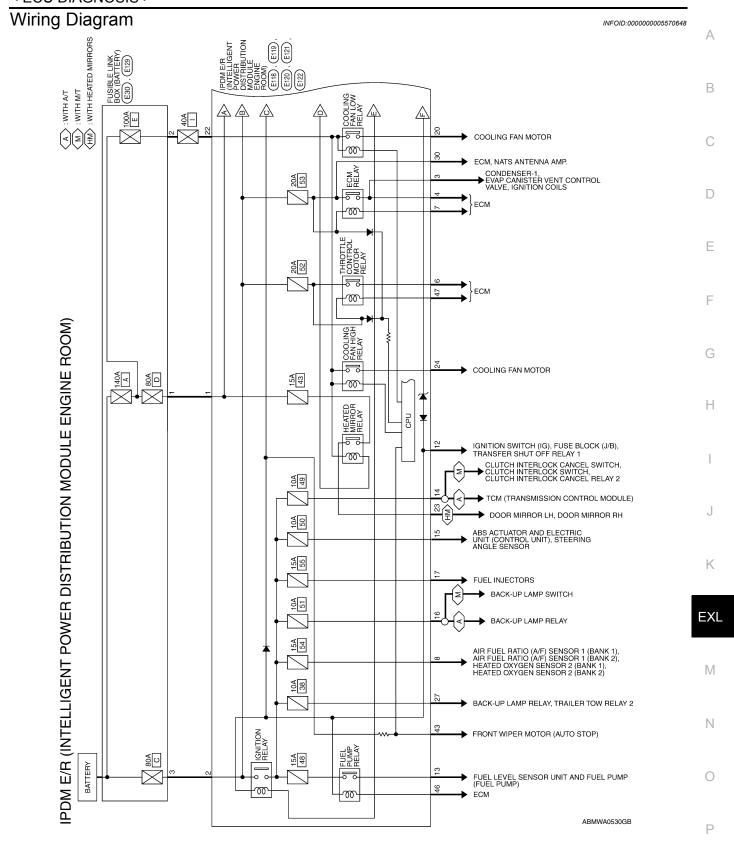
			Signal		Measuring condition			
Terminal	Wire color	Signal name	input/ output	Igni- tion switch	Operation	or condition	Reference value (Approx.)	
0.4		Cooling fan motor	0 1 1		Conditions cor fan operation	rect for cooling	Battery voltage	
24	Р	(high)	Output	_	Conditions not cooling fan op		0V	
27	W/G	Fuse 38	Output		Ignition switch	ON or START	Battery voltage	
21	VV/G	i use so	Output	_	Ignition switch	OFF or ACC	0V	
28	R	LH front parking and	Output	OFF	Lighting switch 1st po-	OFF	0V	
20	IX	front side marker lamp	Output	OH	sition	ON	Battery voltage	
			.		Lighting	OFF	0V	
29	G	Trailer tow relay	Output	ON	switch 1st po- sition	ON	Battery voltage	
	5 /5	F 56			Ignition switch	ON or START	Battery voltage	
30	R/B	Fuse 53	Output	_	Ignition switch	OFF or ACC	0V	
32	GR	Wiper low speed sig-	Output	ON or	Wiper switch	OFF	Battery voltage	
J2	GIX	nal	Cutput	START	ANIDOL SMILOLI	LO or INT	0V	
35	L	Wiper high speed sig-	Output	ON or	Wiper switch	OFF, LO, INT	Battery voltage	
		nal		START	,	HI	0V	
				_	Ignition switch	ON	(V) 6 4 2 0 2 2ms JPMIA0001GB	
37	Y	Y Power generation command signal		Output	_	40% is set on "ALTERNATOI "ENGINE"		(V) 6 4 2 0 20 3.8 V
					40% is set on "ALTERNATOI"ENGINE"		(V) 6 4 2 0 2ms JPMIA0003GB 1.4 V	
38	В	Ground	Input	_	-	_	0V	
39	L	CAN-H		ON	-	_	_	
40	Р	CAN-L	_	ON	-	_	_	
42	GR	Oil pressure switch	Input	_	Engine running	9	Battery voltage	
	J. (5 p. 556416 6Witori	pat		Engine stoppe	d	0V	

