# SECTION POWER WINDOW CONTROL SYSTEM

# CONTENTS

FRONT & REAR WINDOW ANTI-PINCH
BASIC INSPECTION6
DIAGNOSIS AND REPAIR WORKFLOW
INSPECTION AND ADJUSTMENT7
ADDITIONAL SERVICE WHEN REMOVING BAT- TERY NEGATIVE TERMINAL
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT
SYSTEM DESCRIPTION8
POWER WINDOW SYSTEM8System Diagram8System Description8Component Parts Location10Component Description11
DIAGNOSIS SYSTEM (BCM)12
COMMON ITEM
RETAIND PWR
DTC/CIRCUIT DIAGNOSIS14

POWER SUPPLY AND GROUND CIRCUIT14	F
BCM14 BCM : Diagnosis Procedure14	G
POWER WINDOW MAIN SWITCH14 POWER WINDOW MAIN SWITCH : Diagnosis Procedure14	Н
FRONT POWER WINDOW SWITCH (PASSEN- GER SIDE)	I
REAR POWER WINDOW SWITCH16 REAR POWER WINDOW SWITCH : Diagnosis Procedure16	J
POWER WINDOW MOTOR18	PW
DRIVER SIDE       18         DRIVER SIDE : Description       18         DRIVER SIDE : Component Function Check       18         DRIVER SIDE : Diagnosis Procedure       19	L
PASSENGER SIDE	M
REAR LH21REAR LH : Description21REAR LH : Component Function Check21REAR LH : Diagnosis Procedure21REAR LH : Component Inspection22	O
REAR RH       22         REAR RH : Description       22         REAR RH : Component Function Check       22         REAR RH : Component Function Check       22         REAR RH : Diagnosis Procedure       23	

А

В

С

D

Е

REAR RH : Component Inspection 2	4
ENCODER2	5
DRIVER SIDE	5 5
PASSENGER SIDE       2         PASSENGER SIDE : Description       2         PASSENGER SIDE : Component Function Check       2         2       2	7
PASSENGER SIDE : Diagnosis Procedure 2	
REAR LH2REAR LH : Description2REAR LH : Component Function Check2REAR LH : Diagnosis Procedure2	9 9
REAR RH 3	
REAR RH : Description 3	
REAR RH : Component Function Check	
REAR RH : Diagnosis Procedure 3	
POWER WINDOW SERIAL LINK	5
POWER WINDOW MAIN SWITCH	5
Function Check 3 POWER WINDOW MAIN SWITCH : Diagnosis Procedure	
FRONT POWER WINDOW SWITCH (PASSEN-	
GER SIDE)	
· · · · · · · · · · · · · · · · · · ·	6
REAR LH	
REAR LH : Component Function Check	
REAR LH : Diagnosis Procedure 3	
REAR RH 3	9
REAR RH : Description	
REAR RH : Component Function Check	
POWER WINDOW LOCK SWITCH 4	
Description	1
ECU DIAGNOSIS INFORMATION 4	
BCM (BODY CONTROL MODULE) 4	
Reference Value 4 Wiring Diagram - POWER WINDOW CONTROL	2
SYSTEM 6	6

Fail-safe
POWER WINDOW MAIN SWITCH76Reference Value76Wiring Diagram - POWER WINDOW CONTROL78SYSTEM -78Fail Safe82
FRONT POWER WINDOW SWITCH       84         Reference Value       84         Wiring Diagram - POWER WINDOW CONTROL       86         SYSTEM -       86         Fail Safe       90
REAR POWER WINDOW SWITCH
SYMPTOM DIAGNOSIS100
NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH
DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE
FRONT PASSENGER SIDE POWER WIN- DOW DOES NOT OPERATE102
POWER WINDOW MAIN SWITCH IS OPERATED. 102 POWER WINDOW MAIN SWITCH IS OPERAT- ED : Diagnosis Procedure
FRONT POWER WINDOW SWITCH (PASSEN- GER SIDE) IS OPERATED 102 FRONT POWER WINDOW SWITCH (PASSEN- GER SIDE) IS OPERATED : Diagnosis Procedure . 102
WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW SWITCH ARE OPERATED00000000000000000000000000000000000
REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE103
POWER WINDOW MAIN SWITCH IS OPERATED. 103 POWER WINDOW MAIN SWITCH IS OPERAT- ED : Diagnosis Procedure
REAR POWER WINDOW SWITCH LH IS OPER- ATED

REAR POWER WINDOW SWITCH LH IS OPER- ATED : Diagnosis Procedure103
WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH LH ARE
OPERATED
REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE104
POWER WINDOW MAIN SWITCH IS OPERATED. 104 POWER WINDOW MAIN SWITCH IS OPERAT- ED : Diagnosis Procedure
REAR POWER WINDOW SWITCH RH IS OPER-
ATED
WHEN BOTH POWER WINDOW MAIN SWITCH
AND REAR POWER WINDOW SWITCH RH ARE OPERATED
WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE
OPERATED : Diagnosis Procedure
ANTI-PINCH FUNCTION DOES NOT OPER- ATE
DRIVER SIDE
PASSENGER SIDE
REAR LH
REAR RH
AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMALLY 107
DRIVER SIDE
PASSENGER SIDE
REAR LH
REAR RH
POWER WINDOW RETAINED POWER OP- ERATION DOES NOT OPERATE PROPERLY
<b>109</b> Diagnosis Procedure

