SECTION PWC

POWER WINDOW CONTROL SYSTEM

CONTENTS

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000005274598

DETAILED FLOW

1. OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred) as much as possible when the customer brings the vehicle in.

>> GO TO 2

2. REPRODUCE THE MALFUNCTION INFORMATION

Check the malfunction on the vehicle that the customer describes.
Inspect the relation of the symptoms and the condition when the symptoms occur.

>> GO TO 3

3. IDENTIFY THE MALFUNCTIONING SYSTEM WITH “SYMPTOM DIAGNOSIS”

Use “Symptom diagnosis” from the symptom inspection result in step 2 and then identify where to start performing the diagnosis based on possible causes and symptoms.

>> GO TO 4

4. IDENTIFY THE MALFUNCTIONING PARTS WITH “COMPONENT DIAGNOSIS”

Perform the diagnosis with “Component diagnosis” of the applicable system.

>> GO TO 5

5. REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace the specified malfunctioning parts.

>> GO TO 6

6. FINAL CHECK

Check that malfunctions are not reproduced when obtaining the malfunction information from the customer, referring to the symptom inspection result in step 2.

Are the malfunctions corrected?

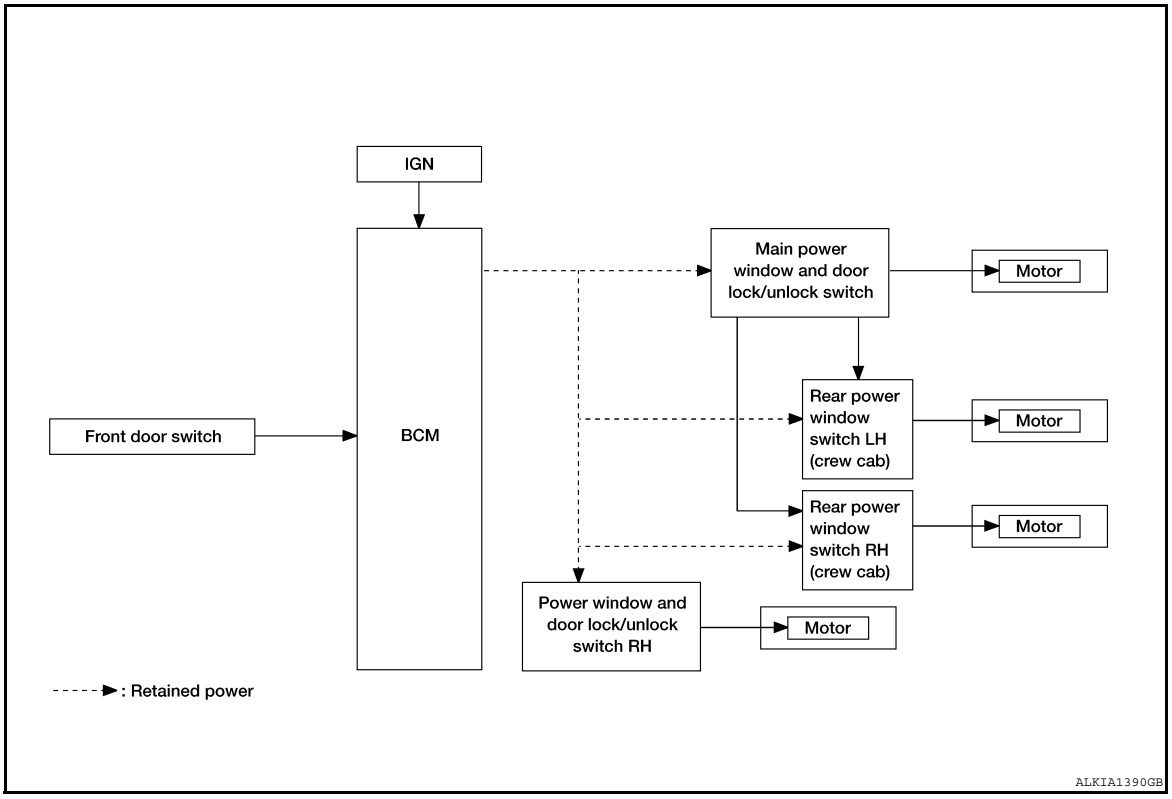
YES >> Inspection End.
NO >> GO TO 3

FUNCTION DIAGNOSIS

POWER WINDOW SYSTEM

System Diagram

INFOID:0000000005274599



System Description

INFOID:0000000005274600

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
INPUT/OUTPUT SIGNAL CHART

Item	Input signal to main power window and door lock/unlock switch	Main power window and door lock/unlock switch function	Actuator
Main power window and door lock/unlock switch	All power window motor UP/DOWN signal	Power window control	Power window motors
Power window and door lock/unlock switch RH	Front power window motor RH UP/DOWN signal		Front power window motor RH
Rear power window switch (crew cab)	Rear power window motor UP/DOWN signal		Rear power window motor
BCM	RAP signal		—

POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
INPUT/OUTPUT SIGNAL CHART

Item	Input signal to front power window switch	Front power window switch function	Actuator
Power window and door lock/unlock switch RH	Front power window motor RH UP/DOWN signal	Power window control	Front power window motor RH
BCM	RAP signal		

POWER WINDOW OPERATION

- Power window system is operable during the retained power operation timer after turning ignition switch ON and OFF.
- Main power window and door lock/unlock switch can open/close all windows.
- Power window and door lock unlock switch RH & rear power window switches LH and RH (crew cab) can open/close the corresponding windows.

POWER WINDOW AUTO DOWN OPERATION (FRONT LH)

- AUTO DOWN operation can be performed when main power window turns to AUTO.

RETAINED POWER OPERATION

- Retained power operation is an additional power supply function that enables power window system to operate during the 45 seconds even when ignition switch is turned OFF

Retained power function cancel conditions

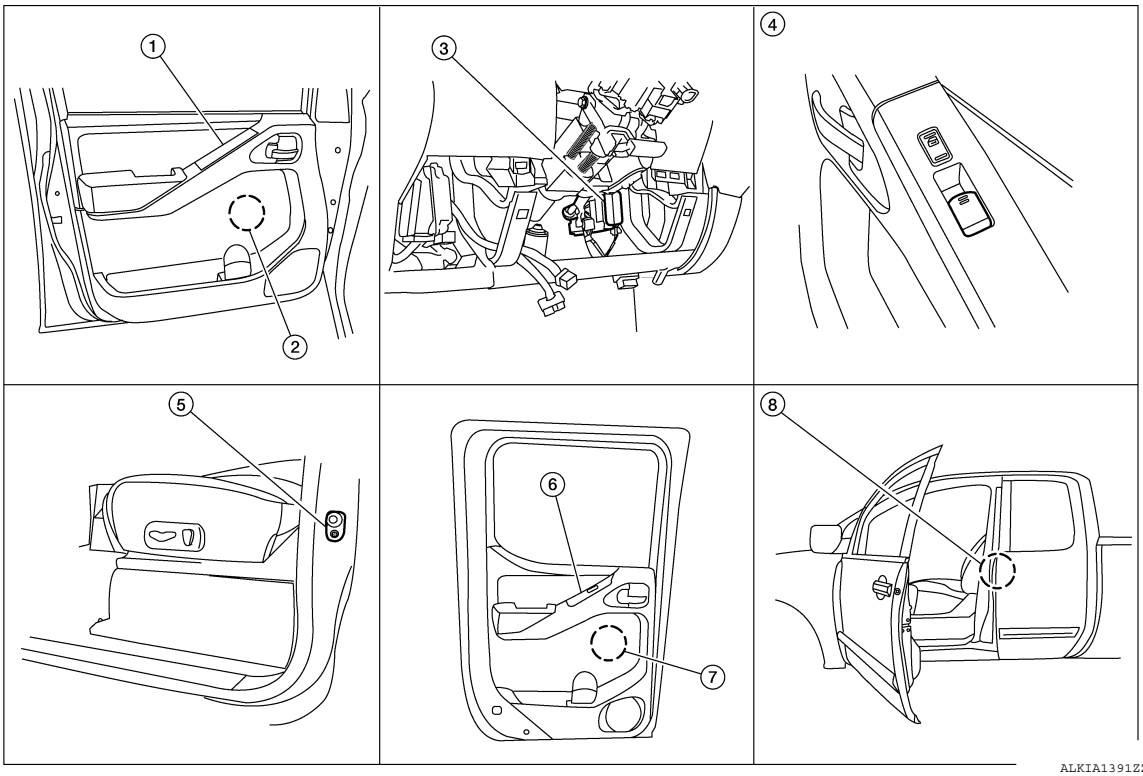
- Front door CLOSE (door switch OFF)→OPEN (door switch ON).
- When ignition switch is ON.
- When timer time passes. (45 seconds)

POWER WINDOW LOCK

Ground circuit inside main power window and door lock/unlock switch shuts off when power window lock switch is ON. This inhibits power window switch operation except with the main power window and door lock/unlock switch.

Component Parts Location

INFOID:0000000005274601



ALKIA1391ZZ

1. Main power window and door lock/unlock switch D7
2. Front power window motor LH D9, RH D104
3. BCM M18, M19, M20 (view with lower instrument panel LH removed)
4. Power window and door lock/unlock switch RH D105
5. Front door switch (crew cab) LH B8, RH B108
6. Rear power window switch LH D203, RH D303
7. Rear power window motor LH D204, RH D304
8. Front door switch (king cab) LH D213, RH D314

Component Description

INFOID:0000000005274602

FRONT WINDOW ANTI-PINCH SYSTEM

Component	Function
BCM	• Supplies power supply to power window switch. • Controls retained power.
Main power window and door lock/unlock switch	Directly controls all power window motor of all doors.
Power window and door lock/unlock switch RH	Controls front power window motor RH.
Rear power window switch (crew cab)	Controls rear power window motors LH and RH.
Front power window motor LH	Starts operating with signals from main power window and door lock/unlock switch.
Front power window motor RH	Starts operating with signals from main power window and door lock/unlock switch & power window and door lock/unlock switch RH.
Rear power window motor (crew cab)	Starts operating with signals from main power window and door lock/unlock switch & rear power window switch.
Front door switch LH or RH	Detects door open/close condition and transmits to BCM.

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:0000000005550716

APPLICATION ITEM

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

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
SELF-DIAG RESULTS	Displays the diagnosis results judged by BCM. Refer to BCS-50, "DTC Index".
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	• Enables to read and save the vehicle specification. • Enables to write the vehicle specification when replacing BCM.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

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

RETAINED PWR

RETAINED PWR : CONSULT-III Function (BCM - RETAINED PWR)

INFOID:0000000005550717

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [ON/OFF]	Indicates condition of ignition 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.

ACTIVE TEST

Test Item	Description
RETAINED PWR	This test is able to supply RAP signal (power) from BCM (body control module) to power window system and power sunroof system (if equipped). Those systems can be operated when turning on “RETAINED PWR” on CONSULT-III screen even if the ignition switch is turned OFF. **NOTE:** During this test, CONSULT-III can be operated with ignition switch in OFF position. “RETAINED PWR” should be turned “ON” or “OFF” on CONSULT-III screen when ignition switch is ON. Then turn ignition switch OFF to check retained power operation. CONSULT-III might be stuck if “RETAINED PWR” is turned “ON” or “OFF” on CONSULT-III screen when ignition switch is OFF.

WORK SUPPORT

Work item	Description
RETAINED PWR SET	RAP signal’s power supply period can be changed by mode setting. Selects RAP signal’s power supply period between three steps • MODE1 (45 sec.)/MODE2 (OFF)/MODE 3 (2 min.).

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

POWER WINDOW MAIN SWITCH (CREW CAB)

POWER WINDOW MAIN SWITCH (CREW CAB) : Description

INFOID:0000000005274605

- BCM supplies power.
- It operates each power window motor via corresponding power window switch and makes window move up/down when main power window and door lock/unlock switch is operated.

POWER WINDOW MAIN SWITCH (CREW CAB) : Component Function Check

INFOID:0000000005274606

Main Power Window And Door Lock/Unlock Switch

1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH FUNCTION

Does power window motor operate with main power window and door lock/unlock switch operation?

Is the inspection result normal?

YES >> Main power window and door lock/unlock switch power supply and ground circuit are OK.
NO >> Refer to PWC-9, "POWER WINDOW MAIN SWITCH (CREW CAB) : Diagnosis Procedure".

POWER WINDOW MAIN SWITCH (CREW CAB) : Diagnosis Procedure

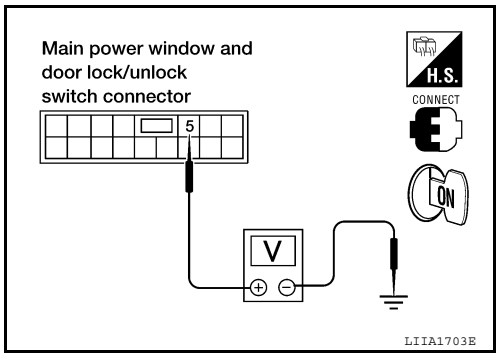
INFOID:0000000005274607

Regarding Wiring Diagram information, refer to PWC-33, "Wiring Diagram".

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between main power window and door lock/unlock switch connector D7 terminal 5 and ground.

5 - Ground : Battery voltage



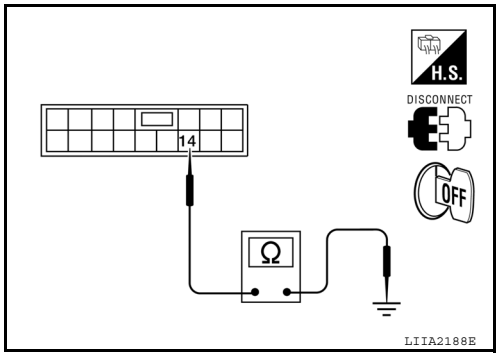
Is the measurement value within the specification?

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

2. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch.
3. Check continuity between main power window and door lock/unlock switch connector D7 terminal 14 and ground.

