SECTION PWC

POWER WINDOW CONTROL SYSTEM

CONTENTS

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

WorkFlow

INFOID:0000000007350724

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.

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description

INFOID:0000000007350725

If any of the following work has been done Initial setting is necessary.
- Power supply to the power window main switch or power window motor is cut off by the removal of battery terminal or the battery fuse is blown.
- Disconnection and connection of power window main switch harness connector.
- Removal and installation of motor from regulator assembly.
- Operation of regulator assembly as an independent unit.
- Removal and installation of glass.
- Removal and installation of door glass run.

The following specified operations can not be performed under the non-initialized condition.
- Auto-up operation
- Anti-pinch function

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement

INFOID:0000000007350726

INITIALIZATION PROCEDURE
1. Disconnect battery minus terminal or power window main switch connector. Reconnect it after a minute or more.
2. Turn ignition switch ON.
3. Operate power window switch to fully open the window. (This operation is unnecessary if the window is already fully open)
4. Continue pulling the power window switch UP (AUTO-UP operation). Even after glass stops at fully closed position, keep pulling the switch for 2 seconds or more.
5. Initializing procedure is completely.
6. Inspect anti-pinch function.

CHECK ANTI-PINCH FUNCTION
1. Fully open the door window.
2. Place a piece of wood near fully closed position.
3. Close door glass completely with AUTO-UP.

- Check that glass lowers for approximately 150 mm (5.9 in) without pinching piece of wood and stops.
- Check that glass does not rise when operating the power window main switch while lowering.

CAUTION:
- **Perform initial setting when auto-up operation or anti-pinch function does not operate normally.**
- **Check that AUTO-UP operates before inspection when system initialization is performed.**
- **Do not check with hands and other body parts because they may be pinched. Do not get pinched.**
- **It may switch to fail-safe mode if open/close operation is performed continuously without full close. Perform initial setting in that situation. Refer to PWC-49, "Fail Safe"**
- **Finish initial setting. Otherwise, next operation cannot be done.**

1. **Auto-up operation**
2. **Anti-pinch function**

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:0000000007350727

Refer to PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description".

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:0000000007350728

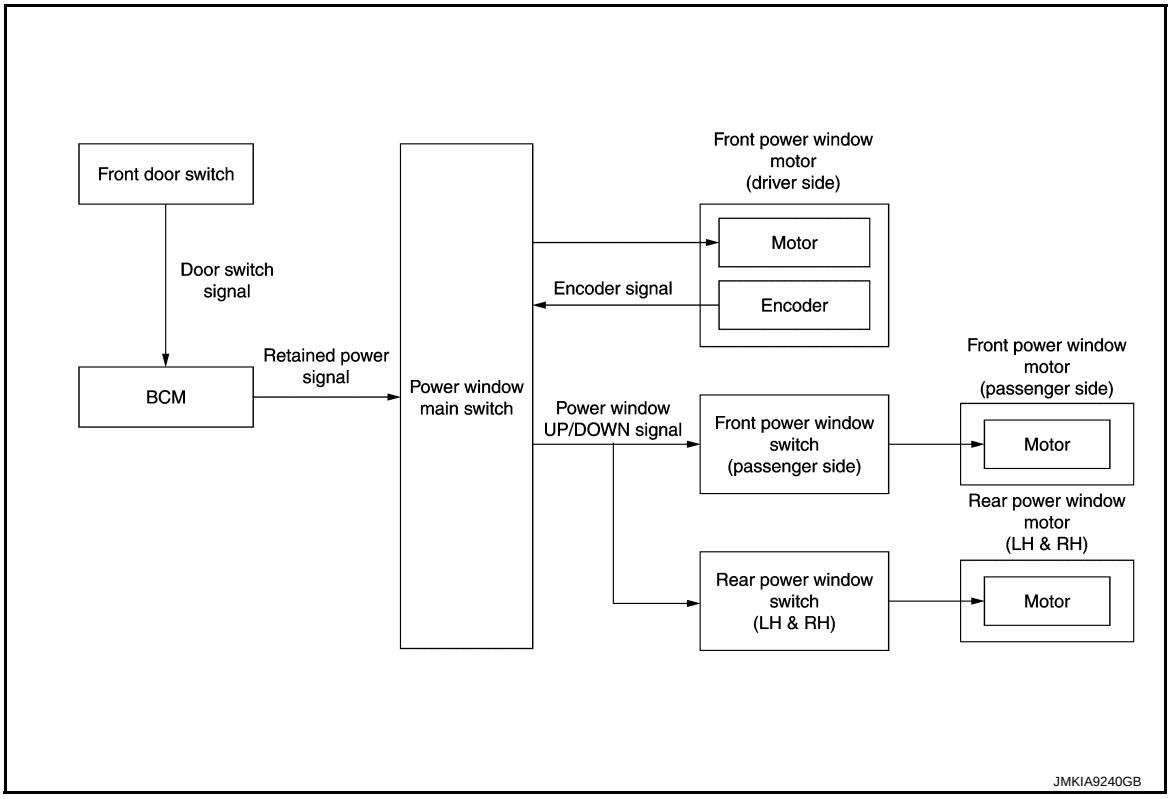
Refer to PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement" for initialization procedure and check anti-pinch function.

SYSTEM DESCRIPTION

POWER WINDOW SYSTEM

System Diagram

INFOID:0000000007350729



System Description

INFOID:0000000007350730

POWER WINDOW MAIN SWITCH

INPUT/OUTPUT SIGNAL CHART

Item	Input signal to power window main switch	Power window main switch function	Actuator
Encoder	Encoder pulse signal	Power window control	Front power window motor (driver side)
Power window main switch	Front power window motor (driver side) UP/DOWN signal		
Front power window switch (passenger side)	Front power window motor (passenger side) UP/DOWN signal		Front power window motor (passenger side)
Rear power window switch	Rear power window motor UP/DOWN signal		Rear power window motor (LH & RH)
BCM	Retained power signal		Each power window motor

FRONT POWER WINDOW SWITCH (PASSENGER SIDE) & REAR POWER WINDOW SWITCH (LH & RH)

INPUT/OUTPUT SIGNAL CHART

Item	Input signal to front power window switch (passenger side) & rear power window switch (LH & RH)	Front power window switch (passenger side) & rear power window switch (LH & RH) function	Actuator
Front power window switch (passenger side)	Front power window motor (passenger side) UP/DOWN signal	Power window control	Front power window motor (passenger side)
Rear power window switch (LH & RH)	Rear power window motor (LH & RH) UP/DOWN signal		Rear power window motor (LH & RH)

POWER WINDOW OPERATION

- Power window main switch (driver side) can open/close all windows.
- Front & rear power window switch can open/close the corresponding windows.
- Power window system is operable during the retained power operation timer after turning ignition switch ON and OFF.

POWER WINDOW AUTO-OPERATION (FRONT DRIVER SIDE)

- AUTO UP/DOWN operation can be performed when power window main switch turns to AUTO.
- Encoder continues detecting the movement of power window motor and transmits to power window switch as the encoder pulse signal while power window motor is operating.
- Power window switch reads the changes of encoder signal and stops AUTO operation when door glass is at fully opened/closed position.
- Power window motor is operable in case encoder is malfunctioning.

RETAINED POWER OPERATION

Retained power operation is an additional power supply function that enables sunroof system to operate for 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 again.
- When timer time passes. (45 seconds)

POWER WINDOW LOCK

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

ANTI-PINCH SYSTEM (FRONT DRIVER SIDE)

- Pinch foreign material in the door glass during AUTO-UP operation, and it is the anti-pinch function that lowers the door glass 150 mm (5.9 in) when detected.
- Encoder continues detecting the movement of front power window motor (driver side) and transmits to power window main switch as the encoder pulse signal while front power window motor (driver side) is operating.
- Resistance is applied to the front power window motor (driver side) rotation that changes the frequency of encoder pulse signal if foreign material is trapped in the door glass.
- Power window main switch controls to lower the window glass for 150 mm (5.9 in) after it detects encoder pulse signal frequency change.

OPERATION CONDITION

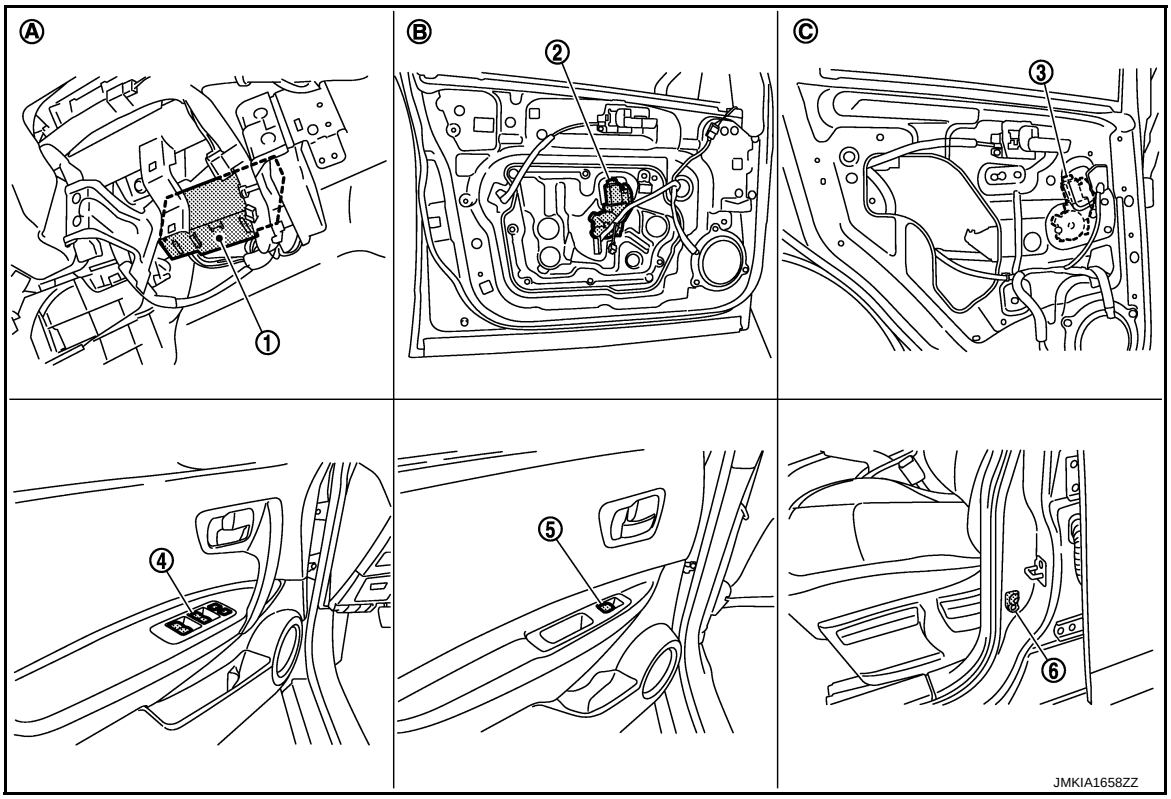
- When front door glass (driver side) AUTO-UP operation is performed (anti-pinch function does not operate just before the door glass closes and is fully closed)

NOTE:

Depending on environment and driving conditions, if a similar impact or load is applied to the door glass, it may lower.

