SECTION POWER WINDOW CONTROL SYSTEM

А

В

С

D

Е

CONTENTS

LH ONLY WINDOW ANTI-PINCH	COMPONENT DIAGNOSIS16	F
BASIC INSPECTION5	POWER SUPPLY AND GROUND CIRCUIT16	
DIAGNOSIS AND REPAIR WORKFLOW	POWER WINDOW MAIN SWITCH16 POWER WINDOW MAIN SWITCH : Description16 POWER WINDOW MAIN SWITCH : Component	G
INSPECTION AND ADJUSTMENT8	Function Check	Н
ADDITIONAL SERVICE WHEN REMOVING BAT- TERY NEGATIVE TERMINAL	POWER WINDOW MAIN SWITCH : Diagnosis Procedure	J
pair Requirement8	FRONT POWER WINDOW SWITCH	
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT8	tion	PWC
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description8 ADDITIONAL SERVICE WHEN REPLACING	nent Function Check	L
CONTROL UNIT : Special Repair Requirement8	FRONT POWER WINDOW SWITCH : Compo-	
FUNCTION DIAGNOSIS10	nent Inspection23	M
POWER WINDOW SYSTEM10System Diagram10System Description10Component Parts Location12Component Description12	REAR POWER WINDOW SWITCH	N
DIAGNOSIS SYSTEM (BCM)14	REAR POWER WINDOW SWITCH : Component	0
COMMON ITEM	POWER WINDOW MOTOR	Ρ
COMMON ITEM)	DRIVER SIDE	
RETAINED PWR	DRIVER SIDE : Component Function Check27 DRIVER SIDE : Diagnosis Procedure	
·	DRIVER SIDE : Special Repair Requirement28	

PASSENGER SIDE	28
PASSENGER SIDE : Description	29
PASSENGER SIDE : Component Function Check	
	29
PASSENGER SIDE : Diagnosis Procedure	29
PASSENGER SIDE : Component Inspection	30
REAR LH	30
REAR LH : Description	30
REAR LH : Component Function Check	30
REAR LH : Diagnosis Procedure	30
REAR LH : Component Inspection	31
REAR RH	32
REAR RH : Description	32
REAR RH : Component Function Check	32
REAR RH : Diagnosis Procedure	32
REAR RH : Component Inspection	33
ENCODER	21
	34
DRIVER SIDE	34
DRIVER SIDE : Description	34
DRIVER SIDE : Component Function Check	34
DRIVER SIDE : Diagnosis Procedure	34
DRIVER SIDE : Special Repair Requirement	36
DOOR SWITCH	37
Description	37
Component Function Check	37
Diagnosis Procedure	37
Component Inspection	38
POWER WINDOW LOCK SWITCH	39
Description	39
Component Function Check	39
Special Repair Requirement	39
ECU DIAGNOSIS	4 0
	70
POWER WINDOW MAIN SWITCH	40
Reference Value	40
Wiring Diagram	42
Fail Sate	48
BCM (BODY CONTROL MODULE)	50
Reference Value	50
Terminal Layout	54
Physical Values	55
Wiring Diagram	73
Fall Sate	81 02
DTC Inspection Frionty Chart	00 84
SYMPTOM DIAGNOSIS	87
NONE OF THE POWER WINDOWS CAN BE	
OPERATED USING ANY SWITCH	87
Diagnosis Procedure	87
DOES NOT OPERATE	88

28	Diagnosis Procedure	88
29	FRONT PASSENGER SIDE POWER WIN-	
20	DOW ALONE DOES NOT OPERATE	89
29	Diagnosis Procedure	89
30		
	REAR LH SIDE POWER WINDOW ALONE	
. 30	DOES NOT OPERATE	90
. 30	Diagnosis Procedure	90
30	REAR RH SIDE POWER WINDOW ALONE	
31	DOES NOT OPERATE	91
	Diagnosis Procedure	91
. 32		
. 32		02
. 3∠ 32	Diagnosis Procedure	92
. 33		52
	AUTO OPERATION DOES NOT OPERATE	
. 34	BUT MANUAL OPERATES NORMALLY	
34	(DRIVER SIDE)	93
34	Diagnosis Procedure	93
. 34	POWER WINDOW RETAINED POWER OP-	
. 34	ERATION DOES NOT OPERATE PROPERLY	
. 36		94
. 37	Diagnosis Procedure	94
37	POWER WINDOW LOCK SWITCH DOES	
. 37	NOT FUNCTION	95
. 37	Diagnosis Procedure	.95
. 38		
. 39	PRECAUTION	96
. 39	PRECAUTIONS	96
. 39	Precaution for Supplemental Restraint System	
. 39	(SRS) "AIR BAG" and "SEAT BELT PRE-TEN-	
40	SIONER"	96
	Necessary for Steering Wheel Rotation After Bat-	00
. 40		90
. 40 12	ON-VEHICLE MAINTENANCE	97
48		07
	Basic Inspection	97 07
. 50		
. 50 . 54	ON-VEHICLE REPAIR	98
55	POWER WINDOW MAIN SWITCH	98
73	Removal and Installation	98
. 81	LH&RH FRONT WINDOW ANTI-PINCH	
83		00
. 04		33
87	DIAGNOSIS AND REPAIR WORKFLOW	99
	Work Flow	99
. 87	INSPECTION AND ADJUSTMENT	102
87		
	ADDITIONAL SERVICE WHEN REMOVING BAT-	102

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description 102 ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Re- pair Requirement
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT
FUNCTION DIAGNOSIS 104
POWER WINDOW SYSTEM104System Diagram104System Description104Component Parts Location106Component Description107
DIAGNOSIS SYSTEM (BCM)108
COMMON ITEM
RETAINED PWR
COMPONENT DIAGNOSIS110
POWER SUPPLY AND GROUND CIRCUIT 110
POWER WINDOW MAIN SWITCH110POWER WINDOW MAIN SWITCH : Description110POWER WINDOW MAIN SWITCH : ComponentFunction Check110POWER WINDOW MAIN SWITCH : DiagnosisProcedure110POWER WINDOW MAIN SWITCH : ComponentInspection113POWER WINDOW MAIN SWITCH : Special Repair Requirement114
FRONT POWER WINDOW SWITCH 114 FRONT POWER WINDOW SWITCH : Description 115 FRONT POWER WINDOW SWITCH : Component Function Check 115 FRONT POWER WINDOW SWITCH : Diagnosis 115
REAR POWER WINDOW SWITCH

REAR POWER WINDOW SWITCH : Diagnosis	
Procedure	А
Inspection 118	
	R
POWER WINDOW MOTOR120	D
DRIVER SIDE120	
DRIVER SIDE : Description120	С
DRIVER SIDE : Component Function Check 120	
DRIVER SIDE : Diagnosis Procedure	
DRIVER SIDE : Special Repair Requirement	D
PASSENGER SIDE	_
PASSENGER SIDE : Component Function Check	E
122	
PASSENGER SIDE : Diagnosis Procedure122	F
PASSENGER SIDE : Component Inspection 123	1
PASSENGER SIDE : Special Repair Requirement	
123	G
REAR LH	
REAR LH : Description	
REAR LH : Component Function Check	Н
REAR LH : Component Inspection	
REAR RH · Description 125	
REAR RH : Component Function Check	
REAR RH : Diagnosis Procedure125	.
REAR RH : Component Inspection126	0
ENCODER	
	PW(
DRIVER SIDE	
DRIVER SIDE : Component Function Check 127	
DRIVER SIDE : Diagnosis Procedure127	L
PASSENGER SIDE 129	
PASSENGER SIDE : Description	NЛ
PASSENGER SIDE : Component Function Check	IVI
129	
PASSENGER SIDE : Diagnosis Procedure130	Ν
DOOR SWITCH 133	
Description133	
Component Function Check	0
Diagnosis Procedure	
DOOR KEY CYLINDER SWITCH	Р
Description	
Diagnosis Procedure 135	
Component Inspection	
Special Repair Requirement137	
POWER WINDOW SERIAL LINK	
POWER WINDOW SERIAL LINK	

POWER WINDOW MAIN SWITCH : Description 138
POWER WINDOW MAIN SWITCH : Component
Function Check138
POWER WINDOW MAIN SWITCH : Diagnosis
Procedure
FRONT POWER WINDOW SWITCH139
FRONT POWER WINDOW SWITCH : Descrip-
tion
FRONT POWER WINDOW SWITCH Compo-
nent Function Check 130
PRONT FOWER WINDOW SWITCH . Diagnosis
Procedure140
POWER WINDOW LOCK SWITCH
Description
Component Function Check
Special Repair Requirement142
ECU DIAGNOSIS143
POWER WINDOW MAIN SWITCH 143
Reference Value143
Wiring Diagram145
Fail Safe151
FRONT POWER WINDOW SWITCH 153
Reference Value153
Wiring Diagram 155
Fail Safe
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Sofo 104
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTG Insertion
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196 DTC Index 197
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196 DTC Index 197
Fail Safe161BCM (BODY CONTROL MODULE)163Reference Value163Terminal Layout167Physical Values168Wiring Diagram186Fail Safe194DTC Inspection Priority Chart196DTC Index197SYMPTOM DIAGNOSIS200
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196 DTC Index 197 SYMPTOM DIAGNOSIS 200 NONE OF THE POWER WINDOWS CAN BE
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196 DTC Index 197 SYMPTOM DIAGNOSIS 200 NONE OF THE POWER WINDOWS CAN BE 000000000000000000000000000000000000
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196 DTC Index 197 SYMPTOM DIAGNOSIS 200 NONE OF THE POWER WINDOWS CAN BE 200 OPERATED USING ANY SWITCH 200
Fail Safe161BCM (BODY CONTROL MODULE)163Reference Value163Terminal Layout167Physical Values168Wiring Diagram186Fail Safe194DTC Inspection Priority Chart196DTC Index197SYMPTOM DIAGNOSIS200NONE OF THE POWER WINDOWS CAN BE200Diagnosis Procedure200
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196 DTC Index 197 SYMPTOM DIAGNOSIS 200 NONE OF THE POWER WINDOWS CAN BE 00 Diagnosis Procedure 200 DRIVER SIDE POWER WINDOW ALONE 200
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196 DTC Index 197 SYMPTOM DIAGNOSIS 200 NONE OF THE POWER WINDOWS CAN BE 200 Diagnosis Procedure 200 DRIVER SIDE POWER WINDOW ALONE 200
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196 DTC Index 197 SYMPTOM DIAGNOSIS 200 NONE OF THE POWER WINDOWS CAN BE 00 Diagnosis Procedure 200 DRIVER SIDE POWER WINDOW ALONE 200 DOES NOT OPERATE 201
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196 DTC Index 197 SYMPTOM DIAGNOSIS 200 NONE OF THE POWER WINDOWS CAN BE 200 DERATED USING ANY SWITCH 200 Diagnosis Procedure 200 DRIVER SIDE POWER WINDOW ALONE 201 Diagnosis Procedure 201
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196 DTC Index 197 SYMPTOM DIAGNOSIS 200 NONE OF THE POWER WINDOWS CAN BE 200 DERATED USING ANY SWITCH 200 Diagnosis Procedure 200 DRIVER SIDE POWER WINDOW ALONE 201 Diagnosis Procedure 201 DES NOT OPERATE 201 Diagnosis Procedure 201
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196 DTC Index 197 SYMPTOM DIAGNOSIS 200 NONE OF THE POWER WINDOWS CAN BE 200 DERATED USING ANY SWITCH 200 Diagnosis Procedure 200 DRIVER SIDE POWER WINDOW ALONE 201 DES NOT OPERATE 201 Diagnosis Procedure 201 DERONT PASSENGER SIDE POWER WIN- 201
Fail Safe161BCM (BODY CONTROL MODULE)163Reference Value163Terminal Layout167Physical Values168Wiring Diagram186Fail Safe194DTC Inspection Priority Chart196DTC Index197SYMPTOM DIAGNOSIS200NONE OF THE POWER WINDOWS CAN BE200OPERATED USING ANY SWITCH200Diagnosis Procedure200DRIVER SIDE POWER WINDOW ALONE201DOES NOT OPERATE201FRONT PASSENGER SIDE POWER WIN-202
Fail Safe161BCM (BODY CONTROL MODULE)163Reference Value163Terminal Layout167Physical Values168Wiring Diagram186Fail Safe194DTC Inspection Priority Chart196DTC Index197SYMPTOM DIAGNOSIS200NONE OF THE POWER WINDOWS CAN BEOPERATED USING ANY SWITCH200Diagnosis Procedure200DRIVER SIDE POWER WINDOW ALONE201DOES NOT OPERATE201FRONT PASSENGER SIDE POWER WIN-202Diagnosis Procedure202Diagnosis Procedure202Diagnosis Procedure202
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196 DTC Index 197 SYMPTOM DIAGNOSIS 200 NONE OF THE POWER WINDOWS CAN BE 200 Diagnosis Procedure 200 DRIVER SIDE POWER WINDOW ALONE 200 DOES NOT OPERATE 201 Diagnosis Procedure 201 DOW ALONE DOES NOT OPERATE 202 Diagnosis Procedure 202 Diagnosis Procedure 202 Diagnosis Procedure 201
Fail Safe 161 BCM (BODY CONTROL MODULE) 163 Reference Value 163 Terminal Layout 167 Physical Values 168 Wiring Diagram 186 Fail Safe 194 DTC Inspection Priority Chart 196 DTC Index 197 SYMPTOM DIAGNOSIS 200 NONE OF THE POWER WINDOWS CAN BE 200 Diagnosis Procedure 200 DRIVER SIDE POWER WINDOW ALONE 201 DOES NOT OPERATE 201 Diagnosis Procedure 201 FRONT PASSENGER SIDE POWER WIN- 202 Diagnosis Procedure 202 Diagnosis Procedure 202
Fail Safe161BCM (BODY CONTROL MODULE)163Reference Value163Terminal Layout167Physical Values168Wiring Diagram186Fail Safe194DTC Inspection Priority Chart196DTC Index197SYMPTOM DIAGNOSIS200NONE OF THE POWER WINDOWS CAN BEOPERATED USING ANY SWITCH200Diagnosis Procedure200DRIVER SIDE POWER WINDOW ALONE201DOES NOT OPERATE201FRONT PASSENGER SIDE POWER WIN-202Diagnosis Procedure202REAR LH SIDE POWER WINDOW ALONE202DOES NOT OPERATE202REAR LH SIDE POWER WINDOW ALONE202DOES NOT OPERATE202REAR LH SIDE POWER WINDOW ALONE202DOES NOT OPERATE202REAR LH SIDE POWER WINDOW ALONE202DOES NOT OPERATE203

REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE204
Diagnosis Procedure 204
ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (DRIVER SIDE)205 Diagnosis Procedure
ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (PASSENGER SIDE)
AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMALLY (DRIVER SIDE)
AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMALLY (PAS- SENGER SIDE)
Diagnosis Procedure
POWER WINDOW RETAINED POWER OP- ERATION DOES NOT OPERATE PROPERLY
209 Diagnosis Procedure
DOES NOT OPERATE BY KEY CYLINDER SWITCH
KEYLESS POWER WINDOW DOWN DOES
NOT OPERATE 211 Diagnosis Procedure 211
POWER WINDOW LOCK SWITCH DOES NOT FUNCTION 212 Diagnosis Procedure 212
PRECAUTION213
PRECAUTIONS
tery Disconnect
ON-VEHICLE MAINTENANCE214
PRE-INSPECTION FOR DIAGNOSTIC214 Basic Inspection
ON-VEHICLE REPAIR215
POWER WINDOW MAIN SWITCH215 Removal and Installation

BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000004215806



А

[LH ONLY WINDOW ANTI-PINCH]

F

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[LH ONLY WINDOW ANTI-PINCH]

DETAILED FLOW

1. INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

>> GO TO 2

2. SYMPTOM CHECK

Check the symptom from the customer's information.

>> GO TO 3

3. BASIC INSPECTION

Check the operation of each part. Check that any symptom occurs other than the interviewed symptom.

>> GO TO 4

4. SELF-DIAGNOSIS WITH CONSULT-III

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

Is any DTC detected?

YES >> GO TO 5 NO >> GO TO 6

5. TROUBLE DIAGNOSIS BY DTC

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

>> GO TO 9

6. FAIL-SAFE ACTIVATION CHECK

Check that the symptom is applied to the fail-safe activation.

Does the fail-safe activate?

YES >> GO TO 7 NO >> GO TO 8 7. SYSTEM DIAGNOSIS

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

>> GO TO 9

8. SYMPTOM DIAGNOSIS

Perform the symptom diagnosis. Specify the malfunctioning part.

>> GO TO 9

9. MALFUNCTION PART REPAIR

Repair or replace the malfunctioning part.

>> GO TO 10

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

Perform the self-diagnosis with CONSULT-III. Check that any DTC is not detected. Erase DTC if DTC is detected before the repair. Check that DTC is not detected again.

Is any DTC detected?

YES >> GO TO 5

PWC-6

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >	[LH ONLY WINDOW ANTI-PINCH]
NO >> GO TO 11	
11. REPAIR CHECK (OPERATION CHECK)	
Check the operation of each part.	
Does it operate normally?	
YES >> Inspection End.	
NO >> GO TO 3	
	(

J

PWC

D

Е

F

G

Н

I

Μ

Ν

0

Ρ

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description INFOID:000000004469721

Initial setting is necessary when battery terminal is diconnected.

CAUTION:

- The following specified operations are not performed under the non-initialized condition.
- Auto-up operation
- Anti-pinch function
- Retained power operation

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement INFOID:000000004469722

INITIALIZATION PROCEDURE

- 1. Disconnect battery negative terminal or main power window and door lock/unlock switch. Reconnect it after a minute or more.
- Turn ignition switch ON. 2.
- 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 4 seconds or more.
- Inspect anti-pinch function. 5.

CHECK ANTI-PINCH FUNCTION

- 1. Fully open the door window.
- Place a piece of wood near fully closed position. 2.
- Close door glass completely with AUTO-UP. 3.
- Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops.
- Check that glass does not rise when operating the power window main switch while lowering.
- **CAUTION:**
- Do not check with hands and other part of body because they may be pinched. Do not get pinched.
- Check that AUTO-UP operates before inspection when system initialization is performed.
- It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to PWC-48, "Fail Safe".
- Perform initial setting when auto-up operation or anti-pinch function does not operate normally.
- Finish initial setting. Otherwise, next operation cannot be done.
- 1. Auto-up operation
- Anti-pinch function 2.
- 3. Retained power operation when ignition switch is OFF.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:000000004469723

Initial setting is necessary when replacing main power window and door lock/unlock switch. **CAUTION:**

The following specified operations are not performed under the non-initialized condition.

- Auto-up operation
- Anti-pinch function
- Retained power operation

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:000000004469724

INITIALIZATION PROCEDURE

1. Disconnect battery negative terminal or main power window and door lock/unlock switch. Reconnect it after a minute or more.

PWC-8

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[LH ONLY WINDOW ANTI-PINCH]

- 2. Turn ignition switch ON.
- 3. Operate power window switch to fully open the window. (This operation is unnecessary if the window is A 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 4 seconds or more.
- 5. 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 or 2 seconds without pinching piece of wood and stops.
- Check that glass does not rise when operating the main power window and door lock/unlock switch while lowering.

CAUTION:

- Do not check with hands and other part of body because they may be pinched. Do not get pinched. $_$
- Check that AUTO-UP operates before inspection when system initialization is performed.
- It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to <u>PWC-48</u>, "Fail Safe".
- Perform initial setting when auto-up operation or anti-pinch function does not operate normally.
- Finish initial setting. Otherwise, next operation cannot be done.
- 1. Auto-up operation
- 2. Anti-pinch function
- 3. Retained power operation when ignition switch is OFF.

Н

F

В

L

Μ

Ν

Ο

Ρ

FUNCTION DIAGNOSIS POWER WINDOW SYSTEM

System Diagram

INFOID:000000004215808

FRONT POWER WINDOW LH ANTI-PINCH SYSTEM



System Description

INFOID:000000004215809

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
Encoder	Encoder pulse signal		
Main power window and door lock/unlock switch	Front power window motor LH UP/ DOWN signal		Front power window motor
Power window and door lock/unlock switch RH	Front power window motor RH UP/ DOWN signal	Power window control	
BCM	RAP signal	1	
Rear power window switch	Rear power window motor UP/DOWN signal		Rear power window motor

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.
- Front & rear power window switches can open/close the corresponding windows.

POWER WINDOW AUTO-OPERATION (FRONT LH)

PWC-10

POWER WINDOW SYSTEM

< FUNCTION DIAGNOSIS >

[LH ONLY WINDOW ANTI-PINCH]

- AUTO UP/DOWN operation can be performed when main power window and door lock/unlock switch turns to AUTO.
- Encoder continues detecting the movement of power window motor and transmits to main power window and door lock/unlock switch as the encoder pulse signal while power window motor is operating.
- Main power window and door lock/unlock 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 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.

ANTI-PINCH OPERATION (FRONT LH)

- 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 or 2 seconds when detected.
- Encoder continues detecting the movement of power window motor and transmits to main power window and door lock/unlock switch as the encoder pulse signal while power window motor is operating.
- Resistance is applied to the power window motor rotation that changes the frequency of encoder pulse signal if foreign material is trapped in the door glass.
- Power window switch controls to lower the window glass for 150 mm or 2 seconds after it detects encoder pulse signal frequency change.

OPERATION CONDITION

 When door glass 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.

PWC

Μ

Ν

Ο

Ρ

J

А

В

D

E

F

Н

< FUNCTION DIAGNOSIS >

POWER WINDOW SYSTEM

[LH ONLY WINDOW ANTI-PINCH]

Component Parts Location

INFOID:000000004215810



- ^{1.} BCM M16, M17, M18, M19
- 4. Main power window and door lock/ unlock switch D7, D8
- 7. Front door switch LH B8, RH B108

Component Description

- 2. Front power window motor LH D9, RH D104
 - Power window and door lock/unlock 6. switch RH D105
- Rear power window motor LH D204, RH D304

3.

Rear power window switch LH D203, RH D303

INFOID:000000004215811

FRONT POWER WINDOW LH ANTI-PINCH SYSTEM

5.

Component	Function
BCM	Supplies power supply to power window switch.Controls retained power.
Main power window and door lock/un- lock switch	Directly controls all power window motor of all doors.Controls anti-pinch operation of front power window LH.
Power window and door lock/unlock switch RH	Controls front power window motor RH.
Rear power window switch	Controls rear power window motors LH and RH.

PWC-12

POWER WINDOW SYSTEM

< FUNCTION DIAGNOSIS >

[LH ONLY WINDOW ANTI-PINCH]

Component	Function
Front power window motor LH	 Integrates the ENCODER POWER and WINDOW MOTOR. Starts operating with signals from main power window and door lock/unlock switch. Transmits power window motor rotation as a pulse signal to 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	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.

Н

G

Е

F

J

PWC

L

Μ

Ν

0

Ρ

DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : Diagnosis Description

BCM CONSULT-III FUNCTION

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.
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	Read and save the vehicle specification.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.

Svetem	Sub system selection item	Diagnosis mode		
System	Sub system selection item	WORK SUPPORT	DATA MONITOR	ACTIVE TEST
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
Air conditioner	AIR CONDITONER		×	
Intelligent Key system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
BCM	BCM	×		
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk open	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

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

INFOID:000000004468095

ECU IDENTIFICATION Displays the BCM part No. SELF-DIAG RESULT Refer to <u>BCS-81, "DTC Index"</u>.

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

RETAINED PWR

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

INFOID:000000004468096

А

В

D

Е

F

G

Н

DATA MONITOR

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

J

PWC

- L
- M
- Ν
- 0
 - Р

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS POWER SUPPLY AND GROUND CIRCUIT

POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Description

• 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 : Component Function Check

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? <u>Is the inspection result normal?</u>

YES >> Main power window and door lock/unlock switch power supply and ground circuit are OK. >> Refer to <u>PWC-16</u>, "<u>POWER WINDOW MAIN SWITCH</u> : <u>Diagnosis Procedure</u>".

POWER WINDOW MAIN SWITCH : Diagnosis Procedure

Main Power Window And Door Lock/unlock Switch Power Supply Circuit Check

- 1. CHECK POWER SUPPLY CIRCUIT
- 1. Turn ignition switch ON.
- Check voltage between main power window and door lock/ unlock switch connectors (A and B) and ground.



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 main power window and door lock/unlock switch.
- 3. Check continuity between BCM connector (A) and main power window and door lock/unlock switch connectors (B and C).

BCM connector	Terminal	Main power window and door lock/unlock switch connector	Terminal	Continuity
M16 (A)	3	D7 (B)	10	Ves
W10 (A)	2	D8 (C)	19	163

4. Check continuity between BCM connector and ground.



INFOID:000000004215814

[LH ONLY WINDOW ANTI-PINCH]

INFOID:000000004215815

[LH ONLY WINDOW ANTI-PINCH]

< COMPONENT DIAGNOSIS >

А BCM connector Terminal Continuity 3 Ground M16 (A) No 2 В Is the inspection result normal? YES >> GO TO 4 NO >> Repair or replace harness. 3. CHECK GROUND CIRCUIT 1. Turn ignition switch OFF. D 2. Disconnect main power window and door lock/unlock switch. 3. Check continuity between main power window and door lock/ unlock switch connector and ground. Е Main power window and door lock/un-Terminal Continuity ŨFF lock switch connector Ground Ω F D8 17 Yes Is the inspection result normal? YES >> Replace main power window and door lock/unlock ALKIA0275ZZ switch. Refer to PWC-98, "Removal and Installation" After that, refer to PWC-8, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement". NO >> Repair or replace harness. Н CHECK BCM OUTPUT SIGNAL 1. Connect BCM. 2. Turn ignition switch ON. 3. Check voltage between BCM connector and ground. J Terminals Voltage (V) (+) LÕN V (Approx.) (-) BCM connector Terminal PWC θE 3 M16 Ground Battery voltage 2 ALKIA0262ZZ Is the measurement value within the specification? >> Check main power window and door lock/unlock switch output signal (rear power window switch YES LH) GO TO 5 Μ 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-87, "Removal and Installation". 5. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL (REAR POW-Ν ER WINDOW SWITCH LH) Connect main power window and door lock/unlock switch. 1. Ο Turn ignition switch ON. 2. 3 3. Check voltage between main power window and door lock/ unlock switch and ground. 1.3 Ρ ÔN V θE ALKIA0276ZZ

< COMPONENT DIAGNOSIS >

Ter	minal		Voltage (V)	
(+)				Window
Main power window nd door lock/unlock switch connector	Terminal	(-)	condition	(Approx.)
	1		UP	Battery voltage
DZ	I	Ground	DOWN	0
יט		Giouna	UP	0

Is the measurement value within the specification?

3

YES >> GO TO 7

NO >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-98</u>, "<u>Removal and Installation</u>". After that, refer to <u>PWC-8</u>, "<u>ADDITIONAL SERVICE WHEN REPLACING CONTROL</u> <u>UNIT</u>: <u>Special Repair Requirement</u>".

Battery voltage

DOWN

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

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





Is the measurement value within the specification?

YES >> GO TO 8

- NO >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-98, "Removal and Installation"</u>. After that, refer to <u>PWC-8, "ADDITIONAL SERVICE WHEN REPLACING CONTROL</u> <u>UNIT : Special Repair Requirement"</u>.
- 7. 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.
- 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
	1	D203 (B)	2	Vec
D7 (A)	3	D203 (B)	3	165



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

PWC-18

< COMPONENT DIAGNOSIS >

[LH ONLY WINDOW ANTI-PINCH]

Main power window a door lock/unlock switch	ind con- Te	erminal			Continuity		А
nector			Grou	und	,		
D7 (A)		1			No		В
		3					
Is the inspection res	ult normal	?					
YES >> GO TO	9						C
NO >> Repair of	or replace	harness.					
8. CHECK HARNE	SS CONT	INUITY (I	REAR P	POWER	WINDOW SW	/ITCH RH)	D
1. Turn ignition swi	itch OFF.						
 Disconnect mair rear power wind Check continuit unlock switch co 	n power wi low switch y betweer onnector (ndow and RH. n main po A) and re	d door l ower w ear pow	ock/unloo indow ar ver windo	ck switch and nd door lock/ w switch RH	$\begin{array}{c c} A & B \\ \hline \hline$	E
connector (B).		_					F
Main power window and door lock/unlock switch connector	Terminal	Rear p window RH coni	ower switch nector	Terminal	Continuity		G
	5	D202	(P)	3	Vee	ALKIA0279ZZ	
D7 (A)	7	– D303	(В) —	2	fes		
4. Check continuity	y between	main pov	ver win	dow and	door lock/unl	ock switch connector and ground.	11
Main power window and unlock switch conr	d door lock/ nector	Termin	al		Continuity		I
D7 (A)	-	5 7		Ground	No		J
Is the inspection res	ult normal	?					0
YES >> GO TO NO >> Repair of	9 or replace	- harness.					PW
9. CHECK MAIN P	OWER WI	NDOW A			K/UNLOCK S	SWITCH	
Check main power v Refer to PWC-19	vindow an	d door loo	ck/unloo	ck switch	Component	Inspection".	L
Is the inspection res	ult normal	?			Component		
YES >> Check in	ntermittent	<u>.</u> incident	Refer	to GI-42.	"Intermittent	Incident".	ΝЛ
NO >> Replace	main pow	er windo	w and o	door lock	/unlock switch	. Refer to PWC-98. "Removal and Instal-	IVI
<u>iation"</u> . LINIT · S	Anter that,	pair Requ	Jiremer	<u>·o. ADD</u> ht"	ITIONAL SEI	VICE WHEN REPLACING CONTROL	
POWER WINDOW MAIN SWITCH : Component Inspection							
1. CHECK MAIN P	OWER WI	NDOW A		DOR LOC	K/UNLOCK S	SWITCH	\cap
							0

Ρ

< COMPONENT DIAGNOSIS >

1. Check main power window and door lock/unlock switch.

Terr	minal	Main power window switch	Continuity		
10	1	Rear LH			
10	7	Rear RH	UP		
10	8	Front RH	*		
1	3	Rear LH			
5	7	Rear RH	NEUTRAL	Yes	
8	11	Front RH	*		
10	3	Rear LH			
10	5	Rear RH	DOWN		
10	11	Front RH	1		



 Check continuity between main power window and door lock/ unlock switch (power window lock switch) (Lock operation).

Terr	minal	Main power window and door lock/unlock switch condition		Continuity
3		Rear LH		
5		Rear RH	UP	
11		Front RH	Front RH	
1		Door I H		
3		Real LH		
5	17	Dear DH		No
7	17	Redi RH	NEUTIAL	NO
8		Front PH		
11				
1		Rear LH		
7		Rear RH	DOWN	
8		Front RH		

3. Check continuity between main power window and door lock/ unlock switch (power window lock switch) (Unlock operation).