DOES NOT OPERATE BY KEY CYLINDER	
SWITCH 110	А
Diagnosis Procedure110	
POWER WINDOW LOCK SWITCH DOES NOT FUNCTION	В
Diagnosis Procedure	
POWER WINDOW SWITCH ILLUMINATION DOES NOT ILLUMINATE	С
DRIVER SIDE	D
PASSENGER SIDE	E
REAR LH112 REAR LH : Diagnosis Procedure112	F
REAR RH112 REAR RH : Diagnosis Procedure112	I
PRECAUTION 113	G
PRECAUTIONS	Н
REMOVAL AND INSTALLATION	
POWER WINDOW MAIN SWITCH 114 Removal and Installation	J
Removal and Installation114	0
Removal and Installation114 FRONT WINDOW ANTI-PINCH	J PWC
Removal and Installation	0
Removal and Installation	0
Removal and Installation	PWC
Removal and Installation       114         FRONT WINDOW ANTI-PINCH       115         BASIC INSPECTION       115         DIAGNOSIS AND REPAIR WORKFLOW       115         Work Flow       115         INSPECTION AND ADJUSTMENT       116         ADDITIONAL SERVICE WHEN REMOVING BAT-       116         ADDITIONAL SERVICE WHEN REMOVING       116         ADDITIONAL SERVICE WHEN REPLACING       116         ADDITIONAL SERVICE WHEN REPLACING       116	PWC L
Removal and Installation       114         FRONT WINDOW ANTI-PINCH       115         BASIC INSPECTION       115         DIAGNOSIS AND REPAIR WORKFLOW       115         Work Flow       115         INSPECTION AND ADJUSTMENT       116         ADDITIONAL SERVICE WHEN REMOVING BAT-       116         ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL       116         ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description116       116         ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description116       116         ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description116       116         ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description116       116         ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description116       116	PWC L M
Removal and Installation       114         FRONT WINDOW ANTI-PINCH       115         BASIC INSPECTION       115         DIAGNOSIS AND REPAIR WORKFLOW       115         Work Flow       115         INSPECTION AND ADJUSTMENT       116         ADDITIONAL SERVICE WHEN REMOVING BAT-       116         ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL       116         ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description116       116         ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement       116         ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT       116         ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description       116         ADDITIONAL SERVICE WHEN REPLACING       116         ADDITIONAL SERVICE WHEN REPLACING       116	PWC L M N
Removal and Installation       114         FRONT WINDOW ANTI-PINCH         BASIC INSPECTION       115         DIAGNOSIS AND REPAIR WORKFLOW       115         Work Flow       115         INSPECTION AND ADJUSTMENT       116         ADDITIONAL SERVICE WHEN REMOVING BAT- TERY NEGATIVE TERMINAL       116         ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description116       116         ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Re- pair Requirement       116         ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT       116         ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description       116	PWC L M N

Component Parts Location Component Description	
DIAGNOSIS SYSTEM (BCM)	. 121
COMMON ITEM COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)	-
RETAIND PWR RETAIND PWR : CONSULT-III Function (BCM - RETAINED PWR)	
DTC/CIRCUIT DIAGNOSIS	. 123
POWER SUPPLY AND GROUND CIRCUIT .	. 123
BCM BCM : Diagnosis Procedure	<b>123</b> 123
POWER WINDOW MAIN SWITCH POWER WINDOW MAIN SWITCH : Diagnosis Procedure	
FRONT POWER WINDOW SWITCH (PASSEN-	
GER SIDE) FRONT POWER WINDOW SWITCH (PASSEN- GER SIDE) : Diagnosis Procedure	<b>124</b> 124
REAR POWER WINDOW SWITCH REAR POWER WINDOW SWITCH : Diagnosis Procedure	
REAR POWER WINDOW SWITCH	127
REAR POWER WINDOW SWITCH Description	
Description Component Function Check	127 127
Description Component Function Check Diagnosis Procedure	127 127 127
Description Component Function Check Diagnosis Procedure Component Inspection	127 127 127 128
Description Component Function Check Diagnosis Procedure	127 127 127 128
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR DRIVER SIDE	127 127 127 128 <b>129</b> 129
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR DRIVER SIDE DRIVER SIDE : Description	127 127 127 128 <b>129</b> 129 129
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR DRIVER SIDE DRIVER SIDE : Description DRIVER SIDE : Component Function Check	127 127 127 128 <b>129</b> 129 129 129
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR POWER SIDE DRIVER SIDE : Description DRIVER SIDE : Component Function Check DRIVER SIDE : Diagnosis Procedure	127 127 127 128 <b>.129</b> 129 129 129 129
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR POWER SIDE DRIVER SIDE : Description DRIVER SIDE : Component Function Check DRIVER SIDE : Diagnosis Procedure DRIVER SIDE : Component Inspection	127 127 127 128 129 129 129 129 129 130
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR POWER SIDE DRIVER SIDE : Description DRIVER SIDE : Component Function Check DRIVER SIDE : Diagnosis Procedure DRIVER SIDE : Component Inspection PASSENGER SIDE	127 127 127 128 129 129 129 129 129 130 130
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR PRIVER SIDE DRIVER SIDE : Description DRIVER SIDE : Component Function Check DRIVER SIDE : Diagnosis Procedure DRIVER SIDE : Component Inspection PASSENGER SIDE PASSENGER SIDE PASSENGER SIDE : Component Function Check	127 127 127 128 <b>129</b> 129 129 129 129 130 <b>130</b>
Description	127 127 127 128 <b>129</b> 129 129 129 129 130 <b>130</b> (130
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR PRIVER SIDE DRIVER SIDE : Description DRIVER SIDE : Component Function Check DRIVER SIDE : Diagnosis Procedure DRIVER SIDE : Component Inspection PASSENGER SIDE PASSENGER SIDE PASSENGER SIDE : Component Function Check	127 127 127 128 <b>129</b> 129 129 129 129 130 130 ( 130 130
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR PRIVER SIDE DRIVER SIDE : Description DRIVER SIDE : Component Function Check DRIVER SIDE : Diagnosis Procedure DRIVER SIDE : Component Inspection PASSENGER SIDE PASSENGER SIDE : Description PASSENGER SIDE : Component Function Check PASSENGER SIDE : Diagnosis Procedure PASSENGER SIDE : Diagnosis Procedure PASSENGER SIDE : Diagnosis Procedure PASSENGER SIDE : Diagnosis Procedure	127 127 127 128 <b>129</b> 129 129 129 129 130 130 ( 130 131
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR PRIVER SIDE DRIVER SIDE : Description DRIVER SIDE : Component Function Check DRIVER SIDE : Diagnosis Procedure DRIVER SIDE : Component Inspection PASSENGER SIDE PASSENGER SIDE : Description PASSENGER SIDE : Component Function Check PASSENGER SIDE : Component Function Check PASSENGER SIDE : Diagnosis Procedure PASSENGER SIDE : Diagnosis Procedure PASSENGER SIDE : Diagnosis Procedure PASSENGER SIDE : Component Inspection REAR LH	127 127 127 128 <b>129</b> 129 129 129 129 130 130 130 130 131 <b>131</b>
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR PRIVER SIDE DRIVER SIDE : Description DRIVER SIDE : Component Function Check DRIVER SIDE : Diagnosis Procedure DRIVER SIDE : Component Inspection PASSENGER SIDE PASSENGER SIDE : Description PASSENGER SIDE : Component Function Check PASSENGER SIDE : Component Function Check PASSENGER SIDE : Diagnosis Procedure PASSENGER SIDE : Diagnosis Procedure PASSENGER SIDE : Component Inspection REAR LH REAR LH	127 127 127 128 129 129 129 129 129 130 130 130 130 131 131 132 132
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR PRIVER SIDE DRIVER SIDE : Description DRIVER SIDE : Component Function Check DRIVER SIDE : Diagnosis Procedure DRIVER SIDE : Component Inspection PASSENGER SIDE PASSENGER SIDE : Description PASSENGER SIDE : Component Function Check PASSENGER SIDE : Component Function Check PASSENGER SIDE : Diagnosis Procedure PASSENGER SIDE : Diagnosis Procedure PASSENGER SIDE : Diagnosis Procedure PASSENGER SIDE : Component Inspection REAR LH	127 127 127 128 129 129 129 129 129 130 130 130 130 131 131 132 132
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR PRIVER SIDE DRIVER SIDE : Description DRIVER SIDE : Component Function Check DRIVER SIDE : Diagnosis Procedure DRIVER SIDE : Component Inspection PASSENGER SIDE : Description PASSENGER SIDE : Component Function Check PASSENGER SIDE : Component Function Check PASSENGER SIDE : Diagnosis Procedure PASSENGER SIDE : Component Inspection PASSENGER SIDE : Component Function Check PASSENGER SIDE : Component Inspection REAR LH REAR LH : Description REAR LH : Component Function Check	127 127 127 128 <b>129</b> 129 129 129 129 129 130 130 130 130 131 <b>131</b> <b>132</b> 132 132 132
Description	127 127 127 128 <b>129</b> 129 129 129 129 129 130 130 130 130 131 <b>132</b> 132 132 132 132
Description Component Function Check Diagnosis Procedure Component Inspection POWER WINDOW MOTOR PRIVER SIDE DRIVER SIDE : Description DRIVER SIDE : Component Function Check DRIVER SIDE : Diagnosis Procedure DRIVER SIDE : Component Inspection PASSENGER SIDE PASSENGER SIDE : Description PASSENGER SIDE : Component Function Check PASSENGER SIDE : Component Function Check PASSENGER SIDE : Component Inspection PASSENGER SIDE : Diagnosis Procedure PASSENGER SIDE : Component Inspection REAR LH REAR LH : Description REAR LH : Description REAR LH : Component Function Check REAR LH : Diagnosis Procedure	127 127 127 128 <b>129</b> 129 129 129 129 129 130 130 130 130 131 132 132 132 132 133 <b>133</b>

