

SECTION **INL**

INTERIOR LIGHTING SYSTEM

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

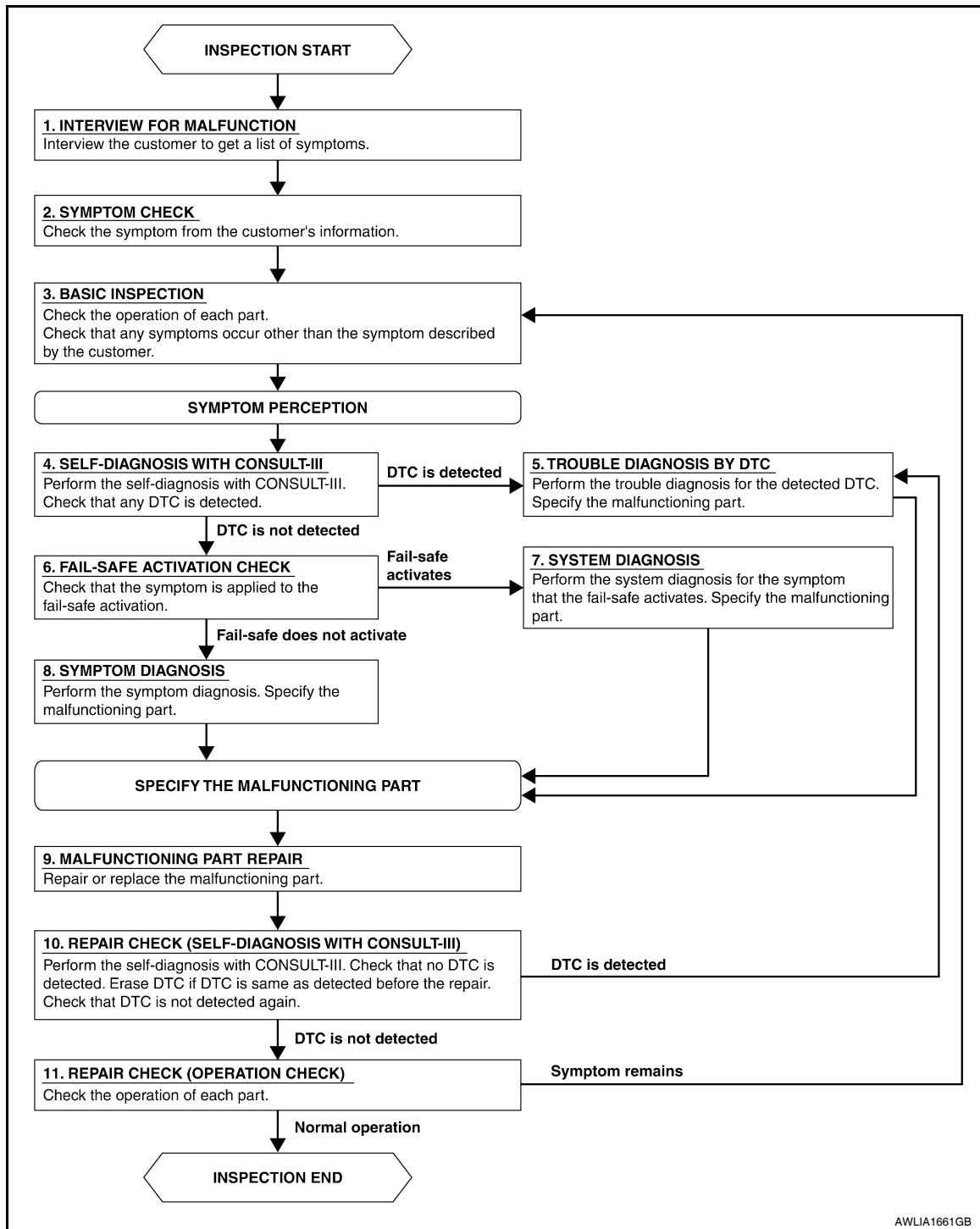
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

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DIAGNOSIS AND REPAIR WORKFLOW

< 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. Verified 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 >

NO >> GO TO 11

11. REPAIR CHECK (OPERATION CHECK)

Check the operation of each part.

Does it operate normally?

YES >> Inspection End

NO >> GO TO 3

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INTERIOR ROOM LAMP CONTROL SYSTEM

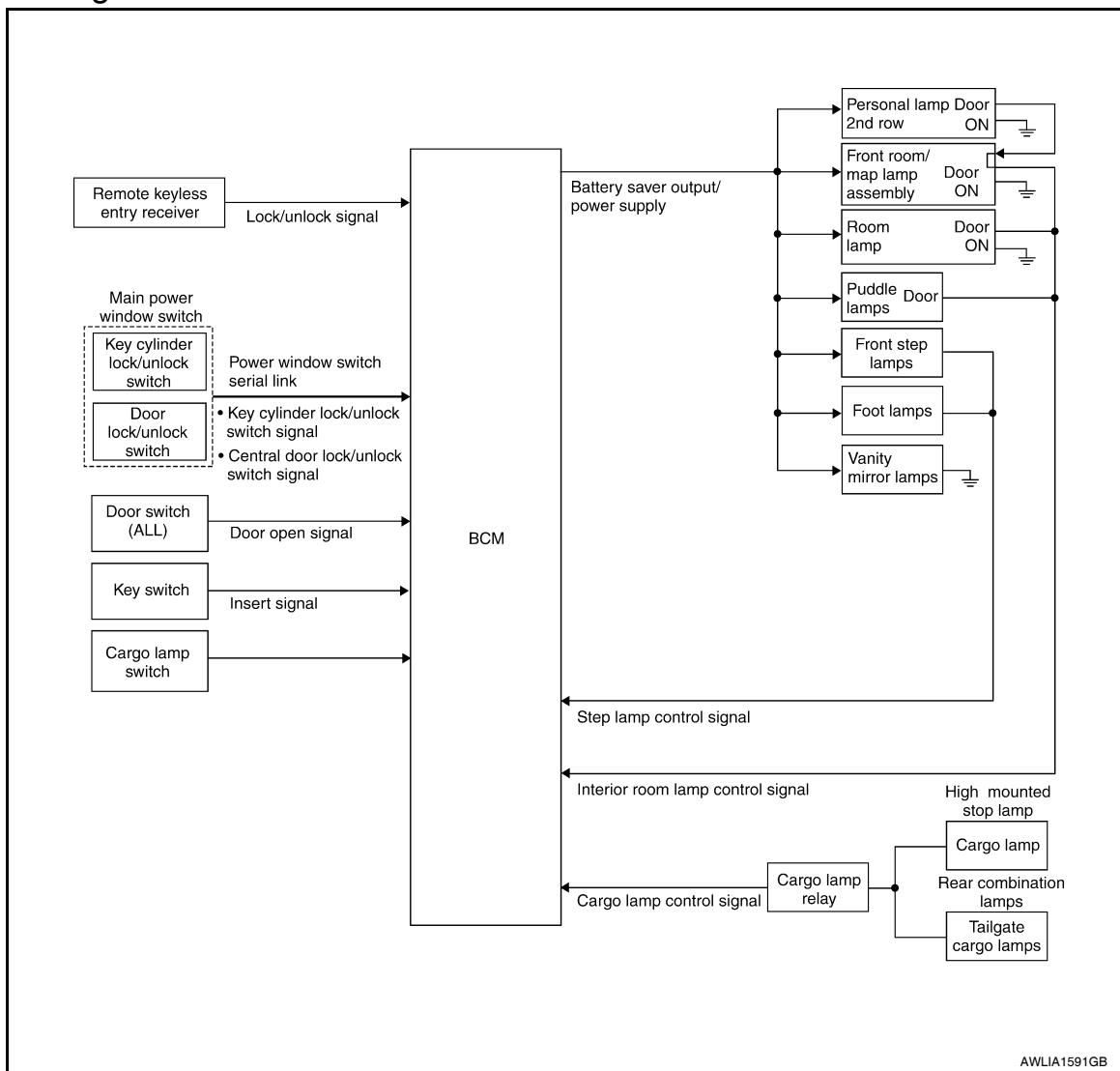
< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

INTERIOR ROOM LAMP CONTROL SYSTEM

System Diagram

INFOID:0000000006164449



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System Description

INFOID:0000000006164450

OUTLINE

- Interior room lamps* are controlled by the interior room lamp timer control function of the BCM.
*Room lamp (if equipped), Front room/map lamp assembly (if equipped), personal lamp 2nd row (if equipped) and puddle lamps (if equipped).
- Cargo lamp and tailgate cargo lamps (if equipped) are controlled by the cargo lamp control function of the BCM.
- Step lamps* are controlled by the step lamp control function of the BCM.
*Front step lamps and foot lamps (if equipped).

The timer control functions of the BCM activate based on inputs from the remote keyless entry receiver, the door switches, the key switch (column shift), the key switch and key lock solenoid (key switch) (floor shift) or the cargo lamp switch (if equipped).

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.

INTERIOR ROOM LAMP CONTROL SYSTEM

< SYSTEM DESCRIPTION >

- When the front door LH is unlocked [with the main power window and door lock/unlock switch, front door lock assembly (key cylinder switch)].
- When the front door LH is unlocked with the remote keyless entry system (if equipped).
- When a door opens → closes and the key is not inserted in the ignition slot.

Timer control is cancelled under the following conditions.

- When the front door LH is locked [with the main power window and door lock/unlock switch or front door lock assembly LH (key cylinder switch)]
- When the front door LH is locked with the remote keyless entry system (if equipped).
- A door is opened (door switch turns ON).
- The ignition switch is turned ON.

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

INTERIOR LAMP BATTERY SAVER CONTROL

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 15 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 the keyless entry system
- a door is opened or closed
- the key is removed from or inserted into the key slot.

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

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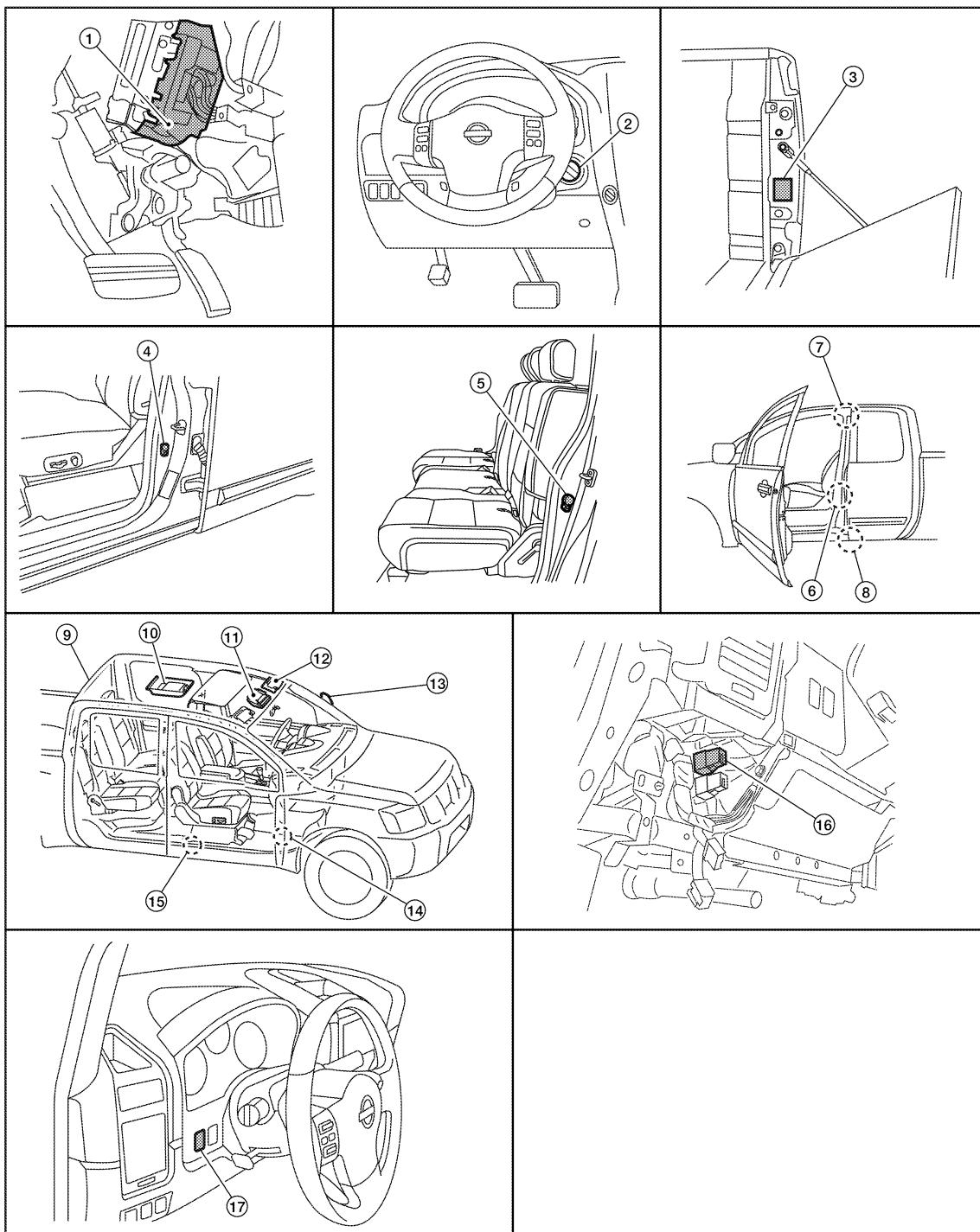
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INTERIOR ROOM LAMP CONTROL SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:0000000006164451



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1. BCM M18, M19, M20 (view with instrument panel removed)
2. Key switch M80 (column shift)
Key switch and key lock solenoid (key switch) M27 (floor shift)
3. Tailgate cargo lamp LH C13
Tailgate cargo lamp RH C14
4. Front door switch LH B8 (crew cab)
Front door switch RH B108 (crew cab)
5. Rear door switch LH B18 (crew cab)
Rear door switch RH B116 (crew cab)
6. Front door switch LH B8 (king cab)
Front door switch RH B108 (king cab)
7. Rear door switch upper LH B73 (king cab)
Rear door switch upper RH B156 (king cab)
8. Rear door switch lower LH B74 (king cab)
Rear door switch lower RH B157 (king cab)
9. Cargo lamp B158

INTERIOR ROOM LAMP CONTROL SYSTEM

< SYSTEM DESCRIPTION >

10. Room lamp (without front roof console) R10	11. Front room/map lamp assembly (with front roof console) R102	12. Vanity lamp LH R3 Vanity lamp RH R8
Personal lamp 2nd row (crew cab with rear overhead console) R203		
13. Puddle lamp LH D4 (Door mirror) Puddle lamp RH D107 (Door mirror)	14. Foot lamp LH M99 Foot lamp RH M100	15. Front step lamp LH D11 Front step lamp LH D109
16. Cargo lamp relay M150 (view with lower instrument panel LH removed)	17. Cargo lamp switch (if equipped) M149	

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Component Description

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Part name	Description
BCM	Provides power and ground and controls timer functions for the interior room lamps, foot lamps, puddle lamps, step lamps and cargo lamp.
Key switch (column shift)	Provides key in ignition status to the BCM.
Key switch and key lock solenoid (key switch) (floor shift)	
Door switches	Provides door OPEN/CLOSED status to the BCM.
Cargo lamp switch (if equipped)	Provides cargo lamp ON/OFF request to the BCM.
Power window and door lock/unlock switch RH	Provides door lock/unlock position switch RH status to the BCM.
Main power window and door lock/unlock switch [front door lock assembly LH (key cylinder switch)].	Provides door lock/unlock position switch LH status to the BCM.

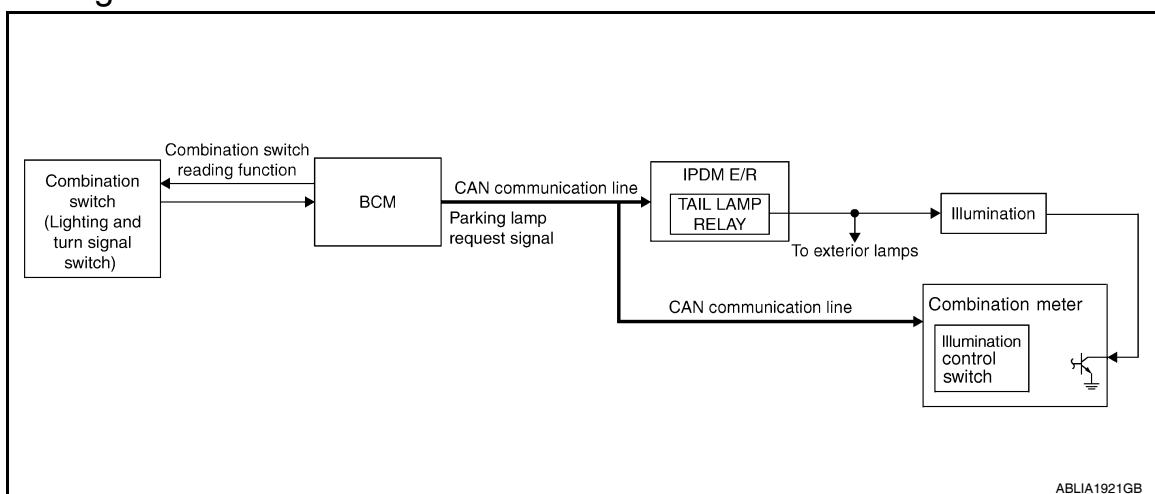
ILLUMINATION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

ILLUMINATION CONTROL SYSTEM

System Diagram

INFOID:0000000006164453



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System Description

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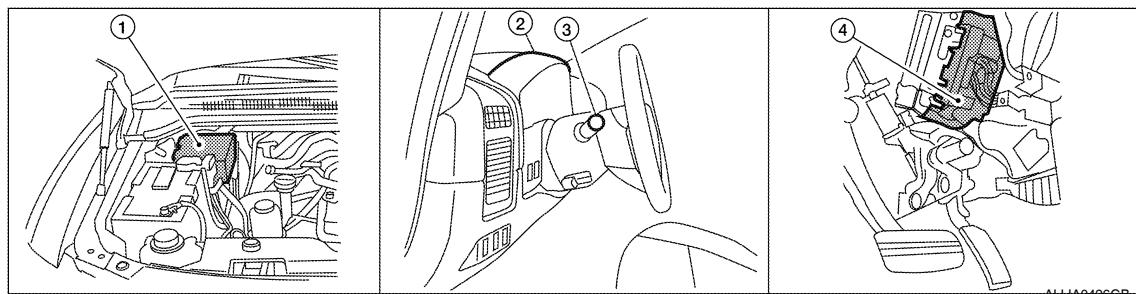
The illumination lamps operation is dependent upon the position of the combination switch (lighting and turn signal switch). When the combination switch (lighting and turn signal switch) is placed in the 1ST or 2ND position (or if the auto light system is activated) the BCM (body control module) receives 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 combination switch (lighting and turn signal 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 15 minutes unless the combination switch (lighting and turn signal switch) position is changed. If the combination switch (lighting and turn signal switch) position is changed, then the illumination lamps are turned off after a 30 second delay. When the combination switch (lighting and turn signal switch) is turned from OFF to 1ST or 2ND position (or if auto light system is activated) after illumination lamps have been turned off by the battery saver control, the illumination lamps illuminate again.