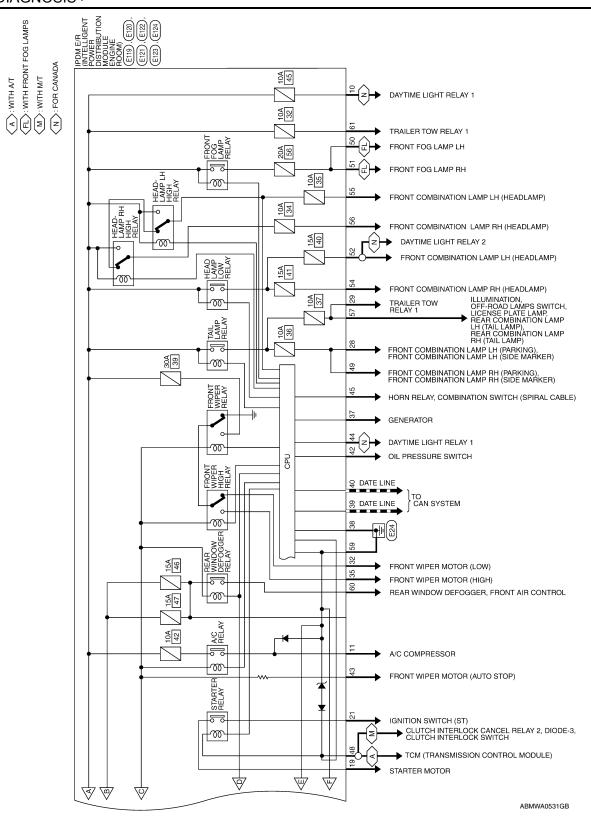
< ECU DIAGNOSIS >

			Signal		Measuring con	dition			
Terminal	Wire color	Signal name	input/ output	Igni- tion switch	Operation	or condition	Reference value (Approx.)		
43	G	Wiper auto stop signal	Input	ON or START	Wiper switch	OFF, LO, INT	Battery voltage		
44	R	Daytime light relay	Input	ON	Daytime light s	system active	0V		
44	K	control (Canada only)	Input	ON	Daytime light s	system inactive	Battery voltage		
45	LG	Horn relay control	Input	ON	When door lock using keyfob (ks are operated OFF → ON)*	Battery voltage → 0V		
46	V	Fuel pump relay con-	Input		Ignition switch	ON or START	0V		
40	V	trol	iliput	_	Ignition switch	OFF or ACC	Battery voltage		
47	0	Throttle control motor	Innut		Ignition switch	ON or START	0V		
47	U	relay control	Input	_	Ignition switch	OFF or ACC	Battery voltage		
		Otantan nalau /indaibit		ONL	Selector lever	in "P" or "N"	0V		
48	R	Starter relay (inhibit switch)	Input	ON or START	Selector lever	any other posi-	Battery voltage		
_		Front RH parking and	_		Lighting	OFF	0V		
49	GR	front side marker lamp	Output	OFF	switch 1st po- sition	ON	Battery voltage		
					Lighting switch must	OFF	0V		
50	W	Front fog lamp (LH)	Output	ON or START	be in the 2nd position (LOW beam is ON) and the front fog lamp switch	be in the 2nd position (LOW beam is ON) and the front fog		Battery voltage	
					Lighting	OFF	0V		
51	V	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	Р	LH low beam head- lamp	Output	_	Lighting switch	in 2nd position	Battery voltage		
54	R	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		and placed in HIGH or PASS		Battery voltage
56	L,	RH high beam head- lamp	Output	_	Lighting switch in 2nd position and placed in HIGH or PASS position		Battery voltage		
		Parking, license and			Lighting	OFF	0V		
57	GR	tail lamps and off-road lamp switch	Output	ON	switch 1st po- sition	ON	Battery voltage		
59	В	Ground	Input	_	_	_	0V		
		Rear window defog-	<u> </u>	ON or	Rear defogger	switch ON	Battery voltage		
60	GR	ger relay	Output	START	Rear defogger	switch OFF	0V		
61	R/B	Fuse 32	Output	OFF	_	_	Battery voltage		

^{*:} When horn reminder is ON

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E118	Connector Name POWER DISTRIBUTION	MODOLE ENGINE ROOM)	BLACK	
Connector No. E118	Connector Name		Connector Color BLACK	S.H
E30	Connector Name FUSIBLE LINK BOX (BATTERY)	_		[5]
Connector No. E30	Connector Name	Connector Color –		南 H.S.

