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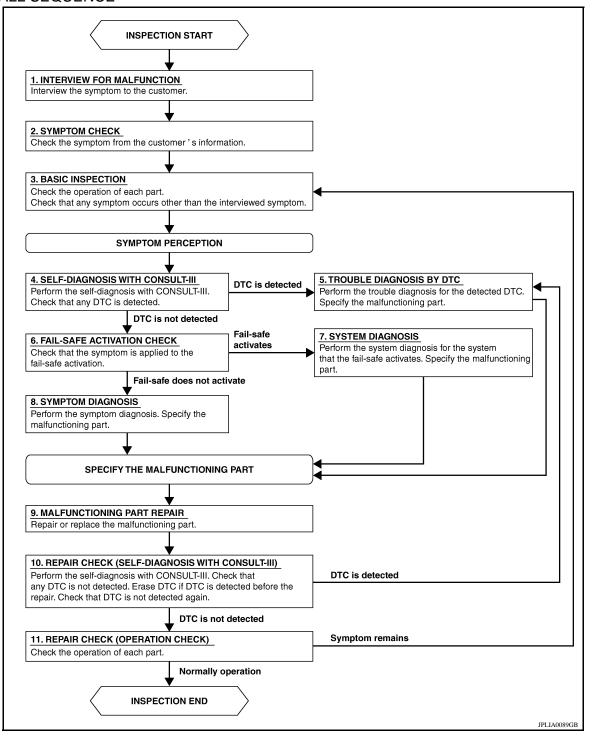
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# **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

#### **OVERALL SEQUENCE**



# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[WITH POWER DOOR LOCKS]

#### **DETAILED FLOW**

# 1.INTERVIEW FOR MALFUNCTION

Find out what the customer's concerns are.

>> GO TO 2

# 2.SYMPTOM CHECK

Verify the symptom from the customer's information.

>> 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

# 4.SELF-DIAGNOSIS WITH CONSULT-III

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

# Is any DTC detected?

YES >> GO TO 5

NO >> GO TO 6

# 5.TROUBLE DIAGNOSIS BY DTC

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

>> GO TO 9

# 6. FAIL-SAFE ACTIVATION CHECK

Determine if the customer's concern is related to fail-safe activation.

Does the fail-safe activate?

YES >> GO TO 7

NO >> GO TO 8

# 7. SYSTEM DIAGNOSIS

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

>> GO TO 9

# 8. SYMPTOM DIAGNOSIS

Perform the symptom diagnosis. Specify the malfunctioning part.

>> GO TO 9

# 9. MALFUNCTION PART REPAIR

Repair or replace the malfunctioning part.

>> GO TO 10

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

Perform the self-diagnosis with CONSULT-III. Verify that no DTCs are detected. Erase all DTCs detected prior to the repair. Verify that DTC is not detected again.

Is any DTC detected?

YES >> GO TO 5

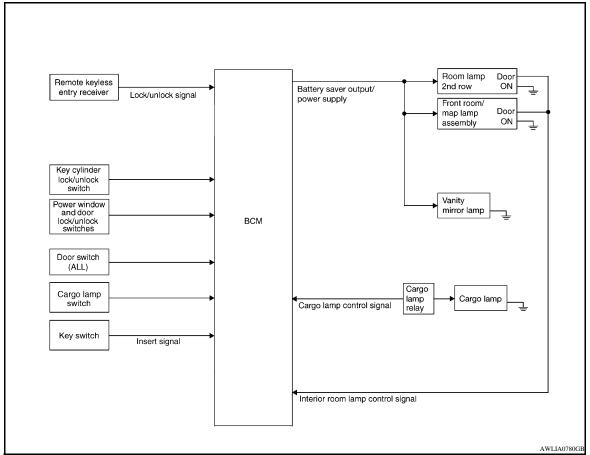
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# **FUNCTION DIAGNOSIS**

# INTERIOR ROOM LAMP CONTROL SYSTEM

System Diagram

INFOID:0000000004056534



# System Description

INFOID:0000000004056535

#### OUTLINE

- Front room/map lamp and room lamp 2nd row are controlled by the interior room lamp timer control function
  of the BCM.
- Cargo lamp is controlled by the cargo lamp control function of the BCM.

The timer control functions of the BCM activate based on inputs from the remote keyless entry receiver, the key cylinder lock/unlock switch, the door switches, the key switch and the power window and door lock/unlock switches.

#### **ROOM LAMP TIMER OPERATION**

When the interior room lamp switch is in the DOOR position and when all conditions below are met, the BCM begins timer control (maximum 30 seconds) for interior room lamp ON/OFF.

- When the front door LH is unlocked [with main power window and door lock/unlock switch, or front door lock assembly (key cylinder switch)].
- When a door opens → closes.

Timer control is cancelled under the following conditions.

- When the front door LH is locked [with main power window and door lock/unlock switch, or front door lock assembly (key cylinder switch)].
- A door is opened (door switch turns ON).

Interior lamp operational settings can be changed with the function setting of CONSULT-III.

#### INTERIOR LAMP BATTERY SAVER CONTROL

#### < FUNCTION DIAGNOSIS >

#### [WITH POWER DOOR LOCKS]

If an interior lamp is left ON and does not turn OFF even when the doors are closed, the BCM turns off power to the interior lamps automatically to save the battery 30 minutes after the ignition switch is turned OFF. The BCM controls power and ground to all interior lamps.

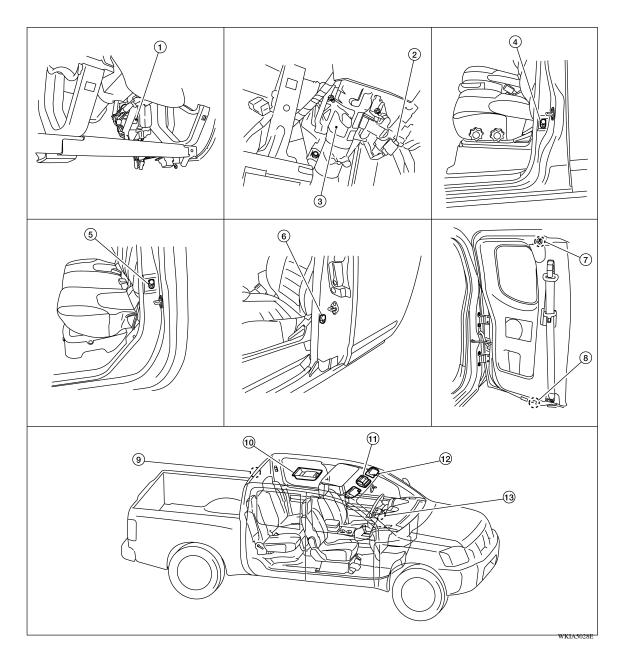
After the battery saver system turns the lamps OFF, the lamps will illuminate again when

- a signal is received from a main power window and door lock/unlock switch, or when the front door LH lock assembly (key cylinder switch) is locked or unlocked
- a door is opened or closed

The interior lamp battery saver control time period can be changed with the function setting of CONSULT-III.

# Component Parts Location

INFOID:0000000004056536



- BCM M18, M19, M20 (view with lower 2. instrument panel LH removed)
- Front door switch LH B8 (crew cab)
   Front door switch RH B108 (crew cab)
- Rear door switch upper LH D211 (king cab)

Rear door switch upper LH D312 (king cab)

- Key switch M27
- Rear door switch LH B18 (crew cab)
   Rear door switch RH B116 (crew cab)
- . Rear door switch lower LH D212 (king cab)

Rear door switch lower LH D313 (king cab)

- 3. Steering column assembly
- Front door switch LH D213 (king cab)
   Front door switch RH D316 (king cab)
  - Cargo lamp B161

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# < FUNCTION DIAGNOSIS >

# [WITH POWER DOOR LOCKS]

10. Room lamp 2nd row R10

11. Front room/map lamp assembly R9

12. Vanity lamp LH B80 Vanity lamp RH B81

13. Ignition keyhole illumination M150

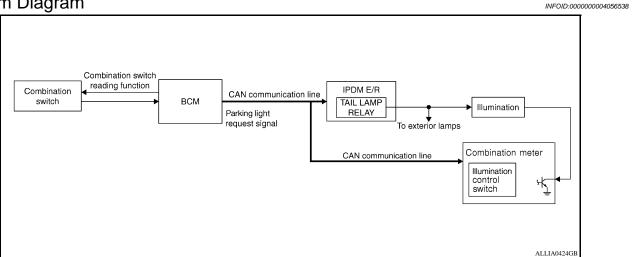
# **Component Description**

INFOID:0000000004056537

Part name	Description	
BCM	Provides power and ground and controls timer functions for the interior room lamps and cargo lamp.	
Key switch	Provides key in ignition status to the BCM.	
Door switches	Provides door OPEN/CLOSED status to the BCM.	
Back door switch	Provides back door OPEN/CLOSED status to the BCM.	
Main power window and door lock/unlock switch	Provides door lock/unlock position switch status to the BCM.	
Power window and door lock/unlock switch RH	- Provides door lock/unlock position switch status to the BCM.	
Front door lock assembly LH (key cylinder switch)	Provides door lock/unlock status to the BCM.	

# ILLUMINATION CONTROL SYSTEM

# System Diagram



# System Description

INFOID:0000000004056539

The illumination lamps operation is dependent upon the position of the lighting switch (combination switch). When the lighting switch is placed in the 1ST or 2ND position the BCM (body control module) receives input requesting the parking 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 tail lamp relay coil. When energized, this relay directs power to the parking and illumination lamps, which then illuminate.

#### **BATTERY SAVER CONTROL**

When the lighting switch (combination switch) is in the 1ST or 2ND position and the ignition switch is turned from ON or ACC to OFF, the battery saver control feature is activated. Under this condition, the illumination lamps remain illuminated for 30 minutes unless the lighting switch position is changed. If the lighting switch position is changed, then the illumination lamps are turned off after a 30 second delay. When the lighting switch is turned from OFF to 1ST or 2ND position after illumination lamps have been turned off by the battery saver control, the illumination lamps illuminate again.

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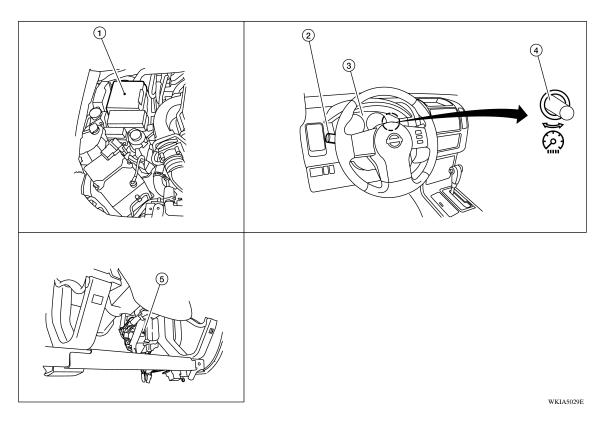
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# **Component Parts Location**

INFOID:0000000004056540



- 1. IPDM E/R E122, E124
- 4. Illumination control switch (built into combination meter)
- 2. Combination switch M28
- BCM M18, M20 (view with lower instrument panel LH removed)

Combination meter M24

# **Component Description**

INFOID:0000000004056541

Part name	Description
BCM	The BCM monitors the lighting switch position with the combination switch reading function. The BCM requests, via CAN communication, that the IPDM E/R activate the tail lamp relay.
IPDM E/R	The IPDM E/R activates the tail lamp relay based on inputs received from the BCM via the CAN communication network.
Combination meter (illumination control switch)	The illumination control switch is a part of the combination meter. The combination meter controls illumination intensity by varying ground to the illumination lamps based on the illumination control switch position.
Combination switch	The combination switch provides input to the BCM about the lighting switch position.

# **DIAGNOSIS SYSTEM (BCM)**

< FUNCTION DIAGNOSIS >

[WITH POWER DOOR LOCKS]

# **DIAGNOSIS SYSTEM (BCM)**

**COMMON ITEM** 

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

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#### APPLICATION ITEM

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

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
SELF-DIAG RESULTS	Displays the diagnosis results judged by BCM. Refer to INL-60, "DTC Index".
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	<ul> <li>Enables to read and save the vehicle specification.</li> <li>Enables to write the vehicle specification when replacing BCM.</li> </ul>

#### SYSTEM APPLICATION

BCM can perform the following functions for each system.

#### NOTE:

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

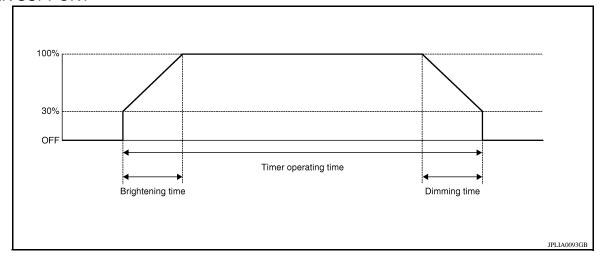
System	Cub sustains a la stion items	Diagnosis mode		
System	Sub system selection item	WORK SUPPORT	DATA MONITOR	ACTIVE TEST
BCM	BCM	×		
Door lock	DOOR LOCK	×	×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP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

**INT LAMP** 

# INT LAMP : CONSULT-III Function (BCM - INT LAMP)

INFOID:0000000004436190

# **WORK SUPPORT**



Work Item	Setting item	Setting	
SET I/L D-UNLCK INTCON	ON*	With the interior room lamp timer function	
SET I/L D-UNLOK INTOON	OFF	Without the interior room lamp timer function	
	MODE 1	0.5 sec.	
	MODE 2*	1 sec.	
ROOM LAMP ON TIME SET	MODE 3	2 sec.	Sets the interior room lamp gradual brightening time.
	MODE 4	3 sec.	
	MODE 5	0 sec.	
	MODE 1	0.5 sec.	
ROOM LAMP OFF TIME SET	MODE 2	1 sec.	
	MODE 3	2 sec.	Sets the interior room lamp gradual dimming time.
	MODE 4*	3 sec.	
	MODE 5	0 sec.	

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

# **DATA MONITOR**

Monitor Item [Unit]	Description
IGN ON SW [ON/OFF]	Ignition switch (ON) status judges from IGN signal (ignition power supply)
KEY ON SW [ON/OFF]	The switch status input from key switch
DOOR SW-DR [ON/OFF]	Indicates condition of front door switch (all) and rear door switch upper and lower (king cab) LH
DOOR SW-AS [ON/OFF]	Indicates condition of front door switch (all) and rear door switch upper and lower (king cab) RH
DOOR SW-RR [ON/OFF]	Indicates condition of rear door switch RH (crew cab)
DOOR SW- RL [ON/OFF]	Indicates condition of rear door switch LH (crew cab)
KEY CYL LK-SW [ON/OFF]	Lock switch status input from door lock and unlock switch
KEY CYL UN-SW [ON/OFF]	Lock switch status input from door lock and unlock switch
CDL LOCK SW [ON/OFF]	Lock switch status input from door lock and unlock switch
CDL UNLOCK SW [ON/OFF]	Unlock switch status input from door lock and unlock switch

# **DIAGNOSIS SYSTEM (BCM)**

# < FUNCTION DIAGNOSIS >

# [WITH POWER DOOR LOCKS]

Monitor Item [Unit]	Description
KEYLESS LOCK [ON/OFF]	Lock signal status received from remote keyless entry receiver (integrated in the BCM)
KEYLESS UNLOCK [ON/OFF]	Unlock signal status received from remote keyless entry receiver (integrated in the BCM)

# **ACTIVE TEST**

Test Item	Operation	Description	
IGN ILLUM	ON	Outputs the ignition keyhole illumination control signal to turn the ignition keyhole illumination lamp ON.	
ION ILLOW	OFF	Stops the ignition keyhole illumination control signal to turn the ignition keyhole illumination lamp OFF.	
INT I AMP	ON	Outputs the interior room lamp control signal to turn the interior room lamps ON.	
OFF		Stops the interior room lamp control signal to turn the interior room lamps OFF.	
STEP LAMP TEST	_	This test is shown, not supported.	
LUGGAGE LAMP TEST	_	This test is shown, not supported.	

# **BATTERY SAVER**

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

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#### **WORK SUPPORT**

Work Item	Setting Item	Setting		
ROOM LAMP TIMER SET	MODE 1*	15 min.	Sets the interior room lamp battery saver timer operating	
NOOW EAWIF THINEIX SET	MODE 2	30 min.	time.	

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

#### DATA MONITOR

Monitor Item [Unit]	Description		
IGN ON SW [ON/OFF]	Ignition switch (ON) status judges from IGN signal (ignition power supply)		
KEY ON SW [ON/OFF]	The switch status input from key switch		
DOOR SW-DR [ON/OFF]	The switch status input from front door switch (driver side)		
DOOR SW-AS [ON/OFF]	The switch status input from front door switch (passenger side)		
DOOR SW-RR [ON/OFF]	The switch status input from rear door switch RH		
DOOR SW- RL [ON/OFF]	The switch status input from rear door switch LH		
BACK DOOR SW	NOTE: This is displayed even when it is not equipped		
KEY CYL LK-SW [ON/OFF]	Lock switch status input from door key cylinder switch		
KEY CYL UN-SW [ON/OFF]	Unlock switch status input from door key cylinder switch		
CDL LOCK SW [ON/OFF]	Lock switch status input from door lock and unlock switch		
CDL UNLOCK SW [ON/OFF]	Unlock switch status input from door lock and unlock switch		
KEYLESS LOCK [ON/OFF]	Lock signal status received from remote keyless entry receiver (integrated in the BCM)		
KEYLESS UNLOCK [ON/OFF]	Unlock signal status received from remote keyless entry receiver (integrated in the BCM)		

# **ACTIVE TEST**

**INL-13** 

# **DIAGNOSIS SYSTEM (BCM)**

# < FUNCTION DIAGNOSIS >

# [WITH POWER DOOR LOCKS]

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

<sup>\*:</sup> Each lamp switch is in ON position.

# POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[WITH POWER DOOR LOCKS]

# **COMPONENT DIAGNOSIS**

# POWER SUPPLY AND GROUND CIRCUIT BCM

**BCM**: Diagnosis Procedure

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# 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	Battery power 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?

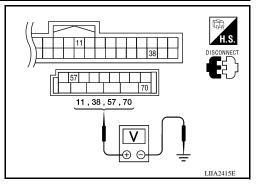
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

# $2.\,$ CHECK POWER SUPPLY CIRCUIT

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

Connector	Terminals Po		Power	Condition	Voltage (V) (Ap-	
Connector	(+)	(-)	source	Condition	prox.)	
M18	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage	
	38 Ground		lgnition power supply	Ignition switch ON or START	Battery voltage	
M20	57	Ground	Battery power supply	Ignition switch OFF	Battery voltage	
IVIZU	70 Ground power		Battery power supply	Ignition switch OFF	Battery voltage	



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#### Is the measurement value normal?

YES >> GO TO 3

NO >> Repair or replace harness.

# 3. CHECK GROUND CIRCUIT

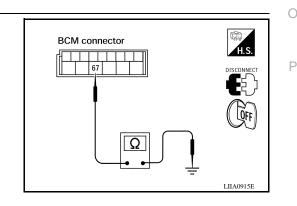
Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector	Connector Terminal		Continuity
M20	67		Yes

#### Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.



# BATTERY SAVER OUTPUT/POWER SUPPLY CIRCUIT

< COMPONENT DIAGNOSIS >

[WITH POWER DOOR LOCKS]

# BATTERY SAVER OUTPUT/POWER SUPPLY CIRCUIT

Description INFOID:000000004056546

Provides the battery saver output/power supply. Also cuts the power supply when the interior room lamp battery saver is activating.

# Component Function Check

INFOID:0000000004056547

# 1. CHECK BATTERY SAVER OUTPUT/POWER SUPPLY FUNCTION

#### (P)CONSULT-III

- 1. Turn ignition switch ON.
- 2. Turn each interior room lamp ON.
- Front room/map lamp assembly (if equipped)
- Vanity lamps (if equipped)
- Room lamp 2nd row
- 3. Select "BATTERY SAVER" of BCM (BATTERY SAVER) active test item.
- 4. While operating the test item, check that each interior room lamp turns ON/OFF.

OFF : Interior room lamp OFF
ON : Interior room lamp ON

#### Is the inspection result normal?

YES >> Battery saver output/power supply circuit is normal.

NO >> Refer to INL-16, "Diagnosis Procedure".

# Diagnosis Procedure

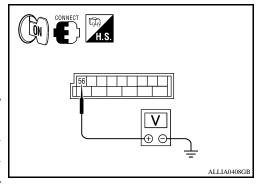
INFOID:0000000004056548

# ${f 1.}$ CHECK BATTERY SAVER OUTPUT/POWER SUPPLY OUTPUT

# @CONSULT-III

- 1. Turn ignition switch ON.
- 2. Select "BATTERY SAVER" of BCM (BATTERY SAVER) active test item.
- While operating the test item, check voltage between BCM connector M20 terminal 56 and ground.

(-	+)	()	Test item	Voltage
Connector	Terminal	(-)	BATTERY SAVER	voltage
M20	56	Ground	OFF	0V
IVIZO	30	Giodila	ON	Battery voltage



#### Is the inspection result normal?

YES >> GO TO 2

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

# 2.check battery saver output/power supply open circuit

- Turn ignition switch OFF.
- 2. Disconnect the following connectors.
- BCM M20
- Ignition keyhole illumination (if equipped)
- Front room/map lamp assembly (if equipped)
- Vanity lamp LH (if equipped)
- Vanity lamp RH (if equipped)
- Room lamp 2nd row
- Check continuity between BCM connector and each interior room lamp connector.

# **BATTERY SAVER OUTPUT/POWER SUPPLY CIRCUIT** [WITH POWER DOOR LOCKS]

## < COMPONENT DIAGNOSIS >

**Terminal** 

56

				_		
				_		
Each interior room lamp  Continuity						
Connector		Terminal	Continuity			
if equipped)	M150	1		В		
bly (if equipped)	R9	1				
	B80	1	Yes			

2

B81

R10

#### Is the inspection result normal?

YES >> GO TO 3

**BCM** 

Connector

M20

NO >> Repair the harness or connectors.

# 3.CHECK BATTERY SAVER OUTPUT/POWER SUPPLY SHORT CIRCUIT

Ignition keyhole illumination (if equipped) Front room/map lamp assembly (if equipped)

Check continuity between BCM connector M20 terminal 56 and ground.

Vanity lamp LH (if equipped)

Vanity lamp RH (if equipped)

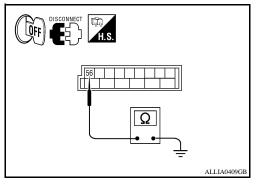
Room lamp 2nd row

Connector	Terminal	_	Continuity
M20	56	Ground	No

#### Is the inspection result normal?

YES >> Replace the interior room lamp. Refer to INL-64. "Removal and Installation".

NO >> Repair the harness or connectors.



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# INTERIOR ROOM LAMP CONTROL CIRCUIT

< COMPONENT DIAGNOSIS >

[WITH POWER DOOR LOCKS]

# INTERIOR ROOM LAMP CONTROL CIRCUIT

Description INFOID:000000004056549

Controls the following interior room lamps (ground side) by PWM signal

- Front room/map lamp assembly (if equipped)
- Room lamp 2nd row

#### NOTE:

PWM signal control period is approximately 250 Hz (in the gradual brightening/dimming).