Terr	ninal	Main power window lock switch	Continuity	
3		Rear LH		
5		Rear RH	UP	
11		Front RH		
1		Pear I H		
3		Redi Li i		
5	17	Rear RH		Ves
7	17	ixed ixii	NEOTRAL	165
8		Front PH		
11				
1		Rear LH		
7		Rear RH	DOWN	
8		Front RH		



7

17

3 **5**

1 8





[LH ONLY WINDOW ANTI-PINCH]

< COMPONENT DIAG	NOSIS >			[LH ONLY WINDOW ANTI-PINCH]
Is the inspection result i	normal?			
YES >> Main power NO >> Replace ma <u>lation</u> ". After <u>UNIT : Sper</u>	r window and o ain power wind er that, refer <u>cial Repair Re</u>	door lock/unk low and door to <u>PWC-8, "</u> <u>quirement"</u> .	ock switch is OK. lock/unlock switch ADDITIONAL SEF	. Refer to <u>PWC-98, "Removal and Instal-</u> RVICE WHEN REPLACING CONTROL
POWER WINDOW	/ MAIN SW	/ITCH : Sp	ecial Repair R	equirement INFOID:000000004215818
1. PERFORM INITIAL	ZATION PRO	CEDURE		
Perform initialization pro Refer to <u>PWC-8, "ADD</u> <u>ment"</u> .	ocedure. ITIONAL SER	VICE WHEN	I REPLACING CO	NTROL UNIT : Special Repair Require-
Is the inspection result in YES >> GO TO 2 NO >> Check inter 2. CHECK ANTI-PINC	<u>normal?</u> mittent incider H OPERATIO	nt. Refer to <u>G</u> N	il-42, "Intermittent I	ncident".
Check anti-pinch operat Refer to <u>PWC-8</u> , "ADD ment".	tion. ITIONAL SER		I REPLACING CO	NTROL UNIT : Special Repair Require-
Is the inspection result r YES >> Inspection I NO >> Refer to PV	normal? End. VC-16, "POWI	<u>ER WINDOW</u>	MAIN SWITCH : (Component Function Check".
FRONT POWER	WINDOW	SWITCH		
FRONT POWER V	VINDOW S	WITCH : I	Description	INFCID:000000004215819
BCM supplies power.Front power window n	notor RH will b	e operated if	power window and	door lock/unlock switch RH is operated.
FRONT POWER V	VINDOW S	WITCH : 0	Component Fu	nction Check INFOID:000000004215820
Power Window And D	oor Lock/unl	ock Switch I	RH	
1. CHECK FRONT PO	WER WINDO	W MOTOR F	RH FUNCTION	P
Does front power windo	w motor RH o	perate with p	ower window and	door lock/unlock switch RH operation?
Is the inspection result r YES >> Power wind NO >> Refer to PV	<u>normal?</u> low and door l	ock/unlock sv	witch RH power su	pply and ground circuit are OK.
FRONT POWER V	VINDOW S	WITCH : I	Diagnosis Proc	cedure INFOID:00000004215821
Power Window And D	oor Lock/Un	lock Switch	RH Power Suppl	y Circuit Check
1. CHECK POWER SU	JPPLY CIRCU	ЛТ		-
 Turn ignition switch Check voltage bet switch RH connector 	ON. ween power or and ground.	window and	door lock/unlock	
Te	erminal			
(+)			Voltage (V)	
Power window and door lock/unlock switch RH connector	Terminal	()	(Approx.)	
D105	8	Ground	Battery voltage	

Is the measurement value within the specification?

< COMPONENT DIAGNOSIS >

[LH ONLY WINDOW ANTI-PINCH]

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
M16 (A)	3	D105 (B)	8	Yes

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

BCM connector	Terminal	Ground	Continuity
M16 (A)	3	Crodina	No

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.

3. CHECK HARNESS CONTINUITY (POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH)

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



Main power win- dow and door lock/unlock switch connector	Terminal	Power window and door lock/un- lock switch RH connector	Terminal	Continuity
	11	D105 (B)	11	Yes
DT (A)	8	D100 (D)	12	103

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		Continuity
	8	Ground	No
	11		INO

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

NO >> Repair or replace harness.

4. CHECK BCM OUTPUT SIGNAL



< COMPONENT DIAGNOSIS >

1. Connect BCM.

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

Т			
(+) BCM connector Terminal		(—)	Voltage (V) (Approx.)
D105	8	Ground	Battery voltage

 Image: state sta

А

В

D

Ε

Н

Ν

P

INFOID:000000004215822

INFOID:000000004215823

Is the measurement value within the specification?

YES >> GO TO 5

NO >> Repair or replace harness.

 ${f 5.}$ CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

Check power window and door lock/unlock switch RH.

Refer to PWC-23, "FRONT POWER WINDOW SWITCH : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

NO >> Replace power window and door lock/unlock switch RH. Refer to <u>PWC-98</u>, "<u>Removal and Installa-</u> tion".

FRONT POWER WINDOW SWITCH : Component Inspection

COMPONENT INSPECTION

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

Check power window and door lock/unlock switch RH.

Terminal		Power window switch condition	Continuity
8	6	LID	
12	7	UF UF	
12	7		Vec
6	11	NEOTIXE	163
8	7		
6	11	DOWN	



INFOID:000000004481415

Is the inspection result normal?

- YES >> Power window and door lock/unlock switch RH is OK.
- NO >> Replace power window and door lock/unlock switch RH. Refer to <u>PWC-98, "Removal and Installa-</u> tion".

REAR POWER WINDOW SWITCH

REAR POWER WINDOW SWITCH : Description

• BCM supplies power.

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

REAR POWER WINDOW SWITCH : Component Function Check

Rear Power Window Switch

1. CHECK REAR POWER WINDOW MOTOR FUNCTION

Does rear power window motor operate with rear power window switch operation? <u>Is the inspection result normal?</u>

PWC-23

[LH ONLY WINDOW ANTI-PINCH]

POWER SUPPLY AND GROUND CIRCUIT DSIS > [LH ONLY WINDOW ANTI-PINCH]

< COMPONENT DIAGNOSIS >

- YES >> Rear power window switch power supply and ground circuit are OK.
- NO >> Refer to PWC-117, "REAR POWER WINDOW SWITCH : Diagnosis Procedure".

REAR POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:000000004215824

1. CHECK POWER SUPPLY CIRCUIT

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

Terminal					
(+)				Condition	Voltage (V)
Rear power window switch connector		Terminal	(-)		(Approx.)
LH	D203	1	Ground	Ignition switch	Battery
RH	D303		Giouna	ON	voltage



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

$\mathbf{2}.$ 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.
- 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 win- dow switch LH connector	Terminal	Continuity
	1	D203 (B)	2	Ves
67 (A)	3	D200 (D)	3	163



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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
	1		No
DT (A)	3		NO

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Repair or replace harness.

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

< COMPONENT DIAGNOSIS >

- 1. Turn ignition switch OFF.
- Disconnect main power window and door lock/unlock switch and rear power window switch RH.
- 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
	5	D303 (B)	3	Vec
D7 (A)	7	D303 (B)	2	165



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

Main power window	Torminal		Continuity
switch connector	Terrinia	Ground	Continuity
	5		No
DI (A)	7		NO

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to GI-42, "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
M16 (A)	З	LH	D203 (B)	1	Vos
MITO (A)	5	RH	D303 (B)	I	163

3. Check continuity between BCM connector and ground.

BCM connector	Terminal	Ground	Continuity
M16	3	Cround	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-118, "REAR POWER WINDOW SWITCH : Component Inspection".

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to GI-42. "Intermittent Incident".
- NO >> Replace rear power window switch. Refer to <u>PWC-98, "Removal and Installation"</u>.

REAR POWER WINDOW SWITCH : Component Inspection

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW SWITCH



I

Н

А

В

D

Ε

F

J

L

M

Ν

INFOID:000000004215825

[LH ONLY WINDOW ANTI-PINCH]

< COMPONENT DIAGNOSIS >

[LH ONLY WINDOW ANTI-PINCH]

Check rear power window switch.

Terminal		Power window switch condition	Continuity
1	5	LID	
3	4	- OF	
3	4	NELITRAL	Yes
2	5	NEOTICE	163
1	4	DOWN	
2	5	Lown	



Is the inspection result normal?

YES >> Rear power window switch is OK.

NO >> Replace rear power window switch. Refer to <u>PWC-98</u>, "Removal and Installation".

< COMPONENT DIAGNOSIS > POWER WINDOW MOTOR

DRIVER SIDE

DRIVER SIDE : Description

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

DRIVER SIDE : Component Function Check

1. CHECK FRONT POWER WINDOW MOTOR LH CIRCUIT

Does front power window motor LH operate with the main power window and door lock/unlock switch? Is the inspection result normal?

YES >> Front power window motor LH is OK.

NO >> Refer to <u>PWC-27, "DRIVER SIDE : Diagnosis Procedure"</u>.

DRIVER SIDE : Diagnosis Procedure

Front Power Window Motor LH Circuit Check

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



PWC

Μ

Is the measurement value within the specification?

YES >> GO TO 2

NO >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-98</u>, "<u>Removal and Installation</u>". After that, refer to <u>PWC-8</u>, "<u>ADDITIONAL SERVICE WHEN REPLACING CONTROL</u> <u>UNIT : Special Repair Requirement</u>".

2. CHECK HARNESS CONTINUITY

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

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
	16		2	Voc
07 (A)	12	D9 (Б)	1	165



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

PWC-27

[LH ONLY WINDOW ANTI-PINCH]

A

В

D

Е

F

Н

INFOID:000000004215826

INFOID:000000004215827

< COMPONENT DIAGNOSIS >

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
	16		No
D7 (A)	12		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

 $\mathbf{3}$. CHECK FRONT POWER WINDOW MOTOR LH

Check front power window motor LH.

Refer to <u>PWC-121, "DRIVER SIDE : Component Inspection"</u>.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Replace front power window motor LH. Refer to <u>GW-17, "Removal and Installation"</u>. After that, refer to <u>PWC-8, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair</u> <u>Requirement"</u>.

DRIVER SIDE : Component Inspection

INFOID:000000004215829

COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR LH

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

Terr	minal	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 <u>GW-17. "Removal and Installation"</u>. After that, refer to <u>PWC-8. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair</u> <u>Requirement"</u>.

DRIVER SIDE : Special Repair Requirement

INFOID:000000004215830

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to <u>PWC-8</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2

NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation.

Refer to <u>PWC-8</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.

NO >> Refer to <u>PWC-34</u>, "DRIVER SIDE : Component Function Check".

PASSENGER SIDE

PWC-28

POWER WINDOW MOTOR < COMPONENT DIAGNOSIS > **PASSENGER SIDE : Description** 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 CHECK FRONT POWER WINDOW MOTOR RH CIRCIUT Does front power window motor RH operate with main power window and door lock/unlock switch or power window and door lock/unlock switch? Is the inspection result normal? YES >> Front power window motor RH is OK. NO >> Refer to PWC-29, "PASSENGER SIDE : Diagnosis Procedure". PASSENGER SIDE : Diagnosis Procedure Front Power Window Motor RH Circuit Check 1. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH OUTPUT SIGNAL Disconnect front power window motor RH. 1. 2. Turn ignition switch ON. 1] 2 3. Check voltage between front power window motor RH connector and ground. 1,2 Terminal ٧ Front power (+) Voltage (V) window motor -⊕Θ (Approx.) (-) Front power window **RH** condition Terminal motor RH connector UP Battery voltage 1 DOWN 0 D104 Ground UP 0 2 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-98, "Removal and Installation".

2. CHECK HARNESS CONTINUITY

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

Power window and door lock/unlock- switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity	
D105 (A)	6	D104 (B)	1	Vec	
D 103 (A)	7	D 104 (D)	2	165	

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





PWC

Н

F

Ε

D

А

В

[LH ONLY WINDOW ANTI-PINCH]

INFOID:000000004215831

INFOID:000000004215832

< COMPONENT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

 $\mathbf{3}$. Check front power window motor RH

Check front power window motor RH.

Refer to <u>PWC-30</u>, "PASSENGER SIDE : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

NO >> Replace front power window motor RH. Refer to PWC-98, "Removal and Installation".

PASSENGER SIDE : Component Inspection

INFOID:000000004215834

COMPONENT INSPECTION

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 >> Power window motor is OK.

NO >> Replace front power window motor RH. Refer to <u>GW-17, "Removal and Installation"</u>. REAR LH

REAR LH : Description

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

REAR LH : Component Function Check

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?

PWC-30

Is the inspection result normal?

YES >> Rear power window motor LH is OK.

NO >> Refer to <u>PWC-30</u>, "REAR LH : Diagnosis Procedure".

REAR LH : Diagnosis Procedure

Rear Power Window Motor LH Circuit Check

1. CHECK REAR POWER WINDOW SWITCH LH OUTPUT SIGNAL

INFOID:000000004215835

INFOID:000000004215836

Window

condition

UP

DOWN

UP

DOWN

< COMPONENT DIAGNOSIS >

1. Disconnect rear power window motor LH.

Terminal

2. Turn ignition switch ON.

(+)

Rear power window

motor LH connector

D204

Rear power window

switch LH connector

D203 (A)

 Check voltage between rear power window motor LH connector and ground.

(-)

Ground



Is the measurement value within the specification?

Terminal

1

3

- YES >> GO TO 2
- NO >> Check rear power window switch LH. Refer to <u>PWC-30</u>, "<u>REAR LH</u> : <u>Component Function</u> <u>Check</u>".

Terminal

1

3

Battery voltage

Continuity

Yes

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.

2. Disconnect rear power window switch LH.

Terminal

5

4

Check continuity between rear power window switch LH connector (A) and rear power window motor LH connector (B).

Rear power window

motor LH connector

D204 (B)



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

Rear power window switch LH connector	Terminal		Continuity	
	5	Ground	No	
D203 (A)	4	1	INO	

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

 $\mathbf{3.}$ CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH. Refer to <u>PWC-31</u>, "REAR LH : Component Inspection".

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.
- NO >> Replace rear power window motor LH. Refer to <u>GW-23, "Removal and Installation"</u>.

REAR LH : Component Inspection

INFOID:000000004215838

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW MOTOR LH

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

PWC-31

А

В

D

Е

F

PWC

M

Ν

< COMPONENT DIAGNOSIS >

Motor condition	Terminal		
	(-)	(+)	
DOWN	1	3	
UP	3	1	

Is the inspection result normal?

YES >> Rear power window motor LH is OK.

NO >> Replace rear power window motor LH. Refer to <u>GW-23, "Removal and Installation"</u>.

REAR RH

REAR RH : Description

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

1. CHECK POWER WINDOW MOTOR 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 >> Power window motor is OK.

NO >> Refer to <u>PWC-32</u>, "REAR RH : Diagnosis Procedure".

REAR RH : Diagnosis Procedure

Rear Power Window Motor RH Circuit Check

1. CHECK REAR POWER WINDOW SWITCH RH OUTPUT SIGNAL

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

Te	erminal		Voltage (V)	
(+)				Rear power window switch
Rear power window motor RH connector	Terminal	(-)	RH condition	(Approx.)
D304	1		UP	Battery voltage
	I	Ground	DOWN	0
	0	Cround	UP	0
	5		DOWN	Battery voltage



Is the measurement value within the specification?

YES >> GO TO 2

NO >> Check rear power window switch RH. Refer to <u>PWC-32</u>, "<u>REAR RH</u> : <u>Component Function</u> <u>Check</u>".

2. CHECK HARNESS CONTINUITY

PWC-32

INFOID:000000004215839

INFOID:000000004215840

< COMPONENT DIAGNOSIS >

- 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
	5	D304 (B)	1	Vec
D303 (A)	4	D304 (B)	3	Tes

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

Rear power window switch RH connector	Terminal	Ground	Continuity
D202 (A)	5		No
D303 (A)	4		NO

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 <u>PWC-33. "REAR RH : Component Inspection"</u>.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

NO >> Replace rear power window motor RH. Refer to <u>GW-23, "Removal and Installation"</u>.

REAR RH : Component Inspection

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW MOTOR RH

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

Ten	minal	Motor condition	
(+)	(-)		
3	1	DOWN	
1	3	UP	

Is the inspection result normal?

YES >> Power window motor is OK.

NO >> Replace rear power window motor RH. Refer to <u>GW-23, "Removal and Installation"</u>.

С

В

А



Е

F

ALKIA0294ZZ



Н

INFOID:000000004215842

J

PWC

Ν

0

[LH ONLY WINDOW ANTI-PINCH]

< COMPONENT DIAGNOSIS >

ENCODER DRIVER SIDE

DRIVER SIDE : Description

Detects condition of the front power window motor LH operation and transmits to main power window and door lock/unlock switch as pulse signal.

DRIVER SIDE : Component Function Check

1. CHECK ENCODER OPERATION

Does front door glass LH perform AUTO open/close operation normally with main power window and door lock/unlock switch?

Is the inspection result normal?

YES >> Encoder operation is OK.

NO >> Refer to <u>PWC-34</u>, "DRIVER SIDE : Diagnosis Procedure".

DRIVER SIDE : Diagnosis Procedure

Encoder Circuit Check

- 1. CHECK ENCODER OPERATION
- 1. Connect front power window motor LH.
- 2. Turn ignition switch ON.









Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.



2. CHECK FRONT POWER WINDOW MOTOR LH POWER SUPPLY

INFOID:000000004215844

INFOID:000000004215845

ENCODER

< COMPONENT DIAGNOSIS >

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

Termi			
(+)		Voltage (V)	
Front power window motor LH connector	Terminal	(-)	(Approx.)
D9	4	Ground	10

Is the measurement value within the specification?

3. CHECK HARNESS CONTINUITY 1

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

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D7 (A)	15	D9 (B)	4	Yes



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

Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-98</u>, "<u>Removal and Instal-</u> <u>lation</u>". After that, refer to <u>PWC-8</u>, "<u>ADDITIONAL SERVICE WHEN REPLACING CONTROL</u> <u>UNIT : Special Repair Requirement</u>".
- NO >> Repair or replace harness.

4. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect front power window motor LH.
- Check continuity between front power window motor LH connector and ground.

Front power window motor LH connector	Terminal	Ground	Continuity		
D9	6		Yes		
le the increation recult normal?					



YES >> GO TO 6

NO >> GO TO 5

5. CHECK HARNESS CONTINUITY 2



B

LÕN

ALKIA0296ZZ

А

D

Ε

F

Н

J

L

[LH ONLY WINDOW ANTI-PINCH]

V

Ð

ENCODER

< COMPONENT DIAGNOSIS >

- Disconnect main power window and door lock/unlock switch. 1.
- Check continuity between main power window and door lock/ 2. unlock switch connector (A) and front power window motor LH connector (B).

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D7 (A)	2	D9 (B)	6	Yes

Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to PWC-98, "Removal and Installation". After that, refer to PWC-8, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".
- NO >> Repair or replace harness.

6. CHECK HARNESS CONTINUITY 3

- 1. Disconnect main power window and door lock/unlock switch.
- Check continuity between main power window and door lock/ 2. unlock switch connector (A) and front power window motor LH connector (B).

Main power window and door lock/unlock switch connector	Terminal	Front power win- dow motor LH connector	Terminal	Continuity
	9		3	Yes
D7 (A)	13	D9 (B)	5	



3. 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	Cround	Continuity	
	9	Ground	No	
D7 (A)	13		INO	

Is the inspection result normal?

>> Replace front power window motor LH. Refer to GW-17, "Removal and Installation". After that, YES refer to PWC-8. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

NO >> Repair or replace harness.

DRIVER SIDE : Special Repair Requirement

INFOID:000000004215846

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to PWC-8, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".



[LH ONLY WINDOW ANTI-PINCH]
DOOR SWITCH

< COMPONENT DIAGNOSIS >

DOOR SWITCH

Description

Detects door open/close condition and transmits the signal to BCM.

Component Function Check

1. CHECK FRONT DOOR SWITCH INPUT SIGNAL

Check ("DOOR SW-DR" and "DOOR SW-AS") in "DATA MONITOR" mode with CONSULT-III. Refer to BCS-33, "RETAINED PWR : CONSULT-III Function (BCM - RETAINED PWR)".

Monitor item		Condition	
	OPEN	: ON	
	CLOSE	: OFF	
	OPEN	: ON	
	CLOSE	: OFF	

Is the inspection result normal?

- YES >> Front door switch circuit is OK.
- >> Refer to PWC-37, "Diagnosis Procedure". NO

Diagnosis Procedure

1. CHECK HARNESS CONTINUITY

Check voltage between BCM connector and ground.

	Terminals					
(+	-)		Door c	Door condition		
BCM connector	Terminal	(-)			(Approx.)	
	32		Front door	OPEN	0	
M18	52	Ground	RH	CLOSE	Battery voltage	
IVI 18	58	Giouna	Front door	OPEN	0	
	50		LH	CLOSE	Battery voltage	



YES >> Replace BCM. Refer to BCS-87, "Removal and Installation". NO >> GO TO 2

2. CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM and front door switch.
- Check continuity between BCM connector (A) and front door 3. switch connector (B).

BCM connector	Terminal	Front door switch connector	Terminal	Continuity	
Μ18 (Δ)	32	RH: B108 (B)	2	Ves	
W10 (A)	58	LH: B8 (B)	2	165	

PWC-37

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





INFOID:000000004215849

J

Μ

Ν

Ο

Ρ

Н

В

D

INFOID:000000004215847

DOOR SWITCH

< COMPONENT DIAGNOSIS >

BCM connector	Terminal		Continuity
M18	32	Ground	No
WIO	58		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK BCM OUTPUT SIGNAL

- 1. Connect BCM connector.
- 2. Check voltage between BCM connector and ground.





Is the measurement value within the specification?

YES >> GO TO 4

NO >> Replace BCM. Refer to <u>BCS-87, "Removal and Installation"</u>.

4. CHECK FRONT DOOR SWITCH

Check front door switch.

Refer to PWC-38, "Component Inspection".

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.
- NO >> Replace front door switch.

Component Inspection

1. CHECK FRONT DOOR SWITCH

Check front door switches.

Te	erminal	Door switch	Continuity
Door	switches	Door Switch	Continuity
2	Ground part of door	Pressed	No
2	switch	Released	Yes

Is the inspection result normal?

YES >> Front door switch is OK.

NO >> Replace front door switch.



POWER WINDOW LOCK SWITCH

< COMPONENT DIAGNOSIS >

POWER WINDOW LOCK SWITCH

Description

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

1. CHECK POWER WINDOW LOCK SIGNAL

Exchanges for a normal main power window and door lock/unlock switch, and operation is checked. <u>Does power window lock operate?</u>

- YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-98</u>, "<u>Removal and Instal-</u> <u>lation</u>". After that, <u>PWC-8</u>, "<u>ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT</u>: <u>Spe-</u> <u>cial Repair Requirement</u>".
- NO >> Check condition of harness and connector.

Special Repair Requirement

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.	G
Refer to PWC-8, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Require-	
<u>ment"</u> .	
Is the inspection result normal?	F

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

J

PWC

Μ

Ν

Ρ

А

В

С

D

Ε

F

INFOID:000000004215851

INFOID:000000004215852

ECU DIAGNOSIS POWER WINDOW MAIN SWITCH

Reference Value

INFOID:000000004215855

TERMINAL LAYOUT



PHYSICAL VALUES

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Termir (Wire	nal No. color)	Description		Condition	Voltage [V]
+	-	Signal name	Input/ Output	Condition	(Approx.)
1 (G/B)	Ground	Rear power window motor LH UP signal	Output	When rear LH switch in power window main switch is operated UP.	Battery voltage
2 (W/B)	Ground	Encoder ground		_	0
3 (G/O)	Ground	Rear power window motor LH DOWN signal	Output	When rear LH switch in power window main switch is operated DOWN.	Battery voltage
5 (G/R)	5 G/R) Ground Rear power window motor RH DOWN signal		Output	When rear RH switch in power window main switch is operated DOWN.	Battery voltage
6 (GR/R)	Ground	Door key cylinder switch UNLOCK signal	Input	Key position (Neutral \rightarrow Unlocked)	$5 \rightarrow 0$
7 (G/W)	Ground	Rear power window motor RH UP signal	Output	When rear RH switch in power window main switch is operated UP.	Battery voltage
8 (R/B)	11	Front power window motor RH UP signal	Output	When front RH switch in power window main switch is operated UP.	Battery voltage
9 (G/W)	2	Encoder pulse signal 2	Input	When power window mo- tor operates.	(V) 6 4 2 0 10 ms JMKIA0070GB

< ECU DIAGNOSIS >

POWER WINDOW MAIN SWITCH

[LH ONLY WINDOW ANTI-PINCH]

Terminal No. (Wire color)		Description		Condition	Voltage [V]
+	-	Signal name	Input/ Output	Condition	(Approx.)
				IGN SW ON	Battery voltage
10	Ground	RAP signal	Input	Within 45 second after ig- nition switch is turned to OFF.	Battery voltage
(L/VV)				When driver side or pas- senger side door is opened during retained power op- eration.	0
11 (R/W)	8	Front power window motor RH DOWN signal	Output	When front RH switch in power window main switch is operated DOWN.	Battery voltage
12 (L/B)	16	Front power window motor LH DOWN signal	Output	When front LH switch in power window main switch is operated DOWN.	Battery voltage
13 (G/Y)	2	Encoder pulse signal 1	Input	When power window mo- tor operates.	(V) 6 2 0 1 10 ms JMKIA0070GB
15 (G/R)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer oper- ates.	10
16 (L/R)	12	Front power window motor LH UP signal	Output	When front LH switch in power window main switch is operated UP.	Battery voltage
17 (B)	Ground	Ground	_	_	0
19 (R/Y)	9 (Y) Ground Battery power supply		Input	_	Battery voltage

NC

L

Μ

Ν

0

Ρ

< ECU DIAGNOSIS >

Wiring Diagram



W ANTI-PINCH	I6 VIRE TO WIRE VHITE	1 Bi 7.1 Bi 5.1 4.1 3.1 1.1 Bi 7.1 Bi 5.1 4.1 3.1 2.1 1.1 Bi Scal Scal Scal Scal Scal Scal Scal Bi Scal Scal Scal Scal Scal Scal Scal Scal Bi Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal Scal<	of Signal Name			A B C D
POWER WINDOV	Connector No. N Connector Name V Connector Color W		Terminal No. Color wire 17J SB 93J L/W 94J G/B 95J G/O			E
EFT FRONT ONLY	3 JSE BLOCK (J/B) HITE			f Signal Name	1	G
CTORS - WITH L	Connector No. M Connector Name FL Connector Color W		1 errinnal noo. Wire 7N Y/R	Terminal No. Color o Wire 1 L/W 3 G/R 7 G/B	10 R/B	J
SYSTEM CONNE	E TO WIRE TE	76 66 56 46 35 146 136 126 116 100 26 16 246 236 226 216 100 26 16 316 300 296 286 276 190 196 560 586 556 546 343 420 600 586 546 546 546 546 770 686 686 677 586 546 770 686 686 677 586 546 776 786 686 677 586 546 776 786 816 816 816 816	Signal Name	E TO WIRE WN	0 8 4 4	L
OWER WINDOW	Connector No. M1 Connector Name WIF Connector Color WH	H.S. 176 166 156 246 256 246 256 246 256 500 496 486 500 486 486 486 500 486 486 486 486 486 486 486 486 486 486	82G W/B	Connector No. M10 Connector Name WIR Connector Color BRC	ABKIA0738GB	N

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

[LH ONLY WINDOW ANTI-PINCH]

Ρ

Connector No. M14 Connector Name WIRE TO WIRE	Connector Color WHITE						Color of	Terminal No. Wire Signal Name	2 L/W –	3 R/B –	5 B - 10 R/W -	Connector No. M18	Connector Name BCM (BODY CONTROL MODULE)	Connector Color GREEN	RHS.	39 38 37 36 38 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 59 58 57 56 55 54 53 52 51 50 54 44 43 42 41 40		Terminal No. Color of Signal Name	32 R/B AS_DOOR_SW	58 SB DR_DOOR_SW
Signal Name	I	1	1	1	1	1							(BODY CONTROL JLE)		7 8 9 10 415 16 17 18 19	Signal Name	BAT_BCM_FUSE	GND1	ACC_LED	
Color of Wire	R/Y	в	G/R	G/O	۲	N/A						. M17	me BCM (MODL	lor WHITI	4 5 6 11112131	Color of Wire	Y/R	в	٨٢	
Terminal No.	7	ω	10	11	12	16						Connector No.	Connector Na	Connector Co	园 H.S.	Terminal No.	1	13	15	
1 BE TO WIBE		1		3 •••• 4 5 6 / 10 11 12 13 14 15 16			Signal Name	I	I	1		9	M (BODY CONTROL)DULE)	ACK		Signal Name	BAT_POWER_F/L	P/W_POWER_SUPPLY		(RAP)
lo. M1			ļ	8 9 1			Color of Wire	G/W	G/B	R/B		o. M1	ame BC MC	olor BL		Color of Wire	W/B	RV	۲.	
							No					N N	Z ∠ Z	2		²				

PWC-44

ABKIA0739GB

< ECU DIAGNOSIS >



Ρ

ABKIA0740GB

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

B108	FRONT DOOR SWITCH RH	WHITE	
Connector No.	Connector Name	Connector Color	S.H

Connector Name WIRE TO WIRE Connector Color WHITE

Connector Name WIRE TO WIRE

Connector No. B104

Connector Color BROWN

Connector No. B106

0.0	Signal Name	DOOR SW (AS)
	Color of Wire	R/G
	Terminal No.	2
_		

Γ

Signal Name	RL_UP	ENCODER_GND	RL_DOWN	RR_DOWN	RR_UP	AS_UP	ENCODER_SIG2	IGN	AS_DOWN	DR_DOWN	ENCODER_SIG1	ENCODER_POWER	DR-UP
Color of Wire	G/B	W/B	G/O	G/R	G/W	R/B	G/W	۲N	МA	L/B	G/Y	G/R	L/R
Terminal No.	-	2	e	5	7	8	6	10	÷	12	13	15	16

	Signal Name	I	I	I	I
4 5	Color of Wire	G/W	G/R	В	L/W
品. H.S.	Terminal No.	2	4	9	8

Signal Name

Color of Wire

Terminal No.

H.S.

E

I I. Т I

G/R

ო \sim

G/B

Ž

-

R/G

10

Signal Name	I	I	I	I	
Color of Wire	G/W	G/R	в	L/W	
Terminal No.	2	4	9	8	

	D1	WIRE TO WIRE	WHITE	
	Connector No.	Connector Name	Connector Color	

D7

Connector No.

13 12 11 10 9 8	Signal Name	I	I	I	I	I	I	I
16 15 14	Color of Wire	G/W	G/B	R/B	RV	в	G/R	G/O
H.S.	Terminal No.	2	с	9	7	8	10	11

ABKIA0	741GF
,	

L T

N M M

12









E

DIAGNOSIS >		1]
Table Color No. D101 ctor Name WIRE TO WIRE ctor Color WHITE	tor No. D201 tor Name WIRE TO WIRE tor Color WHITE al No. Color of al No. Color of al No. Vire C/B	• <u>1</u> E C C
Connec Connec Connec Connec 10 Connec	Connec Connec Connec Connec Connec 8 8	F
R LH R LH Signal Name	R WINDOW AND R LOCK/UNLOCK R L Signal Name C DOWN UP UP UP UP	C
No. D9 Name FRON MOTO Color MHTTE MOTO Color of ULR L/R L/R G/R G/R W/B	r No. D105 r Name POWE B D105 L/R L/R NHT R/W R/B B R/W	
Connector Connector Connector Terminal h 3 3 6 6	Connecto Connecto Connecto A A A A A A A A A A A A A A A A A A A	
		P
POWER WINDOW A RLOCKUNLOCK CH Signal Name GND BAT BAT	AT POWER WINDOW DA RH E Signal Name	I
r No. D8 MAIN I r Name D00R SWITC Color WHIT B B B R/Y	r No. D104 r Name FRON n Color WHIT No. Color of WHIT U/B U/B	١
Connecto Connecto Connecto H.S. 17 17	Connectc Connecto Connecto Terminal I 1 2	(

POWER WINDOW MAIN SWITCH

ABKIA0742GB

Ρ



Connector Name REAR POWER WINDOW

REAR POWER WINDOW SWITCH LH

Connector Name

D203

Connector No.

D204

Connector No.

GRAY

Connector Color









Signal Name	UP	Ι	NMOD	-	I	I
Color of Wire	L/R	Ι	L/B	Ι	Ι	I
Terminal No.	1	2	ю	4	5	9

Signal Name	IGN	ЧD	DOWN	DOWN	UP	GND
Color of Wire	۲V	G/W	G/R	L/B	L/R	В
Terminal No.	-	2	e	4	5	7



ABKIA0743GB

INFOID:000000004215857

FAIL-SAFE CONTROL

Fail Safe

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.

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

[LH ONLY WINDOW ANTI-PINCH]

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 mal- function	When both pulse signals have not been detected for more than the specified value during glass open/ close operation.	E
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 up- dated closed position of glass	When glass open/close operation is continuously performed without fully closing more than the specified value (approximately 10 strokes).	E

It changes to condition before initialization and the following functions do not operate when switched to failsafe control.