Connector	Terminals		Continuity
Main power window and door lock/unlock switch: D7	14	Ground	Yes

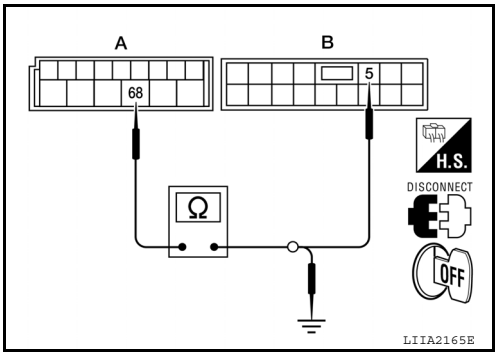


Is the inspection result normal?

YES >> GO TO 4
NO >> Repair or replace harness.

3. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM and main power window and door lock/unlock switch.
3. Check continuity between BCM and main power window and door lock/unlock switch.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
BCM: M20	68	Main power window and door lock/unlock switch: D7	5	Yes

4. Check continuity between BCM and ground.

A		Ground	Continuity
Connector	Terminal		
BCM: M20	68		No

Is the inspection result normal?

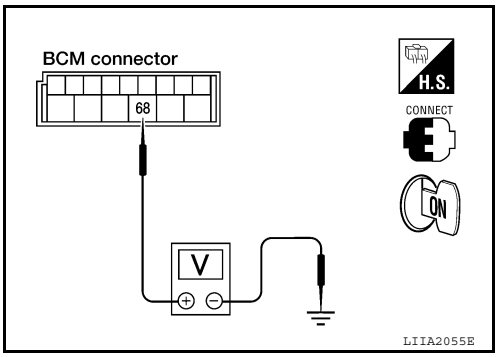
YES >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".

NO >> Repair or replace harness.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM.
2. Turn ignition switch ON.
3. Check voltage between BCM connector M20 terminal 68 and ground.

68 - Ground : Battery voltage



Is the measurement value within the specification?

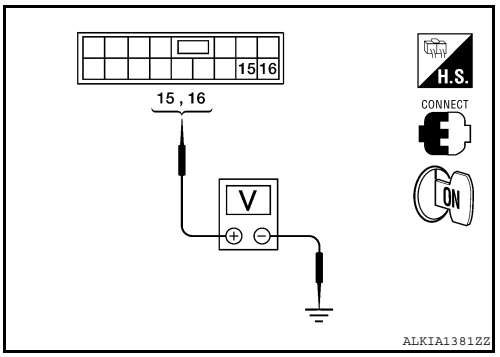
YES >> Check main power window and door lock/unlock switch output signal (rear power window switch LH) GO TO 5

YES >> Check main power window and door lock/unlock switch output signal (rear power window switch RH) GO TO 6

NO >> Replace BCM. Refer to BCS-54, "Removal and Installation".

5. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL (REAR POWER WINDOW SWITCH LH)

1. Turn ignition switch ON.
2. Check voltage between main power window and door lock/unlock switch connector and ground.



Terminal			Window condition	Voltage (V) (Approx.)
(+)		(–)		
Main power window and door lock/unlock switch connector	Terminal			
D7	15	Ground	UP	Battery voltage
			DOWN	0
	16		UP	0
			DOWN	Battery voltage

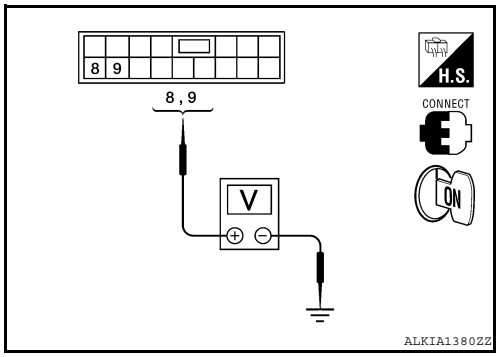
Is the measurement value within the specification?

YES >> GO TO 7

NO >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".

6. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL (REAR POWER WINDOW SWITCH RH)

1. Turn ignition switch ON.
2. Check voltage between main power window and door lock/unlock switch connector and ground.



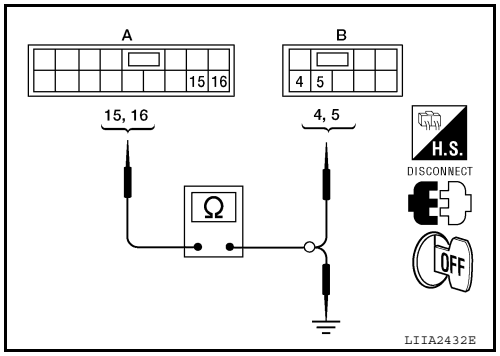
Terminal			Window condition	Voltage (V) (Approx.)
(+)		(–)		
Main power window and door lock/unlock switch connector	Terminal			
D7	8	Ground	UP	Battery voltage
			DOWN	0
	9		UP	0
			DOWN	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 8
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".

7. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH LH)

1. Turn ignition switch OFF.
2. Disconnect rear power window switch LH.
3. Check continuity between main power window and door lock/unlock switch connector and rear power window switch LH connector.



Main power window and door lock/unlock switch connector	Terminal	Rear power window switch LH connector	Terminal	Continuity
D7	15	D203	4	Yes
	16		5	

4. Check continuity between main power window and door lock/unlock switch connector and ground.

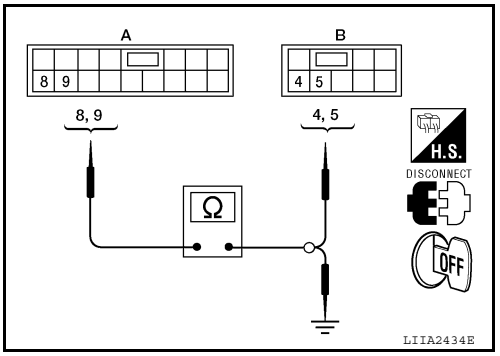
Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7	15		No
	16		

Is the inspection result normal?

YES >> GO TO 9
NO >> Repair or replace harness.

8. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH RH)

1. Turn ignition switch OFF.
2. Disconnect rear power window switch RH.
3. Check continuity between main power window and door lock/unlock switch connector and rear power window switch RH connector.



Main power window and door lock/unlock switch connector	Terminal	Rear power window switch RH connector	Terminal	Continuity
D7	8	D303	4	Yes
	9		5	

4. Check continuity between main power window and door lock/unlock switch connector and ground.

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7	8		No
	9		

Is the inspection result normal?

YES >> GO TO 9
NO >> Repair or replace harness.

9. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Check main power window and door lock/unlock switch.
Refer to PWC-12, "POWER WINDOW MAIN SWITCH (CREW CAB) : Component Inspection".

Is the inspection result normal?

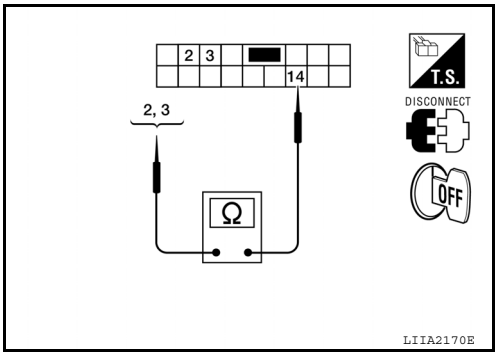
YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".

POWER WINDOW MAIN SWITCH (CREW CAB) : Component Inspection

INFOID:0000000005274608

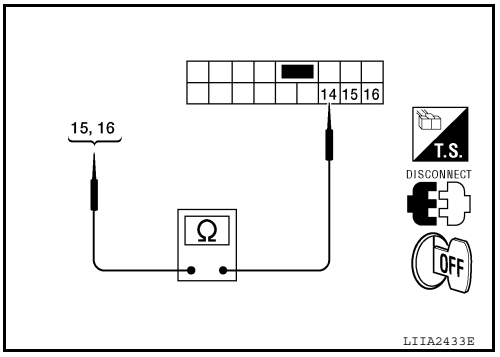
1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

1. Check continuity between main power window and door lock/unlock switch terminals for front window RH.



	Terminals		Condition	Continuity
Main power window and door lock/unlock switch	14	2	Lock switch UNLOCK	Yes
			Lock switch LOCK	No
		3	Lock switch UNLOCK	Yes
			Lock switch LOCK	No

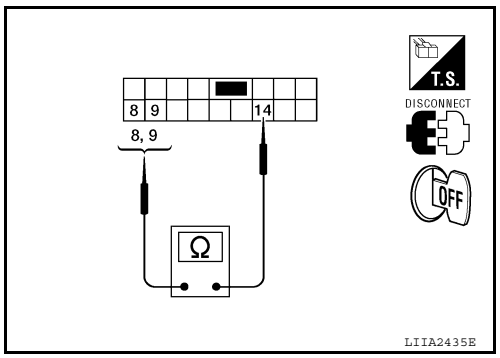
2. Check continuity between main power window and door lock/unlock switch terminals for rear window LH.



	Terminals		Condition	Continuity
Main power window and door lock/unlock switch	14	15	Lock switch UNLOCK	Yes
			Lock switch LOCK	No
		16	Lock switch UNLOCK	Yes
			Lock switch LOCK	No

3. Check continuity between main power window and door lock/unlock switch terminals for rear window RH.

	Terminals		Condition	Continuity
Main power window and door lock/unlock switch	14	8	Lock switch UNLOCK	Yes
			Lock switch LOCK	No
		9	Lock switch UNLOCK	Yes
			Lock switch LOCK	No



Is the inspection result normal?

YES >> Main power window and door lock/unlock switch is OK.
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".

POWER WINDOW MAIN SWITCH (KING CAB)

POWER WINDOW MAIN SWITCH (KING CAB) : Description

INFOID:0000000005274609

- BCM supplies power.
- It operates each power window motor via corresponding power window switch and makes window move up/down when main power window and door lock/unlock switch is operated.

POWER WINDOW MAIN SWITCH (KING CAB) : Component Function Check

INFOID:0000000005274610

Main Power Window And Door Lock/Unlock Switch

1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH FUNCTION

Does power window motor operate with main power window and door lock/unlock switch operation?

Is the inspection result normal?

YES >> Main power window and door lock/unlock switch power supply and ground circuit are OK.
NO >> Refer to PWC-13, "POWER WINDOW MAIN SWITCH (KING CAB) : Diagnosis Procedure".

POWER WINDOW MAIN SWITCH (KING CAB) : Diagnosis Procedure

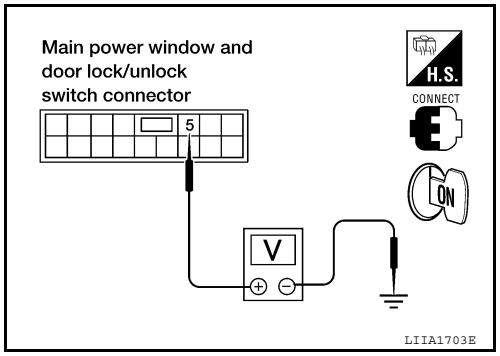
INFOID:0000000005274611

Regarding Wiring Diagram information, refer to PWC-33, "Wiring Diagram".

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between main power window and door lock/unlock switch connector D7 terminal 5 and ground.

5 - Ground : Battery voltage

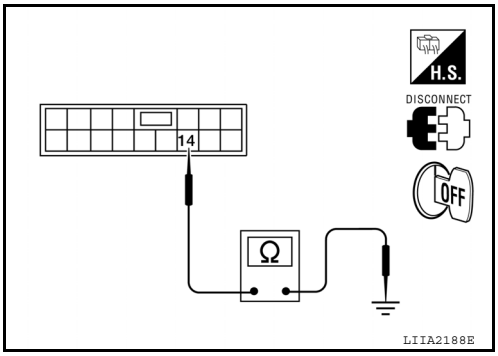


Is the measurement value within the specification?

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

2. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch.
3. Check continuity between main power window and door lock/unlock switch connector D7 terminal 14 and ground.



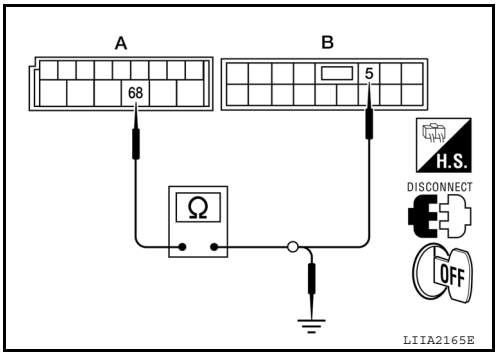
Connector	Terminals		Continuity
Main power window and door lock/unlock switch: D7	14	Ground	Yes

Is the inspection result normal?

YES >> GO TO 4
NO >> Repair or replace harness.

3. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM and main power window and door lock/unlock switch.
3. Check continuity between BCM and main power window and door lock/unlock switch.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
BCM: M20	68	Main power window and door lock/unlock switch: D7	5	Yes

4. Check continuity between BCM and ground.

A		Ground	Continuity
Connector	Terminal		
BCM: M20	68		No

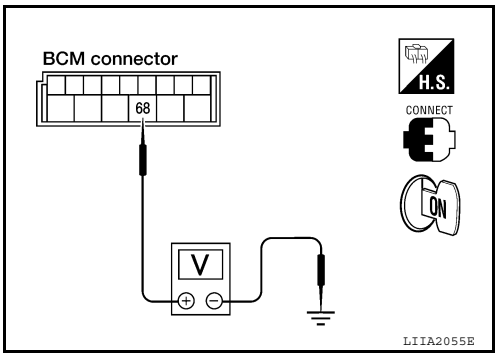
Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".
NO >> Repair or replace harness.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM.
2. Turn ignition switch ON.
3. Check voltage between BCM connector M20 terminal 68 and ground.

68 - Ground : Battery voltage



Is the measurement value within the specification?

YES >> GO TO 5
NO >> Replace BCM. Refer to BCS-54, "Removal and Installation".

5. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Check main power window and door lock/unlock switch.
Refer to PWC-15, "POWER WINDOW MAIN SWITCH (KING CAB) : Component Inspection".

Is the inspection result normal?