# Component Function Check

INFOID:0000000004056550

#### **CAUTION:**

Before performing the diagnosis, check that the following is normal.

- · Battery saver output/power supply
- Front room/map lamp bulbs (if equipped)
- Room lamp 2nd row bulb

# ${f 1}$ .CHECK INTERIOR ROOM LAMP CONTROL FUNCTION

#### CONSULT-III

- 1. Switch the front room/map lamp assembly (if equipped) and room lamp 2nd row switches to DOOR.
- 2. Turn ignition switch ON.
- 3. Select "INT LAMP" of BCM (INT LAMP) active test item.
- While operating the test item, check that each interior room lamp turns ON/OFF (gradual brightening/dimming).

ON : Interior room lamp gradual brightening
OFF : Interior room lamp gradual dimming

#### Is the inspection result normal?

YES >> Interior room lamp control circuit is normal.

NO >> Refer to INL-18. "Diagnosis Procedure".

# Diagnosis Procedure

INFOID:0000000004056551

# 1. CHECK INTERIOR ROOM LAMP CONTROL OUTPUT

#### (P)CONSULT-III

- 1. Turn ignition switch ON.
- Select "INT LAMP" of BCM (INT LAMP) active test item.
- 3. While operating the test item, check voltage between BCM connector M20 terminal 63 and ground.

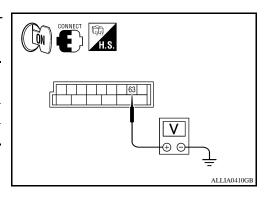
(+)		(-)	INT LAMP	Voltage	
Connector	Terminal	(-)	IIVI LAWII	voltage	
M20	M20 63 Ground		ON	0V	
IVIZU	03	Ground	OFF	Battery voltage	

# Is the inspection result normal?

YES >> Interior room lamp control circuit is operating normally. Fixed ON>>GO TO 3

Fixed OFF>> GO TO 2

2.CHECK INTERIOR ROOM LAMP CONTROL OPEN CIRCUIT



# INTERIOR ROOM LAMP CONTROL CIRCUIT

## < COMPONENT DIAGNOSIS >

#### [WITH POWER DOOR LOCKS]

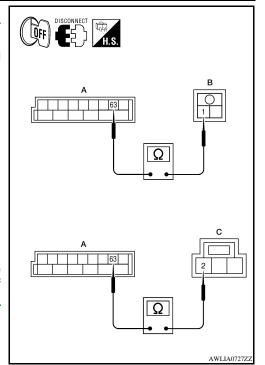
- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector M20, room lamp 2nd row connector and front room/map lamp connector (if equipped).
- 3. Check continuity between BCM connector M20 terminal 63 and interior room lamp connectors.

Term	inal	Terminal			
Connector	Termi- nal	Component	Connector	Terminal	Continuity
		Room lamp 2nd row	B: R10	1	
A: M20	63	Front room/map lamp (if equipped)	C: R9	2	Yes

## Is the inspection result normal?

YES >> Check interior room lamp for an open. If OK, replace the BCM. Refer to BCS-56, "Removal and Installation". If NG, replace the interior room lamp. Refer to INL-64, "Removal and Installation".

NO >> Repair the harness or connectors.



# 3.check interior room Lamp control short circuit

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector M20, room lamp 2nd row connector and front room/map lamp connector (if equipped).
- 3. Check continuity between BCM connector M20 terminal 63 and ground.

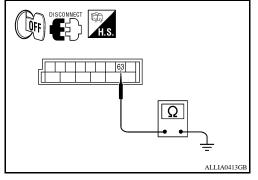
Connector	Terminal	_	Continuity
M20	63	Ground	No

#### Is the inspection result normal?

YES >> Check interior room lamp for a short circuit. If OK, replace the BCM. Refer to <u>BCS-56</u>, "Removal and

<u>Installation</u>". If NG, replace the interior room lamp. Refer to <u>INL-64, "Removal and Installation"</u>.

NO >> Repair the harness or connectors.



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# CARGO LAMP CONTROL CIRCUIT

Description INFOID:000000004056552

Controls the cargo lamp relay coil (ground side) to turn the cargo lamp ON and OFF.

# Diagnosis Procedure

INFOID:0000000004056553

#### **CAUTION:**

Before performing the diagnosis, check that the following is normal.

- Fuse
- Cargo lamp bulb
- 1. CHECK CARGO LAMP OPERATION

Check the cargo lamp operation from the cargo lamp switch, the door switches, and a keyfob (if equipped). Is the cargo lamp inoperative from all of the above switches and the keyfob (if equipped)?

YES >> GO TO 4

NO

- >> Inoperative from cargo lamp switch only, GO TO 2
  - Inoperative from door switches only, refer to <u>DLK-27, "KING CAB: Description"</u> (king cab), <u>DLK-29, "CREW CAB: Description"</u> (crew cab).
  - Inoperative from keyfob only, refer to <u>DLK-50</u>, "<u>Description</u>".

# 2.CHECK CARGO LAMP SWITCH

Check the cargo lamp switch. Refer to INL-22, "Component Inspection".

#### Is the inspection result normal?

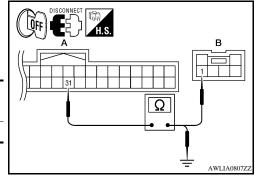
YES >> GO TO 3

NO >> Replace the cargo lamp switch.

# 3. CHECK CARGO LAMP SWITCH CIRCUIT

- Disconnect BCM connector M18 and cargo lamp switch connector.
- Check continuity between BCM connector M18 (A) terminal 31 and cargo lamp switch connector M71 (B) terminal 1.

Connector         Terminal         Connector         Terminal           M18 (A)         31         M71 (B)         1         Yes	В	BCM Cargo lamp switch		Continuity	
M18 (A) 31 M71 (B) 1 Yes	Connector	Terminal	Connector	Terminal	Continuity
	M18 (A)	31	M71 (B)	1	Yes



Check continuity between BCM connector M18 terminal 31 and ground.

Connector	Terminal	_	Continuity
M18 (A)	31	Ground	No

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-56. "Removal and Installation".

NO >> Repair harness or connectors.

# 4. CHECK CARGO LAMP RELAY

Check the cargo lamp relay. Refer to INL-22, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 5

NO >> Replace the cargo lamp relay.

5. CHECK CARGO LAMP RELAY CONTROL

# CARGO LAMP CONTROL CIRCUIT

## < COMPONENT DIAGNOSIS >

#### [WITH POWER DOOR LOCKS]

While operating the cargo lamp switch, check voltage between BCM connector M19 terminal 50 and ground.

Connector	Terminal	_	Cargo lamp switch	Voltage
M19	50	Ground	ON	0V
IVITO	W19 50	Giodila	OFF	Battery voltage

# CONNECT H.S. V ATLIA0556GB

#### Is the inspection result normal?

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

# 6. CHECK CARGO LAMP VOLTAGE

- 1. Disconnect the cargo lamp connector.
- 2. While operating the cargo lamp switch, check voltage between cargo lamp connector B161 terminal 3 and ground.

Connector	Terminal	_	Cargo lamp switch	Voltage
B161	3	Ground	ON	Battery voltage

# CONNECT H.S. H.S. AWLIAO809ZZ

#### Is the inspection result normal?

YES >> Replace cargo lamp.

NO >> GO TO 7

# 7.CHECK CARGO LAMP RELAY VOLTAGE PART 1

Check voltage between cargo lamp relay connector M165 terminal 5 and ground.

Cargo la	amp relay		Voltage
Connector	Terminal	Ground	voltage
M165	5		Battery voltage

# THIS.

## Is the inspection result normal?

YES >> Repair harness or connectors between cargo lamp relay and cargo lamp.

NO >> Repair harness or connector between splice and cargo lamp relay.

# 8. CHECK CARGO LAMP RELAY VOLTAGE PART 2

Check voltage between cargo lamp relay connector M165 terminal 2 and ground.

Cargo la	amp relay		Voltage
Connector	Terminal	Ground	voltage
M165	2		Battery voltage

# CONNECT H.S.

#### Is the inspection result normal?

YES >> GO TO 9

NO >> Repair harness or connectors.

# 9. CHECK CARGO LAMP RELAY CONTROL CIRCUIT

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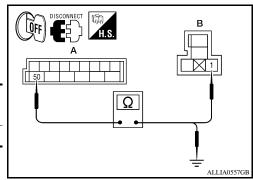
# **CARGO LAMP CONTROL CIRCUIT**

## < COMPONENT DIAGNOSIS >

#### [WITH POWER DOOR LOCKS]

- Disconnect BCM connector M19 and cargo lamp relay connector.
- 2. Check continuity between BCM connector M19 (A) terminal 50 and cargo lamp relay connector M165 (B) terminal 1.

В	CM	Cargo lamp relay		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M19 (A)	50	M165 (B)	1	Yes



3. Check continuity between BCM connector M19 terminal 50 and ground.

Connector	Terminal	_	Continuity
M19 (A)	50	Ground	No

#### Is the inspection result normal?

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

NO >> Repair harness or connectors.

# Component Inspection

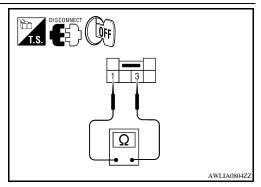
INFOID:0000000004056554

#### CARGO LAMP SWITCH

# 1. CHECK CARGO LAMP SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect cargo lamp switch connector.
- 3. Check continuity between cargo lamp switch terminals.

Cargo lamp switch	Condition	Continuity	
Terminal	Condition	Continuity	
1 – 3	ON	Yes	
1 – 3	OFF	No	



#### Is the inspection result normal?

YES >> Inspection End

NO >> Replace cargo lamp switch.

#### CARGO LAMP RELAY

# 1. CHECK CARGO LAMP RELAY

- 1. Turn ignition switch OFF.
- 2. Disconnect cargo lamp relay connector.
- 3. Supply power to terminal 2 and ground to terminal 1 of the cargo lamp relay.
- 4. Check continuity between cargo lamp relay terminals 3 and 5.

Ter	minal	Condition	Continuity
3	5	Power and ground supplied to terminals 1 and 2	Yes
3	3	No power and ground supplied	No

# 3 3 3 3 3 5 2 1 SEF497Y

#### Is the inspection result normal?

YES >> Inspection End

NO >> Replace cargo lamp relay.

# IGNITION KEYHOLE ILLUMINATION CONTROL CIRCUIT IT DIAGNOSIS > [WITH POWER DOOR LOCKS]

< COMPONENT DIAGNOSIS >

# IGNITION KEYHOLE ILLUMINATION CONTROL CIRCUIT

Description

Controls the ignition keyhole illumination (ground side) to turn the ignition keyhole illumination ON and OFF.

Component Function Check

#### **CAUTION:**

Before performing the diagnosis, check that the following is normal.

- Battery saver output/power supply circuit
- Ignition keyhole illumination bulb

# 1. CHECK IGNITION KEYHOLE ILLUMINATION OPERATION

#### **@CONSULT-III**

- 1. Turn the ignition switch ON.
- Select "IGN ILLUM" of BCM (INT LAMP) active test item.
- While operating the test item, check that the ignition keyhole illumination turns ON/OFF

ON : Ignition keyhole illumination ON OFF : Ignition keyhole illumination OFF

#### Is the inspection result normal?

YES >> Ignition keyhole illumination circuit is normal.

NO >> Refer to <u>INL-23</u>, "<u>Diagnosis Procedure</u>".

# Diagnosis Procedure

# 1. CHECK IGNITION KEYHOLE OUTPUT

## (P)CONSULT-III

- 1. Turn ignition switch ON.
- 2. Select "IGN ILLUM" of BCM (INT LAMP) active test item.
- While operating the test item, check voltage between BCM connector M18 terminal 1 and ground.

Connector	Terminal	_	IGN ILLUM	Voltage
M18	1	Ground	ON	0V
IVITO	'		OFF	Battery voltage

## Is the inspection result normal?

YES >> Ignition keyhole illumination control circuit is operating normally.

Fixed ON>>GO TÓ 3.

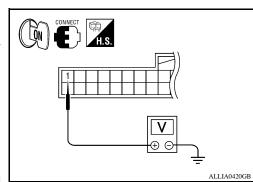
Fixed OFF>> GO TO 2.

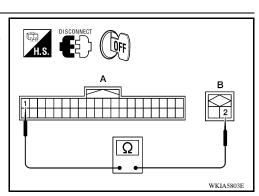
# 2.CHECK IGNITION KEYHOLE ILLUMINATION OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect BCM connector M18 and ignition keyhole illumination connector.
- 3. Check continuity between BCM connector M18 (A) terminal 1 and ignition keyhole illumination connector M150 (B) terminal 2.

ВСМ		Ignition keyhole illumination		Continuity
Connector	Terminal	Connector Terminal		Continuity
M18 (A)	1	M150 (B)	2	Yes

# Is the inspection result normal?





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# **IGNITION KEYHOLE ILLUMINATION CONTROL CIRCUIT**

#### < COMPONENT DIAGNOSIS >

[WITH POWER DOOR LOCKS]

- YES >> Check the ignition keyhole illumination for an open. If OK, replace the BCM. Refer to <u>BCS-56</u>. "Removal and Installation". If NG, replace ignition keyhole illumination.
- NO >> Repair harness or connectors.

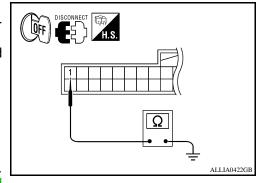
# 3.check ignition keyhole illumination short circuit

- 1. Turn ignition switch OFF.
- Disconnect BCM connector M18 and ignition keyhole illumination connector.
- Check continuity between BCM connector M18 terminal 1 and ground.

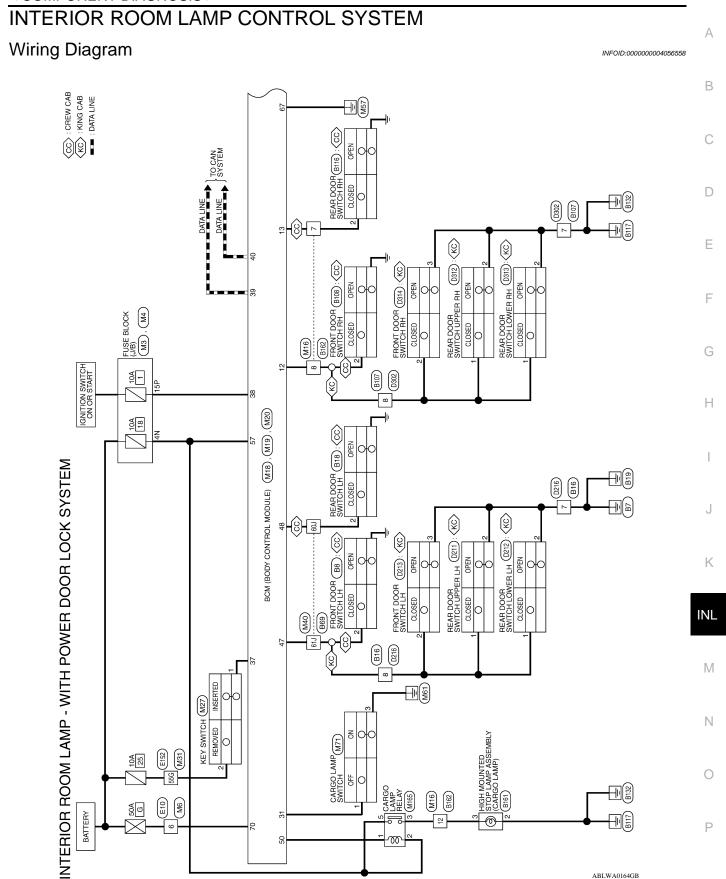
Connector	Terminal	_	Continuity
M18	1	Ground	No

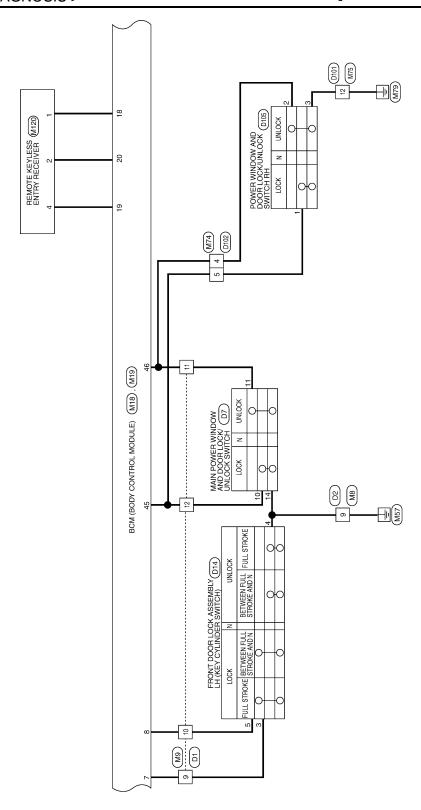
# Is the inspection result normal?

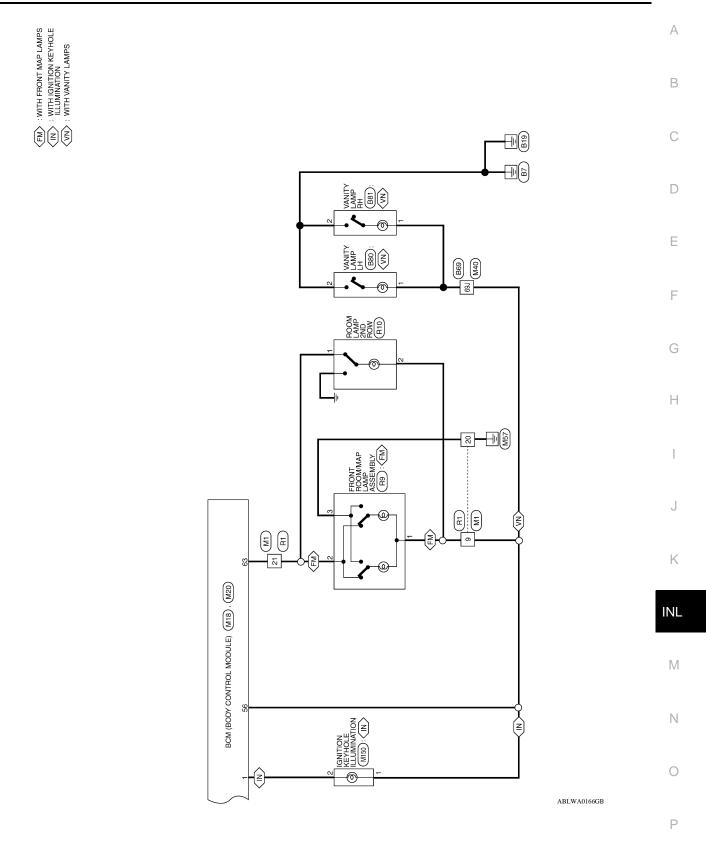
- YES >> Check the ignition keyhole illumination for a short circuit. If OK, replace the BCM. Refer to <u>BCS-56</u>, "Removal and <u>Installation"</u>. If NG, replace ignition keyhole illumination.
- NO >> Repair harness or connectors.



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

# INTERIOR ROOM LAMP CONNECTORS - WITH POWER DOOR LOCK SYSTEM

Connector No.	M1	Connector
Connector Name WIRE TO WIRE	WIRE TO WIRE	Connector
Connector Color WHITE	WHITE	Connector

M3	Connector Name FUSE BLOCK (J/B)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

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	6	15	
	2	4	
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Signal Name	-	-	ı
Color of Wire	R/Υ	В	BR
Terminal No.	6	20	21

Signal Name	_	
Color of Wire	H/M	
9		

Signal Name

Color of Wire R/Y

Terminal No. <del>4</del>

Signal Nam	I	
Color of Wire	W/R	
Terminal No.	15P	

M9	WIRE TO WIRE	WHITE	
Connector No.	Connector Name WIRE TO WIRE	Connector Color	

WIRE TO WIRE	WHITE	5 1 1 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Signal Name	-	-	_	
	_	8 7 6 16 15 14	Color of Wire	GR	SB	ГG	
Connector Name	Connector Color	in H.S.	Terminal No.	6	10	11	

Connector No.	M8
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color	BROWN
H.S.	2 11 10 9 8 7 6

	RE TO WIRE	BROWN	10 9 8 7 6	Signal Name	ı
W	me WIF	lor BR(	12 11 10	Color of Wire	a
Connector No.	Connector Name WIRE TO WIRE	Connector Color	雨 H.S.	Terminal No.	o

	WIRE TO WIRE	III	2 0 - 4	Signal Name	1
. M6	me WIF	lor WHITE	( S ( O	Color of Wire	Μ
Connector No.	Connector Name	Connector Color	(中)	Terminal No.	9

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# [WITH POWER DOOR LOCKS]

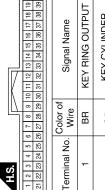
# < COMPONENT DIAGNOSIS >

Signal Name	KEYLESS & AUTO LIGHT SENSOR GND	KEYLESS TUNER POWER SUPPLY OUTPUT	KEYLESS TUNER SIGNAL	CARGO LAMP SW	KEY SW	IGN SW	CAN-H	CAN-L
Color of Wire	BR	>	9	GR	В	W/R	٦	۵
Terminal No.	18	19	20	31	28	38	39	40

	,	SWITCH	<u> </u>		Signal Name
	M27	ne KE	or WH		Color of Wire
	Connector No.	Connector Name KEY SWITCH	Connector Color WHITE	崎 H.S.	Terminal No. Wire

KEY	MHI	M∾	Solor of Wire	В
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Connector Name	Connector Color	赋利 H.S.	Terminal No.	1

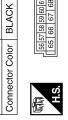
Connector No.	M18
Connector Name	Connector Name   BCM (BODY CONTROL MODULE)
Connector Color WHITE	WHITE



Signal Name	KEY RING OUTPUT	KEY CYLINDER UNLOCK SW	KEY CYLINDER LOCK SW	DOOR SW (AS)	DOOR SW (RR)	
Color of Wire	BR	GR	SB	LG	٦	
Terminal No.	1	7	8	12	13	

DOOR SW (AS)	DOOR SW (RR)		M20
ב	٦		
7	13		Connector No.