Signal Name

Color of Wire

Terminal No.

Signal Name

Color of Wire

Terminal No.

F/L MAIN

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F/L USM

0	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	TE	22 22	Signal Name	STARTER MTR	MOTOR FAN 1	IGN SW (ST)	F/L MOTOR FAN	HEATED MIRROR	MOTOR FAN 2
. E120		lor WHITE	24 24	Color of Wire	8	BR	GR	ŋ	LG	۵
Connector No.	Connector Name	Connector Color	原列 H.S.	Terminal No.	19	20	21	22	23	24

Signal Name	ECM RLY CONT	O2 SENSOR	ı	DTRL RLY SUPPLY	A/C COMPRESSOR	IGN SW (IG)	FUEL PUMP	A/T ECU IGN SUPPLY	ABS IGN SUPPLY	REVERSE LAMP	INJECTOR	1
Color of Wire	BB	W/R	1	R/B	>	M/G	ж	M/G	W/B	M/G	M/G	_
Terminal No.	7	80	6	10	=	12	13	14	15	16	17	18

	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Е	14 13 12 11 10	Signal Name	IGN COIL	ECM	1	ETC
E119		WHITE	8 7 6	Color of Wire	ŋ	Ь	-	۸
9 9	Name	Color	6 4 8	_				
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	က	4	2	9

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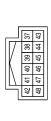
Revision: July 2009 EXL-131 2010 Xterra

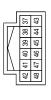
< ECU DIAGNOSIS >

Connector No.	. E123	8
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color		BROWN
唇	51	2 50 49
H.S.	56 55 54	54 53 52
Terminal No.	Color of Wire	Signal Name
49	GR	ILLUMINATION
20	×	FR FOG LAMP LH
51	^	FR FOG LAMP RH
52	Ь	H/LAMP LO LH
53	_	-
54	Я	H/LAMP LO RH
55	9	H/LAMP HI LH
26	7	H/LAMP HI RH

			ı			_
6	FUSIBLE LINK BOX (BATTERY)	CK	<u></u>	Signal Name	-	1
. E129	me FU	lor BLACK		Color of Wire	8	œ
Connector No.	Connector Name	Connector Color	咸可 H.S.	Terminal No. Wire	-	2

Connector No.	E122
Connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	WHITE





Signal Name	ALT-C CONT	GND (SIGNAL)	CAN-H	CAN-L	_	OIL PRESSURE	AUTO STOP SV	DTRL RLY CON	ANT THEFT HOF	FUEL PUMP RL CONT	ETC RLY CON	INHIBIT SW
Color of Wire	>	В	٦	Ь	_	GR	១	н	БЛ	٨	0	ш
Terminal No.	37	38	39	40	14	42	43	44	45	46	47	48

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Signal Name	TAIL LAMP	I	GND (POWER)	RR DEF	TRAIL RLY SUPPLY	_
Color of Wire	GR	1	В	GR	B/B	_
Terminal No.	25	58	29	09	61	62

E121	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	BROWN	
Connector No.	Connector Name	Connector Color BROWN	





Signal Name	I	_	TTOW REV LAMP	ILLUMINATION	TRAILER RLY CONT	ECM BAT	ı	FR WIPER LO	I	I	FR WIPER HI	1
Color of Wire	1	_	M/G	В	В	B/B	ı	GR	_	ı	٦	_
Terminal No.	25	56	27	28	29	30	31	32	33	34	35	36

Connector No.	E124
Connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Color BLACK	BLACK





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Fail Safe

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CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With ECM

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< 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 (LH/RH) high relays OFF
Parking lampsLicense plate lampsTail 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 (if equipped)	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.

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< 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-17

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.