Component Parts Location

INFOID:0000000007350731



1. BCM M65, M66, M67
2. Front power window motor (driver side) D7
3. Rear power window motor LH D82
4. Power window main switch D5, D6
5. Rear power window switch LH D83
6. Front door switch (driver side) B34

A. Over the globe box
B. View with front door finisher removed.
C. View with rear door finisher removed.

Component Description

INFOID:0000000007350732

Component	Function
BCM	• Supplies power supply to power window switch. • Controls retained power.
Power window main switch	• Directly controls all power window motor of all doors. • Controls anti-pinch operation of power window.
Front power window switch	Controls power window motor of front passenger side door.
Rear power window switch (LH & RH)	Controls power window motor of rear right and left doors.
Front power window motor (driver side)	• Integrates the encoder and power window motor. • Starts operating with signals from power window main switch. • Transmits front power window motor (driver side) rotation as a pulse signal to power window main switch.
Front power window motor (passenger side)	Starts operating with signals from power window main switch & front power window switch (passenger side).
Rear power window motor (LH & RH)	Starts operating with signals from power window main switch & rear power window switch (LH & RH).
Front door switch (diver side)	Detects door open/close condition and transmits to BCM.

DIAGNOSIS SYSTEM (BCM)
COMMON ITEM
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000007628024

APPLICATION ITEM
CONSULT can display each diagnostic item using the diagnostic test modes shown following.

Diagnosis mode	Function description
ECU Identification	BCM part number is displayed.
Self-Diagnostic Result	Displays the diagnosis results judged by BCM. Refer to BCS-61, "DTC Index".
Data Monitor	BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Work Support	Changes the setting for each system function.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from 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.

×: Applicable item

System	CONSULT sub system selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp control	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER		×	×
• Auto air conditioning system • Manual air conditioning system	AIR CONDITONER		×	
Intelligent Key system	INTELLIGENT KEY		×	
Combination switch	COMB SW		×	
Body control system	BCM	×		
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	×
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR	×	×	×
Signal buffer system	SIGNAL BUFFER		×	×
—	FUEL LID*			
TPMS	AIR PRESSURE MONITOR	×	×	×
Panic alarm system	PANIC ALARM			×

*: This item is displayed, but is not function.

RETAIND PWR

RETAIND PWR : CONSULT Function (BCM - RETAINED PWR)

INFOID:0000000007350734

Data monitor

Monitor Item	Description
DOOR SW-DR	Indicates [ON/OFF] condition of driver side door switch.
DOOR SW-AS	Indicates [ON/OFF] condition of passenger side door switch.

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Diagnosis Procedure

INFOID:0000000007350736

1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition OFF.
2. Disconnect power window main switch connector.
3. Turn ignition switch ON.
4. Check voltage between power window main switch harness connector and ground.

(+)		(–)	Voltage (V) (Approx.)
Power window main switch			
Connector	Terminal		
D5	10	Ground	Battery voltage
D6	19		

Is the inspection result normal?

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

2.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between power window main switch harness connector and ground.

Power window main switch		Ground	Continuity
Connector	Terminal		
D6	17		Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

3.CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector and power window main switch harness connector.

BCM		Power window main switch		Continuity
Connector	Terminal	Connector	Terminal	
M67	68	D5	10	Existed
	69	D6	19	

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M67	68		Not existed
	69		

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-65, "Removal and Installation".
NO >> Repair or replace harness.

FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure

INFOID:0000000007350737

1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front power window switch (passenger side) connector.
3. Turn ignition switch ON.
4. Check voltage between front power window switch (passenger side) harness connector and ground.

(+)		(–)	Condition	Voltage (V) (Approx.)
Front power window switch (passenger side)				
Connector	Terminal			
D45	8	Ground	Ignition switch ON	Battery voltage

Is the inspection result normal?

YES >> INSPECTION END
NO >> GO TO 2.

2.CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector and front power window switch (passenger side) harness connector.

BCM		Front power window switch (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	
M67	68	D45	8	Existed

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M67	68		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-65, "Removal and Installation".
NO >> Repair or replace harness.

REAR POWER WINDOW SWITCH

REAR POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:0000000007350738

1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear power window switch connector.
3. Turn ignition switch ON.
4. Check voltage between rear power window switch harness connector and ground.

(+)			(–)	Condition	Voltage (V) (Approx.)
Rear power window switch					
Connector		Terminal			
LH	D83	1	Ground	Ignition switch ON	Battery voltage
RH	D103				

Is the inspection result normal?

YES >> INSPECTION END
NO >> GO TO 2.

2.CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector and rear power window switch harness connector.

BCM		Rear power window switch			Continuity
Connector	Terminal	Connector		Terminal	
M67	68	LH	D83	1	Existed
		RH	D103		

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M67	68		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-65, "Removal and Installation".
NO >> Repair or replace harness.

FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Description

INFOID:0000000007350739

Front power window motor (passenger side) will be operated if front power window switch (passenger side) is operated.

Component Function Check

INFOID:0000000007350740

1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) FUNCTION

Check front power window motor (passenger side) operation with front power window switch (passenger side).

Is the inspection result normal?

YES >> Front power window switch (passenger side) is OK.
NO >> Refer to PWC-13, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000007350741

1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect front power window switch (passenger side) connector.
3. Turn ignition switch ON.
4. Check voltage between front power window switch (passenger side) harness connector and ground.

(+)		(–)	Condition		Voltage (V) (Approx.)
Front power window switch (passenger side)					
Connector	Terminal				
D45	12	Ground	Power window main switch (passenger side)	UP	Battery voltage
				DOWN	0
	11			UP	0
				DOWN	Battery voltage

Is the inspection result normal?

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

2. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Check front power window switch (passenger side).
Refer to PWC-14, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace front power window switch (passenger side). Refer to PWC-63, "Removal and Installation".

3. CHECK FRONT WINDOW SWITCH (PASSENGER SIDE) CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect power window main switch connector.
3. Check continuity between power window main switch harness connector and front power window switch (passenger side) harness connector.

Power window main switch		Front power window switch (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	
D5	16	D45	12	Existed
	12		11	

4. Check continuity between power window main switch harness connector and ground.

Power window main switch		Ground	Continuity
Connector	Terminal		
D5	16		Not existed
	12		

Is the inspection result normal?

YES >> Replace power window main switch.
NO >> Repair or replace harness.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:0000000007350742

1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

1. Turn ignition OFF.
2. Disconnect front power window switch (passenger side) connector.
3. Check front power window switch (passenger side).

Front power window switch (passenger side)	Terminal		Front power window switch condition	Continuity
D45	8	7	UP	Existed
	11	6		
	11	6	NEUTRAL	
	12	7		
	8	6	DOWN	
	12	7		

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace front power window switch (passenger side). Refer to PWC-63, "Removal and Installation".

REAR POWER WINDOW SWITCH

Description

INFOID:0000000007350743

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

Component Function Check

INFOID:0000000007350744

1. CHECK REAR POWER WINDOW SWITCH FUNCTION

Check rear power window motor operation with rear power window switch.

Is the inspection result normal?

YES >> Rear power window switch is OK.
NO >> Refer to PWC-15, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000007350745

1. CHECK REAR POWER WINDOW SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect rear power window switch connector.
3. Turn ignition switch ON.
4. Check voltage between rear power window switch harness connector and ground.

(+)		(–)	Condition		Voltage (V) (Approx.)
Rear power window switch					
Connector	Terminal				
LH: D83	2	Ground	Power window main switch: LH	UP	Battery voltage
				DOWN	0
	3			UP	0
				DOWN	Battery voltage
RH: D103	2		Power window main switch: RH	UP	Battery voltage
				DOWN	0
	3			UP	0
				DOWN	Battery voltage

Is the inspection result normal?

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

2. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.
Refer to PWC-16, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace rear power window switch. Refer to PWC-63, "Removal and Installation".

3. CHECK REAR POWER WINDOW SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect power window main switch connector.
3. Check continuity between power window main switch harness connector and rear power window switch harness connector.

Power window main switch		Rear power window switch			Continuity
Connector	Terminal	Connector		Terminal	
D5	1	LH	D83	2	Existed
	3			3	
	5	RH	D103	3	
	7			2	

4. Check continuity between power window main switch harness connector and ground.

Power window main switch		Ground	Continuity
Connector	Terminal		
D5	1	Ground	Not existed
	3		
	5		
	7		

Is the inspection result normal?

YES >> Replace power window main switch.Refer to PWC-63, "Removal and Installation" .
NO >> Repair or replace harness.

4.CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:0000000007350746

1.CHECK REAR POWER WINDOW SWITCH

1. Turn ignition switch OFF.
2. Disconnect rear power window switch connector.
3. Check rear power window switch.

Rear power window switch	Terminal		Rear power window switch condition	Continuity
LH:D83 RH:D103	1	5	UP	Existed
	3	4		
	3	4	NEUTRAL	
	2	5		
	1	4	DOWN	
	2	5		

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace rear power window switch. Refer to PWC-63, "Removal and Installation".

POWER WINDOW MOTOR
DRIVER SIDE

DRIVER SIDE : Description

INFOID:0000000007350747

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

DRIVER SIDE : Component Function Check

INFOID:0000000007350748

1. CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE) OPERATION

Check front power window motor (driver side) operation with power window main switch.

Is the inspection result normal?

YES >> Front power window motor (driver side) is OK.
NO >> Refer to PWC-17, "DRIVER SIDE : Diagnosis Procedure".

DRIVER SIDE : Diagnosis Procedure

INFOID:0000000007350749

1. CHECK POWER WINDOW MOTOR (DRIVER SIDE) INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect front power window motor (driver side) connector.
3. Turn ignition switch ON.
4. Check voltage between power window motor (driver side) harness connector and ground.

(+)		(–)	Condition		Voltage (V) (Approx.)
Power window motor (driver side)					
Connector	Terminal				
D7	1	Ground	Power window main switch	UP	Battery voltage
				DOWN	0
	2			UP	0
				DOWN	Battery voltage

Is the inspection result normal?

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

2. CHECK POWER WINDOW MOTOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect power window main switch connector.
3. Check continuity between power window main switch harness connector and front power window motor (driver side) harness connector.

Power window main switch		Front power window motor (driver side)		Continuity
Connector	Terminal	Connector	Terminal	
D5	8	D7	2	Existed
	11		1	

4. Check continuity between power window main switch harness connector and ground.

Power window main switch		Ground	Continuity
Connector	Terminal		
D5	8		Not existed
	11		

Is the inspection result normal?

YES >> Replace power window main switch.Refer to PWC-63, "Removal and Installation".
NO >> Repair or replace harness.

3. CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE)

Check front power window motor (driver side).
Refer to PWC-18, "DRIVER SIDE : Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace power window motor (driver side). Refer to GW-23, "Removal and Installation".

4. CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> INSPECTION END

DRIVER SIDE : Component Inspection

INFOID:0000000007350750

1. CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE)

1. Turn ignition switch OFF.
2. Disconnect front power window motor (driver side) connector.
3. Check motor operate by connecting the battery voltage directly to front power window motor (driver side) connector.

Front power window motor (driver side) connector	Terminal		Motor condition
	(+)	(–)	
D7	1	2	DOWN
	2	1	UP

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace front power window motor (driver side). Refer to GW-23, "Removal and Installation".

PASSENGER SIDE

PASSENGER SIDE : Description

INFOID:0000000007350751

Door glass moves UP/DOWN by receiving the signal from power window main switch or front power window switch (passenger side).

PASSENGER SIDE : Component Function Check

INFOID:0000000007350752

1. CHECK FRONT POWER WINDOW MOTOR (PASSENGER SIDE) OPERATION

Check front power window motor (passenger side) operation with power window main switch or front power window switch (passenger side).

Is the inspection result normal?

YES >> Power window motor (passenger side) is OK.
NO >> Refer to PWC-18, "PASSENGER SIDE : Diagnosis Procedure".

PASSENGER SIDE : Diagnosis Procedure

INFOID:0000000007350753

1. CHECK FRONT POWER WINDOW MOTOR (PASSENGER SIDE) INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect front power window motor (passenger side) connector.
3. Turn ignition switch ON.
4. Check voltage between front power window motor (passenger side) harness connector and ground.