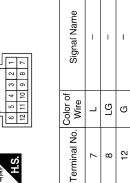
Connector Name BCM (BODY CONTROL MODULE)



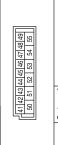
Signal Name	BATTERY SAVER OUTPUT	BAT (FUSE)	ROOM LAMP OUTPUT	GND (POWER)	BAT (F/L)
Color of Wire	>	R/Y	BR	В	W
Terminal No. Wire	56	22	63	29	20

0

Connector No	M16
	WI C
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE
H.S.	12 11 10 9 8 7 1



	M19	Connector Name BCM (BODY CONTROL MODULE)	WHITE	
	Connector No.	Connector Name	Connector Color WHITE	



Signal Name	CDL LOCK SW	CDL UNLOCK SW	DOOR SW (DR)	DOOR SW (RL)	CARGO LAMP OUTPUT
Color of Wire	>	LG	GR	Ф	۵
Terminal No.	45	46	47	48	20

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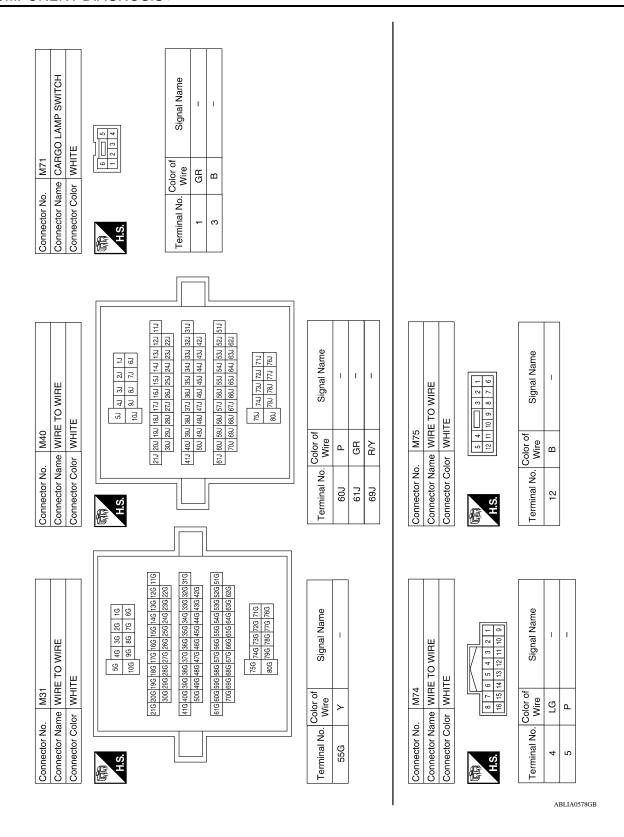
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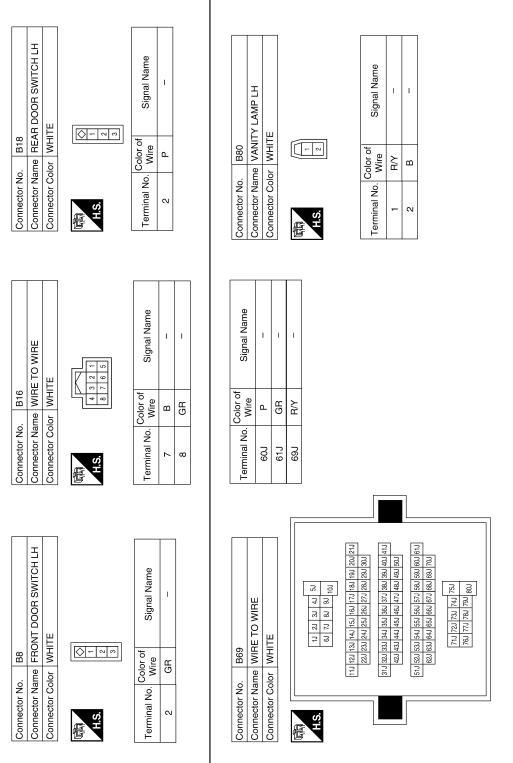
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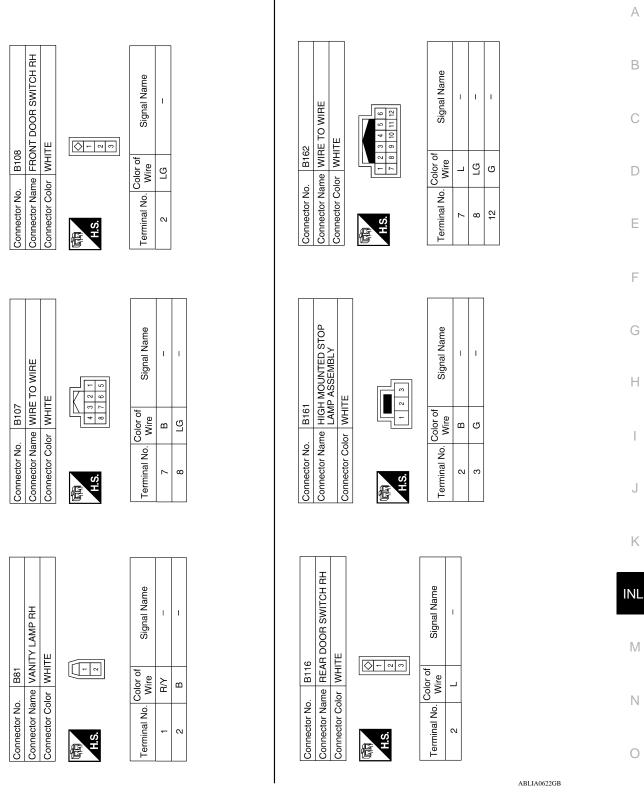
[WITH POWER DOOR LOCKS]

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Cornector No.   M150	, RELAY	nal Name	nal Name	E
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Connector No.   M150   Connector No.   M150   Connector No.   M150   Connector No.   M150   Connector Name   IGNITION KEY-LOLE	No. M16		Oolor of Wire	[
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	Connector N Connector C Connector C	Terminal No	Connector N Connector C Connector C H.S.	
				ı
	TE KEYLESS ENTRY	Signal Name GND SIGNAL PWR		IN
	M120 RECEIN WHITE	Color of Wire BR BR V	Mire WHRE T	
	Connector No. Connector Colc		Connector No. Connector Narr Connector Colc H.S.  Terminal No. 6	1
				9GB



# [WITH POWER DOOR LOCKS]

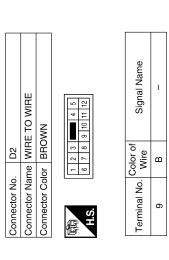
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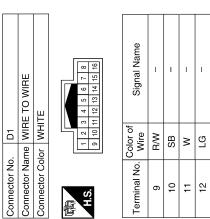


[WITH POWER DOOR LOCKS]

Connector Color WHITE  H.S.  Terminal No. Wire Signal Name  1 BR -  2 R/Y -  2 R/Y -
1
1
Signal Name
Connector Name   ROOM LAMP 2ND ROW

Connector No.	). D7	
Connector Na	me ANE SWI	Connector Name AND DOOR LOCK/UNLOCK SWITCH
Connector Color	lor WHITE	TE
原 H.S.	1 2 3 10 10 10 10 10 10 10 10 10 10 10 10 10	10 11 12 13 14 15 16
Terminal No.	Color of Wire	Signal Name
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11	Μ	ı
14	В	ı





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# [WITH POWER DOOR LOCKS]

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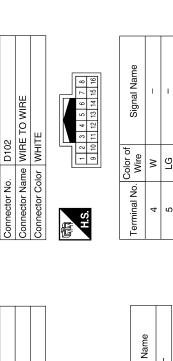
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02	Connector Name WIRE TO WIRE	HTE			2 3 4 5 6 7 8	9 10 11 12 13 14 15 16	7	Signal Name	1	1				
o. D102	ame WI	olor W			-	6		. Wire	>	: 0				
Connector No.	Connector N	Connector Color   WHITE		E	HS			Terminal No. Wire	4	٠ در	•			
			7											
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D101	e WIRE	r WHIT		1 2 3	6 7 8			Solor of	Wire	В				
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE		F	H.S.				l erminal No.   Wire	12				
	Connector Name   FRONT DOOR LOCK	MBLY LH		ſ		3 2 1			Signal Name	ı	ı	ı		
D14	e FRON	ASSE	ır GRAY			6 5 4		olor of	Wire	B/W	В	SB		
Connector No. D14	Connector Nam		Connector Color GRAY	d		H.S.			l erminal No.   Wire	ю	4	r.		

Connector No D212	Connector Name REAR DOOR SWITCH LOWER LH	Connector Color BLACK			H.S.		Color of Signal Name		-	a c	7 7
Connector No D211	Connector Name REAR DOOR SWITCH UPPER LH	Connector Color BLACK			H.S.		Torminal No Color of Signal Name		1 LG -		_ B _ S
D105	POWER WINDOW AND DOOR LOCK/UNLOCK	SWII CH RH	WHITE	0	6 7 8 9 10 11 12		ire Signal Name	- Eg			ı
Connector No.	Connector Name DOOR L		Connector Color WHITE		H.S.	SoS	Terminal No. Wire			7	

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[WITH POWER DOOR LOCKS]

	0	Connector No.	D302	-	
TO WIRE	0	Connector Name WIRE TO WIRE	ne WIR	E TO WIRE	
	0	Connector Color WHITE	or WHI	ГЕ	
		所 H.S.	0 0	4 8 7	
Signal Name		Terminal No. Wire	Color of Wire	Signal Name	
-		7	В	1	
I		8	re	1	

4	FRONT DOOR SWITCH RH	WHITE		Signal Name	_	I
D314				Color of Wire	ГG	В
Connector No.	Connector Name	Connector Color	明.S.	Terminal No.	2	3

Connector No.	D216	(0
Connector Name   WIRE TO WIRE	me WIR	E TO WIRE
Connector Color WHITE	lor WHI	12
H.S.	5 6 7 8 4 4 8	
Terminal No.	Color of Wire	Signal Name
7	В	_
80	re	I

9	Connector Name REAR DOOR SWITCH LOWER RH	BLACK	آم ا	Signal Name	-	-
. D313	me RE/ LO	-	46	Color of Wire	٦	В
Connector No.	Connector Na	Connector Color	际 H.S.	Terminal No.	1	2

Connector No.	D213	3
Connector Name		FRONT DOOR SWITCH LH
Connector Color WHITE	lor WH	ΠE
H.S.		
Terminal No.	Color of Wire	Signal Name
2	LG	ı
c	۵	ı

Connector No.	). D312	12
Connector Name		REAR DOOR SWITCH UPPER RH
Connector Color		BLACK
H.S.	رق	
Terminal No.	Color of Wire	f Signal Name
-	_	ı
٥	В	-

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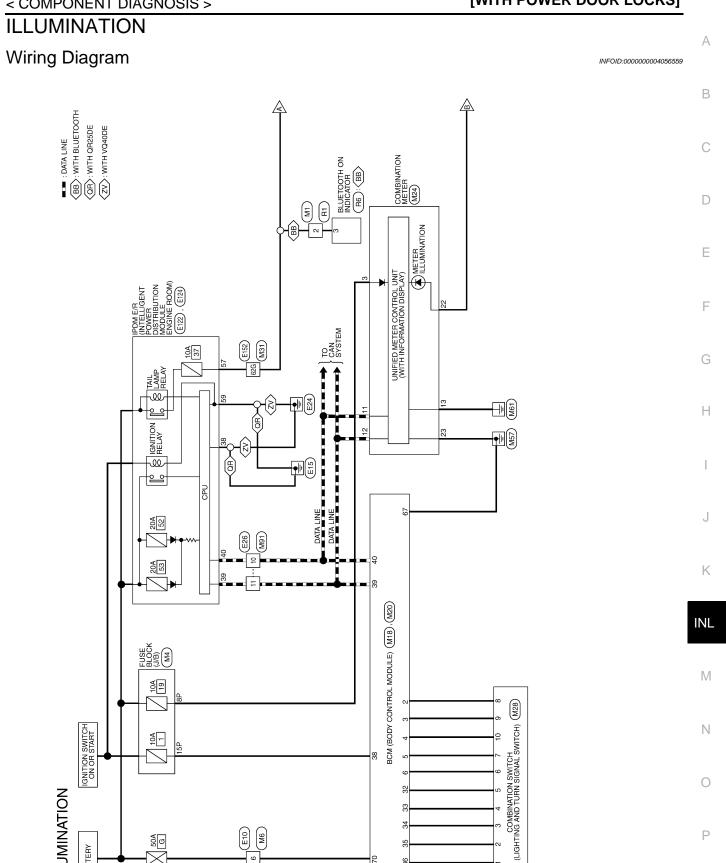
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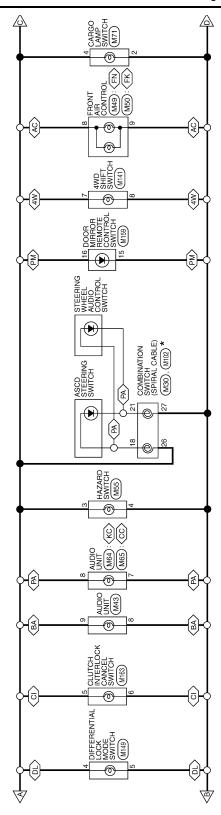
ILLUMINATION

BATTERY

@<sub>20</sub>



(AC): WITH A/C
(BA): WITH BASE AUDIO SYSTEM
(C): WITH CLUTCH INTERLOCK CANCEL SWITCH
(CC): CHEW CAB
(DL): WITH ELECTRONIC LOCKING REAR DIFFERENTIAL
(FK): WITH VBC
(FN): WITH VBC
(FN): WITH PREMIUM AUDIO SYSTEM
(PN): WITH PREMIUM AUDIO SYSTEM
(PN): WITH POWER OUTSIDE MIRRORS
(AW): WITH 4-WHEEL DRIVE



THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.



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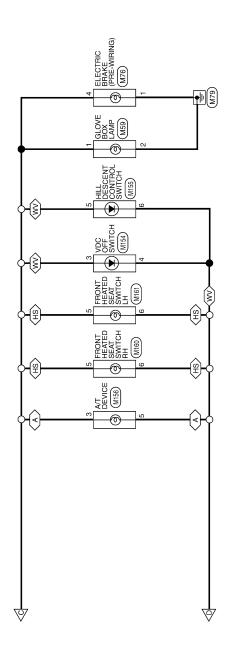
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Connector Name WIRE TO WIRE Connector Color WHITE

M6

Connector No.

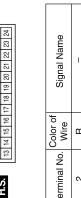
# ILLUMINATION CONNECTORS

Connector No.	M1	<u>ŏ</u>	onnector No.	M4
Connector Name	WIRE TO WIRE	ŏ	onnector Name	Connector Name   FUSE BLOCK (J/B
Connector Color	WHITE	8	connector Color	WHITE

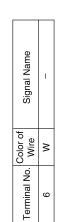
Connector No.	ž		_	M								
Connector Name   WIRE TO WIRE	ž	Ĕ	-	Ĭ	ᇤ	Ĕ	6	Ĭ	끭			
Connector Color WHITE	ပ္ပ	ģ	_	Ş		ш						
é				عا ا				[	_			
				ī	ı							
Ŷ	-	2	2 3 4 5 6 7 8 9 10 11 12	4	2	9	7	8	6	9	Ξ	12
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7P 6P 5P 4P 3P 2P 1P 1P 15P 15P 1P



Signal Name	-	
Color of Wire	В	
Terminal No.	2	



Signal Name

Color of Wire

Terminal No.

R/Y W/R

9P 15P

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





Signal Name	GND (POWER)	BAT (F/L)
Color of Wire	В	W
Terminal No.	29	70

Signal Name	OUTPUT 2	OUTPUT 1	MS N9I	CAN-H	CAN-L
Color of Wire	BB	ГG	W/R	٦	Д
Terminal No.	35	98	88	68	40

BCM (BODY CONTROL MODULE)

Connector Name Connector No.

M18

Connector Color | WHITE

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	18	æ	
	17	37	
	16	88	
	15	35	
	4	32	
	13	88	
-117	12	32	
IV	Ξ	31	
- IN	10	30	
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5	8	88	
	7	27	
	9	26	
	5	25	
	4	24	
ιń	3	23	
H.S.	2	22	
7	Ŀ	21	

Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3
Color of Wire	Д	SB	>	_	ш	0	GR	g
Terminal No.	2	က	4	5	9	32	33	34

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COMBINATION SWITCH GRAY	24 25 26 27 31 32 33 34	of Signal Name	ILL+	ILL-							M43 AUDIO UNIT (WITH BASE AUDIO SYSTEM)	WHITE	2 3 4 5 6 7 8 9 11 12 13 14 15 16 17 18 20	of Signal Name ILL CONT LIGHT SW	
-	31 33	No. Wire	<u>ac</u>	9								or Color   W	19 10	Color of Wire GR	
Connector Name	原 H.S.	Terminal No.	56	27							Connector No.	Connector Color	副 H.S.	Terminal No.	
COMBINATION SWITCH WHITE	3 4 9 8 4 7	Signal Name	INPUT 2	INPUT 3	INPUT 4	INPUT 5	OUTPUT 2	OUTPUT 5	OUTPUT 4	OUTPUT 3	Signal Name				
	12 13 10 14 11 1 2 3	Color of Wire	BB	ŋ	GR	0 0	r  -	_ _ _	SB	>	No. Wire				
Connector Name Connector Color	H.S.	Terminal No.	- 2	3	4	5	م 0	~ 8	6	10	Terminal No. 62G				
10101							-1			ı		[			
Connector Name COMBINATION METER Connector Color WHITE		10 9 8 7 6 5 4 3 2 21 30 29 28 27 26 25 24 23 22 21	Signal Name	BATTERY	CAN-L	CAN-H	GROUND	ILLUMINATION	POWER GND		) WIRE		56 46 36 26 16 106 96 86 76 66 86 776 66 136 166 136 176 176 176	300 290 290 270 280 350 840 230 220   300 190 190 190 190 190 190 190 190 190 1	756 746 776 776 766
ne COMBIN or WHITE		20         19         18         17         16         15         14         13         12         11         10         9         8           40         39         38         37         36         35         34         33         32         31         30         29         28	Color of Wire			_	GR	BB	٥		Connector No. M31  Connector Name WIRE TO WIRE  Connector Color WHITE		56 106 216 206 196 186 1	300 280 280 281 410 400 380 380 380 380 380 380 380 380 380 3	800
Connector Name Connector Color	原 H.S.	0 19 18 17 16 0 39 38 37 36	Terminal No.	n	7	12	13	22	ç	62	Connector No. Connector Name Connector Color		H.S.		

	Connector No.	M55
R CONTROL	Connector Name	onnector Name HAZARD SWITCH
<u> </u>	Connector Color WHITE	WHITE

M50

Connector Name | FRONT AIR CONTROL (WITHOUT VBC)

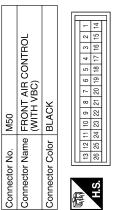
M49

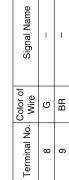
Connector No.

BLACK

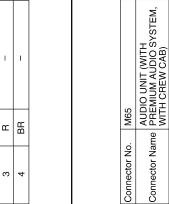
Connector Color

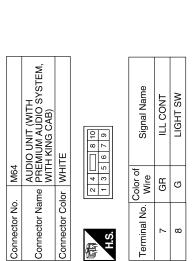
Connector Name   HAZARD SWITCH	ТЕ	2 4	Signal Name	_	_
me HA	or WH		Color of Wire	œ	BR
Connector Na	Connector Color WHITE	所S.	Terminal No.	3	4





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	2	15			س ا		
	3	16			🚊		
	4	17			<u>2</u>		
	5	26 25 24 23 22 21 20 19 18 17 16 15			Signal Name	ı	
	9	19			ğ.		
	7	20			o		
	8	21					
	6	22					
	10	23			₽		
	11	24			힏	G	BB
	13 12 11 10 9	25			Color of Wire		٦,
	13	26	Ш		· ·		
	a III	H.S.		1	Terminal No.	8	6





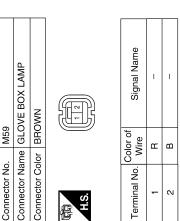
Connector Color WHITE

Signal Name ILL CONT LIGHT SW

Color of Wire GR മ

Terminal No.

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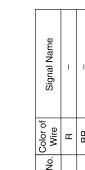
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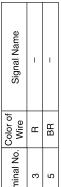
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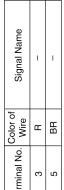
Connector No. M91  Connector Name WIRE TO WIRE  Connector Color WHITE  T 6 5 4	Terminal No. Wire Signal Name	Connector No. M149 Connector Name DIFFERENTIAL LOCK MODE SWITCH Connector Color WHITE	Terminal No. Wire Signal Name	4 R 5 BR
Connector No. M76  Connector Name ELECTRIC BRAKE (PRE-WIRING)  Connector Color WHITE	Terminal No. Wire Signal Name  1 B GROUND  4 R ILL (TAIL)	Connector No. M141 Connector Name 4WD SHIFT SWITCH Connector Color GRAY  TIZI3 45 678	al No. Wire	7 R LIGHT_SW 8 BR GND
Connector No. M71 Connector Name CARGO LAMP SWITCH Connector Color WHITE	Terminal No. Wire Signal Name 2 BR 4 R/Y	Connector No. M102 Connector Name COMBINATION SWITCH Connector Color GRAY  HS	S S	18 R 21 G

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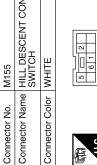
	M156	A/T DEVICE	WHITE	
	Connector No.	Connector Name A/T DEVICE	Connector Color WHITE	
•				,
		CONTROL		







Signal Name	I	I	
Color of Wire	ш	BR	
Terminal No.	ဇ	9	

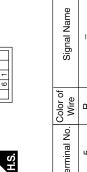


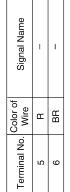
Connector Name | VDC OFF SWITCH

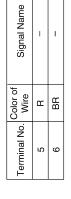
M154

Connector No.

Connector Color GRAY

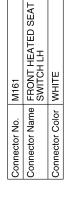


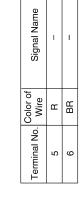






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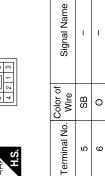
Connector Name FRONTI SWITCH Connector Color BROWN	Connector Name FRONT HEATED SEAT SWITCH RH Connector Color BROWN
S I	5 6 6 4 2 1 3

M160

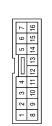
Connector No.

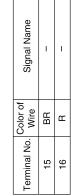
M159

Connector No.