Component Parts Location

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1. IPDM E/R E122, E123, E124
2. Combination meter (illumination control switch) M24, M25
3. Combination switch (lighting and turn signal switch) M28
4. BCM M18, M20 (view with instrument panel removed)

ILLUMINATION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

Component Description

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Part name	Description
BCM	The BCM monitors the combination switch (lighting and turn signal 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 (lighting and turn signal switch)	The combination switch (lighting and turn signal switch) provides input to the BCM about the lighting switch position.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:000000006626883

APPLICATION ITEM

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

Direct Diagnostic Mode	Description
Ecu Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	<ul style="list-style-type: none"> The vehicle specification can be read and saved. The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION

BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×	×	×		
Signal buffer system	SIGNAL BUFFER			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×	×		
Panic alarm system	PANIC ALARM				×			

INT LAMP

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

INFOID:000000006626886

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.

ACTIVE TEST

Test Item	Description
INT LAMP	This test is able to check interior room lamp operation [Off/On].
STEP LAMP TEST	This test is able to check step lamp operation [Off/On].
LUGGAGE LAMP TEST	This test is able to check cargo lamp operation [Off/On].

WORK SUPPORT

Support Item	Setting	Description
SET I/L D-UNLCK INTCON	Off	Interior room lamp timer function OFF.
	On*	Interior room lamp timer function ON.
ROOM LAMP ON TIME SET	MODE7 0 sec. MODE6 5 sec. MODE5 4 sec. MODE4 3 sec. MODE3 2 sec. MODE2* 1 sec. MODE1 0.5 sec.	Sets the interior room lamp gradual brightening time.
ROOM LAMP OFF TIME SET	MODE7 0 sec. MODE6 5 sec. MODE5 4 sec. MODE4 3 sec. MODE3 2 sec. MODE2* 1 sec. MODE1 0.5 sec.	Sets the interior room lamp gradual dimming time.

* : Initial setting

BATTERY SAVER

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

INFOID:000000006626913

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
KEY CYL LK SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.

ACTIVE TEST

Test item	Description
BATTERY SAVER	This test is able to check battery saver operation [Off/On].

WORK SUPPORT

Support Item	Setting		Description
ROOM LAMP TIMER SET	MODE3	10 min	Sets the interior room lamp battery saver timer operating time.
	MODE2	60 min	
	MODE1*	15 min	

*: Initial setting

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000006626929

Regarding Wiring Diagram information, refer to [BCS-46, "Wiring Diagram"](#).

1. CHECK FUSES AND FUSIBLE LINK

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

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

Is the fuse blown?

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

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

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

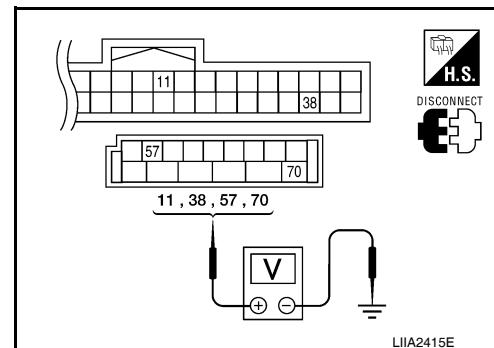
Connector	Terminals		Power source	Condition	Voltage (V) (Approx.)
	(+)	(-)			
M18	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage
	38	Ground	Ignition power supply	Ignition switch ON or START	Battery voltage
M20	57	Ground	Battery power supply	Ignition switch OFF	Battery voltage
	70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

Is the measurement value normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT



POWER SUPPLY AND GROUND CIRCUIT

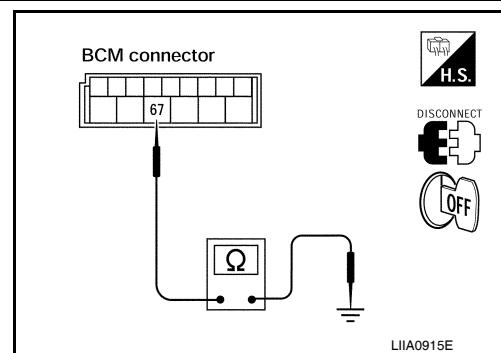
< DTC/CIRCUIT DIAGNOSIS >

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M20	67		Yes

Does continuity exist?

YES >> Inspection End.
NO >> Repair or replace harness.



BATTERY SAVER OUTPUT/POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

BATTERY SAVER OUTPUT/POWER SUPPLY CIRCUIT

Description

INFOID:0000000006164461

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

Component Function Check

INFOID:0000000006164462

1. CHECK BATTERY SAVER OUTPUT/POWER SUPPLY FUNCTION

CONSULT-III

1. Turn ignition switch ON.
2. Turn interior room lamp ON.
 - Room lamp (if equipped)
 - Front room/map lamp assembly (if equipped)
3. Select "BATTERY SAVER" of BCM (BATTERY SAVER) active test item.
4. While operating the test item, check that 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-17, "Diagnosis Procedure"](#).

Diagnosis Procedure

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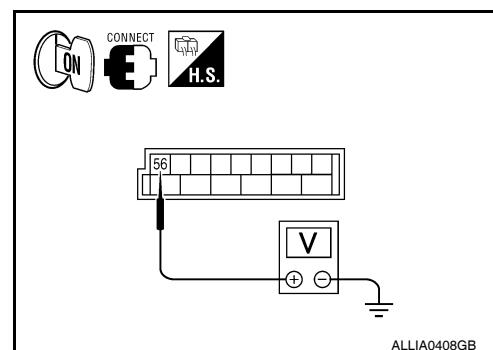
Regarding Wiring Diagram information, refer to [INL-39, "Wiring Diagram"](#).

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.
3. While operating the test item, check voltage between BCM connector M20 terminal 56 and ground.

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



Is the inspection result normal?

YES >> GO TO 2

NO >> Replace BCM after making sure the battery saver output/power supply circuit is not shorted to voltage. Refer to [BCS-53, "Removal and Installation"](#).

2. CHECK BATTERY SAVER OUTPUT/POWER SUPPLY OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the following connectors.
 - BCM M20
 - Front step lamp LH (if equipped)
 - Front step lamp RH (if equipped)
 - Door mirror LH (with puddle lamps)
 - Door mirror RH (with puddle lamps)
 - Foot lamp LH (if equipped)

BATTERY SAVER OUTPUT/POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

- Foot lamp RH (if equipped)
- Room lamp (if equipped)
- Front room/map lamp assembly (if equipped)
- Vanity lamp LH (if equipped)
- Vanity lamp RH (if equipped)
- Personal lamp 2nd row (if equipped)

3. Check continuity between BCM connector M20 terminal 56 and each interior room lamp connector.

BCM		Each interior room lamp			Continuity
Connector	Terminal	Connector	Terminal		
M20	56	Front step lamp LH (if equipped)	D11	1	Yes
		Front step lamp RH (if equipped)	D109	1	
		Door mirror LH (with puddle lamps)	D4	12	
		Door mirror RH (with puddle lamps)	D107	12	
		Foot lamp LH (if equipped)	M99	1	
		Foot lamp RH (if equipped)	M100	1	
		Room lamp (if equipped)	R10	2	
		Front room/map lamp assembly (if equipped)	R102	6	
		Vanity lamp LH (if equipped)	R3	1	
		Vanity lamp RH (if equipped)	R8	1	
		Personal lamp 2nd row (if equipped)	R203	3	

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair the harness or connectors.

3. CHECK BATTERY SAVER OUTPUT/POWER SUPPLY SHORT CIRCUIT

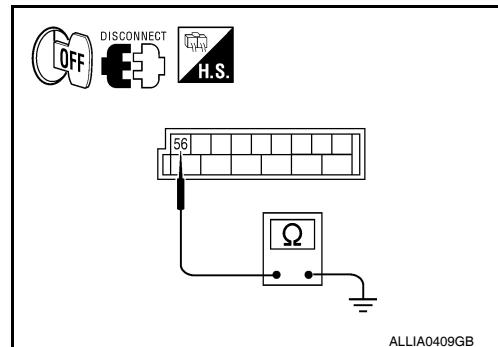
Check continuity between BCM connector M20 terminal 56 and ground.

Connector	Terminal	—	Continuity
M20	56	Ground	No

Is the inspection result normal?

YES >> Check that each interior room lamp has no internal short circuit.

NO >> Repair the harness or connectors.



INTERIOR ROOM LAMP CONTROL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

INTERIOR ROOM LAMP CONTROL CIRCUIT

Description

INFOID:0000000006164464

Controls the following interior room lamps (ground side) by pulse width modulated signal

- Puddle lamps (with puddle lamps)
- Room lamp (if equipped)
- Front room/map lamp assembly (if equipped)
- Personal lamp 2nd row (if equipped)

NOTE:

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

Component Function Check

INFOID:0000000006164465

CAUTION:

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

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

1. CHECK INTERIOR ROOM LAMP CONTROL FUNCTION

① CONSULT-III

1. Switch the room lamp (if equipped), or front room/map lamp assembly (if equipped) switch to DOOR.
2. Turn ignition switch ON.
3. Select "INT LAMP" of BCM (INT LAMP) active test item.
4. 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-19, "Diagnosis Procedure"](#).

Diagnosis Procedure

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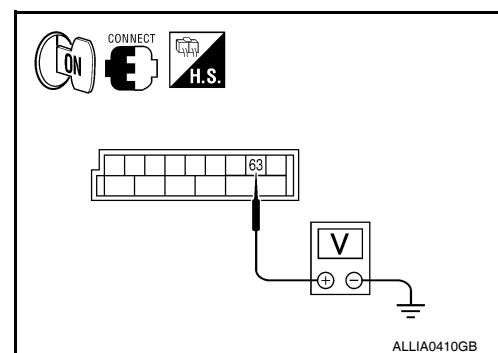
Regarding Wiring Diagram information, refer to [INL-39, "Wiring Diagram"](#).

1. CHECK INTERIOR ROOM LAMP CONTROL OUTPUT

① CONSULT-III

1. Switch the room lamp (if equipped), or front room/map lamp assembly (if equipped) switch to DOOR.
2. Turn ignition switch ON.
3. Select "INT LAMP" of BCM (INT LAMP) active test item.
4. While operating the test item, check voltage between BCM connector M20 terminal 63 and ground.

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



Is the inspection result normal?

YES >> Interior room lamp control circuit is operating normally.

INTERIOR ROOM LAMP CONTROL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

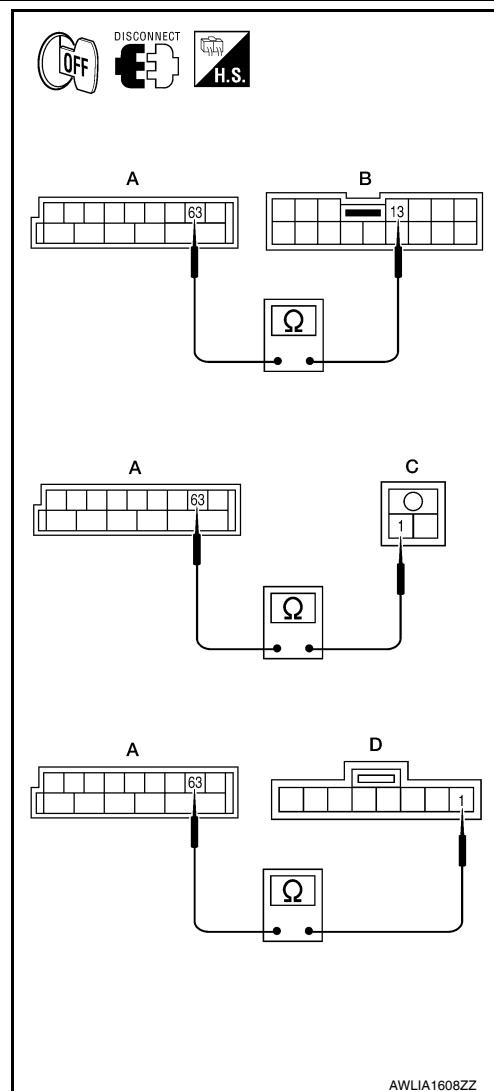
Fixed ON>>GO TO 3

Fixed OFF>> GO TO 2.

2.CHECK INTERIOR ROOM LAMP CONTROL OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector M20, door mirror connectors (with puddle lamps), room lamp connector (if equipped) or front room/ map lamp assembly connector (if equipped).
3. Check continuity between BCM connector M20 (A) terminal 63 and door mirror connectors (B) terminal 13 (with puddle lamps), room lamp connector (C) terminal 1 (if equipped) or front room/ map lamp assembly connector (D) terminal 1 (if equipped).

Connector	Terminal	Component	Connector	Terminal	Continuity
M20 (A)	63	Door mirror LH (with puddle lamps)	D4 (B)	13	Yes
		Door mirror RH (with puddle lamps)	D107 (B)	13	
		Room lamp (if equipped)	R10 (C)	1	
		Front room/map lamp assembly (if equipped)	R102 (D)	1	



AWLIA1608ZZ

4. If equipped with personal lamp 2nd row, reconnect front room/ map lamp assembly connector.
5. Disconnect personal lamp 2nd row connector.
6. Check continuity between BCM connector M20 (A) terminal 63 and personal lamp 2nd row connector R203 (B) terminal 1.

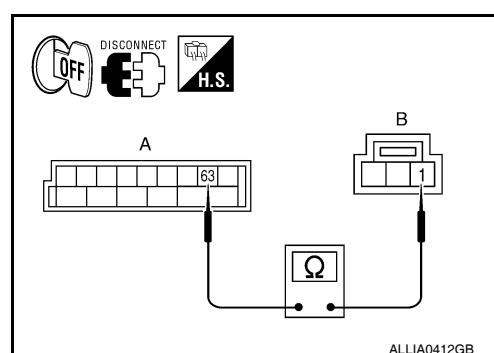
BCM		Personal lamp 2nd row		Continuity
Connector	Terminal	Connector	Terminal	
M20 (A)	63	R203 (B)	1	Yes

Is the inspection result normal?

YES >> Check interior room lamps for an open. If OK, replace BCM. Refer to [BCS-53, "Removal and Installation"](#). If NG, replace interior room lamp. Refer to [INL-72, "Removal and Installation"](#).

NO >> Repair the harness or connectors.

3.CHECK INTERIOR ROOM LAMP CONTROL SHORT CIRCUIT



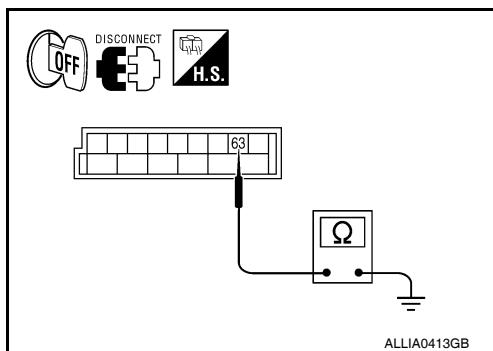
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INTERIOR ROOM LAMP CONTROL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

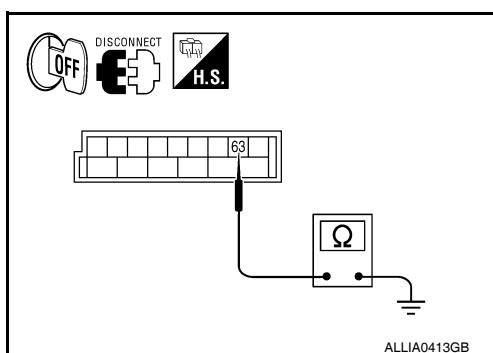
1. Turn ignition switch OFF.
2. **On Crew Cab models with rear roof console**, disconnect BCM connector M20, door mirror connectors (with puddle lamps) and personal lamp 2nd row connector.
3. Switch the front room/map lamp assembly switch to ON position.
4. Check continuity between BCM connector M20 terminal 63 and ground.

Connector	Terminal	—	Continuity
M20	63	Ground	No



5. **On models except Crew Cab with rear roof console**, disconnect BCM connector M20, door mirror connectors (with puddle lamps), room lamp connector (if equipped) or front room/map lamp assembly connector (if equipped).
6. 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 lamps for a short circuit. If OK, replace BCM. Refer to [BCS-53, "Removal and Installation"](#). If NG, replace interior room lamp. Refer to [INL-72, "Removal and Installation"](#).