(+)		(–)	Condition		Voltage (V) (Approx.)
Front power window motor (passenger side)					
Connector	Terminal				
D46	2	Ground	Front power window switch (passenger side)	UP	Battery voltage
				DOWN	0
	1			UP	0
				DOWN	Battery voltage

Is the inspection result normal?

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

2.CHECK FRONT POWER WINDOW MOTOR (PASSENGER SIDE) CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front power window switch (passenger side) connector.
3. Check continuity between front power window switch (passenger side) harness connector and front power window motor (passenger side) harness connector.

Front power window switch (passenger side)		Front power window motor (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	
D45	6	D46	1	Existed
	7		2	

4. Check continuity between front power window switch (passenger side) harness connector and ground.

Front power window switch (passenger side)		Ground	Continuity
Connector	Terminal		
D45	6		Not existed
	7		

Is the inspection result normal?

YES >> Replace front power window switch (passenger side).PWC-63, "Removal and Installation".
NO >> Repair or replace harness.

3.CHECK FRONT POWER WINDOW MOTOR (PASSENGER SIDE)

Check front power window motor (passenger side).
Refer to PWC-19, "PASSENGER SIDE : Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace front power window motor (passenger side). Refer to GW-23, "Removal and Installation".

4.CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> INSPECTION END

PASSENGER SIDE : Component Inspection

INFOID:0000000007350754

1.CHECK FRONT POWER WINDOW MOTOR (PASSENGER SIDE)

1. Turn ignition switch OFF.
2. Disconnect front power window motor (passenger side) connector.
3. Check motor operate by connecting the battery voltage directly to front power window motor (passenger side) connector.

Front power window motor (passenger side) connector	Terminal		Motor condition
	(+)	(–)	
D46	1	2	DOWN
	2	1	UP

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace front power window motor (passenger side). Refer to GW-23, "Removal and Installation".

REAR LH

REAR LH : Description

INFOID:0000000007350755

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:0000000007350756

1.CHECK REAR POWER WINDOW MOTOR LH OPERATION

Check rear power window motor LH operation with power window main switch or rear power window switch LH.

Is the inspection result normal?

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

REAR LH : Diagnosis Procedure

INFOID:0000000007350757

1.CHECK REAR POWER WINDOW MOTOR LH INPUT SIGNAL

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

(+)		(–)	Condition		Voltage (V) (Approx.)
Rear power window motor LH					
Connector	Terminal				
D82	1	Ground	Rear power window switch LH	UP	Battery voltage
				DOWN	0
	3			UP	0
				DOWN	Battery voltage

Is the inspection result normal?

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

2.CHECK REAR POWER WINDOW MOTOR LH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear power window switch LH connector.
3. Check continuity between rear power window switch LH harness connector and rear power window motor LH harness connector.

Rear power window switch LH		Rear power window motor LH		Continuity
Connector	Terminal	Connector	Terminal	
D83	4	D82	3	Existed
	5		1	

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

Rear power window switch LH		Ground	Continuity
Connector	Terminal		
D83	4		Not existed
	5		

Is the inspection result normal?

YES >> Replace rear power window switch LH.Refer to PWC-63, "Removal and Installation".
NO >> Repair or replace harness.

3.CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH.
Refer to PWC-21, "REAR LH : Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace rear power window motor LH. Refer to GW-28, "Removal and Installation".

4.CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> INSPECTION END

REAR LH : Component Inspection

INFOID:0000000007350758

COMPONENT INSPECTION

1.CHECK REAR POWER WINDOW MOTOR LH

1. Turn ignition switch OFF.
2. Disconnect rear power window motor LH connector.
3. Check motor operate by connecting the battery voltage directly to rear power window motor LH connector.

Rear power window motor LH connector	Terminal		Motor condition
	(+)	(–)	
D82	3	1	DOWN
	1	3	UP

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace rear power window motor LH. Refer to GW-28, "Removal and Installation".

REAR RH

REAR RH : Description

INFOID:0000000007350759

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

REAR RH : Component Function Check

INFOID:0000000007350760

1. CHECK REAR POWER WINDOW MOTOR RH OPERATION

Check rear power window motor RH operation with power window main switch or rear power window switch RH.

Is the inspection result normal?

YES >> Rear power window motor RH is OK.
NO >> Refer to PWC-22, "REAR RH : Diagnosis Procedure".

REAR RH : Diagnosis Procedure

INFOID:0000000007350761

1.CHECK REAR POWER WINDOW MOTOR RH INPUT SIGNAL

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

(+)		(–)	Condition		Voltage (V) (Approx.)
Rear power window motor RH					
Connector	Terminal				
D102	1	Ground	Rear power window switch RH	UP	Battery voltage
				DOWN	0
	3			UP	0
				DOWN	Battery voltage

Is the inspection result normal?

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

2.CHECK REAR POWER WINDOW MOTOR RH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear power window switch RH connector.
3. Check continuity between rear power window switch RH harness connector and rear power window motor RH harness connector.

Rear power window switch RH		Rear power window motor RH		Continuity
Connector	Terminal	Connector	Terminal	
D103	4	D102	3	Existed
	5		1	

4. Check continuity between rear power window switch RH harness connector and ground.

Rear power window switch RH		Ground	Continuity
Connector	Terminal		
D103	4		Not existed
	5		

Is the inspection result normal?

YES >> Replace rear power window switch RH.Refer to PWC-63, "Removal and Installation".
NO >> Repair or replace harness.

3.CHECK REAR POWER WINDOW MOTOR RH

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

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace rear power window motor RH. Refer to GW-28, "Removal and Installation".

4.CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> INSPECTION END

REAR RH : Component Inspection

INFOID:0000000007350762

COMPONENT INSPECTION

1.CHECK REAR POWER WINDOW MOTOR RH

1. Turn ignition switch OFF.
2. Disconnect rear power window motor RH connector.
3. Check motor operation by connecting the battery voltage directly to rear power window motor RH connector.

Rear power window motor RH connector	Terminal		Motor condition
	(+)	(–)	
D102	3	1	DOWN
	1	3	UP

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace rear power window motor RH. Refer to GW-28, "Removal and Installation".

ENCODER CIRCUIT

Description

INFOID:0000000007350767

Detects condition of the front power window motor (driver side) operation and transmits to power window main switch as pulse signal.

Component Function Check

INFOID:0000000007350768

1.CHECK ENCODER OPERATION

Check front driver side door glass perform AUTO open/close operation normally when power window main switch.

Is the inspection result normal?

YES >> Encoder operation is OK.
NO >> Refer to PWC-24, "Diagnosis Procedure"

Diagnosis Procedure

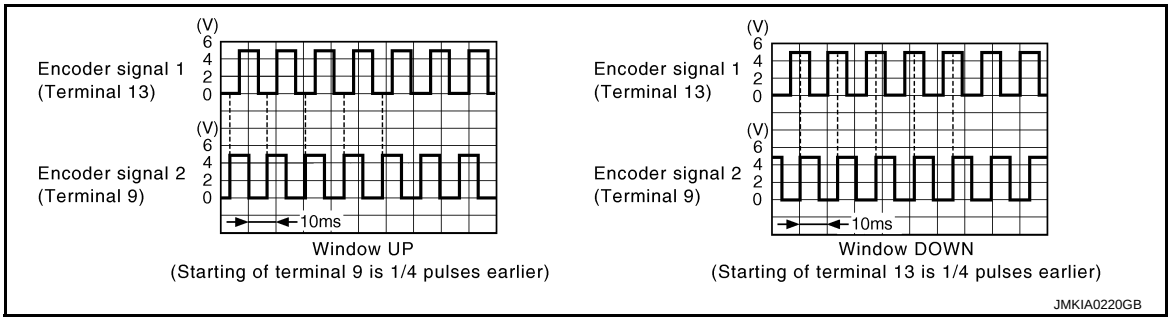
INFOID:0000000007350769

Encoder Circuit Check

1.CHECK ENCODER OPERATION

1. Turn ignition switch ON.
2. Check signal between power window main switch harness connector and ground with oscilloscope.

(+)		(–)	Signal (Reference value)
Power window main switch			
Connector	Terminal		
D5	9	Ground	Refer to following signal
	13		



Is the inspection result normal?

YES >> GO TO 7.
NO >> GO TO 2.

2.CHECK ENCORDER SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect power window main switch connector and front power window motor (driver side) connector.
3. Check continuity between power window main switch harness connector and front power window motor (driver side) harness connector.

Power window main switch		Front power window motor (driver side)		Continuity
Connector	Terminal	Connector	Terminal	
D5	9	D7	3	Existed
	13		5	

4. Check continuity between power window main switch harness connector and ground.

Power window main switch		Ground	Continuity
Connector	Terminal		
D5	9		Not existed
	13		

Is the inspection result normal?

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

3. CHECK ENCORDER POWER SUPPLY CIRCUIT

1. Connect power window main switch connector.
2. Turn ignition switch ON.
3. Check voltage between front power window motor (driver side) harness connector and ground.

(+)		(–)	Voltage (V) (Approx.)
Front power window motor (driver side)			
Connector	Terminal		
D7	4	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 5.

4. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between front power window motor (driver side) harness connector and ground.

Front power window motor (driver side)		Ground	Continuity
Connector	Terminal		
D7	6		Existed

Is the inspection result normal?

YES >> GO TO 7.
NO >> GO TO 6.

5. CHECK HARNESS CONTINUITY 1

1. Turn ignition switch OFF.
2. Check continuity between power window main switch harness connector and front power window motor (driver side) harness connector.

Power window main switch		Front power window motor (driver side)		Continuity
Connector	Terminal	Connector	Terminal	
D5	15	D7	4	Existed

3. Check continuity between power window main switch harness connector and ground.

Power window main switch		Ground	Continuity
Connector	Terminal		
D5	15		Not existed

Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-63, "Removal and Installation".
NO >> Repair or replace harness.

6. CHECK HARNESS CONTINUITY 2

1. Disconnect power window main switch connector.

2. Check continuity between power window main switch harness connector and front power window motor (driver side) harness connector.

Power window main switch		Front power window motor (driver side)		Continuity
Connector	Terminal	Connector	Terminal	
D5	2	D7	6	Existed

Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-63, "Removal and Installation".
NO >> Repair or replace harness.

7. CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> INSPECTION END

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000007628027

VALUES ON THE DIAGNOSIS TOOL

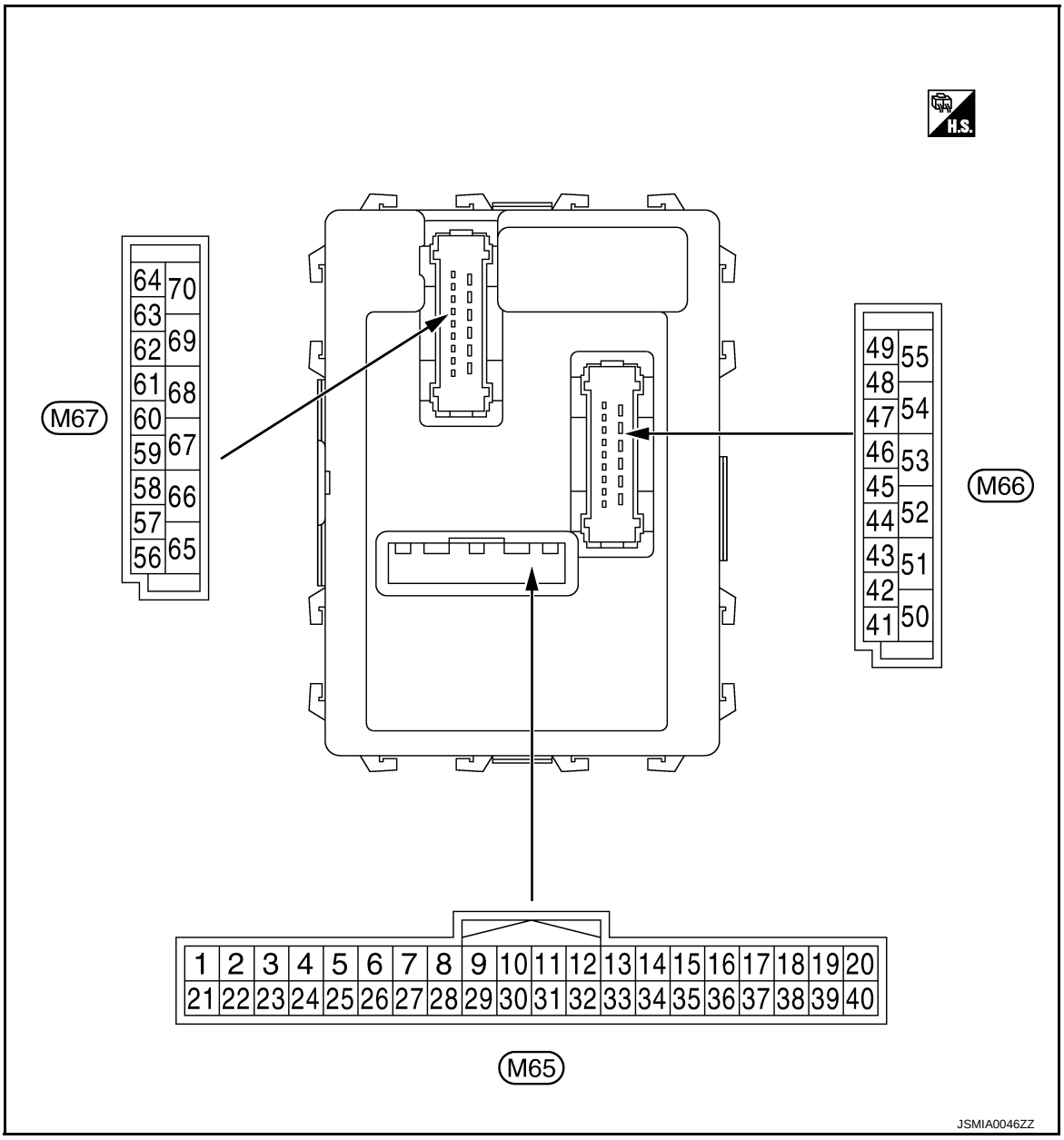
Monitor Item	Condition	Value/Status
IGN ON SW	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
KEY ON SW	Mechanical key is removed from key cylinder	Off
	Mechanical key is inserted to key cylinder	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the lock 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
BACK DOOR SW	Back door closed	Off
	Back 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
I-KEY LOCK	“LOCK” button of Intelligent Key or door request switch are not pressed	Off
	“LOCK” button of Intelligent Key or door request switch are pressed	On
I-KEY UNLOCK	“UNLOCK” button of Intelligent Key or door request switch are not pressed	Off
	“UNLOCK” button of Intelligent Key or door request switch are 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

Monitor Item	Condition	Value/Status
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
KEYLESS TRUNK	**NOTE:** The item is indicated, but not monitored.	Off
TRNK OPN MNTR	**NOTE:** The item is indicated, but not monitored.	Off
RKE LCK-UNLCK	LOCK/UNLOCK button of key fob is not pressed and held simultaneously	Off
	LOCK/UNLOCK button of key fob is pressed and held simultaneously	On
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	Other than lighting switch AUTO	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
RR FOG SW	**NOTE:** The item is indicated, but not monitored.	Off
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
ENGINE RUN	Engine stopped	Off
	Engine running	On
PKB SW	Parking brake switch is OFF	Off
	Parking brake switch is ON	On
CARGO LAMP SW	**NOTE:** The item is indicated, but not monitored.	Off
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5 V
	Dark outside of the vehicle	Close to 0 V
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

Monitor Item	Condition	Value/Status
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
RR WIPER ON	Rear wiper switch OFF	Off
	Rear wiper switch ON	On
RR WIPER INT	Rear wiper switch OFF	Off
	Rear wiper switch INT	On
RR WASHER SW	Rear washer switch OFF	Off
	Rear washer switch ON	On
RR WIPER STOP	Rear wiper stop position	Off
	Other than rear wiper stop position	On
RR WIPER STP2	**NOTE:** The item is indicated, but not monitored.	Off
H/L WASH SW	**NOTE:** The item is indicated, but not monitored.	Off
HAZARD SW	Hazard switch OFF	Off
	Hazard 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
AIR COND SW	• A/C conditioner OFF (A/C switch indicator OFF) (Automatic air conditioner) • A/C switch OFF (Manual air conditioner)	Off
	• A/C conditioner ON (A/C switch indicator ON) (Automatic air conditioner) • A/C switch ON (Manual air conditioner)	On
I-KEY TRUNK	**NOTE:** The item is indicated, but not monitored.	Off
I-KEY PW DWN	UNLOCK button of Intelligent Key is not pressed	Off
	UNLOCK button of Intelligent Key is pressed and held	On
I-KEY PANIC	PANIC button of Intelligent Key is not pressed	Off
	PANIC button of Intelligent Key is pressed	On
PUSH SW	Return to ignition switch to “LOCK” position	Off
	Press ignition switch	On
TRNK OPNR SW	When back door opener switch is not pressed	Off
	When back door opener switch is pressed	On
TRUNK CYL SW	**NOTE:** The item is indicated, but not monitored.	Off

Monitor Item	Condition	Value/Status
HOOD SW	Close the hood **NOTE:** Vehicles of except for Mexico are OFF-fixed	Off
	Open the hood	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

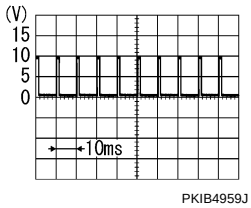
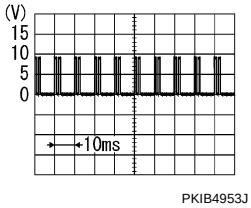
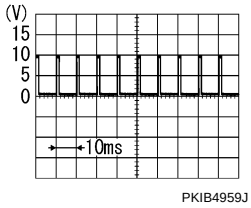
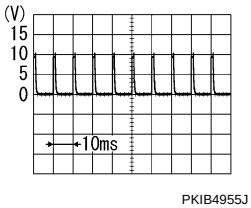
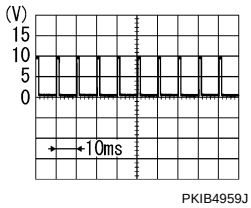


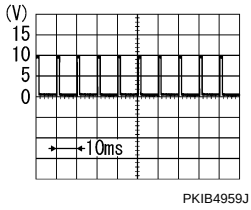
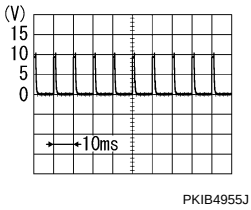
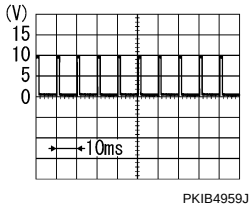
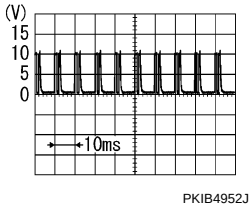
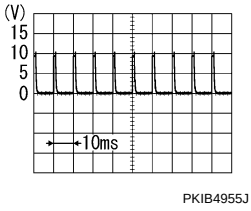
PHYSICAL VALUES

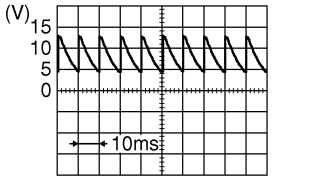
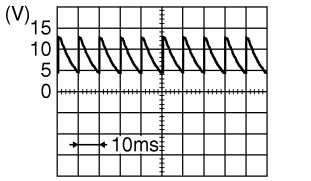
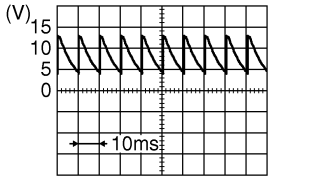
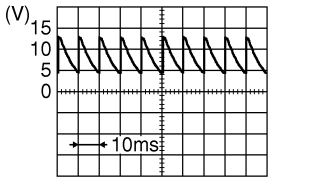
CAUTION:

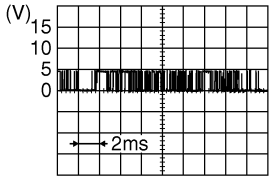
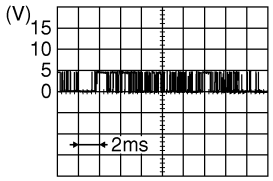
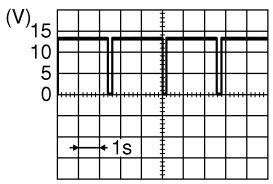
- **Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF is not to be fluctuated by being overloaded.**
- **Turn wiper intermittent dial position to 4 except when checking waveform or voltage of wiper intermittent dial position. Wiper intermittent dial position can be confirmed on CONSULT. Refer to BCS-26, "COMB SW : CONSULT Function (BCM - COMB SW)".**
- **BCM reads the status of the combination switch at 10 ms internal normally. Refer to BCS-9, "System Diagram".**

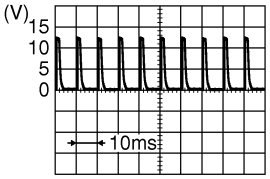
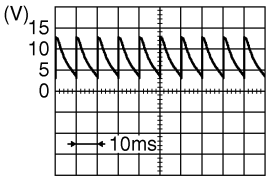
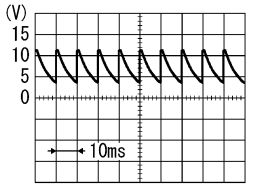
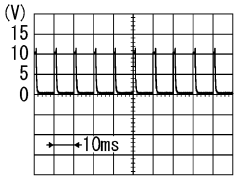
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	–					
1 (V)	Ground	Ignition key hole illumination control	Output	Ignition key hole illumination	OFF	Battery voltage
					ON	0 V

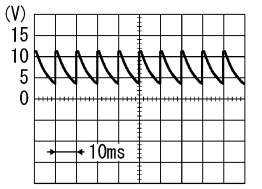
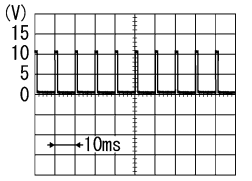
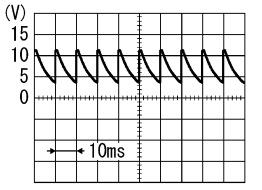
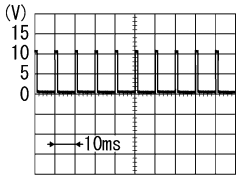
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
2 (G)	Ground	Combination switch INPUT 5	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0 V
					Turn signal switch RH Lighting switch HI Lighting switch 1ST	 PKIB4959J 1.0 V
					Lighting switch 2ND	 PKIB4953J 2.0 V
3 (Y)	Ground	Combination switch INPUT 4	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0 V
					Turn signal switch LH Lighting switch PASS Lighting switch 2ND	 PKIB4959J 1.0 V
					Front fog lamp switch ON	 PKIB4955J 0.8 V
4 (W)	Ground	Combination switch INPUT 3	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0 V
					Lighting switch AUTO Front wiper switch LO Front wiper switch MIST Front wiper switch INT	 PKIB4959J 1.0 V