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table INFOID:0000000005268611

CAUTION:

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

Symptom		Possible cause	Inspection item
Headlamp does not switch to the high beam.	One side	Fuse Harness between IPDM E/R and the front combination lamp Front combination lamp (High beam relay) IPDM E/R	Headlamp (HI) circuit Refer to EXL-37, "Description".
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM" Refer to EXL-137, "Diagnosis Procedure".	
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 (lighting and turn signal switch) and BCM BCM	Combination switch (lighting and turn signal switch) Refer to BCS-7.
		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 EXL-39, "Description".
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-138, "Diagnosis Procedure".	
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-7.
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".

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EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

Symp	otom	Possible cause	Inspection item
	One side	Off-road lamps bulb Harness between Off-road lamps relay and the Off-road lamp assembly	Off-road lamps circuit Refer to <u>EXL-45</u> .
Off-road lamps are not turned ON.	Both side	Off-road lamps switch Fuse Off-road lamps relay Off-road lamp cover sensor BCM Harness between fuse block (J/B) and the Off-road lamp assembly	 Off-road lamps switch circuit Refer to <u>EXL-41</u>. Off-road lamp cover sensor circuit Refer to <u>EXL-43</u>. Off-road lamps circuit Refer to <u>EXL-45</u>.
Front fog lamp is not turned ON.	One side	Front fog lamp bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R	Front fog lamp circuit Refer to EXL-48.
	Both side	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-140, "Diagnosis Procedure".	
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 <u>EXL-50</u> .
	Both sides	Symptom diagnosis "PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-139, "Diagnosis Procedure".	
Turn signal lamp does not blink.	Indicator lamp is normal. (The applicable side performs the high flasher activation).	Harness between BCM and each turn signal lamp Turn signal lamp bulb	Turn signal lamp circuit Refer to <u>EXL-55</u> .
Turn signal indicator lamp does not blink.	One side	Combination meter	_
	Both sides (Always)	Turn signal indicator lamp signal Combination meter BCM	Combination meter. Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER"
	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 circuit Refer to MWI-29.

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

Description

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

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

Check the combination switch (lighting and turn signal switch). Refer to <u>BCS-37</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 position)	Except for HI or PASS	OFF

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-56, "Removal and Installation".

3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-37, "Description".

Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-33, "Removal and Installation of IPDM E/R".

NO >> Repair or replace the malfunctioning part.

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BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description INFOID.000000005570653

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

Diagnosis Procedure

INFOID:0000000005570654

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

Check the combination switch (lighting and turn signal switch). Refer to <u>BCS-37, "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 (LO) REQUEST SIGNAL INPUT

(P)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
and turn signal switch)	and turn signal switch)	OFF	OFF

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-56, "Removal and Installation".

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-39, "Description".

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-33, "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:000000005570655

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-37, "Diagnosis Procedure". 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

PCONSULT-III DATA MONITOR

- Select "TAIL & CLR REQ" of IPDM E/R DATA MONITOR item.
- 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-56, "Removal and Installation".

3.PARK LAMP CIRCUIT INSPECTION

Check the parking lamp circuit. Refer to EXL-50, "Description".

Is the tail lamp circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-33, "Removal and Installation of IPDM E/R".

NO >> Repair or replace the malfunctioning part.

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BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description INFOID:0000000005570657

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

Diagnosis Procedure

INFOID:0000000005570658

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

Check the combination switch (lighting and turn signal switch). Refer to <u>BCS-37</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 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
	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-56, "Removal and Installation".

$3.\mathsf{front}$ fog LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-48, "Description".

Is the front fog lamp circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-33, "Removal and Installation of IPDM E/R".

NO >> Repair or replace the malfunctioning part.