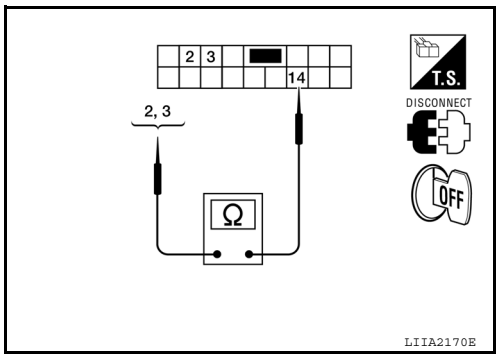
YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".

POWER WINDOW MAIN SWITCH (KING CAB) : Component Inspection

INFOID:0000000005274612

1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch.
3. Check continuity between main power window and door lock/unlock switch terminals for front window RH.



	Terminals		Condition	Continuity
Main power window and door lock/unlock switch	14	2	Lock switch UNLOCK	Yes
			Lock switch LOCK	No
		3	Lock switch UNLOCK	Yes
			Lock switch LOCK	No

Is the inspection result normal?

YES >> Main power window and door lock/unlock switch is OK.
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".

FRONT POWER WINDOW SWITCH

FRONT POWER WINDOW SWITCH : Description

INFOID:0000000005274613

- BCM supplies power.
- Front power window motor RH will be operated if power window and door lock/unlock switch RH is operated.

FRONT POWER WINDOW SWITCH : Component Function Check

INFOID:0000000005274614

Power Window And Door Lock/Unlock Switch RH

1. CHECK FRONT POWER WINDOW MOTOR RH FUNCTION

Does front power window motor RH operate with power window and door lock/unlock switch RH operation?

Is the inspection result normal?

YES >> Power window and door lock/unlock switch RH power supply and ground circuit are OK.
NO >> Refer to PWC-15, "FRONT POWER WINDOW SWITCH : Diagnosis Procedure".

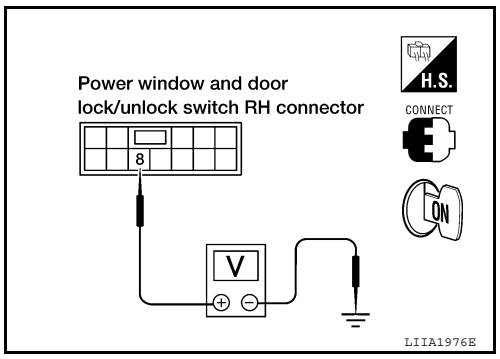
FRONT POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:0000000005274615

Regarding Wiring Diagram information, refer to PWC-33, "Wiring Diagram".

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between power window and door lock/unlock switch RH connector and ground.



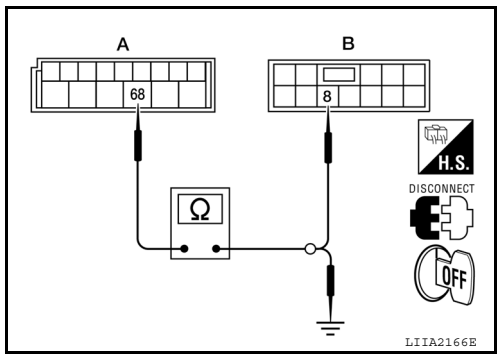
Terminal			Voltage (V) (Approx.)
(+)		(–)	
Power window and door lock/unlock switch RH connector	Terminal		
D105	8	Ground	Battery voltage

Is the measurement value within the specification?

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

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and power window and door lock/unlock switch RH.
3. Check continuity between BCM connector (A) and power window and door lock/unlock switch RH connector (B).



BCM connector	Terminal	Power window and door lock/unlock switch RH connector	Terminal	Continuity
M20 (A)	68	D105 (B)	8	Yes

4. Check continuity between BCM connector (A) and ground.

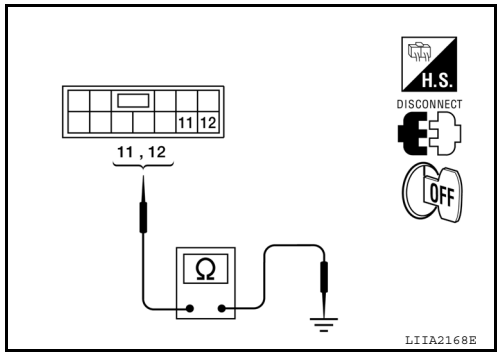
BCM connector	Terminal	Ground	Continuity
M20 (A)	68		No

Is the inspection result normal?

YES >> GO TO 4
NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect power window and door lock/unlock switch RH.
3. Check continuity between power window and door lock/unlock switch RH connector and ground.



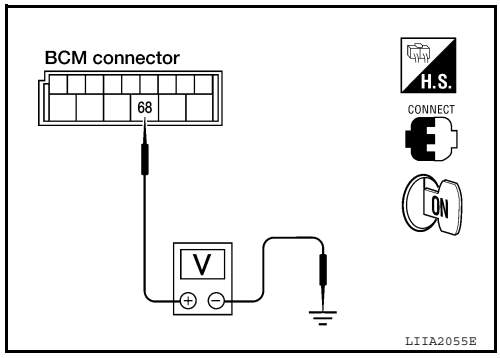
Connector	Terminals		Continuity
Power window and door lock/unlock switch RH: D105	11	Ground	Yes
	12		Yes

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-66, "Removal and Installation".
NO >> Repair or replace harness.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM.
2. Turn ignition switch ON.
3. Check voltage between BCM connector and ground.



Terminals			Voltage (V) (Approx.)
(+)		(-)	
BCM connector	Terminal		
M20	68	Ground	Battery voltage

Is the measurement value within the specification?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-66, "Removal and Installation".
NO >> Replace BCM. Refer to BCS-54, "Removal and Installation".

REAR POWER WINDOW SWITCH

REAR POWER WINDOW SWITCH : Description

INFOID:0000000005274616

- BCM supplies power.
- Rear power window motor will be operated if rear power window switch is operated.

REAR POWER WINDOW SWITCH : Component Function Check

INFOID:0000000005274617

Rear Power Window Switch

1. CHECK REAR POWER WINDOW MOTOR FUNCTION

Does rear power window motor operate with rear power window switch operation?

Is the inspection result normal?

YES >> Rear power window switch power supply and ground circuit are OK.
NO >> Refer to PWC-17, "REAR POWER WINDOW SWITCH : Diagnosis Procedure".

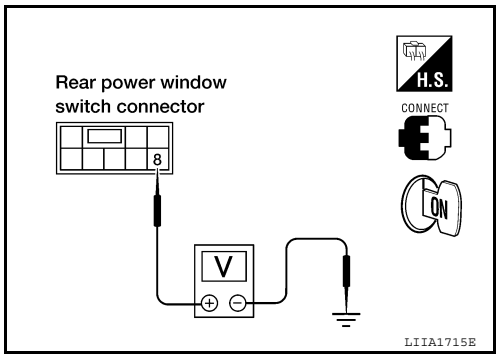
REAR POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:0000000005274618

Regarding Wiring Diagram information, refer to PWC-33, "Wiring Diagram".

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between rear power window switch connector and ground.



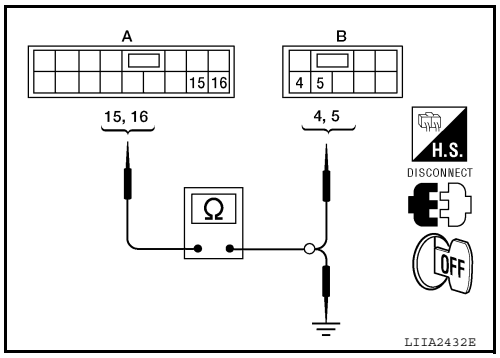
Terminal				Condition	Voltage (V) (Approx.)
(+)			(–)		
Rear power window switch connector		Terminal			
LH	D203	8	Ground	Ignition switch ON	Battery voltage
RH	D303				

Is the measurement value within the specification?

YES >> GO TO 2 (Rear power window switch LH)
YES >> GO TO 3 (Rear power window switch RH)
NO >> GO TO 4

2. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH LH)

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch and rear power window switch LH.
3. Check continuity between main power window and door lock/unlock switch connector (A) and rear power window switch LH connector (B).



Main power window and door lock/unlock switch connector	Terminal	Rear power window switch LH connector	Terminal	Continuity
D7 (A)	15	D203 (B)	4	Yes
	16		5	

4. Check continuity between main power window and door lock/unlock switch connector (A) and ground.

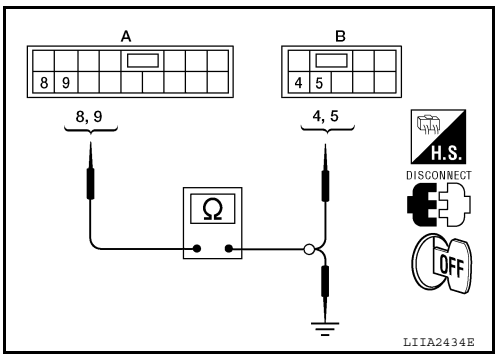
Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7 (A)	15		No
	16		

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".
NO >> Repair or replace harness.

3. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH RH)

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch and rear power window switch RH.
3. Check continuity between main power window and door lock/unlock switch connector (A) and rear power window switch RH connector (B).



Main power window and door lock/unlock switch connector	Terminal	Rear power window switch RH connector	Terminal	Continuity
D7 (A)	8	D303 (B)	4	Yes
	9		5	

4. Check continuity between main power window and door lock/unlock switch connector (A) and ground.

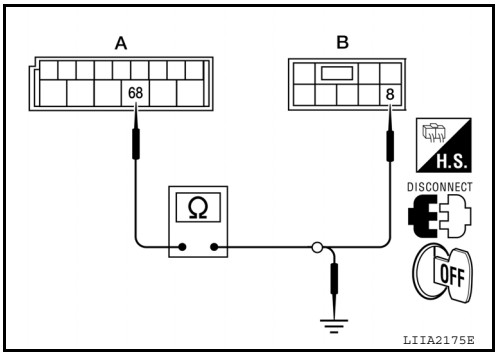
Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7 (A)	8		No
	9		

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".
NO >> Repair or replace harness.

4. CHECK HARNESS CONTINUITY

1. Disconnect BCM and rear power window switch.
2. Check continuity between BCM connector (A) and rear power window switch connector (B).



BCM connector	Terminal	Rear power window switch connector		Terminal	Continuity
M20 (A)	68	LH	D203 (B)	8	Yes
		RH	D303 (B)		

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

BCM connector	Terminal	Ground	Continuity
M20 (A)	68		No

Is the inspection result normal?

YES >> GO TO 5
NO >> Repair or replace harness.

5. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.
Refer to PWC-18, "REAR POWER WINDOW SWITCH : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".
NO >> Replace rear power window switch. Refer to PWC-67, "Removal and Installation - Rear Door Switch (if equipped)".

REAR POWER WINDOW SWITCH : Component Inspection

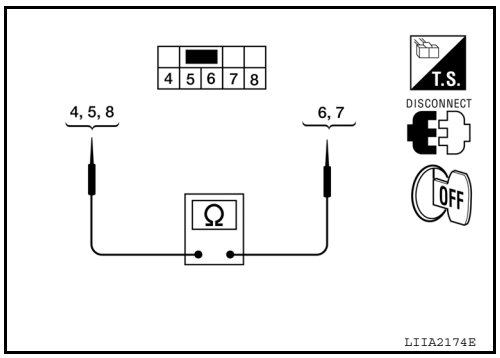
INFOID:0000000005274619

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

	Terminals		Condition	Continuity
Rear power window switch LH or RH	6	5	DOWN	No
			NEUTRAL or UP	Yes
		8	NEUTRAL or UP	No
			DOWN	Yes
	7	4	UP	No
			NEUTRAL or DOWN	Yes
		8	NEUTRAL or DOWN	No
			UP	Yes



Is the inspection result normal?

YES >> Rear power window switch is OK.
NO >> Replace rear power window switch. Refer to PWC-67, "Removal and Installation - Rear Door Switch (if equipped)".

POWER WINDOW MOTOR
DRIVER SIDE

DRIVER SIDE : Description

INFOID:0000000005274620

Door glass moves UP/DOWN by receiving the signal from power window main switch.

DRIVER SIDE : Component Function Check

INFOID:0000000005274621

1. CHECK POWER WINDOW MOTOR CIRCUIT

Does front power window motor LH operate when operating main power window and door lock/unlock switch?

Is the inspection result normal?

YES >> Front power window motor LH is OK.
NO >> Refer to PWC-20, "DRIVER SIDE : Diagnosis Procedure".

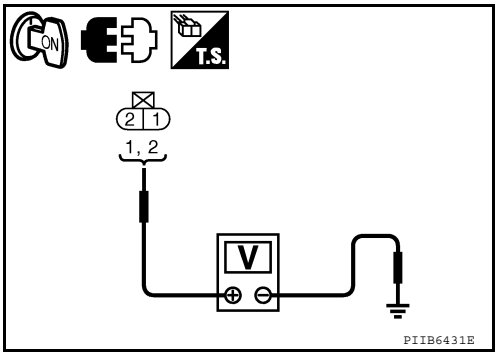
DRIVER SIDE : Diagnosis Procedure

INFOID:0000000005274622

Regarding Wiring Diagram information, refer to PWC-33, "Wiring Diagram".

1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL

1. Disconnect front power window motor LH.
2. Turn ignition switch ON.
3. Check voltage between front power window motor LH connector and ground.



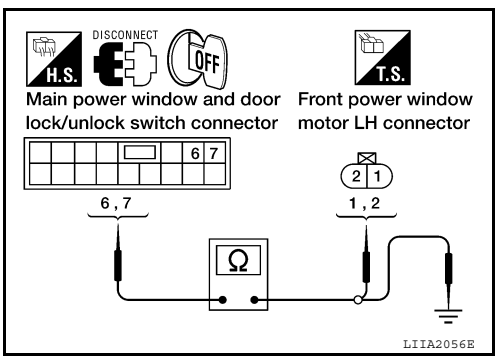
Terminal			Main power window and door lock/unlock switch condition	Voltage (V) (Approx.)
(+)		(–)		
Power window motor LH connector	Terminal			
D9	2	Ground	UP	Battery voltage
			DOWN	0
	1		UP	0
			DOWN	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 2
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch.
3. Check continuity between main power window and door lock/unlock switch connector and front power window motor connector LH.



Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D7	6	D9	2	Yes
	7		1	

4. Check continuity between main power window and door lock/unlock switch connector (A) and ground.

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7	6		No
	7		

Is the inspection result normal?

YES >> GO TO 3
NO >> Repair or replace harness.

3. CHECK POWER WINDOW MOTOR

Check front power window motor LH.
Refer to PWC-21, "DRIVER SIDE : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".
NO >> Replace power window motor LH. Refer to GW-16, "Front Door Glass Regulator".

DRIVER SIDE : Component Inspection

INFOID:0000000005274623

COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR LH

Does motor operate by connecting the battery voltage directly to power window motor?

Terminal		Motor condition
(+)	(–)	
1	2	DOWN
2	1	UP

Is the inspection result normal?

YES >> Front power window motor LH is OK.
NO >> Replace front power window motor LH. Refer to GW-16, "Front Door Glass Regulator".

PASSENGER SIDE

PASSENGER SIDE : Description

INFOID:0000000005274624

Door glass moves UP/DOWN by receiving the signal from main power window and door lock/unlock switch or power window and door lock/unlock switch RH.

PASSENGER SIDE : Component Function Check

INFOID:0000000005274625

1. CHECK POWER WINDOW MOTOR CIRCUIT

Does power window motor operate when operating main power window and door lock/unlock switch or power window and door lock/unlock switch RH?

Is the inspection result normal?

YES >> Front power window motor RH is OK.
NO >> Refer to PWC-21, "PASSENGER SIDE : Diagnosis Procedure".

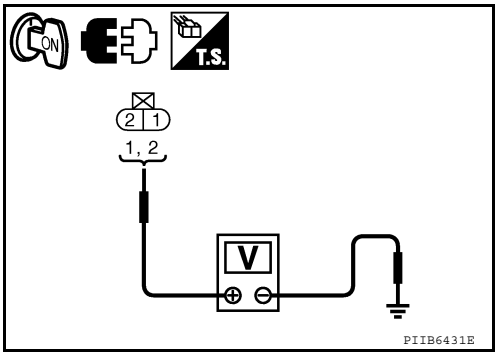
PASSENGER SIDE : Diagnosis Procedure

INFOID:0000000005274626

Regarding Wiring Diagram information, refer to PWC-33, "Wiring Diagram".

1. CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL

1. Disconnect front power window motor RH.
2. Turn ignition switch ON.
3. Check voltage between front power window motor RH connector and ground.



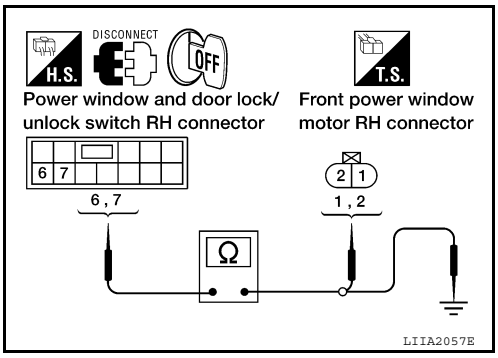
Terminal			Front power window motor RH condition	Voltage (V) (Approx.)
(+)		(–)		
Front power window motor RH connector	Terminal			
D104	2	Ground	UP	Battery voltage
			DOWN	0
	1		UP	0
			DOWN	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 2
NO >> Replace power window and door lock/unlock switch RH. Refer to PWC-66, "Removal and Installation".

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect power window and door lock/unlock switch RH.
3. Check continuity between power window and door lock/unlock switch RH connector and front power window motor RH connector.



Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105	6	D104	1	Yes
	7		2	

4. Check continuity between power window and door lock/unlock switch RH connector and ground.

Power window and door lock/unlock switch RH connector	Terminal	Ground	Continuity
D105	6		No
	7		

Is the inspection result normal?

YES >> GO TO 3
NO >> Repair or replace harness.

3. CHECK FRONT POWER WINDOW MOTOR RH

Check front power window motor RH.
Refer to PWC-22, "PASSENGER SIDE : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".
NO >> Replace front power window motor RH. Refer to GW-16, "Front Door Glass Regulator".

PASSENGER SIDE : Component Inspection

INFOID:0000000005274627

COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR RH

Does motor operate by connecting the battery voltage directly to front power window motor RH?

Terminal		Motor condition
(+)	(–)	
1	2	DOWN
2	1	UP

Is the inspection result normal?

YES >> Front power window motor RH is OK.
NO >> Replace front power window motor RH. Refer to GW-16, "Front Door Glass Regulator".

REAR LH

REAR LH : Description

INFOID:0000000005274628

Door glass moves UP/DOWN by receiving the signal from power window main switch or rear power window switch LH.

REAR LH : Component Function Check

INFOID:0000000005274629

1. CHECK REAR POWER WINDOW MOTOR LH CIRCUIT

Does rear power window motor LH operate with main power window and door lock/unlock switch or rear power window switch LH?

Is the inspection result normal?

YES >> Rear power window motor LH is OK.
NO >> Refer to PWC-23, "REAR LH : Diagnosis Procedure".

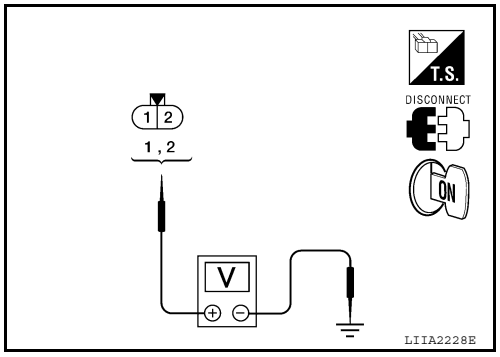
REAR LH : Diagnosis Procedure

INFOID:0000000005274630

Regarding Wiring Diagram information, refer to PWC-33, "Wiring Diagram".

1. CHECK REAR POWER WINDOW SWITCH OUTPUT SIGNAL

1. Disconnect rear power window motor LH.
2. Turn ignition switch ON.
3. Check voltage between rear power window motor LH connector and ground.



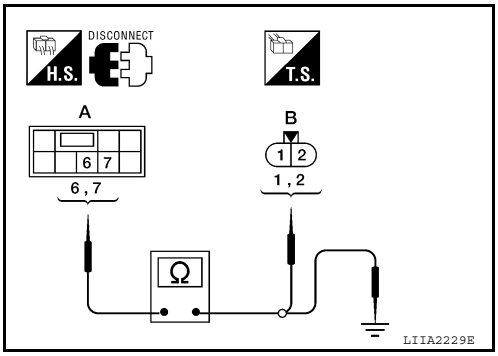
Terminal			Window condition	Voltage (V) (Approx.)
(+)		(–)		
Rear power window motor LH connector	Terminal			
D204	1	Ground	UP	Battery voltage
			DOWN	0
	2		UP	0
			DOWN	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 2
NO >> Check rear power window switch LH. Refer to PWC-17, "REAR POWER WINDOW SWITCH : Component Function Check".

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect rear power window switch LH.
3. Check continuity between rear power window switch LH connector (A) and rear power window motor LH connector (B).



Rear power window switch LH connector	Terminal	Rear power window motor LH connector	Terminal	Continuity
D203 (A)	6	D204 (B)	1	Yes
	7		2	

4. Check continuity between rear power window switch LH connector (A) and ground.

Rear power window switch LH connector	Terminal	Ground	Continuity
D203 (A)	6		No
	7		

Is the inspection result normal?

YES >> GO TO 3
NO >> Repair or replace harness.

3. CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH.
Refer to PWC-24, "REAR LH : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".
NO >> Replace rear power window motor LH. Refer to GW-20, "Rear Door Glass Regulator".

REAR LH : Component Inspection

INFOID:0000000005274631

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW MOTOR LH

Does motor operate by connecting the battery voltage directly to rear power window motor LH?

Terminal		Motor condition
(+)	(–)	
2	1	DOWN
1	2	UP

Is the inspection result normal?

YES >> Rear power window motor LH is OK.
NO >> Replace rear power window motor LH. Refer to GW-20, "Rear Door Glass Regulator".

REAR RH

REAR RH : Description

INFOID:0000000005274632

Door glass moves UP/DOWN by receiving the signal from main power window and door lock/unlock switch or rear power window switch RH.

REAR RH : Component Function Check

INFOID:0000000005274633

1. CHECK REAR POWER WINDOW MOTOR RH CIRCUIT

Does rear power window motor RH operate with operating main power window and door lock/unlock switch or rear power window switch RH?

Is the inspection result normal?

YES >> Rear power window motor RH is OK.
NO >> Refer to PWC-25, "REAR RH : Diagnosis Procedure".

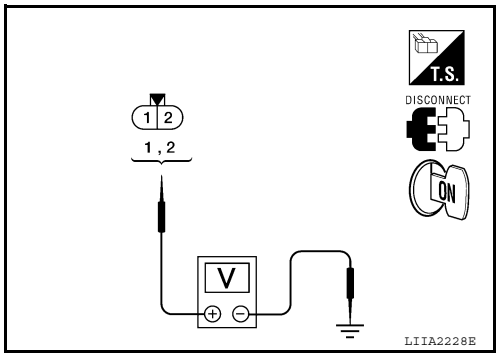
REAR RH : Diagnosis Procedure

INFOID:0000000005274634

Regarding Wiring Diagram information, refer to PWC-33, "Wiring Diagram".

1. CHECK REAR POWER WINDOW SWITCH RH OUTPUT SIGNAL

1. Disconnect rear power window motor RH.
2. Turn ignition switch ON.
3. Check voltage between rear power window motor RH connector and ground.



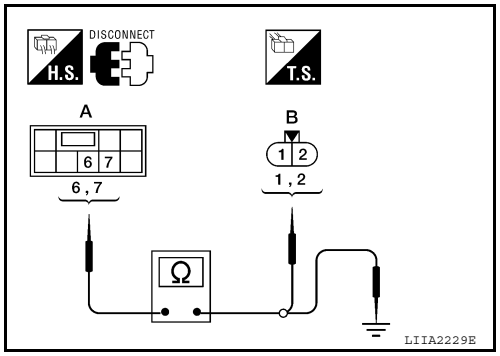
Terminal			Rear power window switch RH condition	Voltage (V) (Approx.)
(+)		(–)		
Rear power window motor RH connector	Terminal			
D304	1	Ground	UP	Battery voltage
			DOWN	0
	2		UP	0
			DOWN	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 2
NO >> Check rear power window switch RH. Refer to PWC-17, "REAR POWER WINDOW SWITCH : Component Function Check".

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect rear power window switch RH.
3. Check continuity between rear power window switch RH connector (A) and rear power window motor RH connector (B).



Rear power window switch RH connector	Terminal	Rear power window motor RH connector	Terminal	Continuity
D303 (A)	6	D304 (B)	1	Yes
	7		2	

4. Check continuity between rear power window switch RH connector (A) and ground.

Rear power window switch RH connector	Terminal	Ground	Continuity
D303 (A)	6		No
	7		

Is the inspection result normal?

YES >> GO TO 3
NO >> Repair or replace harness.

3. CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH.
Refer to PWC-26, "REAR RH : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".
NO >> Replace rear power window motor RH. Refer to GW-20, "Rear Door Glass Regulator".

REAR RH : Component Inspection

INFOID:0000000005274635

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW MOTOR RH

Does motor operate by connecting the battery voltage directly to rear power window motor RH?

Terminal		Motor condition
(+)	(–)	
2	1	DOWN
1	2	UP

Is the inspection result normal?

YES >> Rear power window motor RH is OK.
NO >> Replace rear power window motor RH. Refer to GW-20, "Rear Door Glass Regulator".

DOOR SWITCH

KING CAB

KING CAB : Description

INFOID:0000000005274636

Detects door open/close condition.

KING CAB : Component Function Check

INFOID:0000000005274637

1. CHECK FUNCTION

With CONSULT-III

Check door switches in data monitor mode with CONSULT-III.

Monitor item	Condition
DOOR SW-DR	CLOSE → OPEN: OFF → ON
DOOR SW-AS	

Is the inspection result normal?

YES >> Door switch is OK.
NO >> Refer to PWC-27, "KING CAB : Diagnosis Procedure".

KING CAB : Diagnosis Procedure

INFOID:0000000005274638

Regarding Wiring Diagram information, refer to PWC-33, "Wiring Diagram".

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-III

Check door switches ("DOOR SW-DR", "DOOR SW-AS") in DATA MONITOR mode with CONSULT–III. Refer to BCS-15, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

- When any doors are open:

DOOR SW-DR :ON
DOOR SW-AS :ON

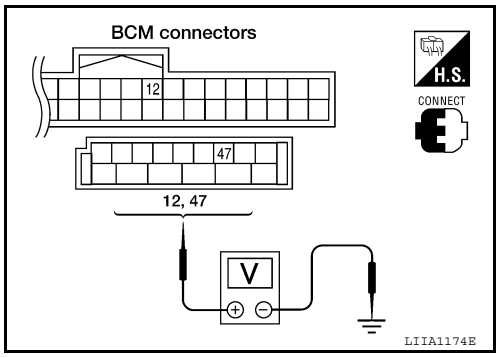
- When any doors are closed:

DOOR SW-DR :OFF
DOOR SW-AS :OFF

Without CONSULT-III

Check voltage between BCM connector M18 or M19 terminals 12, 47 and ground.

Connector	Item	Terminals (+)	Terminals (–)	Condition	Voltage (V) (Approx.)
M19	Front door switch LH	47	Ground	Open ↓ Closed	0 ↓ Battery voltage
M18	Front door switch RH	12			



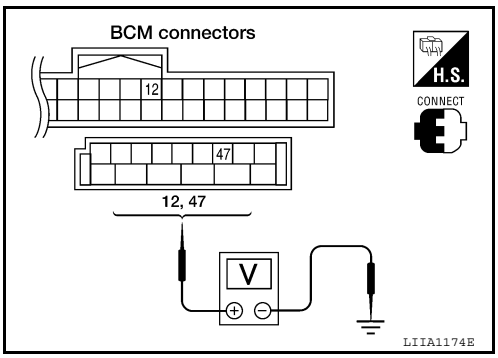
Is the inspection result normal?