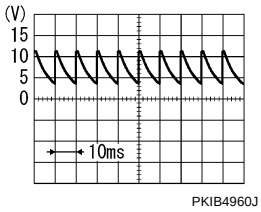
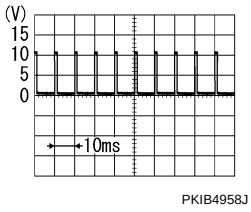
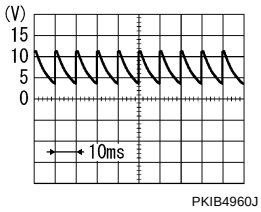
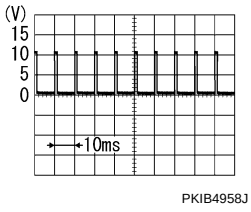
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
5 (R)	Ground	Combination switch INPUT 2	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V
					Front washer switch (Wiper intermittent dial 4)	 PKIB4959J 1.0 V
					Rear washer ON (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	
					Rear wiper switch ON (Wiper intermittent dial 4)	 PKIB4955J 0.8 V
6 (P)	Ground	Combination switch INPUT 1	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V
					Front wiper switch HI (Wiper intermittent dial 4)	 PKIB4959J 1.0 V
					Rear wiper switch INT (Wiper intermittent dial 4)	
					Wiper intermittent dial 3 (All switch OFF)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2	 PKIB4952J 1.7 V
					Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7	 PKIB4955J 0.8 V

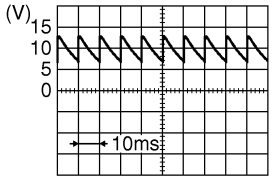
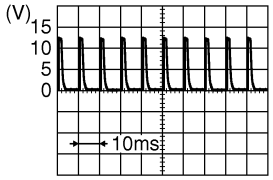
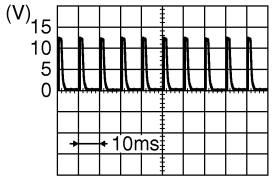
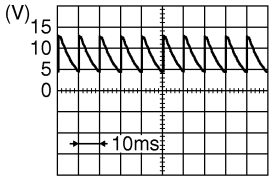
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
7 (L)	Ground	Door key cylinder switch UNLOCK signal	Input	Door key cylinder switch	NEUTRAL position	 JPMIA0587GB 8.0 - 8.5 V
					UNLOCK position	0 V
8 (R)	Ground	Door key cylinder switch LOCK signal	Input	Door key cylinder switch	NEUTRAL position	 JPMIA0587GB 8.0 - 8.5 V
					LOCK position	0 V
9 (R)	Ground	Stop lamp switch	Input	Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
					ON (Brake pedal is depressed)	Battery voltage
10 (SB)	Ground	Rear window defogger switch	Input	Rear window defogger switch	Not pressed	Battery voltage
					Pressed	0 V
11 (SB)	Ground	Ignition switch ACC	Input	Ignition switch OFF		0 V
				Ignition switch ACC or ON		Battery voltage
12 (P)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	 JPMIA0586GB 7.5 - 8.0 V
					ON (When passenger door opened)	0 V
13 (LG)	Ground	Rear door switch RH	Input	Rear door switch RH	OFF (When rear door RH closed)	 JPMIA0587GB 8.0 - 8.5 V
					ON (When rear door RH opened)	0 V

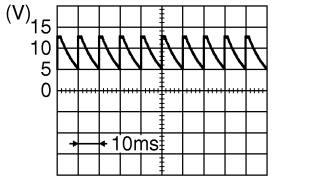
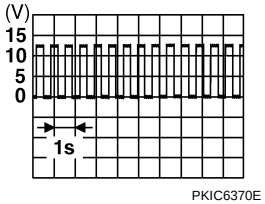
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
14 (G)	Ground	Optical sensor	Input	Ignition switch ON	When bright outside of the vehicle	Close to 5 V
					When dark outside of the vehicle	Close to 0 V
17 (W)	Ground	Optical sensor power supply	Output	Ignition switch	OFF, ACC	0 V
					ON	5 V
18* (R)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V
19* (V)	Ground	Remote keyless entry receiver power supply	Input	Without Intelligent Key system	At any condition	5 V
				With Intelligent Key system	• Ignition switch OFF • For 3 seconds after ignition switch OFF to ON	0 V
					3 seconds or later after ignition switch OFF to ON	5 V
20* (GR)	Ground	Remote keyless entry receiver signal	Input	Without Intelligent Key system	At any condition	 JPMIA0589GB **NOTE:** The wave form changes according to signal-receiving condition.
				With Intelligent Key system	• Ignition switch OFF • For 3 seconds after ignition switch OFF to ON	0 V
					3 seconds or later after ignition switch OFF to ON	 JPMIA0589GB **NOTE:** The wave form changes according to signal-receiving condition.
21 (G)	Ground	NATS antenna amp.	Input/ Output	Just after inserting ignition key in key cylinder		Pointer of tester should move
23 (B)	Ground	Security indicator signal	Input	Security indicator	ON	0 V
					Blinking (Ignition switch OFF)	 JPMIA0590GB 12.0 V
					OFF	Battery voltage

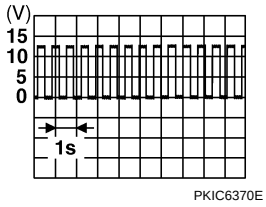
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
25 (BR)	Ground	NATS antenna amp.	Input/ Output	Just after inserting ignition key in key cylinder		Pointer of tester should move
27 (Y)	Ground	A/C switch	Input	Ignition switch OFF		
				Ignition switch ON	A/C switch OFF	 JPMIA0591GB 1.6 V
					A/C switch ON	0 V
28 (LG)	Ground	Blower fan switch	Input	Ignition switch OFF		
				Ignition switch ON	Blower fan switch OFF	 JPMIA0592GB 7.0 - 7.5 V
					Blower fan switch ON	0 V
29 (W)	Ground	Hazard switch	Input	Hazard switch	OFF	Battery voltage
					ON	0 V
30 (G)	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	Battery voltage
					Pressed	0 V
32 (BR)	Ground	Combination switch OUTPUT 5	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 PKIB4960J 7.2 V
					Front fog lamp switch ON (Wiper intermittent dial 4)	 PKIB4956J 1.0 V
					Rear wiper switch ON (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
33 (GR)	Ground	Combination switch OUTPUT 4	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 PKIB4960J 7.2 V
					Lighting switch 1ST (Wiper intermittent dial 4)	 PKIB4958J 1.2 V
					Lighting switch AUTO (Wiper intermittent dial 4)	
					Rear wiper switch INT (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	
34 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 PKIB4960J 7.2 V
					Lighting switch 2ND (Wiper intermittent dial 4)	 PKIB4958J 1.2 V
					Lighting switch HI (Wiper intermittent dial 4)	
					Rear washer switch ON (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
35 (B)	Ground	Combination switch OUTPUT 2	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	 PKIB4960J 7.2 V
					Lighting switch 2ND Lighting switch PASS Front wiper switch INT Front wiper switch HI	 PKIB4958J 1.2 V
36 (V)	Ground	Combination switch OUTPUT 1	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	 PKIB4960J 7.2 V
					Turn signal switch RH Turn signal switch LH Front wiper switch LO (Front wiper switch MIST) Front washer switch ON	 PKIB4958J 1.2 V
37 (LG)	Ground	Key switch	Input	Insert mechanical key into ignition key cylinder		Battery voltage
				Remove mechanical key from ignition key cylinder		0 V
38 (G)	Ground	Ignition switch ON	Input	Ignition switch OFF or ACC		0 V
				Ignition switch ON or START		Battery voltage
39 (L)	Ground	CAN-H	Input/ Output	—		—
40 (P)	Ground	CAN-L	Input/ Output	—		—

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
43 (V)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	 JPMIA0593GB 9.5 - 10.0 V
					ON (When back door opened)	0 V
44 (B)	Ground	Rear wiper auto stop position	Input	Ignition switch ON	Rear wiper stop position	0 V
					Any position other than rear wiper stop position	Battery voltage
45 (P)	Ground	Door lock and unlock switch LOCK signal	Input	Door lock and unlock switch	NEUTRAL position	 JPMIA0591GB 1.6 V
					LOCK position	0 V
46 (BR)	Ground	Door lock and unlock switch UNLOCK signal	Input	Door lock and unlock switch	NEUTRAL position	 JPMIA0591GB 1.6 V
					UNLOCK position	0 V
47 (W)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	 JPMIA0587GB 8.0 - 8.5 V
					ON (When driver door opened)	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
48 (GR)	Ground	Rear door switch LH	Input	Rear door switch LH	OFF (When rear door LH closed)	 JPMIA0594GB 8.5 - 9.0 V
					ON (When rear door LH opened)	0 V
49 (L)	Ground	Luggage room lamp control	Output	Luggage room lamp switch DOOR position	Back door is closed (Luggage room lamp turns OFF)	Battery voltage
					Back door is opened (Luggage room lamp turns ON)	0 V
53 (V)	Ground	Back door open	Output	Back door opener switch	Not pressed (Back door actuator is activated)	0 V
					Pressed (Back door actuator is activated)	Battery voltage
55 (SB)	Ground	Rear wiper motor	Output	Ignition switch ON	Rear wiper switch OFF	0 V
					Rear wiper switch ON	Battery voltage
56 (Y)	Ground	Interior room lamp power supply	Output	After passing the interior room lamp battery saver operation time		0 V
				Any other time after passing the interior room lamp battery saver operation time		Battery voltage
57 (G)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
59 (L)	Ground	Driver door UNLOCK	Output	Driver door	UNLOCK (Actuator is activated)	Battery voltage
					Other then UNLOCK (Actuator is not activated)	0 V
60 (BR)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch LH	 PKIC6370E 6.0 V