- Auto-up operation
- Anti-pinch function
- Retained power 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 switch or in motor.

F

J

PWC

L

Μ

Ν

Ο

Ρ

< ECU DIAGNOSIS >

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
	Other than front wiper switch HI	OFF
FR WIPER HI	Front wiper switch HI	ON
	Other than front wiper switch LO	OFF
FR WIPER LOW	Front wiper switch LO	ON
	Front washer switch OFF	OFF
FR WASHER SW	Front washer switch ON	ON
	Other than front wiper switch INT	OFF
FR WIPER INT	Front wiper switch INT	ON
	Front wiper is not in STOP position	OFF
FR WIPER STOP	Front wiper is in STOP position	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
	Other than turn signal switch RH	OFF
TURN SIGNAL R	Turn signal switch RH	ON
	Other than turn signal switch LH	OFF
TURN SIGNAL L	Turn signal switch LH	ON
	Other than lighting switch 1ST and 2ND	OFF
TAIL LAIVIP SVV	Lighting switch 1ST or 2ND	ON
	Other than lighting switch HI	OFF
	Lighting switch HI	ON
	Other than lighting switch 2ND	OFF
HEAD LAIVIP SVV I	Lighting switch 2ND	ON
	Other than lighting switch 2ND	OFF
HEAD LAIVIF SVV 2	Lighting switch 2ND	ON
DASSING SW	Other than lighting switch PASS	OFF
FASSING SW	Lighting switch PASS	ON
	Other than lighting switch AUTO	OFF
AUTO LIGITI SW	Lighting switch AUTO	ON
	Front fog lamp switch OFF	OFF
111100.50	Front fog lamp switch ON	ON
	Front door LH closed	OFF
DOOR SWEDR	Front door LH opened	ON
	Front door RH closed	OFF
DOOR SW-AS	Front door RH opened	ON
	Rear door RH closed	OFF
DOOR SWIRK	Rear door RH opened	ON
	Rear door LH closed	OFF
	Rear door LH opened	ON
DOOR SW-BK	NOTE: This item is displayed, but cannot be monitored.	OFF



< ECU DIAGNOSIS >

[LH ÓNLY WINDOW ANTI-PINCH]

Monitor Item	Condition	Value/Status	_
	Other than power door lock switch LOCK	OFF	A
CDL LOCK SVI	Door lock/unlock switch LOCK	ON	-
	Other than door lock/unlock switch UNLOCK	OFF	В
CDE UNEOCK SW	Door lock/unlock switch UNLOCK	ON	
KEV OVI I K SWI	Other than front door LH key cylinder LOCK position	OFF	_
RETUTE LR-SW	Front door LH key cylinder LOCK position	ON	С
	Other than front door LH key cylinder UNLOCK position	OFF	
NET OTE ON-OW	Front door LH key cylinder UNLOCK position	ON	D
KEY CYL SW-TR	NOTE: This item is displayed, but cannot be monitored.	OFF	_
HAZARD SW	When hazard switch is not pressed	OFF	E
	When hazard switch is pressed	ON	_
REAR DEF SW	When rear window defogger switch is pressed	ON	
FAN ON SIG	When AUTO switch or fan switch is pressed	ON	F
AIR COND SW	When A/C switch is pressed	ON	
	Trunk lid opener cancel switch OFF	OFF	G
TR CANCEL SW	Trunk lid opener cancel switch ON	ON	0
	Trunk lid opener switch OFF	OFF	
TR/BD OPEN SW	While the trunk lid opener switch is turned ON	ON	Н
	Trunk lid closed	OFF	_
IRNK/HAI MNIR	Trunk lid opened	ON	-
	When LOCK button of Intelligent Key is not pressed	OFF	-
RKE-LOCK	When LOCK button of Intelligent Key is pressed	ON	-
	When UNLOCK button of Intelligent Key is not pressed	OFF	J
RKE-UNLOCK	When UNLOCK button of Intelligent Key is pressed	ON	-
	When TRUNK OPEN button of Intelligent Key is not pressed	OFF	
RKE-IR/BD	When TRUNK OPEN button of Intelligent Key is pressed	ON	- PW
	When PANIC button of Intelligent Key is not pressed	OFF	
RKE-PANIC	When PANIC button of Intelligent Key is pressed	ON	L
	When UNLOCK button of Intelligent Key is not pressed and held	OFF	
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is pressed and held	ON	
	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	OFF	M
RKE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	ON	N
	When outside of the vehicle is bright	Close to 5 V	_
OPTICAL SENSOR	When outside of the vehicle is dark	Close to 0 V	0
	When front door LH request switch is not pressed	OFF	0
REQ SW-DR	When front door LH request switch is pressed	ON	-
DEO SWI AS	When front door RH request switch is not pressed	OFF	P
REW 911-49	When front door RH request switch is pressed	ON	_
	When trunk request switch is not pressed	OFF	_
KEN 211-RD/1K	When trunk request switch is pressed	ON	_
	When push-button ignition switch is not pressed	OFF	_
	When push-button ignition switch is pressed	ON	_

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
	Ignition switch OFF	OFF
	Ignition switch ACC or ON	ON
BRAKE SW/ 1	When the brake pedal is not depressed	ON
BIORE OW 1	When the brake pedal is depressed	OFF
DETE/CANCL SW	When selector lever is in P position	OFF
DETE/O/MOE OW	When selector lever is in any position other than P	ON
SET PN/N SW	When selector lever is in any position other than P or N	OFF
	When selector lever is in P or N position	ON
S/L -L OCK	Electronic steering column lock LOCK status	OFF
	Electronic steering column lock UNLOCK status	ON
S/L-UNLOCK	Electronic steering column lock UNLOCK status	OFF
	Electronic steering column lock LOCK status	ON
S/L RELAY-E/B	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
UNI K SEN-DR	Front door LH UNLOCK status	OFF
	Front door LH LOCK status	ON
	When push-button ignition switch is not pressed (IPDM E/R sends via CAN)	OFF
	When push-button ignition switch is pressed (IPDM E/R sends via CAN)	ON
	Ignition switch OFF or ACC	OFF
IGN RET I F/D	Ignition switch ON	ON
	When selector lever is in P position (IPDM E/R sends via CAN)	OFF
DETE SW -IPDM	When selector lever is in any position other than P (IPDM E/R sends via CAN)	ON
SFT PN -IPDM	When selector lever is in any position other than P or N (IPDM E/R sends via CAN)	OFF
	When selector lever is in P or N position (IPDM E/R sends via CAN)	ON
	When selector lever is in any position other than P (combination meter sends via CAN)	OFF
SFT P-MET	When selector lever is in P position (combination meter sends via CAN)	ON
	When selector lever is in any position other than N (combination meter sends via CAN)	OFF
SFT N-WET	When selector lever is in N position (combination meter sends via CAN)	ON
	Engine stopped	STOP
	While the engine stalls	STALL
ENGINE STATE	At engine cranking	CRANK
	Engine running	RUN
	Electronic steering column lock LOCK status (IPDM E/R sends via CAN)	OFF
SIL LUUK-IPUM	Electronic steering column lock UNLOCK status (IPDM E/R sends via CAN)	ON

< ECU DIAGNOSIS >

[LH ÓNLY WINDOW ANTI-PINCH]

Monitor Item	Condition	Value/Status	0
	Electronic steering column lock UNLOCK status (IPDM E/R sends via CAN)	OFF	A
S/E UNLOR-IF DIM	Electronic steering column lock LOCK status (IPDM E/R sends via CAN)	ON	В
	Ignition switch OFF or ACC	OFF	
S/L RELAT-REQ	Ignition switch ON	ON	C
VEH SPEED 1	While driving	Equivalent to speedometer reading	0
VEH SPEED 2	While driving	Equivalent to speedometer reading	
	Front door LH LOCK status	LOCK	D
DR DOOR STATE	Wait with selective UNLOCK operation (5 seconds)	READY	
	Front door LH UNLOCK status	UNLK	_
	Front door RH LOCK status	LOCK	E
AS DOOR STATE	Wait with selective UNLOCK operation (5 seconds)	READY	
	Front door RH UNLOCK status	UNLK	F
	Ignition switch ACC or ON	RESET	
ID OK FLAG	Ignition switch OFF	SET	
	When the hybrid system start is prohibited	RESET	G
PRMT ENG STAT	When the hybrid system start is permitted	SET	
PRMT RKE STAT	NOTE: This item is displayed, but cannot be monitored.	RESET	Н
	When Intelligent Key is not inserted into key slot	OFF	
KEY SW -SLOT	When Intelligent Key is inserted into key slot	ON	Ι
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Key	
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored.	Operation frequency of Intelligent Key	J
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	PWC
AIR PRESS RR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear RH tire	L
AIR PRESS RL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear LH tire	
ID REGST EL1	When ID of front LH tire transmitter is registered (refer to <u>WT-6, "ID</u> <u>Registration Procedure"</u>)	DONE	Μ
	When ID of front LH tire transmitter is not registered (refer to <u>WT-6.</u> <u>"ID Registration Procedure"</u>)	YET	Ν
ID REGST FR1	When ID of front RH tire transmitter is registered (refer to <u>WT-6, "ID</u> <u>Registration Procedure"</u>)	DONE	
	When ID of front RH tire transmitter is not registered (refer to <u>WT-6</u> , <u>"ID Registration Procedure"</u>)	YET	0
ID REGST RR1	When ID of rear RH tire transmitter is registered (refer to <u>WT-6, "ID</u> <u>Registration Procedure"</u>)	DONE	Ρ
	When ID of rear RH tire transmitter is not registered (refer to <u>WT-6</u> , <u>"ID Registration Procedure"</u>)	YET	
	When ID of rear LH tire transmitter is registered (refer to <u>WT-6</u> , "ID <u>Registration Procedure"</u>)	DONE	
	When ID of rear LH tire transmitter is not registered (refer to <u>WT-6</u> , <u>"ID Registration Procedure"</u>)	YET	

BCM (BODY CONTROL MODULE) [LH ONLY WINDOW ANTI-PINCH]

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
	Tire pressure indicator OFF	OFF
	Tire pressure indicator ON	ON

Terminal Layout



< ECU DIAGNOSIS >

BCM (BODY CONTROL MODULE) [LH ONLY WINDOW ANTI-PINCH]

Physical Values

INFOID:000000004468099

А

Termi	inal No.	Description					В
(Wire	e color)	Signal name	Input/	-	Condition	Value (Approx.)	
(+)	(-)	Signarhame	Output			(C
1 (W/B)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage	C
2 (R/Y)	Ground	Battery power supply output	Output	Ignition switch OF	F	Battery voltage	D
3 (L/W)	Ground	Ignition power supply output	Output	Ignition switch ON		Battery voltage	
4	Ground	Interior room lamp	Output	After passing the ir er operation time	nterior room lamp battery sav-	0V	E
(P/W)	Giouna	power supply	Output	Any other time after lamp battery save	er passing the interior room r operation time	Battery voltage	F
5	Ground	Front door RH UN-	Output	Front door PH	UNLOCK (actuator is activated)	Battery voltage	
(G/Y)	Giouna	LOCK	Output		Other than UNLOCK (actu- ator is not activated)	0V	G
7	Ground	Step Jamp	Output	Room lamp timer	ON	Battery voltage	
(R/W)	Cround		Output		OFF	0V	Н
8	Ground	All doors LOCK	Output	All doors	LOCK (actuator is activat- ed)	Battery voltage	
(V)	Cround				Other than LOCK (actuator is not activated)	ΟV	
9	Ground	Front door LH UN-	Output	put Front door I H	UNLOCK (actuator is activated)	Battery voltage	J
(G)	Cround	LOCK	Output		Other than UNLOCK (actuator is not activated)	0V	
10	Ground	Rear door RH and	Output	Rear door RH	UNLOCK (actuator is acti- vated)	Battery voltage	PWC
(G/Y)	Ground	LOCK	Output	and rear door LH	Other than UNLOCK (actuator is not activated)	0V	L
11 (Y/R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage	
13 (B)	Ground	Ground	_	Ignition switch ON		0V	Μ
14 (R/Y)	Ground	Push-button ignition switch illumination ground	Input	Tail lamp	OFF	OV NOTE: When the illumination brighten- ing/dimming level is in the neutral position (V) 10 0 2 ms JSNIA0010GB	N O P
15	Ground	ACC indicator lamp	Output	Ignition switch	OFF	Battery voltage	
(Y/L)				-	ACC	0V	

< ECU DIAGNOSIS >

(Wire	nai No. e color)	Description	la a st		Condition	Value
(+)	(-)	Signal name	Output		Condition	(Approx.)
					Turn signal switch OFF	0V
17 (G/B)	Ground	Turn signal (RH)	Output	lgnition switch ON	Turn signal switch RH	(V) 15 0 5 0 1 5 0 FKID0926E 6 5V
					Turn signal switch OFF	0V
18 (G/O)	Ground	Turn signal (LH)	Output	lgnition switch ON	Turn signal switch LH	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1
						0.3V
19 (Y)	Ground	Room lamp timer control	Output	Interior room lamp		
(.)				·•···P	Lamps rully ON	00
21 (P/B)	Ground	Optical sensor signal	Input	Ignition switch	cle is bright	Close to 5V
(Г/В)				ON	When outside of the vehi- cle is dark	Close to 0V
24 (R/W)	Ground	Stop lamp switch 1	Input		_	Battery voltage
26	Ground	Stop Jamp switch 2	Input	Stop Jamp switch	OFF (brake pedal is not de- pressed)	0V
(O/L)	Cround		mput		ON (brake pedal is de- pressed)	Battery voltage
27 (G/W)	Ground	Front door lock as- sembly LH (unlock sensor)	Input	Front door LH	LOCK status	(V) 15 10 10 10 ms JPMA0011GB 11.8V
					UNLOCK status	0V
29	Ground	Key slot switch	Input	When Intelligent K	ey is inserted into key slot	Battery voltage
(Y)	Sibulid	Ney Side Switch	input	When Intelligent Ke	ey is not inserted into key slot	0V
30	Ground	ACC feedback signal	Input	lanition switch	OFF	0
(V/Y)	0.00110			. <u></u>	ACC or ON	Battery voltage
31	Ground	Ignition relay-2 feed-	Input	Ignition switch	OFF	0V
(G)		DACK SIGNAL	-	-	ON	Battery voltage

< ECU DIAGNOSIS >

BCM (BODY CONTROL MODULE)

[LH ÓNLY WINDOW ANTI-PINCH]

Term	inal No.	Description				Value	
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	А
32 (R/B)	Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	(V) 15 10 5 0 •••••••••••••••••••••••••••••	B
					ON (when front door RH	 JPMIA0011GB 11.8V 0V	D
33					OFF	Battery voltage	Ε
(SB)	Ground	nal	Input	A/C switch	ON	0V	
2.4*		Front door lock as-		Front door lock	OFF (neutral)	Battery voltage	
(L/R)	Ground	sembly LH (key cylin- der switch) (unlock)	Input	assembly LH (key cylinder switch)	ON (unlock)	0V	Г
36*	Cround	Look owitch signal	Input	Door lock/unlock	Lock	Battery Voltage	0
(GR)	Ground	LOCK SWITCH SIGNAL	Input	switch	Unlock	0V	G
37 (O)	Ground	Trunk lid opener can- cel switch	Input	Trunk lid opener cancel switch	CANCEL	(V) 15 10 5 0 10 ms JPMIA0012GB	H
						1.1V	J
					ON	0V	
38 (GR/	Ground	Rear window defog- ger ON signal	Input	Rear window de-	OFF	Battery Voltage V	PW
W)		go: o: o.g			ON	0V	
39*	Ground	Linlock switch signal	Input	Door lock/unlock	Unlock	Battery Voltage	
R)	Giouna	Onlock switch signal	input	switch	Lock	0V	L
40*		Power window serial		Ignition switch ON		(V) 15 10 5 0	Μ
(Y/G)	Grouna	link	Output			10 ms JPMIA0013GB 10.2V	N
				Ignition switch OF	F or ACC	0V	0
41 (W)	Ground	Push-button ignition switch illumination	Output	Engine switch (push switch) illu- mination	ON OFF	5.5V 0V	Ρ
42 (R)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	ON OFF	0V Battery voltage	
45 (P)	Ground	Receiver & sensor ground	Input	Ignition switch ON	1	OV	

< ECU DIAGNOSIS >

Term (Wire	inal No.	Description				Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
(.)	()		Output		OFF	0.7
46 (V/W)	Ground	Receiver & sensor power supply output	Output	Ignition switch		5 0\/
47 (G/O)	Ground	Tire pressure receiv- er signal	Input/ Output	Ignition switch ON	Standby state	(V) 4 2 0 • • 0.2s OCC3881D
					When receiving the signal from the transmitter	(V) 4 2 0 + 0.2s OCC3880D
48	Ground	Selector lever P/N	Input	Solootor lovor	P or N position	12.0V
(R/B)	Ground	position signal	input	Selector level	Except P and N positions	0V
					ON	0V
49 (L/O)	Ground	Security indicator sig- nal	Output	Security indicator	Blinking	(V) 15 0 1 s JPMIA0014GB 11.3V
					OFF	Battery voltage
					All switch OFF	0V
					Lighting switch 1ST	
					Lighting switch high-beam	(<u>v</u>)
50	. .	Combination switch		Combination switch	Lighting switch 2ND	
(LG/ B)	Ground	OUTPUT 5	Output	(Wiper intermit- tent dial 4)	Turn signal switch RH	о 2 ms JPMIA0031GB 10.7V
					All switch OFF	0V
					(Wiper intermittent dial 4) Front wiper switch HI (Wiper intermittent dial 4)	
51 (L/W)	Ground	Combination switch OUTPUT 1	Output	Combination switch	Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7	15 0 2 ms JPMIA0032GB

< ECU DIAGNOSIS >

BCM (BODY CONTROL MODULE) [LH ONLY WINDOW ANTI-PINCH]

Term	inal No.	Description				Value	^
(Wire	e color)	Signal name	Input/		Condition	(Approx.)	A
(+)	(-)	olgharname	Output			,	
					All switch OFF	0V	В
					Eropt washer switch ON		
					(Wiper intermittent dial 4)	(V)	
52	Oraciand	Combination switch	0	Combination			С
(G/B)	Ground	OUTPUT 2	Output	switch	Any of the conditions below	5	
					Wiper intermittent dial 1		D
					Wiper intermittent dial 5	2 ms	
					• wiper intermittent dial 6	JPMIA0033GB 10.7V	
					All switch OFF	0V	E
					Front wiper switch INT		
				Combination	Front wiper switch LO	(V) 15	F
53 (LC)	Ground	Combination switch	Output	switch			1
R)	Giouna	OUTPUT 3	Οιιριι	(Wiper intermit-		Ŏ	
		tent dial 4)	Lighting switch AUTO		G		
						JPMIA0034GB	
						10.7V	Н
					All switch OFF	0V	1 1
				Front fog lamp switch ON	0.0		
		Combination switch OUTPUT 4	Output	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND		
54 (G/X)	Ground				Lighting switch flash-to-		
(0,1)					Turn signal switch LH		.1
						2 ms	
						JPMIA0035GB	
55					ON	Battery voltage	PW
(BR/	Ground	Front blower monitor	Input	Front blower mo- tor switch	OFF	0.7	
VV)						0V	L
56	Ground	Front door lock as- sembly LH (key cylin-	Input	Front door lock assembly LH (key	OFF (neutral)	Battery voltage	
(L/B)		der switch) (lock)	•	cylinder switch)	ON (lock)	0V	
57	Ground	Tire pressure warn-	Input		_	Battery voltage	M
(VV)							
						(V)	Ν
						15	
58				Front door L H	OFF (front door LH	5	
(SB)	Ground	Front door LH switch	Input	switch	CLOSE)		0
						јумиаоо11GB 11.8V	Р
					ON (front door LH OPEN)	0V	
59	Ground	Rear window defog-	Outout	Rear window de-	Active	Battery voltage	
(G/R)	Ground	ger relay	Output	fogger	Not activated	0V	

< ECU DIAGNOSIS >

Term	inal No.	Description				
(Wire	e color)	Signal name	Input/		Condition	(Approx.)
(+)	(-)	oignarname	Output		1	· · · · · · ·
60	Ground	Front console anten-	Outout	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB
(B/R)	3/R) Ground na 2 (-)	Capar	UFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 15 15 15 15 15 15 15 15 15	
61	Ground	Center console an- tenna 2 (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB
61 (W/R)					When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s 10 1 s 10 1 s 10 1 s 10 1 s 10 10 10 10 10 10 10 10 10 10 10 10 10
62	Ground	Front outside handle RH antenna (-)	Outout	When the front door RH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
62 (B/Y)	Ground		switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 1 s JMKIA0063GB	

< ECU DIAGNOSIS >

Term	inal No.	Description					
(Wire	e color)	Signal name	Input/		Condition	(Approx.)	А
(+)	(-)	Signal name	Output				
					When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 • • • • •	B
63 (LG)	Ground	Front outside handle RH antenna (+)	Output	When the front door RH request switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	JMKIA0062GB	D F G
64	64	Front outside handle LH antenna (-)	Output	When the front door LH request switch is operat- ed with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	Η
64 (V) Ground					When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	J PW
						(V)	
					When Intelligent Key is in the antenna detection area		Μ
65	Ground	Front outside handle	Output	When the front door LH request		JMKIA0062GB	Ν
65 (P) G	Giound	nd LH antenna (+)	Output	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 5 10 5 10 5 10 5 10 5 10 5 10 5 1	O

< ECU DIAGNOSIS >

Term	inal No.	Description				Value
(Wire	e color)	Signal name	Input/		Condition	(Approx.)
(+)	(-)		Output			
66	Ground	Instrument panel an-	t panel an- Output	When Intelligent Key is in the passenger compart- ment	(V) 15 10 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
(R)		tenna (-)		ŌFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 0 1 s JMKIA0063GB
67	Ground	Instrument panel an-	Output	, Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 0 15 0 15 0 15 0 15 0 15 0 15 0 1
(G)		tenna (+)		OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 5 0 1 s JMKIA0063GB
68 (G/O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
69 (O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
70	Ground	Ignition relay-2 con-	Outout	Ignition switch	OFF or ACC	0V
(R/B)	Cround	trol	Calput	ignation switch	ON	Battery voltage

< ECU DIAGNOSIS >

[LH ONLY WINDOW ANTI-PINCH]

Term	inal No.	Description					
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	А
71 (L/O) Ground		Remote keyless entry receiver signal	Input/	During waiting		(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	B C D
	Ground		Output	When operating either button on Intelligent Key		(V) 15 10 5 0 1 ms JMKIA0065GB	E
75 (R/Y) Gro					All switch OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms 10 2 ms JPMIA0041GB 1.4V	H
	Ground	Ground Combination switch INPUT 5	Input	Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms 1.3V	J PW
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 0 2 ms 10 2 ms JPMIA0040GB 1.3V	M

Ρ

< ECU DIAGNOSIS >

BCM (BODY CONTROL MODULE)

[LH ÓNLY WINDOW ANTI-PINCH]

Term	inal No.	Description				Value
(Wire	e color)	Signal name	Input/	Condition		(Approx.)
(+)	(-)	olghar hame	Output			
76	Ground	Combination switch INPUT 3	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 2 ms JPMIA0041GB 1.4V
					Lighting switch high-beam (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0036GB 1.3V
(R/G)					Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0037GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	(V) 15 0 2 ms JPMIA0040GB 1.3V
77	Ground	Push-button ignition	Input	Engine switch	Pressed	0V
(BR)	0.0010	switch	par	(push switch)	Not pressed	Battery voltage
78 (P)	Ground	CAN-L	Input/ Output		_	_
79 (L)	Ground	CAN-H	Input/ Output		_	_
					OFF	0V
80 (R/L)	Ground	Key slot illumination	Output	Key slot illumina- tion	Blinking	(V) 15 10 5 0 1 s JPMIA0015GB 6.5V
				ON	Battery voltage	

< ECU DIAGNOSIS >

[LH ÓNLY WINDOW ANTI-PINCH]

Term	inal No.	Description					
(Wire	e color)	Cignal name	Input/	Condition		(Approx.)	A
(+)	(-)	Signal name	Output			(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
81 (LG)	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	Battery voltage	В
83	Ground	ACC relay control	Output	lanition switch	OFF	0V	
(L)	Ciouna	Accorday control	Output	ignition switch	ACC or ON	Battery voltage	С
84 (Y/R)	Ground	ECTV device (detent switch)	Output		_	Battery voltage	
85		Electronic steering		Electronic steer-	Lock status	0V	D
(L/O)	Ground	column lock condition No. 1	Input	ing column lock	Unlock status	Battery voltage	
86		Electronic steering		Electronic steer-	Lock status	Battery voltage	Ε
(G/R)	Ground	Column lock condition	Input	ing column lock	Unlock status	0V	
87	Ground	ECTV device (detent	Input	Selector lever	P position	0V	F
(G/B)	Ciouna	switch)	mpat		Any position other than P	Battery voltage	
					ON (pressed)	0V	
88 (P/L)	Ground	Front door RH re- quest switch	Input	Front door RH re- quest switch	OFF (not pressed)	(V) 15 10 10 10 10 10 10 10 10 10 10	Н –
					ON (pressed)	0V	
89 (B/W)	Ground	Front door LH re- quest switch	Input	Front door LH re- quest switch	OFF (not pressed)	(V) 15 10 5 10 10 ms JPMIA0016GB 1.0V	J PW
90	Ground	Front blower motor	Output	Ignition switch	OFF or ACC	0V	в. Л
(Y)	Ciouna	relay control	Juiput	ignition switch	ON	Battery voltage	IVI
91 (L/R)	Ground	Remote keyless entry receiver power sup- ply	Output	Ignition switch OFF		Battery voltage	Ν
94		Electronic steering	<u> </u>		OFF or ACC	Battery voltage	
(G/Y)	Ground	column lock CPU power supply	Output	Ignition switch	ON	0V	0

Ρ

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4V
					Turn signal switch LH	(V) 15 0 2 ms JPMIA0037GB 1.3V
95 (R/W)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH	(V) 15 10 2 ms JPMIA0036GB 1.3V
					Front wiper switch LO	(V) 15 10 2 ms JPMIA0038GB 1.3V
					Front washer switch ON	(V) 15 10 2 ms JPMIA0039GB 1.3V

BCM (BODY CONTROL MODULE) [LH ONLY WI

< ECU DIAGNOSIS >

[LH ÓNLY WINDOW ANTI-PINCH]

Terminal No.		Description				Value	
(VVire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0041GB	B
				Lighting switch AUTO		1.4V	D
					(V) 15 10 5	E	
				(Wiper intermittent dial 4)	(Wiper intermittent dial 4)	2 ms	F
96 (P/B)	Ground	Combination switch INPUT 4	Input	Combination switch		1.3V	G
(P/B)				Lighting switch 1ST (Wiper intermittent dial 4	Lighting switch 1ST (Wiper intermittent dial 4)		Н
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	(V) 15 0 2 ms JPMIA0039GB	J PW
						1.3V	L

 \mathbb{N}

Ν

0

BCM (BODY CONTROL MODULE) [LH ONLY

< ECU DIAGNOSIS >

Termi	inal No.	Description				Volue
(Wire	e color)	Signal name	Input/		Condition	(Approx.)
97 (R/B)	Ground	Combination switch INPUT 2	Input		All switch OFF	(V) 15 0 2 ms JPMIA0041GB 1.4V
				Combination switch (Wiper intermit- tent dial 4)	Lighting switch flash-to- pass	(V) 15 0 2 ms JPMIA0037GB 1.3V
					Lighting switch 2ND	(V) 15 10 2 ms JPMIA0036GB 1.3V
					Front wiper switch INT	(V) 10 0 2 ms JPMIA0038GB 1.3V
					Front wiper switch HI	(V) 15 10 2 ms JPMIA0040GB 1.3V
					Pressed	0 V
98 (G/R)	Ground	Hazard switch	Input	Hazard switch	Not pressed	(V) 15 0 10 ms JPMIA0012GB 1.1V

< ECU DIAGNOSIS >

[LH ÓNLY WINDOW ANTI-PINCH]

Terminal No.		Description				Valua	
(Wire	e color)	Signal name	Input/ Output	Condition		(Approx.)	
(•)	()		Output		LOCK status	Battery voltage	R
99 (L/Y)	Ground	Electronic steering column lock CPU communication	Input/ Output	Electronic steer- ing column lock	LOCK or UNLOCK	(V) 15 10 5 0 50 ms JMKIA0066GB	C
					For 15 seconds after UN- LOCK	Battery voltage	Е
					15 seconds or later after UNLOCK	0V	_
103	Cround		Output	Truck lid	Open (trunk lid opener ac- tuator is activated)	Battery voltage	F
(V) G	Ground		Output		Close (trunk lid opener ac- tuator is not activated)	0V	G
110	Ground		Output		ON	0V	
(V/W)	Ground	Trank room amp	Output		OFF	Battery voltage	Н
		Trunk room aptenza			When Intelligent Key is in the passenger compart- ment	(V) 15 0 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 15 10 5 0 15 15 10 5 0 15 15 10 15 15 10 15 15 10 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10	J
(B)	Ground	1 (-)	Output	OFF			PW
					When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	L

Ν

0

Ρ

< ECU DIAGNOSIS >

Terminal No.		Description					
(Wire	e color)	Signal name Input/		Condition		(Approx.)	
(+)	(-)	Signal name	Output			(FF - 7	
115		Trunk room antenna 1 (+)	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	
(W)				OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 10 10 10 10 10 10 10 10 10	
118	Ground	Rear bumper anten- na (-)	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	
(L/O)					When Intelligent Key is not in the antenna detection area	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
119 (BD)	Ground	nd Rear bumper anten- na (+)	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	
(BR/ W)					When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	

< ECU DIAGNOSIS >

Term	erminal No. Description			Value			
(Wire	e color)	Signal name	Input/	Condition		(Approx.)	A
(+)	(-)	Olghar hame	Output			, , ,	
127	<u> </u>	Ignition relay (IPDM	.		OFF or ACC	Battery voltage	R
(BR/ W)	Ground	E/R) control	Output	Ignition switch	ON	OV	D
130 (Y/G)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (trunk is closed)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V	C D E
					ON (trunk is open)	0V	
132	Ground		Output	Ignition switch	When selector lever is in P or N position and the brake peddle is not depressed	0V	F
(R)	(R) Ground St	Start signal	Output	ŎN	When selector lever is in P or N position and the brake peddle is depressed	Battery voltage	G
					ON (pressed)	0V	
141 (G/R)	Ground	Trunk request switch	Input	Trunk request switch	OFF (not pressed)	(V) 15 10 5 10 10 ms JPMIA0016GB 1.0V	H I J
144		Request switch buzz-		Request switch	Sounding	0V	
(GR)	Ground	er	Output	buzzer	Not sounding	Battery voltage	PWC
147		Trunk lid opener		Trunk lid opener	Pressed	0V	
(L/R)	Ground	switch	Input	switch	Not pressed	Battery voltage	
148 (R/W)	Ground	Rear door RH switch	Input	Rear door RH switch	OFF (when rear door RH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V	L M N
					ON (when rear door RH opens)	0V	0

< ECU DIAGNOSIS >

[LH ÓNLY WINDOW ANTI-PINCH]

Terminal No. (Wire color)		Description				Value	
		Signal name Input/			Condition	(Approx.)	
(+)	(-)	Signal name	Output			(FF - 7	
149 (R/B)	Ground	Rear door LH switch	Input	Rear door LH switch	OFF (when rear door LH closes)	(V) 15 0 10 10 10 10 11.8V	
					opens)	0V	

*: With LH and RH front window anti-pinch system
Wiring Diagram

INFOID:000000004468100





ABMWA0183GI

■ : DATA LINE





ALMWA0040GE

BCM (BODY CONTROL MODULE) [LH ONLY WINDOW ANTI-PINCH]

Contract indicating the second second



 $\overline{\langle a_1
angle}$: with left front only power window anti-pinch system $\overline{\langle a_2
angle}$: with left and right front power window anti-pinch system

< ECU DIAGNOSIS >

Ρ

0

А

В

С

D

Ε

F

G

Н

J

PWC

L

Μ

Ν



BCM (BODY CONTROL MODULE) CONNECTORS

Connector Name BCM (BODY CONTROL MODULE)

M17

Connector No.