YES >> Door switch circuit is OK.
NO >> GO TO 2

2. CHECK BCM OUTPUT VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect door switches.
3. Check voltage between BCM connector M18, M19 terminals 12, 47 and ground.

12 - Ground : Battery voltage
47 - Ground : Battery voltage



Is the inspection result normal?

YES >> GO TO 3
NO >> Replace BCM. Refer to BCS-54, "Removal and Installation".

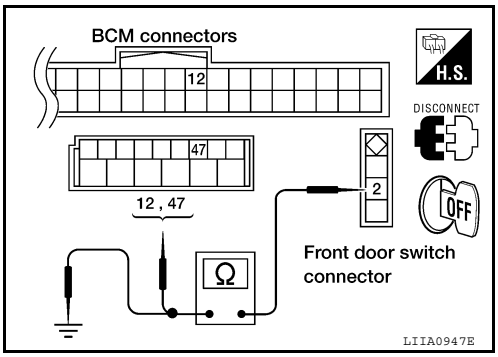
3. CHECK DOOR SWITCH CIRCUIT

1. Disconnect BCM.
2. Check continuity between door switch connector D213 (Front LH), D314 (Front RH) terminal 2 and BCM connector M18, M19 terminals 12, and 47.

2 - 47 : Continuity should exist
2 - 12 : Continuity should exist

3. Check continuity between door switch connector D213 (Front LH), D314 (Front RH) terminal 2 and ground.

2 - Ground : Continuity should not exist



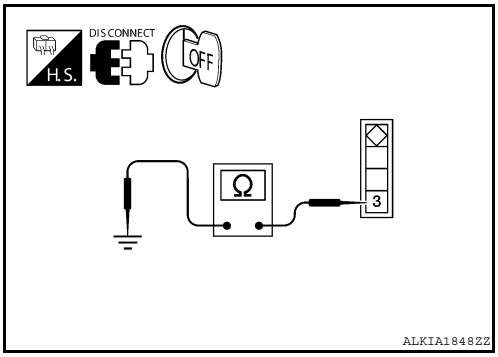
Is the inspection result normal?

YES >> GO TO 4
NO >> Repair or replace harness.

4. CHECK DOOR SWITCHES GROUND CIRCUIT

Check continuity between door switch connector D213 (Front LH), D314 (Front RH) terminal 3 and ground.

3 - Ground : Continuity should not exist



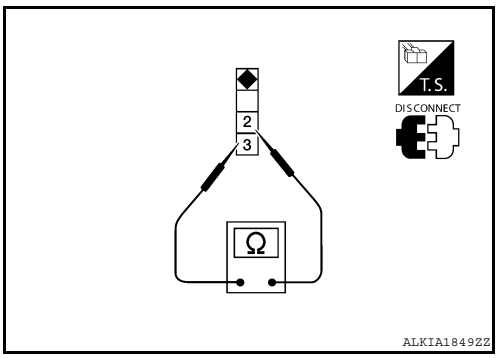
Is the inspection result normal?

YES >> GO TO 5
NO >> Repair or replace harness.

5. CHECK DOOR SWITCHES

Check continuity between door switch terminals.

Item	Terminal	Condition	Continuity
Door switches (front)	2 – 3	Open	Yes
		Closed	No



Is the inspection result normal?

YES >> Check condition of harness and connector.
NO >> Replace door switch.

CREW CAB

CREW CAB : Description

INFOID:0000000005274639

Detects door open/close condition.

CREW CAB : Component Function Check

INFOID:0000000005274640

1. CHECK FUNCTION

With CONSULT-III

Check door switches in data monitor mode with CONSULT-III.

Monitor item	Condition
DOOR SW-DR	CLOSE → OPEN: OFF → ON
DOOR SW-AS	

Is the inspection result normal?

YES >> Door switch is OK.
NO >> Refer to PWC-29, "CREW CAB : Diagnosis Procedure".

CREW CAB : Diagnosis Procedure

INFOID:0000000005274641

Regarding Wiring Diagram information, refer to PWC-33, "Wiring Diagram".

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-III

Check door switches ("DOOR SW-DR", "DOOR SW-AS") in DATA MONITOR mode with CONSULT–III. Refer to BCS-15, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

- When any doors are open:

DOOR SW-DR : ON
DOOR SW-AS : ON

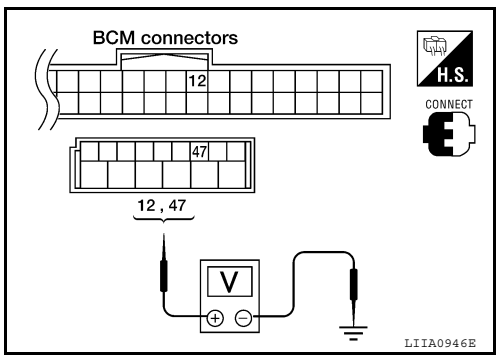
- When any doors are closed:

DOOR SW-DR : OFF
DOOR SW-AS : OFF

Without CONSULT-III

Check voltage between BCM connector M18 or M19 terminals 12, 47 and ground.

Connector	Item	Terminals (+)	Terminals (–)	Condition	Voltage (V) (Approx.)
M19	Front door switch LH	47	Ground	Open ↓ Closed	0 ↓ Battery voltage
M18	Front door switch RH	12			

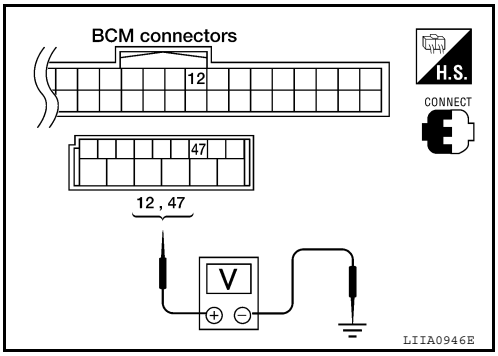


Is the inspection result normal?

YES >> Door switch circuit is OK.
NO >> GO TO 2

2. CHECK BCM OUTPUT VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect door switches.
3. Check voltage between BCM connector M18, M19 terminals 12, 47 and ground.



12 - Ground	**: Battery voltage**
47 - Ground	**: Battery voltage**

Is the inspection result normal?

YES >> GO TO 3
NO >> Replace BCM. Refer to BCS-54, "Removal and Installation".

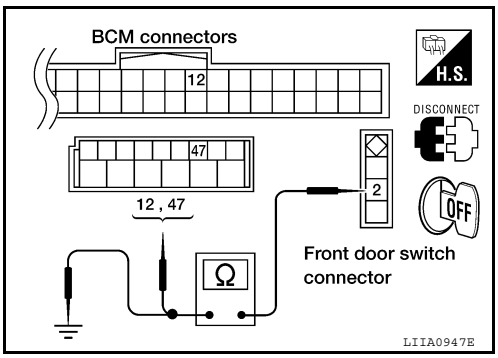
3. CHECK DOOR SWITCH CIRCUIT

1. Disconnect door switch and BCM.
2. Check continuity between door switch connector B8 (Front LH), B108 (Front RH) terminal 2 and BCM connector M18, M19 terminals 12, and 47.

2 - 47	**: Continuity should exist.**
2 - 12	**: Continuity should exist.**

3. Check continuity between door switch connector B8 (Front LH), B108 (Front RH) terminal 2 and ground.

2 - Ground	**: Continuity should not exist.**



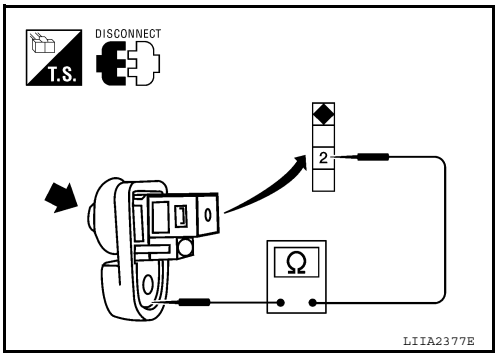
Is the inspection result normal?

YES >> GO TO 4
NO >> Repair or replace harness.

4. CHECK DOOR SWITCHES

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

Terminal		Condition	Continuity
2	Ground part of door switch	Open	Yes
		Closed	No



Is the inspection result normal?

YES >> Check switch case ground condition.
NO >> Replace door switch.

POWER WINDOW LOCK SWITCH

Description

INFOID:0000000005274642

Ground circuit of main power window and door lock/unlock switch shuts off if power window lock switch of main power window and door lock/unlock switch is operated. This inhibits all operation, except for the main switch.

Component Function Check

INFOID:0000000005274643

1. CHECK POWER WINDOW LOCK SIGNAL

Exchanges for a normal main power window and door lock/unlock switch, and operation is checked.

Does power window lock operate?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".

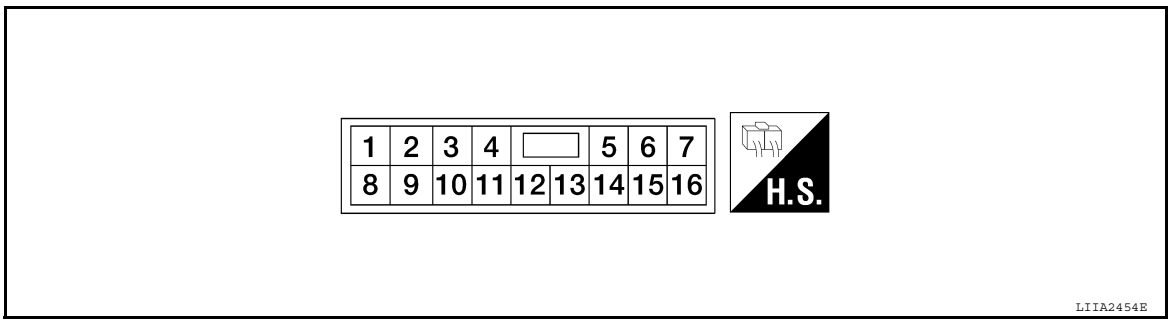
NO >> Check condition of harness and connector.

ECU DIAGNOSIS

POWER WINDOW SYSTEM

Terminal Layout for Power Window Main Switch

INFOID:0000000005274651



Physical Values for Power Window Main Switch

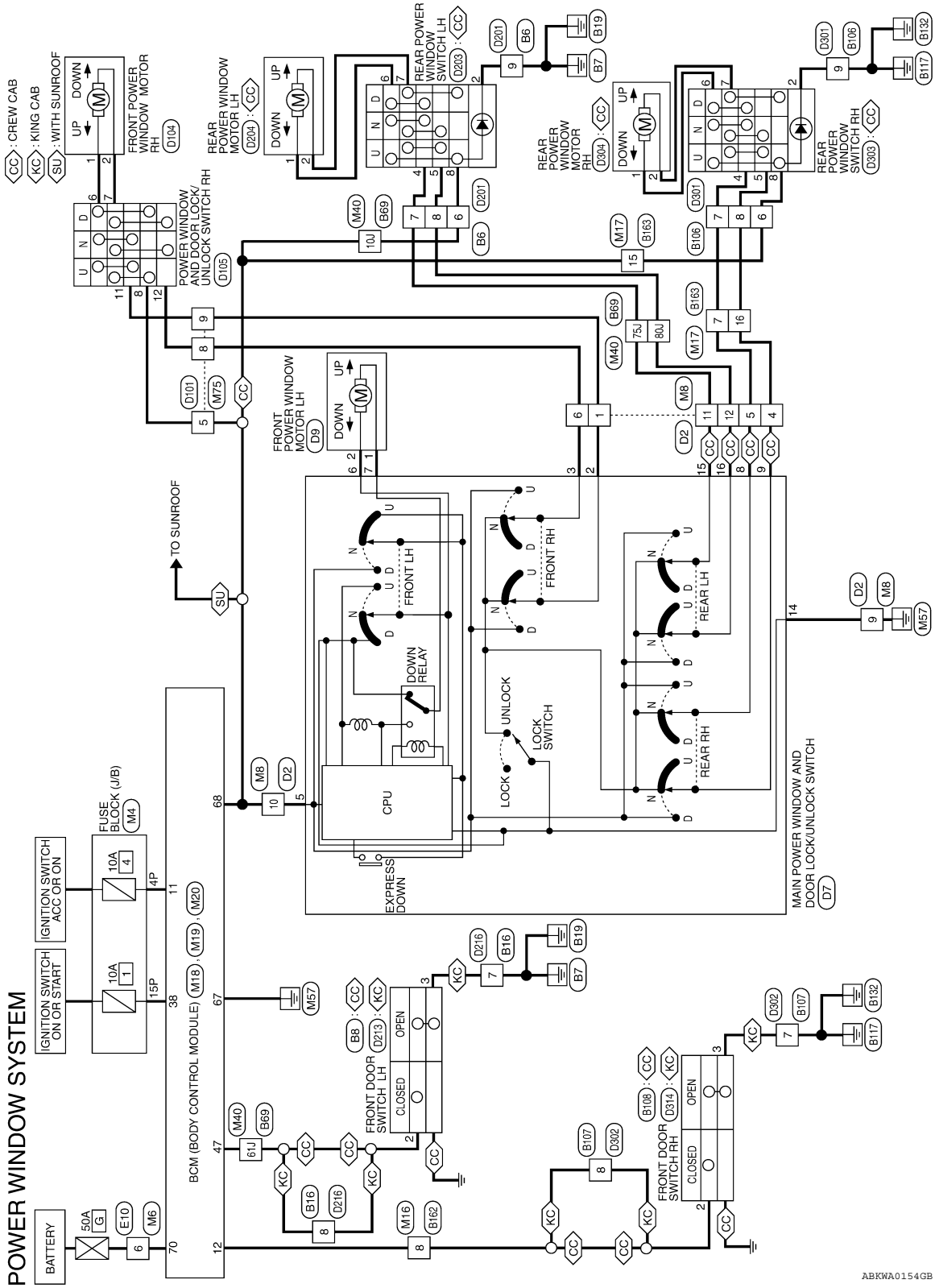
INFOID:0000000005274652

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
2	G/Y	Front power window motor RH DOWN signal	When power window motor is operated DOWN	Battery voltage
3	L/W	Front power window motor RH UP signal	When power window motor is operated UP	Battery voltage
5	W/R	RAP signal	When ignition switch ON	Battery voltage
			Within 45 seconds after ignition switch is turned to OFF	Battery voltage
			More than 45 seconds after ignition switch is turned to OFF	0
			When front door LH or RH open or power window timer operates	0
6	G/R	Front power window motor LH UP signal	When power window motor is operated UP	Battery voltage
7	G/W	Front power window motor LH DOWN signal	When power window motor is operated DOWN	Battery voltage
8*	G/B	Rear power window RH UP signal	When rear RH switch in main power window and door lock/unlock switch is operated UP	Battery voltage
9*	R	Rear power window RH DOWN signal	When rear RH switch in main power window and door lock/unlock switch is operated DOWN	Battery voltage
14	B	Ground	—	0
15*	R/B	Rear power window LH UP signal	When rear LH switch in main power window and door lock/unlock switch is operated UP	Battery voltage
16*	R/Y	Rear power window LH DOWN signal	When rear LH switch in main power window and door lock/unlock switch is operated DOWN	Battery voltage