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

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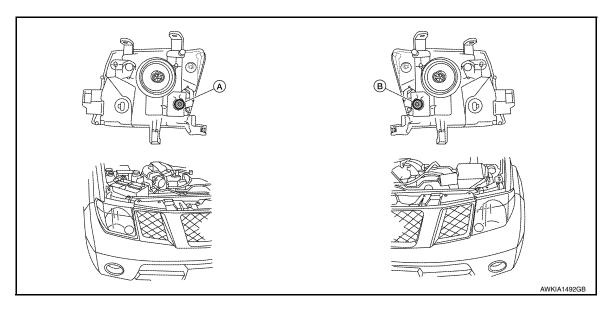
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ON-VEHICLE REPAIR

ADJUSTMENT AND INSPECTION HEADLAMP

HEADLAMP: Aiming Adjustment

INFOID:0000000005268620



A. Headlamp RH adjustment screw

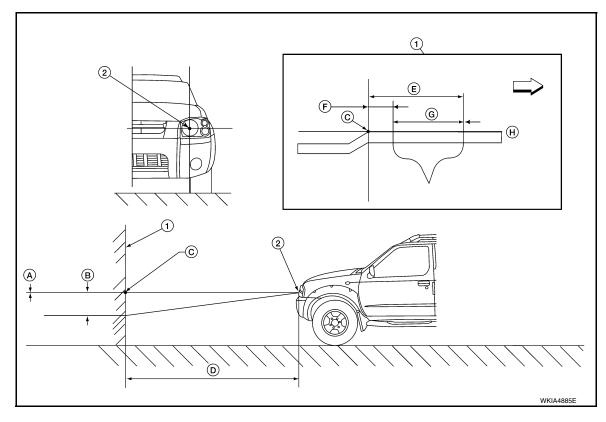
B. Headlamp LH adjustment screw

For details, refer to the regulations in your area.

If vehicle front body has been repaired and /or the headlamp assembly has been replaced, check headlamp 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.
- Use adjusting screw to perform aiming adjustment

LOW BEAM AND HIGH BEAM



- Adjustment screen
- 2 Headlamp bulb center (HV point)
- Minimum acceptable vertical aim dimension (see aiming chart)

- Maximum acceptable vertical aim dimension (see aiming chart)
 - Maximum aim evaluation distance F Minimum aim evaluation distance from vertical center on aiming
- Distance of headlamp aiming screen D from vehicle 7.62 m (25 ft.)

- from vertical center on aiming screen 399mm (3° R). Horizontal aiming evaluation line.
- screen 133 mm (1°R) Right
- Aim evaluation area

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Aiming Chart

A (Minimum acceptable vertical aim dimension) -3.3 mm (0.13 in) 0.025° up B (Maximum acceptable vertical aim dimension) 36.6 mm (1.44 in) 0.275° down

NOTE:

- By regulation, no means for horizontal aim adjustment is provided from the factory; only vertical aim is adiustable.
- Basic illuminating area for evaluation and/or adjustment should be within range shown on aiming chart.
- Use adjustment screw to perform aiming adjustment.
 - Cover the opposite lamp and ensure fog lamps, if equipped, are turned off. CAUTION:

Do not tighten adjustment screw beyond specified torque or damage may occur.

Adjustment torque 1.67 N.m (17 kg-cm, 14.8 in-lb)

C

H-V point

Adjust beam pattern until cut-off line (top edge of illumination area) is positioned at the specified height off ground. Measure cut-off line within distance J on H-line. See aiming chart.

FRONT FOG LAMP

FRONT FOG LAMP: Aiming Adjustment

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.

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ADJUSTMENT AND INSPECTION

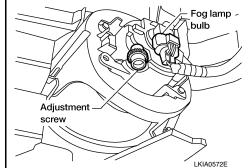
< ON-VEHICLE REPAIR >

- · 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.

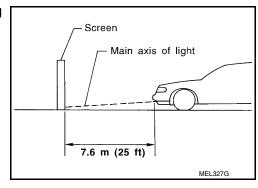
Adjust aiming in the vertical direction by turning the adjustment screw.

NOTE:

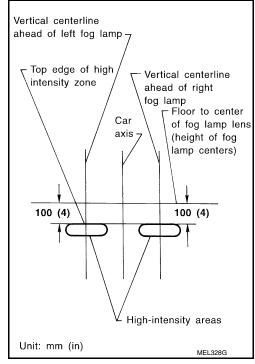
Use a Phillips screwdriver to adjust. Turn screw clockwise to raise pattern and counterclockwise to lower pattern.



1. Set the distance between the screen and the center of the fog lamp lens as shown.



- 2. Turn front fog lamps ON.
- Remove front portion of fender protector(s) for adjustment screw access. Refer to <u>EXT-19</u>. "Removal and Installation"
- 4. Adjust front fog lamps using adjustment 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.