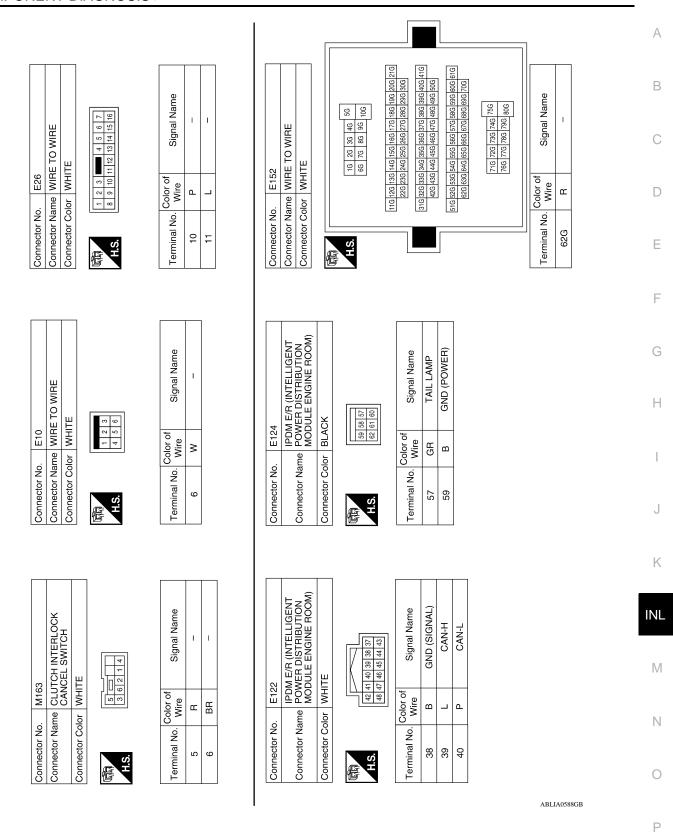
Connector Name	Connector Name DOOR MIRROR REMOTE CONTROL SWITCH
Connector Color WHITE	WHITE
H.S.	1 2 3 4







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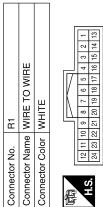














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# **ECU DIAGNOSIS**

# **BCM (BODY CONTROL MODULE)**

Reference Value

# VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ICN ON SW	Ignition switch OFF or ACC	OFF
IGN ON SW	Ignition switch ON	ON
KEY ON CW	Mechanical key is removed from key cylinder	OFF
KEY ON SW	Mechanical key is inserted to key cylinder	ON
CDL LOCK CW	OFF	
CDL LOCK SW	Press door lock/unlock switch to the lock side	ON
CDL UNLOCK SW	Door lock/unlock switch does not operate	OFF
CDL UNLOCK SW	Press door lock/unlock switch to the unlock side	ON
DOOR SW-DR	Driver's door closed	OFF
DOOK SW-DK	Driver's door opened	ON
DOOR SW-AS	Passenger door closed	OFF
DOOK SW-AS	Passenger door opened	ON
DOOR SW-RR	Rear RH door closed	OFF
DOOR SW-RR	Rear RH door opened	ON
DOOD OW DI	Rear LH door closed	OFF
DOOR SW-RL	Rear LH door opened	ON
BACK DOOR SW	NOTE: The item is indicated, but not monitored.	_
KEY OVELEK OW	Other than driver door key cylinder LOCK position	OFF
KEY CYL LK-SW	Driver door key cylinder LOCK position	ON
KEY CYLLIN CW	Other than driver door key cylinder UNLOCK position	OFF
Driver door key cylinder UNLOCK position		ON
KEYLESS LOCK	"LOCK" button of key fob is not pressed	OFF
RETLESS LOCK	"LOCK" button of key fob is pressed	ON
KEYLESS UNLOCK	"UNLOCK" button of key fob is not pressed	OFF
RETLESS UNLOCK	"UNLOCK" button of key fob is pressed	ON
ACC ON SW	Ignition switch OFF	OFF
ACC ON 3W	Ignition switch ACC or ON	ON
DEAD DEE SW/	Rear window defogger switch OFF	OFF
REAR DEF SW	Rear window defogger switch ON	ON
LICHT OW 1CT	Lighting switch OFF	OFF
LIGHT SW 1ST	Lighting switch 1ST	ON
DIICKI E 6/W	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF]	OFF
BUCKLE SW	The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON]	ON
KEVI EGO DANIG	PANIC button of key fob is not pressed	OFF
KEYLESS PANIC	PANIC button of key fob is pressed	ON

# [WITH POWER DOOR LOCKS]

Monitor Item	Condition	Value/Status
KEYLESS TRUNK	NOTE: The item is indicated, but not monitored.	OFF
TRNK OPN MNTR	NOTE: The item is indicated, but not monitored.	OFF
DIVE LOW LINE OF	LOCK/UNLOCK button of key fob is not pressed and held simultaneously	OFF
RKE LCK-UNLCK	LOCK/UNLOCK button of key fob is pressed and held simultaneously	ON
RKE KEEP UNLK	UNLOCK button of key fob is not pressed	OFF
KKE KEEP UNLK	UNLOCK button of key fob is pressed and held	ON
HI BEAM SW	Lighting switch OFF	OFF
TII BEAW SW	Lighting switch HI	ON
HEAD LAMP SW 1	Lighting switch OFF	OFF
TILAD LAWF SW T	Lighting switch 2ND	ON
HEAD LAMP SW 2	Lighting switch OFF	OFF
ILAD LAWF 3W 2	Lighting switch 2ND	ON
AUTO LIGHT SW	Lighting switch OFF	OFF
AOTO LIGITI SW	Lighting switch AUTO	ON
PASSING SW	Other than lighting switch PASS	OFF
A001110 011	ON	
FR FOG SW	Front fog lamp switch OFF	OFF
1 K 1 OG 3W	Front fog lamp switch ON	ON
RR FOG SW	NOTE: The item is indicated, but not monitored.	OFF
TUDNI CIONAL D	Turn signal switch OFF	OFF
TURN SIGNAL R	Turn signal switch RH	ON
ΓURN SIGNAL L	Turn signal switch OFF	OFF
I URIN SIGNAL L	Turn signal switch LH	ON
CARCO LAMB SW	Cargo lamp switch OFF	OFF
ARGO LAMP SW  Cargo lamp switch OFF  Cargo lamp switch ON		ON
ODTICAL CENCOR	Bright outside vehicle	5V
OPTICAL SENSOR	Dark outside vehicle	0V
GN SW CAN	Ignition switch OFF or ACC	OFF
GN SW CAN	Ignition switch ON	ON
FR WIPER HI	Front wiper switch OFF	OFF
TR WIFER HI	Front wiper switch HI	ON
FR WIPER LOW	Front wiper switch OFF	OFF
I K WIF LK LOW	Front wiper switch LO	ON
FR WIPER INT	Front wiper switch OFF	OFF
FR WIPER INT	Front wiper switch INT	ON
FR WASHER SW	Front washer switch OFF	OFF
IN WAGIEN SW	Front washer switch ON	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
FR WIPER STOP	Any position other than front wiper stop position	OFF
IN WIFER STOP	Front wiper stop position	ON
VEHICLE SPEED	While driving	Equivalent to speedometer reading

# **BCM (BODY CONTROL MODULE)**

# < ECU DIAGNOSIS >

# [WITH POWER DOOR LOCKS]

Monitor Item	Condition	Value/Status
RR WIPER ON	NOTE: The item is indicated, but not monitored.	OFF
RR WIPER INT	NOTE: The item is indicated, but not monitored.	OFF
RR WASHER SW	NOTE: The item is indicated, but not monitored.	OFF
RR WIPER STOP	NOTE: The item is indicated, but not monitored.	OFF
RR WIPER STP2	NOTE: The item is indicated, but not monitored.	OFF
H/L WASH SW	NOTE: The item is indicated, but not monitored.	OFF
HAZARD SW	Hazard switch OFF	OFF
HAZARD SW	Hazard switch ON	ON
DDAKE CW	Brake pedal is not depressed	OFF
BRAKE SW	Brake pedal is depressed	ON
EAN ON SIC	Blower fan motor switch OFF	OFF
FAN ON SIG	Blower fan motor switch ON (other than OFF)	ON
AID COND CIA	Compressor ON is not requested from auto amp. (A/C indicator OFF, blower fan motor switch OFF or etc.)	OFF
AIR COND SW	ON	
TRNK OPNR SW	NOTE: The item is indicated, but not monitored.	OFF
TRUNK CYL SW	NOTE: The item is indicated, but not monitored.	OFF
HOOD SW	NOTE: The item is indicated, but not monitored.	OFF
OIL PRESS SW	<ul><li>Ignition switch OFF or ACC</li><li>Engine running</li></ul>	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 NEGOL LEI	ID of front LH tire transmitter is not registered	YET
ID DECST ED1	ID of front RH tire transmitter is registered	DONE
ID REGST FR1	ID of front RH tire transmitter is not registered	YET
ID DECCT DD4	ID of rear RH tire transmitter is registered	DONE
ID REGST RR1	ID of rear RH tire transmitter is not registered	YET
ID DECOTE:	ID of rear LH tire transmitter is registered	DONE
ID REGST RL1	ID of rear LH tire transmitter is not registered	YET
	Tire pressure indicator OFF	OFF
WARNING LAMP	Tire pressure indicator ON	ON

**INL-49** 

# **BCM (BODY CONTROL MODULE)**

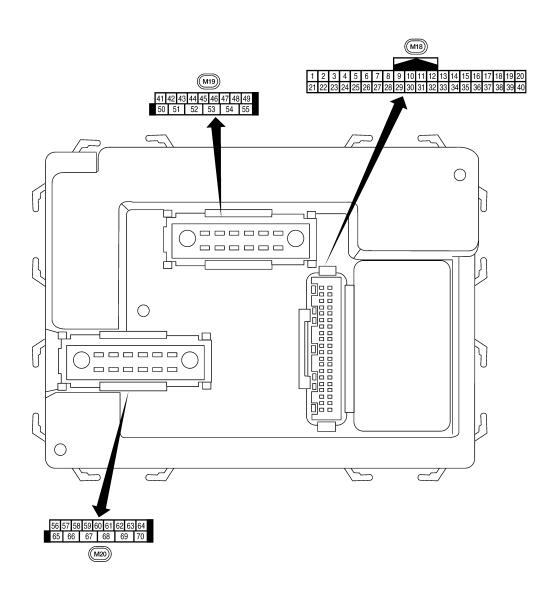
< ECU DIAGNOSIS >

# [WITH POWER DOOR LOCKS]

Monitor Item	Condition	Value/Status
BUZZER	Tire pressure warning alarm is not sounding	OFF
	Tire pressure warning alarm is sounding	ON

**Terminal Layout** 

INFOID:0000000004436193



Physical Values

INFOID:0000000004436194

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	١٨/:		Signal		Measuring condition	Deference value as wavet-
Terminal	Wire color	Item	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
4	BR	Ignition keyhole illumi-	Output	OFF	Door is locked (SW OFF)	Battery voltage
1	ВK	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 SKIAS292E
4	V	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	5MS SKIA5292E
7	O.D.	Front door lock as-	la e : : t		ON (open, 2nd turn)	Momentary 1.5V
7	GR	sembly LH (key cylin- der switch) unlock	Input	0==	OFF (closed)	OV
		Front door lock as-		OFF	On (open)	Momentary 1.5V
8	SB	sembly LH (key cylin- der switch) lock	Input		OFF (closed)	0V
9	Y	Rear window defogger	Input	ON	Rear window defogger switch ON	OV
-	-	switch	F ***		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

# [WITH POWER DOOR LOCKS]

			Signal		Measuring condition	
Terminal	Wire color	Item	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
		Front door switch RH (All)			ON (open)	0V
12	LG	Rear door switch upper RH (King Cab)  Rear door switch low-	Input	OFF	OFF (closed)	Battery voltage
		er RH (King Cab)				
13	L	Rear door switch RH (Crew Cab)	Input	OFF	ON (open) OFF (closed)	0V Battery voltage
15	W	Tire pressure warning check connector	Input	OFF	_	5V
18	BR	Remote keyless entry receiver (Ground)	Output	OFF	_	OV
19	٧	Remote keyless entry receiver (power sup- ply)	Output	OFF	Ignition switch OFF	(V) 6 4 2 0 + *50 ms
20	G	Remote keyless entry receiver signal (Sig-	Input	OFF	Stand-by (keyfob buttons re- leased)	(V) 6 4 2 0 + 50 ms LIIA1894E
		nal)			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.
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.
27	W	Compressor ON sig-	Input	ON	A/C switch OFF	5V
					A/C switch ON  Front blower motor OFF	0V Battery voltage
28	R	Front blower monitor	Input	ON	Front blower motor ON	0V
29	G	Hazard switch	Input	OFF	ON	0V
23	5	Hazara Switch	input	011	OFF	5V

# **BCM (BODY CONTROL MODULE)**

# [WITH POWER DOOR LOCKS]

	107		Signal		Measuring condition	Defenses value es es es es
Terminal	Wire color	Item	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
31	GR	Cargo lamp switch	Input	OFF	ON	0V
31	GR	Cargo lamp switch	Input	OFF	OFF	Battery voltage
32	0	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 5ms
33	GR	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 
34	G	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **-5ms
35	BR	Combination switch output 2				(V)
36	LG	Combination switch output 1	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	5ms SKIA5292E
27	В	May awitah	laarit	OFF	Key inserted	Battery voltage
37	В	Key switch	Input	OFF	Key removed	0V
38	W/R	Ignition switch (ON)	Input	ON	_	Battery voltage
39	L	CAN-H	_	_	_	_
40	Р	CAN-L	_	_	_	_
45	V	Lock switch	Input	OFF	ON (lock) OFF	0V Battery voltage
46	LG	Unlock switch	Input	OFF	ON (unlock) OFF	0V Battery voltage
47	GR	Front door switch LH (All)  Rear door switch upper LH (King Cab)	Input	OFF	ON (open)	ov
		Rear door switch low- er LH (King Cab)			OFF (closed)	Battery voltage
		Rear door switch LH			ON (open)	0V
48	Р	(Crew Cab)	Input	OFF	()	

# [WITH POWER DOOR LOCKS]

Color   Color   Color   Coutput		Wire		Signal		Measuring condition	ı	Reference value or waveform
So	Terminal		Item			Operation or co	ondition	
All doors closed (OFF)  Battery voltage    State   Sta	50	D	Cargo lamp	Output	OFF	Any door open (ON	1)	0V
51 G Trailer turn signal (right) Output ON Turn right ON  52 V Trailer turn signal (left) Output ON Turn left ON  54 South Section Sec	50	Г	Cargo lamp	Output	OFF	All doors closed (O	FF)	Battery voltage
52 V Trailer turn signal (left) Output ON Turn left ON  56 V Battery saver output Output OFF  57 R/Y Battery power supply Input — Battery voltage  58 W Optical sensor Input ON When optical sensor is illuminated When optical sensor is not illuminated OFF  59 GR Front door lock assembly LH (unlock) Output OFF  60 LG Turn signal (left) Output ON Turn left ON  61 G Turn signal (right) Output ON Turn right ON  63 BR Interior room/map lamp  65 V All door lock actuators  65 V All door lock actuators  66 V Battery saver output Output ON Turn left ON  67 OFF (neutral) OV  68 Over less  69 OFF (closed) Description over size of the properties of	51	G		Output	ON	Turn right ON		15 10 5 0
Second Pattern Seco	52	V	Trailer turn signal (left)	Output	ON	Turn left ON		15 10 5 0
S7   R/Y   Battery power supply   Input       Battery voltage	56	V	Battery saver output	Output	OFF			0V
Second   S					ON	_		Battery voltage
Sample   Computation   Compu	57	R/Y	Battery power supply	Input	_	_		Battery voltage
When optical sensor is not illuminated   O.6V or less	58	\\/	Ontical sensor	Input	ON		or is illumi-	3.1V or more
60 LG Turn signal (left) Output ON Turn left ON  61 G Turn signal (right) Output ON Turn right ON  63 BR Interior room/map lamp  65 V All door lock actuators  ON (unlock)  Battery voltage  ON (unlock)  Fany door switch  ON (unlock)  ON (unlock)  Fany door switch  ON (open)  OFF (closed)  OFF (closed)  OFF (neutral)  OFF	30	VV	Optical selisor	input	ON		or is not illu-	0.6V or less
60 LG Turn signal (left) Output ON Turn left ON  61 G Turn signal (right) Output ON Turn right ON  63 BR Interior room/map lamp  65 V All door lock actuators  ON (unlock)  ON (unlock)  Fattery voltage   ON (open)  ON (open)  OFF (closed)  OFF (neutral)  OFF (neutral)  ON (open)  OV  OFF (neutral)	50	GP		Output	OFF			0V
60 LG Turn signal (left) Output ON Turn left ON  61 G Turn signal (right) Output ON Turn right ON  63 BR Interior room/map lamp  65 V All door lock actuators  Output OFF  Any door switch  OFF (closed)  OFF (closed)  OFF (neutral)  OV  OV  OV  OV  OV  OV  OV  OV  OV  O		GIX	sembly LH (unlock)	Output	OH	ON (unlock)		Battery voltage
61 G Turn signal (right) Output ON Turn right ON  63 BR Interior room/map lamp  Output OFF  Any door switch  OFF (closed)  OFF (closed)  OV  OFF (neutral)  OV  OV  OV  OFF (neutral)	60	LG	Turn signal (left)	Output	ON	Turn left ON		15 10 5 0
63 BR lamp Output OFF switch OFF (closed) Battery voltage  65 V All door lock actuators Output OFF	61	G	Turn signal (right)	Output	ON	Turn right ON		15 10 5 0
65 V 7 and 30 restraction of Output OFF	63	BR		Output	OFF	7		
UN (lock) Battery voltage	65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral) ON (lock)		0V Battery voltage
Front door lock actuator RH, rear door lock actuators LH/RH (unlock)  Front door lock actuators LH/RH (unlock)  Output  OFF  ON (unlock)  Battery voltage	66	L	tor RH, rear door lock actuators LH/RH (un-	Output	OFF	OFF (neutral)		0V

# **BCM (BODY CONTROL MODULE)**

# < ECU DIAGNOSIS >

# [WITH POWER DOOR LOCKS]

_	. Wire		Signal		Measuring condition	Reference value or waveform	
Terminal	color	Item	input/ output	Ignition switch	Operation or condition	(Approx.)	
67	В	Ground	Input	ON	_	0V	
					Ignition switch ON	Battery voltage	
		Power window power supply (RAP)			Within 45 seconds after ignition switch OFF	Battery voltage	
68	0		Output	_	More than 45 seconds after ignition switch OFF	0V	
					When front door LH or RH is open or power window timer operates	0V	
69	Р	Power window power supply (BAT)	Output	OFF	_	Battery voltage	
70	W	Battery power supply	Input	OFF	_	Battery voltage	

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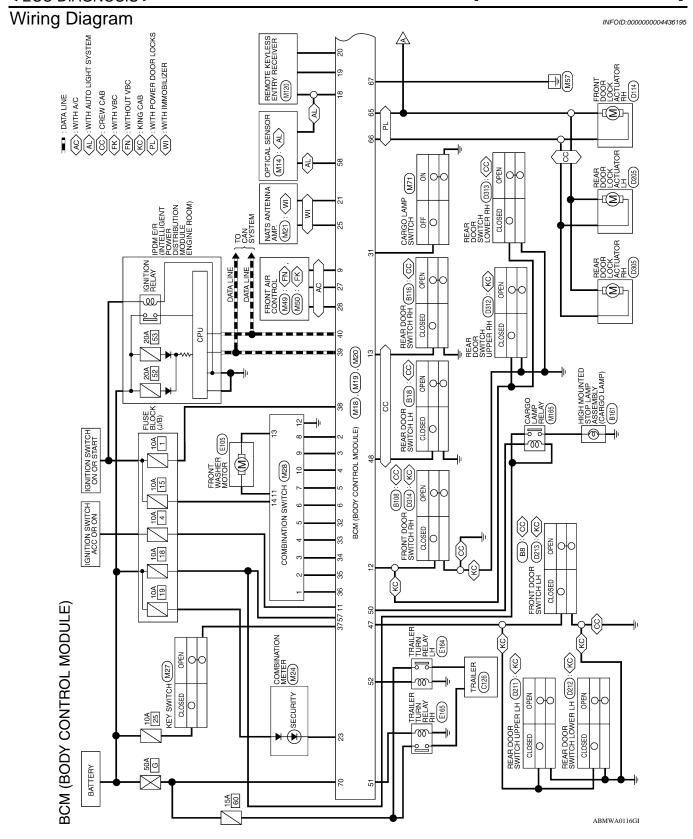
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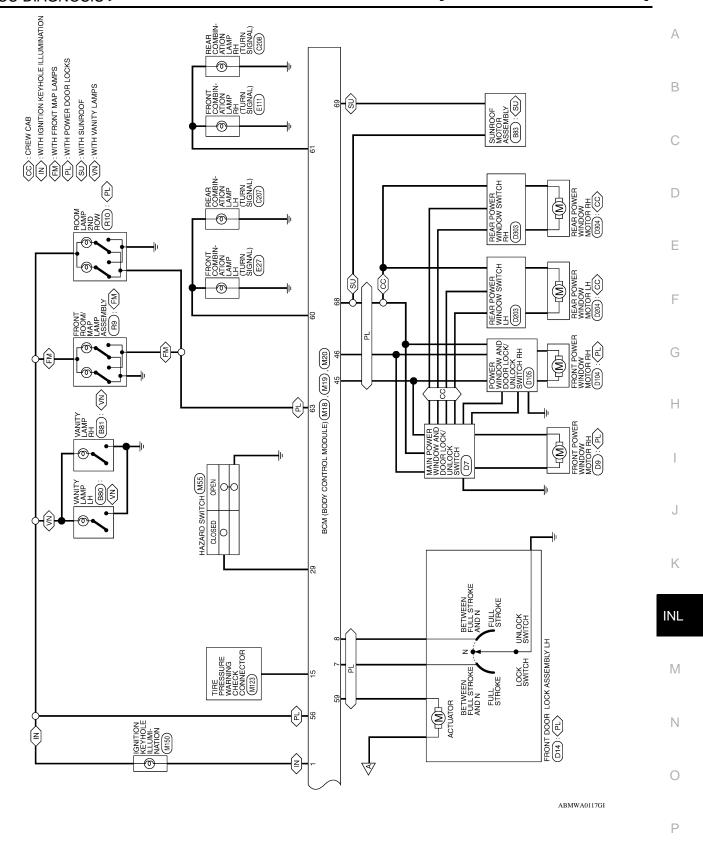
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# BCM (BODY CONTROL MODULE) CONNECTORS

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

Connector Color

Connector No.	. M19	6
Connector Name		BCM (BODY CONTROL MODULE)
Connector Color	L'	WHITE
H.S.	1419	41   42   43   44   45   46   47   48   49   50   51   52   53   54   55
Terminal No.	Color of Wire	Signal Name
41	ı	I
42	ı	I
43	1	ı
44	I	1
45	>	CDL LOCK SW
46	ГС	CDL UNLOCK SW
47	GR	(AD) WS AOOD
48	Ь	DOOR SW (RL)
49	I	I
50	۵	CARGO LAMP OUTPUT
51	σ	TRAILER FLASHER OUTPUT (RIGHT)
52	>	TRAILER FLASHER OUTPUT (LEFT)
53	ı	ı
54	,	ı
55	ı	ı

Terminal No.	Color of Wire	Signal Name
20	В	KEYLESS TUNER SIGNAL
21	GR	IMMOBILIZER ANTENNA SIGNAL (CLOCK)
22	1	ı
23	ŋ	SECURITY INDICATOR OUTPUT
24	1	ı
25	BR	IMMOBILIZER ANTENNA SIGNAL (RX,TX)
26	1	ı
27	8	AIRCON SW
28	œ	BLOWER FAN SW
29	ŋ	HAZARD SW
30	ı	ı
31	GR	CARGO LAMP SW
32	0	OUTPUT 5
33	GR	OUTPUT 4
34	ŋ	OUTPUT 3
35	BR	OUTPUT 2
36	LG	OUTPUT 1
37	В	KEY SW
88	W/R	IGN SW
39	٦	CAN-H
40	۵	CAN-L

Signal Name	KEY RING OUTPUT	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	KEY CYLINDER UNLOCK SW	KEY CYLINDER LOCK SW	RR DEFOGGER SW	ı	ACC_SW	DOOR SW (AS)	DOOR SW (RR)	_	TPMS MODE TRIGGER SW	_	-	KEYLESS & AUTO LIGHT SENSOR GND	KEYLESS TUNER POWER SUPPLY OUTPUT
Color of Wire	BR	۵	SB	>	_	<u>م</u>	GR	SB	>	ı	G/B	ГG	Г	-	≯	1	ı	BB	>
Terminal No.	-	2	က	4	2	9	2	8	6	10	11	12	13	14	15	16	17	18	19