*: Crew cab

Wiring Diagram

INFOID:0000000005274653



POWER WINDOW SYSTEM CONNECTORS

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
4P	G/B	–
15P	W/R	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

3	2	1
6	5	4

Terminal No.	Color of Wire	Signal Name
6	W	–

Connector No.	M8
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

5	4		3	2	1
12	11	10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
1	SB	–
4	P	–
5	Y	–
6	P	–
9	B	–
10	O	–
11	R	–
12	LG	–

Connector No.	M16
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

6	5	4	3	2	1
12	11	10	9	8	7

Terminal No.	Color of Wire	Signal Name
8	LG	–

Connector No.	M17
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
7	Y	–
15	W	–
16	P	–

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

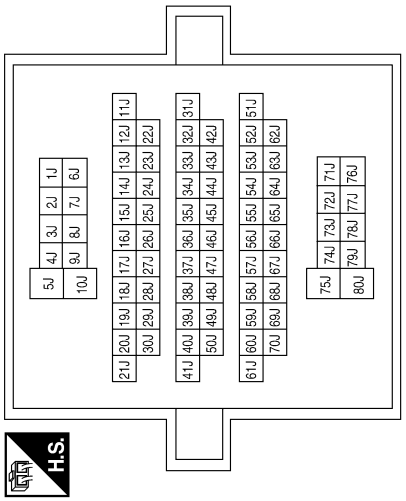
H.S.

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

Terminal No.	Color of Wire	Signal Name
11	G/B	ACC SW
12	LG	DOOR SW (AS)
38	W/R	IGN SW

ABKIA0496GB

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Color	WHITE

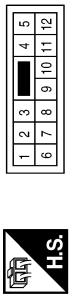


Terminal No.	Color of Wire	Signal Name
10J	W	–
61J	GR	–
75J	R	–
80J	LG	–

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

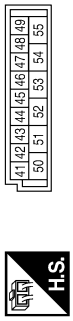
Terminal No.	Color of Wire	Signal Name
67	B	GND (POWER)
68	O	POWER WINDOW POWER SUPPLY OUTPUT (LINKED TO RAP) (WITH POWER DOOR LOCK SYSTEM)
70	W	BAT (F/L)

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6	W	–
7	R	–
8	LG	–
9	B	–

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

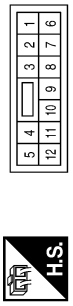


Terminal No.	Color of Wire	Signal Name
47	GR	DOOR SW (DR)

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
6	W	–

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

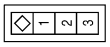


Terminal No.	Color of Wire	Signal Name
5	W	–
8	P	–
9	SB	–

ABKIA1850GB

Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH (CREW CAB)
Connector Color	WHITE

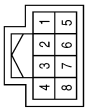
H.S.



Terminal No.	Color of Wire	Signal Name
2	GR	–

Connector No.	B16
Connector Name	WIRE TO WIRE
Connector Color	WHITE

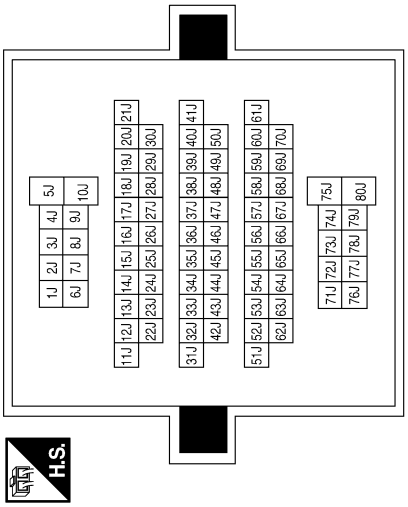
H.S.



Terminal No.	Color of Wire	Signal Name
7	B	–
8	GR	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
10J	W	–
61J	GR	–
75J	R	–
80J	LG	–

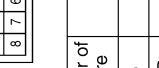
Connector No.	B106
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
6	W	–
7	Y	–
8	P	–
9	B	–

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

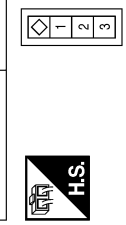
H.S.



Terminal No.	Color of Wire	Signal Name
7	B	–
8	LG	–

Connector No.	B108
Connector Name	FRONT DOOR SWITCH RH (CREW CAB)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2	LG	–

ABKIA1851GB

Connector No.	B162
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6
7	8	9	10	11	12

Terminal No.	Color of Wire	Signal Name
8	LG	–

Connector No.	B163
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
7	Y	–
15	W	–
16	P	–

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

H.S.

1	2	3	4	5
6	7	8	9	10	11	12

Terminal No.	Color of Wire	Signal Name
1	G/Y	–
4	R	–
5	G/B	–
6	L/W	–
9	B	–
10	W/R	–
11	R/B	–
12	R/Y	–

Connector No.	D7
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	G/Y	–
3	L/W	–
5	W/R	–
6	G/R	–
7	G/W	–
8	G/B	–
9	R	–

Terminal No.	Color of Wire	Signal Name
14	B	–
15	R/B	–
16	R/Y	–

Connector No.	D9
Connector Name	FRONT POWER WINDOW MOTOR LH
Connector Color	BROWN

H.S.

1	2

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

ABKIA0499GB

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

H.S.

1	2	3	4	5
6	7	8	9	10	11	12

Terminal No.	Color of Wire	Signal Name
6	G	–
7	L	–
8	W/R	–
11	G/Y	–
12	L/W	–

Connector No.	D104
Connector Name	FRONT POWER WINDOW MOTOR RH
Connector Color	BROWN

H.S.

1	2

Terminal No.	Color of Wire	Signal Name
1	G	–
2	L	–

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

H.S.

1	2	3	4	5
6	7	8	9	10	11	12

Terminal No.	Color of Wire	Signal Name
5	W/R	–
8	L/W	–
9	G/Y	–

Connector No.	D204
Connector Name	REAR POWER WINDOW MOTOR LH
Connector Color	BLACK

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	L	–

Connector No.	D203
Connector Name	REAR POWER WINDOW SWITCH LH
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
2	B	–
4	LG	–
5	R	–
6	Y	–
7	L	–
8	W	–

Connector No.	D201
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

5	4	3	2	1
12	11	10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
6	W	–
7	LG	–
8	R	–
9	B	–

ABKIA1852GB

Connector No.	D213
Connector Name	FRONT DOOR SWITCH LH (KING CAB)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	LG	–
3	B	–

Connector No.	D216
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
7	B	–
8	LG	–

Connector No.	D301
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
6	W	–
7	LG	–
8	R	–
9	B	–

Connector No.	D302
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
7	B	–
8	LG	–

Connector No.	D303
Connector Name	REAR POWER WINDOW SWITCH RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	B	–
4	LG	–
5	R	–
6	Y	–
7	L	–
8	W	–

Connector No.	D304
Connector Name	REAR POWER WINDOW MOTOR RH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	L	–

ABKIA1853GB

Connector No.	D314
Connector Name	FRONT DOOR SWITCH RH (KING CAB)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
2	LG	–
3	B	–

ABKIA0502GB

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000005550703

VALUES ON THE DIAGNOSIS TOOL

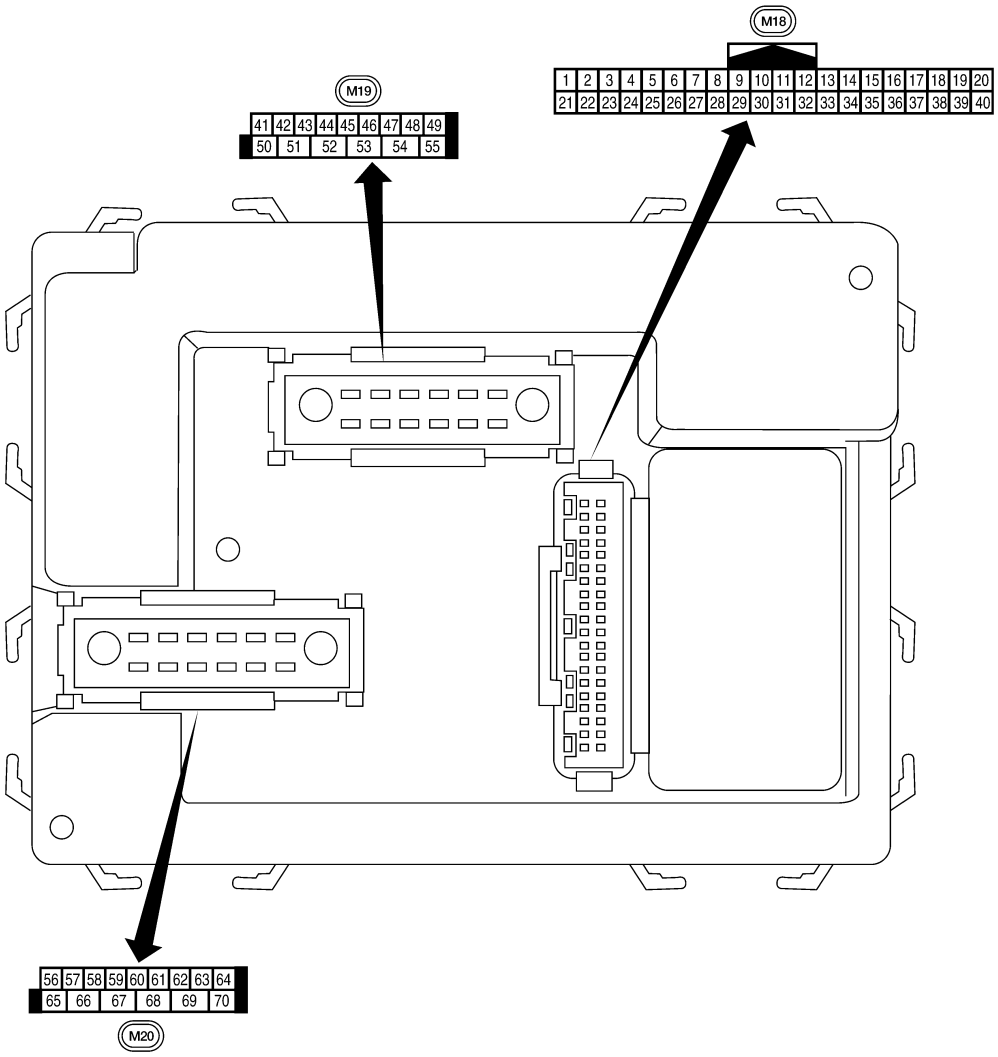
Monitor Item	Condition	Value/Status
IGN ON SW	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
KEY ON SW	Mechanical key is removed from key cylinder	OFF
	Mechanical key is inserted to key cylinder	ON
CDL LOCK SW	Door lock/unlock switch does not operate	OFF
	Press door lock/unlock switch to the lock 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-DR	Driver's door closed	OFF
	Driver's door opened	ON
DOOR SW-AS	Passenger door closed	OFF
	Passenger door opened	ON
DOOR SW-RR	Rear RH door closed	OFF
	Rear RH door opened	ON
DOOR SW-RL	Rear LH door closed	OFF
	Rear LH door opened	ON
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	OFF
	Driver door key cylinder LOCK position	ON
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	OFF
	Driver door key cylinder UNLOCK position	ON
KEYLESS LOCK	“LOCK” button of key fob is not pressed	OFF
	“LOCK” 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
ACC ON SW	Ignition switch OFF	OFF
	Ignition switch ACC or ON	ON
REAR DEF SW	Rear window defogger switch OFF	OFF
	Rear window defogger switch ON	ON
LIGHT SW 1ST	Lighting switch OFF	OFF
	Lighting switch 1ST	ON
BUCKLE SW	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF]	OFF
	The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON]	ON
KEYLESS PANIC	PANIC button of key fob is not pressed	OFF
	PANIC button of key fob is pressed	ON
RKE LCK-UNLCK	LOCK/UNLOCK button of key fob is not pressed and held simultaneously	OFF
	LOCK/UNLOCK button of key fob is pressed and held simultaneously	ON