HEADLAMP

< REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION Α **HEADLAMP** Bulb Replacement INFOID:0000000005268622 В **HEADLAMP BULB** Removal NOTE: Reach through engine room for bulb replacement access. **CAUTION:** D Grasp only the plastic base when handling the bulb. Never touch the glass envelope. Turn front headlamp switch OFF. Disconnect the electrical connector. Е Rotate the headlamp bulb retaining ring counterclockwise and remove. 4. Pull the headlamp bulb straight out from the headlamp assembly. F NOTE: Remove the headlamp bulb from the headlamp assembly just before a replacement bulb is installed. Dust, moisture, foreign materials, etc. entering headlamp body may affect performance. Installation is in the reverse order of removal. FRONT TURN SIGNAL/PARKING LAMP Н Removal NOTE: Reach through engine room for bulb replacement access. Turn the bulb socket counterclockwise to unlock it. Pull the bulb to remove it from the socket. Installation Installation is in the reverse order of removal. **CAUTION:** After installing the bulb, be sure to install the bulb socket securely for watertightness. K FRONT SIDE MARKER LAMP Removal NOTE: Reach through engine room for bulb replacement access.

- Turn the bulb socket counterclockwise to unlock it.
- 2. Pull the bulb to remove it from the socket.

Installation

Installation is in the reverse order of removal.

CAUTION:

After installing the bulb, be sure to install the bulb socket securely for watertightness.

Removal and Installation

FRONT COMBINATION LAMP

Removal

- Remove front portion of front fender protector. Refer to EXT-18, "Removal and Installation".
- 2. Remove the front fascia assembly. Refer to EXT-13, "Removal and Installation".

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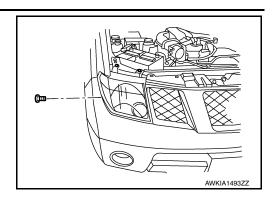
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HEADLAMP

< REMOVAL AND INSTALLATION >

3. Remove the front combination lamp bolts.



4. Disconnect the front combination lamp connector and remove front combination lamp.

Installation

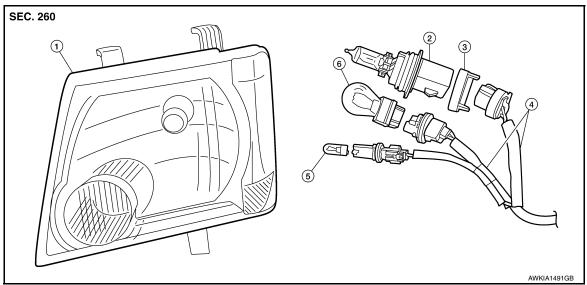
Installation is in the reverse order of removal.

Front combination lamp bolts : 6.0 Nm (0.61 kg-m, 53 in-lb)

Disassembly and Assembly

INFOID:0000000005268624

FRONT COMBINATION LAMP



- 1. Headlamp assembly
- 4. Wiring harness assembly
- 2. Headlamp bulb
- 5. Front side marker lamp bulb
- 3. Headlamp bulb retaining ring
- 6. Front turn signal/parking lamp bulb

OPTICAL SENSOR

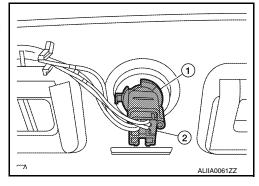
< REMOVAL AND INSTALLATION >

OPTICAL SENSOR

Removal and Installation

REMOVAL

- 1. Remove the defroster grille from the instrument panel. Refer to IP-10, "Exploded View".
- 2. Disconnect the optical sensor connector (2).
- 3. Twist the optical sensor (1) counter clockwise to remove it from the defroster grille.



INSTALLATION

Installation is in the reverse order of removal.

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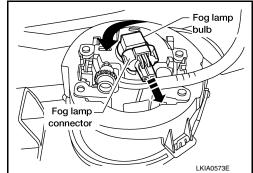
FRONT FOG LAMP

Bulb Replacement

- 1. Remove front portion of fender protector. Refer to <a>EXT-18, "Removal and Installation"
- 2. Disconnect fog lamp connector.
- 3. Turn the bulb counterclockwise to remove it.