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8	COMBINATION SWITCH	WHITE	10 01	1 2 3 4 5 6	Signal Name	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5	OUTPUT 1	OUTPUT 2	OUTPUT 5	OUTPUT 4	OUTPUT 3	WASH FR (-) RR (+)	GND	WASH FR (-) RR (-)	IGN
). M28			12 13	14 11	Color of Wire	LG	BR	Ö	GR	0	Я	٦	Ь	SB	>	0	В	٦	×
Connector No.	Connector Name	Connector Color	僵	H.S.	Terminal No.	-	2	င	4	5	9	7	80	6	10	1	12	13	14

Connector No.	D. M20	0
Sonnector Name		BCM (BODY CONTROL MODULE)
Connector Color	$\vdash$	BLACK
田.S.	56 57 58	56 57 58 59 60 61 62 63 64 65 66 67 68 69 70
Ferminal No.	Color of Wire	Signal Name
56	^	BATTERY SAVER OUTPUT
57	R/Υ	BAT (FUSE)
58	M	AUTO LIGHT SENSOR INPUT 2
59	GR	DOOR UNLOCK OUTPUT (DR)
60	ΓG	FLASHER OUTPUT (LEFT)
61	Ø	FLASHER OUTPUT (RIGHT)
62	ı	_
63	BR	ROOM LAMP OUTPUT
64	1	I
65	>	DOOR LOCK OUTPUT (ALL)
99	Γ	DOOR UNLOCK OUTPUT (OTHER)
29	В	GND (POWER)
89	0	POWER WINDOW POWER SUPPLY OUTPUT (LINKED TO RAP)
69	Ь	POWER WINDOW POWER SUPPLY OUTPUT (BAT)
70	W	BAT (F/L)

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# DTC Inspection Priority Chart

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 U1010: CONTROL UNIT (CAN)
2	B2190: NATS ANTENNA AMP     B2191: DIFFERENCE OF KEY     B2192: ID DISCORD BCM-ECM     B2193: CHAIN OF BCM-ECM
3	C1729: VHCL SPEED SIG ERR     C1735: IGNITION SIGNAL
4	<ul> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> <li>C1711: [NO DATA] RR</li> <li>C1711: [NO DATA] RR</li> <li>C1712: [CHECKSUM ERR] FL</li> <li>C1713: [CHECKSUM ERR] FR</li> <li>C1714: [CHECKSUM ERR] RR</li> <li>C1715: [CHECKSUM ERR] RR</li> <li>C1716: [PRESSDATA ERR] FL</li> <li>C1717: [PRESSDATA ERR] FR</li> <li>C1719: [PRESSDATA ERR] RR</li> <li>C1719: [PRESSDATA ERR] RR</li> <li>C1720: [CODE ERR] FL</li> <li>C1721: [CODE ERR] FR</li> <li>C1722: [CODE ERR] RR</li> <li>C1723: [CODE ERR] RR</li> <li>C1724: [BATT VOLT LOW] FR</li> <li>C1725: [BATT VOLT LOW] FR</li> <li>C1726: [BATT VOLT LOW] RR</li> <li>C1727: [BATT VOLT LOW] RR</li> <li>C1727: [BATT VOLT LOW] RL</li> </ul>

DTC Index

#### NOTE:

Details of time display

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

CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_
U1000: CAN COMM CIRCUIT	_	_	BCS-30
U1010: CONTROL UNIT (CAN)	_	_	BCS-31
B2190: NATS ANTTENA AMP	_	_	SEC-18
B2191: DIFFERENCE OF KEY	_	_	<u>SEC-21</u>
B2192: ID DISCORD BCM-ECM	_	_	SEC-22
B2193: CHAIN OF BCM-ECM	_	_	SEC-24
C1708: [NO DATA] FL	_	_	<u>WT-14</u>

# **BCM (BODY CONTROL MODULE)**

# < ECU DIAGNOSIS >

# [WITH POWER DOOR LOCKS]

CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
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	_	_	_

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# **INTERIOR LIGHTING SYSTEM SYMPTOMS**

< SYMPTOM DIAGNOSIS >

[WITH POWER DOOR LOCKS]

# SYMPTOM DIAGNOSIS

# INTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

#### **CAUTION:**

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

Symptom	Possible cause	Inspection item
All of the following lamps do not turn ON  Front room/map lamp assembly (if equipped)  Room lamp 2nd row  Vanity mirror lamps (if equipped)  Ignition keyhole illumination (if equipped)	Harness between BCM and each interior room lamp     Harness between BCM and each door switch     BCM	Battery saver output/power supply circuit Refer to INL-16.
Some or all of the following interior room lamps do not turn ON/OFF  Front room/map lamp assembly (if equipped)  Room lamp 2nd row	Harness between BCM and each interior room lamp     BCM	Interior room lamp control circuit Refer to INL-18.
Cargo lamp does not turn ON/OFF	Harness between fuse block (J/B) and cargo lamp relay     Harness between cargo lamp relay and cargo lamp     Harness between BCM and cargo lamp relay     BCM	Cargo lamp control circuit Refer to INL-20.
Ignition keyhole illumination does not turn ON/ OFF	Harness between BCM and ignition keyhole illumination     BCM	Ignition keyhole illumination circuit Refer to INL-23
Interior room lamp timer does not activate. (It turns ON/ OFF when the door opens/closes.)	_	Check the interior room lamp setting. Refer to <a href="INL-12">INL-12</a> .
Interior room lamp battery saver does not activate.	_	Check the interior room lamp battery saver setting. Refer to INL-13.

# **PRECAUTION**

#### **PRECAUTIONS**

Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSION-

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.

#### General precautions for service operations

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

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# **ON-VEHICLE REPAIR**

# INTERIOR ROOM LAMP

#### Removal and Installation

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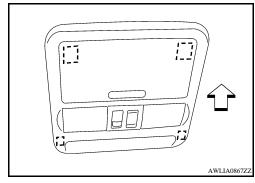
#### MAP LAMP

#### Removal

The map lamp is replaced as part of the overhead console assembly. Refer to <a href="INT-23">INT-23</a>, "Removal and Installation".

⇐: Vehicle front

: Metal clip



#### Installation

Installation is in the reverse order of removal.

#### **Bulb Replacement**

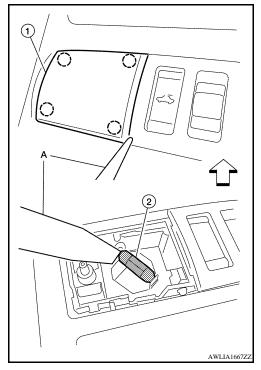
- 1. Disconnect the negative battery terminal.
- Using a suitable tool (A), remove map lamp lens (1).⇐: Vehicle front

#### **CAUTION:**

Wrap a cloth around tool to protect the housing and lens.

3. Release one side of the bulb (2) from the tab, then pull straight downward to remove.

Map lamp bulb : 12V - 8W



#### VANITY MIRROR LAMP

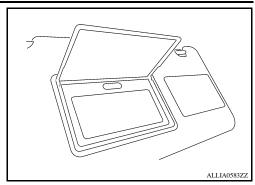
Removal

#### INTERIOR ROOM LAMP

#### < ON-VEHICLE REPAIR >

#### [WITH POWER DOOR LOCKS]

The vanity mirror lamp is replaced as part of the sunvisor assembly. Refer to INT-23, "Removal and Installation".



Installation

Installation is in the reverse order of removal.

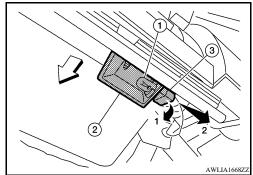
**Bulb Replacement** 

The vanity mirror lamp bulb is replaced as part of the sunvisor assembly. Refer to <a href="INT-23">INT-23</a>, "Removal and Installation".

GLOVE BOX LAMP

Removal

- 1. Remove lower instrument panel RH and glove box. Refer to IP-11, "Removal and Installation".
- 2. Rotate glove box lamp socket (3) with bulb (1) counterclockwise, then pull away from lamp shield (2) on steering member to remove.



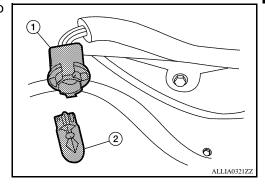
Installation

Installation is in the reverse order of removal.

**Bulb Replacement** 

- 1. Disconnect the negative battery terminal.
- 2. Remove glove box lamp.
- 3. Pull bulb (2) straight out from glove box lamp socket (1) to remove.

Glove box lamp bulb : 12V - 3.4W



**ROOM LAMP** 

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#### INTERIOR ROOM LAMP

#### < ON-VEHICLE REPAIR >

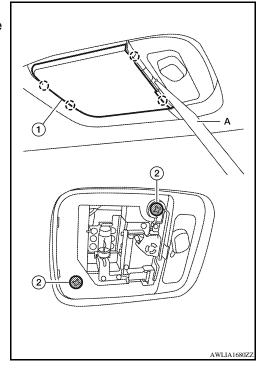
#### [WITH POWER DOOR LOCKS]

- 1. Disconnect the negative battery terminal.
- 2. Using a suitable tool (A), release the pawls and remove the room lamp lens (1).

#### **CAUTION:**

Wrap a cloth around tool to protect the housing and lens.

- 3. Remove room lamp screws (2).
- 4. Disconnect the connector, then remove room lamp.



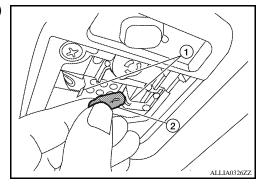
#### Installation

Installation is in the reverse order of removal.

#### **Bulb Replacement**

- 1. Disconnect the negative battery terminal.
- 2. Using a suitable tool, release the pawls and remove the room lamp lens.
- 3. Release the room lamp bulb retainers (1), then pull bulb (2) straight out to remove.

Room lamp bulb : 12V - 8W



#### [WITH POWER DOOR LOCKS]

#### **ILLUMINATION**

#### Removal and Installation

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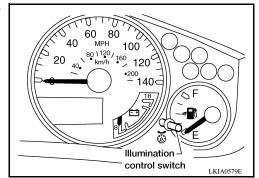
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#### **ILLUMINATION CONTROL SWITCH**

#### Removal

The illumination control switch is replaced as a part of the combination meter assembly. Refer to MWI-93, "Removal and Installation".



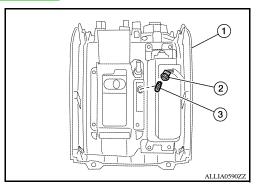
#### Installation

Installation is in the reverse order of removal.

#### A/T FINISHER LAMP

#### Removal

- Remove A/T finisher from center console. Refer to <u>IP-17</u>, "<u>Exploded View</u>".
- 2. Rotate A/T finisher lamp socket (2) with bulb (3) counterclockwise, then pull away from finisher (1).



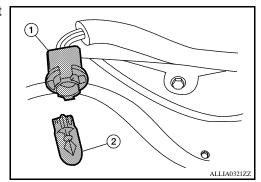
#### Installation

Installation is in the reverse order of removal.

#### **Bulb Replacement**

- Remove A/T finisher from center console. Refer to IP-17, "Exploded View".
- 2. Remove A/T finisher lamp socket (1), then pull bulb (2) straight out away from socket.

AT finisher lamp bulb : 12V - 3W



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#### **BULB SPECIFICATIONS**

< SERVICE DATA AND SPECIFICATIONS (SDS)

[WITH POWER DOOR LOCKS]

# SERVICE DATA AND SPECIFICATIONS (SDS)

# **BULB SPECIFICATIONS**

# Interior Lamp/Illumination

INFOID:0000000004056571

Item	Wattage (W)*
Map lamp	8
Vanity lamp	*
Glove box lamp	3.4
Room lamp	8
A/T finisher lamp	3

<sup>\*:</sup> Always check with the Parts Department for the latest parts information.

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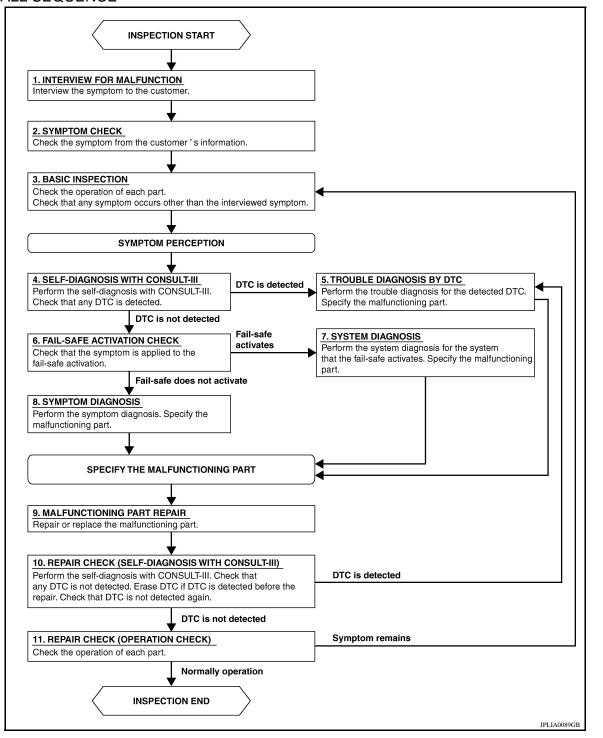
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# **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

#### **OVERALL SEQUENCE**



#### DIAGNOSIS AND REPAIR WORKFLOW

[WITHOUT POWER DOOR LOCKS]

#### < BASIC INSPECTION >

#### **DETAILED FLOW**

# 1.INTERVIEW FOR MALFUNCTION

Find out what the customer's concerns are.

>> GO TO 2

# 2.SYMPTOM CHECK

Verify the symptom from the customer's information.

>> 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

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

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

#### Is any DTC detected?

YES >> GO TO 5

NO >> GO TO 6

#### 5. TROUBLE DIAGNOSIS BY DTC

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

>> GO TO 9

#### 6. FAIL-SAFE ACTIVATION CHECK

Determine if the customer's concern is related to fail-safe activation.

Does the fail-safe activate?

YES >> GO TO 7

NO >> GO TO 8

#### 7. SYSTEM DIAGNOSIS

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

>> GO TO 9

# 8. SYMPTOM DIAGNOSIS

Perform the symptom diagnosis. Specify the malfunctioning part.

>> GO TO 9

#### 9. MALFUNCTION PART REPAIR

Repair or replace the malfunctioning part.

>> GO TO 10

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

Perform the self-diagnosis with CONSULT-III. Verfied that no DTCs are detected. Erase all DTCs detected prior to the repair. Verify that DTC is not detected again.

Is any DTC detected?

YES >> GO TO 5

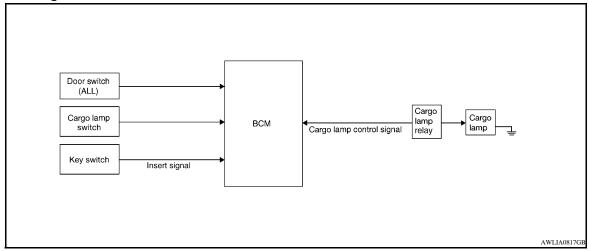
DIAGNOSIS AND REPAIR WORKFLOW < BASIC INSPECTION > [WITHOUT POWER DOOR LOCKS]	
NO >> GO TO 11	
11. REPAIR CHECK (OPERATION CHECK)	Α
Check the operation of each part.  Does it operate normally?	
	В
YES >> Inspection End NO >> GO TO 3	
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# **FUNCTION DIAGNOSIS**

# INTERIOR ROOM LAMP

System Diagram

INFOID:0000000004056573



# System Description

INFOID:0000000004056574

#### **OUTLINE**

- Front room/map lamp (if equipped) and room lamp 2nd row are powered by fuse block (J/B) fuse number 18 (10A). When the lamps are set to the DOOR position, ground is provided through the door switches.
- Cargo lamp is controlled by the cargo lamp control function of the BCM.

# **Component Parts Location**

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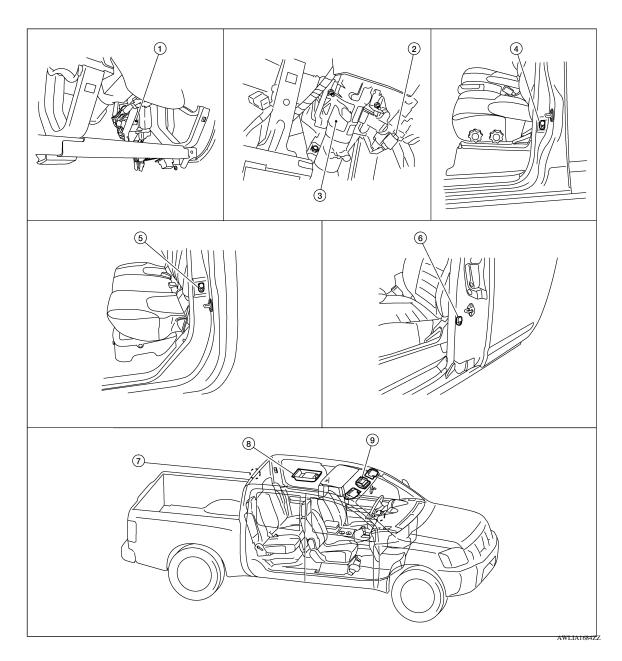
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- BCM M18, M19, M20 (view with lower 2. instrument panel LH removed)
- 4. Front door switch LH B8 (crew cab)
  Front door switch RH B108 (crew cab)
- 7. Cargo lamp B161

- Key switch M27
- Rear door switch LH B18 (crew cab)
  Rear door switch RH B116 (crew cab)
- 3. Room lamp 2nd row R10
- 3. Steering column assembly
- 6. Front door switch LH D213 (king cab) Front door switch RH D314 (king cab)
- Front room/map lamp assembly (with front map lamps) R9

# Component Description

INFOID:0000000004056576

Part name	Description
BCM	Provides ground for the cargo lamp relay.

# **INTERIOR ROOM LAMP**

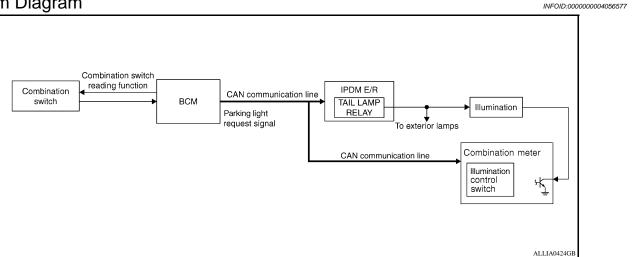
#### < FUNCTION DIAGNOSIS >

# [WITHOUT POWER DOOR LOCKS]

Key switch	Provides key in ignition status to the BCM.
Door switches	Provides door OPEN/CLOSED status to the BCM. Provides ground for the room lamp 2nd row and front room/map lamp aseembly (with front map lamps).

#### ILLUMINATION CONTROL SYSTEM

#### System Diagram



# System Description

The illumination lamps operation is dependent upon the position of the lighting switch (combination switch). When the lighting switch is placed in the 1ST or 2ND position the BCM (body control module) receives input requesting the parking 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 tail lamp relay coil. When energized, this relay directs power to the parking and illumination lamps, which then illuminate.

#### BATTERY SAVER CONTROL

When the lighting switch (combination switch) is in the 1ST or 2ND position and the ignition switch is turned from ON or ACC to OFF, the battery saver control feature is activated. Under this condition, the illumination lamps remain illuminated for 30 minutes unless the lighting switch position is changed. If the lighting switch position is changed, then the illumination lamps are turned off after a 30 second delay. When the lighting switch is turned from OFF to 1ST or 2ND position after illumination lamps have been turned off by the battery saver control, the illumination lamps illuminate again.

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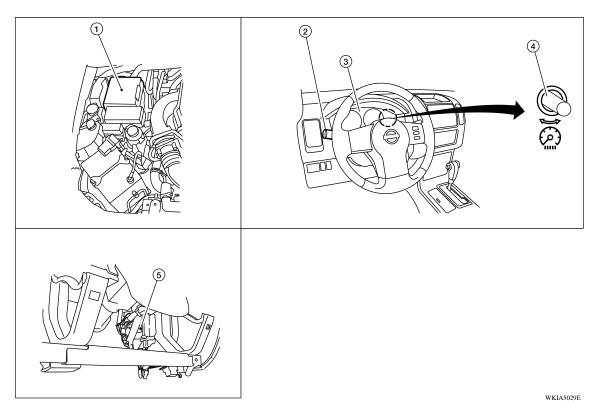
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# **Component Parts Location**

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- 1. IPDM E/R E122, E124
- 4. Illumination control switch (built into combination meter)
- 2. Combination switch M28
- BCM M18, M20 (view with lower instrument panel LH removed)

Combination meter M24

# **Component Description**

INFOID:0000000004056580

Part name	Description
BCM	The BCM monitors the lighting switch position with the combination switch reading function. The BCM requests, via CAN communication, that the IPDM E/R activate the tail lamp relay.
IPDM E/R	The IPDM E/R activates the tail lamp relay based on inputs received from the BCM via the CAN communication network.
Combination meter (illumination control switch)	The illumination control switch is a part of the combination meter. The combination meter controls illumination intensity by varying ground to the illumination lamps based on the illumination control switch position.
Combination switch	The combination switch provides input to the BCM about the lighting switch position.

# **DIAGNOSIS SYSTEM (BCM)**

**COMMON ITEM** 

**COMMON ITEM: CONSULT-III Function** 

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CONSULT-III can display each diagnostic item using the following diagnostic test modes.

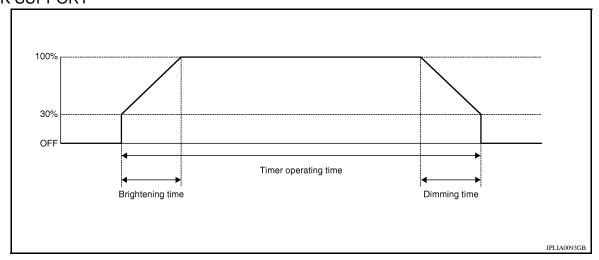
Diagnostic mode	Description
Work Support	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
Data Monitor	Displays BCM input/output data in real time.
Active Test	Operation of electrical loads can be checked by sending drive signal to them.
Self-Diagnostic Results	Displays BCM self-diagnosis results.
CAN Diag Support Monitor	The result of transmit/receive diagnosis of CAN communication can be read.
ECU Identification	BCM part number can be read.
Configuration	Performs BCM configuration read/write functions.

#### **INT LAMP**

#### **INT LAMP: CONSULT-III Function**

INFOID:0000000004056582

#### **WORK SUPPORT**



Service item	Setting item	Setting		
SET I/L D-UNLCK INTCON	ON	This item is not used for this model		
SET I/L D-UNLCK INTCON	OFF	inis item	is not used for this model	
	MODE 1	0.5 sec.		
	MODE 2	1 sec.		
	MODE 3	2 sec.		
ROOM LAMP ON TIME SET	MODE 4	3 sec.	This item is not used for this model	
	MODE 5	4 sec.		
	MODE 6	5 sec.		
	MODE 7	0 sec.		

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Service item	Setting item	Setting			
ROOM LAMP OFF TIME SET	MODE 1	0.5 sec.			
	MODE 2	1 sec.			
	MODE 3	2 sec.			
	MODE 4	3 sec.	This item is not used for this model		
	MODE 5	4 sec.			
	MODE 6	5 sec.			
	MODE 7	0 sec.			