REAR RH : Diagnosis Procedure
ENCODER136
DRIVER SIDE
PASSENGER SIDE
PASSENGER SIDE : Diagnosis Procedure 138
POWER WINDOW SERIAL LINK141
POWER WINDOW MAIN SWITCH141POWER WINDOW MAIN SWITCH : Description . 141POWER WINDOW MAIN SWITCH : ComponentFunction Check141POWER WINDOW MAIN SWITCH : DiagnosisProcedure141
FRONT POWER WINDOW SWITCH (PASSEN-
GER SIDE)
FRONT POWER WINDOW SWITCH (PASSEN- GER SIDE) : Diagnosis Procedure
POWER WINDOW LOCK SWITCH144
Description
ECU DIAGNOSIS INFORMATION145
BCM (BODY CONTROL MODULE)145
Reference Value
SYSTEM
DTC Inspection Priority Chart
POWER WINDOW MAIN SWITCH180
Reference Value
FRONT POWER WINDOW SWITCH
Reference Value
Fail Safe196
SYMPTOM DIAGNOSIS198

NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH
DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE
FRONT PASSENGER SIDE POWER WIN- DOW DOES NOT OPERATE200
POWER WINDOW MAIN SWITCH IS OPERATED. 200 POWER WINDOW MAIN SWITCH IS OPERAT- ED : Diagnosis Procedure
FRONT POWER WINDOW SWITCH (PASSEN- GER SIDE) IS OPERATED200FRONT POWER WINDOW SWITCH (PASSEN- GER SIDE) IS OPERATED : Diagnosis Procedure 200
WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW SWITCH ARE OPERATED
REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE201
POWER WINDOW MAIN SWITCH IS OPERATED. 201 POWER WINDOW MAIN SWITCH IS OPERAT- ED : Diagnosis Procedure
REAR POWER WINDOW SWITCH LH IS OPER-         ATED         REAR POWER WINDOW SWITCH LH IS OPER-         ATED : Diagnosis Procedure         201
WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH LH ARE OPERATED
REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE202
POWER WINDOW MAIN SWITCH IS OPERATED. 202 POWER WINDOW MAIN SWITCH IS OPERAT- ED : Diagnosis Procedure
REAR POWER WINDOW SWITCH RH IS OPER- 202REAR POWER WINDOW SWITCH RH IS OPER- ATED : Diagnosis Procedure202
WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED

<b>BE</b> <b>198</b> 198	WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED : Diagnosis Procedure	A
199	ANTI-PINCH FUNCTION DOES NOT OPER- ATE	В
199	DRIVER SIDE203 DRIVER SIDE : Diagnosis Procedure	
200 ED. 200	PASSENGER SIDE	3
.T- 200	AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMALLY 204	D
- <b>200</b> N-	DRIVER SIDE204 DRIVER SIDE : Diagnosis Procedure204	
ure 200	PASSENGER SIDE	
H 200	POWER WINDOW RETAINED POWER OP- ERATION DOES NOT OPERATE PROPERLY	G
CH E	. 205 Diagnosis Procedure	
200 E 201	DOES NOT OPERATE BY KEY CYLINDER SWITCH	
<b>ED. 201</b> .T- 201	POWER WINDOW LOCK SWITCH DOES NOT FUNCTION	
R- 201	POWER WINDOW SWITCH ILLUMINATION DOES NOT ILLUMINATE	PW
ER- 201	DRIVER SIDE208 DRIVER SIDE : Diagnosis Procedure	,
H RE 201	PASSENGER SIDE	
CH RE	REAR LH208 REAR LH : Diagnosis Procedure	
201 E	REAR RH208 REAR RH : Diagnosis Procedure	N.I.
202	PRECAUTION 209	)
<b>ED. 202</b> .T- 202	PRECAUTIONS	0
R-	(SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER"209	P
<b>202</b> ER-	REMOVAL AND INSTALLATION	)
202		

# BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000001834004

DETAILED FLOW

# **1.**OBTAIN INFORMATION ABOUT SYMPTOM

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

>> GO TO 2.

## **2.**REPRODUCE THE MALFUNCTION INFORMATION

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

## >> GO TO 3.

# **3.** IDENTIFY THE MALFUNCTIONING SYSTEM WITH "SYMPTOM DIAGNOSIS"

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

#### >> GO TO 4.

## **4.** IDENTIFY MALFUNCTIONING PARTS WITH "COMPONENT DIAGNOSIS"

Perform the diagnosis with "Component diagnosis" of the applicable system.

#### >> GO TO 5.

**5.**REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace the specified malfunctioning parts.

#### >> GO TO 6.

## **6.**FINAL CHECK

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

Is the malfunctioning part repaired or replaced?

YES >> Trouble diagnosis is completed.

NO >> GO TO 3.

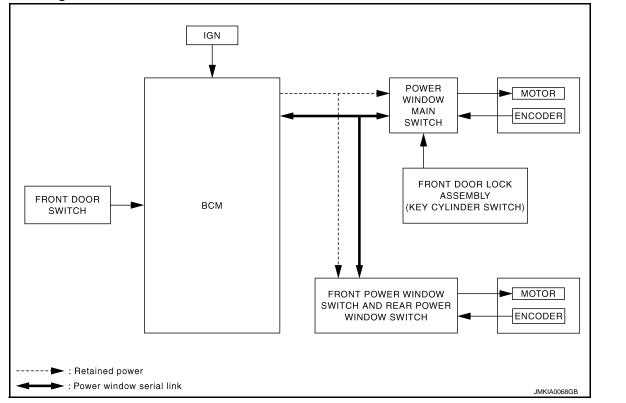
INSPECTION AND ADJUSTMENT ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : De- scription	< BASIC INSPECTION >	[FRONT & REAR WINDOW ANTI-PINCH]
ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : De- scription	INSPECTION AND ADJUSTMENT	
Scription processes when battery terminal is removed. CAUTON: The following specified operations are not performed under the non-initialized condition. Auto-up operation Retained power operation ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement INITIALIZATION PROCEDURE Disconnect battery minus terminal or power window main switch connector. Reconnect it after a minute or more. Turn ignition switch No. Continue pulling the power window switch to fully open the window. (This operation is unnecessary if the window is aiready fully open) Continue pulling the power window switch to fully open the window. (This operation). Even after glass stops at fully closed position, keep pulling the switch for 3 seconds or more. Control pulling the power window switch to fully open the window. (This operation). Even after glass stops at fully closed position. CHECK ANTI-PINCH FUNCTION Fully open the door window. Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops. Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops. Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops. Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops. Check that approximately 150 mm or 2 seconds without pinching piece of wood and stops. Check that approver the power window are an end to power window main switch while lowering. CAUTON: 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. That situation. Refer to <u>PWC-82. "Fail Safe"</u> Perform initial setting otherwise, next operation is anti-pinch function Retained power operation when ignition switch is OFF. ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description Comment Comment Comment Comment Comment Comment Commenter Comment Comment Comme	ADDITIONAL SERVICE WHEN REMOVING B	ATTERY NEGATIVE TERMINAL
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<ul> <li>Auti-pinch function</li> <li>Retained power operation</li> <li>Anti-pinch function</li> <li>Retained power operation</li> <li>ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement</li> <li>INITIALIZATION PROCEDURE</li> <li>Disconnect battery minus terminal or power window main switch connector. Reconnect it after a minute or more.</li> <li>Turn ignition switch ON.</li> <li>Operate power window switch to fully open the window. (This operation is unnecessary if the window is already fully open)</li> <li>Continue pulling the power window switch UP (AUTO-UP operation). Even after glass stops at fully closed position, keep pulling the switch for 3 seconds or more.</li> <li>Inspect anti-pinch function.</li> <li>CHECK ANTI-PINCH FUNCTION</li> <li>Fully open the door window.</li> <li>Place a wooden piece (wooden hammer handle, etc.) at near fully closed position.</li> <li>Close door glass completely with AUTO-UP.</li> <li>Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops.</li> <li>Check that glass lowers for inspection when system initialization is performed.</li> <li>Thay switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting when auto-up operation or anti-pinch function does not operate normally.</li> <li>Finish initial setting when auto-up operation or anti-pinch function does not operate normally.</li> <li>Finish initial setting when auto-up operation switch is OFF.</li> <li>ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description</li> <li>Retained power operation when ignition switch is OFF.</li> <li>ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description</li> <li>Auti-pinch function</li> <li>Anti-pinch function</li> <li>Anti-pinch SERVICE WHEN REPLACING CONTROL UNIT : Description</li> </ul>	CAUTION:	
<ul> <li>cial Repair Requirement</li> <li>INITIALIZATION PROCEDURE</li> <li>Disconnect battery minus terminal or power window main switch connector. Reconnect it after a minute or more.</li> <li>Turn ignition switch ON.</li> <li>Operate power window switch to fully open the window. (This operation is unnecessary if the window is already fully open)</li> <li>Continue pulling the power window switch UP (AUTO-UP operation). Even after glass stops at fully closed position, keep pulling the switch for 3 seconds or more.</li> <li>Inspect anti-pinch function.</li> <li>CHECK ANTI-PINCH FUNCTION</li> <li>Fully open the door window.</li> <li>Place a wooden piece (wooden hammer handle, etc.) at near fully closed position.</li> <li>Close door glass completely with AUTO-UP.</li> <li>Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops.</li> <li>Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops.</li> <li>Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops.</li> <li>Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops.</li> <li>Check that algues lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops.</li> <li>Check that algues lowers for approximately close operation is performed.</li> <li>It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting when auto-up operation or anti-pinch function does not operate normally.</li> <li>Finish initial setting. Otherwise, next operation cannot be done.</li> <li>Auto-up operation</li> <li>Anti-pinch function</li> <li>Retained power operation when ignition switch is OFF.</li> <li>ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description</li> <li>Conterece there to PWC-7, "ADDITIONAL SERVICE WHEN REPLACING CONTROL</li></ul>	<ul><li>Auto-up operation</li><li>Anti-pinch function</li></ul>	
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3. Retained power operation when ignition switch is OFF. ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description NFOID-0000001834007 Refer to <u>PWC-7, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Descrip-</u> tion". ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Re- quirement	<ul> <li>Perform initial setting when auto-up operation or anti-pin</li> <li>Finish initial setting. Otherwise, next operation cannot be</li> </ul>	
Refer to <u>PWC-7, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Descrip-</u> tion". ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Re- quirement	3. Retained power operation when ignition switch is OFF	
tion". ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Re- quirement	ADDITIONAL SERVICE WHEN REPLACING CO	·
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Re- quirement		
	_	ONTROL UNIT : Special Repair Re-
Refer to PWC-7. "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special	•	