CAUTION:

- Do not touch the glass of bulb directly by hand. Keep grease and other oily substances away from it. Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.
- 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.



Removal and Installation

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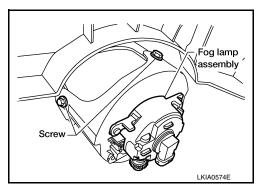
FRONT FOG LAMP

The fog lamp is a semi-sealed beam type which uses a replaceable halogen bulb. **CAUTION:**

- Do not leave fog lamp assembly without bulb for a long period of time. Dust, moisture, smoke, etc. entering the fog lamp body may affect the performance. Remove the bulb from the headlamp assembly just before replacement bulb is installed.
- Grasp only the plastic base when handling the bulb. Never touch the glass envelope. Touching the glass could significantly affect the bulb life and/or fog lamp performance.

Remova

- 1. Remove front portion of fender protector. Refer to EXT-18, "Removal and Installation"
- 2. Disconnect fog lamp connector.
- 3. Remove fog lamp screws and pull fog lamp rearward out of front bumper.



Installation

Installation is in the reverse order of removal.

LIGHTING & TURN SIGNAL SWITCH

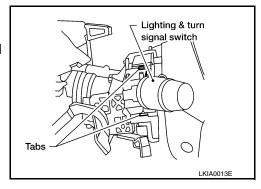
< REMOVAL AND INSTALLATION >

LIGHTING & TURN SIGNAL SWITCH

Removal and Installation

REMOVAL

- 1. Remove instrument lower cover LH. Refer to IP-10, "Exploded View".
- 2. Remove steering column cover.
- 3. Disconnect the lighting and turn signal switch connector.
- 4. While pressing tabs, pull lighting and turn signal switch toward driver door and release from the steering column.



INSTALLATION

Installation is in the reverse order of removal.

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HAZARD SWITCH

< REMOVAL AND INSTALLATION >

HAZARD SWITCH

Removal and Installation

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REMOVAL

- 1. Remove cluster lid C. Refer to IP-10, "Exploded View".
- 2. Disconnect the hazard switch connector.
- 3. Remove the screws and remove the hazard switch.

INSTALLATION

Installation is in the reverse order of removal.

HIGH-MOUNTED STOP LAMP

< REMOVAL AND INSTALLATION >

HIGH-MOUNTED STOP LAMP

High-Mounted Stop Lamp

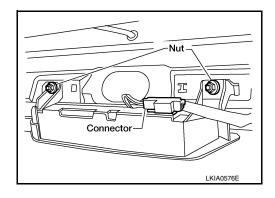
BULB REPLACEMENT

The high-mounted stop lamp bulbs are not serviceable.

REMOVAL AND INSTALLATION

Removal

- 1. Remove back door window garnish.
- 2. Disconnect high-mounted stop lamp connector.
- Remove nuts and remove high-mounted stop lamp.



Installation

Installation is in the reverse order of removal.

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LICENSE PLATE LAMP

< REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

Bulb Replacement

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LICENSE PLATE LAMP

Removal

- 1. Remove back door finisher. Refer to INT-13, "Removal and Installation".
- 2. Turn bulb socket counterclockwise and remove bulb socket.
- 3. Remove license plate lamp bulb.

Installation

Installation is in the reverse order of removal.

Removal and Installation

INFOID:0000000005268632

LICENSE PLATE LAMP

Removal

- 1. Remove license lamp finisher.
- 2. Disconnect license plate lamp harness connector.
- Remove license plate lamp screw and remove license plate lamp.

Installation

Installation is in the reverse order of removal.

REAR COMBINATION LAMP

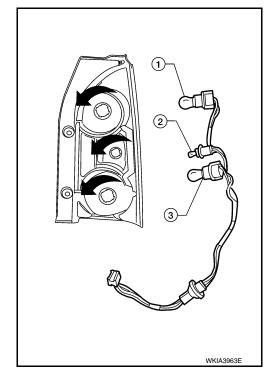
< REMOVAL AND INSTALLATION >

REAR COMBINATION LAMP

Bulb Replacement

REMOVAL В

- 1. Remove rear combination lamp. Refer to EXL-153, "Removal and Installation".
- Rotate each bulb socket (1, 2, 3) counterclockwise to unlock it.
- 3. Pull bulb straight out away from socket to release.