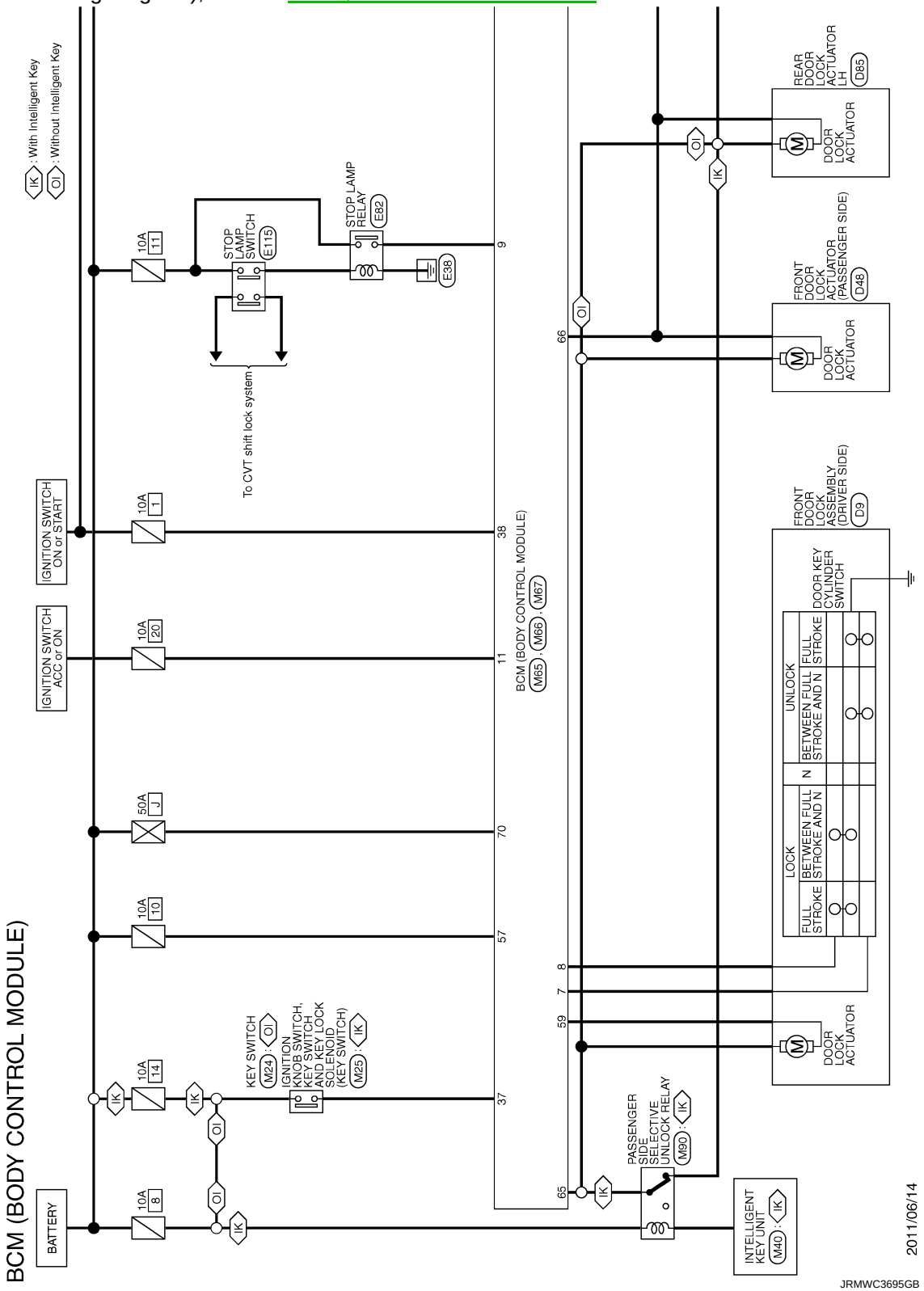
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
61 (GR)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch RH	 PKIC6370E 6.0 V
63 (R)	Ground	Interior room lamp timer control	Output	Interior room lamp	OFF	Battery voltage
					ON	0 V
65 (V)	Ground	All doors LOCK	Output	All doors	LOCK (Actuator is activated)	Battery voltage
					Other then LOCK (Actuator is not activated)	0 V
66 (G)	Ground	Passenger door and rear door UNLOCK	Output	Passenger door and rear door	UNLOCK (Actuator is activated)	Battery voltage
					Other then UNLOCK (Actuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Ignition switch ON		0 V
68 (L)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
69 (P)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF		Battery voltage
70 (Y)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage

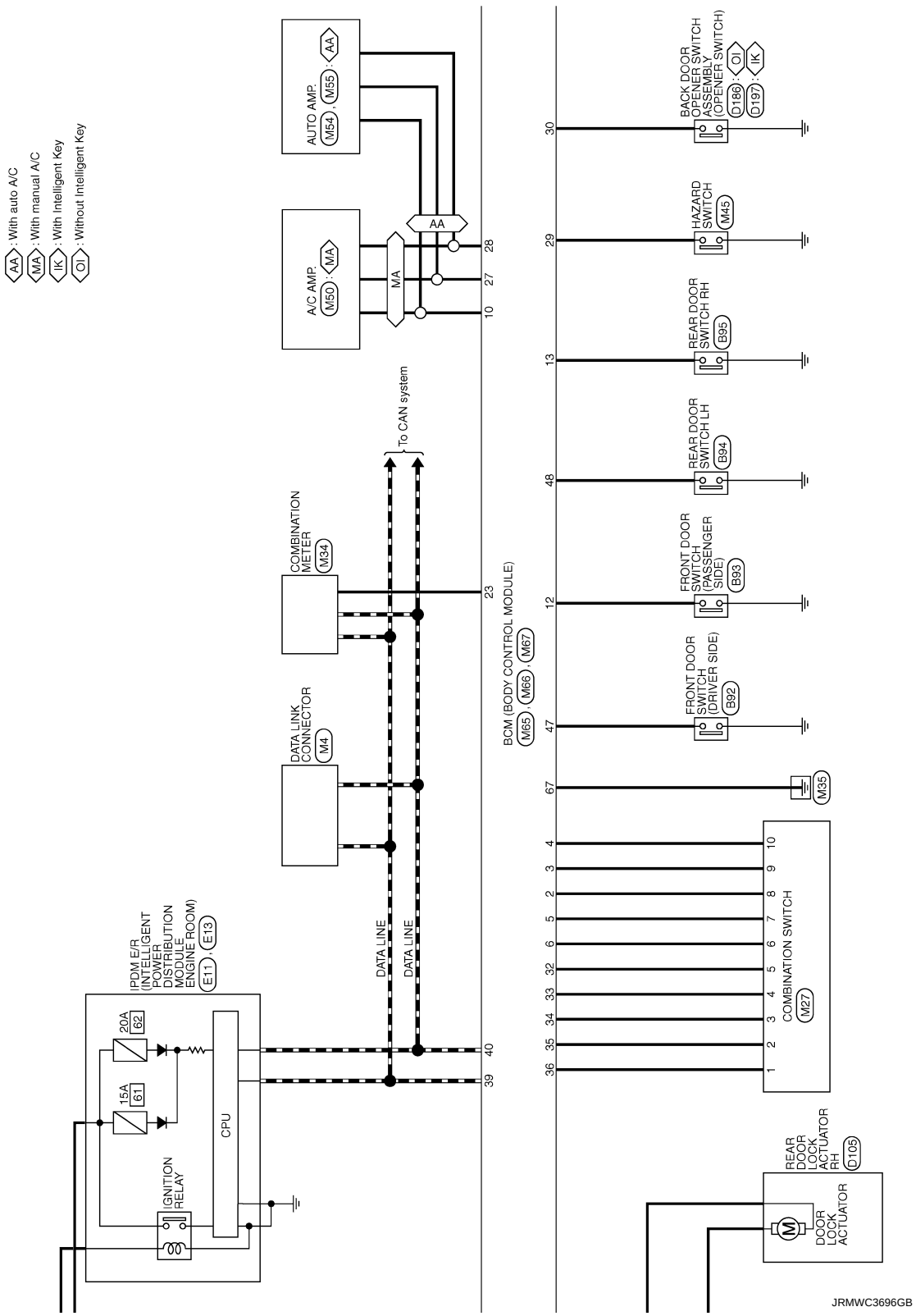
*: Except for Mexico with Intelligent Key

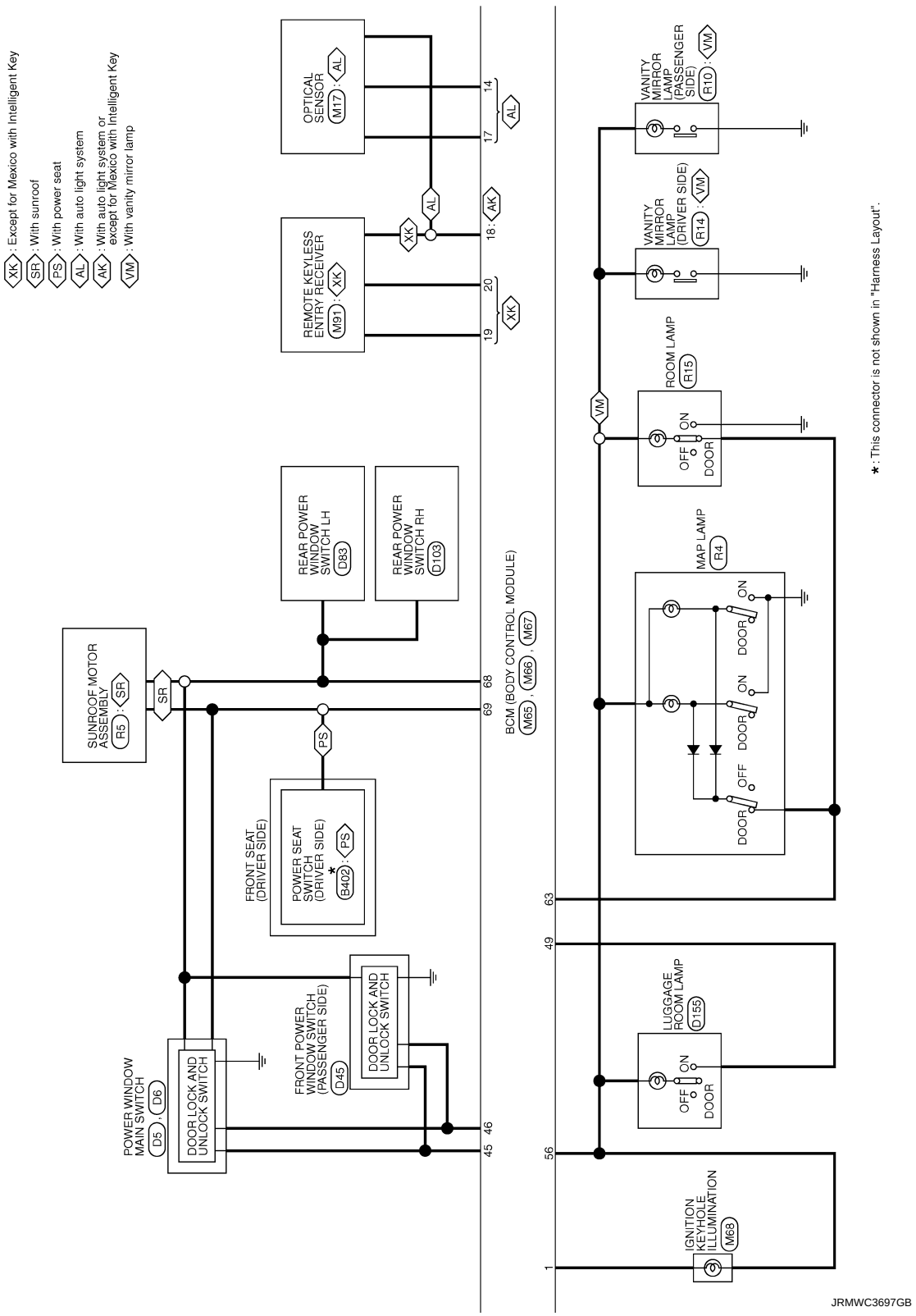
Wiring Diagram - BCM -

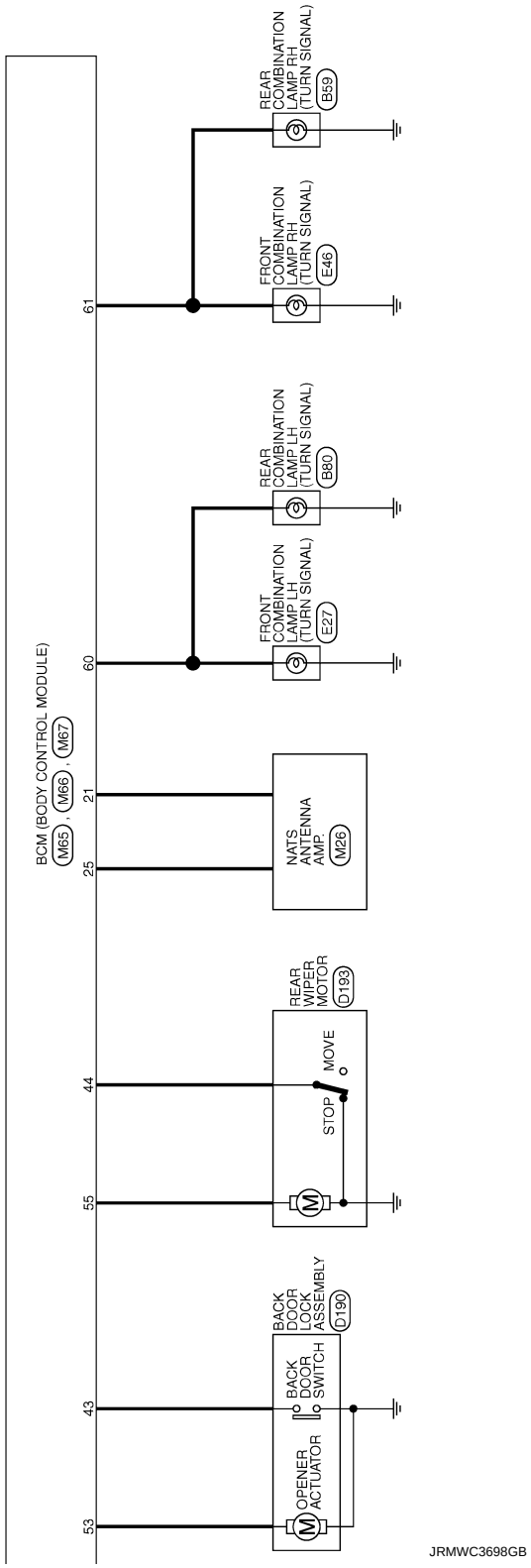
INFOID:0000000007628028

For connector terminal arrangements, harness layouts, and alphabets in a ⬡ (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".