Monitor Item	Condition	Value/Status
RKE KEEP UNLK	UNLOCK button of key fob is not pressed	OFF
	UNLOCK button of key fob is pressed and held	ON
HI BEAM SW	Lighting switch OFF	OFF
	Lighting switch HI	ON
HEAD LAMP SW 1	Lighting switch OFF	OFF
	Lighting switch 2ND	ON
HEAD LAMP SW 2	Lighting switch OFF	OFF
	Lighting switch 2ND	ON
AUTO LIGHT SW	Lighting switch OFF	OFF
	Lighting switch AUTO	ON
PASSING SW	Other than lighting switch PASS	OFF
	Lighting switch PASS	ON
FR FOG SW	Front fog lamp switch OFF	OFF
	Front fog lamp switch ON	ON
TURN SIGNAL R	Turn signal switch OFF	OFF
	Turn signal switch RH	ON
TURN SIGNAL L	Turn signal switch OFF	OFF
	Turn signal switch LH	ON
CARGO LAMP SW	Cargo lamp switch OFF	OFF
	Cargo lamp switch ON	ON
OPTICAL SENSOR	Bright outside vehicle	5V
	Dark outside vehicle	0V
IGN SW CAN	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
FR WIPER HI	Front wiper switch OFF	OFF
	Front wiper switch HI	ON
FR WIPER LOW	Front wiper switch OFF	OFF
	Front wiper switch LO	ON
FR WIPER INT	Front wiper switch OFF	OFF
	Front wiper switch INT	ON
FR WASHER SW	Front washer switch OFF	OFF
	Front washer switch ON	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
FR WIPER STOP	Any position other than front wiper stop position	OFF
	Front wiper stop position	ON
VEHICLE SPEED	While driving	Equivalent to speedometer reading
HAZARD SW	Hazard switch OFF	OFF
	Hazard switch ON	ON
BRAKE SW	Brake pedal is not depressed	OFF
	Brake pedal is depressed	ON
FAN ON SIG	Blower fan motor switch OFF	OFF
	Blower fan motor switch ON (other than OFF)	ON

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

Terminal Layout

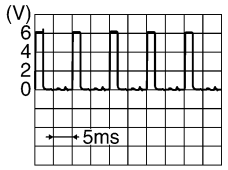
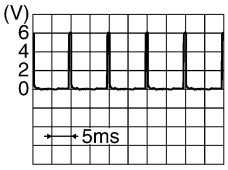
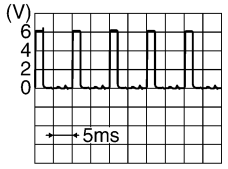
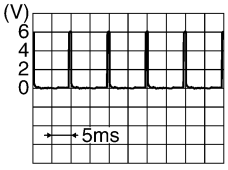
INFOID:0000000005550704

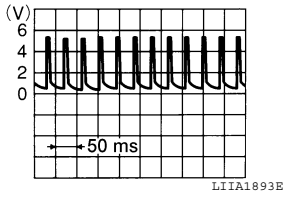
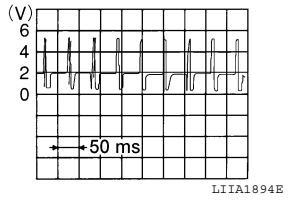
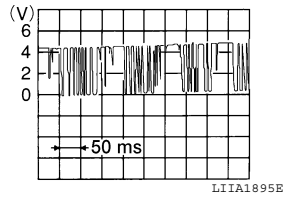


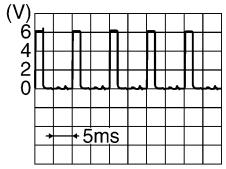
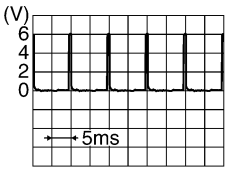
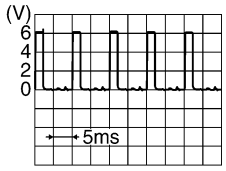
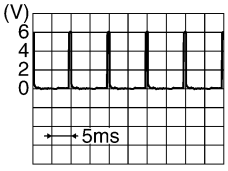
LIIA2443E

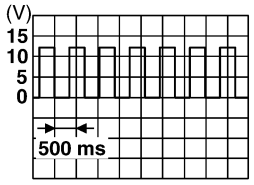
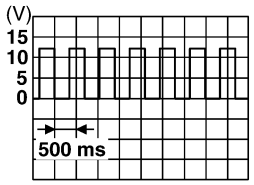
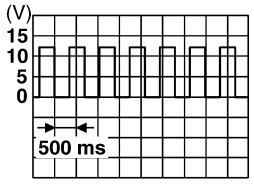
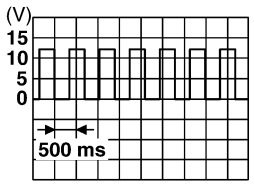
Physical Values

INFOID:0000000005550705

Terminal	Wire color	Item	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
1	BR	Ignition keyhole illumination	Output	OFF	Door is locked (SW OFF)	Battery voltage
					Door is unlocked (SW ON)	0V
2	P	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	SB	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	V	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	L	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	R	Combination switch input 1				
7	GR	Front door lock assembly LH (key cylinder switch) unlock	Input	OFF	ON (open, 2nd turn)	Momentary 1.5V
					OFF (closed)	0V
8	SB	Front door lock assembly LH (key cylinder switch) lock	Input		On (open)	Momentary 1.5V
					OFF (closed)	0V
9	Y	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
11	G/B	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	LG	Front door switch RH (All)	Input	OFF	ON (open)	0V
		Rear door switch upper RH (King Cab)			OFF (closed)	Battery voltage
		Rear door switch lower RH (King Cab)				

Terminal	Wire color	Item	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
13	L	Rear door switch RH (Crew Cab)	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
15	W	Tire pressure warning check connector	Input	OFF	—	5V
18	BR	Remote keyless entry receiver (Ground)	Output	OFF	—	0V
19	V	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	
20	G	Remote keyless entry receiver signal (Signal)	Input	OFF	Stand-by (keyfob buttons released)	
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	
21	GR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move.
23	G	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move.
27	W	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
28	R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	G	Hazard switch	Input	OFF	ON	0V
					OFF	5V
31	GR	Cargo lamp switch	Input	OFF	ON	0V
					OFF	Battery voltage

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

Terminal	Wire color	Item	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
51	O	Trailer turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
52	LG	Trailer turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
56	R/Y	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	R/Y	Battery power supply	Input	—	—	Battery voltage
58	W	Optical sensor	Input	ON	When optical sensor is illuminated	3.1V or more
					When optical sensor is not illuminated	0.6V or less
59	GR	Front door lock assembly LH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	LG	Turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
61	G	Turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
63	BR	Interior room/map lamp	Output	OFF	Any door switch: ON (open)	0V
					Any door switch: OFF (closed)	Battery voltage
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66	L	Front door lock actuator RH, rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
67	B	Ground	Input	ON	—	0V

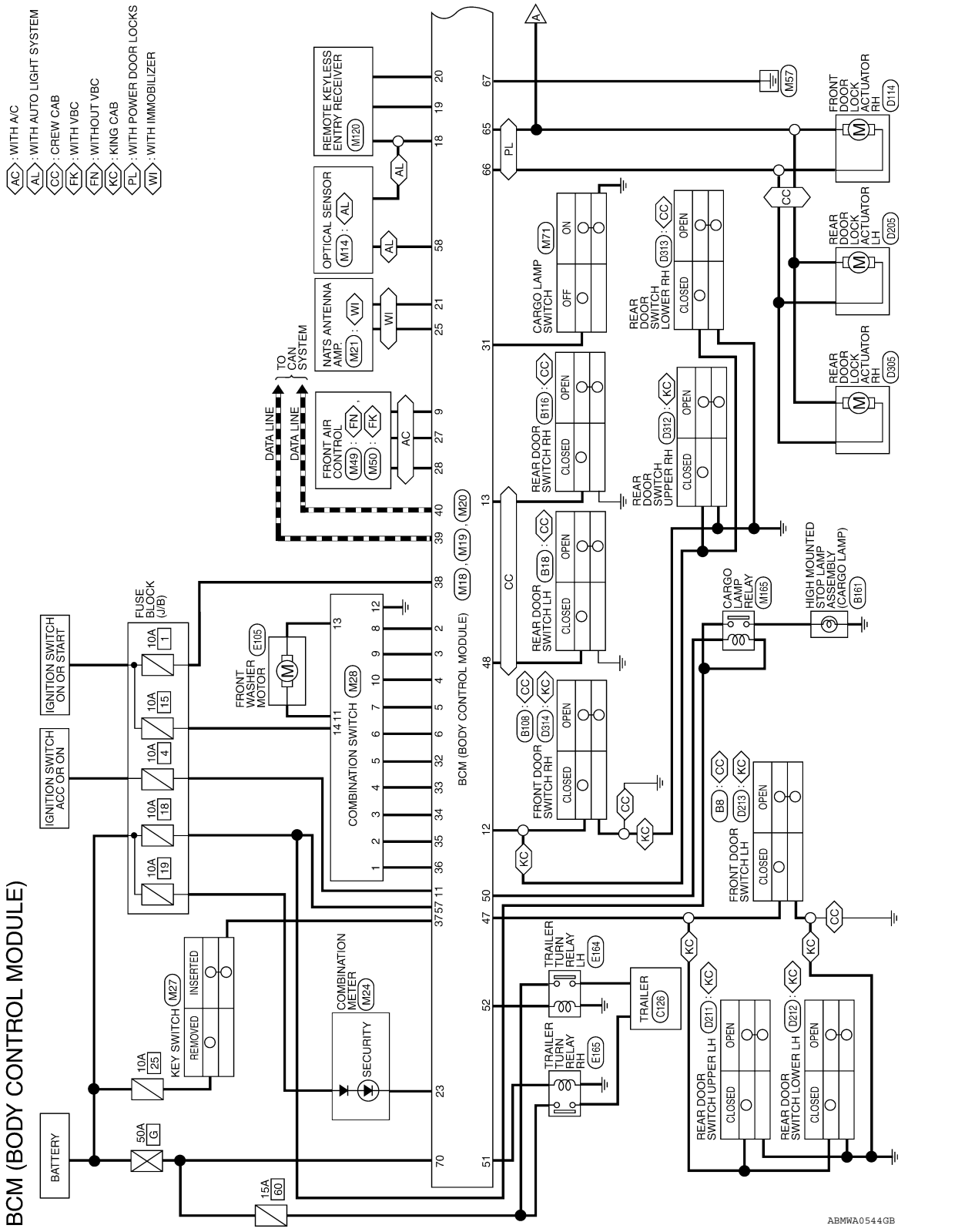
Terminal	Wire color	Item	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
68[1]	O	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
68[2]	SB	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	P	Power window power supply (BAT)	Output	OFF	—	Battery voltage
70	W	Battery power supply	Input	OFF	—	Battery voltage

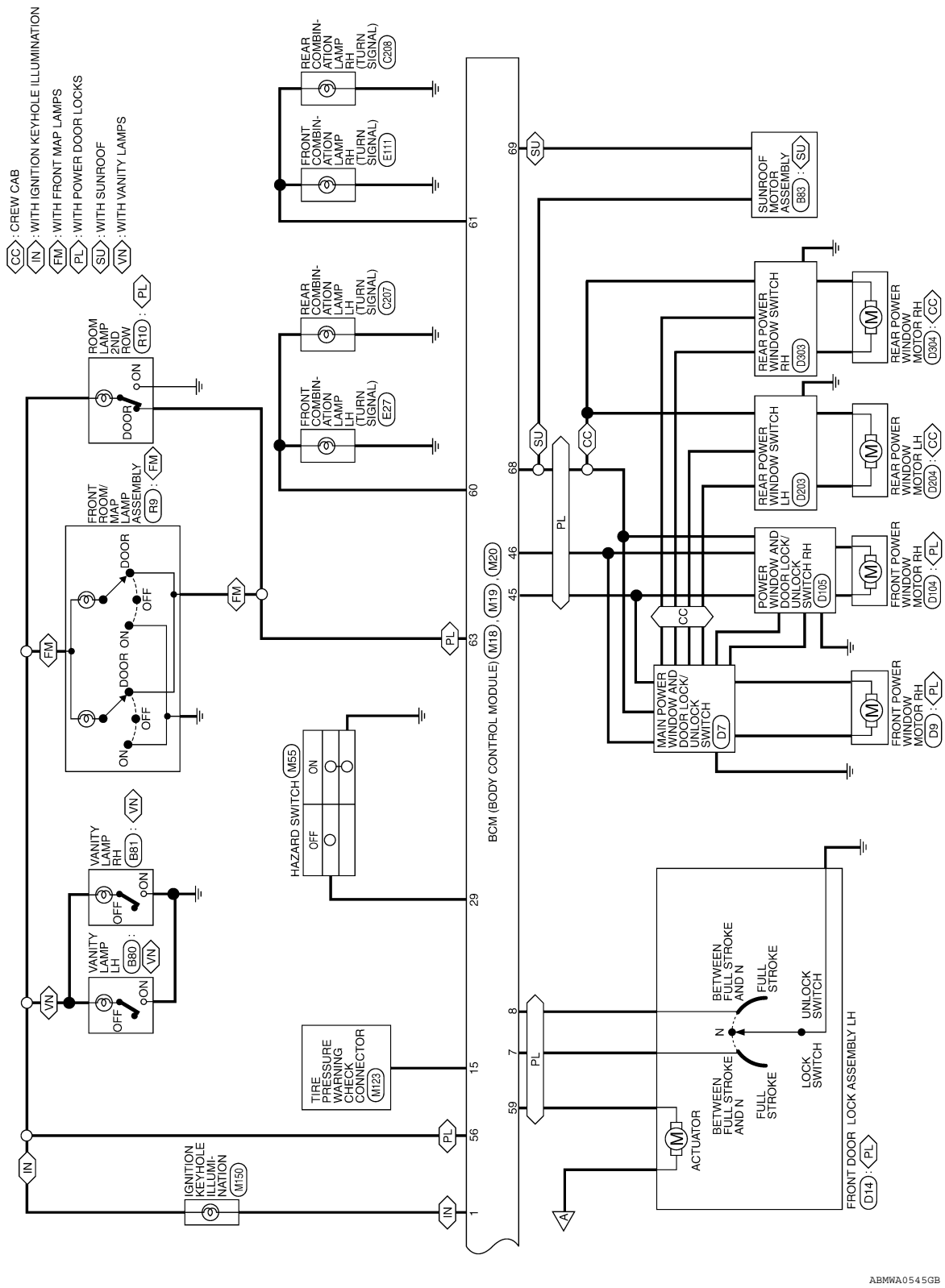
1: King cab (with power door lock system)

2: Crew cab (with power door lock system)