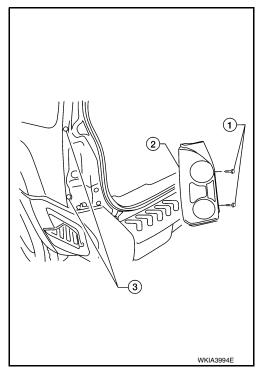
INSTALLATION

Installation is in the reverse order of removal.

Removal and Installation

REMOVAL

- 1. Remove rear combination lamp bolts (1).
- Rear combination lamp locator (3)
- Pull the lamp assembly (2) rearward to remove from the vehicle.
- Disconnect the connector and remove the rear combination lamp.



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REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

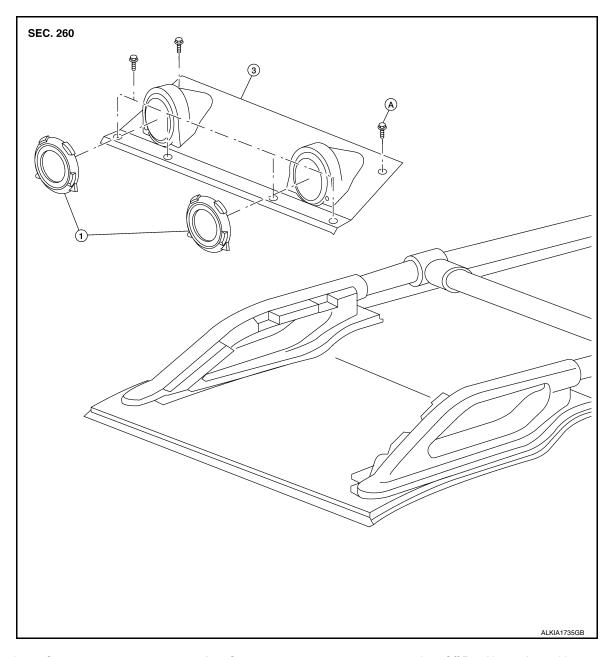
INSTALLATION

Installation is in the reverse order of removal.

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OFF-ROAD LAMPS

Removal and Installation



1. Lamp Covers

A. Screws

Off Road Lamp Assembly

OFF ROAD LAMPS

Removal

- 1. Remove the screws.
- Remove the lamp cover.
- Disconnect the electrical connector and remove the off road lamp assembly.

Installation

Installation is in the reverse order of removal.

Disassembly and Assembly

Disassembly

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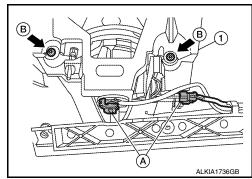
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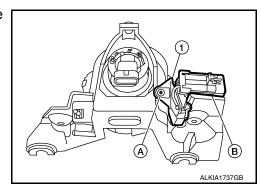
OFF-ROAD LAMPS

< REMOVAL AND INSTALLATION >

- 1. Remove the off road lamp assembly. Refer to EXL-155, "Removal and Installation"
- 2. Disconnect the electrical connectors (A). Remove the screws (B) and remove the lamp assembly (1).



- 3. Remove the harness bracket.
- 4. Remove the screw (A). Unclip the electrical connector from the lamp assembly (B) and remove the lamp cover sensor (1).
- 5. Remove the off road lamp bulb.



Assembly

Assembly is in the reverse order of disassembly.

BULB SPECIFICATIONS

< SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

BULB SPECIFICATIONS

Headlamp INFOID:0000000005268637

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

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

Exterior Lamp INFOID:0000000005268638

Item		Wattage (W)*
Front combination lamp	Turn signal lamp/parking lamp	29/8
	Side marker	3.8
Rear combination lamp	Stop/Tail lamp	27/7
	Turn signal lamp	27
	Back-up lamp	18
Front fog lamp		55
License plate lamp		5
High-mounted stop lamp		*
Off road lights		*

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

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