NO >> Repair the harness or connectors.

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INL

STEP LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

STEP LAMP CIRCUIT

Description

INFOID:0000000006164467

Controls the front and rear step lamps and the foot lamps (ground side) to turn the lamps ON and OFF.

Component Function Check

INFOID:0000000006164468

CAUTION:

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

- **Battery saver output/power supply**
- **Front step lamp bulbs**
- **Foot lamp bulbs (if equipped)**

1. CHECK STEP LAMP OPERATION

④ CONSULT-III

1. Turn ignition switch ON.
2. Select "STEP LAMP TEST" of BCM (INT LAMP) active test item.
3. While operating the test item, check that the front step lamps and foot lamps (if equipped) turn ON/OFF.

ON : Step lamp ON

OFF : Step lamp OFF

Is the inspection result normal?

YES >> Step lamp circuit is normal.

NO >> Refer to [INL-22, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:0000000006164469

Regarding Wiring Diagram information, refer to [INL-39, "Wiring Diagram"](#).

1. CHECK STEP LAMP OUTPUT

④ CONSULT-III

1. Turn ignition switch ON.
2. Select "STEP LAMP TEST" of BCM (INT LAMP) active test item.
3. While operating the test item, check voltage between BCM harness connector and ground.

Connector	Terminal	—	STEP LAMP TEST	Voltage
M20	62	Ground	ON	0V
			OFF	Battery voltage

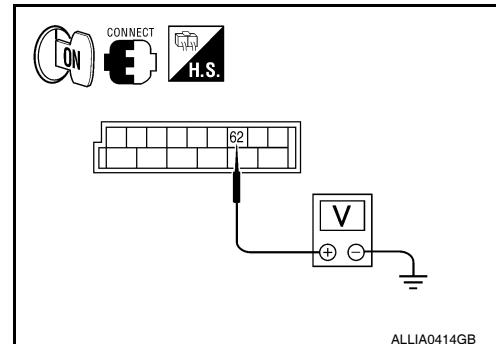
Is the inspection result normal?

YES >> Step lamp control circuit is operating normally.

Fixed ON>>GO TO 3

Fixed OFF>> GO TO 2.

2. CHECK STEP LAMP OPEN CIRCUIT



STEP LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

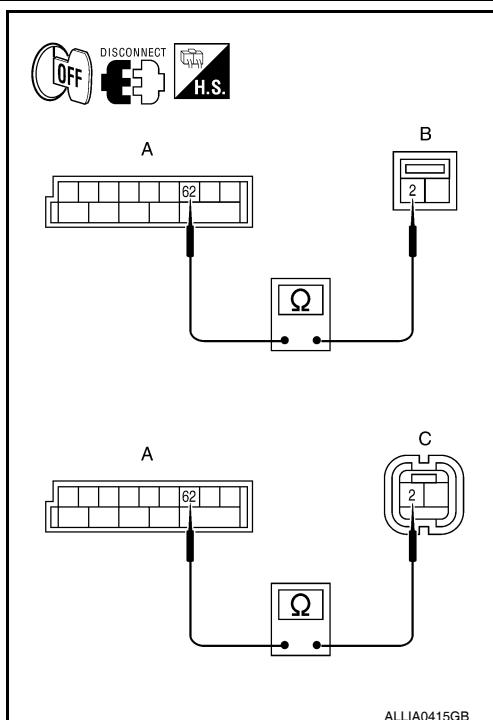
1. Turn ignition switch OFF.
2. Disconnect BCM connector M20 and front step lamp and foot lamp connectors (if equipped).
3. Check continuity between BCM harness connector M20 terminal 62 and step lamp connectors (B) terminal 2 and foot lamp connectors (C) terminal 2 (if equipped).

Connector	Terminal	Connector	Terminal	Continuity
M20 (A)	62	Front step lamp LH	D11 (B)	2
		Front step lamp RH	D109 (B)	2
		Foot lamp LH (if equipped)	M99 (C)	2
		Foot lamp RH (if equipped)	M100 (C)	2

Is the inspection result normal?

YES >> Check step lamp or foot lamp for an open. If OK, Replace BCM. Refer to [BCS-53, "Removal and Installation"](#). If NG, Replace step lamp or foot lamp. Refer to [INL-72, "Removal and Installation"](#).

NO >> Repair harness or connectors.



3. CHECK STEP LAMP SHORT CIRCUIT

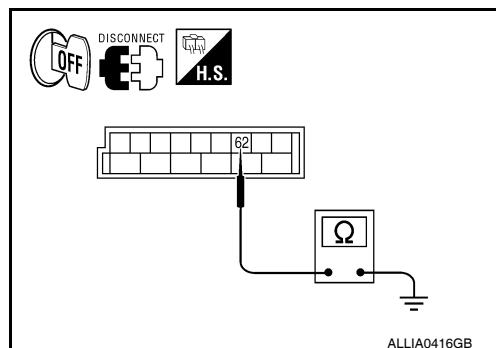
1. Turn ignition switch OFF.
2. Disconnect BCM connector M20 and front step lamp and foot lamp connectors (if equipped).
3. Check continuity between BCM connector M20 terminal 62 and ground.

Connector	Terminal	—	Continuity
M20	62	Ground	No

Is the inspection result normal?

YES >> Check step lamp or foot lamp for a short circuit. If OK, Replace BCM. Refer to [BCS-53, "Removal and Installation"](#). If NG, replace step lamp or foot lamp. Refer to [INL-72, "Removal and Installation"](#).

NO >> Repair the harness or connectors.



INL

CARGO LAMP CONTROL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

CARGO LAMP CONTROL CIRCUIT

Description

INFOID:0000000006164470

The BCM controls ground to the cargo lamp relay to turn the cargo lamp and tailgate cargo lamps (if equipped) ON and OFF.

Diagnosis Procedure

INFOID:0000000006752637

Regarding Wiring Diagram information, refer to [INL-39, "Wiring Diagram"](#).

CAUTION:

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

- **Fuse**
- **Cargo lamp bulbs**
- **Tailgate cargo lamp bulbs**

1. CHECK CARGO LAMP OPERATION

Check the cargo lamp and tailgate cargo lamps (if equipped) operation from the cargo lamp switch, the door switches, and a keyfob (if equipped).

Is the cargo lamp and tailgate cargo lamps (if equipped) 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 [DLK-27, "KING CAB : Description"](#) (king cab) or [DLK-28, "CREW CAB : Description"](#) (crew cab).

• Inoperative from keyfob only, refer to [DLK-51, "Description"](#).

2. CHECK CARGO LAMP SWITCH

Check the cargo lamp switch. Refer to [INL-26, "Component Inspection"](#).

Is the inspection result normal?

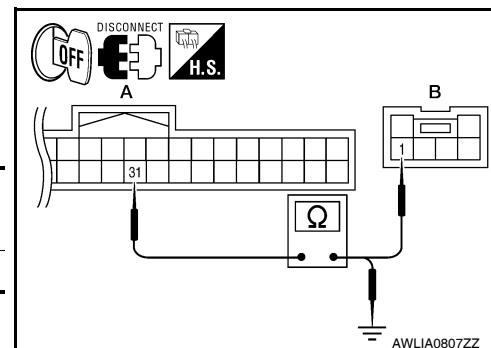
YES >> GO TO 3

NO >> Replace the cargo lamp switch.

3. CHECK CARGO LAMP SWITCH CIRCUIT

1. Disconnect BCM connector M18 and cargo lamp switch connector.
2. Check continuity between BCM connector M18 (A) terminal 31 and cargo lamp switch connector M149 (B) terminal 1.

BCM		Cargo lamp switch		Continuity
Connector	Terminal	Connector	Terminal	
M18 (A)	31	M149 (B)	1	Yes



3. Check continuity between BCM connector M18 (A) terminal 31 and ground.

Connector	Terminal	—	Continuity
M18 (A)	31	Ground	No

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-53, "Removal and Installation"](#).

NO >> Repair harness or connectors.

4. CHECK CARGO LAMP RELAY

CARGO LAMP CONTROL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Check the cargo lamp relay. Refer to [INL-26, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 5

NO >> Replace the cargo lamp relay.

5.CHECK CARGO LAMP RELAY CONTROL

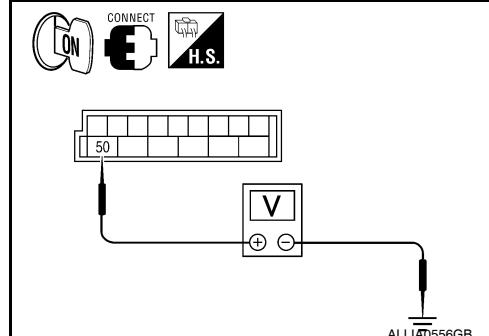
While operating the cargo lamp switch, check voltage between BCM connector M19 terminal 50 and ground.

Connector	Terminal	—	Cargo lamp switch	Voltage
M19	50	Ground	ON	0V
			OFF	Battery voltage

Is the inspection result normal?

YES >> GO TO 6

NO >> GO TO 8



6.CHECK CARGO LAMP AND TAILGATE CARGO LAMPS (IF EQUIPPED) VOLTAGE

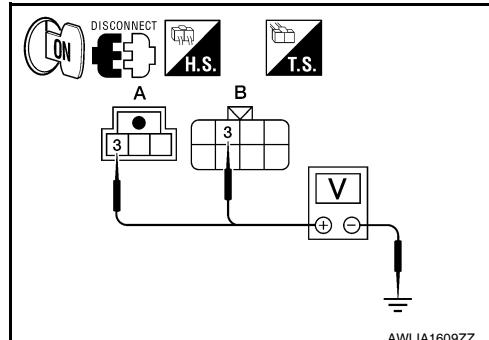
1. Disconnect the cargo lamp connector and the tailgate cargo lamp connectors (if equipped).
2. While operating the cargo lamp switch, check voltage between cargo lamp connector B158 (A) terminal 3 and ground and the tailgate cargo lamp connectors C13 (B) and C14 (B) terminal 3 and ground (if equipped).

Connector	Terminal	—	Cargo lamp switch	Voltage
B158 (A)	3	Ground	ON	Battery voltage
C13 (B)	3			
C14 (B)	3			

Is the inspection result normal?

YES >> Replace cargo lamp or tailgate cargo lamp (if equipped). Refer to [EXL-147, "Removal and Installation"](#) or [EXL-148, "Removal and Installation"](#) (if equipped).

NO >> GO TO 7



7.CHECK CARGO LAMP RELAY VOLTAGE PART 1

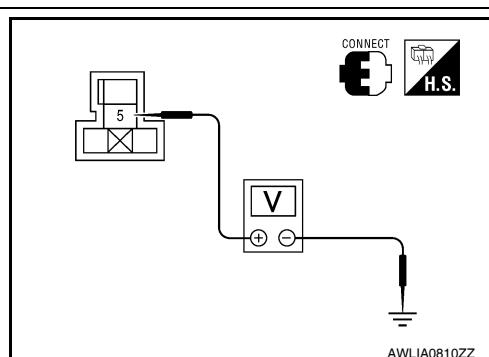
Check voltage between cargo lamp relay connector M150 terminal 5 and ground.

Cargo lamp relay		Ground	Voltage
Connector	Terminal		
M150	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.



8.CHECK CARGO LAMP RELAY VOLTAGE PART 2

CARGO LAMP CONTROL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

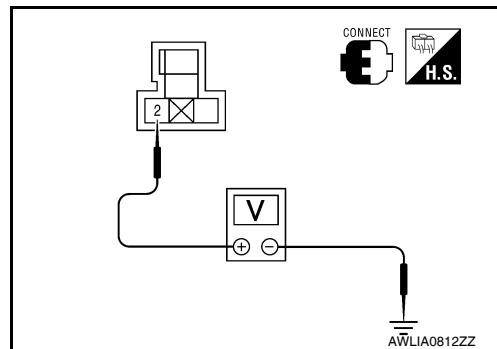
Check voltage between cargo lamp relay connector M150 terminal 2 and ground.

Cargo lamp relay		Ground	Voltage
Connector	Terminal		
M150	2		Battery voltage

Is the inspection result normal?

YES >> GO TO 9

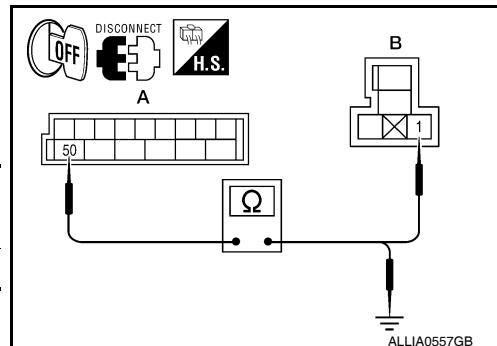
NO >> Repair harness or connectors.



9. CHECK CARGO LAMP RELAY CONTROL CIRCUIT

1. Disconnect BCM connector M19 and cargo lamp relay connector.
2. Check continuity between BCM connector M19 (A) terminal 50 and cargo lamp relay connector B150 (B) terminal 1.

BCM		Cargo lamp relay		Continuity
Connector	Terminal	Connector	Terminal	
M19 (A)	50	B150 (B)	1	Yes



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

Connector	Terminal	—	Continuity
M19 (A)	50	Ground	No

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-53, "Removal and Installation"](#).

NO >> Repair harness or connectors.

Component Inspection

INFOID:0000000006164472

CARGO LAMP SWITCH

INSPECTION PROCEDURE

1. CHECK CARGO LAMP SWITCH

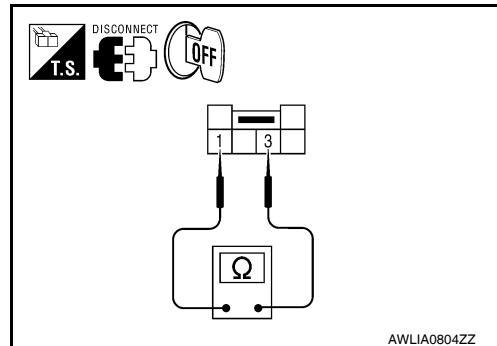
1. Turn ignition switch OFF.
2. Disconnect cargo lamp switch harness connector.
3. Check continuity between cargo lamp switch terminals.

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

Is the inspection result normal?

YES >> Inspection End

NO >> Replace cargo lamp switch.



CARGO LAMP RELAY

INSPECTION PROCEDURE

1. CHECK CARGO LAMP RELAY

CARGO LAMP CONTROL CIRCUIT

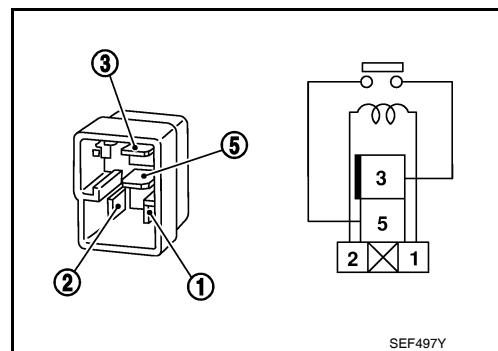
< DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect cargo lamp relay harness 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.

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

Is the inspection result normal?

YES >> Inspection End
NO >> Replace cargo lamp relay.



BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000006627247

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF or ON	Off
	Ignition switch ACC	On
AIR COND SW	A/C switch OFF	Off
	A/C switch ON	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm ² , psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm ² , psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm ² , psi
AIR PRESS RR	Rear right tire air pressure value	kPa, kg/cm ² , psi
AUTO LIGHT SW	Lighting switch OFF	Off
	Lighting switch AUTO	On
BRAKE SW	Brake pedal released	Off
	Brake pedal applied	On
BUCKLE SW	Seat belt buckle unfastened	Off
	Seat belt buckle fastened	On
BUZZER	Buzzer in combination meter OFF	Off
	Buzzer in combination meter ON	On
CARGO LAMP SW	Cargo lamp switch OFF	Off
	Cargo lamp switch ON	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the LOCK side	On
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the UNLOCK side	On
DOOR SW-AS	Front door RH closed	Off
	Front door RH opened	On
DOOR SW-DR	Front door LH closed	Off
	Front door LH opened	On
DOOR SW-RL	Rear door LH closed	Off
	Rear door LH opened	On
DOOR SW-RR	Rear door RH closed	Off
	Rear door RH opened	On
FAN ON SIG	Blower motor fan switch OFF	Off
	Blower motor fan switch ON	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
FR WIPER LOW	Front wiper switch OFF	Off
	Front wiper switch LO	On
FR WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On
FR WIPER INT	Front wiper switch OFF	Off
	Front wiper switch INT	On
FR WIPER STOP	Any position other than front wiper stop position	Off
	Front wiper stop position	On
HAZARD SW	When hazard switch is not pressed	Off
	When hazard switch is pressed	On
HEAD LAMP SW1	Headlamp switch OFF	Off
	Headlamp switch 1st	On
HEAD LAMP SW2	Headlamp switch OFF	Off
	Headlamp switch 1st	On
HI BEAM SW	High beam switch OFF	Off
	High beam switch HI	On
ID REGST FL1	ID registration of front left tire incomplete	YET
	ID registration of front left tire complete	DONE
ID REGST FR1	ID registration of front right tire incomplete	YET
	ID registration of front right tire complete	DONE
ID REGST RL1	ID registration of rear left tire incomplete	YET
	ID registration of rear left tire complete	DONE
ID REGST RR1	ID registration of rear right tire incomplete	YET
	ID registration of rear right tire complete	DONE
IGN ON SW	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
IGN SW CAN	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
KEY CYL LK-SW	Door key cylinder LOCK position	Off
	Door key cylinder other than LOCK position	On
KEY CYL UN-SW	Door key cylinder UNLOCK position	Off
	Door key cylinder other than UNLOCK position	On
KEY ON SW	Mechanical key is removed from key cylinder	Off
	Mechanical key is inserted to key cylinder	On
KEYLESS LOCK	LOCK button of key fob is not pressed	Off
	LOCK button of key fob is pressed	On
KEYLESS PANIC	PANIC button of key fob is not pressed	Off
	PANIC button of key fob is pressed	On
KEYLESS UNLOCK	UNLOCK button of key fob is not pressed	Off
	UNLOCK button of key fob is pressed	On
LIGHT SW 1ST	Lighting switch OFF	Off
	Lighting switch 1st	On

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
OIL PRESS SW	• Ignition switch OFF or ACC • Engine running	Off
	Ignition switch ON	On
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5V
	Dark outside of the vehicle	Close to 0V
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
TURN SIGNAL L	Turn signal switch OFF	Off
	Turn signal switch LH	On
TURN SIGNAL R	Turn signal switch OFF	Off
	Turn signal switch RH	On
VEHICLE SPEED	While driving	Equivalent to speedometer reading
WARNING LAMP	Low tire pressure warning lamp in combination meter OFF	Off
	Low tire pressure warning lamp in combination meter ON	On

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal Layout

INFOID:000000006627248

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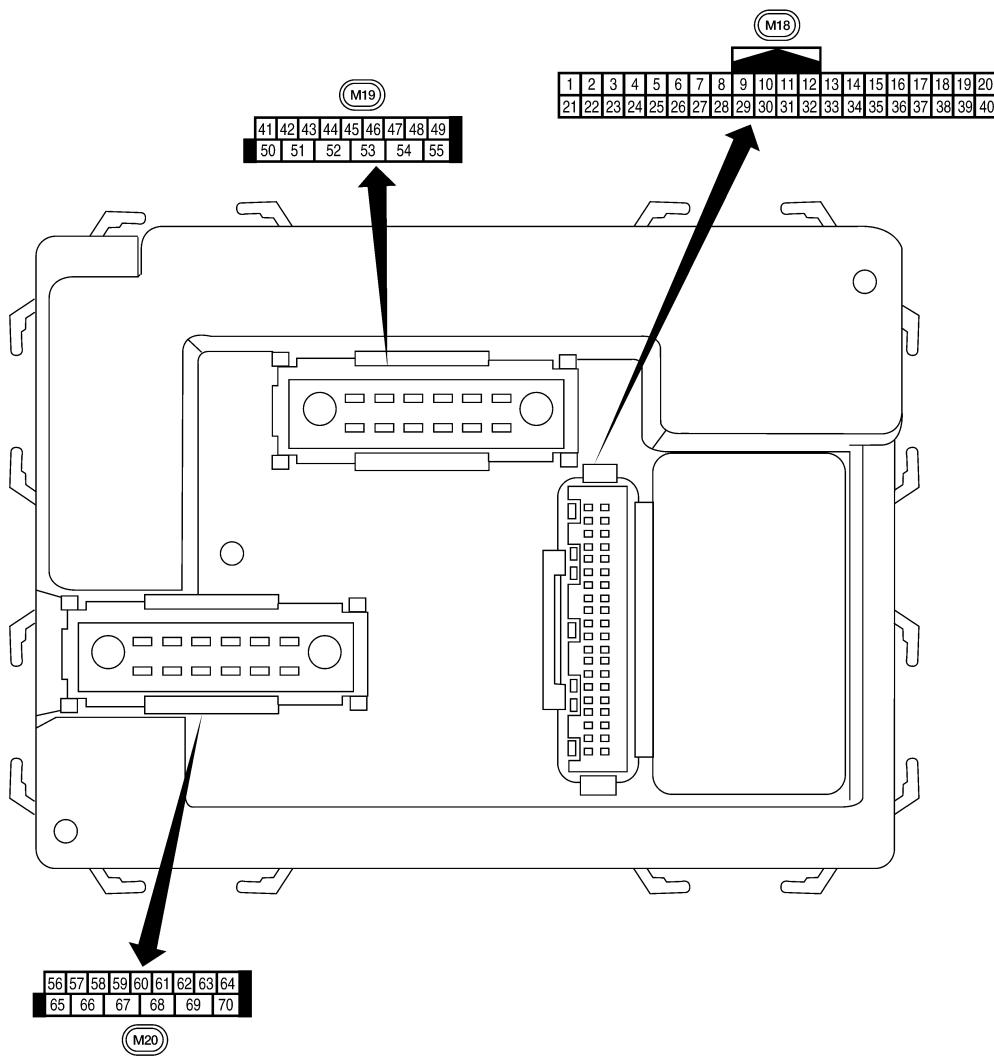
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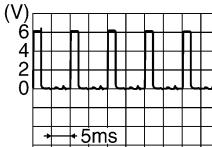
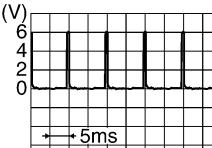
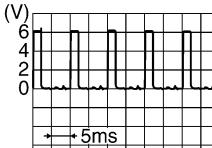
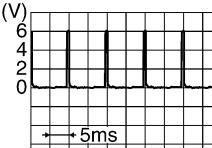
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Physical Values

INFOID:000000006627249

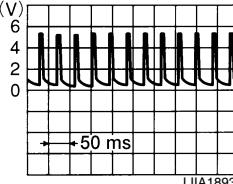
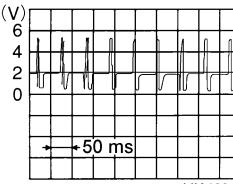
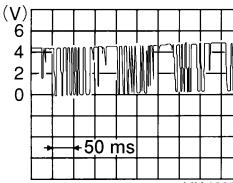
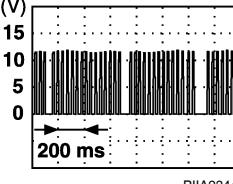
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
2	SB	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	G/Y	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	Y	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	G/B	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	V	Combination switch input 1				
9	Y/B	Rear window defogger switch (Crew Cab)	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
11	O	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	R/L	Front door switch RH (All)	Input	OFF	ON (open)	0V
		Rear door switch lower RH (King Cab)				
		Rear door switch upper RH (King Cab)				Battery voltage
13	GR	Rear door switch RH (Crew Cab)	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
15	L/W	Tire pressure warning check connector	Input	OFF	—	5V
18	P	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	—	0V

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

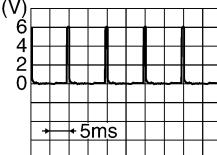
Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
19	V/W	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	 LIIA1893E
20	G/W	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons released)	 LIIA1894E
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	 LIIA1895E
21	G	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
22	G	BUS	—	—	Ignition switch ON or power window timer operates	 PIIA2344E
23	G/O	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
27	W/R	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
28	L/R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	W/B	Hazard switch	Input	OFF	ON	0V
					OFF	5V
31	P/L	Cargo lamp switch	Input	OFF	Cargo lamp switch ON	0
					Cargo lamp switch OFF	Battery voltage

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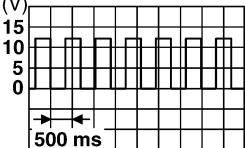
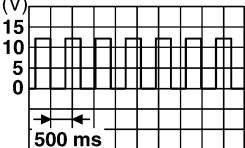
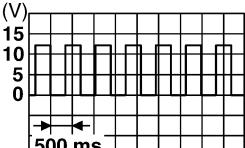
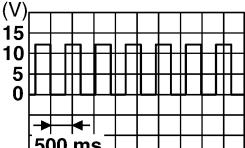
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
32	R/G	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	R/Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	L	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
35	O/B	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	R/W	Combination switch output 1				
37	B/R	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key inserted	0V
38	W/L	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
47	SB	Front door switch LH (All)	Input	OFF	ON (open)	0V
		Rear door switch lower LH (King Cab)				Battery voltage
		Rear door switch upper LH (King Cab)			OFF (closed)	
48	R/Y	Rear door switch LH (Crew Cab)	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
50	R/Y	Cargo bed lamp control	Output	OFF	Cargo lamp switch (ON)	0V
					Cargo lamp switch (OFF)	Battery voltage

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)		
				Ignition switch	Operation or condition			
51	G/Y	Trailer turn signal (right)	Output	ON	Turn right ON	 SKIA3009J		
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	 SKIA3009J		
56	R/G	Battery saver output	Output	OFF	15 minutes after ignition switch is turned OFF	0V		
				ON	—	Battery voltage		
57	Y/R	Battery power supply	Input	OFF	—	Battery voltage		
58	W/R	Optical sensor	Input	ON	When optical sensor is illuminated	3.1V or more		
					When optical sensor is not illuminated	0.6V or less		
59	G	Front door lock assembly LH actuator (unlock)	Output	OFF	OFF (neutral)	0V		
					ON (unlock)	Battery voltage		
60	G/B	Turn signal (left)	Output	ON	Turn left ON	 SKIA3009J		
61	G/Y	Turn signal (right)	Output	ON	Turn right ON	 SKIA3009J		
62	R/W	Step lamp LH and RH	Output	OFF	ON (any door open)	0V		
					OFF (all doors closed)	Battery voltage		
63	L	Interior room/map lamp	Output	OFF	Any door switch	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>ON (open)</td> </tr> <tr> <td>OFF (closed)</td> </tr> </table>	ON (open)	OFF (closed)
ON (open)								
OFF (closed)								
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V		
					ON (lock)	Battery voltage		
66	G/Y	Front door lock actuator RH and rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral)	0V		
					ON (unlock)	Battery voltage		

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

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

Fail Safe

INFOID:0000000006627251

Fail-safe index

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

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

DTC Inspection Priority Chart

INFOID:0000000006627252

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

Priority	DTC
1	• U1000: CAN COMM CIRCUIT
2	• B2190: NATS ANTENNA AMP • B2191: DIFFERENCE OF KEY • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Priority	DTC
3	<ul style="list-style-type: none"> • C1729: VHCL SPEED SIG ERR • C1735: IGNITION SIGNAL
4	<ul style="list-style-type: none"> • C1704: LOW PRESSURE FL • C1705: LOW PRESSURE FR • C1706: LOW PRESSURE RR • C1707: LOW PRESSURE RL • C1708: [NO DATA] FL • C1709: [NO DATA] FR • C1710: [NO DATA] RR • C1711: [NO DATA] RL • C1712: [CHECKSUM ERR] FL • C1713: [CHECKSUM ERR] FR • C1714: [CHECKSUM ERR] RR • C1715: [CHECKSUM ERR] RL • C1716: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL • C1720: [CODE ERR] FL • C1721: [CODE ERR] FR • C1722: [CODE ERR] RR • C1723: [CODE ERR] RL • C1724: [BATT VOLT LOW] FL • C1725: [BATT VOLT LOW] FR • C1726: [BATT VOLT LOW] RR • C1727: [BATT VOLT LOW] RL

DTC Index

INFOID:000000006627253

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-27
B2190: NATS ANTENNA AMP	—	—	SEC-18
B2191: DIFFERENCE OF KEY	—	—	SEC-21
B2192: ID DISCORD BCM-ECM	—	—	SEC-22
B2193: CHAIN OF BCM-ECM	—	—	SEC-24
C1708: [NO DATA] FL	—	—	WT-14
C1709: [NO DATA] FR	—	—	WT-14
C1710: [NO DATA] RR	—	—	WT-14
C1711: [NO DATA] RL	—	—	WT-14
C1712: [CHECKSUM ERR] FL	—	—	WT-16
C1713: [CHECKSUM ERR] FR	—	—	WT-16
C1714: [CHECKSUM ERR] RR	—	—	WT-16
C1715: [CHECKSUM ERR] RL	—	—	WT-16

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
C1716: [PRESSDATA ERR] FL	—	—	WT-18
C1717: [PRESSDATA ERR] FR	—	—	WT-18
C1718: [PRESSDATA ERR] RR	—	—	WT-18
C1719: [PRESSDATA ERR] RL	—	—	WT-18
C1720: [CODE ERR] FL	—	—	WT-16
C1721: [CODE ERR] FR	—	—	WT-16
C1722: [CODE ERR] RR	—	—	WT-16
C1723: [CODE ERR] RL	—	—	WT-16
C1724: [BATT VOLT LOW] FL	—	—	WT-16
C1725: [BATT VOLT LOW] FR	—	—	WT-16
C1726: [BATT VOLT LOW] RR	—	—	WT-16
C1727: [BATT VOLT LOW] RL	—	—	WT-16
C1729: VHCL SPEED SIG ERR	—	—	WT-19
C1735: IGNITION SIGNAL	—	—	WT-20

INTERIOR ROOM LAMP CONTROL SYSTEM

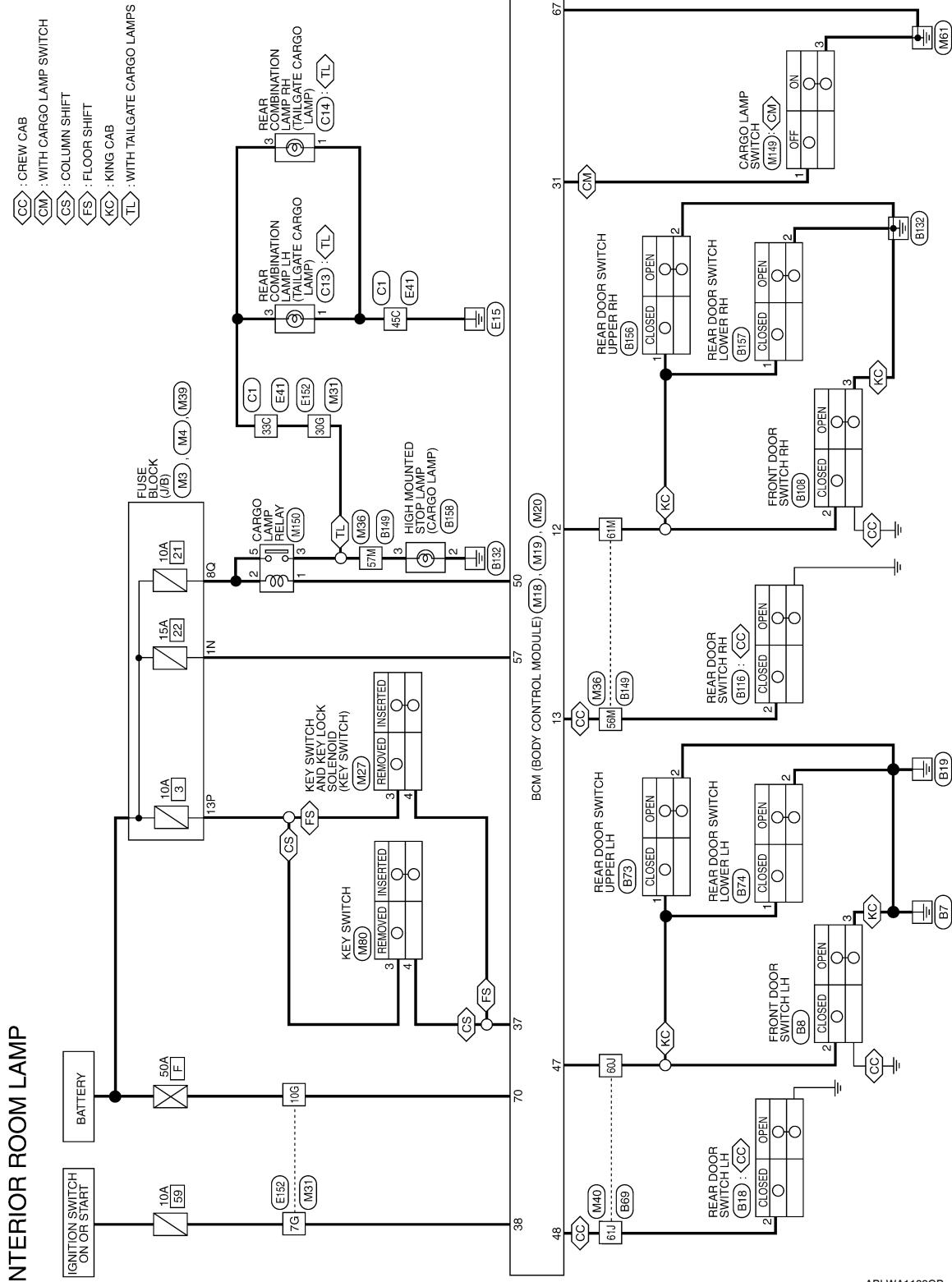
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WIRING DIAGRAM