**INSPECTION AND ADJUSTMENT** 

Repair Requirement".

# SYSTEM DESCRIPTION POWER WINDOW SYSTEM

# System Diagram



# System Description

#### INFOID:000000001834010

INFOID:000000001834009

#### POWER WINDOW MAIN SWITCH INPUT/OUTPUT SIGNAL CHART

Item	Input signal to power window main switch	Power window main switch function	Actuator
Key cylinder switch	LOCK/UNLOCK signal (more than 1.5 seconds over)	Power window control	
Encoder	Encoder pulse signal		
Power window main switch	Front power window motor (driver side) UP/DOWN signal		
Front power window switch (passenger side)	Front power window motor (passenger side) UP/DOWN signal		Each power window motor
Rear power window switch	Rear power window motor UP/DOWN signal		
BCM	RAP signal		

# FRONT POWER WINDOW & REAR POWER WINDOW SWITCH INPUT/OUTPUT SIGNAL CHART

#### < SYSTEM DESCRIPTION >

# POWER WINDOW SYSTEM

# [FRONT & REAR WINDOW ANTI-PINCH]

Item	Input signal to front power window & rear power window switch	Front power window & rear pow- er window switch function	Actuator	
Encoder	Encoder pulse signal			
BCM	RAP signal		Front power window motor	
Front power window switch (passenger side) & rear power window switch	Front power window motor (passen- ger side) & rear power window motor UP/DOWN signal	Power window control	(passenger side) & rear power window motor	
	/ OPERATION			
Power window sys and OFF.	stem is operable during the retain		ter turning ignition switch ON	
	in switch (driver side) can open/c r window switch can open/close t			
	/ AUTO-OPERATION			
Encoder continues	operation can be performed whe s detecting the movement of pow lse signal while power window m	ver window motor and trans		
Power window swi fully opened/close	itch reads the changes of encode d position.	er signal and stops AUTO op	peration when door glass is at	
	tor is operable in case encoder is	s maltunctioning.		
	R OPERATION peration is an additional power su seconds even when ignition switc		ower window system to oper-	
When ignition swit	$E$ (door switch OFF) $\rightarrow$ OPEN (doo	or switch ON).		
	, ,			
Ground circuit inside	e power window main switch shu h operation except with the powe		ock switch is ON. This inhibits	
ANTI-PINCH OPE	RATION			
	material in the door glass during		anti-pinch function that lowers	
Encoder continues	) mm or 2 seconds when detecte s detecting the movement of pov lse signal while power window m	ver window motor and trans	mits to power window switch	
Resistance is appl	lied to the power window motor r		quency of encoder pulse sig-	
	rial is trapped in the door glass. itch controls to lower the window ency change.	/ glass for 150 mm or 2 sec	conds after it detects encoder	
DPERATION COND When all door glas door glass closes		med (anti-pinch function doe	es not operate just before the	
<b>NOTE:</b> Depending on envir nay lower.	onment and driving conditions, i	f a similar impact or load is	applied to the door glass, it	
2	WITCH OPERATION			
Hold the door key cy power windows whe when operating. DPERATION COND	/linder to the LOCK or UNLOCK en ignition switch is OFF. In add NTION			
Ignition switch OF Hold door key cyli	F. nder to LOCK position for 1.5 se	econds or more to perform (	CLOSE operation of the door	

## < SYSTEM DESCRIPTION >

# POWER WINDOW SYSTEM

#### [FRONT & REAR WINDOW ANTI-PINCH]

 Hold door key cylinder to UNLOCK position for 1.5 seconds or more to perform OPEN operation of the door glass.

#### **KEYLESS POWER WINDOW DOWN FUNCTION**

All power windows open when the unlock button on Intelligent Key is activated and kept pressed for more than 3\* 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.