Connector Color WHITE

					٦	ЪГ	×~~
	(BODY CONTROL ULE)	X	13	Signal Name	BAT_POWER_F	P/W_POWER_SUF Y_PERM	POWER_ WINDO
M16		or BLAC		Color of Wire	W/B	R/Y	
Connector No.	Connector Narr	Connector Colc	际间 H.S.	Terminal No.	1	2	

	lo. M18	ame BCM (BODY CONTROL MODULE)	color GREEN
	Connector No.	Connector Name	Connector Color

Terminal No.

STEP_LAMP_OUTPUT

МЛ

~

>

ω

(RAP)

₹

ო

CDL_COMMON

ROOM_LAMP_BAT_

SAVER CDL_AS

Р/W G∕

4 ß ဖ

Signal Name

Color of Wire

Terminal No.

Ľ	
子 王 王 王 王 王 王 王 王 王 王 王 王 王 王 王 王 王 王 王	

17

7	0 29 28 27 26 25 24 23 22 21 20	0 49 48 47 46 45 44 43 42 41 40	Signal Name		I	AUTO_LIGHT_SENSO	R_INPUT1	1	I	STOP_LAMP_LOW_SW	1	STOP_LAMP_HIGH_SW
\ 	33 32 31 3	53 52 51 50	Color of	Wire	I	P/B		I	I	R/W	I	0/L
	39 38 37 36 35 34	59 58 57 56 55 54	Torminal No		20	21		22	23	24	25	26

Signal Name	DOOR_LOCK_STATUS	-	FOB_IN_SW_1	ACC_F/B	IGN_F/B	AS_DOOR_SW	AIRCON_SW	DOOR_KEY/C_	I	CENTRAL_LOCK_SW	TRUNK_CANCEL_SW	REAR_DEFOGGER_SW	CENTRAL_UNLOCK_SW	DW_K-LINE	PUSH_LED	S/L_LOCK_LED	I		GND_RF2_A/L	A/L_SENS_KEYLESS_	TUNER_POWER_SUP	РЦҮ	
Color of Wire	G/W	-	Y	V/Υ	G	R/B	SB	L/R	ı	GR	0	GR/W	GR/R	Y/G	W	В	Ι	-	Ρ		N/N		
minal No.	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45		46		

Signal Name	CDL_DR/FL	CDL_RR_RL_BACK	BAT_BCM_FUSE	1	GND1	LOW_SIDE_PUSH_LE	D_OUTPUT	ACC_LED	-	FR_FLASHER	FL_FLASHER	ROOM_LAMP_OUTPUT
Color of Wire	თ	G/Y	Y/R	I	ш	R/Y	-	Y/L	I	G/B	G/O	۲
Terminal No.	6	10	11	12	13	14	-	15	16	17	18	19

H.S.

E

< ECU DIAGNOSIS >

	Signal Name	KEYLESS_TUNER_SI	d/N_T1HS		INPUT_5		INPUT_2	INPUT_3	INPUT_4	BLOWER_FAN_SW	LOCK_SW LOCK_SW	TPMS_MODE_TRIGG ER_SW	WS_ROOD_RQ	REAR_DEFOGGER_	НLY
	Color of Wire	G/O	B/B	D/J	LG/B	N/N	G/B	LG/R	G/Y	BR/W	L/B	Μ	SB	G/R	
	Terminal No.	47	48	49	50	51	52	53	54	55	56	57	58	59	

BCM	(BODY	CONTROL	MODULE)	
			ILH C	ONLY WIN

DOW ANTI-PINCH] L

Ν

Ο

AWMIA0392GB

Ρ

PWC L Μ

А

В

С

D

Ε

F

G

Н

J

Signal Name	-	ACC_CONT	AT_DEVICE_OUT	S/L_CONDITION_1	S/L CONDITION 2	SHIFT_P	AS_REQUEST	SWITCH	DR_REQUEST	SWITCH	IGN2_CONT	RF1_POWER_SUPPLY	-	

G/B G/B

85 85 87 87

Signal Name	AS_DOOR_ANT_B	AS_DOOR_ANT_A	DR_DOOR_ANT_B	DR_DOOR_ANT_A	ROOM ANT 1 B	ROOM_ANT_1_A	FOB_READER_CLOCK	FOB_READER_DATA	IGN_ELEC_CONT	RF1_TUNER_SIGNAL	I	I	OUTPUT_5	OUTPUT_3	ENG_START_SW	CAN-L	CAN-H	FOB_SLOT_ ILLUMINATION	IGN_ON_LED
Color of Wire	B/Y	ГG	٧	Ρ	R	G	G/O	0	R/B	L/O	-	-	R/Y	R/G	BR	Р	L	R/L	LG
Terminal No.	62	63	64	65	66	67	68	69	70	71	72	73	75	76	77	78	79	80	81



Signal Name	ROOM_ANT_2_B	ROOM_ANT_2_A	
Color of Wire	B/R	W/R	
Terminal No.	60	61	

Connector No.	M20	- - -	0
Connector Name	BCM (BODY CONTROL	I erminal No.	
	MODULE)	100	
Connector Color	WHITE	101	
		102	
		103	
	00 101 101 102 103 104 05 4 05 4 05 4 05 4 104 114	104	
H.S.		105	
		106	
		101	

ALMIA0084GB

Signal Name	I	I	-	CDL_BACK_TRUNK	I	I	I	-	I	I	TRUNK_LAMP_OUTPUT	I
Color of Wire	Ι	-	Ι	٨	Ι	I	I	-	-	-	V/V	-
minal No.	100	101	102	103	104	105	106	107	108	109	110	111

Signa				CDL_BA						
Color of Wirn		I	I	^	I	I	I	T	I	
Terminal No.	100	101	102	103	104	105	106	107	108	

OUTPUT 4 OUTPUT 2 HAZARD SW S/L_K-LINE

R/B G/R L/Y

8 8 6 8 6

S/L_POWER_SUPPLY_ 12V

Ş

I

OUTPUT_1

ЦЯ

9 2 2 8 4

≻ I. I

B/W

89

РЛ

88

Color of

Terminal No.

Wire

_

83 83

тег

	1			<u> </u>										
Signal Name	1	-	T	TRUNK_REQUEST_SW	-	-	BUZZER	-	-	BACK_TRUNK_ OPENER	MS_ROOD_RR	MS HOOD H	-	I
Color of Wire	I	-	-	G/R	-	-	ЧÐ		-	H/J	M/H	B/B	-	I
erminal No.	138	139	140	141	142	143	144	145	146	147	148	149	150	151

< ECU DIAGNOSIS >

Signal Name	BACK DOOR ANT A	I	I	I	I	1	I	I	IGN_USM_CONT1	I	I	TRUNK_SW	I	ST_CONT_USM	I	I	I	1	I
Color of Wire	BR/W	I	I	I	ı	I	ı	ı	BR/W	I	I	γ/G	I	В	I	I	I	ı	I
Terminal No.	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137





Connector No.



Signal Name	WASH_MTR	OUTPUT_4	I	I	OUTPUT_3	GND	
Color of Wire	R/L	G/Y	1	1	LG/R	ш	R/G
Terminal No.	-	2	ę	4	S	9	2

PWC L Μ Ν Ο

Fail Safe

INFOID:000000004468101 Ρ

AWMIA0393GB

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit hybrid system crank- ing	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit hybrid system crank- ing	Erase DTC

Signal Name Terminal No. BACK_DOOR_ANT_A 138 - 139 - 141 - 141 - 141 - 143 - 144 - 144 - 144 - 144 - 144 - 144 - 146 - 146 - 146 - 146 - 146 - 146 - 146 - 146 - 147 - 147 - 147 - 147 - 149 - 149 - 151	Color of Wire	I	I	I	G/R	I	I	GR	I	I	ļ -	L/H	R/W	B/B	I	I				
Signal Name BACK_DOOR_ANT_A 	Terminal No.	138	139	140	141	142	143	144	145	146	ŗ,	14/	148	149	150	151				
	Signal Name	BACK DOOR ANT A	I	I	1	1	-	I	I	IGN_USM_CONT1	1	I	TRUNK_SW	-	ST_CONT_USM	1	1	I	1	

Signal Name	OUTPUT_5	INPUT_2	INPUT_4	INPUT_1	OUTPUT_1	INPUT_5	OUTPUT_2	1	I	
Color of Wire	LG/B	R/B	P/B	R/W	L/W	R/Υ	G/B	T	I	
Terminal No.	8	6	10	11	12	13	14	15	16	

BCM (BODY CONTROL MODULE)

[LH ONLY WINDOW ANTI-PINCH]

Н J

А

В

С

D

Е

F

G

< ECU DIAGNOSIS >

[LH ÓNLY WINDOW ANTI-PINCH]

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	Inhibit hybrid system crank- ing	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit hybrid system crank- ing	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit hybrid system crank- ing	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit hybrid system crank- ing	Erase DTC
B2195: ANTI-SCANNING	Inhibit hybrid system crank- ing	Erase DTC
B2557: VEHICLE SPEED	Inhibit electronic steering column lock	When normal vehicle speed signals have been received from brake ECU actuator and electric unit (control unit) for 500 ms
B2562: LOW VOLTAGE	 Inhibit hybrid system cranking Inhibit electronic steering column lock 	100 ms after the power supply voltage increases to more than 8.8 V
B2563: HI VOLTAGE	 Inhibit hybrid system cranking Inhibit electronic steering column lock 	500 ms after the power supply voltage decreases to less than 18 V
B2601: SHIFT POSITION	Inhibit electronic steering column lock	 500 ms after the following signal reception status becomes consistent Selector lever P position switch signal P range signal (CAN)
B2602: SHIFT POSITION	Inhibit electronic steering column lock	 5 seconds after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Vehicle speed: 4 /h or more
B2603: SHIFT POSI STATUS	Inhibit electronic steering column lock	 500 ms after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Selector lever P/N position signal: Except P and N positions (0 V)
B2604: PNP SW	Inhibit electronic steering column lock	 500 ms after any of the following BCM recognition conditions is fulfilled Status 1 Ignition switch is in the ON position Selector lever P/N position signal: P and N position (battery voltage) P range signal or N range signal (CAN): ON Status 2 Ignition switch is in the ON position Selector lever P/N position signal: Except P and N positions (0 V) P range signal and N range signal (CAN): OFF
B2605: PNP SW	Inhibit electronic steering column lock	 500 ms after any of the following BCM recognition conditions is fulfilled Ignition switch is in the ON position Power position: IGN Selector lever P/N position signal: Except P and N positions (0 V) Interlock/PNP switch signal (CAN): OFF Status 2 Ignition switch is in the ON position Selector lever P/N position signal: P or N position (battery voltage) PNP switch signal (CAN): ON

< ECU DIAGNOSIS >

[LH ONLY WINDOW ANTI-PINCH]

Display contents of CONSULT	Fail-safe	Cancellation	
B2606: S/L RELAY	Inhibit hybrid system crank- ing	 500 ms after the following CAN signal communication status has become consistent Electronic steering column lock relay signal (Request signal) Electronic steering column lock relay signal (Condition signal) 	B
B2607: S/L RELAY	Inhibit hybrid system crank- ing	 500 ms after the following CAN signal communication status has become consistent Electronic steering column lock relay signal (Request signal) Electronic steering column lock relay signal (Condition signal) 	С
B2609: S/L STATUS	 Inhibit hybrid system cranking Inhibit electronic steering column lock 	 When the following electronic steering column lock conditions agree BCM electronic steering column lock control status Electronic steering column lock condition No. 1 signal status Electronic steering column lock condition No. 2 signal status 	D
B260A: IGNITION RELAY	Inhibit hybrid system crank- ing	 500 ms after the following conditions are fulfilled IGN relay (IPDM E/R) control signal: OFF (Battery voltage) Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal) 	E
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions is fulfilledPower position changes to ACCReceives hybrid system status signal (CAN)	F
B2612: S/L STATUS	 Inhibit hybrid system cranking Inhibit electronic steering column lock 	 When any of the following conditions is fulfilled Electronic steering column lock unit status signal (CAN) is received normally The BCM electronic steering column lock control status matches the electronic steering column lock status recognized by the electronic steering column lock unit status signal (CAN from IPDM E/R) 	G
B2617: STARTER RELAY CIRC	Inhibit hybrid system crank- ing	1 second after the starter motor relay control inside BCM becomes normal	
B2618: BCM	Inhibit hybrid system crank- ing	1 second after the ignition relay (IPDM E/R) control inside BCM be- comes normal	J
B2619: BCM	Inhibit hybrid system crank- ing	1 second after the electronic steering column lock unit power sup- ply output control inside BCM becomes normal	
B261E: VEHICLE TYPE	Inhibit hybrid system crank- ing	BCM initialization	PW
B26E1: ENG STATE NO RECIV	Inhibit hybrid system crank- ing	When any of the following conditions is fulfilledPower position changes to ACCReceives hybrid system status signal (CAN)	L

DTC Inspection Priority Chart

INFOID:000000004468102

Μ

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

Priority	DTC	N
1	B2562: LOW VOLTAGE B2563: HI VOLTAGE B261E: VEHICLE TYPE	0
2	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN)	
3	 B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM 	— Þ

< ECU DIAGNOSIS >

Priority	DTC
4	 B2013: ID DISCORD BCM-S/L B2014: CHAIN OF S/L-BCM B2553: IGNITION RELAY B2555: STOP LAMP B2555: PUSH-BTN IGN SW B2557: VEHICLE SPEED B2601: SHIFT POSITION B2602: SHIFT POSITION B2603: SHIFT POSI STATUS B2604: PNP SW B2605: S/L RELAY B2606: S/L RELAY B2607: S/L RELAY B2608: STEERING LOCK UNIT B2609: STEERING LOCK UNIT B26001: STEERING LOCK UNIT B26001: STEERING LOCK UNIT B2601: STEERING LOCK UNIT B260201: STEERING LOCK UNIT B2611: ACC RELAY B2611: ACC RELAY B2612: S/L STATE SIG LOST B2616: IGN RELAY CIRC B2616: IGN RELAY CIRC B2616: IGN RELAY CIRC B2617: STARTER RELAY CIRC B2618: BCM B2618: BCM B2619: BCM B2619: BCM B2614: PUSH-BTN IGN SW B2621: ENG STATE NO RECIV C1729: VHCL SPEED SIG ERR U0415: VEHICLE SPEED SIG
5	 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] RR C1712: [CHECKSUM ERR] FL C1712: [CHECKSUM ERR] FR C1714: [CHECKSUM ERR] RR C1715: [CHECKSUM ERR] RR C1716: [PRESSDATA ERR] RL C1717: [PRESSDATA ERR] FR C1717: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RR C1720: [CODE ERR] FR C1721: [CODE ERR] FR C1722: [CODE ERR] FR C1723: [CODE ERR] RR C1724: [BATT VOLT LOW] FL C1726: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RL C1734: CONTROL UNIT
6	 B2621: INSIDE ANTENNA B2622: INSIDE ANTENNA B2623: INSIDE ANTENNA

DTC Index

INFOID:000000004468103

< ECU DIAGNOSIS >

[LH ÓNLY WINDOW ANTI-PINCH]

А

В

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

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	С
No DTC is detected. further testing may be required.	_	_	_	_	D
U1000: CAN COMM CIRCUIT	_	—	_	<u>BCS-37</u>	
U1010: CONTROL UNIT (CAN)	—	—	—	BCS-38	Е
U0415: VEHICLE SPEED SIG	—	—	—	<u>BCS-39</u>	
B2013: ID DISCORD BCM-S/L	×	—	_	<u>SEC-30</u>	_
B2014: CHAIN OF S/L-BCM	×	—	_	<u>SEC-31</u>	F
B2190: NATS ANTENNA AMP	×	_	—	<u>SEC-40</u>	
B2191: DIFFERENCE OF KEY	×	_		<u>SEC-43</u>	G
B2192: ID DISCORD BCM-ECM	×	_	_	<u>SEC-44</u>	
B2193: CHAIN OF BCM-ECM	×	_	_	<u>SEC-45</u>	
B2553: IGNITION RELAY	_	_	_	PCS-53	Н
B2555: STOP LAMP	_	_	_	<u>SEC-46</u>	
B2556: PUSH-BTN IGN SW	_	×	_	<u>SEC-49</u>	I
B2557: VEHICLE SPEED	×	×	_	<u>SEC-51</u>	I
B2562: LOW VOLTAGE	_	_	_	BCS-40	
B2563: HI VOLTAGE	×	×	_	BCS-41	J
B2601: SHIFT POSITION	×	×	_	<u>SEC-52</u>	
B2602: SHIFT POSITION	×	×		<u>SEC-55</u>	
B2603: SHIFT POSI STATUS	×	×		<u>SEC-57</u>	PVVC
B2604: PNP SW	×	×	_	<u>SEC-60</u>	
B2607: S/L RELAY	×	×	_	<u>SEC-62</u>	L
B2609: S/L STATUS	×	×		<u>SEC-64</u>	
B260A: IGNITION RELAY	×	×		PCS-55	
B260B: STEERING LOCK UNIT	_	×		<u>SEC-68</u>	M
B260C: STEERING LOCK UNIT	_	×		<u>SEC-69</u>	
B260D: STEERING LOCK UNIT	_	×		<u>SEC-70</u>	Ν
B260F: ENG STATE SIG LOST	×	×		<u>SEC-71</u>	
B2611: ACC RELAY	_	_		PCS-56	
B2612: S/L STATUS	×	×	_	<u>SEC-72</u>	0
B2614: ACC RELAY CIRC	_	×		PCS-58	
B2615: BLOWER RELAY CIRC	_	×		PCS-61	D
B2616: IGN RELAY CIRC	_	×		PCS-64	ľ
B2617: STARTER RELAY CIRC	×	×		<u>SEC-76</u>	
B2618: BCM	×	×		PCS-67	
B2619: BCM	×	×		<u>SEC-78</u>	
B261A: PUSH-BTN IGN SW	_	×	—	<u>SEC-79</u>	

< ECU DIAGNOSIS >

BCM (BODY CONTROL MODULE) [LH ONLY WINDOW ANTI-PINCH]

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning Iamp ON	Reference page
B261E: VEHICLE TYPE	×	× (Turn ON for 15 seconds)	_	<u>SEC-81</u>
B2621: INSIDE ANTENNA	_	_	_	DLK-59
B2622: INSIDE ANTENNA	—	—	_	DLK-62
B2623: INSIDE ANTENNA	—	—	_	DLK-65
C1704: LOW PRESSURE FL	—	—	×	<u>WT-8</u>
C1705: LOW PRESSURE FR	—	—	×	<u>WT-8</u>
C1706: LOW PRESSURE RR	—	—	×	<u>WT-8</u>
C1707: LOW PRESSURE RL	_	—	×	<u>WT-8</u>
C1708: [NO DATA] FL	_	—	×	<u>WT-14</u>
C1709: [NO DATA] FR	—	—	×	<u>WT-14</u>
C1710: [NO DATA] RR	_	—	×	<u>WT-14</u>
C1711: [NO DATA] RL	—	—	×	<u>WT-14</u>
C1712: [CHECKSUM ERR] FL	_	_	×	<u>WT-16</u>
C1713: [CHECKSUM ERR] FR	_	_	×	<u>WT-16</u>
C1714: [CHECKSUM ERR] RR	—	—	×	<u>WT-16</u>
C1715: [CHECKSUM ERR] RL	_	_	×	<u>WT-16</u>
C1716: [PRESSDATA ERR] FL	_		×	<u>WT-18</u>
C1717: [PRESSDATA ERR] FR	_	_	×	<u>WT-18</u>
C1718: [PRESSDATA ERR] RR	_		×	<u>WT-18</u>
C1719: [PRESSDATA ERR] RL	_		×	<u>WT-18</u>
C1720: [CODE ERR] FL	_		×	<u>WT-16</u>
C1721: [CODE ERR] FR	_		×	<u>WT-16</u>
C1722: [CODE ERR] RR	_		×	<u>WT-16</u>
C1723: [CODE ERR] RL	—	—	×	<u>WT-16</u>
C1724: [BATT VOLT LOW] FL	—	—	×	<u>WT-16</u>
C1725: [BATT VOLT LOW] FR	—	—	×	<u>WT-16</u>
C1726: [BATT VOLT LOW] RR	—	—	×	<u>WT-16</u>
C1727: [BATT VOLT LOW] RL	—	—	×	<u>WT-16</u>
C1729: VHCL SPEED SIG ERR	—	—	×	<u>WT-19</u>
C1734: CONTROL UNIT		—	×	<u>WT-20</u>

NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

< SYMPTOM DIAGNOSIS > [LH ONLY WINDOW ANTI-PINCH]	
SYMPTOM DIAGNOSIS	^
NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH	R
Diagnosis Procedure	D
1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT	С
Check BCM power supply and ground circuit. Refer to <u>BCS-42, "Diagnosis Procedure"</u> .	D
<u>Is the inspection result normal?</u> YES >> GO TO 2	D
NO >> Repair or replace the malfunctioning parts.	E
Z. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH POWER SUPPLY AND GROUND CIRCUIT	
Check main power window and door lock/unlock switch power supply and ground circuit. Refer to <u>PWC-16, "POWER WINDOW MAIN SWITCH : Component Function Check"</u> .	F
<u>Is the inspection result normal?</u> YES >> GO TO 3 NO >> Repair or replace the malfunctioning parts.	G
3. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH	
Check main power window and door lock/unlock switch. Refer to <u>PWC-16, "POWER WINDOW MAIN SWITCH : Component Function Check"</u> .	Η
<u>Is the inspection result normal?</u> YES >> Inspection End. NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u> .	
	J

PWC

L

M

Ν

0

Ρ

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [LH ONLY WINDOW ANTI-PINCH]

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000004215859

1. CHECK FRONT POWER WINDOW MOTOR LH

Check front power window motor LH. Refer to <u>PWC-27</u>, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE [LH ONLY WINDOW ANTI-PINCH]

< SYMPTOM DIAGNOSIS >

FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPER-ATE

Diagnosis Procedure	INFOID:000000004215860	R
1. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH		D
Check power window and door lock/unlock switch RH. Refer to <u>PWC-21, "FRONT POWER WINDOW SWITCH : Component Function Check"</u> .		С
Is the inspection result normal? YES >> GO TO 2 NO >> Repair or replace the malfunctioning parts.		D
2. CHECK FRONT POWER WINDOW MOTOR RH CIRCUIT		
Check front power window motor RH circuit. Refer to <u>PWC-29, "PASSENGER SIDE : Component Function Check"</u> .		Ε
<u>Is the inspection result normal?</u> YES >> Inspection End.		F
NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u> .		
		G
		Н

J

А

PWC

L

Μ

Ν

Ο

Ρ

REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE TOM DIAGNOSIS > [LH ONLY WINDOW ANTI-PINCH]

< SYMPTOM DIAGNOSIS >

REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000004215861

1. CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH. Refer to PWC-23, "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 REAR POWER WINDOW MOTOR LH

Check rear power window motor LH. Refer to <u>PWC-30, "REAR LH : Component Function Check"</u>.

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [LH ONLY WINDOW ANTI-PINCH]	
REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE	٨
Diagnosis Procedure	A
1. CHECK REAR POWER WINDOW SWITCH RH	В
Check rear power winodw switch RH. Refer to PWC-23, "REAR POWER WINDOW SWITCH : Component Function Check".	
Is the inspection result normal?	С
YES >> GO TO 2 NO >> Repair or replace the malfunctioning parts. 2. CHECK REAR POWER WINDOW MOTOR RH	D
Check rear power window motor RH. Refer to PWC-32, "REAR RH : Component Function Check".	E
Is the inspection result normal?	
YES >> Inspection End. NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u> .	F
	G

|

Н

J

PWC

L

M

Ν

0

Ρ

ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (DRIVER SIDE) [LH ONLY WINDOW ANTI-PINCH]

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:000000004215863

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to PWC-8, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

2. CHECK DOOR WINDOW SLIDING PART

A foreign material adheres to window glass or glass run rubber.

- Glass run rubber wear or deformation.
- · Sash is tilted too much or not enough.

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace the malfunctioning parts.

 ${f 3.}$ CHECK ENCODER CIRCUIT

Check encoder circuit.

Refer to PWC-16, "POWER WINDOW MAIN SWITCH : Component Function Check".

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMAL-LY (DRIVER SIDE)

LI (DRIVER SIDE)	
< SYMPTOM DIAGNOSIS > [LH ONLY WINDOW ANTI-PINCH]	
AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (DRIVER SIDE)	A
Diagnosis Procedure	В
1. PERFORM INITIALIZATION PROCEDURE	
Perform initialization procedure. Refer to <u>PWC-8</u> , "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Require- ment".	С
Is the inspection result normal?	D
YES >> GO TO 2 NO >> Repair or replace the malfunctioning parts.	D
2. CHECK ENCODER	E
Check encoder. Refer to <u>PWC-16, "POWER WINDOW MAIN SWITCH : Component Function Check"</u> .	
Is the inspection result normal?	F
YES >> Inspection End. NO >> Check intermittent incident. Refer to GI-42. "Intermittent Incident".	
	G

J

Н

L

Μ

Ν

Ο

Ρ

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >

[LH ONLY WINDOW ANTI-PINCH]

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPER-ATE PROPERLY

Diagnosis Procedure

INFOID:000000004215865

1. CHECK FRONT DOOR SWITCH

Check front door switch. Refer to <u>PWC-37, "Component Function Check"</u>.

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

< SYMPTOM DIAGNOSIS >

[LH ONLY WINDOW ANTI-PINCH]

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION А **Diagnosis** Procedure INFOID:000000004215866 1.REPLACE MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH В Replace main power window and door lock/unlock switch. Refer to PWC-98, "Removal and Installation". After that, PWC-8, "ADDITIONAL SERVICE WHEN REPLAC-ING CONTROL UNIT : Special Repair Requirement". С Is the inspection result normal? YES >> Inspection End. NO >> Check intermittent incident. Refer to GI-42, "Intermittent Incident". D

Н

Ε

F

- J
- PWC

L

Μ

Ν

0

Ρ

< PRECAUTION >

PRECAUTION PRECAUTIONS

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

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.

Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:000000004485303

NOTE:

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both 12-volt battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both 12volt battery cables.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the 12-volt battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the 12-volt battery disconnected or discharged, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both 12-volt battery cables. **NOTE:**

Supply power using jumper cables if 12-volt battery is discharged.

- 2. Carry the Intelligent Key or insert it to the key slot and turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
- 3. Disconnect both 12-volt battery cables. The steering lock will remain released with both 12-volt battery cables disconnected and the steering wheel can be turned.
- 4. Perform the necessary repair operation.
- 5. When the repair work is completed, re-connect both 12-volt battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
- 6. Perform self-diagnosis check of all control units using CONSULT-III.

< ON-VEHICLE MAINTENANCE >

ON-VEHICLE MAINTENANCE PRE-INSPECTION FOR DIAGNOSTIC

Basic Inspection	INFOID:000000004215868	В
BASIC INSPECTION 1.INSPECTION START		С
 Check the service history. Check the following parts. Fuse/circuit breaker blown. Poor connection, open or short circuit of harness connector. Battery voltage. 		D
Is the inspection result normal?		Ε
YES >> Inspection End. NO >> Repair or replace the malfunctioning parts.		F
		G

J

Н

А

PWC

L

Μ

Ν

Ο

Ρ

ON-VEHICLE REPAIR POWER WINDOW MAIN SWITCH

Removal and Installation

REMOVAL

1. Remove the power window main switch finisher (2). Refer to <u>INT-14, "Removal and Installation"</u>.

∴ : Pawl

2. Power window main switch (1) is removed from power window main switch finisher (2) using a suitable tool (A).

CAUTION:

Do not fold the pawl of power window main switch finisher. NOTE:

The same procedure is also performed for front power window and door lock/unlock switch RH, and rear power window switch (LH & RH).

INSTALLATION

Installation is in the reverse order of removal.



INFOID:000000004215869

BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000004215870 B



А

< BASIC INSPECTION >

DETAILED FLOW

1. INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

>> GO TO 2

2. SYMPTOM CHECK

Check the symptom from the customer's information.

>> GO TO 3

3. BASIC INSPECTION

Check the operation of each part. Check that any symptom occurs other than the interviewed symptom.

>> GO TO 4

4. SELF-DIAGNOSIS WITH CONSULT-III

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

Is any DTC detected?

YES >> GO TO 5 NO >> GO TO 6

5. TROUBLE DIAGNOSIS BY DTC

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

>> GO TO 9

6. FAIL-SAFE ACTIVATION CHECK

Check that the symptom is applied to the fail-safe activation.

Does the fail-safe activate?

YES >> GO TO 7 NO >> GO TO 8 7. SYSTEM DIAGNOSIS

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

>> GO TO 9

8. SYMPTOM DIAGNOSIS

Perform the symptom diagnosis. Specify the malfunctioning part.

>> GO TO 9

9. MALFUNCTION PART REPAIR

Repair or replace the malfunctioning part.

>> GO TO 10

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

Perform the self-diagnosis with CONSULT-III. Check that any DTC is not detected. Erase DTC if DTC is detected before the repair. Check that DTC is not detected again.

Is any DTC detected?

YES >> GO TO 5

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >	[LH&RH FRONT WINDOW ANTI-PINCH]	
NO >> GO TO 11		
11. REPAIR CHECK (OPERATION CHECK)		А
Check the operation of each part.		
Does it operate normally?		В
YES >> Inspection End. NO >> GO TO 3		
		С
		D

J

PWC

Ε

F

G

Н

M

Ν

Ο

Ρ

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description INFOID:000000004215871

Initial setting is necessary when battery terminal is diconnected.

CAUTION:

- The following specified operations are not performed under the non-initialized condition.
- Auto-up operation
- Anti-pinch function
- Retained power operation

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement INFOID:000000004215872

INITIALIZATION PROCEDURE

- 1. Disconnect battery negative terminal or main power window and door lock/unlock switch. Reconnect it after a minute or more.
- Turn ignition switch ON. 2.
- 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 4 seconds or more.
- Inspect anti-pinch function. 5.

CHECK ANTI-PINCH FUNCTION

- 1. Fully open the door window.
- Place a piece of wood near fully closed position. 2.
- Close door glass completely with AUTO-UP. 3.
- Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops.
- Check that glass does not rise when operating the power window main switch while lowering.
- **CAUTION:**
- Do not check with hands and other part of body because they may be pinched. Do not get pinched.
- Check that AUTO-UP operates before inspection when system initialization is performed.
- It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to PWC-151, "Fail Safe".
- · Perform initial setting when auto-up operation or anti-pinch function does not operate normally.
- Finish initial setting. Otherwise, next operation cannot be done.
- 1. Auto-up operation
- Anti-pinch function 2.
- 3. Retained power operation when ignition switch is OFF.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:000000004215873

Initial setting is necessary when replacing main power window and door lock/unlock switch. **CAUTION:**

The following specified operations are not performed under the non-initialized condition.

- Auto-up operation
- Anti-pinch function
- Retained power operation

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:000000004215874

INITIALIZATION PROCEDURE

1. Disconnect battery negative terminal or main power window and door lock/unlock switch. Reconnect it after a minute or more.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[LH&RH FRONT WINDOW ANTI-PINCH]

- 2. Turn ignition switch ON.
- 3. Operate power window switch to fully open the window. (This operation is unnecessary if the window is A 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 4 seconds or more.
- 5. 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 or 2 seconds without pinching piece of wood and stops.
- Check that glass does not rise when operating the main power window and door lock/unlock switch while lowering.

CAUTION:

- Do not check with hands and other part of body because they may be pinched. Do not get pinched. $_$
- Check that AUTO-UP operates before inspection when system initialization is performed.
- It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to <u>PWC-151, "Fail Safe"</u>.
- Perform initial setting when auto-up operation or anti-pinch function does not operate normally.
- Finish initial setting. Otherwise, next operation cannot be done.
- 1. Auto-up operation
- 2. Anti-pinch function
- 3. Retained power operation when ignition switch is OFF.