INTERIOR ROOM LAMP CONTROL SYSTEM

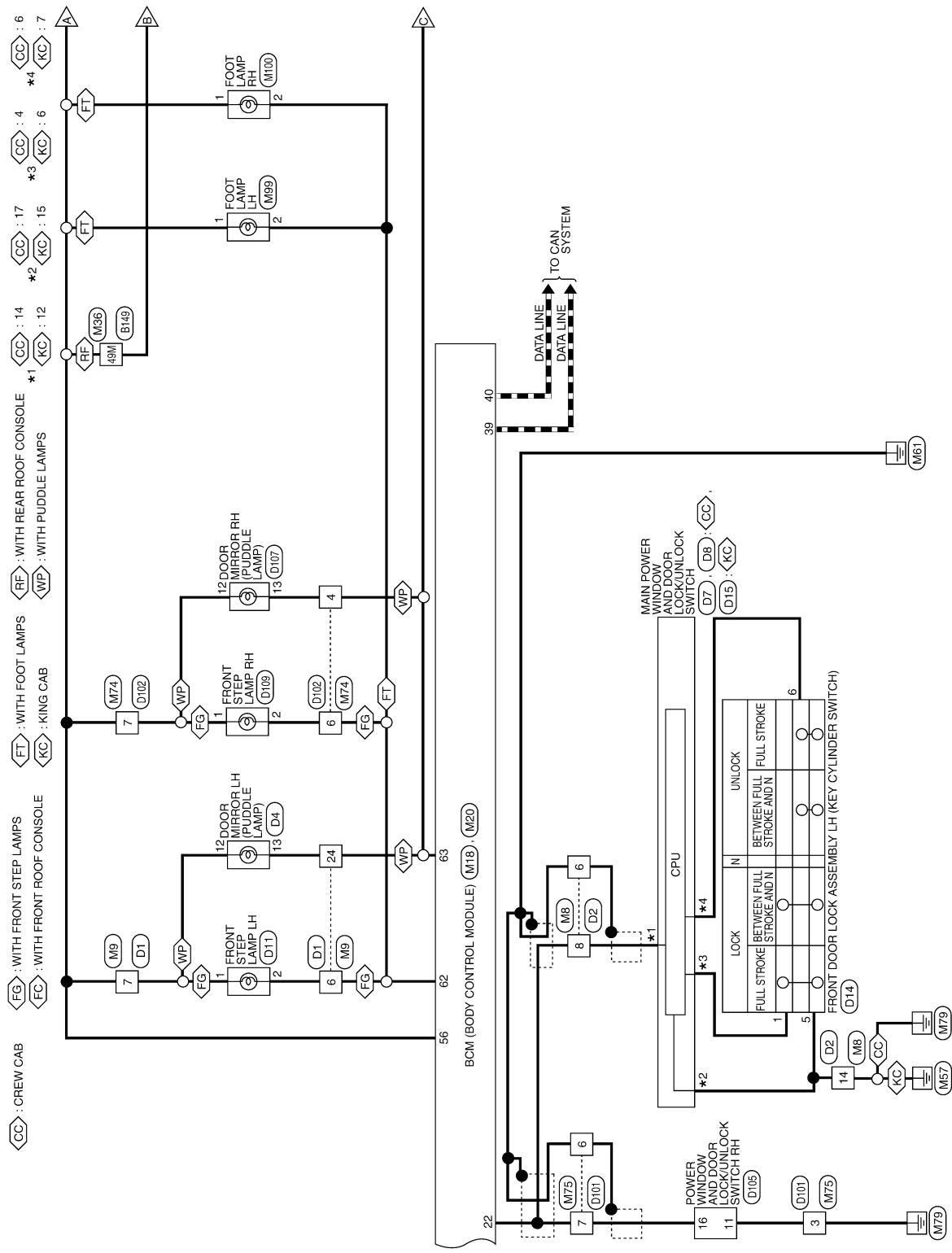
Wiring Diagram

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INTERIOR ROOM LAMP CONTROL SYSTEM

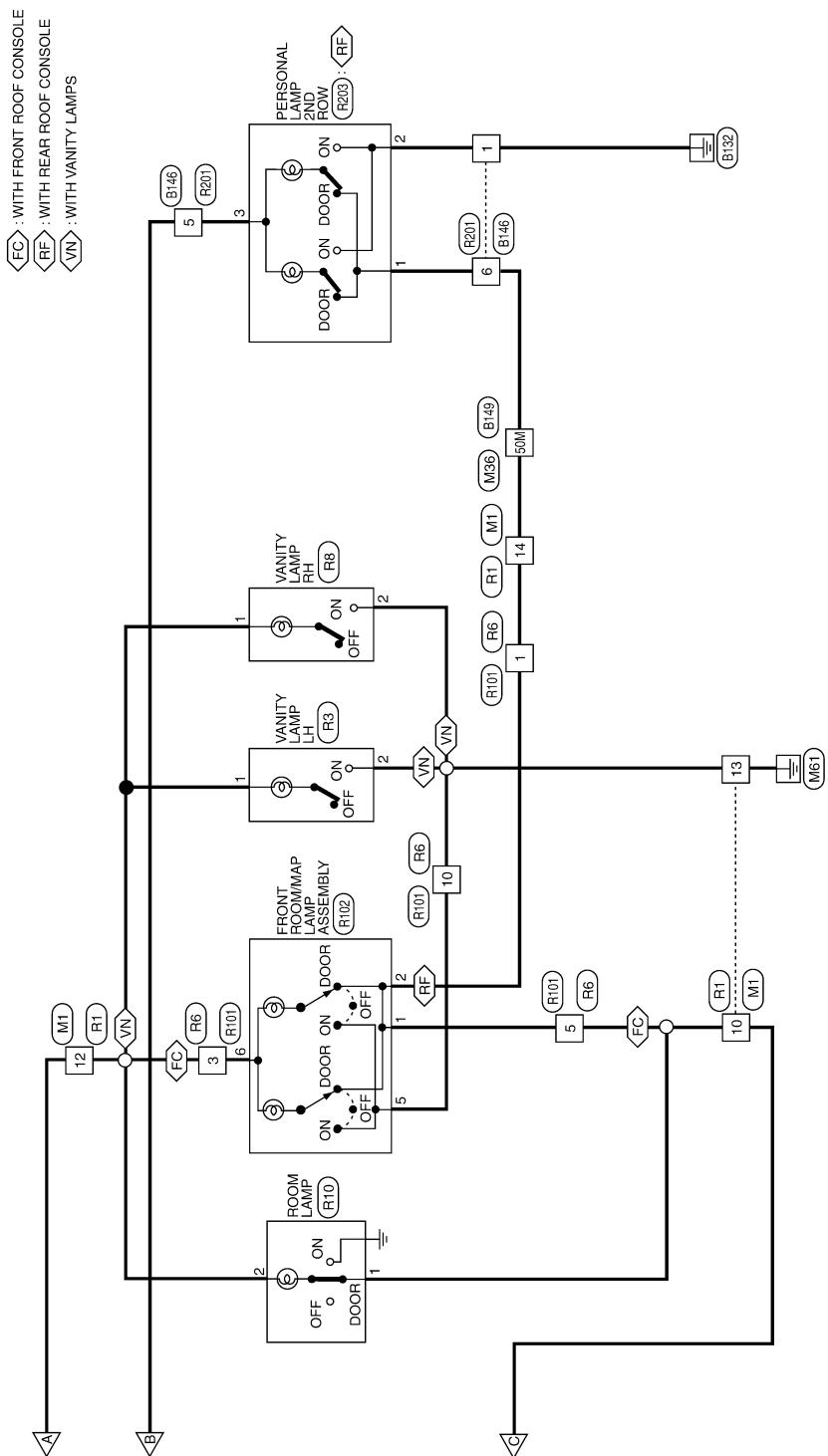
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INTERIOR ROOM LAMP CONTROL SYSTEM

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INTERIOR ROOM LAMP CONTROL SYSTEM

< WIRING DIAGRAM >

INTERIOR ROOM LAMP CONNECTORS

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE
Terminal No.	Color of Wire
10	L
12	R/G
13	B
14	R

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE
Terminal No.	Color of Wire
1	3N
2	2N
3	1N
4	3N
5	7N
6	6N
7	5N
8	4N

Connector No.	M8
Connector Name	WIRE TO WIRE
Connector Color	WHITE
Terminal No.	Color of Wire
6	SHIELD
8	G
14	B

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE
Terminal No.	Color of Wire
13P	P

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE
Terminal No.	Color of Wire
13P	P

Connector No.	M9
Connector Name	WIRE TO WIRE
Connector Color	WHITE
Terminal No.	Color of Wire
1	11
2	10
3	9
4	8
5	7
6	6
7	5
8	4
9	3
10	2
11	1
21	23
22	24
23	25
24	26
25	27
26	28
27	29
28	30
29	31
30	32
31	33
32	34
33	35
34	36
35	37
36	38
37	39
38	40

Connector No.	M1
Connector Name	DOOR SW (RR)
Connector Color	WHITE
Terminal No.	Color of Wire
12	R/L

Connector No.	M1
Connector Name	ANTI-PINCH SERIAL LINK (RX, TX)
Connector Color	WHITE
Terminal No.	Color of Wire
31	P/L

Connector No.	M1
Connector Name	CARGO LAMP SW
Connector Color	WHITE
Terminal No.	Color of Wire
37	B/R

Connector No.	M1
Connector Name	KEY SW
Connector Color	WHITE
Terminal No.	Color of Wire
38	W/L

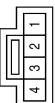
Connector No.	M1
Connector Name	IGN SW
Connector Color	WHITE
Terminal No.	Color of Wire
39	L

Connector No.	M1
Connector Name	CAN-H
Connector Color	WHITE
Terminal No.	Color of Wire
40	P

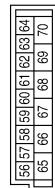
INTERIOR ROOM LAMP CONTROL SYSTEM

< WIRING DIAGRAM >

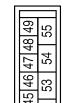
Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



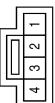
Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

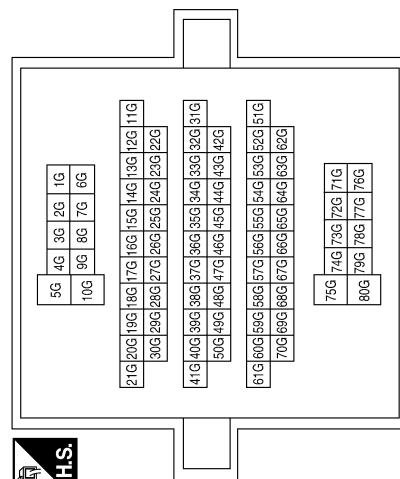


Connector No.	M27
Connector Name	KEY SWITCH AND KEY LOCK SOLENOID
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name	Signal Name
47	SB	DOOR SW (DR)	R/G BATTERY SAVER OUTPUT
48	R/Y	DOOR SW (RL)	Y/R BAT (FUSE)
50	R/Y	CARGO LAMP OUTPUT	R/W STEP LAMP OUTPUT
			63 L ROOM LAMP OUTPUT
			67 B GND (POWER)
			70 W/B BAT (F/L)

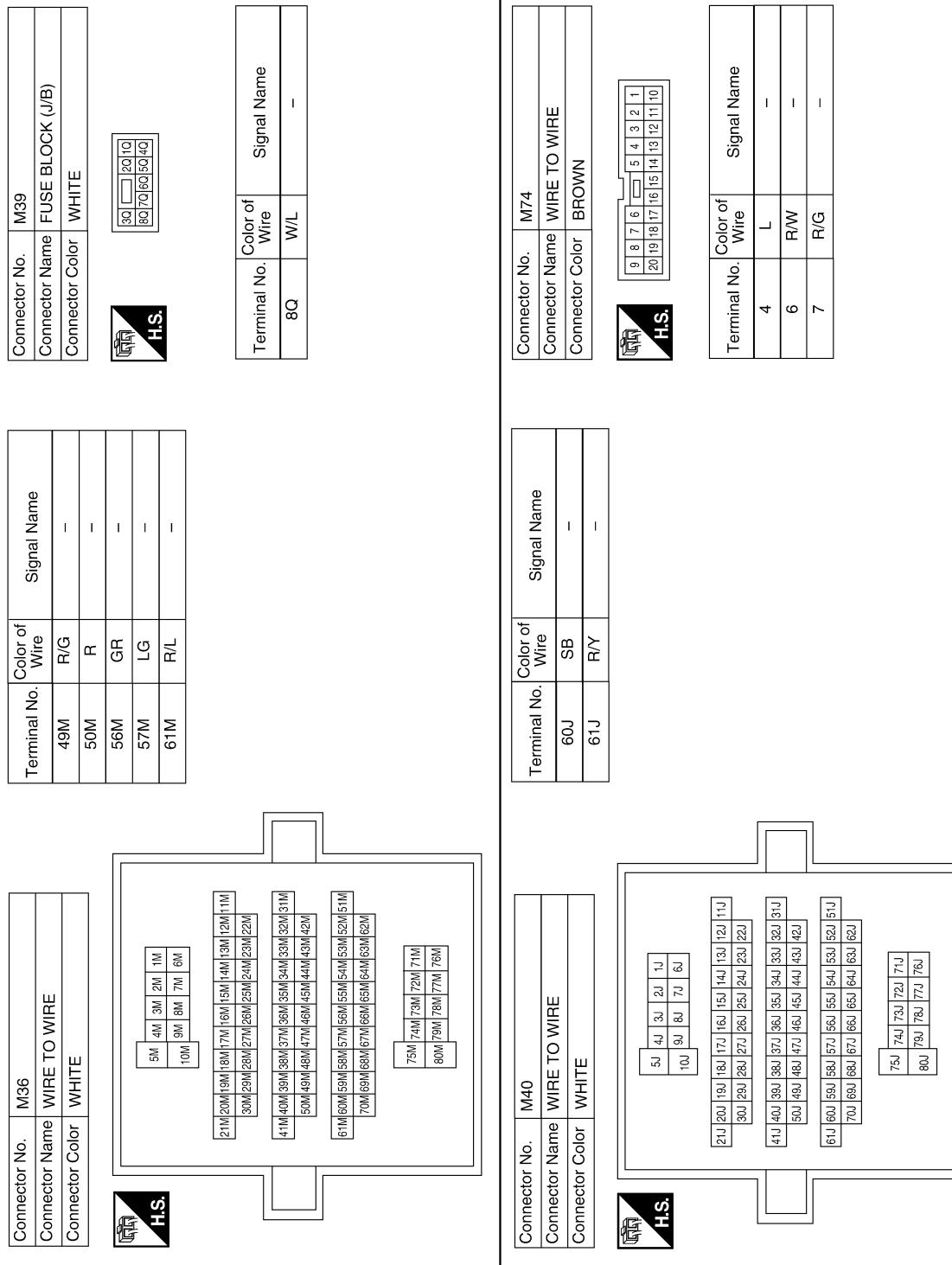
Terminal No.	Color of Wire	Signal Name
3	P	-
4	B/R	-



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INTERIOR ROOM LAMP CONTROL SYSTEM

< WIRING DIAGRAM >



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INTERIOR ROOM LAMP CONTROL SYSTEM

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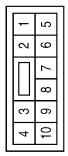
Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	M80
Connector Name	KEY SWITCH
Connector Color	WHITE



Connector No.	M99
Connector Name	FOOT LAMP LH
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
3	P	-
4	B/R	-

Terminal No.	Color of Wire	Signal Name
3	B	-
6	SHIELD	-

Terminal No.	Color of Wire	Signal Name
3	G	-
4	3	2
5	10	9
6	8	7
7	6	5

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



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

Terminal No.	Color of Wire	Signal Name
1	P	-
3	B	-

Terminal No.	Color of Wire	Signal Name
1	P/L	-
3	B	-

Terminal No.	Color of Wire	Signal Name
1	R/Y	-
2	G	-



Terminal No.	Color of Wire	Signal Name
1	LG	-
5	G	-

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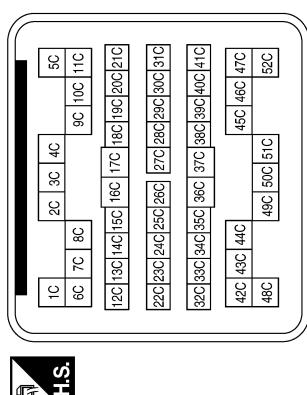
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INTERIOR ROOM LAMP CONTROL SYSTEM

< WIRING DIAGRAM >

Connector No.	Color	Signal Name
E152		
WIRE TO WIRE		
WHITE		

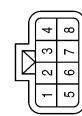
Connector No.	Color	Signal Name
E41		
WIRE TO WIRE		
GRAY		



Terminal No.	Color of Wire	Signal Name
33C	LG	—
45C	B	—

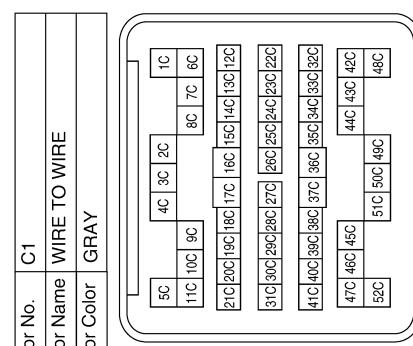
Connector No.	Color	Signal Name
7G	L/W	—
10G	W/B	—
30G	LG	—

Terminal No.	Color of Wire	Signal Name
33C	LG	—
45C	B	—



Terminal No.	Color of Wire	Signal Name
1	B	—
3	LG	—

Connector No.	Color	Signal Name
C13		
REAR COMBINATION LAMP		
LH		
GRAY		

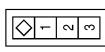


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INTERIOR ROOM LAMP CONTROL SYSTEM

< WIRING DIAGRAM >

Connector No.	B18
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE

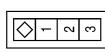


Terminal No.	Color of Wire	Signal Name
2	R/Y	—

Connector No.	B74
Connector Name	REAR DOOR SWITCH LOWER LH
Connector Color	BLACK

Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B	-

Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	SB	—
3	B	—

Connector No.	B73
Connector Name	REAR DOOR SWITCH UPPER LH
Connector Color	BLACK

Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B	-

Connector No.	C14
Connector Name	REAR COMBINATION LAMP RH
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	B	—
3	LG	—

Connector No.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
60J	SB	—
61J	R/Y	—

ABLIA1419GB

INTERIOR ROOM LAMP CONTROL SYSTEM

< WIRING DIAGRAM >

Connector No.	Color of Wire	Signal Name
2	R/L	—
3	B	—

Connector No.	Color of Wire	Signal Name
2	GR	—

Terminal No.	Color of Wire	Signal Name
1	B	—
5	R/G	—
6	R	—

Terminal No.	Color of Wire	Signal Name
1	B	—
5	R/G	—
6	R	—

Terminal No.	Color of Wire	Signal Name
49M	R/G	—
50M	R	—
56M	GR	—
57M	LG	—
61M	R/L	—

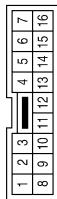
Terminal No.	Color of Wire	Signal Name
1	R/L	—
2	B	—

ABLIA1420GB

INTERIOR ROOM LAMP CONTROL SYSTEM

< WIRING DIAGRAM >

Connector No.	B158
Connector Name	HIGH MOUNTED STOP LAMP
Connector Color	WHITE



Connector No.	B157
Connector Name	REAR DOOR SWITCH LOWER RH
Connector Color	BLACK