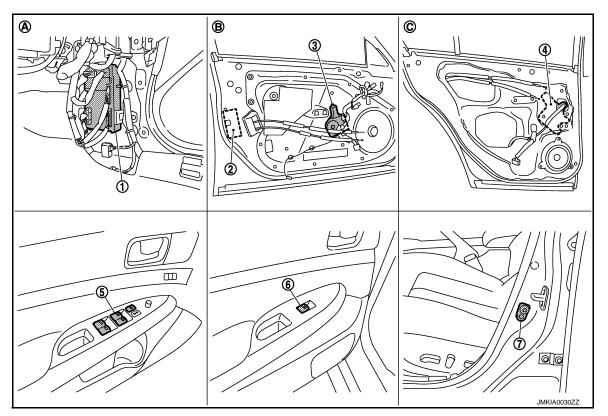
While retained power operation activate, keyless power window down function cannot be operated.

Keyless power window down operation mode can be changed by "PW DOWN SET" mode in "WORK SUP-PORT". Refer to DLK-54, "INTELLIGENT KEY : CONSULT-III Function (BCM - INTELLIGENT KEY)". NOTE:

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

**Component Parts Location** 

INFOID:000000001834011



- 1. BCM M118.M119.M122.M123
- 4. Rear power window motor LH D52
- Front door switch (driver side) B16 7.
- Front door lock assembly (driver 2. side) (key cylinder switch) D15 5.
  - Power window main switch D8,D9
- 3 Front power window motor (driver side) D10
  - Rear power window switch LH D57

- View with dash side lower (passen-A. ger side)
- Β. View with front door finisher removed C. View with rear door finisher removed

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< SYSTEM DESCRIPTION >

# **Component Description**

INFOID:000000001834012

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[FRONT & REAR WINDOW ANTI-PINCH]

Component	Function	
BCM	<ul><li>Supplies power supply to power window switch.</li><li>Controls retained power.</li></ul>	
Power window main switch	<ul><li>Directly controls all power window motor of all doors.</li><li>Controls anti-pinch operation of power window.</li></ul>	
Front power window switch	<ul><li>Controls anti-pinch operation of power window.</li><li>Controls power window motor of passenger door.</li></ul>	
Rear power window switch	<ul><li>Controls anti-pinch operation of power window.</li><li>Controls power window motor of rear right and left doors.</li></ul>	
Power window motor	<ul> <li>Integrates the ENCODER and WINDOW MOTOR.</li> <li>Starts operating with signals from each power window switch.</li> <li>Transmits power window motor rotation as a pulse signal to power window switch.</li> </ul>	
Front door lock assembly (key cylinde switch)	Transmits operation condition of key cylinder switch to power window main switch.	
Front door switch	Detects door open/close condition and transmits to BCM.	

**POWER WINDOW SYSTEM** 

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# DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:000000001834013

# APPLICATION ITEM

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

Diagnosis mode	Function Description	
Work Support	Changes the setting for each system function.	
Self Diagnostic Result	Displays the diagnosis results judged by BCM.	
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III opera- tion manual.	
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	This function is not used even though it is displayed.	

#### 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.

Curatara	Cub sustan calestics 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	ВСМ	×		
IVIS - NATS	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	TPMS (AIR PRESSURE MONITOR)	×	×	×

\*: This item is displayed, but is not used.

#### FREEZE FRAME DATA (FFD) AND IGN COUNTER

Freeze Frame Data

The BCM records the following condition at the moment a particular DTC is detected.

- Vehicle Speed
- Odd Trip Meter

# DIAGNOSIS SYSTEM (BCM)

## [FRONT & REAR WINDOW ANTI-PINCH]

• Vehicle Condition (BCM detected condition)

CONSULT screen terms	Description
SLEEP>LOCK	While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK")
SLEEP>OFF	While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)
LOCK>ACC	While turning power supply position from "LOCK" to "ACC"
ACC>ON	While turning power supply position from "ACC" to "IGN"
RUN>ACC	While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)
CRANK>RUN	While turning power supply position from "CRANKING" to "RUN" (From cranking up the en- gine to run it)
RUN>URGENT	While turning power supply position from "RUN" to "ACC" (Emergency stop operation)
ACC>OFF	While turning power supply position from "ACC" to "OFF"
OFF>LOCK	While turning power supply position from "OFF" to "LOCK"
OFF>ACC	While turning power supply position from "OFF" to "ACC"
ON>CRANK	While turning power supply position from "IGN" to "CRANKING"
OFF>SLEEP	While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode
LOCK>SLEEP	While turning BCM status from normal mode (Power supply position is "LOCK".) to low power consumption mode
LOCK	Power supply position is "LOCK" (Ignition switch OFF with steering is locked.)
OFF	Power supply position is "OFF" (Ignition switch OFF with steering is unlocked.)
ACC	Power supply position is "ACC" (Ignition switch ACC)
ON	Power supply position is "IGN" (Ignition switch ON with engine stopped)
ENGINE RUN	Power supply position is "RUN" (Ignition switch ON with engine running)
CRANKING	Power supply position is "CRANKING" (At engine cranking)

#### **IGN** Counter

IGN counter indicates the number of times that ignition switch is turned ON after DTC is detected.

- The number is 0 when a malfunction is detected now.
- The number increases like  $1 \rightarrow 2 \rightarrow 3...38 \rightarrow 39$  after returning to the normal condition whenever ignition switch OFF  $\rightarrow$  ON.
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.
   RETAIND PWR

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

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#### Data monitor

Monitor Item	Description	
DOOR SW-DR	Indicates [ON/OFF] condition of driver side door switch.	0
DOOR SW-AS	Indicates [ON/OFF] condition of passenger side door switch.	

#### < DTC/CIRCUIT DIAGNOSIS >

# DTC/CIRCUIT DIAGNOSIS POWER SUPPLY AND GROUND CIRCUIT

BCM

# **BCM** : Diagnosis Procedure

INFOID:000000002993954

# **1.**CHECK FUSE AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuse and fusible link No.
1	Battery power supply	М
11		10

#### Is the fuse fusing?

- YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
- NO >> GO TO 2.