AA : With auto A/C
MA : With manual A/C
IK : With Intelligent Key
OI : Without Intelligent Key
AUTO AMP. (M54), (M55) : AA
A/C AMP. (M50) : MA
AA
MA
28
27
10
To CAN system
COMBINATION METER (M34)
23
DATA LINK CONNECTOR (M4)
DATA LINE
DATA LINE
40
39
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (E11), (E13)
20A 62
15A 61
CPU
IGNITION RELAY
BCM (BODY CONTROL MODULE) (M65), (M66), (M67)
30
BACK DOOR OPENER SWITCH ASSEMBLY (OPENER SWITCH) (D186) : OI (D197) : IK
29
HAZARD SWITCH (M45)
13
REAR DOOR SWITCH RH (B95)
48
REAR DOOR SWITCH LH (B94)
12
FRONT DOOR SWITCH (PASSENGER SIDE) (B93)
47
FRONT DOOR SWITCH (DRIVER SIDE) (B92)
67
(M35)
4 3 2 5 6 32 33 34 35 36
10 9 8 7 6 5 4 3 2 1
COMBINATION SWITCH (M27)
REAR DOOR LOCK ACTUATOR RH (D105)
DOOR LOCK ACTUATOR
JRMWC3696GB


XK : Except for Mexico with Intelligent Key
SR : With sunroof
PS : With power seat
AL : With auto light system
AK : With auto light system or except for Mexico with Intelligent Key
VM : With vanity mirror lamp
OPTICAL SENSOR M17 AL
REMOTE KEYLESS ENTRY RECEIVER M91 XK
REAR POWER WINDOW SWITCH LH D83
REAR POWER WINDOW SWITCH RH D103
SUNROOF MOTOR ASSEMBLY R5 SR
FRONT SEAT (DRIVER SIDE)
POWER SEAT SWITCH (DRIVER SIDE) *B402 PS
FRONT POWER WINDOW SWITCH (PASSENGER SIDE) D45
DOOR LOCK AND UNLOCK SWITCH
POWER WINDOW MAIN SWITCH D5 D6
BCM (BODY CONTROL MODULE) M65 M66 M67
VANITY MIRROR LAMP (PASSENGER SIDE) R10 VM
VANITY MIRROR LAMP (DRIVER SIDE) R14 VM
ROOM LAMP R15
MAP LAMP R4
LUGGAGE ROOM LAMP D155
IGNITION KEYHOLE ILLUMINATION M68
ON
OFF
DOOR
*: This connector is not shown in "Harness Layout".
JRMWC3697GB



Fail-safe

INFOID:0000000007628029

REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper stop position signal.
When the rear wiper stop position signal does not change more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

Condition of cancellation

1. Pass more than 1 minute after the rear wiper stop.
2. Turn the rear wiper switch OFF.
3. Operate the rear wiper switch or rear washer switch.

DTC Inspection Priority Chart

INFOID:0000000007628030

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	C1735: IGN CIRCUIT OPEN
3	• 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 • C1716: [PRESS DATA ERR] FL • C1717: [PRESS DATA ERR] FR • C1718: [PRESS DATA ERR] RR • C1719: [PRESS DATA ERR] RL • C1729: VHCL SPEED SIG ERR

DTC Index

INFOID:0000000007628031

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.

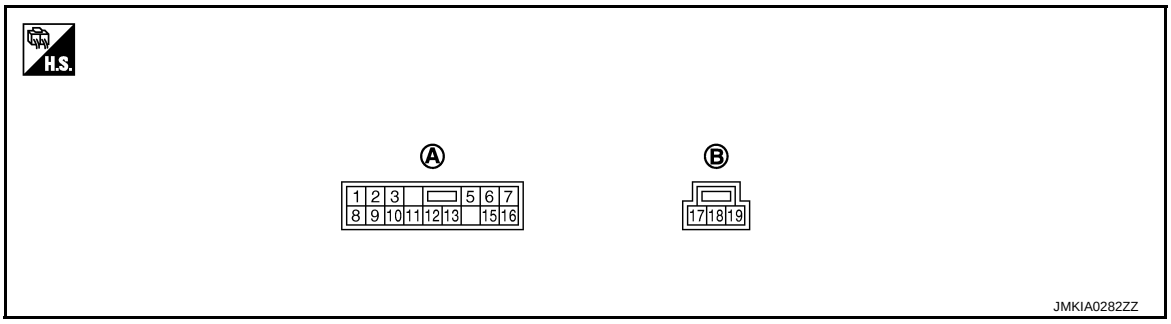
CONSULT display	Tire pressure monitor warning lamp ON	Reference
U1000: CAN COMM CIRCUIT	—	BCS-34
C1704: LOW PRESSURE FL	×	WT-14
C1705: LOW PRESSURE FR	×	
C1706: LOW PRESSURE RR	×	
C1707: LOW PRESSURE RL	×	
C1708: [NO DATA] FL	×	WT-16
C1709: [NO DATA] FR	×	
C1710: [NO DATA] RR	×	
C1711: [NO DATA] RL	×	
C1716: [PRESS DATA ERR] FL	×	WT-19
C1717: [PRESS DATA ERR] FR	×	
C1718: [PRESS DATA ERR] RR	×	
C1719: [PRESS DATA ERR] RL	×	
C1729: VHCL SPEED SIG ERR	×	WT-21
C1735: IGN CIRCUIT OPEN	—	BCS-35

POWER WINDOW MAIN SWITCH

Reference Value

INFOID:0000000007350775

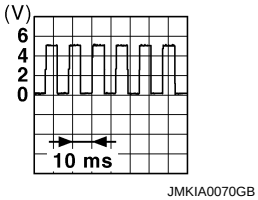
TERMINAL LAYOUT

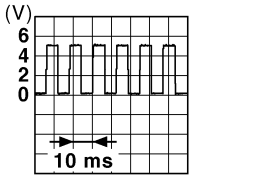


A. D5 B. D6

PHYSICAL VALUES

POWER WINDOW MAIN SWITCH

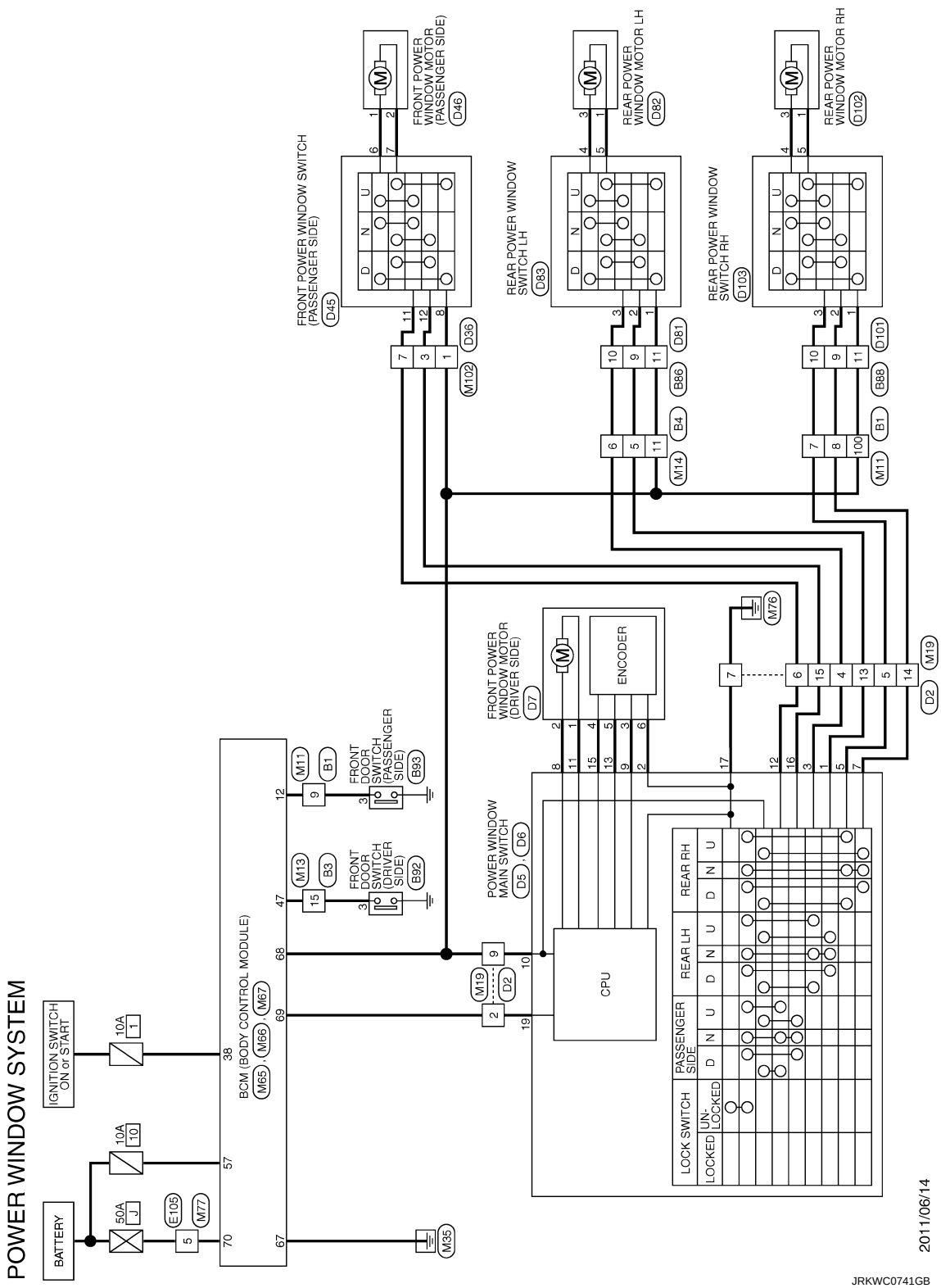
Terminal No. (Wire color)		Description		Condition	Voltage [V] (Approx.)
+	-	Signal name	Input/ Output		
1 (R)	Ground	Rear power window motor LH UP signal	Output	When rear LH switch in power window main switch is UP at operated.	Battery voltage
2 (Y)	Ground	Encoder ground	—	—	0
3 (BG)	Ground	Rear power window motor LH DOWN signal	Output	When rear LH switch in power window main switch is DOWN at operated.	Battery voltage
5 (Y)	Ground	Rear power window motor RH DOWN signal	Output	When rear RH switch in power window main switch is DOWN at operated.	Battery voltage
7 (LG)	Ground	Rear power window motor RH UP signal	Output	When rear RH switch in power window main switch is UP at operated.	Battery voltage
8 (BR)	11	Front power window motor (driver side) UP signal	Output	When front LH switch in power window main switch is UP at operated.	Battery voltage
9 (V)	2	Encoder pulse signal 2	Input	When front power window motor (driver side) operates.	 JMKIA0070GB
10 (L)	Ground	Ignition switch power supply	Input	Ignition switch ON	Battery voltage
				Other than above	0
11 (GR)	8	Front power window motor (driver side) DOWN signal	Output	When front LH switch in power window main switch is DOWN at operated.	Battery voltage