# DATA MONITOR

Monitor item [Unit]	Description
IGN ON SW [ON/OFF]	The switch status input from ignition switch
KEY ON SW [ON/OFF]	Key switch status input from key slot
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]	This item is not used for this model
KEY CYL LK-SW [ON/OFF]	This item is not used for this model
KEY CYL UN-SW [ON/OFF]	This item is not used for this model
CDL LOCK SW [ON/OFF]	This item is not used for this model
CDL UNLOCK SW [ON/OFF]	This item is not used for this model
KEYLESS LOCK [ON/OFF]	This item is not used for this model
KEYLESS UNLOCK [ON/OFF]	This item is not used for this model

# **ACTIVE TEST**

Test item	Operation	Description	
INT LAMP	ON	This item is not used for this model	
INT LAWF	OFF	This item is not used for this model	
IGN ILLUM	ON	This item is not used for this model	
IGN ILLOW	OFF	This item is not used for this model	
LUGGAGE LAMP TEST	ON	This item is not used for this model	
LUGGAGE LAWIF TEST	OFF	This item is not used for this model	

# COMPONENT DIAGNOSIS

# INTERIOR ROOM LAMP

# Diagnosis Procedure

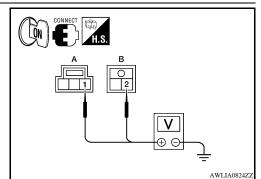
#### **CAUTION:**

Before performing the diagnosis, check that the following is normal.

- Fuse
- Interior room lamp bulbs
- 1. CHECK INTERIOR ROOM LAMP POWER SUPPLY

Check voltage between interior room lamp connectors and ground.

Component	(	+)	(-)	Voltogo
Component	Connector	Terminal	(-)	Voltage
Front room/map lamp (if equipped)	R9 (A)	1	Ground	Battery voltage
Room lamp 2nd row	R10 (B)	2		



#### Is the inspection result normal?

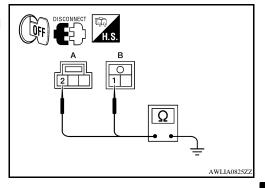
YES >> GO TO 2

NO >> Repair the harness or connectors.

# 2.CHECK INTERIOR ROOM LAMP GROUND

- 1. Disconnect interior room lamp connectors.
- 2. Check continuity between interior room lamp connectors and ground while operating the door switches.

Component	(+)		(-)	Door	Continuity
Component	Connector	Terminal	(-)	switches	Continuity
Front room/map lamp	R9 (A)	R9 (A) 2		Open	Yes
(if equipped)	N9 (A)	K9 (A) 2	Ground	Closed	No
Room lamp 2nd row R10 (B)	4	Ground	Open	Yes	
Noom lamp znu row	KIU (B)	'		Closed	No



#### Is the inspection result normal?

YES >> Replace the interior room lamp. Refer to <a href="INL-119">INL-119</a>, "Removal and Installation".

NO >> GO TO 3

# 3.CHECK DOOR SWITCHES

Check the door switches. Refer to INL-80, "Component Inspection (Door Switch)".

#### Is the inspection result normal?

YES >> • Crew cab models, repair the harness or connectors between the interior room lamp and the door switches.

King cab models, GO TO 4

NO >> Replace the door switch.

4. CHECK DOOR SWITCH GROUND (KING CAB)

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#### INTERIOR ROOM LAMP

#### < COMPONENT DIAGNOSIS >

#### [WITHOUT POWER DOOR LOCKS]

Check continuity between door switch connectors and ground.

Component	(+	)	(-)	Continuity
Component	Connector	Terminal	(-)	
Front door switch LH	D213	3	Ground	Yes
Front door switch RH	D314	3	Ground	165

#### Is the inspection result normal?

YES >> Repair the harness or connectors between the interior room lamp and the door switches.

NO >> Repair the harness or connectors between the door switch and ground.

# DISCONNECT HIS.

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# Component Inspection (Door Switch)

#### **CREW CAB**

# 1. CHECK DOOR SWITCHES

- 1. Disconnect door switch.
- 2. Check continuity between door switch terminals.

	Terminal	Condition	Continuity
Door switch	1 – Ground	Open	Yes
	i – Ground	Closed	No

# DISCONNECT O AWLIA0864ZZ

#### Is the inspection result normal?

YES >> Inspection End

NO >> Replace door switch.

#### KING CAB

# 1. CHECK DOOR SWITCHES

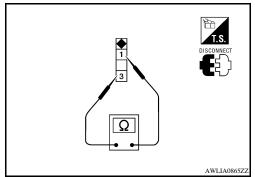
- 1. Disconnect door switch.
- 2. Check continuity between door switch terminals.

Item	Terminal	Condition	Continuity
Door switches	1 – 3	Open	Yes
Door switches	1-3	Closed	No

#### Is the inspection result normal?

YES >> Inspection End

NO >> Replace door switch.



# CARGO LAMP CONTROL CIRCUIT

Description INFOID:0000000004437738

Controls the cargo lamp relay coil (ground side) to turn the cargo lamp ON and OFF.

Diagnosis Procedure

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#### **CAUTION:**

Before performing the diagnosis, check that the following is normal.

- Fuse
- Cargo lamp bulb

# 1. CHECK CARGO LAMP OPERATION

Check the cargo lamp operation from the cargo lamp switch and the door switches.

Is the cargo lamp inoperative from all of the above switches?

YES >> GO TO 4

NO >> • Inoperative from cargo lamp switch only, GO TO 2

• Inoperative from door switches only, refer to DLK-27, "KING CAB: Description" (king cab), DLK-29, "CREW CAB: Description" (crew cab).

# 2.CHECK CARGO LAMP SWITCH

Check the cargo lamp switch. Refer to INL-83, "Component Inspection".

Is the inspection result normal?

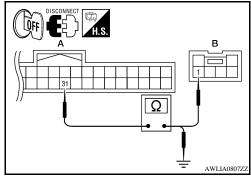
YES >> GO TO 3

NO >> Replace the cargo lamp switch.

# 3.CHECK CARGO LAMP SWITCH CIRCUIT

- Disconnect BCM connector M18 and cargo lamp switch connec-
- 2. Check continuity between BCM connector M18 (A) terminal 31 and cargo lamp switch connector M71 (B) terminal 1.

В	CM	Cargo la	mp switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M18 (A)	31	M71 (B)	1	Yes



Check continuity between BCM connector M18 terminal 31 and ground.

Connector	Terminal	_	Continuity
M18 (A)	31	Ground	No

#### Is the inspection result normal?

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

NO >> Repair harness or connectors.

# 4.CHECK CARGO LAMP RELAY

Check the cargo lamp relay. Refer to INL-83, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5

NO >> Replace the cargo lamp relay.

#### ${f 5}$ .CHECK CARGO LAMP RELAY CONTROL

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#### **CARGO LAMP CONTROL CIRCUIT**

#### < COMPONENT DIAGNOSIS >

#### [WITHOUT POWER DOOR LOCKS]

While operating the cargo lamp switch, check voltage between BCM connector M19 terminal 50 and ground.

Connector	Terminal	_	Cargo lamp switch	Voltage
M19	50	Ground	ON	0V
IVITS	30	Ground	OFF	Battery voltage

# CONNECT THIS. IN THE STATE OF

#### Is the inspection result normal?

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

# 6.CHECK CARGO LAMP VOLTAGE

1. Disconnect the cargo lamp connector.

2. While operating the cargo lamp switch, check voltage between cargo lamp connector B161 terminal 3 and ground.

Connector	Terminal	_	Cargo lamp switch	Voltage
B161	3	Ground	ON	Battery voltage

#### Is the inspection result normal?

YES >> Replace cargo lamp.

NO >> GO TO 7

# 7.CHECK CARGO LAMP RELAY VOLTAGE PART 1

Check voltage between cargo lamp relay connector M165 terminal 5 and ground.

Cargo la	ımp relay		Voltage
Connector	Terminal	Ground	voltage
M165	5		Battery voltage

#### Is the inspection result normal?

YES >> Repair harness or connectors between cargo lamp relay and cargo lamp.

NO >> Repair harness or connector between splice and cargo lamp relay.

# CONNECT H.S. AWLIA0810ZZ

#### 8.CHECK CARGO LAMP RELAY VOLTAGE PART 2

Check voltage between cargo lamp relay connector M165 terminal 2 and ground.

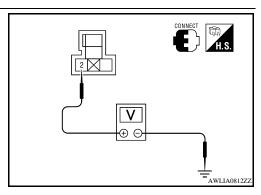
Cargo la	mp relay		Voltage
Connector	Terminal	Ground	voltage
M165	2		Battery voltage

# Is the inspection result normal?

YES >> GO TO 9

NO >> Repair harness or connectors.

# 9. CHECK CARGO LAMP RELAY CONTROL CIRCUIT



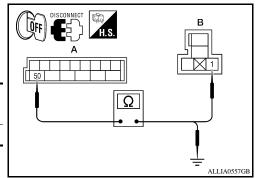
#### CARGO LAMP CONTROL CIRCUIT

#### < COMPONENT DIAGNOSIS >

#### [WITHOUT POWER DOOR LOCKS]

- Disconnect BCM connector M19 and cargo lamp relay connec-
- 2. Check continuity between BCM connector M19 (A) terminal 50 and cargo lamp relay connector M165 (B) terminal 1.

В	CM	Cargo la	amp relay	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M19 (A)	50	M165 (B)	1	Yes



Check continuity between BCM connector M19 terminal 50 and ground.

Connector	Terminal	_	Continuity
M19 (A)	50	Ground	No

#### Is the inspection result normal?

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

NO >> Repair harness or connectors.

# Component Inspection

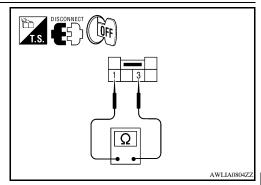
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#### **CARGO LAMP SWITCH**

# 1. CHECK CARGO LAMP SWITCH

- Turn ignition switch OFF.
- 2. Disconnect cargo lamp switch connector.
- Check continuity between cargo lamp switch terminals.

Cargo lamp switch	Condition	Continuity
Terminal	Condition	Continuity
1 – 3	ON	Yes
1-3	OFF	No



#### Is the inspection result normal?

YES >> Inspection End

NO >> Replace cargo lamp switch.

#### CARGO LAMP RELAY

# 1. CHECK CARGO LAMP RELAY

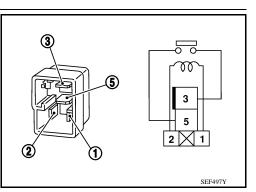
- Turn ignition switch OFF.
- Disconnect cargo lamp relay connector. 2.
- Supply power to terminal 2 and ground to terminal 1 of the cargo 3. lamp relay.
- Check continuity between cargo lamp relay terminals 3 and 5.

Ter	minal	Condition	Continuity
3	5	Power and ground supplied to terminals 1 and 2	Yes
3	3	No power and ground supplied	No

#### Is the inspection result normal?

YES >> Inspection End

NO >> Replace cargo lamp relay.



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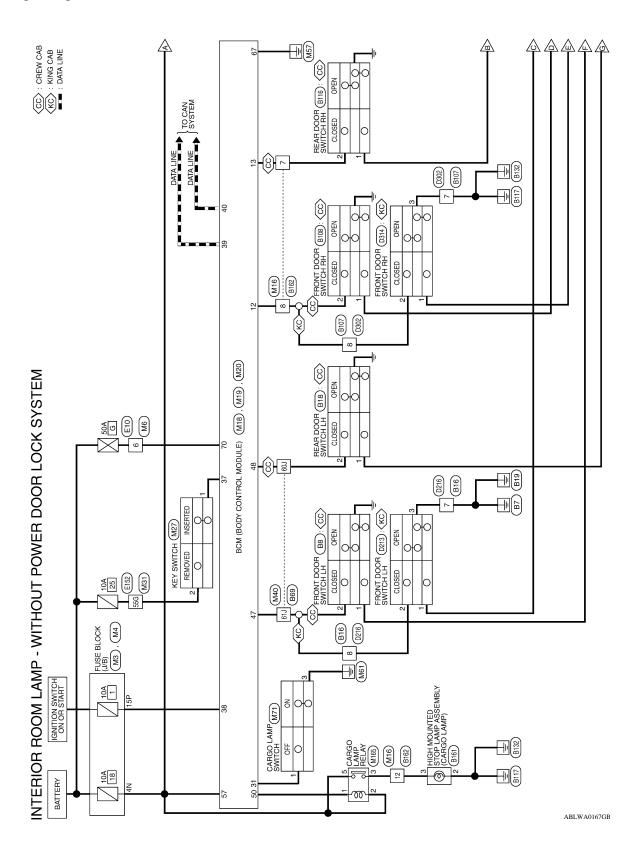
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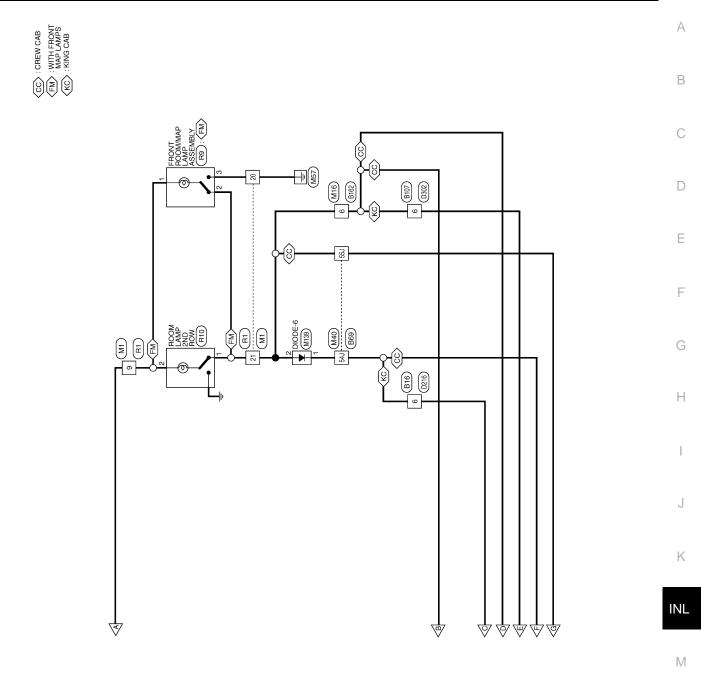
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# **INTERIOR ROOM LAMP**

Wiring Diagram





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

Connector Color WHITE

# INTERIOR ROOM LAMP CONNECTORS - WITHOUT POWER DOOR LOCK SYSTEM

ctor No.	M1	Connector No.	M3
ctor Name	WIRE TO WIRE	Connector Name	nector Name FUSE BLOCK (J/B)
ctor Color	WHITE	Connector Color	WHITE

M3	FUSE BLOCK	WHITE	
Connector No.	Connector Name FUSE BLOCK	Connector Color WHITE	
			]

6 17 18 19 20 21 22 23 24	Signal Name	1	-	-
1 2 3 4 13 14 15 16	Color of Wire	R/Y	В	BB
H.S.	Terminal No.	6	20	21

J	o. M1		Connector No.
l W	ame WIRE TO WIRE	O WIRE	Connector Nan
	olor WHITE		Connector Colo
ı I			
	1 2 3 4 5 13 14 15 16 17	6 7 8 9 10 11 12 18 19 20 21 22 23 24	H.S.
1			
	Color of Wire	Signal Name	Terminal No.
ı	R/Υ	1	N4
I	В	ı	
	BB	1	
1			

Signal Name	-			8	BCM (BODY CONTROL MODULE)	ILE
Color of Wire	W/R			M18		y WHITE
Terminal No.	15P			Connector No.	Connector Name	Connector Color
		•				ı

Signal Name

Color of Wire

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7P 6P 5P 4P 3P 2P 1P 16P 15P 11P 10P 9P 8P

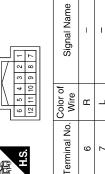


	10 11 12 13 14 15 16 17 18 19 20	30 31 32 33 34 35 36 37 38 39 40	Signal Name	DOOR SW (AS)	DOOR SW (RR)	CARGO LAMP SW	KEY SW	IGN SW	CAN-H	CAN-L
	6 7 8 9	26 27 28 29	Color of Wire	LG	Г	GR	В	W/R	Г	Ь
H.S.	1 2 3 4 5	21 22 23 24 25 2	Terminal No.	12	13	31	28	88	39	40

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Connector No.	١.	2	M16				
Connector Name WIRE TO WIRE	me	>	Æ	ш	9	⋝	뿚
Connector Color	<u>5</u>	>	WHITE	쁜	١.		
F	Ħ	$   \rangle$	IN.	W	117	$\square$	_
SF	9	2	4	က	2	-	
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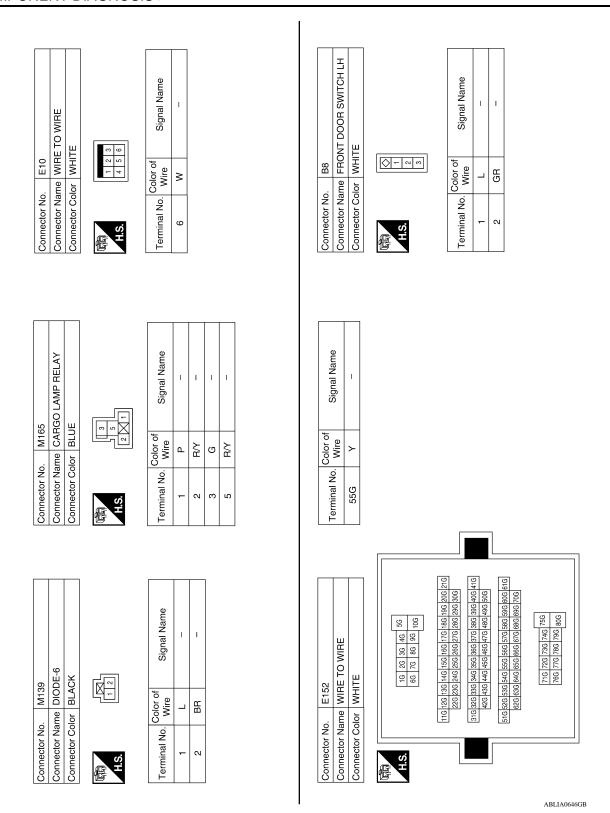


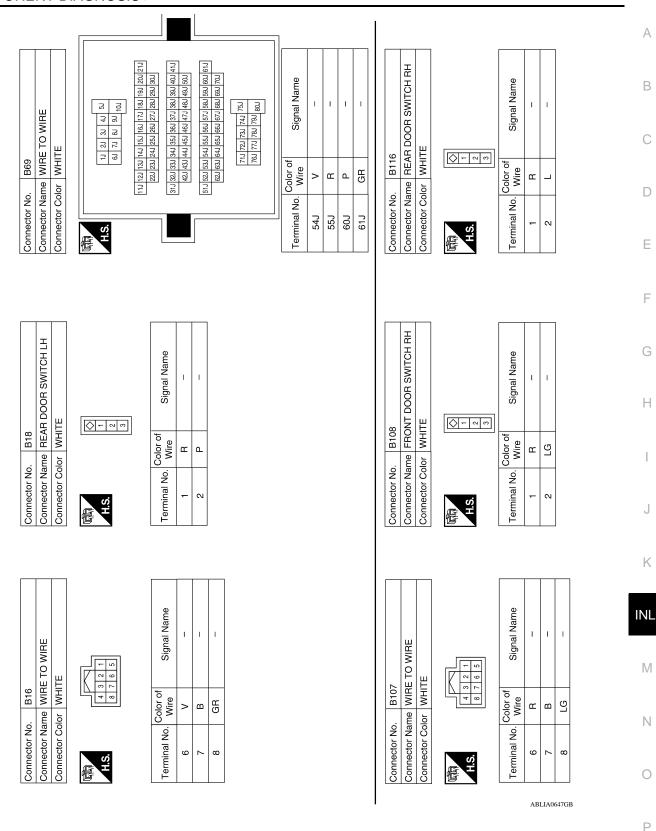
Connector No.	). M6	
Connector Name		WIRE TO WIRE
Connector Color	olor WHITE	ITE
用.S.	8 9	α ω - 4
Terminal No.	Color of Wire	Signal Name
9	>	1

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ТСН	M71  CARGO LAMP SWITCH WHITE	
Connector No.  Connector Color  WHITE  LAS.		H
Connector Name Connector Color H.S.	Connector No. Connector No. Connector Color Connector Color Connector Color Connector Color H.S.	
CONTROL	Signal Name	61) 620 620 727 630 531 734 735 734 735 734 734 734 734 734 734 734 734 734 734
M.C.   M.C.	Color of Signal	300   220   230   271   231
Connector Name Connector Color	Terminal No. Cold 57 R. 67 E 70 V Connector No. Connector Name Connector Color H.S.	Terminal No. 660J 61J
M19   BCM (BODY CONTROL   MODULE)   WHITE 	Signal Name	300   290   290   270   290   250   240   220   220
	Color of   Signa	
Connector Name Connector Color H.S.	Terminal No. W 47 C 48 50 Connector Name Connector Color Mane Color Mane Color M	Terminal No.
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Terminal No.

Connector Name WIRE TO WIRE Connector Color WHITE

Connector Name HIGH MOUNTED STOP LAMP ASSEMBLY

Connector No. B161

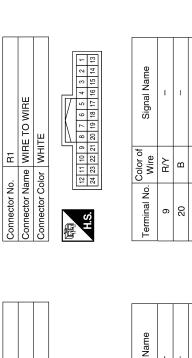
Connector Color WHITE

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Terminal No.

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Connector No. B162



Signal Name		ı	1 1					Connector Name FRONT DOOR SWITCH L	ш		Signal Name
Color of		<u> </u>	a a	ă			D213	me FRON	or WHIT	<u></u>	Color of Wire
Color of Terminal No.	c	D (	N 20	17			Connector No.	Connector Na	Connector Color WHITE	H.S.	Terminal No. Wire
					7				_		
Signal Name	,	1	1	1				Connector Name ROOM LAMP 2ND ROW	<u> </u>	2	Signal Name
Color of		r -	ے ا	3 0			. R10	me ROC	lor WHI		Color of Wire
Terminal No.	(	1 0	~ o	2 21			Connector No.	Connector Na	Connector Color WHITE	原 H.S.	Terminal No. Wire
			ı					T		1	
Signal Name	I	I						Vame FRONT ROOM/MAP LAMP	TE		Signal Name
Oolor of Wire	В	ŋ					Vo. R9	me FRC	Solor WHITE		Color of Wire
· ¬						- 1	13	1 🕏	18	I	ا o

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Connector Name Connector Color

Connector No.