# 2. CHECK POWER SUPPLY CIRCUIT

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

	(+) BCM		Voltage (Approx.)	
Connector	Terminal		(//pp/ox.)	
M118	1	Ground	Pottory, voltago	
M119	11	Ground	Battery voltage	

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### **3.**CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

ВС	CM		Continuity
Connector	Terminal	Ground	Continuity
M119	13		Existed

#### Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

POWER WINDOW MAIN SWITCH

# POWER WINDOW MAIN SWITCH : Diagnosis Procedure

INFOID:000000002993955

## 1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect power window main switch connectors.
- 3. Turn ignition switch ON.

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

# POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

# [FRONT & REAR WINDOW ANTI-PINCH]

Powe	(+)				
Powe				Voltage (V)	
	window main switch		()	(Approx.)	
Connector	Termina	al			
D8	10		Ground	Battery voltage	
_		etien?			
$\frac{1100}{1000} = \frac{1000}{1000} = \frac{1000}{1000$	lue within the specific				
NO >> GO TO 3.					
CHECK GROUND	CIRCUIT				
Turn ignition switc					
		v main switch ha	rness connector and g	round.	
Powe	window main switch			Orationity	
Connector	Termina	al	Ground	Continuity	
D9	17			Existed	
the inspection result	normal?				
/ES >> INSPECTI					
•	eplace harness.				
.CHECK HARNESS	CONTINUITY				
Turn ignition switc	ו OFF.				
Disconnect BCM of	onnector.				
Check continuity b	etween BCM harness	connector and p	oower window main sw	vitch harness connecto	
B	СМ	Power	window main switch		
Connector	Terminal	Connector	Terminal	Continuity	
	2		19		
	2	D9	19		
M118	3	D9 D8	19	Existed	
	3	D8	10	Existed	
		D8	10	Existed	
	3	D8	10		
	3 etween BCM harness	D8 connector and g	ground.	Continuity	
Check continuity b	3 etween BCM harness BCM	D8 connector and g	10	Continuity	
Check continuity b	3 etween BCM harness BCM Termina	D8 connector and g	ground.		
Check continuity b	3 etween BCM harness BCM Termina 2 3	D8 connector and g	ground.	Continuity	
Check continuity b Connector M118 the inspection result	3 etween BCM harness BCM Termina 2 3	D8 connector and g	ground.	Continuity	
Check continuity b Connector M118 the inspection result (ES >> Replace B NO >> Repair or b	3 etween BCM harness BCM Termina 2 3 normal? CM. Refer to <u>BCS-80</u> eplace harness.	D8 connector and g al	Ground	Continuity	
Check continuity b Connector M118 the inspection result (ES >> Replace B NO >> Repair or b	3 etween BCM harness BCM Termina 2 3 normal? CM. Refer to <u>BCS-80</u>	D8 connector and g al	Ground	Continuity	
Check continuity b Connector M118 the inspection result (ES >> Replace B NO >> Repair or in RONT POWER	3 etween BCM harness BCM 2 2 3 normal? CM. Refer to BCS-80 eplace harness. WINDOW SWIT	D8 connector and g al , "Exploded View	Ground.	Continuity Not existed	
Check continuity b Connector M118 the inspection result (ES >> Replace B NO >> Repair or in RONT POWER	3 etween BCM harness BCM 2 2 3 normal? CM. Refer to BCS-80 eplace harness. WINDOW SWIT	D8 connector and g al , "Exploded View	Ground.	Continuity Not existed gnosis Procedure	
Check continuity b Connector M118 the inspection result (ES >> Replace B NO >> Repair or n RONT POWER RONT POWER	3 etween BCM harness BCM 2 2 3 normal? CM. Refer to <u>BCS-80</u> eplace harness. WINDOW SWITC	D8 connector and g al , "Exploded View	Ground.	Continuity Not existed gnosis Procedure	
Check continuity b Connector M118 the inspection result (ES >> Replace B NO >> Repair or in RONT POWER	3 etween BCM harness BCM 2 2 3 normal? CM. Refer to <u>BCS-80</u> eplace harness. WINDOW SWITC	D8 connector and g al , "Exploded View	Ground.	Continuity	
Check continuity b Connector M118 the inspection result (ES >> Replace B NO >> Repair or n RONT POWER RONT POWER	3 etween BCM harness BCM 2 2 3 normal? CM. Refer to <u>BCS-80</u> eplace harness. WINDOW SWITC WINDOW SWITC	D8 connector and g al , "Exploded View	Ground.	Continuity Not existed gnosis Procedure	
Check continuity b Connector M118 the inspection result (ES >> Replace B NO >> Repair or P RONT POWER RONT POWER CHECK POWER S CHECK POWER S Turn ignition switc Disconnect front p	3 etween BCM harness BCM 2 2 3 normal? CM. Refer to <u>BCS-80</u> eplace harness. WINDOW SWIT WINDOW SWIT WINDOW SWIT UPPLY CIRCUIT	D8 a connector and g al . "Exploded View FCH (PASSEN CH (PASSEN CH (PASSEN passenger side)	Ground.	Continuity Not existed gnosis Procedure	
Check continuity b Connector M118 the inspection result (ES >> Replace B IO >> Repair or I RONT POWER RONT POWER CHECK POWER SI Turn ignition switc Disconnect front p	3 etween BCM harness BCM 2 2 3 normal? CM. Refer to <u>BCS-80</u> eplace harness. WINDOW SWIT WINDOW SWIT WINDOW SWIT UPPLY CIRCUIT	D8 a connector and g al . "Exploded View FCH (PASSEN CH (PASSEN CH (PASSEN passenger side)	Ground.	Continuity Not existed gnosis Procedure	
Check continuity b Connector M118 the inspection result (ES >> Replace B NO >> Repair or P RONT POWER RONT POWER CHECK POWER S CHECK POWER S Turn ignition switc Disconnect front p	3 etween BCM harness BCM 2 2 3 normal? CM. Refer to <u>BCS-80</u> eplace harness. WINDOW SWIT WINDOW SWIT WINDOW SWIT UPPLY CIRCUIT	D8 a connector and g al . "Exploded View FCH (PASSEN CH (PASSEN CH (PASSEN passenger side)	Ground.	Continuity Not existed gnosis Procedure	

# POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

# [FRONT & REAR WINDOW ANTI-PINCH]

(	+)		
Front power window switch (passenger side)		()	Voltage (V) (Approx.)
Connector	Terminal		
D38	10	Ground	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 2.