Wiring Diagram

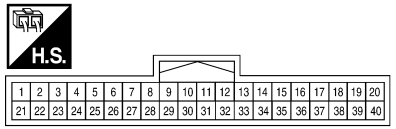
INFOID:0000000005550706




CC : CREW CAB
IN : WITH IGNITION KEYHOLE ILLUMINATION
FM : WITH FRONT MAP LAMPS
PL : WITH POWER DOOR LOCKS
SU : WITH SUNROOF
VN : WITH VANITY LAMPS
REAR COMBIN-ATION LAMP RH (TURN SIGNAL) C208
FRONT COMBIN-ATION LAMP RH (TURN SIGNAL) E111
REAR COMBIN-ATION LAMP LH (TURN SIGNAL) C207
FRONT COMBIN-ATION LAMP LH (TURN SIGNAL) E27
ROOM LAMP 2ND ROW R10
FRONT ROOM/ MAP LAMP ASSEMBLY R9
VANITY LAMP RH B81
VANITY LAMP LH B80
HAZARD SWITCH M55
TIRE PRESSURE WARNING CHECK CONNECTOR M123
IGNITION KEYHOLE ILLUMI-NATION M150
BCM (BODY CONTROL MODULE) M18, M19, M20
SUNROOF MOTOR ASSEMBLY B83
REAR POWER WINDOW SWITCH RH D303
REAR POWER WINDOW SWITCH LH D203
POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH RH D105
MAIN POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH D7
REAR POWER WINDOW MOTOR RH D304
REAR POWER WINDOW MOTOR LH D204
FRONT POWER WINDOW MOTOR RH D104
FRONT POWER WINDOW MOTOR RH D9
ACTUATOR
FRONT DOOR LOCK ASSEMBLY LH D14
BETWEEN FULL STROKE AND N
FULL STROKE
UNLOCK SWITCH
LOCK SWITCH
ABMWA0545GB

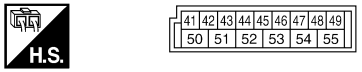
BCM (BODY CONTROL MODULE) CONNECTORS

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



Terminal No.	Color of Wire	Signal Name
1	BR	KEY RING OUTPUT
2	P	INPUT 5
3	SB	INPUT 4
4	V	INPUT 3
5	L	INPUT 2
6	R	INPUT 1
7	GR	KEY CYLINDER UNLOCK SW
8	SB	KEY CYLINDER LOCK SW
9	Y	RR DEFOGGER SW
10	–	–
11	G/B	ACC SW
12	LG	DOOR SW (AS)
13	L	DOOR SW (RR)
14	–	–
15	W	TPMS MODE TRIGGER SW
16	–	–
17	–	–
18	BR	KEYLESS & AUTO LIGHT SENSOR GND
19	V	KEYLESS TUNER POWER SUPPLY OUTPUT
20	G	KEYLESS TUNER SIGNAL
21	GR	IMMOBILIZER ANTENNA SIGNAL (CLOCK)
22	–	–
23	G	SECURITY INDICATOR OUTPUT
24	–	–
25	BR	IMMOBILIZER ANTENNA SIGNAL (RX,TX)
26	–	–
27	W	AIRCON SW
28	R	BLOWER FAN SW
29	G	HAZARD SW
30	–	–
31	GR	CARGO LAMP SW
32	O	OUTPUT 5
33	GR	OUTPUT 4
34	G	OUTPUT 3
35	BR	OUTPUT 2
36	LG	OUTPUT 1
37	B	KEY SW
38	W/R	IGN SW
39	L	CAN-H
40	P	CAN-L

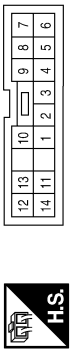
Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
41	–	–
42	–	–
43	–	–
44	–	–
45	V	CDL LOCK SW
46	LG	CDL UNLOCK SW
47	GR	DOOR SW (DR)
48	P	DOOR SW (RL)
49	–	–
50	P	CARGO LAMP OUTPUT
51	O	TRAILER FLASHER OUTPUT (RIGHT)
52	LG	TRAILER FLASHER OUTPUT (LEFT)
53	–	–
54	–	–
55	–	–

ABMIA1431GB

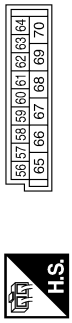
Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LG	INPUT 1
2	BR	INPUT 2
3	G	INPUT 3
4	GR	INPUT 4
5	O	INPUT 5
6	R	OUTPUT 1
7	L	OUTPUT 2
8	P	OUTPUT 5
9	SB	OUTPUT 4
10	V	OUTPUT 3
11	O	WASH FR (-) RR (+)
12	B	GND
13	L	WASH FR (+) RR (-)
14	W/G	IGN

Terminal No.	Color of Wire	Signal Name
65	V	DOOR LOCK OUTPUT (ALL)
66	L	DOOR UNLOCK OUTPUT (OTHER)
67	B	GND (POWER)
68	O	POWER WINDOW POWER SUPPLY OUTPUT (LINKED TO RAP) (WITH POWER DOOR LOCK SYSTEM)
68	SB	POWER WINDOW POWER SUPPLY OUTPUT (LINKED TO RAP) (CREW CAB WITHOUT POWER DOOR LOCK SYSTEM)
69	P	POWER WINDOW POWER SUPPLY OUTPUT (BAT)
70	W	BAT (F/L)

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



Terminal No.	Color of Wire	Signal Name
56	R/Y	BATTERY SAVER OUTPUT
57	R/Y	BAT (FUSE)
58	W	AUTO LIGHT SENSOR INPUT 2
59	GR	DOOR UNLOCK OUTPUT (DR)
60	LG	FLASHER OUTPUT (LEFT)
61	G	FLASHER OUTPUT (RIGHT)
62	–	–
63	BR	ROOM LAMP OUTPUT
64	–	–

ABMIA1432GB

Fail Safe

INFOID:0000000005550707

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:0000000005550708

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
3	• C1729: VHCL SPEED SIG ERR • C1735: IGNITION SIGNAL
4	• 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:0000000005550709

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-28

CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
B2190: NATS ANTTENA 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
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	—	—	—

SYMPTOM DIAGNOSIS

NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

Diagnosis Procedure

INFOID:0000000005274654

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.
Refer to BCS-29, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair or replace the malfunctioning parts.

2. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Check main power window switch.
Refer to PWC-12, "POWER WINDOW MAIN SWITCH (CREW CAB) : Component Inspection" or PWC-15, "POWER WINDOW MAIN SWITCH (KING CAB) : Component Inspection".

Is the inspection result normal?

YES >> GO TO 3
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".

3. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH POWER SUPPLY AND GROUND CIRCUIT

Check power window switch main power supply and ground circuit.
Refer to PWC-9, "POWER WINDOW MAIN SWITCH (CREW CAB) : Component Function Check" or PWC-13, "POWER WINDOW MAIN SWITCH (KING CAB) : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000005274655

1. CHECK FRONT POWER WINDOW MOTOR LH

Check front power window motor LH.
Refer to PWC-20, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Inspection End.
NO >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".

FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000005274656

1. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

Check power window and door lock/unlock switch RH.
Refer to PWC-15, "FRONT POWER WINDOW SWITCH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair or replace the malfunctioning parts.

2. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Check main power window and door lock/unlock switch.
Refer to PWC-12, "POWER WINDOW MAIN SWITCH (CREW CAB) : Component Inspection" or PWC-15, "POWER WINDOW MAIN SWITCH (KING CAB) : Component Inspection".

Is the inspection result normal?

YES >> GO TO 3
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".

3. CHECK FRONT POWER WINDOW MOTOR RH CIRCUIT

Check front power window motor RH circuit.
Refer to PWC-21, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Inspection End.
NO >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".

REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000005274657

1. CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH.
Refer to PWC-17, "REAR POWER WINDOW SWITCH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair or replace the malfunctioning parts.

2. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Check main power window and door lock/unlock switch.
Refer to PWC-12, "POWER WINDOW MAIN SWITCH (CREW CAB) : Component Inspection".

Is the inspection result normal?

YES >> GO TO 3
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".

3. CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH.
Refer to PWC-23, "REAR LH : Component Function Check".

Is the inspection result normal?

YES >> Inspection End.
NO >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".

REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000005274658

1. CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH.
Refer to PWC-17, "REAR POWER WINDOW SWITCH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair or replace the malfunctioning parts.

2. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Check main power window and door lock/unlock switch.
Refer to PWC-12, "POWER WINDOW MAIN SWITCH (CREW CAB) : Component Inspection".

Is the inspection result normal?

YES >> GO TO 3
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-65, "Removal and Installation".

3. CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH.
Refer to PWC-24, "REAR RH : Component Function Check".

Is the inspection result normal?

YES >> Inspection End.
NO >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".

AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (DRIVER SIDE)

Diagnosis Procedure

INFOID:0000000005274659

1. REPLACE MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Replace main power window and door lock/unlock switch and check operation. Refer to PWC-65, "Removal and Installation".

Is the inspection result normal?

YES >> Inspection End.
NO >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:0000000005274660

1. CHECK FRONT DOOR SWITCH

Check front door switch.

Refer to DLK-29, "CREW CAB : Component Function Check" or DLK-27, "KING CAB : Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

Diagnosis Procedure

INFOID:0000000005274661

1. REPLACE MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Replace main power window and door lock/unlock switch and check operation.
Refer to PWC-65, "Removal and Installation".

Is the inspection result normal?

YES >> Inspection End.
NO >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".

PRECAUTION

PRECAUTIONS

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

INFOID:0000000005550755

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.**

ON-VEHICLE REPAIR

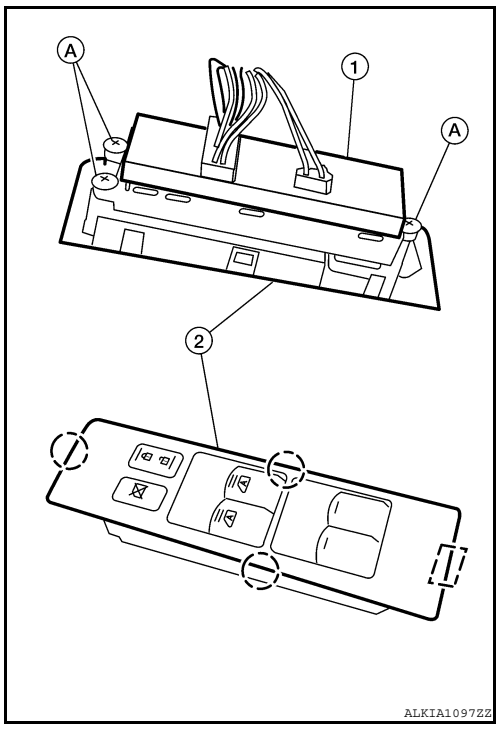
POWER WINDOW MAIN SWITCH

Removal and Installation

INFOID:0000000005274663

REMOVAL

1. Remove the power window main switch finisher (2) from the front door finisher LH. Refer to INT-14, "Removal and Installation".
   : Metal clip
   :Pawl
2. Remove the three screws (A) from the power window main switch (1), then separate from the finisher (2).



INSTALLATION

Installation is in the reverse order of removal.

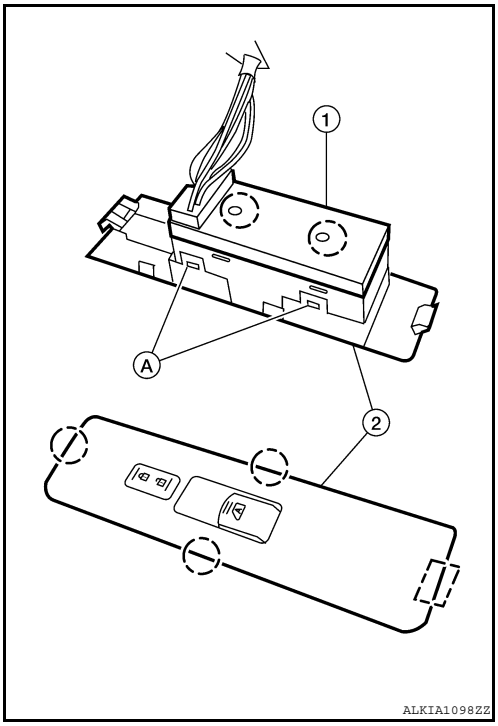
FRONT POWER WINDOW SWITCH

Removal and Installation

INFOID:0000000005274664

REMOVAL

1. Remove the front power window switch finisher (2) from the front door finisher RH. Refer to INT-14, "Removal and Installation".
   : Metal clip
   :Pawl
2. Release the four tabs (A), two on each side, then separate the front power window switch (1) from the finisher (2).



INSTALLATION

Installation is in the reverse order of removal.

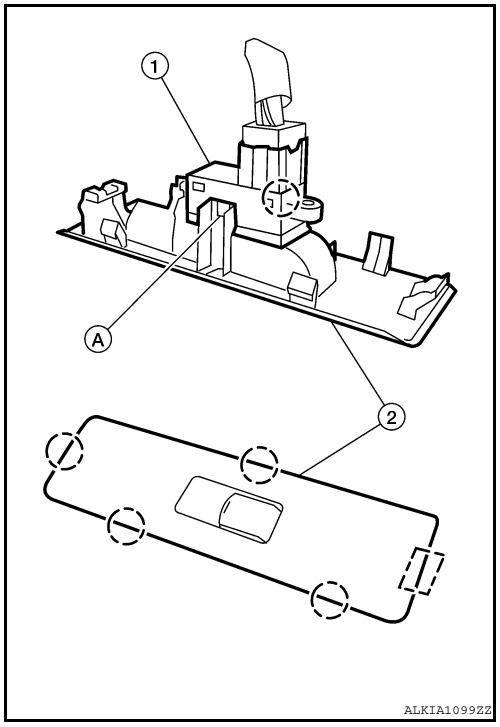
REAR POWER WINDOW SWITCH

Removal and Installation - Rear Door Switch (if equipped)

INFOID:0000000005274665

REMOVAL

1. Remove the rear power window switch finisher (2) from the rear door finisher. Refer to INT-14, "Removal and Installation".
   : Metal clip
   :Pawl
2. Release the two tabs (A), one on either side, then separate the rear power window switch (1) from the finisher (2).



INSTALLATION

Installation is in the reverse order of removal.