Connector No.	R3
Connector Name	VANITY LAMP LH
Connector Color	WHITE



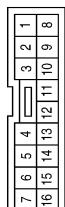
Terminal No.	Color of Wire	Signal Name
1	R/L	-
2	B	-

Terminal No.	Color of Wire	Signal Name
2	B	-
3	LG	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	B	-
14	R	-

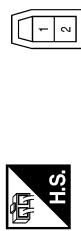
Terminal No.	Color of Wire	Signal Name
10	L	-
12	R/G	-
13	B	-
14	R	-



Connector No.	R6
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R/G	-
2	B	-



Terminal No.	Color of Wire	Signal Name
1	R	-
3	R/G	-
5	L	-
10	B	-

Terminal No.	Color of Wire	Signal Name
1	R/G	-
2	B	-

A
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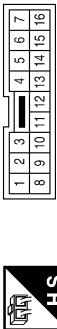
O

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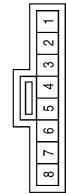
INTERIOR ROOM LAMP CONTROL SYSTEM

< WIRING DIAGRAM >

Connector No.	R10
Connector Name	ROOM LAMP
Connector Color	WHITE



Connector No.	R102
Connector Name	FRONT ROOM/MAP LAMP ASSEMBLY
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	L	-
2	R/G	-
5	L	-
10	B	-



Connector No.	R201
Connector Name	WIRE TO WIRE
Connector Color	BROWN



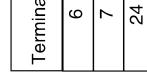
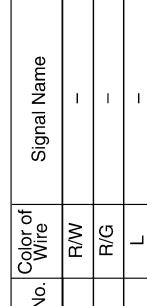
Terminal No.	Color of Wire	Signal Name
1	L	-
2	R	-
5	B	-
6	R/G	-



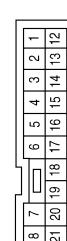
Connector No.	R203
Connector Name	PERSONAL LAMP 2ND ROW
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	2	-
2	3	-
5	4	-
6	5	-
7	6	-
8	7	-
9	8	-
10	9	-
11	10	-
12	13	-
13	14	-
14	15	-
15	16	-
16	17	-
17	18	-
18	19	-
19	20	-
20	21	-
21	22	-
22	23	-
23	24	-



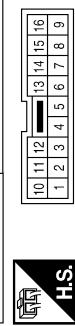
Terminal No.	Color of Wire	Signal Name
1	R	-
2	B	-
3	R/G	-



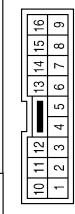
INTERIOR ROOM LAMP CONTROL SYSTEM

< WIRING DIAGRAM >

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



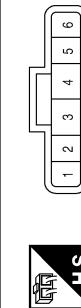
Connector No.	D4
Connector Name	DOOR MIRROR LH (WITH AUTOMATIC DRIVE POSITIONER)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
12	R/G	—
13	L	—
14	B	—

Terminal No.	Color of Wire	Signal Name
1	2	3
2	3	4
3	4	5
4	5	6
5	6	7
6	7	8
7	8	9
8	9	10
9	10	11
10	11	12
11	12	13
12	13	14
13	14	15
14	15	16

Terminal No.	Color of Wire	Signal Name
4	L	LOCK
6	R	UNLOCK
14	LG/W	ANTI PINCH SERIAL LINK



Connector No.	D11
Connector Name	FRONT STEP LAMP LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	LOCK
5	B	GND
6	R	UNLOCK



Connector No.	D8
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (CREW CAB)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R/G	—
2	R/W	—

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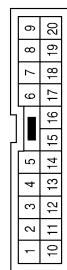
B

A

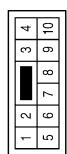
INTERIOR ROOM LAMP CONTROL SYSTEM

< WIRING DIAGRAM >

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



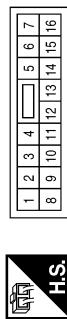
Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
3	B	—
6	SHIELD	—
7	LG/W	—
4	L	—
6	R/W	—
7	R/G	—

Terminal No.	Color of Wire	Signal Name
3	B	LOCK
6	SHIELD	—
7	LG/W	ANTI PINCH SERIAL LINK
4	L	UNLOCK
6	R/W	—
7	R/G	—

Connector No.	D105
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
4	L	—
6	R/W	—
7	R/G	—

Terminal No.	Color of Wire	Signal Name
3	B	LOCK
6	SHIELD	—
7	LG/W	ANTI PINCH SERIAL LINK
4	L	UNLOCK
6	R/W	—
7	R/G	—

Terminal No.	Color of Wire	Signal Name
12	R/G	—
13	L	—

Terminal No.	Color of Wire	Signal Name
4	L	—
6	R/W	—

Terminal No.	Color of Wire	Signal Name
3	B	LOCK
6	SHIELD	—
7	LG/W	ANTI PINCH SERIAL LINK
4	L	UNLOCK
6	R/W	—
7	R/G	—

Terminal No.	Color of Wire	Signal Name
1	R/G	—
2	R/W	—

ILLUMINATION

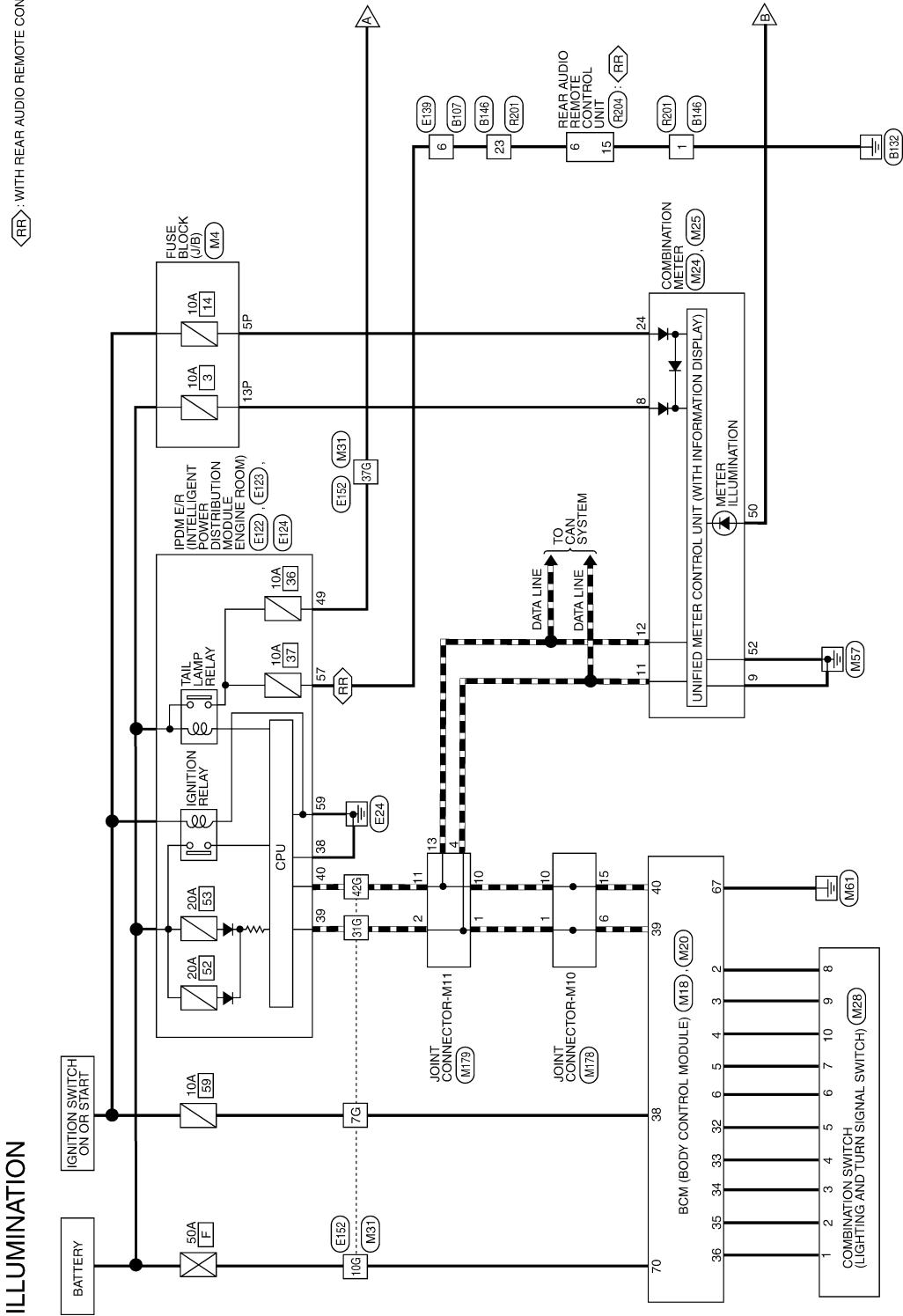
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ILLUMINATION

Wiring Diagram

INFOID:0000000006466304

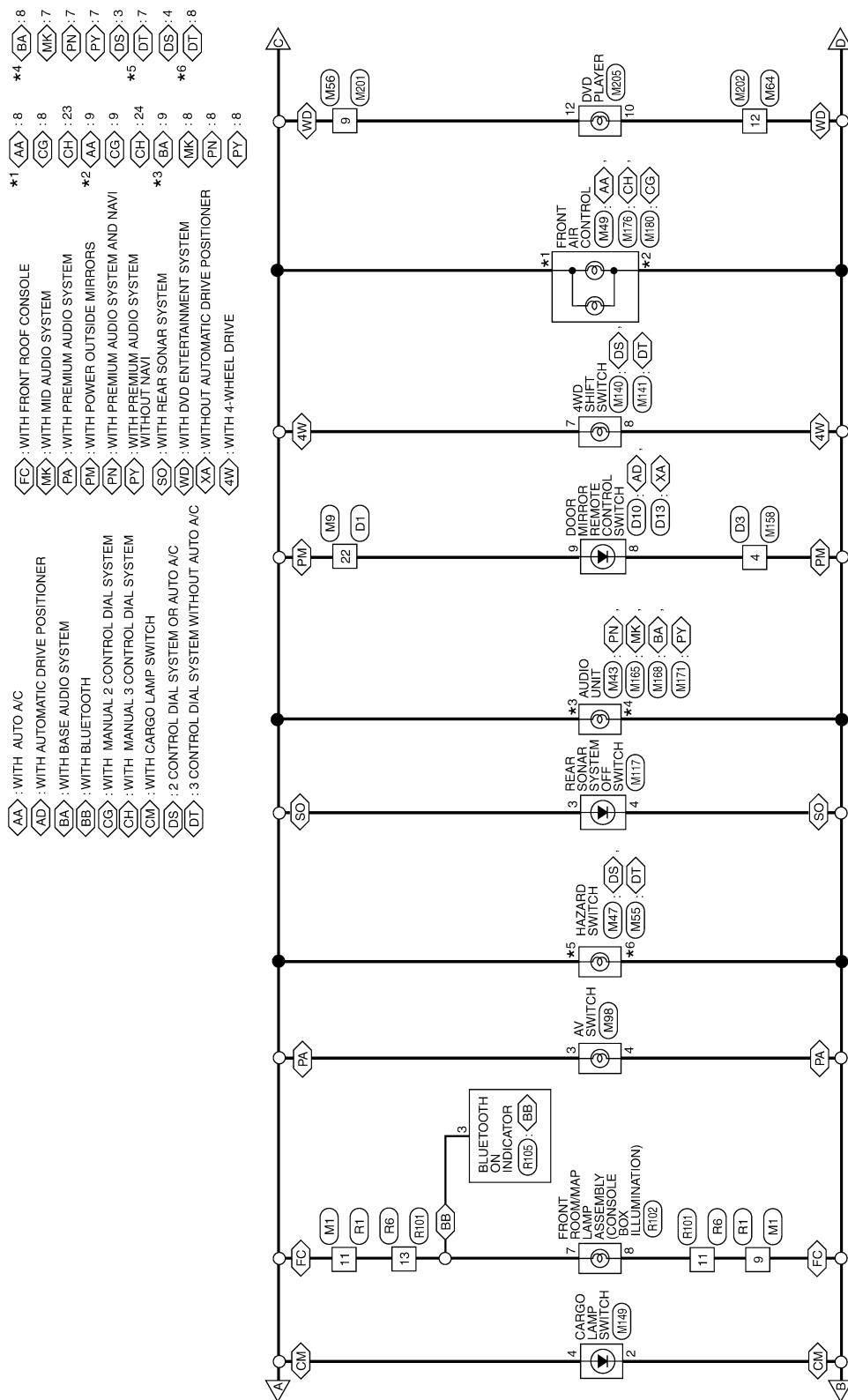
RR: WITH REAR AUDIO REMOTE CONTROL UNIT



ABLWA1192GB

ILLUMINATION

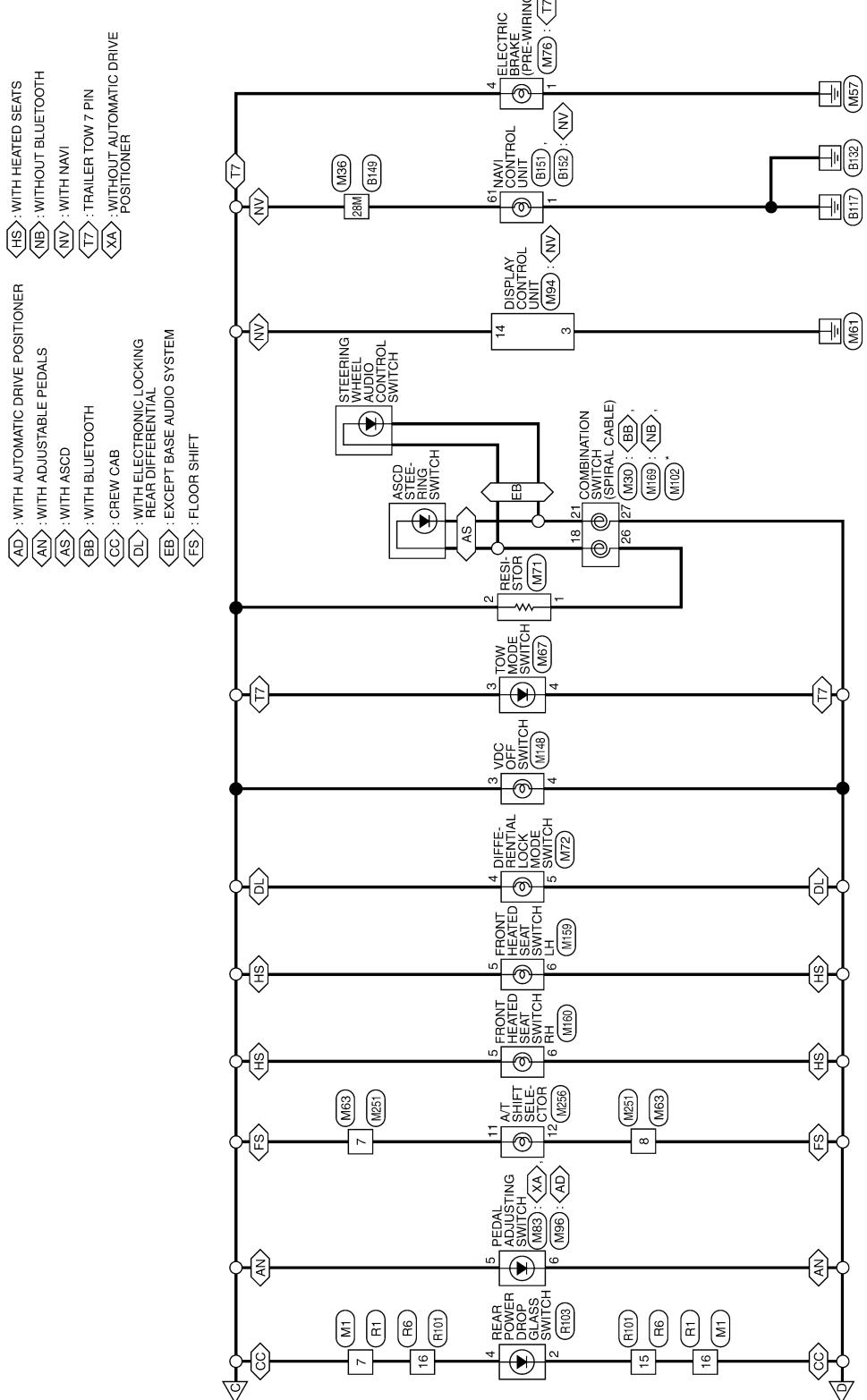
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ABLWA1193GB

ILLUMINATION

< WIRING DIAGRAM >



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

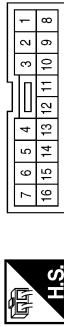
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ILLUMINATION

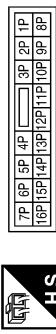
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ILLUMINATION CONNECTORS

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



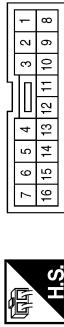
Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



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

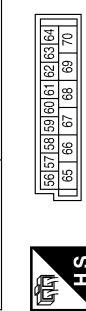


Terminal No.	Color of Wire	Signal Name
7	R/L	—
9	BR	—
11	R/L	—
16	BR	—



Terminal No.	Color of Wire	Signal Name
5P	O/L	—
13P	P	—

Terminal No.	Color of Wire	Signal Name
22	R/L	—



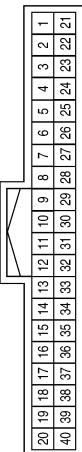
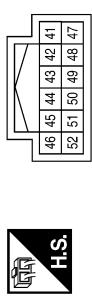
Terminal No.	Color of Wire	Signal Name
56	57	58
55	56	59
65	66	60
64	67	61
63	68	62
62	69	63
61	70	64