Н

F

В

PWC

L

Μ

Ν

Ο

Ρ

[LH&RH FRONT WINDOW ANTI-PINCH]

FUNCTION DIAGNOSIS POWER WINDOW SYSTEM

System Diagram

INFOID:000000004215875

INFOID:000000004215876

FRONT WINDOW ANTI-PINCH SYSTEM



System Description

POWER WINDOW MAIN 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
Key cylinder switch	LOCK/UNLOCK signal (more than 1.5 seconds over)		
Encoder	Encoder pulse signal		
Main power window and door lock/unlock switch	Front power window motor LH UP/ DOWN signal		Front power window motor
Power window and door lock/unlock switch RH	Front power window motor RH UP/ DOWN signal		
BCM	RAP signal	-	
Rear power window switch	Rear power window motor UP/DOWN signal		Rear power window motor

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

< FUNCTION DIAGNOSIS >

POWER WINDOW SYSTEM

[LH&RH FRONT WINDOW ANTI-PINCH]

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
Encoder	Encoder pulse signal		
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 can open/close the corresponding windows.

POWER WINDOW AUTO-OPERATION (FRONT LH & RH)

- AUTO UP/DOWN operation can be performed when main power window and door lock/unlock switch & power window and door lock/unlock switch RH 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 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.

ANTI-PINCH OPERATION (FRONT LH & RH)

- 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 or 2 seconds when detected.
- 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.
- Resistance is applied to the power window motor rotation that changes the frequency of encoder pulse signal if foreign material is trapped in the door glass.
- Power window switch controls to lower the window glass for 150 mm or 2 seconds after it detects encoder pulse signal frequency change.

OPERATION CONDITION

• When all door glass 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.

KEY CYLINDER SWITCH OPERATION

Hold the door key cylinder to the LOCK or UNLOCK direction for more than 1 second to OPEN or CLOSE front power windows when ignition switch is OFF. In addition, it stops when key position is moved to NEUTRAL when operating.

OPERATION CONDITION

Ignition switch OFF

PWC-105

PWC

Μ

Ν

Ο

Ρ

D

Е

F

Н

POWER WINDOW SYSTEM

< FUNCTION DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

- Hold door key cylinder to LOCK position for more than 1 second to perform CLOSE operation of the door glass.
- Hold door key cylinder to UNLOCK position for more than 1 second to perform OPEN operation of the door glass.

KEYLESS POWER WINDOW DOWN OPERATION (FRONT LH & RH)

Front power windows open when the unlock button on Intelligent Key is activated and kept pressed for more than 3(NOTE) seconds with the ignition switch OFF. The windows keep opening if the unlock button is continuously pressed.

The power window opening stops when the following operations are performed:

- When the unlock button is kept pressed more than 15 seconds.
- When the ignition switch is turned ON while the power window opening is operated.
- When the unlock button is released.

While retained power operation activate, keyless power window down function cannot be operated. **NOTE:**

Keyless power window down operation mode can be changed by "PW DOWN SET" mode in "WORK SUP-PORT". Refer to <u>BCS-26, "INTELLIGENT KEY : CONSULT-III Function (BCM - INTELLIGENT KEY)"</u>.

NOTE:

Use CONSULT-III to change settings. MODE 1 (3sec) / MODE 2 (OFF) / MODE 3 (5sec)

Component Parts Location

INFOID:000000004215877



< FUNCTION DIAGNOSIS >

POWER WINDOW SYSTEM

Front power window motor LH D9,

Front door switch LH B8, RH B108

[LH&RH FRONT WINDOW ANTI-PINCH]

- 1. BCM M16, M17, M18, M19 (view with instrument panel removed)
- 4. Main power window and door lock/ unlock switch D7, D8
- 7. Front door lock assembly LH (key cylinder switch) D10

Component Description

FRONT WINDOW ANTI-PINCH SYSTEM

Component	Function			
ВСМ	Supplies power supply to power window switch.Controls retained power.			
Main power window and door lock/un- lock switch	 Directly controls all power window motor of all doors. Controls anti-pinch operation of front power window LH. 			
Power window and door lock/unlock switch RH	Controls front power window motor RH.Controls anti-pinch operation of front power window RH.			
Rear power window switch	Controls rear power window motors LH and RH.			
Front power window motor LH	 Integrates the ENCODER POWER and WINDOW MOTOR. Starts operating with signals from main power window and door lock/unlock switch. Transmits power window motor rotation as a pulse signal to 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	Starts operating with signals from main power window and door lock/unlock switch rear power window switch.			
Front door lock assembly LH (key cylinder switch)	Transmits operation condition of key cylinder switch to power window main switch.			
Front door switch LH or RH	Detects door open/close condition and transmits to BCM.			

PWC

L

Μ

Ν

Ο

Ρ

RH D1045. Power window and door lock/unlock 6. switch RH D105

2.

8.

- Rear power window motor LH D204, RH D304
 Rear power window switch LH D203,
 - RH D303
 - INFOID:000000004215878

А

В

DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : Diagnosis Description

BCM CONSULT-III FUNCTION

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.		
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	Read and save the vehicle specification.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
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
Air conditioner	AIR CONDITONER		×	
Intelligent Key system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
BCM	BCM	×		
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk open	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

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

INFOID:000000004479187

ECU IDENTIFICATION Displays the BCM part No. SELF-DIAG RESULT Refer to <u>BCS-81, "DTC Index"</u>. INFOID:000000004479186
DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

RETAINED PWR

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

INFOID:000000004479188

А

В

D

Е

F

G

Н

DATA MONITOR

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

J

PWC

L

M

Ν

0

Р

PWC-109

[LH&RH FRONT WINDOW ANTI-PINCH]

< COMPONENT DIAGNOSIS > COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Description

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 : Component Function Check

Main Power Window And Door Lock/Unlock Switch

 $\mathsf{1}$. 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. >> Refer to PWC-110. "POWER WINDOW MAIN SWITCH : Diagnosis Procedure". NO

POWER WINDOW MAIN SWITCH : Diagnosis Procedure

Main Power Window And Door Lock/Unlock Switch Power Supply Circuit Check

- 1. CHECK POWER SUPPLY CIRCUIT
- 1. Turn ignition switch ON.
- Check voltage between main power window and door lock/ 2. unlock switch connectors (A and B) and ground.





[LH&RH FRONT WINDOW ANTI-PINCH]

Is the measurement value within the specification?

YES >> GO TO 3

NO >> GO TO 2

- 2. CHECK HARNESS CONTINUITY
- 1. Turn ignition switch OFF.
- Disconnect BCM and main power window and door lock/unlock 2. switch.
- Check continuity between BCM connector (A) and main power 3. window and door lock/unlock switch connectors (B and C).

BCM connector	Terminal	Main power window and door lock/unlock switch connector	Terminal	Continuity	
M16 (A)	3	D7 (B)	10	Vec	
WITO (A)	2	D8 (C)	19	Yes	

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



INFOID:000000004215881

INFOID:000000004215882

< COMPONENT DIAGNOSIS >





< COMPONENT DIAGNOSIS >

GROUNL	
[LH8	RH FRONT WINDOW ANTI-PINCH]

Te	erminal			
(+)			Window	Voltage (V)
Main power window and door lock/unlock switch connector	Terminal	(—)	condition	(Approx.)
	1		UP	Battery voltage
D7	I	Ground	DOWN	0
	2	Ciouna	UP	0
	5		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 <u>PWC-215</u>, "Removal and <u>Installation"</u>. After that, refer to <u>PWC-102</u>, "ADDITIONAL SERVICE WHEN REPLACING CON-TROL UNIT : Special Repair Requirement".

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

1. Turn ignition switch ON.

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

-	Terminal				
(+)					
Main power win- dow and door lock/unlock switch connector	Terminal	(-)	Window condition	Voltage (V) (Approx.)	
	7	Ground	UP	Battery voltage	
D7			DOWN	0	
	F		UP	0	
	5		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 <u>PWC-215</u>, "<u>Removal and</u> <u>Installation</u>". After that, refer to <u>PWC-102</u>, "<u>ADDITIONAL SERVICE WHEN REPLACING CON-</u> <u>TROL UNIT</u>: <u>Special Repair Requirement</u>".
- 7. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH LH)

1. Turn ignition switch OFF.

- 2. Disconnect rear power window switch LH.
- 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
	1	D203 (B)	2	Vec
D7 (A)	3	D203 (B)	3	163



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

POWER SUPPLY AND GROUND CIRCUIT [LH&RH FRONT WINDOW ANTI-PINCH]

< COMPONENT DIAGNOSIS >

5

10

Rear RH

Main powe lock/unloc	er window ai ck switch coi	nd door nnector	Terminal	Grou	und	Continuity		А
	D7 (A)		1	Giot	ina	No		В
Is the insp YES > NO > 8. CHEC	oection re >> GO TC >> Repair CK HARNI	sult noi 9 or repl ESS C(r <u>mal?</u> ace harnes ONTINUIT	ss. ((REAR P	OWER	R WINDOW SW	/ITCH RH)	С
 Turn Disco Chec unloc necto 	ignition swonnect rea k continu k switch cor.	vitch O ir powe ity bety connect	FF. r window s veen main tor and rea	witch RH. power wir r power wir	ndow a ndow s	and door lock/ witch RH con-	A B 2,3 DISCONNECT 5,7 2,3 DISCONNECT C C C C C C C C C C C C C	D
Main power and door lo switch co	er window ock/unlock onnector	Termin	al Rear po switch R	wer window H connector	Termi	nal Continuity		F
D7	(A)	5 7	D3	803 (B)	3	Yes	ALKIA0279ZZ	G
4. Chec	k continui	ty betw	een main j	oower wind	low and	d door lock/unio	ock switch connector and ground.	Н
Main powe lock/unloc	er window an k switch cor D7 (A)	nd door nnector	Terminal 5 7	Grour	nd	Continuity		I
Is the insp YES NO 9. CHEC	>> GO TC >> GO TC >> Repair CK MAIN F	sult noi 9 or repl POWEF	r <u>mal?</u> ace harnes R WINDOV	ss. V AND DOO	OR LO	CK/UNLOCK S	SWITCH	J PWC
Check ma Refer to F	ain power <u>PWC-113,</u>	windov "POW	v and door ER WINDO	lock/unlocl	k switc SWITCI	h. <u>H : Component</u>	Inspection".	
Is the insp YES > NO >	>> Check >> Replac TIONA	<u>sult noi</u> intermi e main	r <u>mal?</u> ttent incide power wir	ent. Refer to ndow and o	o <u>GI-42</u> door lo CING C	2. "Intermittent I ock/unlock swite	Incident". ch. After that, refer to <u>PWC-102, "ADDI-</u> L : Special Repair Requirement"	
POWEF		OW N	MAIN SV	VITCH :	Comp	ponent Inspe		IVI
1. CHEC	ck main f	POWER	R WINDOV	AND DO	OR LO	CK/UNLOCK S	SWITCH	Ν
1. Chec	k main po	wer wi	ndow and o	door lock/u	nlock s	switch.		
Terr	minal	Main	power windov lock switcl	w and door loo n condition	ck/un-	Continuity	1 3 5 7 8 1011 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0
10	1	R	ear LH	UP				Ρ
10	7	Re	ear RH					
1	3	R	ear LH	NEUTR	AL	Yes		
5	7	Re	ear RH					
10	3	R	ear LH	DOWN	1		ALKIA0280ZZ	

PWC-113

< COMPONENT DIAGNOSIS >

 Check continuity between main power window and door lock/ unlock switch (power window lock switch). (Lock operation).

Tern	ninal	Main power window and door lock/unlock switch condition		Main power window and door lock/unlock switch condition		Continuit
3		Rear LH	LIP			
5		Rear RH				
1		Rear I H				
3	17	Redi Li i	ΝΕΠΤΒΑΙ	No		
5		Rear RH	NEOTIVAL	NO		
7		ixea ixii				
1		Rear LH				
7		Rear RH	DOWN			



[LH&RH FRONT WINDOW ANTI-PINCH]

3. Check continuity between main power window and door lock/ unlock switch (power window lock switch). (Unlock operation).

Terr	minal Main power window and door lock/unlock switch condition		Continuity	
3		Rear LH	LIP	
5		Rear RH	01	
1		Rear H		Voc
3	17	Redi Li i	NEUTRAL	
5	17	Rear RH		163
7		i tear i ti i		
1		Rear LH		
7		Rear RH	DOWN	



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 <u>PWC-215</u>. "Removal and <u>Installation"</u>. After that, refer to <u>PWC-114</u>, "POWER WINDOW MAIN SWITCH : Special Repair <u>Requirement"</u>.

POWER WINDOW MAIN SWITCH : Special Repair Requirement

INFOID:000000004215885

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to <u>PWC-102</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2

NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation.

Refer to <u>PWC-102</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection end.

NO >> Refer to <u>PWC-127</u>, "DRIVER SIDE : Component Function Check".

FRONT POWER WINDOW SWITCH



< COMPONENT DIAGNOSIS >

- 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.

Power window and door lock/unlock switch RH	Terminal	Ground	Continuity
D105	11		Yes

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to <u>PWC-215</u>, "Removal and Installation". After that, refer to PWC-116, "FRONT POWER WINDOW SWITCH : Special Repair Requirement".

- 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.

(+)		()	Voltage (V) (Approx.)		
BCM connector	Terminal	(-)	(FF - 7		
M16	2	Ground	Battery voltage		



Is the measurement value within the specification?

YES >> Replace power window and door lock/unlock switch RH. Refer to <u>PWC-215, "Removal and Installation"</u>. After that, refer to <u>PWC-116, "FRONT POWER</u> <u>WINDOW SWITCH : Special Repair Requirement"</u>.

NO >> Replace BCM. Refer to <u>BCS-87, "Removal and Installation"</u>.

FRONT POWER WINDOW SWITCH : Special Repair Requirement

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to <u>PWC-102</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2

NO >> Check intermittent incident. Refer to GI-42. "Intermittent Incident".

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation.

Refer to <u>PWC-102</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.

NO >> Refer to <u>PWC-129</u>, "<u>PASSENGER SIDE</u> : Component Function Check". REAR POWER WINDOW SWITCH

REAR POWER WINDOW SWITCH : Description

· BCM supplies power.

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

[LH&RH FRONT WINDOW ANTI-PINCH]



INFOID:000000004215889

POWER SUPPLY AND GROUND CIRCUIT [LH&RH FRONT WINDOW ANTI-PINCH] < COMPONENT DIAGNOSIS > **REAR POWER WINDOW SWITCH : Component Function Check** INFOID:000000004215891 А 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-117, "REAR POWER WINDOW SWITCH : Diagnosis Procedure". REAR POWER WINDOW SWITCH : Diagnosis Procedure INFOID:000000004215892 D Rear Power Window Switch Power Supply Circuit Check CHECK POWER SUPPLY CIRCUIT Ε Check voltage between rear power window switch connector and ground. F Terminal Voltage (V) (+) Condition V (Approx.) (-) ÔN Rear power window Terminal Ð switch connector LH D203 Ignition switch Ground Н 1 Battery voltage ON RH D303 ALKIA0287Z Is the measurement value within the specification? YES >> GO TO 2 (Rear power window switch LH) >> GO TO 3 (Rear power window switch RH) YES NO >> GO TO 4 $\mathbf{2}.$ CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH LH) Turn ignition switch OFF. 1. Disconnect main power window and door lock/unlock switch and 3 PWC rear power window switch LH. 23 3. Check continuity between main power window and door lock/ 1,3 2,3 unlock switch connector (A) and rear power window switch LH connector (B). L Ω Main power window Rear power window and door lock/unlock Terminal Terminal Continuity switch LH connector Μ switch connector 1 2 ALKIA0278ZZ D7 (A) D203 (B) Yes 3 3 Ν Check continuity between main power window and door lock/unlock switch connector (A) and ground. Main power window and door lock/un-Terminal Continuity lock switch connector Ground 1 D7 (A) No Ρ 3

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Repair or replace harness.

 ${f 3.}$ CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH RH)

< COMPONENT DIAGNOSIS >

- 1. Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch and rear power window switch RH.
- 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 connec- tor	Terminal	Continuity
	5	D303 (B)	3	Ves
	7	D000 (D)	2	165



[LH&RH FRONT WINDOW ANTI-PINCH]

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		Continuity
	5	Ground	No
DT (A)	7		NO

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to GI-42, "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
M16 (A)	З	LH	D203 (B)	1	Ves
	5	RH	D303 (B)	I	163

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

BCM connector	Terminal	Ground	Continuity	
M16 (A)	3	Orbuna	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-118, "REAR POWER WINDOW SWITCH : Component Inspection".

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".
- NO >> Replace rear power window switch. Refer to <u>PWC-215, "Removal and Installation"</u>.

REAR POWER WINDOW SWITCH : Component Inspection

INFOID:000000004215893

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW SWITCH

AI KIA028877

< COMPONENT DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

Check rear power window switch.

Terminal		Power window switch condition	Continuity
1	5	LIP	
3	4	UF	
3	4	- NEUTRAL Yes	Yes
5	2		163
1	4		
5	2	BOWN	



Is the inspection result normal?

YES >> Rear power window switch is OK.

NO >> Replace rear power window switch. Refer to <u>PWC-215, "Removal and Installation"</u>.



PWC

L

Μ

Ν

Ο

Ρ

Е

F

G

Н

< COMPONENT DIAGNOSIS >

POWER WINDOW MOTOR DRIVER SIDE

DRIVER SIDE : Description

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

DRIVER SIDE : Component Function Check

1. CHECK POWER WINDOW MOTOR CIRCUIT

Does front power window motor LH operate with operating main power window and door lock/unlock switch? <u>Is the inspection result normal?</u>

YES >> Front power window motor LH is OK.

NO >> Refer to <u>PWC-120</u>, "DRIVER SIDE : Diagnosis Procedure".

DRIVER SIDE : Diagnosis Procedure

Front Power Window Motor LH Circuit Check

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.

Т	Terminal			
(+)			dow and door lock/	Voltage (V)
Power window motor LH con- nector	Terminal	(–)	unlock switch con- dition	(Approx.)
	2	UP	Battery voltage	
מח		Ground	DOWN	0
59	1	Giounu	UP	0
	I		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 <u>PWC-215</u>, "<u>Removal and</u> <u>Installation</u>". After that, refer to <u>PWC-114</u>, "<u>POWER WINDOW MAIN SWITCH</u> : <u>Special Repair</u> <u>Requirement</u>".

2. CHECK HARNESS CONTINUITY

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

Main power window and door lock/unlock switch connector	Terminal	Front power win- dow motor LH con- nector	Terminal	Continuity
	8		2	Vec
DT (A)	11	D9 (B)	1	165

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

PWC-120



[LH&RH FRONT WINDOW ANTI-PINCH]

INFOID:000000004215894

INFOID:000000004215895

< COMPONENT DIAGNOSIS >

Main power window and door lock/unlock switch connector	Terminal		Continuity			А
	8	Ground	No			
D7 (A)	11	_	INO			В
Is the inspection result nor	mal?					
YES >> GO TO 3 NO >> Repair or repla	ice harness.					С
3. CHECK POWER WINE	OW MOTO	R				
Check front power window	motor LH.					D
Refer to PWC-121, "DRIVE	R SIDE : Co	omponent Insp	ection".			
Is the inspection result nor	<u>mal?</u>					_
YES >> Check intermit NO >> Replace powe <u>PWC-121, "DF</u>	tent incident r window mo RIVER SIDE	. Refer to <u>GI-42</u> otor LH. Refer t : Special Repa	<u>2, "Intermittent</u> o <u>GW-17, "Rer</u> ir Requirement	Incident". noval and Installation". ".	After that, refer to	E
DRIVER SIDE : Com	ponent In	spection			INFOID:000000004215897	F
						G
Does motor operate by cor	inecting the	battery voltage	directly to pow	er window motor?		Н
	Terr	ninal				
	(+)	(-)		Motor condition		
	1	2		DOWN		
	2	1		UP		
Is the inspection result nor	mal?					J
YES >> Front power w NO >> Replace front refer to PWC-1	ndow motor power winde 21, "DRIVE	LH is OK. ow motor LH. I R SIDE : Speci	Refer to <u>GW-1</u> al Repair Requ	7, "Removal and Instal irement".	lation". After that,	
DRIVER SIDE · Spec	ial Renai	Requireme	ent			PW
		Requireme			INFOID:00000004215898	
1. PERFORM INITIALIZA	TION PROC	EDURE				L
Perform initialization proce Refer to <u>PWC-102</u> , "ADDIT	dure. TONAL SEF		REPLACING C	ONTROL UNIT : Specia	al Repair Require-	5.4
Is the inspection result nor	mal?					IVI
YES >> GO TO 2						
NO >> Check intermit	tent incident	. Refer to <u>GI-42</u>	2. "Intermittent	Incident".		Ν
2. CHECK ANTI-PINCH C	PERATION					
Check anti-pinch operation Refer to <u>PWC-102</u> , "ADDIT	TIONAL SEF	NICE WHEN F	REPLACING C	ONTROL UNIT : Specia	al Repair Require-	0
Inclin.	mal?					
YES >> Inspection Fnc						Ρ
NO >> Refer to <u>PWC-</u>	 127, "DRIVE	ER SIDE : Com	ponent Functic	<u>n Check"</u> .		
PASSENGER SIDE						
PASSENGER SIDE :	Descripti	on			INFOID:000000004215899	

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

1. CHECK POWER WINDOW MOTOR CIRCIUT

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

Is the inspection result normal?

< COMPONENT DIAGNOSIS >

- YES >> Front power window motor RH is OK.
- NO >> Refer to <u>PWC-122, "PASSENGER SIDE : Diagnosis Procedure"</u>.

PASSENGER SIDE : Diagnosis Procedure

Front Power Window Motor RH Circuit Check

- 1. CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL
- 1. Disconnect front power window motor RH.
- 2. Turn ignition switch ON.
- Check voltage between front power window motor RH connector and ground.

Те	rminal		E se al se se se	
(+)			Front power window motor	Voltage (V)
Front power window motor RH connector Terminal		()	RH condition	(Approx.)
	2	Ground	UP	Battery voltage
D104			DOWN	0
	1		UP	0
	1		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 <u>PWC-215</u>, "<u>Removal and Installation</u>". After that, refer to <u>PWC-116</u>, "<u>FRONT POWER WINDOW SWITCH</u> : <u>Special Repair</u> <u>Requirement</u>".
- 2. CHECK HARNESS CONTINUITY
- 1. Turn ignition switch OFF.
- 2. Disconnect power window and door lock/unlock switch RH.
- Check continuity between power window and door lock/unlock switch RH connector (A) and front power window motor RH connector (B).

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105 (A)	8	D104 (B)	2	Vec
D103 (A)	9	D104 (D)	1	163



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

Power window and door lock/unlock switch RH con- nector	Terminal	Ground	Continuity
	8		No
D103 (A)	9		NO

Is the inspection result normal?

INFOID:000000004215901

< COMPONEN	T DIAGNOSIS >		[LH&RH FRONT WINDO	W ANTI-PINCH]
YES >> GO	TO 3			
NO >> Rep	pair or replace harness.			
3. CHECK FRO	ONT POWER WINDOW	MOTOR RH		
Check front pov Refer to <u>PWC-1</u>	ver window motor RH. 23, "PASSENGER SIDE	E : Component Inspe	ection".	
Is the inspection	n result normal?			
YES >> Che NO >> Rep refe	eck intermittent incident. blace front power windo er to <u>PWC-123, "PASSE</u>	Refer to <u>GI-42, "Inte</u> w motor RH. Refer NGER SIDE : Specia	<u>ermittent Incident"</u> . to <u>GW-17, "Removal and Insta</u> al Repair Requirement".	<u>llation"</u> . After that,
PASSENGE	R SIDE : Compone	ent Inspection		INFOID:000000004215902
COMPONENT	INSPECTION			
1. CHECK FRO	ONT POWER WINDOW	MOTOR RH		
Does motor ope	erate by connecting the l	battery voltage direct	tly to front power window motor	RH?
	Term	inal		
	(+)	(—)		
	1	2	DOWN	-
	2	1	UP	_
refe PASSENGE	er to <u>PWC-123, "PASSE</u> R SIDE : Special R	NGER SIDE : Specia Repair Requirem	al Repair Requirement". ent	INFOID:000000004215903
1. PERFORM	INITIALIZATION PROC	EDURE		
Perform initialize Refer to <u>PWC-1</u> ment"	ation procedure. 02. "ADDITIONAL SER	VICE WHEN REPLA	ACING CONTROL UNIT : Speci	al Repair Require-
Is the inspection	n result normal?			
YES >> GO	TO 2			I
NO >> Che	eck intermittent incident.	Refer to <u>GI-42, "Inte</u>	ermittent Incident".	
Z. CHECK AN	TI-PINCH OPERATION			
Check anti-pinc Refer to <u>PWC-1</u> <u>ment"</u> .	h operation. 02. "ADDITIONAL SER	VICE WHEN REPLA	ACING CONTROL UNIT : Speci	al Repair Require-
Is the inspectior	n result normal?			
YES >> Insp	pection End.			
	er to <u>PWC-129, "PASSE</u>	NGER SIDE : Com	oonent Function Check".	
REAR LH : [Description			INFOID:000000004215904
Door glass mov switch LH.	ves UP/DOWN by receiv	ring the signal from	power window main switch or r	ear power window
REAR LH : (Component Function	on Check		INFOID:000000004215905
1. CHECK RE	AR POWER WINDOW I	MOTOR LH CIRCUI	г	
Does rear power window s	er window motor LH op switch LH?	perate with main po	wer window and door lock/unlo	ock switch or rear

Is the inspection result normal?

< COMPONENT DIAGNOSIS >

- YES >> Rear power window motor LH is OK.
- NO >> Refer to <u>PWC-124</u>, "REAR LH : Diagnosis Procedure".

REAR LH : Diagnosis Procedure

Power Window Motor Circuit Check

1. CHECK REAR POWER WINDOW SWITCH OUTPUT SIGNAL

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

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



Is the measurement value within the specification?

- YES >> GO TO 2
- NO >> Check rear power window switch LH. Refer to <u>PWC-117. "REAR POWER WINDOW SWITCH :</u> <u>Component Function Check"</u>.
- 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)	5	D204 (B)	1	Vec
	4	D204 (B)	3	165



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

Rear power window switch LH connector	Terminal		Continuity	
	5 Ground		No	
D203 (A)	4		INO	

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

```
\mathbf{3}. CHECK REAR POWER WINDOW MOTOR LH
```

Check rear power window motor LH.

Refer to PWC-125. "REAR LH : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Replace rear power window motor LH. Refer to <u>GW-23, "Removal and Installation"</u>.

[LH&RH FRONT WINDOW ANTI-PINCH]

INFOID:000000004215906

II H&RH FRONT WINDOW ANTI-PINCH1

< COMPONENT D	DIAGNOS	IS >		[LH	&RH FRONT WINDOW ANTI-PINCH]	
REAR LH : Co	mponen	t Inspec	tion		INFOID:0000000421590;	,
		ואר				1
				a directly to rear	nower window meter LH2	•
Joes motor operation	e by conne	ecting the		e directly to rear	power window motor LH?	
-		Terr	ninal		Motor condition	
_	(+	+)	(-)			
-	3	3	1		DOWN	
	1		3		UP	
s the inspection re	sult norma	<u>al?</u> Louis monto m				
NO >> Replace	ce rear pov	wer windov	w motor LH. R	efer to <u>GW-23, "</u>	Removal and Installation".	
REAR RH : De	scriptior	า			INFOID:00000004215908	1
Door glass moves rear power window	UP/DOWN switch RH	N by recei∖ ⊣.	ving the signal	from main powe	er window and door lock/unlock switch or	(
REAR RH : Co	mponer	nt Functi	on Check		INFOID:00000000421590)
1. CHECK REAR	POWER V	WINDOW	MOTOR RH C	CIRCUIT		
Does rear power w	indow mot	tor RH ope	erate with oper	rating main powe	er window and door lock/unlock switch or	
rear power window switch RH?						
VES >> Rear n	Suit norma	<u>al :</u> Iow motor	RH is OK			
NO >> Refer t	to <u>PWC-12</u>	25, "REAR	RH : Diagnos	sis Procedure".		
REAR RH : Dia	agnosis	Procedu	ıre		INFOID:00000004215910)
Rear Power Wind	low Motor	r RH Circ	uit Check			P
1. CHECK REAR	POWER V	WINDOW	SWITCH RH (OUTPUT SIGNA	L	Ľ
1 Disconnect rea	ar nower w	vindow mo	tor RH			1
2. Turn ignition s	witch ON.					
 Check voltage and ground. 	between r	rear power	window moto	or RH connector		
aa g. e aa.						
Ter	rminal					
(+)			Rear power window switch	Voltage (V)		
Rear power window motor RH connector	Terminal	(-)	RH condition	(Approx.)		
	1		UP	Battery voltage	ALKIA0293ZZ	
D304		Ground	DOWN	0		
	3		UP	0		
			DOWN	Battery voltage		
s the measuremen	<u>nt value wi</u>	thin the sp	ecification?			
YES >> GO TO NO >> Check	72 rear nowe	er window	switch RH R	efer to PWC-113	7. "REAR POWER WINDOW SWITCH	
Compo	onent Fund	ction Chec	<u>k"</u> .	<u></u>		
2. CHECK HARN	ESS CON	TINUITY				

< COMPONENT DIAGNOSIS >

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	
	5	D304 (B)	1	Vec	
D303 (A)	4	D304 (B)	3	res	

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

Rear power window switch RH connector	Terminal	Quand	Continuity	
D303 (V)	5	Ground	No	
D303 (A)	4	*	INO	

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 <u>PWC-126, "REAR RH : Component Inspection"</u>.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Replace rear power window motor RH. Refer to <u>GW-23, "Removal and Installation"</u>.

REAR RH : Component Inspection

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
(+)	(-)	
3	1	DOWN
1	3	UP

Is the inspection result normal?

YES >> Rear power window motor RH is OK.

NO >> Replace rear power window motor RH. Refer to <u>GW-23, "Removal and Installation"</u>.



[LH&RH FRONT WINDOW ANTI-PINCH]



ENCODER

< COMPONENT DIAGNOSIS >

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

(+)			Voltage (V)
Front power win- dow motor LH con- nector	Terminal	(-)	(Approx.)
D9	4	Ground	10

Is the measurement value within the specification?

YES >> GO TO 4

NO >> GO TO 3

3. CHECK HARNESS CONTINUITY 1

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

connector (B).				
Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D7 (A)	15	D9 (B)	4	Yes

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	

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-215, "Removal and Installation". After that, refer to PWC-114, "POWER WINDOW MAIN SWITCH : Special Repair Requirement".

- NO >> Repair or replace harness.
- CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

Disconnect front power window motor LH. 2.

Check continuity between front power window motor LH connec-3. tor and ground.

Front power window motor LH connector Terminal		Ground	Continuity
D9	6		Yes

Is the inspection result normal?

YES >> GO TO 6

NO >> GO TO 5

5. CHECK HARNESS CONTINUITY 2



41 V LÕN -Θ Θ ALKIA0296ZZ

в

ALKIA0297ZZ

4

Ω

[LH&RH FRONT WINDOW ANTI-PINCH]

Α

ENCODER

< COMPONENT DIAGNOSIS >

- Disconnect main power window and door lock/unlock switch. 1.
- Check continuity between main power window and door lock/ 2. unlock switch connector (A) and front power window motor LH connector (B).

Main power window and door lock/unlock switch connector	Terminal	Front power win- dow motor LH con- nector	Terminal	Continuity
D7 (A)	2	D9 (B)	6	Yes

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-215, "Removal and Installation". After that, refer to PWC-215, "Removal and Installation".

NO >> Repair or replace harness.

6. CHECK HARNESS CONTINUITY 3

- Disconnect main power window and door lock/unlock switch. 1.
- 2. Check continuity between main power window and door lock/ unlock switch connector (A) and front power window motor LH connector (B).