PUNENT DIAGNUSIS:	>	[WITHOUT I OWER BOOK E
Connector No. D314 Connector Name FRONT DOOR SWITCH RH Connector Color WHITE	Signal Name	
D314  OF FRON  OF WHITE	Color of Wire R B B	
Connector No. D314 Connector Name FRONT Connector Color WHITE H.S.	Terminal No.	
E TO WIRE	Signal Name	
D302  The WIRE T or WHITE 1 1 2 3 5 6 7 5	Wire B B B B B B B B B B B B B B B B B B B	
Connector No. D302 Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No. 6 6 7 8	
TO WIRE E	Signal Name	
D216 D216 Or WHITE	Color of Wire LG	
Connector No. D216 Connector Name WIRE TO WIRE Connector Color WHITE	Cerminal No.	
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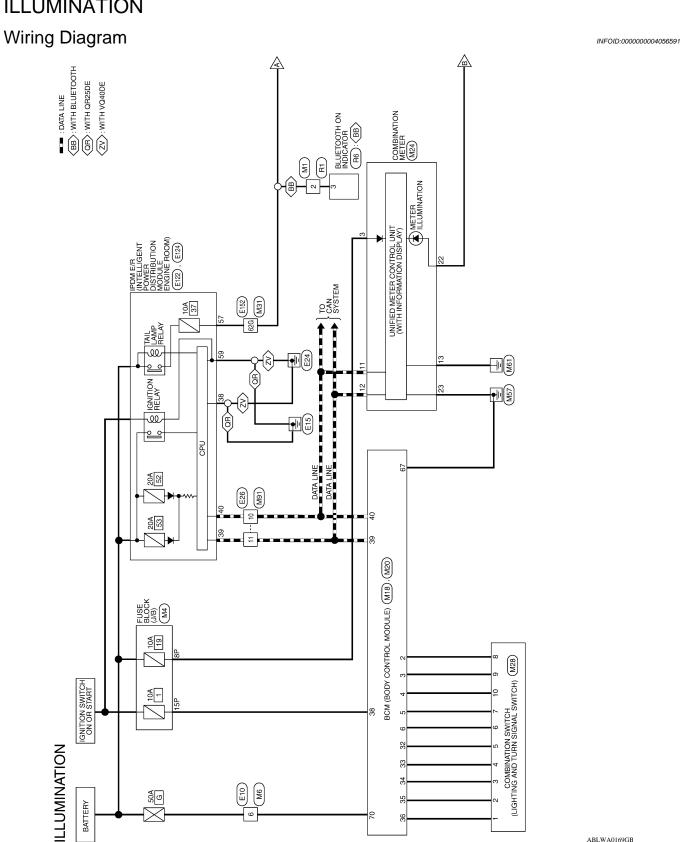
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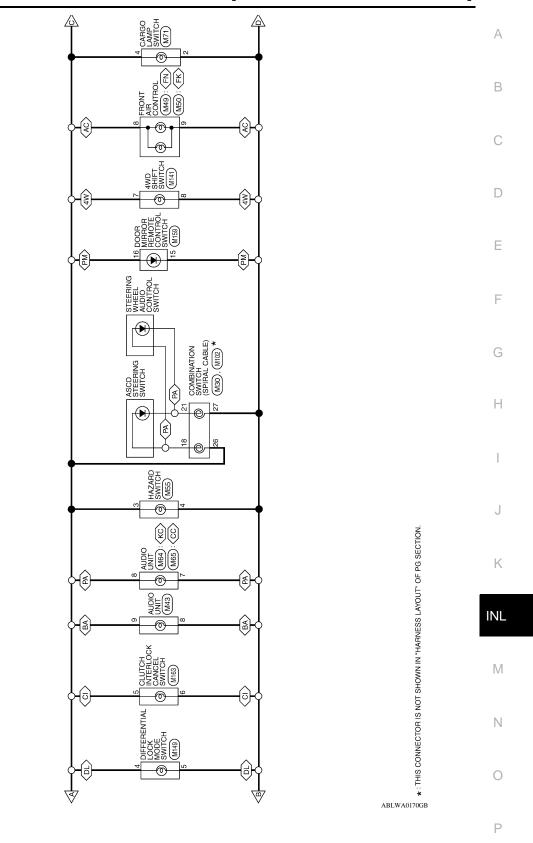
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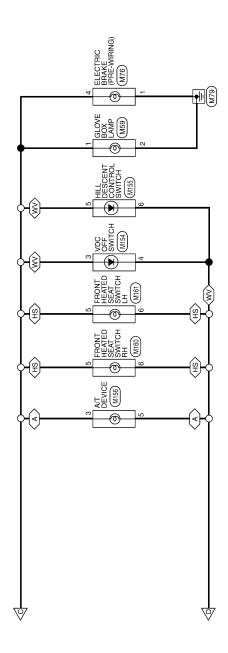
# **ILLUMINATION**



(AC): WITH AC
(BA): WITH BASE AUDIO SYSTEM
(G): WITH CLUTCH INTERLOCK CANCEL SWITCH
(CC): CREW CAB
(DL): WITH ELECTRONIC LOCKING REAR DIFFERENTIAL
(FK): WITH VBC
(FN): WITH VBC
(KC): KING CAB
(KC): KING CAB
(RD): WITH PREMIUM AUDIO SYSTEM
(PM): WITH POWER OUTSIDE MIRRORS
(AW): WITH 4-WHEEL DRIVE







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Connector Name | WIRE TO WIRE

Connector No.

Connector Color WHITE

# ILLUMINATION CONNECTORS

o o	M1	Connector No.	M4
Name	WIRE TO WIRE	Connector Name	FUSE BLOCK (J/B)
Color	WHITE	Connector Color	WHITE







Signal Name	_	
Color of Wire	В	
Terminal No.	2	

me				rrol	
Signal Name	ı			Connector Name BCM (BODY CONTROL MODULE)	Y.
Color of Wire	>		M20	me BCI MO	Dr BI ACK
Terminal No.	9		Connector No.	Connector Na	Connector Color

Signal Name

Color of Wire

Terminal No.

W/R ₽

8P 15P



BCM (BODY CON MODULE)	BLACK	65   66   67   68   69   70	Signal N
		56 57 58 5	Color of Wire
Connector Name	Connector Color	H.S.	Terminal No.

GND (POWER) Signal Name

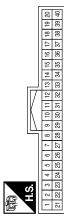
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	_	_	_		_
Signal Name	OUTPUT 2	OUTPUT 1	MS NDI	CAN-H	CAN-L
Color of Wire	BB	ГG	W/R	٦	Ь
Terminal No.	35	36	38	39	40

M18	BCM (BODY CONTROL MODULE)	WHITE
Connector No. N	Connector Name B	Connector Color V



Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3
Color of Wire	Д	SB	>	L	ш	0	GR	g
Terminal No.	2	က	4	5	9	32	33	34

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OUTPUT 4
OUTPUT 3

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ILLUMINATION CONTROL

CAN-H GROUND

> GR BR

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POWER GND

В

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Connector No.	o. M28	8.	Connector No.	M30
Connector Name	ame CO	COMBINATION SWITCH	Connector Name	Connector Name COMBINATION SWITCH
Connector Color WHITE	olor WF	IITE	Connector Color	GRAY
			•	
H.S.	12 13 10	1 2 3 4 5 6	H.S. 33	24 25 26 27 31 32 33 34
Torminal No Color of	Color of			
ם שו	Wire	Olginal Ivaline	Color of	Ļ
-	ГG	INPUT 1	Terminal No. Wire	Signal Name
2	BR	INPUT 2	26 P	R ILL+
ဇ	U	INPUT 3	27 6	G   ILL-
4	GR	INPUT 4		
5	0	INPUT 5		
9	œ	OUTPUT 1		
7	_	OUTPUT 2		
8	Ь	OUTPUT 5		

Signal Name

Color of Wire R/Y

Terminal No.

11 3

BATTERY CAN-L

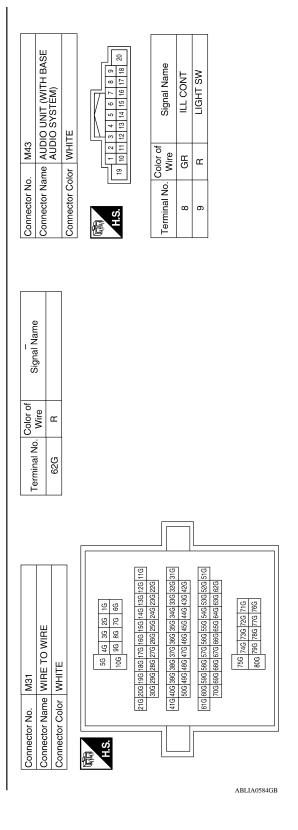
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Connector Name | COMBINATION METER

M24

Connector No.

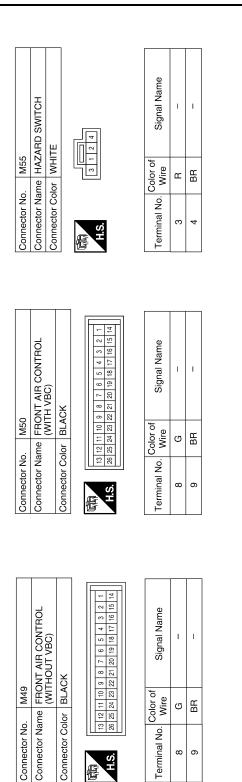
Connector Color | WHITE



# **ILLUMINATION**

# [WITHOUT POWER DOOR LOCKS]

#### < COMPONENT DIAGNOSIS >



Terminal No. ω 6

	-	l l				
5	Connector Name PREMIUM AUDIO SYSTEM, WITH CREW CAB)	IITE	2 4 8 10	Signal Name	ILL CONT	LIGHT SW
M65	ne PR	or WF	رحت	Solor o	GR	ဖ
Connector No.	Connector Nar	Connector Color WHITE	H.S.	Terminal No. Wire	7	8
A64	AUDIO UNIT (WITH PREMIUM AUDIO SYSTEM, VITH KING CAB)	VHITE	1	of Signal Name	ILL CONT	LIGHT SW
Connector No. M64	Connector Name PREMIUM AUDIO SYSTEM, WITH KING CAB)	Connector Color WHITE	2 4 6 7 9	Terminal No. Wire Signal Name	GR ILL CONT	G LIGHT SW

	LAMP			Signal Name	ı	_	
M59	Connector Name GLOVE BOX LAMP	BROWN		Color of Sig	В	В	
	ame	olor					l
Connector No.	Connector Na	Connector Color BROWN	用.S.	Terminal No.	-	2	

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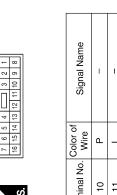
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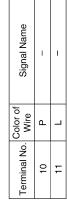
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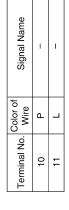
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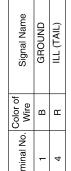
921		Connector No.	M91
onnector Name ELECTRIC BRAKE (PRE-	PRE-	Connector Name	Innector Name WIRE TO WIRE
/IRING)		Connector Color	WHITE
HITE			

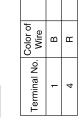












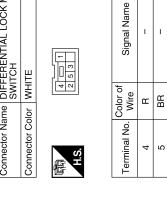
Connector No.		M71		
Connector Na	ame	CAF	Connector Name CARGO LAMP SWITCH	
Connector Color		WHITE	믵	
原 H.S.		4 -		
Terminal No.	Color of Wire	r of re	Signal Name	
2	BR	m	ı	
4	RY	>	ı	

2 | 6 | 1 | 3 | 4 | 5

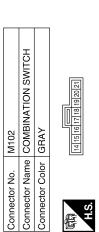
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Connector Color WHITE





41	4WD SHIFT SWITCH	AY	12345678	Signal Name	LIGHT_SW	GND
. M141		lor GRAY		Color of Wire	Œ	BR
Connector No.	Connector Name	Connector Color	原列 H.S.	Terminal No.	7	8



Signal Name	ı	ı	
Color of Wire	В	Э	
Terminal No.	18	21	

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# **ILLUMINATION**

# [WITHOUT POWER DOOR LOCKS]

#### < COMPONENT DIAGNOSIS >

Connector No. M155		Connector No. M156	M156
HILLD	Connector Name HILL DESCENT CONTROL	Connector Name A/T DEVICE	A/T DEVICE
SWITC	Ξ.	Connector Color WHITE	WHITE
Connector Color WHITE			
2 0		图.S.	2 4 5 6 8 10
Terminal No	Signal Name	Terminal No. Wire	Vire Signal Name

Connector Name VDC OFF SWITCH Connector Color GRAY

Connector No. M154

Signal Name	ı	_
Color of Wire	æ	BR
Terminal No. Wire	2	9

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Signal Name	I	I	
Color of Wire	æ	BR	
Terminal No.	က	4	

Connector No.	. M161	1
Connector Name		FRONT HEATED SEAT SWITCH LH
Connector Color	lor WHITE	TE
明.S.	2 4	9 E
Terminal No.	Color of Wire	Signal Name
5	н	l
9	BR	ı

Q	FRONT HEATED SEAT SWITCH RH	NWC	98	Signal Name	_	1
. M160		lor BRC	2 4 5	Color of Wire	SB	0
Connector No.	Connector Name	Connector Color BROWN	和.S.	Terminal No.	9	9

Connector No.	. M159	6
Connector Name	me DOC	DOOR MIRROR REMOTE CONTROL SWITCH
Connector Color WHITE	lor WHI	TE
H.S.	8 9 10 11	14 (2 13 14 15 16
Terminal No.	Color of Wire	Signal Name
15	BR	ı
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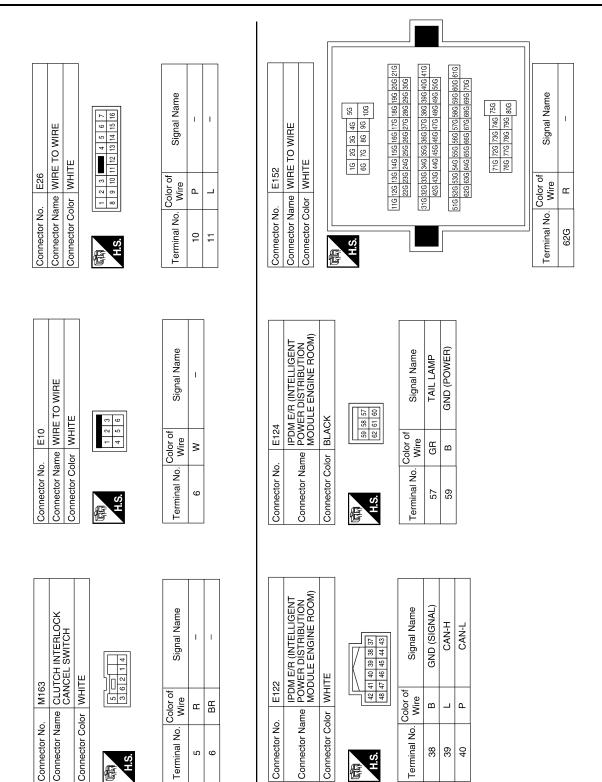
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	Connector Name BLUETOOTH ON IND	ПЕ	N   N   N   N   N   N   N   N   N   N	Signal Nan	DAY/NIGHT ILI
. R6	me BLU	lor WHI	-	Color of Wire	В
Connector No.	Connector Na	Connector Color WHITE	南 H.S.	Terminal No. Wire	ε
	nector Name WIRE TO WIRE	TE	12   11   10   9   8   7   6   5   4   3   2   1   1   1   1   1   24   23   22   21   20   19   18   17   16   15   14   13   1   1   1   1   1   1   1   1	Signal Name	1
H3	me WIR	or WHI	23 22 01 11 10 9 8 12 23 23 23 23 24 28 8 12 12 12 12 12 12 12 12 12 12 12 12 12	Color of Wire	В
nector No.	nector Na	nector Color WHITE	S. 24 27 24 34 34 34 34 34 34 34 34 34 34 34 34 34	minal No. Wire	2

		_		_				_					_	_
Signal Name	DAY/NIGHT_ILL_SIG	HT_ILL_SIG	H_ILL_VIG	חו_ורר_סומ	HT_ILL_SIG	HT_ILL_SIG	HT_ILL_SIG	HI_ILL_SIG	HI_ILL_SIG	HT_ILL_SIG	HT_ILL_SIG	HI_ILL_SIG	HI_ILL_SIG	HI_ILL_SIG
	DAY/NIG	DAY/NIGI	DAY/NIG	DAY/NG	DAY/NIG	DAY/NIG	DAY/NIG	DAY/NIG	DAY/NIG	DAY/NIG	DAY/NIG	DAY/NIG	DAY/NIG	DAY/NIG
Wire	В	œ	r	r	ш	В	œ	r	r	r	r	r	r	r
Terminal No. Wire	3	ဇ	מ	ກ	က	8	ဇ	က	n	ဇ	ဇ	က	ກ	n
		_	_	_				_	_				_	_
Signal Name	1	1	1	ı	ı	ı	1	ı	1	ı	ı	1		ı
Sign														
No. Wire	ш	۳	r	r	Œ	Œ	Œ	r	r	m	m	r	r	r
Š				٦										

# **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
IGIN OIN SW	Ignition switch ON	ON
KEY ON SW	Mechanical key is removed from key cylinder	OFF
KET ON SW	Mechanical key is inserted to key cylinder	ON
CDL LOCK SW	Door lock/unlock switch does not operate	OFF
CDL LOCK SW	Press door lock/unlock switch to the lock side	ON
CDL UNLOCK SW	Door lock/unlock switch does not operate	OFF
CDL UNLOCK 3W	Press door lock/unlock switch to the unlock side	ON
DOOD OW DD	Driver's door closed	OFF
DOOR SW-DR	Driver's door opened	ON
DOOD OW AC	Passenger door closed	OFF
DOOR SW-AS	Passenger door opened	ON
DOOD OW DD	Rear RH door closed	OFF
DOOR SW-RR	Rear RH door opened	ON
DOOD OW DI	Rear LH door closed	OFF
DOOR SW-RL	Rear LH door opened	ON
BACK DOOR SW	NOTE: The item is indicated, but not monitored.	_
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	OFF
KET CTL LK-SW	Driver door key cylinder LOCK position	ON
KEN CALTIN CM	Other than driver door key cylinder UNLOCK position	OFF
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	ON
KEYLESS LOCK	"LOCK" button of key fob is not pressed	OFF
RETLESS LOCK	"LOCK" button of key fob is pressed	ON
KEYLESS UNLOCK	"UNLOCK" button of key fob is not pressed	OFF
KETLESS 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 CW	Rear window defogger switch OFF	OFF
REAR DEF SW	Rear window defogger switch ON	ON
LICHT OW 4 OT	Lighting switch OFF	OFF
LIGHT SW 1ST	Lighting switch 1ST	ON
BLICKI E SW	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF]	OFF
BUCKLE SW	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
TETELOS FAMIO	PANIC button of key fob is pressed	ON

# < ECU DIAGNOSIS >

# [WITHOUT POWER DOOR LOCKS]

Monitor Item	Condition	Value/Status	
KEYLESS TRUNK	NOTE: The item is indicated, but not monitored.	OFF	•
TRNK OPN MNTR	NOTE: The item is indicated, but not monitored.	OFF	•
RKE LCK-UNLCK	LOCK/UNLOCK button of key fob is not pressed and held simultaneously	OFF	
THE LON-UNLOK	LOCK/UNLOCK button of key fob is pressed and held simultaneously	ON	
NE KEED HNII K	UNLOCK button of key fob is not pressed	OFF	
KE KEEP UNLK	UNLOCK button of key fob is pressed and held	ON	
II BEAM SW	Lighting switch OFF	OFF	
II BEAIN SW	Lighting switch HI	ON	
EAD LAMP SW 1	Lighting switch OFF	OFF	
EAD LAWF 3W 1	Lighting switch 2ND	ON	
EAD LAMP SW 2	Lighting switch OFF	OFF	
EAD LAWIF SW 2	Lighting switch 2ND	ON	
UTO LIGHT SW	Lighting switch OFF	OFF	
UTO LIGHT SW	Lighting switch AUTO	ON	
ASSING SW	Other than lighting switch PASS	OFF	
ASSING SW	Lighting switch PASS	ON	
R FOG SW	Front fog lamp switch OFF	OFF	•
R FOG SW	Front fog lamp switch ON	ON	٠
R FOG SW	NOTE: The item is indicated, but not monitored.	OFF	
LIDNI CIONIAL D	Turn signal switch OFF	OFF	•
URN SIGNAL R	Turn signal switch RH	ON	•
IDM CICNAL I	Turn signal switch OFF	OFF	•
URN SIGNAL L	Turn signal switch LH	ON	•
A D O O L ANAD OVA	Cargo lamp switch OFF	OFF	
ARGO LAMP SW	Cargo lamp switch ON	ON	٠
DTIONI OFNOOD	Bright outside vehicle	5V	
PTICAL SENSOR	Dark outside vehicle	OV	٠
NA CIAL CAN	Ignition switch OFF or ACC	OFF	•
SN SW CAN	Ignition switch ON	ON	•
D WIDED III	Front wiper switch OFF	OFF	
R WIPER HI	Front wiper switch HI	ON	
D WIDED LOW	Front wiper switch OFF	OFF	
R WIPER LOW	Front wiper switch LO	ON	
D WIDED INT	Front wiper switch OFF	OFF	
R WIPER INT	Front wiper switch INT	ON	
	Front washer switch OFF	OFF	
R WASHER SW	Front washer switch ON	ON	
IT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7	
D WIDER OTOR	Any position other than front wiper stop position	OFF	
R WIPER STOP	Front wiper stop position	ON	
EHICLE SPEED	While driving	Equivalent to speedometer reading	

**INL-103** 

# [WITHOUT POWER DOOR LOCKS]

Monitor Item	Condition	Value/Status
RR WIPER ON	NOTE: The item is indicated, but not monitored.	OFF
RR WIPER INT	NOTE: The item is indicated, but not monitored.	OFF
RR WASHER SW	NOTE: The item is indicated, but not monitored.	OFF
RR WIPER STOP	NOTE: The item is indicated, but not monitored.	OFF
RR WIPER STP2	NOTE: The item is indicated, but not monitored.	OFF
H/L WASH SW	NOTE: The item is indicated, but not monitored.	OFF
HAZARD SW	Hazard switch OFF	OFF
HAZARD SW	Hazard switch ON	ON
DDAKE CW	Brake pedal is not depressed	OFF
BRAKE SW	Brake pedal is depressed	ON
EAN ON CIC	Blower fan motor switch OFF	OFF
FAN ON SIG	Blower fan motor switch ON (other than OFF)	ON
ALD COALD CIAL	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
TRNK OPNR SW	NOTE: The item is indicated, but not monitored.	OFF
TRUNK CYL SW	NOTE: The item is indicated, but not monitored.	OFF
HOOD SW	NOTE: The item is indicated, but not monitored.	OFF
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 DECCT EL 4	ID of front LH tire transmitter is registered	DONE
ID REGST FL1	ID of front LH tire transmitter is not registered	YET
ID DECCE ED4	ID of front RH tire transmitter is registered	DONE
ID REGST FR1	ID of front RH tire transmitter is not registered	YET
ID DECOT DO	ID of rear RH tire transmitter is registered	DONE
ID REGST RR1	ID of rear RH tire transmitter is not registered	YET
	ID of rear LH tire transmitter is registered	DONE
ID REGST RL1	ID of rear LH tire transmitter is not registered	YET
	Tire pressure indicator OFF	OFF
WARNING LAMP	• • • • • • • • • • • • • • • • • • • •	***

#### < ECU DIAGNOSIS >

# [WITHOUT POWER DOOR LOCKS]

Monitor Item	Condition	Value/Status
BU77FR	Tire pressure warning alarm is not sounding	OFF
DOZZEN	Tire pressure warning alarm is sounding	ON