Terminal No. (Wire color)		Description		Condition	Voltage [V] (Approx.)
+	-	Signal name	Input/ Output		
12 (SB)	Ground	Front power window motor (passenger side) DOWN signal	Output	When front RH switch in power window main switch is DOWN at operated.	Battery voltage
13 (R)	2	Encoder pulse signal 1	Input	When front power window motor (driver side) operates.	 JMKIA0070GB
15 (G)	Ground	Encoder power supply	Output	Ignition switch ON.	Battery voltage
16 (W)	Ground	Front power window motor (passenger side) UP signal	Output	When front RH switch in power window main switch is UP at operated.	Battery voltage
17 (B)	Ground	Ground	—	—	0
19 (R)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage

Wiring Diagram - POWER WINDOW CONTROL SYSTEM -

INFOID:0000000007350776

For connector terminal arrangements, harness layouts, and alphabets in a ⬡ (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



Fail Safe

INFOID:0000000007350778

FAIL-SAFE CONTROL

Switches to fail-safe control when malfunction is detected in encoder signal that detects up/down speed and direction of door glass. Switches to fail-safe control when error beyond regulation value is detected between the fully closed position and the actual position of the glass.

Error	Error condition
Pulse sensor malfunction	When only one side of pulse signal is being detected for more than the specified value.
Both pulse sensors malfunction	When both pulse signals have not been detected for more than the specified value during glass open/close operation.
Pulse direction malfunction	When the pulse signal that is detected during glass open/close operation detects the opposite condition of power window motor operating direction.
Glass recognition position malfunction 1	When it detects the error between glass fully closed position in power window switch memory and actual fully closed position during glass open/close operation is more than the specified value.
Glass recognition position malfunction 2	When it detects pulse count more than the value of glass full stroke during glass open/close operation.
Malfunction of not yet updated closed position of glass	When glass open/close operation is continuously performed without fully closing more than the specified value (approximately 10 strokes).

It changes to condition before initialization and the following functions do not operate when switched to fail-safe control.
- Auto-up operation
- Anti-pinch function

Perform initial operation to recover when switched to fail-safe mode. However, it switches back to fail-safe control when malfunction is found in power window main switch or front power window motor (driver side).

SYMPTOM DIAGNOSIS

NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

Diagnosis Procedure

INFOID:0000000007350779

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.
Refer to BCS-36, "Diagnosis Procedure".

Is the inspection result normal?

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

2. CHECK POWER WINDOW MAIN SWITCH POWER SUPPLY AND GROUND CIRCUIT

Check power window main switch power supply and ground circuit.
Refer to PWC-10, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".
NO >> GO TO 1.

DRIVER SIDE POWER WINDOW DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000007350780

1.CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE)

Check power window motor.
Refer to PWC-17, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

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

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".
NO >> GO TO 1.

FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE

WITH BOTH POWER WINDOW MAIN SWITCH AND FRONT PASSENGER SIDE POWER WINDOW SWITCH

WITH BOTH POWER WINDOW MAIN SWITCH AND FRONT PASSENGER SIDE POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:0000000007350781

1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Check front power window switch (passenger side).
Refer to PWC-13, "Component Function Check".

Is the inspection result normal?

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

2. CHECK FRONT POWER WINDOW MOTOR (PASSENGER SIDE)

Check front power window motor (passenger side).
Refer to PWC-18, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".
NO >> GO TO 1.

WITH FRONT POWER WINDOW SWITCH ONLY

WITH FRONT POWER WINDOW SWITCH ONLY : Diagnosis Procedure

INFOID:0000000007350782

1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) POWER SUPPLY AND GROUND CIRCUIT

Check front power window switch (passenger side) power supply and ground circuit.
Refer to PWC-11, "FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure".

Is the inspection result normal?

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

2. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Check front power window switch (passenger side).
Refer to PWC-13, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts

3. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".
NO >> GO TO 1.

REAR LH SIDE POWER WINDOW DOES NOT OPERATE

WITH BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH LH

WITH BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH LH : Diagnosis Procedure

INFOID:0000000007350783

1.CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.
Refer to PWC-15, "Component Function Check".

Is the inspection result normal?

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

2.CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH.
Refer to PWC-20, "REAR LH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".
NO >> GO TO 1.

WITH REAR POWER WINDOW SWITCH LH ONLY

WITH REAR POWER WINDOW SWITCH LH ONLY : Diagnosis Procedure

INFOID:0000000007350784

1.CHECK REAR POWER WINDOW SWITCH POWER SUPPLY AND GROUND CIRCUIT

Check rear power window switch power supply and ground circuit.
Refer to PWC-11, "REAR POWER WINDOW SWITCH : Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.
Refer to PWC-15, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".
NO >> GO TO 1.

REAR RH SIDE POWER WINDOW DOES NOT OPERATE

WITH BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH

WITH BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH : Diagnosis Procedure

INFOID:0000000007350785

1.CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.
Refer to PWC-15, "Component Function Check".

Is the inspection result normal?

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

2.CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH.
Refer to PWC-21, "REAR RH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".
NO >> GO TO 1.

WITH REAR POWER WINDOW SWITCH RH ONLY

WITH REAR POWER WINDOW SWITCH RH ONLY : Diagnosis Procedure

INFOID:0000000007350786

1.CHECK REAR POWER WINDOW SWITCH POWER SUPPLY AND GROUND CIRCUIT

Check rear power winodw switch power supply and ground circuit.
Refer to PWC-11, "REAR POWER WINDOW SWITCH : Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.
Refer to PWC-15, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".
NO >> GO TO 1.

ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (DRIVER SIDE)

Diagnosis Procedure

INFOID:0000000007350787

1.PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.
Refer to PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".

Is the inspection result normal?

YES >> INSPECTION END
NO >> GO TO 2.

2.CHECK ENCODER CIRCUIT

Check encoder circuit.
Refer to PWC-24, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".
NO >> GO TO 1.

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:0000000007350788

1.CHECK DOOR SWITCH

Check door switch.
Refer to DLK-57, "Component Function Check" (With intelligent Key system), DLK-277, "Component Function Check" (Without Intelligent Key system).

Is the inspection result normal?

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

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".
NO >> GO TO 1.

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

Diagnosis Procedure

INFOID:0000000007350789

1.PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.
Refer to PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".

Is the inspection result normal?

YES >> INSPECTION END
NO >> GO TO 2.

2.CHECK ENCODER

Check encoder.
Refer to PWC-24, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".
NO >> GO TO 1.

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

Diagnosis Procedure

INFOID:0000000007350790

1.REPLACE POWER WINDOW MAIN SWITCH

Replace power window main switch.

>> Refer toPWC-63, "Removal and Installation".

PRECAUTION

PRECAUTIONS

FOR MEXICO

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

INFOID:0000000007350791

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. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 “SRS AIR BAG”.**
- **Never 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:

Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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.**

FOR USA AND CANADA

FOR USA AND CANADA : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000007350792

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 “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 “SRS AIR BAG”.**
- **Never 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:

Always observe the following items for preventing accidental activation.

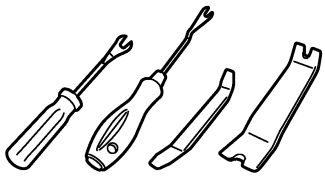
- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious 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.**

PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000007657429

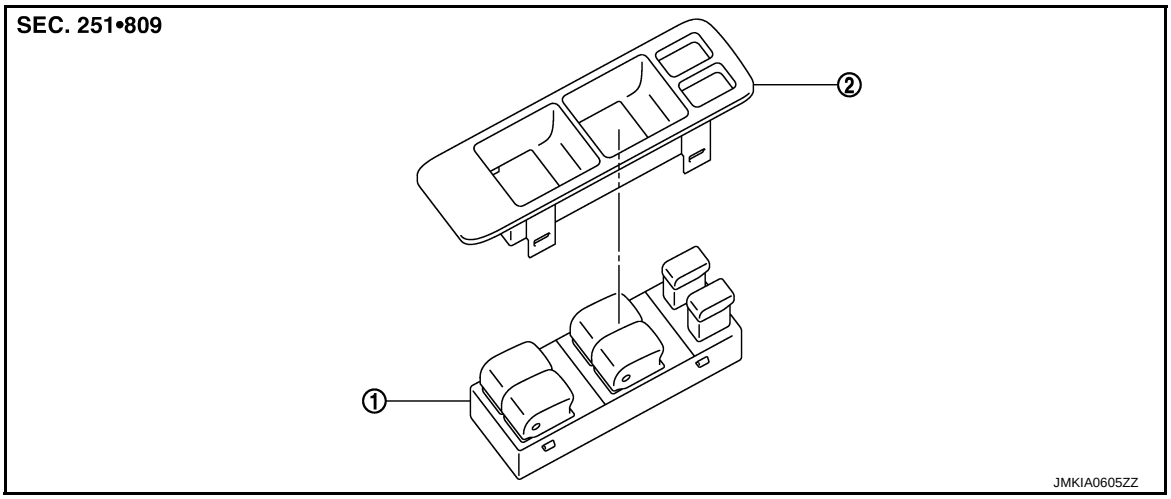
Tool name		Description
Remover tool	 JMKIA3050ZZ	Removes clips, pawls and metal clips

REMOVAL AND INSTALLATION

POWER WINDOW MAIN SWITCH

Exploded View

INFOID:0000000007350793



1. Power window main switch
2. Power window main switch finisher

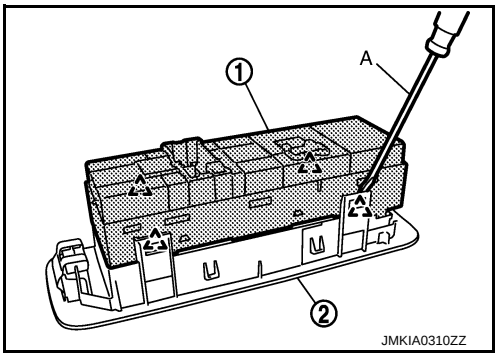
NOTE:
The same procedure is also performed for front power window switch (passenger side) and rear power switch (LH & RH).
Refer to removal and installation procedure. Refer to PWC-63, "Removal and Installation".

Removal and Installation

INFOID:0000000007350794

REMOVAL

1. Remove the power window main switch finisher (2).
   Refer to INT-12, "FRONT DOOR FINISHER : Exploded View" and INT-12, "FRONT DOOR FINISHER : Removal and Installation".
2. Power window main switch (1) is removed from power window main switch finisher (2) using remover tool (A).



: Pawl

CAUTION:
Do not fold the pawl of power window main switch finisher.
NOTE:
The same procedure is also performed for front power window switch (passenger side) and rear power window switch (LH & RH).

INSTALLATION

Install in the reverse order of removal.
NOTE:
Power window main switch is exchanged or is detached it is necessary to do the initialization procedure.
Refer to PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".