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

ILLUMINATION

< WIRING DIAGRAM >

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



Connector No.	M25
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
50	BR	ILL LED CON OUTPUT
52	B	ILL GND

Terminal No.	Color of Wire	Signal Name
8	P	BATTERY
9	B	GND
11	L	CAN-H
12	P	CAN-L
24	0/L	RUN/START

Terminal No.	Color of Wire	Signal Name
1	R/W	INPUT 1
2	O/B	INPUT 2
3	L	INPUT 3
4	R/Y	INPUT 4
5	R/G	INPUT 5
6	V	OUTPUT 1
7	G/B	OUTPUT 2
8	SB	OUTPUT 5
9	G/Y	OUTPUT 4
10	Y	OUTPUT 3

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



21G	20G	19G	18G	17G	16G	15G	14G	13G	12G	11G
30G	29G	28G	27G	26G	25G	24G	23G	22G		
41G	40G	39G	38G	37G	36G	35G	34G	33G	32G	31G
50G	49G	48G	47G	46G	45G	44G	43G	42G		
61G	60G	59G	58G	57G	56G	55G	54G	53G	52G	51G

75G	74G	73G	72G	71G
80G	79G	78G	77G	76G

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R/W	INPUT 1
2	O/B	INPUT 2

Terminal No.	Color of Wire	Signal Name
3	L	INPUT 3
4	R/Y	INPUT 4
5	R/G	INPUT 5
6	V	OUTPUT 1
7	G/B	OUTPUT 2
8	SB	OUTPUT 5
9	G/Y	OUTPUT 4
10	Y	OUTPUT 3

Terminal No.	Color of Wire	Signal Name
7G	W/L	—
10G	W/B	—
31G	L	—
37G	R/L	—
42G	P	—

Connector No.	M30
Connector Name	COMBINATION SWITCH (WITH BLUETOOTH)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
26	Y	—
27	BR	—

Terminal No.	Color of Wire	Signal Name
26	25	27
31	32	33
34		

A
B
C
D
E
F
G
H
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L
M
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Q
R
S
T
U
V
W
X
Y
Z
INL

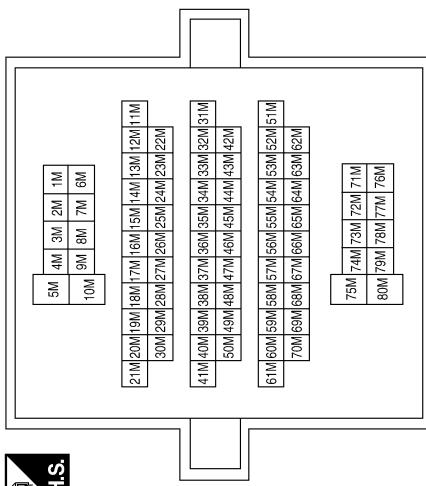
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ILLUMINATION

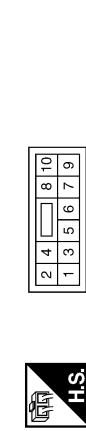
< WIRING DIAGRAM >

Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
28M	R/L	-

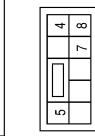


Connector No.	M47
Connector Name	HAZARD SWITCH (WITH 2 CONTROL DIAL SYSTEM OR AUTO A/C)
Connector Color	WHITE

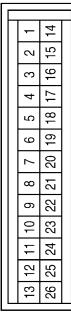


Terminal No.	Color of Wire	Signal Name
7	BR	ILLUM CONT

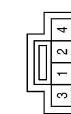
Terminal No.	Color of Wire	Signal Name
8	R/L	LIGHT SW



Connector No.	M49
Connector Name	FRONT AIR CONTROL (WITH AUTO A/C)
Connector Color	BLACK



Connector No.	M47
Connector Name	HAZARD SWITCH (WITH 2 CONTROL DIAL SYSTEM OR AUTO A/C)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
8	R/L	ILLUM+
9	BR	ILLUM-

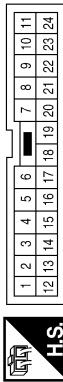
Terminal No.	Color of Wire	Signal Name
3	R/L	-
4	BR	-

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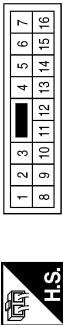
ILLUMINATION

< WIRING DIAGRAM >

Connector No.	M63
Connector Name	WIRE TO WIRE
Connector Color	BROWN



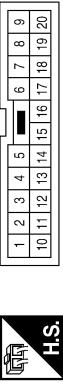
Connector No.	M56
Connector Name	WIRE TO WIRE
Connector Color	WHITE



H.S.

Terminal No.	Color of Wire	Signal Name
7	R/L	-
8	BR	-

Terminal No.	Color of Wire	Signal Name
9	R/L	-
10	BR	-



H.S.

Terminal No.	Color of Wire	Signal Name
12	BR	-



H.S.

Terminal No.	Color of Wire	Signal Name
4	R/L	-
5	BR	-

Terminal No.	Color of Wire	Signal Name
1	Y	-
2	R/L	-



H.S.

Terminal No.	Color of Wire	Signal Name
7	R/L	-
8	BR	-

Terminal No.	Color of Wire	Signal Name
9	R/L	-
10	BR	-

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	-
2	R/L	-

Terminal No.	Color of Wire	Signal Name
3	R/L	-
4	BR	-

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ILLUMINATION

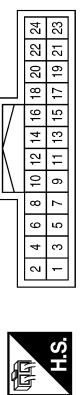
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Connector No.	M76
Connector Name	ELECTRIC BRAKE (PRE-WIRING)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	GND
4	R/L	ILL (TAIL)

Connector No.	M83
Connector Name	PEDAL ADJUSTING SWITCH (WITHOUT AUTOMATIC DRIVE POSITIONER)
Connector Color	BROWN

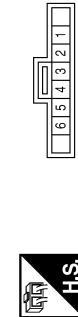


Terminal No.	Color of Wire	Signal Name
5	R/L	-
6	BR	-

Terminal No.	Color of Wire	Signal Name
2	6	10
4	5	12
5	7	14
6	1	16
7	3	18
8	5	20
9	1	22
10	3	24
11	5	-
12	7	-
13	1	-
14	3	-
15	5	-
16	7	-
17	1	-
18	3	-
19	5	-
20	7	-
21	1	-
22	3	-
23	5	-

Terminal No.	Color of Wire	Signal Name
3	B	GND
14	R/L	ILL

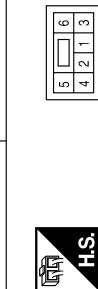
Terminal No.	Color of Wire	Signal Name
3	B	GND
14	R/L	ILL



Connector No.	M98
Connector Name	AV SWITCH
Connector Color	WHITE



Connector No.	M96
Connector Name	PEDAL ADJUSTING SWITCH (WITH AUTOMATIC DRIVE POSITIONER)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
2	6	8
4	5	10
5	7	12
6	1	14
7	3	16
8	5	18
9	1	20
10	3	22
11	5	24
12	7	-
13	1	-
14	3	-
15	5	-
16	7	-
17	1	-
18	3	-
19	5	-
20	7	-
21	1	-
22	3	-
23	5	-

Terminal No.	Color of Wire	Signal Name
3	R/L	ILL+
4	BR	ILL CONTROL

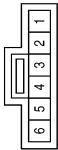
Terminal No.	Color of Wire	Signal Name
3	R/L	-
4	BR	-

Terminal No.	Color of Wire	Signal Name
3	R/L	ILL+
4	BR	ILL CONTROL

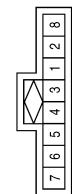
ILLUMINATION

< WIRING DIAGRAM >

Connector No.	M148
Connector Name	4WD SHIFT SWITCH (3 CONTROL DIAL SYSTEM WITHOUT AUTO A/C)
Connector Color	WHITE



Connector No.	M141
Connector Name	4WD SHIFT SWITCH (2 CONTROL DIAL SYSTEM OR AUTO A/C)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
7	R/L	—
8	BR	—

Terminal No.	Color of Wire	Signal Name
7	R/L	—
8	BR	—

Terminal No.	Color of Wire	Signal Name
3	R/L	—
4	BR	—

Connector No.	M158
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5	R/L	—
6	BR	—

Terminal No.	Color of Wire	Signal Name
4	R/L	—
5	BR	—

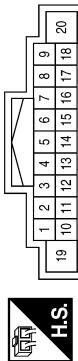
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ILLUMINATION

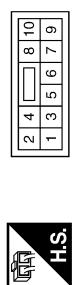
< WIRING DIAGRAM >

Connector No.	M165
Connector Name	AUDIO UNIT (WITH MID AUDIO SYSTEM)
Connector Color	WHITE



H.S.

Connector No.	M160
Connector Name	FRONT HEATED SEAT SWITCH RH
Connector Color	BROWN

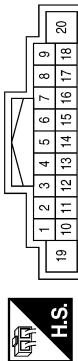


H.S.

Terminal No.	Color of Wire	Signal Name
5	R/L	—
6	BR	—

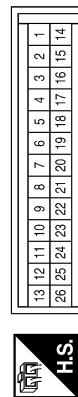
Terminal No.	Color of Wire	Signal Name
7	BR	ILL CONT
8	R/L	LIGHT SW

Connector No.	M168
Connector Name	AUDIO UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE



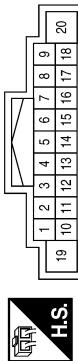
H.S.

Terminal No.	Color of Wire	Signal Name
8	BR	—
9	R/L	—



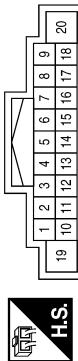
H.S.

Connector No.	M176
Connector Name	FRONT AIR CONTROL (WITH MANUAL DIAL SYSTEM)
Connector Color	BLACK



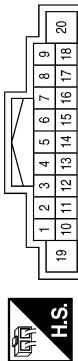
H.S.

Connector No.	M171
Connector Name	AUDIO UNIT (WITH PREMIUM AUDIO SYSTEM, WITHOUT NAVI)
Connector Color	WHITE



H.S.

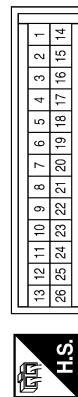
Connector No.	M169
Connector Name	COMBINATION SWITCH (WITHOUT BLUETOOTH)
Connector Color	GRAY



H.S.

Terminal No.	Color of Wire	Signal Name
7	BR	ILL CONT
8	R/L	LIGHT SW

Terminal No.	Color of Wire	Signal Name
23	R/L	ILLUM+
24	BR	ILLUM-

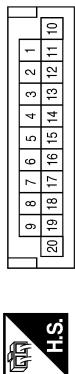


H.S.

ILLUMINATION

< WIRING DIAGRAM >

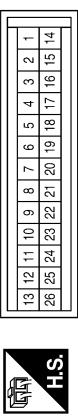
Connector No.	M179
Connector Name	JOINT CONNECTOR M11
Connector Color	BLUE



9	8	7	6	5	4	3	2	1
20	19	18	17	16	15	14	13	12

Terminal No.	Color of Wire	Signal Name
1	L	—
2	L	—
4	L	—
10	P	—
11	P	—
13	P	—

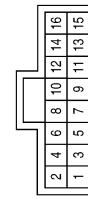
Connector No.	M180
Connector Name	FRONT AIR CONTROL (WITH MANUAL 2 CONTROL DIAL SYSTEM)
Connector Color	BLACK



13	12	11	10	9	8	7	6	5	4	3	2	1
26	25	24	23	22	21	20	19	18	17	16	15	14

Terminal No.	Color of Wire	Signal Name
8	R/L	ILLUM+
9	BR	ILLUM-

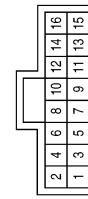
Connector No.	M202
Connector Name	WIRE TO WIRE
Connector Color	BROWN



2	4	6	8	10	12	14	16
1	3	5	7	9	11	13	15

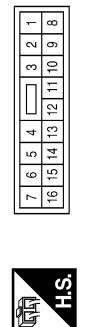
Terminal No.	Color of Wire	Signal Name
8	R/L	ILL-
9	BR	LIGHTING SW

Connector No.	M205
Connector Name	DVD PLAYER
Connector Color	GRAY



11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14

Terminal No.	Color of Wire	Signal Name
12	BR	—
1	R/L	ILL-

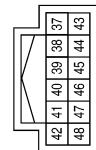


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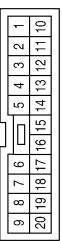
ILLUMINATION

< WIRING DIAGRAM >

Connector No.	M256
Connector Name	A/T SHIFT SELECTOR (FLOOR SHIFT)
Connector Color	BLACK



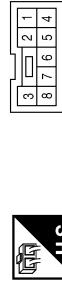
Connector No.	WIRE TO WIRE
Connector Name	BROWN



Terminal No.	Color of Wire	Signal Name
11	R/L	-
12	BR	-

Terminal No.	Color of Wire	Signal Name
7	R/L	-
8	BR	-

Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L



Terminal No.	Color of Wire	Signal Name
6	R/L	-

Terminal No.	Color of Wire	Signal Name
1	WIRE TO WIRE	-
2	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	-
3	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	-



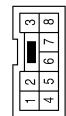
Terminal No.	Color of Wire	Signal Name
57	R/L	TAIL LAMP
59	B	GND (POWER)

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ILLUMINATION

< WIRING DIAGRAM >

Connector No.	E152	Connector No.	B107
Connector Name	WIRE TO WIRE	Connector Name	WIRE TO WIRE
Connector Color	WHITE	Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7G	L/N	-
10G	W/B	-
31G	L	-
37G	R/L	-
42G	P	-



Terminal No.	Color of Wire	Signal Name
6	R/L	-



Connector No.	B146
Connector Name	WIRE TO WIRE
Connector Color	BROWN



1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22

7G	7G	7G	7G	7G
7G	7G	7G	7G	7G

Terminal No.	Color of Wire	Signal Name
28M	R/L	-



Terminal No.	Color of Wire	Signal Name
28M	R/L	-



1M	2M	3M	4M	5M
6M	7M	8M	9M	10M
11M	12M	13M	14M	15M
16M	17M	18M	19M	20M
21M	22M	23M	24M	25M
26M	27M	28M	29M	30M
31M	32M	33M	34M	35M
36M	37M	38M	39M	40M
41M	42M	43M	44M	45M
46M	47M	48M	49M	50M
51M	52M	53M	54M	55M
56M	57M	58M	59M	60M
61M	62M	63M	64M	65M
66M	67M	68M	69M	70M
71M	72M	73M	74M	75M
76M	77M	78M	79M	80M

Terminal No.	Color of Wire	Signal Name
1	B	-
23	R/L	-



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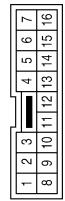
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ILLUMINATION

< WIRING DIAGRAM >

Connector No.	B152
Connector Name	NAVI CONTROL UNIT
Connector Color	WHITE



Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39
42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80
41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79



Connector No.	R101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

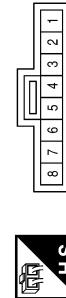
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39
42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80
41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79



Terminal No.	Color of Wire	Signal Name
61	R/L	ILL

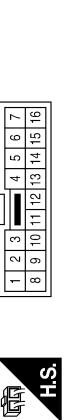
Terminal No.	Color of Wire	Signal Name
1	B	GND

Connector No.	R102
Connector Name	FRONT ROOM/MAP LAMP ASSEMBLY
Connector Color	GRAY

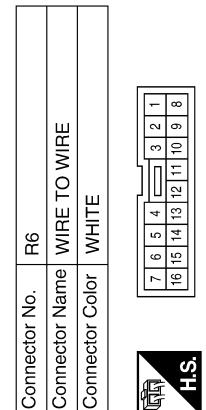


Terminal No.	Color of Wire	Signal Name
7	R/L	-
9	BR	-
11	BR	-

Connector No.	R101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



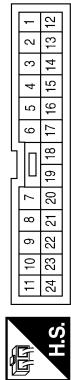
Terminal No.	Color of Wire	Signal Name
11	BR	-
13	R/L	-
15	BR	-
16	R/L	-



ILLUMINATION

< WIRING DIAGRAM >

Connector No.	R105
Connector Name	BLUETOOTH ON INDICATOR
Connector Color	WHITE



Connector No.	R105
Connector Name	REAR POWER DROP GLASS SWITCH
Connector Color	WHITE



Connector No.	R103
Connector Name	REAR POWER DROP GLASS SWITCH
Connector Color	WHITE

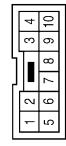


Terminal No.	Color of Wire	Signal Name
3	R/L	DAY/NIGHT ILL SIG
23	R/L	—

Terminal No.	Color of Wire	Signal Name
3	R/L	DAY/NIGHT ILL SIG
23	R/L	—

Terminal No.	Color of Wire	Signal Name
1	B	—
23	R/L	—

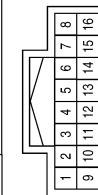
Terminal No.	Color of Wire	Signal Name
1	B	—
23	R/L	—



Terminal No.	Color of Wire	Signal Name
4	BR	—
23	R/L	—

Terminal No.	Color of Wire	Signal Name
4	BR	—
23	R/L	—

Connector No.	R204
Connector Name	REAR AUDIO REMOTE CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6	R/L	ILL
15	B	GND

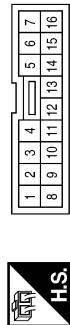
Terminal No.	Color of Wire	Signal Name
6	R/L	ILL
15	B	GND

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ILLUMINATION

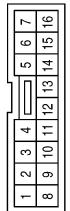
< WIRING DIAGRAM >

Connector No.	D10
Connector Name	DOOR MIRROR REMOTE CONTROL SWITCH (WITH AUTOMATIC DRIVE POSITIONER)
Connector Color	BROWN



 H.S.