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
	9		3	Vec
DT (A)	13	D9 (D)	5	165



3. 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	- · ·	Continuity	
	9	Ground	No	
DT (A)	13	-		

Is the inspection result normal?

YES >> Replace front power window motor LH. Refer to GW-17, "Removal and Installation". After that, refer to PWC-121, "DRIVER SIDE : Special Repair Requirement".

NO >> Repair or replace harness.

PASSENGER SIDE

PASSENGER SIDE : Description

Detects condition of the front power window motor RH operation and transmits to power window and door Ν lock/unlock switch RH as pulse signal.

PASSENGER SIDE : Component Function Check

1.CHECK ENCODER OPERATION

Does front door glass RH perform AUTO open/close operation normally when operating power window and door lock/unlock switch RH?

Is the inspection result normal?

YES >> Encoder operation is OK.

NO >> Refer to PWC-130, "PASSENGER SIDE : Diagnosis Procedure".





- 1		
J		
_		

А

В

D

Ε

F

Н

PWC

Μ

INFOID:000000004215916

INFOID:000000004215915

Ο

Ρ

PWC-129

[LH&RH FRONT WINDOW ANTI-PINCH]

< COMPONENT DIAGNOSIS >

PASSENGER SIDE : Diagnosis Procedure

[LH&RH FRONT WINDOW ANTI-PINCH]

12 12,15

1. CHECK ENCODER SIGNAL

- 1. Connect front power window motor RH.
- Turn ignition switch ON. 2.
- 3. Check signal between power window and door lock/unlock switch RH connector and ground with oscilloscope.



Is the measurement value within the specification?

4

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

D105

- **3.** CHECK HARNESS CONTINUITY 1
- 1. Turn ignition switch OFF.
- Disconnect power window and door lock/unlock switch RH and 2. front power window motor RH.

Ground

Check continuity between power window and door lock/unlock 3. switch RH connector (A) and front power window motor RH connector (B).



ALKIA0296ZZ

PWC-130

10

ENCODER

< COMPONENT DIAGNOSIS >

Power window and door lock/unlock switch RH connector	Terminal	Front power motor RH co	window onnector	Terminal	Continuity		А
D105 (A)	4	D104	(B)	4	Yes		В
4. Check continuit	y betwee	en power wi	ndow an	id door li	ock/unlock	switch RH connector (A) and ground.	
Power window and doo unlock switch RH con	or lock/ nector	Terminal	Ground	C	ontinuity		С
D105 (A)		4			No		D
Is the inspection res	<u>sult norm</u>	<u>al?</u>					D
YES >> Replace lation". <u>Require</u> NO >> Repair	e power v After tha ement". or replac	window and at, refer to e harness.	door loo <u>PWC-1</u>	ck/unlocl 16, "FR	k switch RF <u>ONT_POW</u>	I. Refer to <u>PWC-215, "Removal and Instal-</u> ER WINDOW SWITCH : Special Repair	Е
4. CHECK GROUN	ND CIRC	UIT					F
 Turn ignition sw Disconnect fror Check continuinector and group 	vitch OFF at power v ty betwe und.	: window mot en front po	or RH. wer win	dow mo	tor RH cor		G
Front power window n connector	notor RH	Terminal	Grou	nd	Continuity		Н
D104		6			Yes		
Is the inspection res YES >> GO TO NO >> GO TO 5. CHECK HARNE	<u>sult norm</u> 6 5 SS CON	<u>al?</u> ITINUITY 2				ALKIA0298ZZ	l J
 Disconnect pov Check continui switch RH conr nector (B). 	ver windo ty betwee nector (A)	ow and door en power w and front p	lock/un vindow a ower wii	lock swit and door ndow mo	tch RH. [•] lock/unloc otor RH cor		PW
Power window and doo lock/unlock switch RH connector	or I Termir	nal Front pow motor RH	ver window I connecto	r Termin	al Continuit	y Q	L
D105 (A)	3	D10	04 (B)	6	Yes	_	M
Is the inspection res	sult norm	al?				ALKIA0307ZZ	
YES >> Replace Refer to WINDO	e power v o <u>PWC-2</u>)W SWIT	window and 215. "Remo CH : Specia o barpage	door loo val and al Repair	ck/unloc Installati Require	k switch RH i <u>on"</u> . After f ement".	I. that, refer to <u>PWC-116, "FRONT POWER</u>	Ν
6. CHECK HARNE	ESS CON	ITINUITY 3					0
							P

ENCODER

< COMPONENT DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

- 1. Disconnect power window and door lock/unlock switch RH.
- 2. Check continuity between power window and door lock/unlock switch RH connector (A) and front power window motor RH connector (B).

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105 (A)	12		5	Vec
D105 (A)	15	D104 (B)	3	Tes



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

Power window and door lock/unlock switch RH con- nector	Terminal	Ground	Continuity	
	12		No	
D105 (A)	15			

Is the inspection result normal?

- YES >> Replace front power window motor RH. Refer to <u>GW-17</u>, "Removal and Installation". After that, refer to <u>PWC-123</u>, "PASSENGER SIDE : Special Repair Requirement".
- NO >> Repair or replace harness.

DOOR SWITCH

< COMPONENT DIAGNOSIS >

DOOR SWITCH

Description

Detects door open/close condition and transmits the signal to BCM.

Component Function Check

1. CHECK FRONT DOOR SWITCH INPUT SIGNAL

Check ("DOOR SW-DR" and "DOOR SW-AS") in "DATA MONITOR" mode with CONSULT-III. Refer to <u>BCS-</u> 33, "RETAINED PWR : CONSULT-III Function (BCM - RETAINED PWR)".

Monitor item		Condition	
	OPEN	: ON	
	CLOSE	: OFF	
	OPEN	: ON	
	CLOSE	: OFF	

Is the inspection result normal?

YES >> Front door switch circuit is OK.

NO >> Refer to PWC-133, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK HARNESS CONTINUITY

Check voltage between BCM connector and ground.

	Terminals							
(+	·)	Door condition Voltage	Door condition		Door condition		Voltage (V)	
BCM connector	Terminal	(-)			(Approx.)			
	32		Front door	OPEN	0			
M18	02	Ground	RH	CLOSE	Battery voltage			
WITO	58	Giouna	Front door	OPEN	0			
	50		LH	CLOSE	Battery voltage			



YES >> Replace BCM. Refer to <u>BCS-87, "Removal and Installation"</u>. NO >> GO TO 2

2. CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM and front door switch.
- Check continuity between BCM connector (A) and front door switch connector (B).

BCM connector	Terminal	Front door switch connector	Terminal	Continuity
Μ18 (Δ)	32	RH: B108 (B)	2	Ves
W10 (A)	58	LH: B8 (B)	2	163

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



() (-

58

32, 58

INFOID:000000004215918

INFOID:000000004215919

0

D

А

В

G

INFOID:000000004215920

ŨFF

ALKIA0269ZZ



PWC

Μ

Ν

Ο

Ρ

DOOR SWITCH

< COMPONENT DIAGNOSIS >

BCM connector	Terminal		Continuity
M18 (A)	32	Ground	No
WIG (A)	58		NO

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK BCM OUTPUT SIGNAL

- 1. Connect BCM connector.
- 2. Check voltage between BCM connector and ground.





Is the measurement value within the specification?

YES >> GO TO 4

NO >> Replace BCM. Refer to <u>BCS-87, "Removal and Installation"</u>.

4. CHECK FRONT DOOR SWITCH

Check front door switch.

Refer to PWC-134, "Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42. "Intermittent Incident".

NO >> Replace front door switch.

Component Inspection

1. CHECK FRONT DOOR SWITCH

Check front door switches.

Terminal		Door switch	Continuity	
Door switches		Door Switch		
2	Ground part of	Pressed	No	
2	door switch	Released	Yes	

Is the inspection result normal?

YES >> Front door switch is OK.

NO >> Replace front door switch.



DOOR KEY CYLINDER SWITCH

< COMPONENT DIAGNOSIS >

DOOR KEY CYLINDER SWITCH

Description

Main power window and door lock/unlock switch detects condition of the door key cylinder and transmits to В BCM as the LOCK or UNLOCK signals.

Component Function Check

1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

D Check ("KEY CYL LK-SW", "KEY CYL UN-SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYS-TEM" with CONSULT-III. Refer to BCS-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

Monitor item	Cc	ondition	
KEY CYLLK SW	Lock	: ON	
KET GTE EK-SW	Neutral / Unlock	: OFF	
	Unlock	: ON	
KET CTL UN-SW	Neutral / Lock	: OFF	

Is the inspection result normal?

- YES >> Key cylinder switch is OK.
- >> Refer to PWC-135, "Diagnosis Procedure". NO

Diagnosis Procedure

1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

Terminals					
(+)			Kouposition	Voltage (V)	
Main power window and door lock/unlock switch connector	Terminal	(–) Key position		(Approx.)	
	4	Lock	0		
D7	4	Ground	Neutral/Unlock	5	
DI	0	Giouna	Unlock	0	
	0		Neutral/Lock	5	



Is the measurement value within the specification?

YES	>> Replace main power window and door lock/unlock switch. After that, refer to <u>PWC-114, "POWER</u>	IN
	WINDOW MAIN SWITCH : Special Repair Requirement".	
NO	>> GO TO 2	

2. CHECK DOOR KEY CYLINDER SIGNAL CIRCUIT

А

INFOID:000000004215922

INEOID 000000004215923

Ρ

L

Μ

NI

DOOR KEY CYLINDER SWITCH

< COMPONENT DIAGNOSIS >

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

Main power window and door lock/unlock switch connector	Terminal	Front door lock as- sembly LH (key cylin- der switch) connector	Terminal	Continuity	
	4	D10 (P)	6	Yes	
D7 (A)	6	ы ы ы ы ы ы ы ы ы ы ы ы ы ы ы ы ы ы ы	5		



[LH&RH FRONT WINDOW ANTI-PINCH]

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		Continuity	
	4	Ground	No	
DI (A)	6		INO	

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

 $\mathbf{3}$. CHECK DOOR KEY CYLINDER SWITCH GROUND CIRCUIT

Check continuity between front door lock assembly LH (key cylinder switch) connector and ground.

Front door lock assembly LH (key cylinder switch) connector	Terminal	Ground	Continuity		
D10	4		Yes		
Is the inspection result normal?					

YES >> GO TO 4

NO >> Repair or replace harness.

4. CHECK DOOR KEY CYLINDER SWITCH

Check door key cylinder switch.

Refer to PWC-136. "Component Inspection".

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.
- NO >> Replace front door lock assembly LH (door key cylinder switch). After that, refer to <u>PWC-137</u>. "Special Repair Requirement".

Component Inspection

COMPONENT INSPECTION

1. CHECK DOOR KEY CYLINDER SWITCH



	DOOR KEY CYLINDER	SWITCH
< COMPONENT DIAGNOSIS >	>	[LH&RH FRO

Check front door lock assembly LH (key cylinder switch).

Terminal			Continuity	
Front door lock assembly LH (key cylinder switch) connector		Key position		
5	1	Unlock	Yes	
		Neutral/Lock	No	
6		Lock	Yes	
		Neutral/Unlock	No	



Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Replace front door lock assembly LH (key cylinder switch). After that, refer to <u>PWC-137, "Special</u> <u>Repair Requirement"</u>.

Special Repair Requirement INFOID:00000004215926 1. PERFORM INITIALIZATION PROCEDURE Perform initialization procedure. Perform initialization procedure.

Refer to <u>PWC-102</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special <u>Repair Requirement</u>". <u>Is the inspection result normal?</u>

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

J

А

В

С

D

Ε

F

Н

PWC

L

Μ

Ν

Ο

Ρ

PWC-137

[LH&RH FRONT WINDOW ANTI-PINCH]

< COMPONENT DIAGNOSIS >

POWER WINDOW SERIAL LINK

POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Description

Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and BCM transmit and receive the signal by power window serial link.

The signal mentioned below is transmitted from BCM to main power window and door lock/unlock switch and power window and door lock/unlock switch RH

• Keyless power window down signal

The signal mentioned below is transmitted from main power window and door lock/unlock switch to power window and door lock/unlock switch RH

- Front door window RH operation signal
- Power window control by key cylinder switch signal
- Power window lock switch signal
- Retained power operation signal

POWER WINDOW MAIN SWITCH : Component Function Check

INFOID:000000004215928

INFOID:000000004215927

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

Check ("CDL LOCK SW ", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYS-TEM" with CONSULT-III. Refer to <u>BCS-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)"</u>.

Monitor item		Condition	
	LOCK	: ON	
CDE LOCK SW	UNLOCK	: OFF	
	LOCK	: OFF	
	UNLOCK	: ON	

Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> Refer to <u>PWC-138</u>, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure".

POWER WINDOW MAIN SWITCH : Diagnosis Procedure

INFOID:000000004215929

Power Window Serial Link Check

- 1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL
- 1. Remove Intelligent Key, and close front door LH and RH.
- Check signal between BCM connector and ground with oscilloscope when door lock and unlock switch (LH and RH) is turned to "LOCK" or "UNLOCK".
- Check that signals which are shown in the figure below can be detected during 10 second just after door lock and unlock switch (LH and RH) is turned to "LOCK" or "UNLOCK".



POWER WINDOW SERIAL LINK

< COMPONENT DIAGNOSIS >

(+)

Terminal	
	 Signal (Reference value)

		()	(Reference value)	
BCM connector	Terminal	()		
M18	40	Ground	(V) 15 10 0 10 10 10 10 10 10 10 10 10 10 10 1	

Is the inspection result normal?

YES >> Power window serial link is OK.

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect BCM and main power window and door lock/unlock switch.
- 3. Check continuity between BCM connector (A) and main power window and door lock/unlock switch connector (B).

BCM connector	Terminal	Main power window and door lock/unlock switch connector	Terminal	Continuity
M18 (A)	40	D7 (B)	14	Yes



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

BCM connector	Terminal	Ground	Continuity
M18 (A)	40	Ground	No

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-215</u>, "<u>Removal and</u> <u>Installation</u>". After that, refer to <u>PWC-114</u>, "<u>POWER WINDOW MAIN SWITCH</u>: <u>Special Repair</u> <u>Requirement</u>".

NO >> Repair or replace harness.

FRONT POWER WINDOW SWITCH

FRONT POWER WINDOW SWITCH : Description

Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and BCM $$^{
m N}$$ transmit and receive the signal by power window serial link.

The signal mentioned below is transmitted from BCM to main power window and door lock/unlock switch and power window and door lock/unlock switch RH

Keyless power window down signal

The signal mentioned below is transmitted from main power window and door lock/unlock switch to power window and door lock/unlock switch RH

- Front door window RH operation signal
- Power window control by key cylinder switch signal
- Retained power operation signal
- Power window lock switch signal

FRONT POWER WINDOW SWITCH : Component Function Check

INFOID:000000004215931

INFOID:000000004215930

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

PWC-139

J

А

В

D

Е

F

Н

PWC

M

Ο

Ρ

L

POWER WINDOW SERIAL LINK

< COMPONENT DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

Check ("CDL LOCK SW ", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYS-TEM" with CONSULT-III. Refer to <u>BCS-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)"</u>.

Monitor item	Condition		
	LOCK	: ON	
CDE LOCK SW	UNLOCK	: OFF	
	LOCK	: OFF	
CDE UNEOCK SW	UNLOCK	: ON	

Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> Refer to <u>PWC-140, "FRONT POWER WINDOW SWITCH : Diagnosis Procedure"</u>.

FRONT POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:000000004215932

Power Window Serial Link Check

Terminal

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

- 1. Remove Intelligent Key, and close the front door LH and RH.
- Check signal between BCM connector and ground with oscilloscope when door lock and unlock switch (LH and RH) is turned to "LOCK" or "UNLOCK".
- Check that signals which are shown in the figure below can be detected during 10 second just after door lock and unlock switch (LH and RH) is turned to "LOCK" or "UNLOCK".



(+)		()	Signal (Reference value)	
BCM connector	Terminal	(-)	(
M18	40	Ground	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10 10 10 10 1	

Is the inspection result normal?

YES >> Power window serial link is OK.

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

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

BCM connector	connector Terminal Power window and doc lock/unlock switch RH connector		Terminal	Continuity
M18 (A)	40	D105 (B)	16	Yes



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

< COMPONENT DIAGNOSIS >

POWER WINDOW SERIAL LINK

[LH&RH FRONT WINDOW ANTI-PINCH]

BCM connector	Terminal	Ground	Continuity
M18 (A)	40	Ground	No

Is the inspection result normal?

YES	> Replace main power window and door lock/unlock switch. Refer to <u>PWC-215</u> , "Removal and Installation". After that, refer to PWC-114, "POWER WINDOW MAIN SWITCH : Special Repair	
NO	Requirement".	С

PWC

L

Μ

Ν

Ο

Ρ

А

D

Е

F

G

Н

J

< COMPONENT DIAGNOSIS >

POWER WINDOW LOCK SWITCH

Description

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

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 <u>PWC-215</u>, "<u>Removal and</u> <u>Installation</u>". After that, refer to <u>PWC-142</u>, "<u>Special Repair Requirement</u>".
- NO >> Check condition of harness and connector.

Special Repair Requirement

INFOID:000000004215935

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to <u>PWC-102</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

INFOID:000000004215933

ECU DIAGNOSIS POWER WINDOW MAIN SWITCH

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Terminal No.		Description			
+	_	Signal name	Input/ Output	Condition	(Approx.)
1 (G/B)	Ground	Rear power window motor LH UP signal	Output	When rear LH switch in power window main switch is operated UP.	Battery voltage
2 (W/B)	Ground	Encoder ground	_	_	0
3 (G/O)	Ground	Rear power window motor LH DOWN signal	Output	When rear LH switch in power window main switch is operated DOWN.	Battery voltage
4 (L/B)	Ground	Door key cylinder switch LH LOCK signal	Input	Key position (Neutral \rightarrow Locked)	$5 \rightarrow 0$
5 (G/R)	Ground	Rear power window motor RH DOWN signal	Output	When rear RH switch in power window main switch is operated DOWN.	Battery voltage
6 (L/R)	Ground	Door key cylinder switch LH UNLOCK signal	Input	Key position (Neutral \rightarrow Unlocked)	5 → 0
7 (G/W)	Ground	Rear power window motor RH UP signal	Output	When rear RH switch in power window main switch is operated UP.	Battery voltage
8 (L/R)	11	Front door power window mo- tor LH UP signal	Output	When front LH switch in power window main switch is operated UP.	Battery voltage
9 (G/W)	2	Encoder pulse signal 2	Input	When power window mo- tor operates.	(V) 6 4 2 0 10 ms

А

В

С

D

Е

F

IC/

INFOID:000000004215937

LIIA2455E

< ECU DIAGNOSIS >

POWER WINDOW MAIN SWITCH

[LH&RH FRONT WINDOW ANTI-PINCH]

Terminal No.		Description				
+	-	Signal name	Input/ Output	Condition	(Approx.)	
				IGN SW ON	Battery voltage	
10	Ground	RAP signal	Input	Within 45 second after ig- nition switch is turned to OFF.	Battery voltage	
				When front LH or RH door is opened during retained power operation.	0	
11 (L/B)	8	Front door power window mo- tor LH DOWN signal	Output	When front LH switch in power window main switch is operated DOWN.	Battery voltage	
13 (G/Y)	2	Encoder pulse signal 1	Input	When power window mo- tor operates.	(V) 6 2 0 10 ms JMKIA0070GB	
14 (Y/G)	Ground	Power window serial link	Input/ Output	IGN SW ON or power win- dow timer operating.	(V) 15 10 50 10 ms JPMIA0013GB	
15 (G/R)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer oper- ates.	10	
17 (B)	Ground	Ground	_	_	0	
19 (R/Y)	Ground	Battery power supply	Input	—	Battery voltage	
POWER WINDOW MAIN SWITCH [LH&RH FRONT WINDOW ANTI-PINCH]

< ECU DIAGNOSIS >

Wiring Diagram



А

В

С

D

Ε

F

Н

J

L

Μ

Ν

0

Ρ







POWER WINDOW MAIN SWITCH

[LH&RH FRONT WINDOW ANTI-PINCH]

Signal Name

Color of Wire

Terminal No.

Connector Name WIRE TO WIRE

M10

Connector No.

Connector Color BROWN

T. I. T

G/R G/B R/B

10

H.S.

佢

Š

ო

L

ABKIA0744GB

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

PWC-147

Ρ

POWER WINDOW MAIN SWITCH [LH&RH FRONT WINDOW ANTI-PINCH]

Connector No. B1 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Solor WHITE Mile 10 21 21 21 41 51 10 11 12 Mile 10 21 122 123 144 151 161 171 Mile 21 220 233 341 353 263 263 Mile 21 220 233 341 353 263 263 Mile 281 334 0132 152 123 1244 155 163 Mile 81 357 1320 353 341 353 363 051 Mile 81 357 1320 353 341 353 363 051 Mile 81 357 353 354 365 051 Mile 81 480 969 (601 f67) Mile 82 368 069 (701 f67) Mile 82 369 069 (701 f67) Mile 82 369 069 (701 f67)	Terminal No.Color of WireSignal Name17.JSB-93.JL/W-94.JG/B-95.JG/O-	Connector No. B8 Connector Name FRONT DOOR SWITCH LH Connector Color WHITE Land Image: Connector Color Image: Connector Color WHITE Image: Connector Color Image: Connector Color of Color Signal Name Image: Connector Color of C
Connector No. E30 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector State State Connector State State Connector Name WIRE TO WIRE Connector State State State State State State State State State State State State State State State State State State State State State	Terminal No. Color of Signal Name 82G W/B –	Terminal No.Color of WireSignal Name2G/B-4G/O-6B-8L/W-
Connector No. M19 Connector Name BCM (BODY CONTROL Connector Name BCM (BODY CONTROL Connector Color BLACK Main Main		Connector No. B6 Connector Name WIRE TO WIRE Connector Color WHITE Image: State of the

ABKIA0746GB

J DIAGNUS	SIS >													CX I				JN		•••	INL		vv				спј	
18 DNT DOOR SWITCH RH ITE			Signal Name	DOOR SW (AS)				N POWER WINDOW	ITCH		3 4 5 6 7 10 11 12 13 14 15 16	Signal Name	RL_UP	ENCODER_GND	RL_DOWN	LOCK	RR_DOWN	UNLOCK	RR_UP	AS_UP	ENCODER_SIG2	IGN	AS_DOWN			ENCODER_POWER		A B C
o. B10 ame FRC olor WH			Color of	WIre B/B			o. D7	ame AND	SWI SWI		1 2 8 9	Color of Wire	G/B	W/B	G/O	L/B	G/R	L/R	G/W	L/R	G/W	Ş	۹	Gi/Y	٨/٩	G/R		D
Connector No Connector No Connector Co	雨 H.S.		Terminal No.	2			Connector No	Connector Na	Connector		S:H	Terminal No.	-	2	ю	4	5	9	7	8	6	10	÷ :	5	14	15		E
																							·					F
WIRE		signal Name		I	1			NIRE		Π	3 2 1 11 10 9	signal Name	1															G
B106 WIRE TO V WHITE	1 2 1 3 4 5 6 7 8	or of S	ð	Æ	~ >		D2	WIRE TO V		K	8 7 6 5 4 6 15 14 13 12	or of S																I
Connector No. Connector Name Connector Color	同 H.S.	Terminal No. W	G/	4	8 8		Connector No.	Connector Name			HS	Terminal No. Wi	10 Y/C															J
						1 [[1		1					l								PW
TO WIRE VN	1 4 5 1 11 12	Signal Name	I	I	1 1			TO WIRE		3 2 1	12 11 10 9 8	Signal Name	1	1	1	I	I	I	I									L
B104 ne WIRE or BROW	1 2 3 6 7 8 9	Color of Wire	L/W	G/R	G/B R/G		5	me WIRE		7 6 5 4	16 15 14 13	Color of Wire	G/W	G/B	R/Y	в	G/R	G/O	٦									N 1
Connector No. Connector Nan Connector Col	日 H.S.	Terminal No.	-	ო	10		Connector No.	Connector Nar			H.S.	Terminal No.	5	ო	7	80	10	11	12									N O

ABKIA0747GB

Ρ

POWER WINDOW MAIN SWITCH

< EC

NNT DOOR LOCK EEMBLY LH 4Y	3 4 5 6	Signal Name	GND		DOOR_KEY/C_ LOCK_SW		2	VER WINDOW AND DR LOCK/UNLOCK TCH RH	ITE	0 11 12 13 14 15 16 7	Signal Name	GND	ENCODER POWER	UP	DOWN	BATT	GND ENCODED SIG1	ENCODER SIG2	COM
o. D10 ame FR0 ASS olor GR	-	Color of Wire	m	L/R	L/B		. D10	ame POV SWI	olor WH	8 - 0	Color of Wire	W/B	G/R	L/R	L/B	R/Y	B	G/W	Y/G
Connector No Connector Na Connector Co	际可 H.S.	Terminal No.	4	5	Q		Connector No	Connector Na	Connector Cc	品. H.S.	Terminal No.	e	4	œ	6	10	÷ ;	15	16
 D9 ERONT POWER WINDOW MOTOR LH VHITE 	3 4 5 6	Color of Signal Name Wire L/B -	– L/R	G/W		W/B –	. D104	ame FRONT POWER WINDOW MOTOR RH	olor WHILE	345	Color of Signal Name Wire	L/B –	L/R –	G/W –	G/R –	G/Y –	W/B –		
Connector N Connector N Connector C	品.S.H	Terminal No	5	ო 🤻	ۍ ا	9	Connector N	Connector N	Connector C	园 H.S.	Terminal No.	-	2	e	4	ى ا	9		
POWER WINDOW AND R LOCK/UNLOCK CH TE	18 + 9	Signal Name	GND RAT					E TO WIRE TE		2 a 3 4 3 7 8 9 10	Signal Name	1	I	I					
E Z Z Z		Color of Wire	шŞ				D10	ame WIR Jor WHI		0 1	Color of Wire	RV	ш	۲/G					
		-					1 12	1			· ·			_					

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]



Fail Safe

INFOID:000000004215939

FAIL-SAFE CONTROL

< ECU DIAGNOSIS >

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.

PWC-151

POWER WINDOW MAIN SWITCH

[LH&RH FRONT WINDOW ANTI-PINCH]

POWER WINDOW MAIN SWITCH

[LH&RH FRONT WINDOW ANTI-PINCH]

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 mal- function	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 up- dated 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 failsafe control.

- Auto-up operation
- Anti-pinch function
- Retained power 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 switch or in motor.

FRONT POWER WINDOW SWITCH

Reference Value

INFOID:000000004215940

А

В

С

D

Е

F

G

TERMINAL LAYOUT



PHYSICAL VALUES

POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

Termi	nal No.	Description			Voltage IV/
+	_	Signal name	Input/ Output	Condition	(Approx.)
3 (W/B)	Ground	Encoder ground	_	_	0
4 (G/R)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates	10
8 (L/R)	9	Power window motor UP signal	Output	When power window motor is UP at operated.	Battery voltage
9 (L/B)	8	Power window motor DOWN signal	Output	When power window motor is DOWN at operated.	Battery voltage
10 (R/Y)	Ground	Battery power supply	Input	_	Battery voltage
11 (B)	Ground	Ground			0
12 (G/Y)	3	Encoder pulse signal 1	Input	When power window motor op- erates.	(V) 6 4 2 0 10 ms JMKIA0070GB

C

Ο

Ρ

FRONT POWER WINDOW SWITCH

[LH&RH FRONT WINDOW ANTI-PINCH]

Termi	nal No.	Description			Voltage [V]
+	-	Signal name	Input/ Output	Condition	(Approx.)
15 (G/W)	3	Encoder pulse signal 2	Input	When power window motor operates.	(V) 6 4 2 0 10 ms JMKIA0070GB
16 (Y/G)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	(V) 15 10 5 10 10 ms JPMIA0013GB

FRONT POWER WINDOW SWITCH [LH&RH FRONT WINDOW ANTI-PINCH]

< ECU DIAGNOSIS >

Wiring Diagram



А

В

С

D

Ε

F

Н

J

PWC

L

Μ

Ν

0

Ρ











M10

Connector No.

H.S. 佢

ABKIA0744GB

[LH&RH FRONT WINDOW ANTI-PINCH]

Connector No. M14 Connector Name WIRE TO WIRE Connector Color WHITE	(項引 H.S.	Terminal No. Color of Wire Signal Name 4 R/Y - 5 B - 8 Y/G -	Connector No. M18 Connector Name BCIM (BODY CONTROL Connector Name BCIM (BODY CONTROL Connector Color GREEN Salar Salar Color of Signal Name 32 R/B A2 R Salar Sh.L.LOCK_LED Salar DR_DOOR_SW
Connector No. M12 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No. Color of Signal Name 10 Y/G -	Connector No. M17 Connector Name Connector Name Connector Name Connector Name MODULE) M07 Connector Name MODULE) M17 Connector Name III M17 Monule) M11E Monule) M0111 Monule) M111 Monule) M111 Monule) M111 Monule) M111 Monule) M111 M111 M11 M111 M11 M111 M11 M111 M111 M111 M111 M111 M111
Connector No. M11 Connector Name WIRE TO WIRE Connector Color WHITE	頃 日 日 日 2 3 一 4 5 6 7 日 5 6 7 H 5 6 7 H 5 6 7 H 5 6 7 H 5 6 7 H 5 6 7 H 5 6 7 H 5 6 7 H 5 6 7 H 5 6 7 H 5 1 7 H 5 1 1 1 1 1 1 1 1 1 1 1 1 1	Terminal No. Color of Wire Signal Name 2 G/W - 3 G/B - 7 R/W - 8 B - 10 G/R - 11 G/O - 12 L/W -	Connector No. M16 Connector Name BCM (BODY CONTROL Connector Name BLACK Connector Color BLACK Image: Signal Name 1 W/IB BAT_POWER_F/L 2 R/Y POWER_WINDOW 3 L/W POWER_SUPPLY (RAP)

FRONT POWER WINDOW SWITCH [LH&RH FRONT WINDOW ANTI-PINCH]

< ECU DIAGNOSIS >

PWC-157

Ρ

FRONT POWER WINDOW SWITCH [LH&RH FRONT WINDOW ANTI-PINCH]



ABKIA0746GB

8 DNT DOOR SWITCH RH ITE Signal Name DOOR SW (AS)	N POWER WINDOW 1 DOOR LOCK/UNLOCK TCH 1 TE 3 4 5 6 7 10 11 2 13 4 15 16 10 11 2 13 4 15 16	Signal Name RL_UP ENCODER_GND RL_DOWN LOCK RR_DOWN UNLOCK RR_DOWN UNLOCK RR_UP AS_UP AS_UP AS_UP AS_UP AS_UP AS_UP ENCODER_SIG1 COM ENCODER_SIG1 COM
B10 or WH color of WH	ne ANC SWI 8 WH 8 NL 8 NL 8 NL 8 NL 8 NL 8 NL 8 NL 8 NL	olor of Mire G/B G/B G/A G/A G/A C/A C/A C/A C/A
al No.	ector Nar	
Conne Conne Conne Conne Termin 2	Conne Conne H.S.	Termin 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1
Connector No. B106 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE Terminal No. Color of Signal Name 2 G/W - 8 L/W -	Connector No. D2 Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No. Color of Wire Signal Name 10 Y/G -
104 IIRE TO WIRE ROWN 8 9 10 11 12 0f Signal Name	1 IRE TO WIRE HITE	Signal Name
10. B 10. B 10. B 10. B 10. B 10. Color B 10. Color C 10. Color	10. 0 10. 0 110 10	Color C Wire G/W B B B C/A C/A
Connector N Connector C Connector C H.S. H.S. Terminal Nc 7 7	Connector N Connector Connector Conn	Terminal No 2 3 3 3 1 11 12

ABKIA0747GB

Ρ

Ο

FRONT POWER WINDOW SWITCH

< ECU DIAGNOSIS >

PWC-159

ILH&RH FRONT WINDOW ANTI-PINCH1

PWC

А

В

С

D

Е

F

G

Н

J

L

Μ

Ν

FRONT POWER WINDOW SWITCH [LH&RH FRONT WINDOW ANTI-PINCH]

Connector No. D10 Connector Name FRONT DOOR LOCK ASSEMBLY LH Connector Color GRAY	Terminal No. Color of Signal Name	4 B GND 5 L/R UNLOCK_SW	6 L/B DOOR_KEY/C_	Connector No. D105	Connector Name DOOR LOCKUNLOCK SWITCH RH	Connector Color WHITE	Terminal No. Color of Signal Name	3 W/B GND	4 G/R ENCODER POWER 8 L/R UP	9 L/B DOWN	10 R/Y BATT	11 B GND	12 G/Y ENCODER SIG1	15 G/W ENCODER SIG2	16 Y/G COM
NONT POWER WINDOW DTOR LH HITE	f Signal Name	1 1	1 1 1	04	ONT POWER WINDOW DTOR RH HITE	3458	Signal Name	1	1 1	1	I	-			
No. D9 Name FR Color WH	Jo. Color of Wire L/B	G N L	G/H G/Y W/B	No. D10	Name FR Color MD		o. Color of Wire	L/B	G M G	G/R	G/Y	W/B			
Connector Connector Connector	Terminal N	N M	6 J	Connector	Connector	H.S.	Terminal N	-	α σ	4	5	9			
D8 MAIN POWER WINDOW AND BOOR LOCKUNLOCK SWITCH VHITE 17 18 19	Solor of Signal Name	BAT BAT		D101	e WIRE TO WIRE IN WHITE	1 2 1 3 4 5 6 7 8 9 10	olor of Signal Name		B						
Connector No. Connector Nam Connector Colo	Terminal No.	19		Connector No.	Connector Nam Connector Colo	S.H	Terminal No.	4	8 2						

ABKIA0748GB



Fail Safe

INFOID:000000004215942

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.