**Terminal Layout** 

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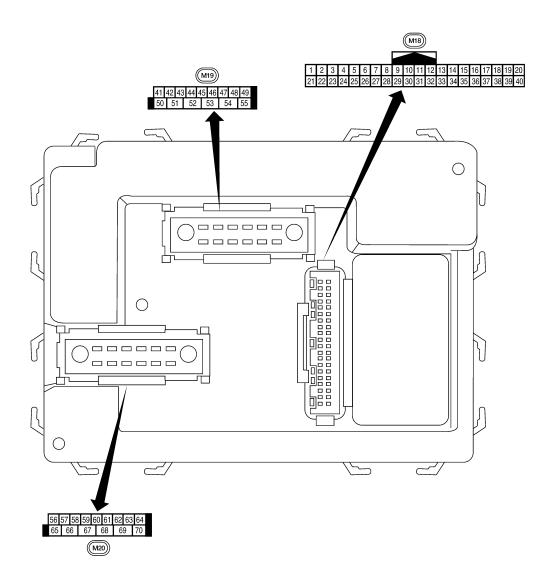
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Physical Values

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	Wire	Item	Signal	Measuring condition		Deference value or waveform
Terminal			input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
1	BR	Ignition keyhole illumination	Output	OFF	Door is locked (SW OFF)	Battery voltage
					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
4	V	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			Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 → 5ms SKIA5292E
6	R	Combination switch input 1	Input	ON		
7	GR	Front door lock as- sembly LH (key cylin- der switch) unlock	Input	OFF	ON (open, 2nd turn)	Momentary 1.5V
7					OFF (closed)	0V
8	SB	Front door lock as- sembly LH (key cylin- der switch) lock	Input		On (open)	Momentary 1.5V
					OFF (closed)	0V
9	Υ	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					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

# [WITHOUT POWER DOOR LOCKS]

I Arminai	\ <i>\\\i</i> :==	ltem	Signal input/ output	Measuring condition		Deference value as well-
	Wire color			Ignition switch	Operation or condition	Reference value or waveform (Approx.)
12		Front door switch RH (All)	Input	OFF	ON (open)	0V
	LG	Rear door switch upper RH (King Cab)			OFF (closed)	Battery voltage
		Rear door switch low- er RH (King Cab)				
13 L	Rear door switch RH (Crew Cab)	Input	OFF	ON (open)	0V	
		Tire pressure warning			OFF (closed)	Battery voltage
15	W	check connector	Input	OFF	_	5V
18	BR	Remote keyless entry receiver (Ground)	Output	OFF	_	0V
19	V	Remote keyless entry receiver (power sup- ply)	Output	OFF	Ignition switch OFF	(V) 6 4 2 0 
20	G	Remote keyless entry receiver signal (Sig- nal)	Input	OFF	Stand-by (keyfob buttons released)	(V) 6 4 2 0 + +50 ms LIIA1894E
	0				When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	(V) 6 4 2 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
21	GR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF $\rightarrow$ ON)	Just after turning ignition switch ON: Pointer of tester should move.
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.
27	W	Compressor ON sig-	Input	ON	A/C switch OFF	5V
28		Front blower monitor	-	ON -	A/C switch ON	0V Pottory voltage
	R		Input		Front blower motor OFF Front blower motor ON	Battery voltage 0V
29		Hazard switch	Input	OFF -	ON	0V
	G				OFF	5V

# [WITHOUT POWER DOOR LOCKS]

I Arminai	Wire color	Item	Signal	Measuring condition		Deference value or way of arm
			input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
31	GR	Cargo lamp switch	Input	OFF	ON	0V
	010	Cargo ramp ownor	трас	011	OFF	Battery voltage
32	0	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 ***5ms
33	GR	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 *** 5ms SKIA5292E
34	G	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **-5ms
35	BR	Combination switch output 2				(V)
36	LG	Combination switch output 1	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	* 5ms SKIA5292E
27	р	Kay awitah	Innut	OFF	Key inserted	Battery voltage
37	В	Key switch	Input	OFF	Key removed	0V
38	W/R	Ignition switch (ON)	Input	ON	_	Battery voltage
39	L	CAN-H	_	_	_	_
40	Р	CAN-L	_	_	_	_
45	V	Lock switch	Input	OFF	ON (lock) OFF	0V Battery voltage
46	LG	Unlock switch	Input	OFF	ON (unlock) OFF	0V Battery voltage
47	GR	Front door switch LH (All)	Input	OFF	ON (open)	ov
		Rear door switch up- per LH (King Cab)			OFF (closed)	Rottonyvoltogo
		Rear door switch low- er LH (King Cab)				Battery voltage
48	Р	Rear door switch LH	Input	OFF	ON (open)	0V
		(Crew Cab)	,		OFF (closed)	Battery voltage

# **BCM (BODY CONTROL MODULE)**

# [WITHOUT POWER DOOR LOCKS]

	Wire		Signal		Measuring condition	Reference value or waveform
Terminal	color	Item	input/ output	Ignition switch	Operation or condition	(Approx.)
50	1	Carra lama	Output	Any door open (ON)		0V
50	Р	Cargo lamp	Output	OFF	All doors closed (OFF)	Battery voltage
51	G	Trailer turn signal (right)	Output	ON	Turn right ON	(V) 15 10 500 ms SKIA3009J
52	V	Trailer turn signal (left)	Output	ON	Turn left ON	(V) 15 10 500 ms
56	V	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	_	Battery voltage
57	R/Y	Battery power supply	Input	_	_	Battery voltage
58	W	Optical sensor	Input	ON	When optical sensor is illuminated	3.1V or more
			·		When optical sensor is not illuminated	0.6V or less
		Front door lock as-			OFF (neutral)	0V
59	GR	sembly LH (unlock)	Output	OFF	ON (unlock)	Battery voltage
60	LG	Turn signal (left)	Output	ON	Turn left ON	(V) 15 10 500 ms SKIA3009J
61	G	Turn signal (right)	Output	ON	Turn right ON	(V) 15 10 500 ms SKIA3009J
63	BR	Interior room/map	Output	OFF	Any door switch ON (open) OFF (closed)	0V Battery voltage
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral) ON (lock)	0V Battery voltage
		Front door lock actua-			OFF (neutral)	0V
66	L	tor RH, rear door lock actuators LH/RH (un- lock)	Output	OFF	ON (unlock)	Battery voltage

# **BCM (BODY CONTROL MODULE)**

## < ECU DIAGNOSIS >

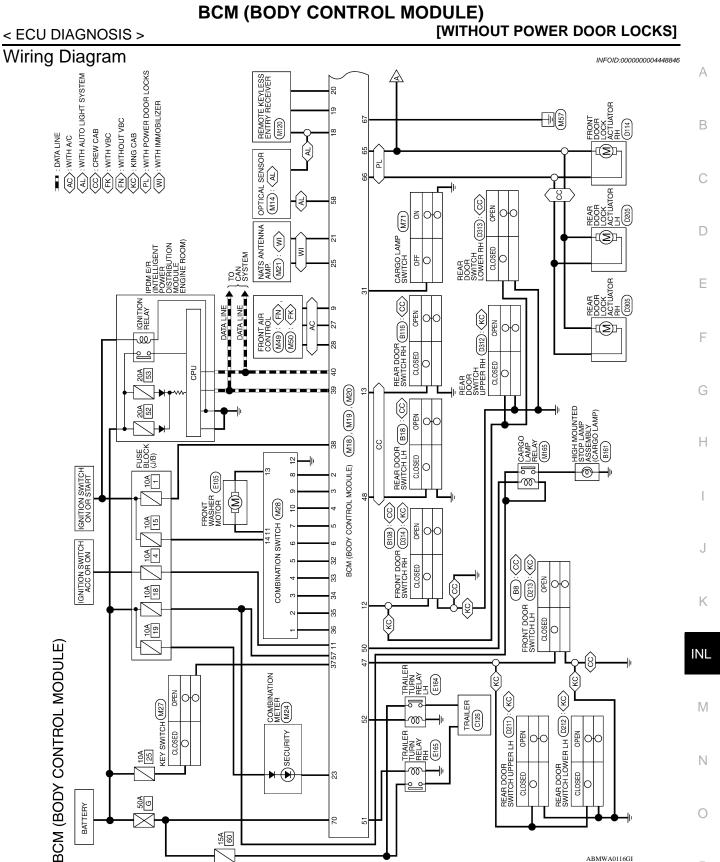
# [WITHOUT POWER DOOR LOCKS]

	Wire		Signal		Measuring condition	Reference value or waveform	
Terminal	color	Item	input/ output	Ignition switch	Operation or condition	(Approx.)	
67	В	Ground	Input	ON	_	0V	
					Ignition switch ON	Battery voltage	
					Within 45 seconds after ignition switch OFF	Battery voltage	
68	0	Power window power supply (RAP)	Output	Output	_	More than 45 seconds after ig- nition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V	
69	Р	Power window power supply (BAT)	Output	OFF	_	Battery voltage	
70	W	Battery power supply	Input	OFF	_	Battery voltage	

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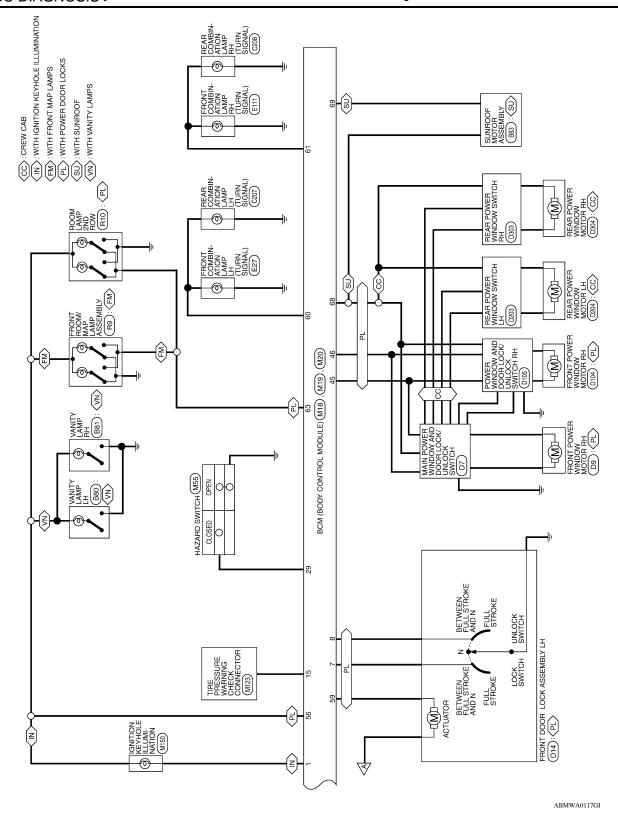
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# BCM (BODY CONTROL MODULE) CONNECTORS

Connector No.	. M19	
Connector Name		BCM (BODY CONTROL MODULE)
Connector Co	Color WH	WHITE
H.S.	4114	42   43   44   45   46   47   48   49
Terminal No.	Color of Wire	Signal Name
41	-	I
42	ı	I
43	1	I
44	1	I
45	>	CDL LOCK SW
46	LG	CDL UNLOCK SW
47	GR	DOOR SW (DR)
48	Ь	DOOR SW (RL)
49	_	_
50	Ь	CARGO LAMP OUTPUT
51	G	TRAILER FLASHER OUTPUT (RIGHT)
52	٧	TRAILER FLASHER OUTPUT (LEFT)
53	_	I
54	_	I
55	1	I

Signal Name	KEYLESS TUNER SIGNAL	IMMOBILIZER ANTENNA SIGNAL (CLOCK)	I	SECURITY INDICATOR OUTPUT	ı	IMMOBILIZER ANTENNA SIGNAL (RX,TX)	ı	AIRCON SW	BLOWER FAN SW	HAZARD SW	-	CARGO LAMP SW	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	KEY SW	MS NDI	CAN-H	CAN-L
Color of Wire	ŋ	GR	ı	ŋ	ı	BR	1	>	Œ	g	ı	GR	0	GR	g	BR	ГG	В	W/R	Т	۵
Terminal No.	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Connector No.	o. M18	8
Connector Name		BCM (BODY CONTROL MODULE)
Connector Color	$\vdash$	WHITE
H.S.		7
2 3 4 5 6 22 23 24 25 26	7 8 9 10 27 28 29 30	11 12 13 14 15 16 17 18 19 20 31 32 33 34 35 36 37 38 39 40
Terminal No.	Color of Wire	Signal Name
-	BR	KEY RING OUTPUT
2	Ь	INPUT 5
3	SB	INPUT 4
4	>	INPUT 3
5	٦	INPUT 2
9	В	INPUT 1
7	GR	KEY CYLINDER UNLOCK SW
8	SB	KEY CYLINDER LOCK SW
6	<b>\</b>	RR DEFOGGER SW
10	ı	ı
11	g/9	ACC_SW
12	9 <b>7</b>	DOOR SW (AS)
13	Т	DOOR SW (RR)
14	_	1
15	Μ	TPMS MODE TRIGGER SW

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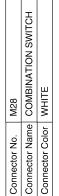
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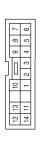
KEYLESS & AUTO LIGHT SENSOR GND

BB

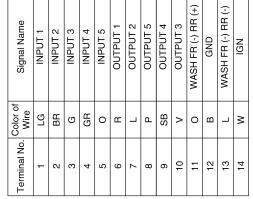
16 17 18

KEYLESS TUNER POWER SUPPLY OUTPUT









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





	Signal Name	BATTERY SAVER OUTPUT	BAT (FUSE)	AUTO LIGHT SENSOR INPUT 2	DOOR UNLOCK OUTPUT (DR)	FLASHER OUTPUT (LEFT)	FLASHER OUTPUT (RIGHT)	1	ROOM LAMP OUTPUT	ı	DOOR LOCK OUTPUT (ALL)	DOOR UNLOCK OUTPUT (OTHER)	GND (POWER)	POWER WINDOW POWER SUPPLY OUTPUT (LINKED TO RAP)	POWER WINDOW POWER SUPPLY OUTPUT (BAT)	BAT (F/L)
	Color of Wire	>	₽	>	GR	re	ŋ	١.	BB	ı	>	_	В	0	۵	>
Ġ.	Terminal No.	56	22	58	59	09	61	62	63	64	65	99	29	89	69	70

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# DTC Inspection Priority Chart

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

Priority	DTC	Α
1	U1000: CAN COMM CIRCUIT     U1010: CONTROL UNIT (CAN)	
2	B2190: NATS ANTENNA AMP     B2191: DIFFERENCE OF KEY     B2192: ID DISCORD BCM-ECM     B2193: CHAIN OF BCM-ECM	В
3	C1729: VHCL SPEED SIG ERR     C1735: IGNITION SIGNAL	
	C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL	D
	<ul> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> </ul>	Е
	<ul> <li>C1711: [NO DATA] RL</li> <li>C1712: [CHECKSUM ERR] FL</li> <li>C1713: [CHECKSUM ERR] FR</li> <li>C1714: [CHECKSUM ERR] RR</li> </ul>	F
4	<ul> <li>C1715: [CHECKSUM ERR] RL</li> <li>C1716: [PRESSDATA ERR] FL</li> <li>C1717: [PRESSDATA ERR] FR</li> <li>C1718: [PRESSDATA ERR] RR</li> </ul>	G
	<ul> <li>C1719: [PRESSDATA ERR] RL</li> <li>C1720: [CODE ERR] FL</li> <li>C1721: [CODE ERR] FR</li> <li>C1722: [CODE ERR] RR</li> </ul>	Н
	<ul> <li>C1723: [CODE ERR] RL</li> <li>C1724: [BATT VOLT LOW] FL</li> <li>C1725: [BATT VOLT LOW] FR</li> <li>C1726: [BATT VOLT LOW] RR</li> </ul>	I
	C1727: [BATT VOLT LOW] RL	J

DTC Index

#### NOTE:

Details of time display

CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.

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

CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_
U1000: CAN COMM CIRCUIT	_	_	BCS-30
U1010: CONTROL UNIT (CAN)	_	_	BCS-31
B2190: NATS ANTTENA AMP	_	_	<u>SEC-18</u>
B2191: DIFFERENCE OF KEY	_	_	<u>SEC-21</u>
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>

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# **BCM (BODY CONTROL MODULE)**

# [WITHOUT POWER DOOR LOCKS]

CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
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	_	_	_

## **INTERIOR LIGHTING SYSTEM SYMPTOMS**

< SYMPTOM DIAGNOSIS >

[WITHOUT POWER DOOR LOCKS]

# SYMPTOM DIAGNOSIS

# INTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

#### **CAUTION:**

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

Symptom	Possible cause	Inspection item
interior room lamps do not turn ON/OFF  Front room/map lamp assembly (if equipped)  Room lamp 2nd row	Harness between fuse block (J/B) and each interior room lamp     Harness between each interior room lamp and door switches     Door switches	Interior room lamp Refer to INL-79.
Cargo lamp does not turn ON/OFF	Harness between fuse block (J/B) and cargo lamp relay     Harness between cargo lamp relay and cargo lamp     Harness between BCM and cargo lamp relay     BCM	Cargo lamp control circuit Refer to <u>INL-81</u> .

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# **PRECAUTION**

#### **PRECAUTIONS**

Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSION-ER"

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.

### General precautions for service operations

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

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# **ON-VEHICLE REPAIR**

## INTERIOR ROOM LAMP

## Removal and Installation

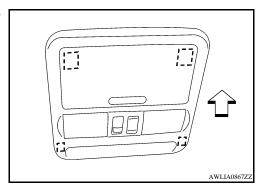
#### MAP LAMP

#### Removal

The map lamp is replaced as part of the overhead console assembly. Refer to <a href="INT-23">INT-23</a>, "Removal and Installation".

←: Vehicle front

: Metal clip



#### Installation

Installation is in the reverse order of removal.

#### **Bulb Replacement**

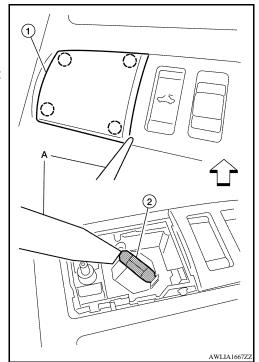
- 1. Disconnect the negative battery terminal.
- Using a suitable tool (A), remove map lamp lens (1).
   ←: Vehicle front

#### **CAUTION:**

Wrap a cloth around tool to protect the housing and lens.

3. Release one side of the bulb (2) from the tab, then pull straight downward to remove.

Map lamp bulb : 12V - 8W

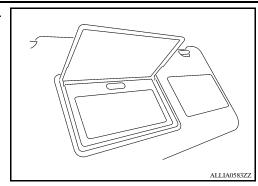


**VANITY MIRROR LAMP** 

Removal

#### [WITHOUT POWER DOOR LOCKS]

The vanity mirror lamp is replaced as part of the sunvisor assembly. Refer to <a href="INT-23">INT-23</a>, "Removal and Installation".



#### Installation

Installation is in the reverse order of removal.

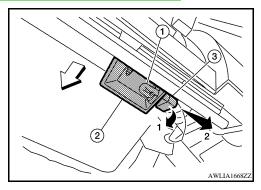
#### **Bulb Replacement**

The vanity mirror lamp bulb is replaced as part of the sunvisor assembly. Refer to <a href="INT-23">INT-23</a>, "Removal and Installation".

#### **GLOVE BOX LAMP**

#### Removal

- 1. Remove lower instrument panel RH and glove box. Refer to IP-11, "Removal and Installation".
- Rotate glove box lamp socket (3) with bulb (1) counterclockwise, then pull away from lamp shield (2) on steering member to remove.



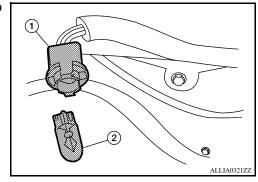
#### Installation

Installation is in the reverse order of removal.

#### **Bulb Replacement**

- 1. Disconnect the negative battery terminal.
- 2. Remove glove box lamp.
- 3. Pull bulb (2) straight out from glove box lamp socket (1) to remove.

Glove box lamp bulb : 12V - 3.4W



#### **ROOM LAMP**

#### Removal

1. Disconnect the negative battery terminal.

#### **INTERIOR ROOM LAMP**

#### < ON-VEHICLE REPAIR >

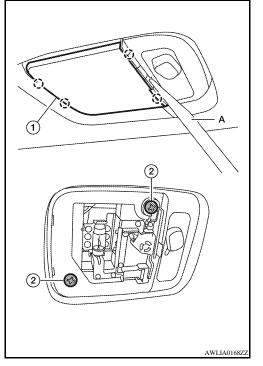
#### [WITHOUT POWER DOOR LOCKS]

2. Using a suitable tool (A), release the pawls and remove the room lamp lens (1).

#### **CAUTION:**

Wrap a cloth around tool to protect the housing and lens.

- 3. Remove room lamp screws (2).
- 4. Disconnect the connector, then remove room lamp.



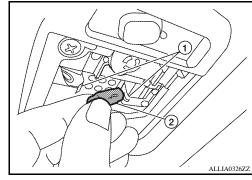
#### Installation

Installation is in the reverse order of removal.

#### **Bulb Replacement**

- 1. Disconnect the negative battery terminal.
- 2. Using a suitable tool, release the pawls and remove the room lamp lens.
- 3. Release the room lamp bulb retainers (1), then pull bulb (2) straight out to remove.

Room lamp bulb : 12V - 8W



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## **ILLUMINATION**

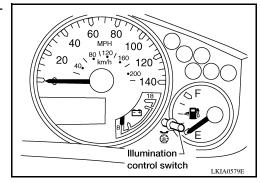
#### Removal and Installation

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#### **ILLUMINATION CONTROL SWITCH**

#### Removal

The illumination control switch is replaced as a part of the combination meter assembly. Refer to MWI-93, "Removal and Installation".



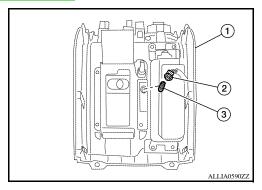
#### Installation

Installation is in the reverse order of removal.

#### A/T FINISHER LAMP

#### Removal

- 1. Remove A/T finisher from center console. Refer to TM-297, "Exploded view".
- 2. Rotate A/T finisher lamp socket (2) with bulb (3) counterclockwise, then pull away from finisher (1).



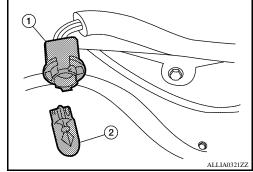
#### Installation

Installation is in the reverse order of removal.

#### **Bulb Replacement**

- Remove A/T finisher from center console. Refer to TM-297, "Exploded view".
- 2. Remove A/T finisher lamp socket (1), then pull bulb (2) straight out away from socket.

AT finisher lamp bulb : 12V - 3W



## **BULB SPECIFICATIONS**

< SERVICE DATA AND SPECIFICATIONS (SDS)

[WITHOUT POWER DOOR LOCKS]

# SERVICE DATA AND SPECIFICATIONS (SDS)

# **BULB SPECIFICATIONS**

Interior Lamp/Illumination

Item	Wattage (W)*
Map lamp	8
Vanity lamp	*
Glove box lamp	3.4
Room lamp	8
A/T finisher lamp	3

<sup>\*:</sup> Always check with the Parts Department for the latest parts information.

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