Connector No.	D13
Connector Name	DOOR MIRROR REMOTE CONTROL SWITCH (WITHOUT AUTOMATIC DRIVE POSITIONER)
Connector Color	WHITE



 H.S.

Terminal No.	Color of Wire	Signal Name
8	BR	—
9	R/L	—

Terminal No.	Color of Wire	Signal Name
8	BR	—
9	R/L	—

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< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS**INTERIOR LIGHTING SYSTEM SYMPTOMS****Symptom Table**

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CAUTION:

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

Symptom	Possible cause	Inspection item
All of the following lamps do not turn ON <ul style="list-style-type: none"> • Room lamp (if equipped) • Front room/map lamp assembly (if equipped) • Personal lamp 2nd row (if equipped) • Vanity lamps (if equipped) • Front step lamps (if equipped) • Puddle lamps (if equipped) • Foot lamps (if equipped) 	<ul style="list-style-type: none"> • Harness between BCM and each interior room lamp • BCM 	Battery saver output/power supply circuit. Refer to INL-17, "Description" .
Some or all of the following interior room lamps do not turn ON/OFF <ul style="list-style-type: none"> • Room lamp (if equipped) • Puddle lamps (if equipped) • Front room/map lamp assembly (if equipped) • Personal lamp 2nd row (if equipped) 	<ul style="list-style-type: none"> • Harness between BCM and each door switch • Harness between BCM and each interior room lamp • BCM 	Door switch circuit Refer to DLK-27, "KING CAB : Diagnosis Procedure" (king cab) or DLK-29, "CREW CAB : Diagnosis Procedure" (crew cab). Interior room lamp control circuit. Refer to INL-19, "Description" .
Some or all of the following lamps do not turn ON/OFF <ul style="list-style-type: none"> • Front step lamps • Foot lamps (if equipped) 	<ul style="list-style-type: none"> • Harness between BCM and step lamps and foot lamps • BCM 	Step lamp circuit. Refer to INL-22, "Description" .
Cargo lamp and tailgate cargo lamps (if equipped) do not turn ON/OFF	<ul style="list-style-type: none"> • Harness between BCM and cargo lamp relay • Harness between cargo lamp relay and cargo lamps • BCM • Cargo lamp relay 	Cargo lamp control circuit. Refer to INL-24, "Description" .
Interior room lamp timer does not activate. (It turns ON/ OFF when the door opens/closes.)	—	Check the interior room lamp setting. Refer to INL-13, "INT LAMP : CONSULT-III Function (BCM - INT LAMP)" .
Interior room lamp battery saver does not activate.	—	Check the interior room lamp battery saver setting. Refer to INL-14, "BATTERY SAVER : CONSULT-III Function (BCM - BATTERY SAVER)" .

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

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

WARNING:

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

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

WARNING:

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

Precaution for Work

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- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components.
 - Water soluble dirt: Dip a soft cloth into lukewarm water, and wring the water out of the cloth to wipe the dirty area.
Then rub with a soft and dry cloth.
 - Oily dirt: Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%), and wipe the dirty area.
Then dip a cloth into fresh water, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol, or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

PREPARATION

< PREPARATION >

PREPARATION

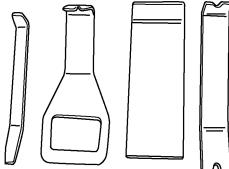
PREPARATION

Special Service Tool

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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
— (J-46534) Trim tool set	 For removing trim AWJIA0483ZZ

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< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

INTERIOR ROOM LAMP

Removal and Installation

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FRONT ROOM/MAP LAMP (If Equipped)

Removal

The front room/map lamp is replaced as part of the front roof console. Refer to [INT-21, "Removal and Installation".](#)

Installation

Installation is in the reverse order of removal.

Bulb or Lens Replacement

1. Using a suitable tool (A), remove front room/map lamp lens (1).

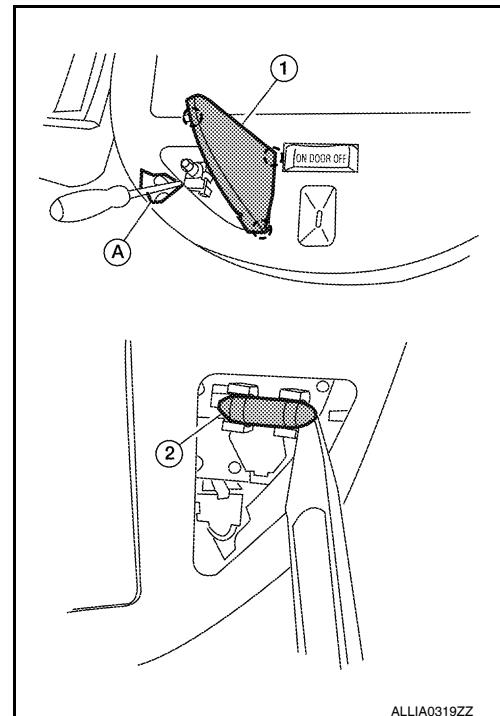
(○): Pawl

CAUTION:

Wrap a cloth around suitable tool (A) to protect the housing and lens (1).

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

Front room/map lamp : 12V - 6W
bulb



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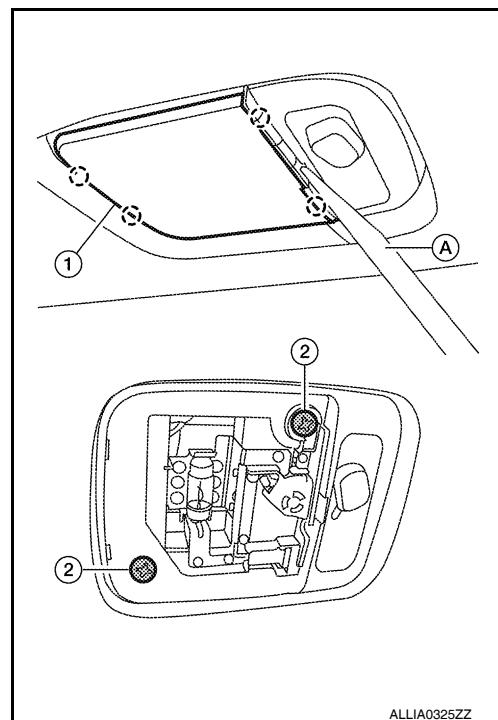
ROOM LAMP (If Equipped)

Removal

INTERIOR ROOM LAMP

< REMOVAL AND INSTALLATION >

1. Using a suitable tool (A), release the pawls and remove the room lamp lens (1).
①: Pawl
2. Remove room lamp screws (2).
3. Disconnect the connector, then remove the room lamp.



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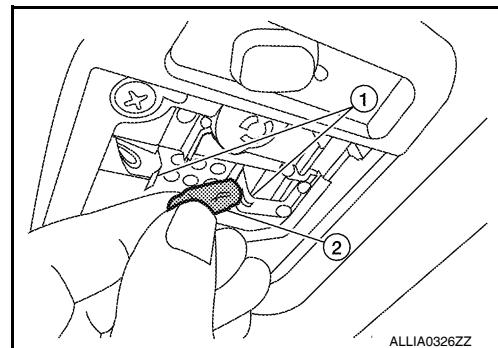
Installation

Installation is in the reverse order of removal.

Bulb or Lens Replacement

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

Room lamp bulb : 12V - 6W



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VANITY LAMP (If Equipped)

Removal

The vanity lamp is replaced as part of the sunvisor assembly. Refer to [INT-21, "Removal and Installation"](#).

Installation

Installation is in the reverse order of removal.

Bulb or Lens Replacement

INTERIOR ROOM LAMP

< REMOVAL AND INSTALLATION >

1. Using a suitable tool (A), release the tabs and remove the vanity lamp lens (1).

(): Pawl

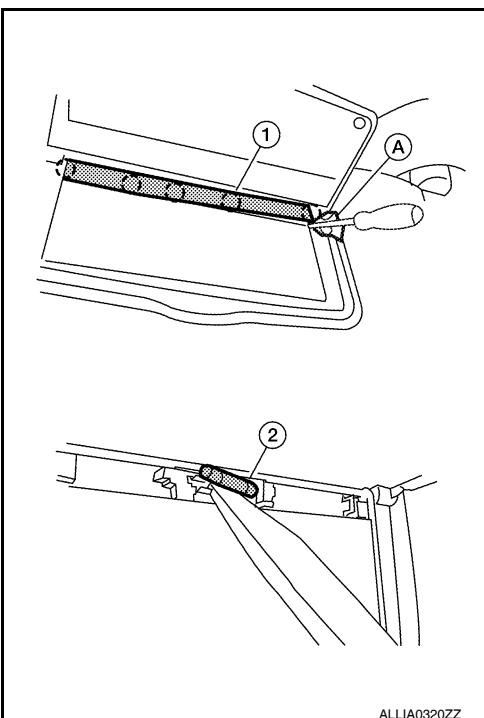
CAUTION:

Wrap a cloth around suitable tool (A) to protect the housing and lens.

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

Vanity lamp bulb

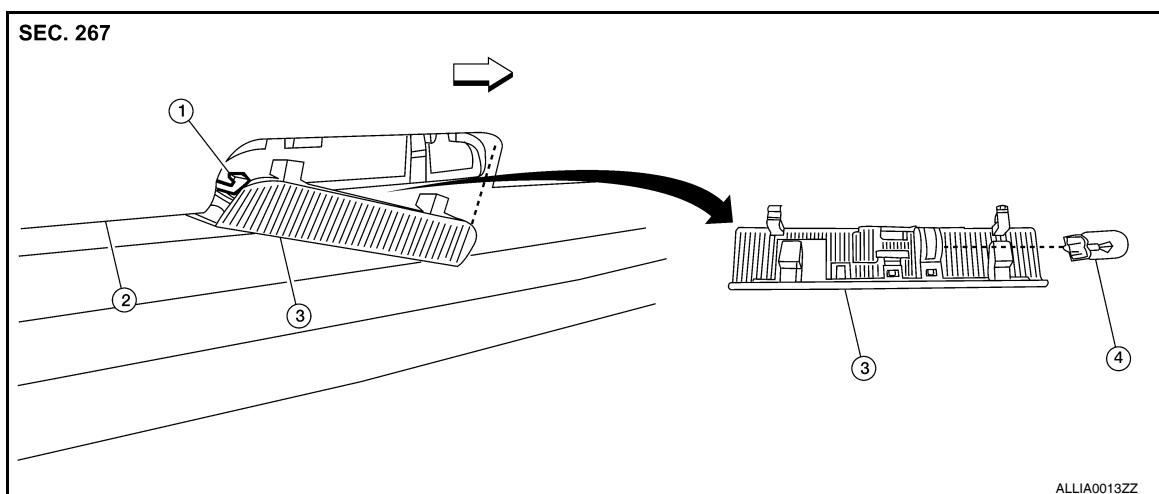
: 12V - 1.8W



ALLIA0320ZZ

STEP LAMP (If Equipped)

Removal



1. Step lamp connector	2. Door finisher	3. Step lamp lens/socket
4. Step lamp bulb	Vehicle front	

1. Insert a suitable tool between door finisher and step lamp lens/socket to release the pawls.

CAUTION:

Wrap a cloth around the suitable tool to protect door finisher and lens.

2. Disconnect the step lamp connector, then remove step lamp.

Installation

Installation is in the reverse order of removal.

Bulb Replacement

1. Remove the step lamp lens/socket.
2. Pull the bulb straight out to remove.

INTERIOR ROOM LAMP

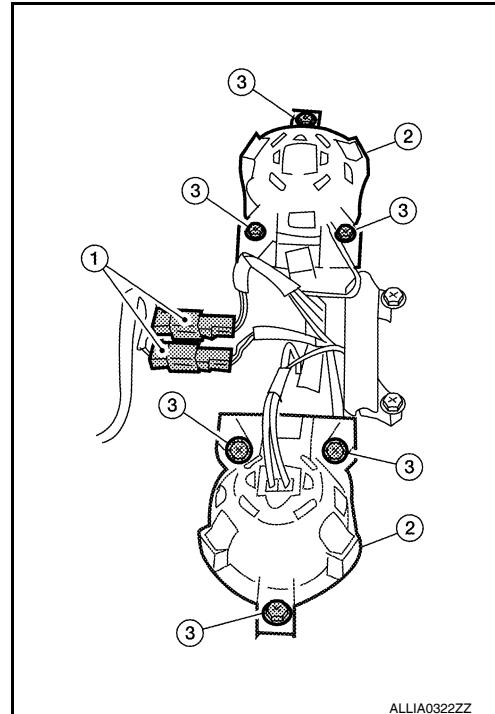
< REMOVAL AND INSTALLATION >

Step lamp bulb : 12V - 3.8W

PERSONAL LAMP (If Equipped)

Removal

1. Remove the rear roof console. Refer to [INT-21, "Removal and Installation"](#).
2. Remove personal lamp screws (3).
3. Disconnect personal lamp electrical connectors (1), then remove personal lamp (2) from the rear roof console.



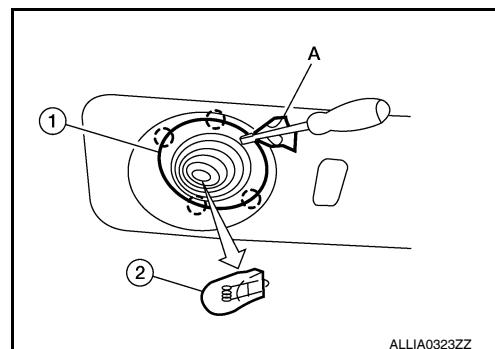
Installation

Installation is in the reverse order of removal.

Bulb Replacement

1. Using a suitable tool (A), release the pawls and remove personal lamp lens (1).
○: Pawl
CAUTION:
Wrap a cloth around suitable tool (A) to protect the housing and lens (1).
2. Pull bulb (2) straight out to remove.

Personal lamp bulb : 12V - 8W

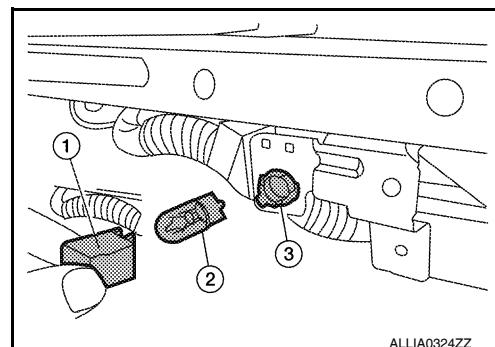


FOOT LAMP (If Equipped)

Removal

Rotate foot lamp socket (3) counterclockwise to remove from bracket.

- Bulb shield (1)
- Bulb (2)



Installation

INTERIOR ROOM LAMP

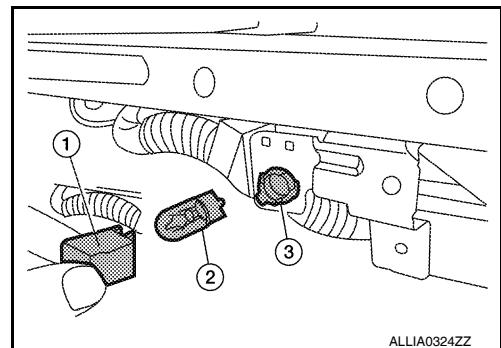
< REMOVAL AND INSTALLATION >

Installation is in the reverse order of removal.

Bulb Replacement

1. Release the pawls and remove bulb shield (1) from bracket.
2. Pull bulb (2) straight out from foot lamp socket (3) to remove.

Foot lamp bulb : 12V - 3.4W



< REMOVAL AND INSTALLATION >

ILLUMINATION

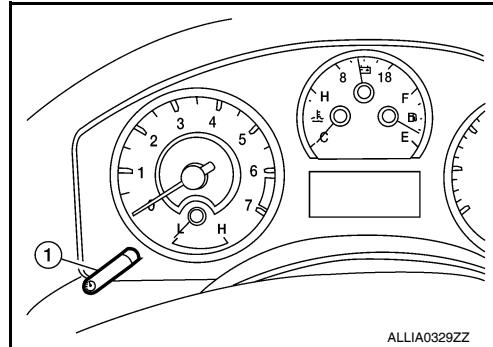
Removal and Installation

INFOID:0000000006164489

ILLUMINATION CONTROL SWITCH

Removal

The illumination control switch (1) 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.

CONSOLE ILLUMINATION LAMP (If Equipped)

Removal

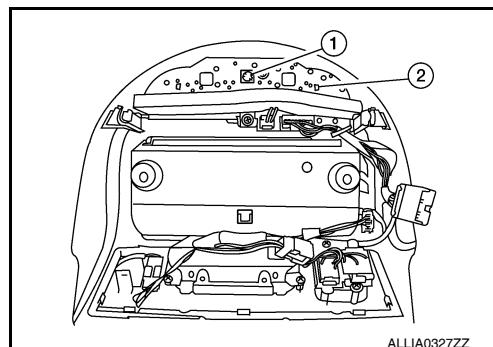
The console illumination lamp is replaced as part of the front roof console assembly. Refer to [INT-21, "Removal and Installation"](#).

Installation

Installation is in the reverse order of removal.

Bulb Replacement

1. Remove front roof console. Refer to [INT-21, "Removal and Installation"](#).
2. Rotate console illumination lamp bulb (1) counterclockwise, then pull straight out away from room/map lamp assembly (2) to remove.



BULB SPECIFICATIONS

< SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

BULB SPECIFICATIONS

Interior Lamp/Illumination

INFOID:000000006164490

Item	Wattage (W)*
Front room/map lamp (if equipped)	6
Room lamp (if equipped)	6
Vanity lamp (if equipped)	1.8
Step lamp (if equipped)	3.8
Personal lamp (if equipped)	8
Foot lamp (if equipped)	3.4
Console illumination lamp (if equipped)	*

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