PWC-161

FRONT POWER WINDOW SWITCH

[LH&RH FRONT WINDOW ANTI-PINCH]

< ECU DIAGNOSIS >

FRONT POWER WINDOW SWITCH

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 mal- function	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 up- dated 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 failsafe control.

- Auto-up operation
- Anti-pinch function
- Retained power 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 switch or in motor.

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status	
	Other than front wiper switch HI	OFF	С
	Front wiper switch HI	ON	
	Other than front wiper switch LO	OFF	
FR WIPER LOW	Front wiper switch LO	ON	_ D
	Front washer switch OFF	OFF	_
FR WASHER SW	Condition Other than front wiper switch HI 0 Front wiper switch HI 0 Other than front wiper switch LO 0 Front wiper switch CO 0 Front washer switch OFF 0 Front washer switch ON 0 Other than front wiper switch INT 0 Front wiper switch INT 0 Front wiper is not in STOP position 0 Front wiper is not in STOP position 0 Wiper intermittent dial is in a dial position 1 - 7 1 Other than turn signal switch RH 0 Turn signal switch RH 0 Other than turn signal switch LH 0 Turn signal switch IST and 2ND 0 Uther than lighting switch 1ST and 2ND 0 Uighting switch 1ST or 2ND 0 Other than lighting switch 2ND 0 Uther than lighting switch PASS 0 Uther than lighting switch PASS 0 Uther than lighting switch AUTO 0 Lighting switch OFF 0 Front door LH closed 0 Front door LH closed<	ON	E
	Other than front wiper switch INT	OFF	_
FR WIPER INT Front wiper switch INT ON FR WIPER STOP Front wiper is not in STOP position OF Front wiper is in STOP position ON ON INT VOLUME Wiper intermittent dial is in a dial position 1 - 7 Wi TURN SIGNAL R Other than turn signal switch RH OF	ON	_	
	Front wiper is not in STOP position	OFF	
FR WIFER STOP	Front wiper is in STOP position	ON	_
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position	G
	Other than turn signal switch RH	OFF	_
TORN SIGNAL R	Turn signal switch RH	ON	
	Other than turn signal switch LH	OFF	— H
TURN SIGNAL L	Turn signal switch LH	ON	_
	Other than lighting switch 1ST and 2ND	OFF	_
TAIL LAWP SW	Lighting switch 1ST or 2ND	ON	
	Other than lighting switch HI	OFF	
	Lighting switch HI	ON	J
	Other than lighting switch 2ND	OFF	
HEAD LAWP SW I	Lighting switch 2ND	ON	D\۸
	Other than lighting switch 2ND	OFF	
HEAD LAWP SW 2	Lighting switch 2ND	ON	_
	Other than lighting switch PASS	OFF	L
PASSING SW	Lighting switch PASS	ON	_
	Other than lighting switch AUTO	OFF	N./
AUTO LIGHT SW	Lighting switch AUTO	ON	111
	Front fog lamp switch OFF	OFF	
FR FUG SVI	Front fog lamp switch ON	ON	N
	Front door LH closed	OFF	
DOOK SW-DIX	Front door LH opened	ON	_
	Front door RH closed	OFF	0
DOOR SW-AS	Front door RH opened	ON	_
	Rear door RH closed	OFF	P
	Rear door RH opened	ON	_
	Rear door LH closed	OFF	_
DOOR SW-RL	Rear door LH opened	ON	_
DOOR SW-BK	NOTE: This item is displayed, but cannot be monitored.	OFF	_

L MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

INFOID:000000004490988

А

В

< ECU DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

Monitor Item	Condition	Value/Status
	Other than power door lock switch LOCK	OFF
CDL LOCK SW	Door lock/unlock switch LOCK	ON
	Other than door lock/unlock switch UNLOCK	OFF
CDL UNLOCK SW	Door lock/unlock switch UNLOCK	ON
KEY CYL LK-SW	Other than front door LH key cylinder LOCK position	OFF
	Front door LH key cylinder LOCK position	ON
	Other than front door LH key cylinder UNLOCK position	OFF
KET CTL UN-SW	Front door LH key cylinder UNLOCK position	ON
KEY CYL SW-TR	NOTE: This item is displayed, but cannot be monitored.	OFF
	When hazard switch is not pressed	OFF
	When hazard switch is pressed	ON
REAR DEF SW	When rear window defogger switch is pressed	ON
FAN ON SIG	When AUTO switch or fan switch is pressed	ON
AIR COND SW	When A/C switch is pressed	ON
	Trunk lid opener cancel switch OFF	OFF
TR CANCEL SW	Trunk lid opener cancel switch ON	ON
	Trunk lid opener switch OFF	OFF
TR/BD OPEN SW	While the trunk lid opener switch is turned ON	ON
	Trunk lid closed	OFF
IRNK/HAI MNIR	Trunk lid opened	ON
	When LOCK button of Intelligent Key is not pressed	OFF
RKE-LOCK	When LOCK button of Intelligent Key is pressed	ON
	When UNLOCK button of Intelligent Key is not pressed	OFF
RKE-UNLOCK	When UNLOCK button of Intelligent Key is pressed	ON
	When TRUNK OPEN button of Intelligent Key is not pressed	OFF
RKE-IR/BD	When TRUNK OPEN button of Intelligent Key is pressed	ON
	When PANIC button of Intelligent Key is not pressed	OFF
RKE-PANIC	When PANIC button of Intelligent Key is pressed	ON
	When UNLOCK button of Intelligent Key is not pressed and held	OFF
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is pressed and held	ON
	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	OFF
KKE-WODE CHG	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	ON
	When outside of the vehicle is bright	Close to 5 V
OPTICAL SENSOR	When outside of the vehicle is dark	Close to 0 V
	When front door LH request switch is not pressed	OFF
REQ 3W-DR	When front door LH request switch is pressed	ON
	When front door RH request switch is not pressed	OFF
REQ SW-AS	When front door RH request switch is pressed	ON
	When trunk request switch is not pressed	OFF
REY OW-BD/TK	When trunk request switch is pressed	ON
	When push-button ignition switch is not pressed	OFF
	When push-button ignition switch is pressed	ON

< ECU DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

Monitor Item	Condition	Value/Status	٨
	Ignition switch OFF or ACC	OFF	A
	Ignition switch ON	ON	
	Ignition switch OFF	OFF	В
ACCINET -17D	Ignition switch ACC or ON	ON	
BRAKE SW/ 1	When the brake pedal is not depressed	ON	-
DIVARE SW 1	When the brake pedal is depressed	OFF	С
	When selector lever is in P position	OFF	
DETE/CANCE SW	When selector lever is in any position other than P	ON	D
	When selector lever is in any position other than P or N	OFF	
SET FININ SW	When selector lever is in P or N position	ON	
S/L LOCK	Electronic steering column lock LOCK status	OFF	Е
S/L-LOCK	Electronic steering column lock UNLOCK status	ON	
	Electronic steering column lock UNLOCK status	OFF	F
S/L-UNLOCK	Electronic steering column lock LOCK status	ON	
	Ignition switch OFF or ACC	OFF	
S/L RELAY-F/B	Ignition switch ON	ON	G
	Front door LH UNLOCK status	OFF	
UNLK SEN-DR	Front door LH LOCK status	ON	
	When push-button ignition switch is not pressed (IPDM E/R sends via CAN)	OFF	H
PUSH SW -IPDM	When push-button ignition switch is pressed (IPDM E/R sends via CAN)	ON	
	Ignition switch OFF or ACC	OFF	
IGN RLYT F/B	Ignition switch ON	ON	.1
	When selector lever is in P position (IPDM E/R sends via CAN)	OFF	0
DETE SW -IPDM	When selector lever is in any position other than P (IPDM E/R sends via CAN)	ON	W
SFT PN -IPDM	When selector lever is in any position other than P or N (IPDM E/R sends via CAN)	OFF	
	When selector lever is in P or N position (IPDM E/R sends via CAN)	ON	L
	When selector lever is in any position other than P (combination meter sends via CAN)	OFF	
SFTP-WET	When selector lever is in P position (combination meter sends via CAN)	ON	Μ
	When selector lever is in any position other than N (combination meter sends via CAN)	OFF	N
	When selector lever is in N position (combination meter sends via CAN)	ON	
	Engine stopped	STOP	0
	While the engine stalls	STALL	
ENGINE STATE	At engine cranking	CRANK	
	Engine running	RUN	Ρ
	Electronic steering column lock LOCK status (IPDM E/R sends via CAN)	OFF	
	Electronic steering column lock UNLOCK status (IPDM E/R sends via CAN)	ON	

< ECU DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

Monitor Item	Condition	Value/Status					
	Electronic steering column lock UNLOCK status (IPDM E/R sends via CAN)	OFF					
S/L UNLCK-IPDM	Electronic steering column lock LOCK status (IPDM E/R sends via CAN)	ON					
	Ignition switch OFF or ACC	OFF					
S/L RELAT-REQ	Ignition switch ON	ON					
VEH SPEED 1	While driving	Equivalent to speedometer reading					
VEH SPEED 2	While driving	Equivalent to speedometer reading					
	Front door LH LOCK status	LOCK					
DR DOOR STATE	Wait with selective UNLOCK operation (5 seconds)	READY					
	Front door LH UNLOCK status	UNLK					
	Front door RH LOCK status	LOCK					
AS DOOR STATE	Wait with selective UNLOCK operation (5 seconds)	READY					
	Front door RH UNLOCK status	UNLK					
	Ignition switch ACC or ON	RESET					
ID OK FLAG	Ignition switch OFF	SET					
DDMT ENC STAT	When the hybrid system start is prohibited	RESET					
PRIMITEING STAT	When the hybrid system start is permitted	SET					
PRMT RKE STAT	RMT RKE STAT NOTE: This item is displayed, but cannot be monitored.						
	When Intelligent Key is not inserted into key slot	OFF					
KEY SW -SLUT	When Intelligent Key is inserted into key slot	ON					
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Key					
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored.	Operation frequency of Intelligent Key					
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					
	When ID of front LH tire transmitter is registered (refer to <u>WT-6. "ID</u> <u>Registration Procedure"</u>)	DONE					
	When ID of front LH tire transmitter is not registered (refer to <u>WT-6.</u> <u>"ID Registration Procedure"</u>)	YET					
	When ID of front RH tire transmitter is registered (refer to <u>WT-6, "ID</u> <u>Registration Procedure"</u>)	DONE					
	When ID of front RH tire transmitter is not registered (refer to <u>WT-6</u> , <u>"ID Registration Procedure"</u>)	YET					
	When ID of rear RH tire transmitter is registered (refer to <u>WT-6, "ID</u> <u>Registration Procedure"</u>)	DONE					
	When ID of rear RH tire transmitter is not registered (refer to <u>WT-6.</u> <u>"ID Registration Procedure"</u>)	YET					
	When ID of rear LH tire transmitter is registered (refer to <u>WT-6, "ID</u> <u>Registration Procedure"</u>)	DONE					
	When ID of rear LH tire transmitter is not registered (refer to <u>WT-6</u> , <u>"ID Registration Procedure"</u>)	YET					

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status	
	Tire pressure indicator OFF	OFF	A
	Tire pressure indicator ON	ON	

Terminal Layout





BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Physical Values

INFOID:000000004490990

Termi	inal No.	Description				
(Wire	e color)	Cignal name	Input/		Condition	Value
(+)	(-)	Signal name	Output			(/ ())
1 (W/B)	Ground	Battery power supply	Input	Ignition switch OFI	Ŧ	Battery voltage
2 (R/Y)	Ground	Battery power supply output	Output	Ignition switch OFI	=	Battery voltage
3 (L/W)	Ground	Ignition power supply output	Output	Ignition switch ON		Battery voltage
4	Oraural	Interior room lamp	Outraut	After passing the in er operation time	terior room lamp battery sav-	0V
(P/W)	Ground	power supply	Output	Any other time after lamp battery saver	er passing the interior room	Battery voltage
5	Ground	Front door RH UN-	Output	Front door DU	UNLOCK (actuator is activated)	Battery voltage
(G/Y)	Ground	LOCK	Output		Other than UNLOCK (actu- ator is not activated)	0V
7	Cround	Ston Jamp	Qutout	Doom lown timor	ON	Battery voltage
(R/W)	Ground	Step lamp	Output	Room lamp limer	OFF	0V
8	Cround		Output		LOCK (actuator is activat- ed)	Battery voltage
(V)	Ground	All doors lock	Output	All doors	Other than LOCK (actuator is not activated)	0V
9	Ground	Front door LH UN-	Output		UNLOCK (actuator is acti- vated)	Battery voltage
(G)	Giouna	LOCK	Output		Other than UNLOCK (actu- ator is not activated)	0V
10	Cround	Rear door RH and	Qutout	Rear door RH	UNLOCK (actuator is activated)	Battery voltage
(G/Y)	Giouna	LOCK	Output	and rear door LH	Other than UNLOCK (actu- ator is not activated)	0V
11 (Y/R)	Ground	Battery power supply	Input	Ignition switch OFI	=	Battery voltage
13 (B)	Ground	Ground		Ignition switch ON		0V
					OFF	0V
14 (R/Y)	Ground	Push-button ignition switch illumination ground	Input	Tail lamp	ON	NOTE: When the illumination brighten- ing/dimming level is in the neutral position (V) 10 0 2 ms JSNIA0010GB
15	Ground	ACC indicator lamo	Outout	Ignition switch	OFF	Battery voltage
(Y/L)	Ground		Output	Ignition switch	ACC	0V

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Term	inal No.	Description				Value A	
(Wire	e color)	Signal name	Input/		Condition	(Approx.)	
(+)	(-)	Signal hame	Output			()	
					Turn signal switch OFF	0V	R
17 (G/B)	Ground	Turn signal (RH)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 1 s PKID0926E 6.5V	C
					Turn signal switch OFF	0V	_
18 (G/O)	Ground	Turn signal (LH)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 5 0 1 5 0 1 1 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 1 5 0 1 1 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1	F
19		Room lamp timer		Interior room	Lamps fully OFF	Battery voltage	Ц
(Y)	Ground	control	Output	lamp	Lamps fully ON	0V	11
21	Ground		lasut	Ignition switch	When outside of the vehi- cle is bright	Close to 5V	
(P/B)	Ground	Optical sensor signal	input	ÔN	When outside of the vehi- cle is dark	Close to 0V	
24 (R/W)	Ground	Stop lamp switch 1	Input		—	Battery voltage	J
26	Ground	Stop Jamp switch 2	Input	Stop lamp switch	OFF (brake pedal is not de- pressed)	0V	PW(
(O/L)	0.00.00		mpor		ON (brake pedal is de- pressed)	Battery voltage	
27 (G/W)	Ground	Front door lock as- sembly LH (unlock sensor)	Input	Front door LH	LOCK status	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V	L M N
					UNLOCK status	0V	
29				When Intelligent K	ey is inserted into key slot	Battery voltage	0
(Y)	Ground	Key slot switch	Input	When Intelligent K	ey is not inserted into key slot	0V)
30				.	OFF	0	
(V/Y)	Ground	ACC feedback signal	Input	Ignition switch	ACC or ON	Battery voltage	Ρ
31		lanition relay-2 feed-			OFF	0V	
(G)	Ground	back signal	Input	Ignition switch	ON	Battery voltage	

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Term	inal No.	Description				Volue
(Wire	e color)	Signal name	Input/		Condition	(Approx.)
32 (R/B)	(-) Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V
					opens)	0V
33	Ground	Compressor ON sig-	Input	A/C switch	OFF	Battery voltage
(SB)		nai			ON	0V
34*	Ground	Front door lock as- sembly I H (key cylin-	Input	Front door lock	OFF (neutral)	Battery voltage
(L/R)	Cround	der switch) (unlock)	mput	cylinder switch)	ON (unlock)	0V
36*	Ground	Lock switch signal	Input	Door lock/unlock	Lock	Battery Voltage
(GR)	Ground	LOCK SWITCH SIGNAL	input	switch	Unlock	0V
37 (O)	Ground	Trunk lid opener can- cel switch	Input	Trunk lid opener cancel switch	CANCEL	(V) 15 10 10 ms JPMIA0012GB 1.1V
					ON	0V
38 (GR/	Ground	Rear window defog-	Input	Rear window de-	OFF	Battery Voltage V
W)		ger err eigner			ON	0V
39*	Cround		ا بر مرد ا	Door lock/unlock	Unlock	Battery Voltage
(GR/ R)	Ground	Unlock switch signal	input	switch	Lock	0V
40* (Y/G)	Ground	Power window serial link	Input/ Output	Ignition switch ON		(V) 15 10 10 ms JPMIA0013GB 10.2V
_				Ignition switch OF	F or ACC	0V
41	Crownel	Push-button ignition	0	Engine switch	ON	5.5V
(W)	Ground	switch illumination	Output	mination	OFF	0V
42	Ground	LOCK indicator lamp	Output	LOCK indicator	ON	0V
(R)	Ground		Juiput	lamp	OFF	Battery voltage
45 (P)	Ground	Receiver & sensor ground	Input	Ignition switch ON		0V

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Term	inal No.	Description				Value	
(Wir	e color)	Signal name	Input/	Condition		(Approx.)	
(+)	(-)	Signal hame	Output			(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
46	Ground	Receiver & sensor	Output	Ignition switch	OFF	0V	D
(V/W)	Giouria	power supply output	Output	Ignition switch	ACC or ON	5.0V	D
47	Ground	Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 4 2 0 • • 0.2s OCC3881D	C D
(G/O)	Clound	er signal	Output	ON	When receiving the signal from the transmitter	(V) 4 2 0 • • 0.2s • • 0.2s • • 0.2s • • 0.2s	F
48	Oraciand	Selector lever P/N	1	O al a atau lavran	P or N position	12.0V	Н
(R/B)	Ground	position signal	input	Selector lever	Except P and N positions	0V	
					ON	0V	
49 (L/O)	Ground	Security indicator sig- nal	Output	Security indicator	Blinking	(V) 15 0 15 15 15 15 15 15 15 15 15 15	J PW
					OFF	Battery voltage	
					All switch OFF	0V	L
50 (LG/ B)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 1ST Lighting switch high-beam Lighting switch 2ND Turn signal switch RH	(V) 15 10 5 0 0 	M
						JPMIA0031GB 10.7V	
51 (L/W)	Ground	Combination switch OUTPUT 1	Output	Combination switch	All switch OFF (Wiper intermittent dial 4) Front wiper switch HI (Wiper intermittent dial 4) Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6	0V 0V	P

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Term	inal No.	Description				Value	
(Wire	e color)	Signal name	Input/		Condition	(Approx.)	
(+)	(-)	olghar hame	Output				
52 (G/B)	Ground	Combination switch OUTPUT 2	Output	Combination switch	All switch OFF (Wiper intermittent dial 4) Front washer switch ON (Wiper intermittent dial 4) Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	0V	
					All switch OFF	0V	
					Front wiper switch INT		
50				Combination	Front wiper switch LO		
53 (LG/ R)	Ground	Combination switch OUTPUT 3	Output	switch (Wiper intermit- tent dial 4)	Lighting switch AUTO	10 5 6 2.ms JPMIA0034GB	
. <u></u>						0\/	
					Front fog lamp switch ON		
					Lighting switch 2ND	(V)	
54 (G/Y)	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper intermit-	Lighting switch flash-to- pass		
			tent dial 4)		tent dial 4)	Turn signal switch LH	2.ms JPMIA0035GB 10.7V
55				Front blower mo-	ON	Battery voltage	
(BR/ W)	Ground	Front blower monitor	Input	tor switch	OFF	0V	
56		Front door lock as-		Front door lock	OFF (neutral)	Battery voltage	
(L/B)	Ground	sembly LH (key cylin- der switch) (lock)	Input	assembly LH (key cylinder switch)	ON (lock)	0V	
57 (W)	Ground	Tire pressure warn- ing check switch	Input		_	Battery voltage	
58 (SB)	Ground	Front door LH switch	Input	Front door LH switch	OFF (front door LH CLOSE)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V	
					ON (front door LH OPEN)	0V	
59	Ground	Rear window defog-	Output	Rear window de-	Active	Battery voltage	
(G/R)	Ground	ger relay	Sulpul	fogger	Not activated	0V	

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Term	inal No.	Description				Value	Δ
(VVIre	e color)	Signal name	Input/		Condition	(Approx.)	A
60	(-)	Front console anten-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 1 s JMKIA0062GB	B C D
(B/R)	60 Ground Front c (B/R) a 2 (-	na 2 (-)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 1 1 1 J J J J J J J J J J J J J	E
61	Ground	Center console an-	Outout	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1	G H I
61 Grour (W/R)		tenna 2 (+)		OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 5 10 5 10 5 10 5 10 5 10 5 10 5 1	J PW
62	Ground	Front outside handle	Output	When the front door RH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	M
62 (B/Y) Ground	Giound	RH antenna (-)	Output	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 5 1 s JMKIA0063GB	O

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Terminal No.		Description				Value	
(Wire (+)	e color) (-)	Signal name	Input/ Output	Condition		(Approx.)	
63	Ground	Front outside handle	Outout	When the front door RH request	When Intelligent Key is in the antenna detection area	(V) 15 0 1 1 1 5 0 1 5 1	
(LG)		RH antenna (+)	Cutput	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 5 0 1 s JMKIA0063GB	
64	Ground	Front outside handle	Outout	Dutput When the front door LH request switch is operat- ed with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	
(V)	Giouna	LH antenna (-)	Guiput		When Intelligent Key is not in the antenna detection area	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
65	Ground	ound Front outside handle Output		When the front	When Intelligent Key is in the antenna detection area	(V) 15 0 1 s JMKIA0062GB	
65 (P)	Ground		switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB		

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Terminal No.		Description				Value	
(Wire	e color)	Signal name Input/		Condition		(Approx.)	
(+)	(-)		Output		Τ		
66		Instrument papel on		Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 1 s JMKIA0062GB	B C D
66 (R)	Ground	Instrument panel an- tenna (-)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	E
							G
67	Crowned	Instrument panel an-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 1 s JMKIA0062GB	H
(G)	Ground	tenna (+)	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	J PW	
68 (G/O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	M
69 (O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	N
70	Ground	Ignition relay-2 con-	Output loriti	Ignition switch	OFF or ACC	0V	
(R/B)	Ground	trol			ON	Battery voltage	
				•	·	·	0

Ρ

BCM (BODY CONTROL MODULE) [LH&RH FRONT WIN

[LH&RH FRONT WINDOW ANTI-PINCH]

Terminal No.		Description				Value	
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	
71	Ground	Remote keyless entry receiver signal	Input/ Output	During waiting		(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
(L/O)				When operating ei	ther button on Intelligent Key	(V) 15 10 5 0 1 ms JMKIA0065GB	
	Ground	Ground Combination switch INPUT 5 Input			All switch OFF (Wiper intermittent dial 4)	(V) 15 0 2.ms. JPMIA0041GB 1.4V	
75 (R/Y)			Input	Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0037GB 1.3V	
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 2.ms. JPMIA0040GB 1.3V	

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Terminal No.		Description				Value	
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	A
76 (R/G)	Ground	Combination switch INPUT 3			All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1 4V	B C D
					Lighting switch high-beam (Wiper intermittent dial 4)	(V) 15 10 5 0 	E
			Input	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	UV 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	G
						2 ms JPMIA0037GB 1.3V	I
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	(V) 15 10 5 2 ms JPMIA0040GB 1.3V	J PW
77	<u> </u>	Push-button ignition		Engine switch	Pressed	0V	
(BR)	Ground	switch	Input	(push switch)	Not pressed	Battery voltage	NЛ
78 (P)	Ground	CAN-L	Input/ Output		_	_	IVI
79 (L)	Ground	CAN-H	Input/ Output		_	_	Ν
					OFF	0V	
80 (R/L)	Ground	Ground Key slot illumination Output	Key slot illumina- tion	Blinking	(V) 15 0 10 10 10 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10	0 P	
					ON	6.5V	
					UN	Battery voltage	

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Terminal No.		Description				Value
(Wire	e color)	Signal name	Input/	Condition		(Approx.)
(+)	(-)	Signal name	Output			
81	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	Battery voltage
(LG)	Ground		Output	Ignition Switch	ON	0V
83	Ground	ACC relay control	Output	Ignition switch	OFF	0V
(L)	Ground	Acc relay control	Output	Ignition switch	ACC or ON	Battery voltage
84 (Y/R)	Ground	ECTV device (detent switch)	Output		—	Battery voltage
85		Electronic steering		Electronic steer-	Lock status	0V
(L/O)	Ground	Column lock condition	Input	ing column lock	Unlock status	Battery voltage
86	Cround	Electronic steering	Input	Electronic steer-	Lock status	Battery voltage
(G/R)	Giouna	No. 2	input	ing column lock	Unlock status	0V
87	Ground	ECTV device (detent	Input	Selector lever	P position	0V
(G/B)		switch)			Any position other than P	Battery voltage
					ON (pressed)	0V
88 (P/L)	Ground	Front door RH re- quest switch	Input	Front door RH re- quest switch	OFF (not pressed)	(V) 15 10 10 10 10 10 10 10 10 10 10
					ON (pressed)	OV
89 (B/W)	Ground	Front door LH re- quest switch	Input	Front door LH re- quest switch	OFF (not pressed)	(V) 15 10 5 10 10 ms JPMIA0016GB 1.0V
90	Cround	Front blower motor	Outout	Ignition owitch	OFF or ACC	0V
(Y)	Ground	relay control	Output	Ignition switch	ON	Battery voltage
91 (L/R)	Ground	Remote keyless entry receiver power sup- ply	Output	Ignition switch OFF		Battery voltage
94	0	Electronic steering	<u> </u>		OFF or ACC	Battery voltage
(G/Y)	Ground	column lock CPU power supply	Output	Ignition switch	ON	0V

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Terminal No.		Description					
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF	(V) 15 0 2 ms JPMIA0041GB 1.4V	B C D
					Turn signal switch LH	(V) 15 0 2 ms 1.3V	E
95 (R/W)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH	(V) 15 0 2 ms JPMIA0036GB 1.3V	H
					Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3V	J PW
					Front washer switch ON	(V) 15 10 5 0 2 ms	M
						JPMIA0039GB 1.3V	0

Ρ

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Terminal No. (Wire color)		Description		Condition		Value	
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2.ms JPMIA0041GB 1.4V	
96	Ground	ound Combination switch Input INPUT 4		Combination	Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0038GB 1.3V	
(P/B)			Switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0036GB 1.3V		
				Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	(V) 15 10 2 ms JPMIA0039GB 1.3V		
BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Term	inal No.	Description				Value	٨
(Wire	e color)	Signal name	Input/		Condition	(Approx.)	А
(')	(-)		Guiput		All switch OFF	(V) 15 10 5 0 2.ms JPMIA0041GB 1.4V	B C D
					Lighting switch flash-to- pass	(V) 15 10 2 ms JPMIA0037GB 1.3V	E
97 (R/B)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 0 2 ms JPMIA0036GB 1.3V	G H I
					Front wiper switch INT	(V) 15 0 2 ms 10 2 ms JPMIA0038GB 1.3V	J PW
					Front wiper switch HI	(V) 15 10 0 2 ms	M
					Pressed	1.3V	0
98 (G/R)	Ground	Hazard switch	Input	Hazard switch	Not pressed	(V) 15 10 10 10 ms JPMIA0012GB 1.1V	Ρ

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Term	inal No.	Description				Value
(VVIre (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
					LOCK status	Battery voltage
99 (L/Y)	Ground	Electronic steering column lock CPU communication	Input/ Output	Electronic steer- ing column lock	LOCK or UNLOCK	(V) 15 10 50 50 50 50 MKIA0066GB
					For 15 seconds after UN- LOCK	Battery voltage
					15 seconds or later after UNLOCK	0V
103	Ground	Trunk lid opening	Output	Trunk lid	Open (trunk lid opener ac- tuator is activated)	Battery voltage
(V)	Cround		Output		Close (trunk lid opener ac- tuator is not activated)	٥V
110	Ground	Trunk room lamp	Output	Trunk room lamp	ON	0V
(V/VV)					OFF	Battery voltage
114	Ground	Trunk room antenna	Outout	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB
(B)	Giound	1 (-)		OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Term	inal No.	Description				Value	
(Wire	e color)	Signal name	Input/		Condition	(Approx.)	А
(+)	(-)	0.9.0	Output				
					When Intelligent Key is in the passenger compart- ment		B
115 (W)	Ground	Trunk room antenna 1 (+)	Output	Ignition switch OFF		JMKIA0062GB	D
					When Intelligent Key is not in the passenger compart-	(V) 15 10 5 0	Ε
					ment	JMKIA0063GB	F
							G
					When Intelligent Key is in the antenna detection area		Η
118	Ground	Rear bumper anten-	Output	When the trunk lid request switch		JMKIA0062GB	I
(L/O)		na (-)		ignition switch OFF	When Intelligent Key is not		J
					in the antenna detection area		PW
						JMKIA0063GB	L
					When Intelligent Key is in		Μ
119		Poor humper onten		When the trunk	the antenna detection area	JMKIA0062GB	Ν
(BR/ W)	Ground	na (+)	Output	is operated with			0
				OFF	When Intelligent Key is not in the antenna detection area		Ρ
						JMKIA0063GB	

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Terminal No. Description Value (Wire color) Condition Input/ (Approx.) Signal name (+) (-) Output 127 OFF or ACC Battery voltage Ignition relay (IPDM (BR/ Ground Output Ignition switch E/R) control ON 0V W) (V 15 10 5 0 OFF (trunk is closed) 130 Trunk room lamp Trunk room lamp Ground Input (Y/G) switch switch 10 ms JPMIA0011GB 11.8V ON (trunk is open) 0V When selector lever is in P or N position and the brake 0V peddle is not depressed 132 Ignition switch Ground Start signal Output (R) ON When selector lever is in P Pottony voltage

					peddle is depressed	Ballery vollage
					ON (pressed)	0V
141 (G/R)	Ground	Trunk request switch	Input	Trunk request switch	OFF (not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0V
144	Cround	Request switch buzz-	Output	Request switch	Sounding	0V
(GR)	Glound	er	Output	buzzer	Not sounding	Battery voltage
147	Cround	Trunk lid opener	Input	Trunk lid opener	Pressed	0V
(L/R)	Glound	switch	input	switch	Not pressed	Battery voltage
148 (R/W)	Ground	Rear door RH switch	Input	Rear door RH switch	OFF (when rear door RH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V
					ON (when rear door RH opens)	٥V

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Term	inal No.	Description				Value	
(Wire	e color)	Signal name	Input/		Condition	(Approx.)	F
(+)	(-)	olgharname	Output				
149 (R/B)	Ground	Rear door LH switch	Input	Rear door LH switch	OFF (when rear door LH closes)	(V) 15 10 5 0 10 ms J J J J J MIA0011GB 11.8V	B C E
					ON (when rear door LH opens)	0V	_

*: With LH and RH front window anti-pinch system

Н

F

G

J

PWC

L

Μ

Ν

Ο

Wiring Diagram

INFOID:000000004490991





ABMWA0183GI

■T■ : DATA LINE



ALMWA0039GE

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]



BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

< ECU DIAGNOSIS > [LH&RH FRONT V



 $\overline{\langle at
angle}$; with left front only power window anti-pinch system $\overline{\langle a2
angle}$; with left and right front power window anti-pinch system



Signal Name	CDL_DR/FL	CDL RR RL BACK	BAT_BCM_FUSE		GND1	LOW_SIDE_PUSH_LE	ACC_LED	-	FR_FLASHER	FL_FLASHER	ROOM_LAMP_OUTPUT	
Color of Wire	ŋ	G/Y	Υ/R	I.	В	К/Y	٨/٢	Ξ	G/B	0/9	٨	
Terminal No.	6	10	11	12	13	14	15	16	21	18	19	

Signal Name	KEYLESS_TUNER_SI	SHIFT_N/P	IMMO_LED	1NPUT_5		INPUT_2	INPUT_3	1NPUT_4	BLOWER_FAN_SW	LOCK_SW DOOR_KEY/C_	TPMS_MODE_TRIGG ER_SW	WS_ROOD_RU	REAR_DEFOGGER_
Color of Wire	G/O	R/B	L/0	LG/B	L/W	G/B	LG/R	G/Y	BR/W	L/B	Μ	SB	G/R
Terminal No.	47	48	49	50	51	52	53	54	55	56	57	58	59

(DLE)	E		7 8 9 10 4 15 16 17 18 19		Signal Name		ROOM_LAMP_BAT_ SAVER	CDL_AS	I	STEP_LAMP_OUTPUT	CDL_COMMON	
MOD	or WHIT		4 5 6 7 11 12 13 1		Color of	Wire	P/W	G/Y	I	R/W	٧	
	<u></u>	I		1								

Terminal No.

H.S. E

4 ß ဖ 4

CDL_COMMON	Signal Name	DOOR_LOCK_STATUS		FOB_IN_SW_1	ACC_F/B	IGN_F/B	AS_DOOR_SW	AIRCON_SW	DOOR_KEY/C_ UNLOCK_SW	I	CENTRAL_LOCK_SW	TRUNK_CANCEL_SW	REAR_DEFOGGER_SW	CENTRAL_UNLOCK_SW	PW_K-LINE	PUSH_LED	S/L_LOCK_LED	-		GND_RF2_A/L	A/L_SENS_KEYLESS_	TUNER_POWER_SUP	ΡLΥ
>	Color of Wire	G/W	-	Y	V/Y	G	R/B	SB	L/R	I	GR	0	GR/W	GR/R	Y/G	W	В	Ι	-	Ρ		N/N	
œ	Ferminal No.	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45		46	

	Signal Name	BAT_POWER_F/L	P/W_POWER_SUPPL Y_PERM	POWER_WINDOW_ POWER_SUPPLY (RAP)		(BODY CONTROL ULE)	EN	7	1 29 28 27 26 25 24 23 22 21 20 1 49 48 47 46 45 44 43 42 41 40	Signal Name	-	VIITO LICUT CENCO
	Color of Wire	W/B	R/Y	ΓW	M18	ne BCM MOD	or GRE	\square	33 32 31 30 53 52 51 50	Color of Wire	I	a/0
品.S.H	Terminal No.	-	2	Э	Connector No.	Connector Nai	Connector Col	H.S.	39 38 37 36 35 34 59 58 57 56 55 54	Terminal No.	20	01

Signal Name	1	AUTO_LIGHT_SENSO R_INPUT1	I	1	STOP_LAMP_LOW_SV	I	STOP_LAMP_HIGH_SV
Color of Wire	T	P/B	I	I	R/W	T	0/L
Terminal No.	20	21	22	23	24	25	26

AWMIA0392GE

BCM (BODY CONTROL MODULE)

[LH&RH FRONT WINDOW ANTI-PINCH]

< ECU DIAGNOSIS >

Connector Name BCM (BODY CONTROL

Connector Color

Connector No. M17

BCM (BODY CONTROL MODULE) CONNECTORS

Connector No. M16 Connector Name BCM (BODY CONTROL MODULE)

Connector No.

BLACK

Connector Color

Connector No. M19				H	Color of	Signal Name
Connector Name BCM (BODY CONTROL	Terminal No.	Color of	Signal Name	I erminal N	o. Wire	,
MODULE)	63	anv DV	AS DOOD ANT B	82	I	I
	70			83		ACC_CONT
	63	. <u>5</u>	AS DOUR ANI A	84	Y/R	AT DEVICE OUT
	64	>	DR DOOR ANT B	85	9	S/L CONDITION 1
	65	۹	DR DOOR ANT A	86 A6	ц Ц	S/L CONDITION 2
	66	щ	ROOM ANT 1 B	87		CHIET P
	67	თ	ROOM ANT 1 A	5	Ż	
129 281 271 756 724 724 721 701 680 688 657 663 668 655 664 663 662 664 663 665 664 663 665 664 663 665 664 663 665 664 663 665 664 663 665 664 663 665 664 663 665 664 664 664 664 <td>68</td> <td>G/O</td> <td>FOB_READER_CLOCK</td> <td>88</td> <td>P/L</td> <td>SWITCH</td>	68	G/O	FOB_READER_CLOCK	88	P/L	SWITCH
99 97 96 95 94 93 92 91 90 88 87 86 85 84 80 80 80 80 80 80 81 80	69	0	FOB_READER_DATA			DR REQUEST
	70	R/B	IGN_ELEC_CONT	89	B/W	SWITCH
Color of Signal Name	71	Г/О	RF1 TUNER SIGNAL	06	Y	IGN2_CONT
I erminal No. Wire	72	1	-	91	L/R	RF1_POWER_SUPPLY
60 B/R ROOM_ANT_2_B	73	-	-	92	1	!
61 W/R ROOM ANT 2 A	75	R/Y	OUTPUT_5	93	1	1
-	76	R/G	OUTPUT_3	94	G/Y	S/L_POWER_SUPPLY_
	77	BR	ENG_START_SW			12V
	78	Р	CAN-L	95	R/W	OUTPUT_1
	79	L	CAN-H	96	P/B	OUTPUT_4
	80	R/L	FOB_SLOT_	26	R/B	OUTPUT_2
			ILLUMINATION	98	G/R	HAZARD_SW
	81	ГG	IGN_ON_LED	66	Γ	S/L_K-LINE
Connector No. M20		Calar of	Signal Name			
Connector Name BCM (BODY CONTROL	Terminal No.	Wire	2			
MODULE)	100	I	1			
Connector Color WHITE	101	I	I			
	102	I	-			
	103	٨	CDL_BACK_TRUNK			
102103104 4054054074084001440444	104	I	1			
H.S.	105	I	-			
	106	I	I			
	107	I	-			
	108	I	I			
	109	ı	I			
	110	N	TRUNK_LAMP_OUTPUT			
	111	-	I			

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

PWC-193

ALMIA0084GB

А

В

С

D

Е

F

G

Н

J

PWC

L

Μ

Ν

0

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Signal Name	I	1	1	TRUNK_REQUEST_SW	I	I	BUZZER	Ι	I	BACK_TRUNK_ OPENER	RR_DOOR_SW	RL DOOR SW	I	I
Color of Wire	I	-	-	G/R	-	-	GR	Н	I	H/J	M/H	B/B	I	Ι
Terminal No.	138	139	140	141	142	143	144	145	146	147	148	149	150	151

Signal Name	BACK DOOR ANT A	I	I	I	I	-	I	I	IGN_USM_CONT1	1	I	TRUNK_SW	-	ST_CONT_USM	-	-	Ι	-	1
Color of Wire	BR/W	I	I	I	I	-	Ι	I	BR/W	I	I	γ/G	I	R	-	-	-	-	I
Terminal No.	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137

of Signation Signati	(1) (1)
	Color LOO LO LO

BCM (BODY CONTROL MODULE)

Connector Name

M21

Connector No.

Fail Safe

Signal Name	OUTPUT_5	INPUT_2	INPUT_4	INPUT_1	OUTPUT_1	INPUT_5	OUTPUT_2	I	I
Color of Wire	LG/B	R/B	P/B	R/W	L/W	Яγ	G/B	I	I
Terminal No.	8	6	10	11	12	13	14	15	16



Signal Name	WASH_MTR	OUTPUT_4	1	I	OUTPUT_3	GND	INPUT_3	
Color of Wire	R/L	6/۲	-	-	H/91	В	B/R	
Terminal No.	÷	2	e	4	5	9	7	

AWMIA0393GE

INFOID:000000004490992

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit hybrid system crank- ing	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit hybrid system crank- ing	Erase DTC

Connector No.

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Display contents of CONSULT	Fail-safe	Cancellation	^
B2190: NATS ANTENNA AMP	Inhibit hybrid system crank- ing	Erase DTC	A
B2191: DIFFERENCE OF KEY	Inhibit hybrid system crank- ing	Erase DTC	В
B2192: ID DISCORD BCM-ECM	Inhibit hybrid system crank- ing	Erase DTC	
B2193: CHAIN OF BCM-ECM	Inhibit hybrid system crank- ing	Erase DTC	С
B2195: ANTI-SCANNING	Inhibit hybrid system crank- ing	Erase DTC	D
B2557: VEHICLE SPEED	Inhibit electronic steering column lock	When normal vehicle speed signals have been received from brake ECU actuator and electric unit (control unit) for 500 ms	
B2562: LOW VOLTAGE	 Inhibit hybrid system cranking Inhibit electronic steering column lock 	100 ms after the power supply voltage increases to more than 8.8 V	E
B2563: HI VOLTAGE	 Inhibit hybrid system cranking Inhibit electronic steering column lock 	500 ms after the power supply voltage decreases to less than 18 V	G
B2601: SHIFT POSITION	Inhibit electronic steering column lock	 500 ms after the following signal reception status becomes consistent Selector lever P position switch signal P range signal (CAN) 	Н
B2602: SHIFT POSITION	Inhibit electronic steering column lock	 5 seconds after the following BCM recognition conditions are ful- filled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Vehicle speed: 4 /h or more 	l
B2603: SHIFT POSI STATUS	Inhibit electronic steering column lock	 500 ms after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Selector lever P/N position signal: Except P and N positions (0 V) 	PW
B2604: PNP SW	Inhibit electronic steering column lock	 500 ms after any of the following BCM recognition conditions is fulfilled Status 1 Ignition switch is in the ON position Selector lever P/N position signal: P and N position (battery voltage) P range signal or N range signal (CAN): ON Status 2 Ignition switch is in the ON position Selector lever P/N position signal: Except P and N positions (0 V) P range signal and N range signal (CAN): OFF 	L M N
B2605: PNP SW	Inhibit electronic steering column lock	 500 ms after any of the following BCM recognition conditions is fulfilled Ignition switch is in the ON position Power position: IGN Selector lever P/N position signal: Except P and N positions (0 V) Interlock/PNP switch signal (CAN): OFF Status 2 Ignition switch is in the ON position Selector lever P/N position signal: P or N position (battery voltage) PNP switch signal (CAN): ON 	O

PWC-195

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Display contents of CONSULT	Fail-safe	Cancellation
B2606: S/L RELAY	Inhibit hybrid system crank- ing	 500 ms after the following CAN signal communication status has become consistent Electronic steering column lock relay signal (Request signal) Electronic steering column lock relay signal (Condition signal)
B2607: S/L RELAY	Inhibit hybrid system crank- ing	 500 ms after the following CAN signal communication status has become consistent Electronic steering column lock relay signal (Request signal) Electronic steering column lock relay signal (Condition signal)
B2609: S/L STATUS	 Inhibit hybrid system cranking Inhibit electronic steering column lock 	 When the following electronic steering column lock conditions agree BCM electronic steering column lock control status Electronic steering column lock condition No. 1 signal status Electronic steering column lock condition No. 2 signal status
B260A: IGNITION RELAY	Inhibit hybrid system crank- ing	 500 ms after the following conditions are fulfilled IGN relay (IPDM E/R) control signal: OFF (Battery voltage) Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions is fulfilledPower position changes to ACCReceives hybrid system status signal (CAN)
B2612: S/L STATUS	 Inhibit hybrid system cranking Inhibit electronic steering column lock 	 When any of the following conditions is fulfilled Electronic steering column lock unit status signal (CAN) is received normally The BCM electronic steering column lock control status matches the electronic steering column lock status recognized by the electronic steering column lock unit status signal (CAN from IPDM E/R)
B2617: STARTER RELAY CIRC	Inhibit hybrid system crank- ing	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit hybrid system crank- ing	1 second after the ignition relay (IPDM E/R) control inside BCM be- comes normal
B2619: BCM	Inhibit hybrid system crank- ing	1 second after the electronic steering column lock unit power sup- ply output control inside BCM becomes normal
B261E: VEHICLE TYPE	Inhibit hybrid system crank- ing	BCM initialization
B26E1: ENG STATE NO RECIV	Inhibit hybrid system crank- ing	When any of the following conditions is fulfilledPower position changes to ACCReceives hybrid system status signal (CAN)

DTC Inspection Priority Chart

INFOID:000000004490993

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

Priority	DTC
1	 B2562: LOW VOLTAGE B2563: HI VOLTAGE B261E: VEHICLE TYPE
2	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN)
3	 B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

Priority	DTC	
	B2013: ID DISCORD BCM-S/L B2014: CHAIN OF S/L-BCM B2553: IGNITION BELAY	A
	B2555: STOP LAMP B2556: PUSH-BTN IGN SW B2557: VEHICLE SPEED	В
	 B2601: SHIFT POSITION B2602: SHIFT POSITION B2603: SHIFT POSI STATUS 	С
	 B2604: PNP SW B2605: PNP SW B2606: S/L RELAY B2607: S/L RELAY 	D
4	B2609: S/L STATUS B260A: IGNITION RELAY B260B: STEERING LOCK UNIT D2000: STEERING LOCK UNIT	E
	 B260C: STEERING LOCK UNIT B260D: STEERING LOCK UNIT B260F: ENG STATE SIG LOST B2611: ACC RELAY B2612: S/L STATUS 	F
	 B2614: ACC RELAY CIRC B2615: BLOWER RELAY CIRC B2616: IGN RELAY CIRC B2617: STARTER RELAY CIRC 	G
	B2618: BCM B2619: BCM B261A: PUSH-BTN IGN SW D2614: FUSH-BTN IGN SW	Η
	B20ET. ENG STATE NO RECIV C1729: VHCL SPEED SIG ERR U0415: VEHICLE SPEED SIG	
	C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1707: LOW PRESSURE RL	J
	 C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL 	PW
	C1712: [CHECKSUM ERR] FL C1713: [CHECKSUM ERR] FR C1714: [CHECKSUM ERR] RR C1715: [CHECKSUM ERR] RI	L
5	C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1718: [PRESSDATA ERR] RI	M
	 C1720: [CODE ERR] FL C1721: [CODE ERR] FR C1722: [CODE ERR] RR C1722: [CODE ERR] RR 	Ν
	 C1723: [CODE ERR] RL C1724: [BATT VOLT LOW] FL C1725: [BATT VOLT LOW] FR C1726: [BATT VOLT LOW] RR 	0
	C1727: [BATT VOLT LOW] RL C1734: CONTROL UNIT	P
6	 B2621: INSIDE ANTENNA B2622: INSIDE ANTENNA B2623: INSIDE ANTENNA 	I

DTC Index

INFOID:000000004490994

BCM (BODY CONTROL MODULE) ILH&RH FRONT WINDOW

[LH&RH FRONT WINDOW ANTI-PINCH]

- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF \rightarrow ON again.
- 1 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1
 → 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	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	—	—	_	<u>BCS-37</u>
U1010: CONTROL UNIT (CAN)	_		_	BCS-38
U0415: VEHICLE SPEED SIG	_		_	BCS-39
B2013: ID DISCORD BCM-S/L	×	_	_	<u>SEC-30</u>
B2014: CHAIN OF S/L-BCM	×	_	_	<u>SEC-31</u>
B2190: NATS ANTENNA AMP	×	—	—	<u>SEC-40</u>
B2191: DIFFERENCE OF KEY	×	—	_	<u>SEC-43</u>
B2192: ID DISCORD BCM-ECM	×	—	_	<u>SEC-44</u>
B2193: CHAIN OF BCM-ECM	×	—	—	<u>SEC-45</u>
B2553: IGNITION RELAY	—	—	—	PCS-53
B2555: STOP LAMP	—	—	_	<u>SEC-46</u>
B2556: PUSH-BTN IGN SW	—	×	_	<u>SEC-49</u>
B2557: VEHICLE SPEED	×	×	_	<u>SEC-51</u>
B2562: LOW VOLTAGE	—	—	_	<u>BCS-40</u>
B2563: HI VOLTAGE	×	×	_	<u>BCS-41</u>
B2601: SHIFT POSITION	×	×	_	<u>SEC-52</u>
B2602: SHIFT POSITION	×	×	—	<u>SEC-55</u>
B2603: SHIFT POSI STATUS	×	×	_	<u>SEC-57</u>
B2604: PNP SW	×	×	_	<u>SEC-60</u>
B2607: S/L RELAY	×	×	—	<u>SEC-62</u>
B2609: S/L STATUS	×	×	—	<u>SEC-64</u>
B260A: IGNITION RELAY	×	×	_	PCS-55
B260B: STEERING LOCK UNIT	_	×	_	<u>SEC-68</u>
B260C: STEERING LOCK UNIT		×	_	<u>SEC-69</u>
B260D: STEERING LOCK UNIT	_	×	_	<u>SEC-70</u>
B260F: ENG STATE SIG LOST	×	×	—	<u>SEC-71</u>
B2611: ACC RELAY	_		_	PCS-56
B2612: S/L STATUS	×	×	_	<u>SEC-72</u>
B2614: ACC RELAY CIRC	_	×	_	PCS-58
B2615: BLOWER RELAY CIRC	_	×	_	PCS-61
B2616: IGN RELAY CIRC		×	_	PCS-64
B2617: STARTER RELAY CIRC	×	×	_	<u>SEC-76</u>
B2618: BCM	×	×		PCS-67
B2619: BCM	×	×		<u>SEC-78</u>
B261A: PUSH-BTN IGN SW		×	_	<u>SEC-79</u>

BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	А
B261E: VEHICLE TYPE	×	× (Turn ON for 15 seconds)	_	<u>SEC-81</u>	В
B2621: INSIDE ANTENNA	—	_		DLK-59	-
B2622: INSIDE ANTENNA	—	_	_	<u>DLK-62</u>	-
B2623: INSIDE ANTENNA	—	—	—	<u>DLK-65</u>	С
C1704: LOW PRESSURE FL	—	—	×	<u>WT-8</u>	-
C1705: LOW PRESSURE FR	—	—	×	<u>WT-8</u>	D
C1706: LOW PRESSURE RR	—	—	×	<u>WT-8</u>	-
C1707: LOW PRESSURE RL	—	—	×	<u>WT-8</u>	-
C1708: [NO DATA] FL	—	—	×	<u>WT-14</u>	E
C1709: [NO DATA] FR	—	—	×	<u>WT-14</u>	-
C1710: [NO DATA] RR	—	—	×	<u>WT-14</u>	F
C1711: [NO DATA] RL	—	—	×	<u>WT-14</u>	- 1
C1712: [CHECKSUM ERR] FL	—	—	×	<u>WT-16</u>	-
C1713: [CHECKSUM ERR] FR	_	_	×	<u>WT-16</u>	G
C1714: [CHECKSUM ERR] RR	—	—	×	<u>WT-16</u>	-
C1715: [CHECKSUM ERR] RL	—	_	×	<u>WT-16</u>	Ц
C1716: [PRESSDATA ERR] FL	—	—	×	<u>WT-18</u>	- 11
C1717: [PRESSDATA ERR] FR	_	_	×	<u>WT-18</u>	-
C1718: [PRESSDATA ERR] RR	_	_	×	<u>WT-18</u>	
C1719: [PRESSDATA ERR] RL	—	_	×	<u>WT-18</u>	-
C1720: [CODE ERR] FL	—	—	×	<u>WT-16</u>	
C1721: [CODE ERR] FR	_	_	×	<u>WT-16</u>	J
C1722: [CODE ERR] RR	_	_	×	<u>WT-16</u>	-
C1723: [CODE ERR] RL	_	_	×	<u>WT-16</u>	PW
C1724: [BATT VOLT LOW] FL	_	_	×	<u>WT-16</u>	
C1725: [BATT VOLT LOW] FR	_	_	×	<u>WT-16</u>	-
C1726: [BATT VOLT LOW] RR	_	_	×	<u>WT-16</u>	L
C1727: [BATT VOLT LOW] RL	_	—	×	<u>WT-16</u>	-
C1729: VHCL SPEED SIG ERR	—	—	×	<u>WT-19</u>	М
C1734: CONTROL UNIT	—	—	×	<u>WT-20</u>	

Ν

0

NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

< SYMPTOM DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

SYMPTOM DIAGNOSIS

NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

Diagnosis Procedure

INFOID:000000004215943

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit. Refer to <u>BCS-42</u>, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

 $\mathbf{2}$. 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-110, "POWER WINDOW MAIN SWITCH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace the malfunctioning parts.

 $\mathbf{3.}$ CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH SERIAL CIRCUIT

Check main power window and door lock/unlock switch serial circuit. Refer to <u>PWC-110</u>, "POWER WINDOW MAIN SWITCH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace the malfunctioning parts.

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

Check main power window and door lock/unlock switch. Refer to PWC-110, "POWER WINDOW MAIN SWITCH : Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE [LH&RH FRONT WINDOW ANTI-PINCH]

< SYMPTOM DIAGNOSIS >

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure	INFOID:000000004215944	A
1. CHECK FRONT POWER WINDOW MOTOR LH		В
Check front power window motor LH. Refer to <u>PWC-120, "DRIVER SIDE : Component Function Check"</u> . Is the inspection result normal?		С
 YES >> Inspection End. NO >> Check intermittent incident. Refer to <u>GI-42. "Intermittent Incident"</u>. 		D

Ε

F

G

Н

J

L

PWC

Μ

Ο

Ρ

PWC-201

FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPER-ATE

Diagnosis Procedure

INFOID:000000004215945

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

Check power window and door lock/unlock switch RH. Refer to PWC-115, "FRONT POWER WINDOW SWITCH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

 $2. \ \mathsf{CHECK} \ \mathsf{POWER} \ \mathsf{WINDOW} \ \mathsf{AND} \ \mathsf{DOOR} \ \mathsf{LOCK} / \mathsf{UNLOCK} \ \mathsf{SWITCH} \ \mathsf{RH} \ \mathsf{SERIAL} \ \mathsf{LINK} \ \mathsf{CIRCUIT}$

Check power window and door lock/unlock switch RH serial link circuit. Refer to <u>PWC-139, "FRONT POWER WINDOW SWITCH : Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace the malfunctioning parts.

3. CHECK FRONT POWER WINDOW MOTOR RH CIRCUIT

Check front power window motor RH circuit. Refer to <u>PWC-122, "PASSENGER SIDE : Component Function Check"</u>.

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >	[LH&RH FRONT WINDOW ANTI-PINCH]
REAR LH SIDE POWER WINDOW ALON	E DOES NOT OPERATE

Diagnosis Procedure	INFOID:000000004215946	А
1. CHECK REAR POWER WINDOW SWITCH LH		В
Check rear power window switch LH. Refer to <u>PWC-117</u> , "REAR POWER WINDOW SWITCH : Component Function Check".		
Is the inspection result normal?		С
YES >> GO TO 2 NO >> Repair or replace the malfunctioning parts. 2. CHECK REAR POWER WINDOW MOTOR LH		D
Check rear power window motor LH.		
Refer to <u>PWC-123, "REAR LH : Component Function Check"</u> .		Ε
Is the inspection result normal?		
 YES >> Inspection End. NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>. 		F
		G

Η

J

PWC

L

Μ

Ν

Ο

REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000004215947

1. CHECK REAR POWER WINDOW SWITCH RH

Check rear power winodw switch RH. Refer to PWC-117, "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 REAR POWER WINDOW MOTOR RH

Check rear power window motor RH. Refer to <u>PWC-125, "REAR RH : Component Function Check"</u>.

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

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

< SYMPTOM DIAGNOSIS >	[LH&RH FRONT WINDOW ANTI-PINCH]
ANTI-PINCH SYSTEM DOES NOT OPERAT	TE NORMALLY (DRIVER SIDE)
Diagnosis Procedure	r INFOID:000000004215948
1. PERFORM INITIALIZATION PROCEDURE	E
Perform initialization procedure. Refer to <u>PWC-102</u> , "ADDITIONAL SERVICE WHEN REPLACIN ment".	IG CONTROL UNIT : Special Repair Require-
Is the inspection result normal? YES >> GO TO 2 NO >> Repair or replace the malfunctioning parts. 2. CHECK DOOR WINDOW SLIDING PART	[
 A foreign material adheres to window glass or glass run rubbe Glass run rubber wear or deformation. Sash is tilted too much or not enough. Is the inspection result normal? YES >> GO TO 3 	e r.
NO >> Repair or replace the malfunctioning parts. 3. CHECK ENCODER CIRCUIT	
Check encoder circuit. Refer to <u>PWC-127</u> , "DRIVER SIDE : Component Function Check Is the inspection result normal?	: <u>k"</u> . ⊦
NO >> Check intermittent incident. Refer to <u>GI-42. "Intermit</u>	ttent Incident".

J

PWC

L

M

Ν

Ο

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

< SYMPTOM DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

INFOID:000000004215949

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

Diagnosis Procedure 1. PERFORM INITIALIZATION PROCEDURE Perform initialization procedure. Refer to PWC-102, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement". Is the inspection result normal? YES >> GO TO 2 NO >> Repair or replace the malfunctioning parts. 2. CHECK DOOR WINDOW SLIDING PART A foreign material adheres to window glass or glass run rubber. Glass run rubber wear or deformation. · Sash is tilted too much or not enough. Is the inspection result normal? YES >> GO TO 3 NO >> Repair or replace the malfunctioning parts. 3. CHECK ENCODER CIRCUIT Check encoder circuit.

Refer to PWC-129, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMAL-LY (DRIVER SIDE)

LI (DRIVER SI	DE)	
< SYMPTOM DIAGNOSIS >	[LH&RH FRONT WINDOW ANTI-PINCH]	
AUTO OPERATION DOES NOT OPERATE MALLY (DRIVER SIDE)	BUT MANUAL OPERATE NOR-	A
Diagnosis Procedure	INFCID:00000004215950	D
1. PERFORM INITIALIZATION PROCEDURE		D
Perform initialization procedure. Refer to <u>PWC-102, "ADDITIONAL SERVICE WHEN REPLAC</u> ment".	ING CONTROL UNIT : Special Repair Require-	С
<u>Is the inspection result normal?</u> YES >> GO TO 2 NO >> Repair or replace the malfunctioning parts. 2 CHECK ENCODER		D
Check encoder.		E
Refer to <u>PWC-127</u> , "DRIVER SIDE : Component Function Che	<u>eck"</u> .	
<u>Is the inspection result normal?</u> YES >> Inspection End. NO >> Check intermittent incident. Refer to <u>GI-42, "Intern</u>	nittent Incident".	F

J

G

Н

I

PWC

L

M

Ν

Ο

AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMAL-LY (PASSENGER SIDE)

< SYMPTOM DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NOR-MALLY (PASSENGER SIDE)

Diagnosis Procedure

INFOID:000000004215951

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-102</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

2. CHECK ENCODER

Check encoder.

Refer to PWC-129, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >	[LH&RH FRONT WINDOW ANTI-PINCH]

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPER-ATE PROPERLY

Diagnosis Procedure	INFOID:000000004215952	R
1. CHECK FRONT DOOR SWITCH		D
Check front door switch. Refer to <u>PWC-133, "Component Function Check"</u> .		С
Is the inspection result normal?		
 YES >> Inspection End. NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>. 		D

J

А

Е

F

G

Н

PWC

L

Μ

Ν

Ο

DOES NOT OPERATE BY KEY CYLINDER SWITCH

< SYMPTOM DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

DOES NOT OPERATE BY KEY CYLINDER SWITCH

Diagnosis Procedure

INFOID:000000004215953

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-102</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

 $2. {\rm CHECK\ FRONT\ DOOR\ LOCK\ ASSEMBLY\ LH\ (KEY\ CYLINDER\ SWITCH)}$

Check front door lock assembly LH (key cylinder switch). Refer to <u>PWC-135</u>, "Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

Diagn	osis Procedure	INFOID:000000004215954
1. сн	ECK INTELLIGENT KEY FUNCTION	В
Check Refer to	Intelligent Key function. DLK-116, "Component Function Check".	
Is the in	nspection result normal?	C
YES NO	>> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u> . >> Replace BCM. Refer to <u>BCS-87, "Removal and Installation"</u> .	
		D

J

PWC

L

Μ

Ν

Ο

Ρ

А

Е

F

G

Н

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

< SYMPTOM DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

Diagnosis Procedure

INFOID:000000004215955

1. Replace main power window and door lock/unlock switch

Replace main power window and door lock/unlock switch.

Refer to <u>PWC-98</u>, "Removal and Installation". After that, <u>PWC-114</u>, "POWER WINDOW MAIN SWITCH : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

< PRECAUTION > PRECAUTION

А

В

Ε

F

Н

L

M

Ρ

INEOID:000000004485304

PRECAUTIONS

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

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.

Necessary for Steering Wheel Rotation After Battery Disconnect

NOTE:

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both 12-volt battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both 12volt battery cables.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.
- This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the 12-volt battery is disconnected or discharged, the steering wheel will lock and cannot be turned. If turning the steering wheel is required with the 12-volt battery disconnected or discharged, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both 12-volt battery cables. **NOTE:**

Supply power using jumper cables if 12-volt battery is discharged.

- 2. Carry the Intelligent Key or insert it to the key slot and turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
- Disconnect both 12-volt battery cables. The steering lock will remain released with both 12-volt battery N
 cables disconnected and the steering wheel can be turned.
- 4. Perform the necessary repair operation.
- 5. When the repair work is completed, re-connect both 12-volt battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
- 6. Perform self-diagnosis check of all control units using CONSULT-III.

ON-VEHICLE MAINTENANCE PRE-INSPECTION FOR DIAGNOSTIC

Basic Inspection

BASIC INSPECTION

- 1. INSPECTION START
- 1. Check the service history.
- 2. Check the following parts.
- Fuse/fusible link blown.
- Poor connection, open or short circuit of harness connector.

• Battery voltage.

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Repair or replace the malfunctioning parts.

INFOID:000000004215957

ON-VEHICLE REPAIR POWER WINDOW MAIN SWITCH

Removal and Installation

REMOVAL

1. Remove the power window main switch finisher (2). Refer to <u>INT-14, "Removal and Installation"</u>.

Pawl زِرْحُ

2. Power window main switch (1) is removed from power window main switch finisher (2) using a suitable tool (A).

CAUTION:

Do not fold the pawl of power window main switch finisher. NOTE:

The same procedure is also performed for front power window and door lock/unlock switch RH, and rear power window switch (LH & RH).

INSTALLATION

Installation is in the reverse order of removal.



А

В

Н

J

PWC

L

Μ

Ν

Ο

Ρ

INFOID:000000004215958