NO >> GO TO 3.

# 2. CHECK GROUND CIRCUIT

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

•	Front power window switch (passenger side)		Continuity	
Connector	Terminal	Ground		
D38	11		Existed	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace harness.

**3.**CHECK HARNESS CONTINUITY

#### 1. Disconnect BCM connector.

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

В	BCM		Front power window switch (passenger side)	
Connector	Terminal	Connector	Terminal	*
M118	2	D38	10	Existed

3. Check continuity between BCM harness connector and ground.

BC	CM		
Connector	Terminal	Ground	Continuity
M118	2		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-80, "Exploded View"</u>.

NO >> Repair or replace harness.

REAR POWER WINDOW SWITCH

# **REAR POWER WINDOW SWITCH : Diagnosis Procedure**

INFOID:000000001834025

# **1.**CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect rear power window switch LH connector and rear power window switch RH connector.

3. Turn ignition switch ON.

4. Check voltage between rear power window switch harnes connector and ground.

	(+) Rear power window switc			Voltage (V) (Approx.)
Con	nector	Terminal		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
LH	D57	10	Ground	Battony voltago
RH	D77	10	Gibuna	Battery voltage

CHECK GROUND CIRCUIT         Turm ignition switch OFF. Check continuity between rear power window switch harness connector and ground.         Continuity		AGNOSIS >		•		DOW ANTI-PIN		
IO       >> GO TO 3.         CHECK GROUND CIRCUIT         Turn ignition switch OFF.         Check continuity between rear power window switch harness connector and ground.         Rear power window switch         Connector         Terminal         Ground         Continuity         Continuity         Continuity         Continuity         Continuity         Continuity         Continuity         Continuity         Continuity         Example to more and ground         Continuity         Connector       Terminal			specification?					
Turn ignition switch OFF. Check continuity between rear power window switch harness connector and ground.         Rear power window switch         Continuity         Existed         Disconnect BCM connector.         Check continuity between BCM harness connector and rear power window switch harness connector         M       Continuity         M       Continuity         M       Continuity         BCM       Connector       Terminal         Continuity         M       Continuity         M       Continuity <th cols<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td></th>	<td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
Turn ignition switch OFF. Check continuity between rear power window switch harness connector and ground.         Rear power window switch         Continuity         Existed         Disconnect BCM connector.         Check continuity between BCM harness connector and rear power window switch harness connector         M       Continuity         M       Continuity         M       Continuity         BCM       Connector       Terminal         Continuity         M       Continuity         M       Continuity <th cols<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td></th>	<td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
Rear power window switch       Continuity         LH       D57       Terminal       Ground       Existed         LH       D77       11       Existed       Existed         the inspection result normal?       ES       >> INSPECTION END       EX       EX         CONTINUITY       ES       >> Repair or replace harness.       CONTINUITY       CONTINUITY         Turn ignition switch OFF.       Disconnect BCM connector.       Check continuity between BCM harness connector and rear power window switch harness connecto       Continuity         BCM       Rear power window switch       Continuity         M118       2       LH       D57       10       Existed         M118       2       LH       D57       10       Existed         Check continuity between BCM harness connector and ground.       Continuity       Existed       Continuity         M118       2       LH       D57       10       Existed         Connector       Terminal       Ground       Continuity       Not existed         M118       2       Ground       Continuity       Not existed         M118       2       X       X       X       X         M118       2       X	Turn ignition swi	tch OFF.						
Connector       Terminal       Ground       Continuity         LH       D57       11       Existed       Existed         RH       D77       11       Existed       Existed         the inspection result normal?       ES       > INSPECTION END       Existed       Existed         ICHECK HARNESS CONTINUITY       Turn ignition switch OFF.       Disconnect BCM connector.       Check continuity between BCM harness connector and rear power window switch harness connecto       Continuity         BCM       Rear power window switch       Continuity         M118       2       LH       D57       10       Existed         M118       2       RH       D77       10       Existed         Continuity         Connector       Terminal       Ground       Continuity         M118       2       RH       D77       10       Existed         Continuity         Connector       Terminal       Ground       Continuity         M118       2       Not existed       Not existed         M118       2       Not existed       Not existed	Check continuity	v between rear po	ower window swit	ch harness cor	nnector and ground			
Connector       Terminal       Ground         LH       D57       11         RH       D77       11         the inspection result normal?       Existed         (ES >> INSPECTION END IO >> Repair or replace harness.		Rear power wind	ow switch			Orationity		
LH       D57       11       Existed         RH       D77       11       Existed         the inspection result normal?       (ES >> INSPECTION END       (ES >> INSPECTION END       (ES >> INSPECTION END       (ES >> Repair or replace harness.         .CHECK HARNESS CONTINUITY       Turn ignition switch OFF.       (ES connect BCM connector.       (Check continuity between BCM harness connector and rear power window switch harness connector         BCM       Rear power window switch       Continuity         M118       2       (LH D57 10)       (Continuity)         M118       2       (Continuity)       (Continuity)         M118	C	onnector	Ter	minal	Ground	Continuity		
the inspection result normal?         YES       >> INSPECTION END         IO       >> Repair or replace harness.         .CHECK HARNESS CONTINUITY         Turn ignition switch OFF.         Disconnect BCM connector.         Check continuity between BCM harness connector and rear power window switch harness connecto         BCM       Rear power window switch         Connector       Terminal         M118       2         LH       D57         10       Existed         M118       2         BCM       RH         M118       2         Connector       Terminal         Continuity       Existed         M118       2         BCM       Ground         M118       2         M				11	Ciouna	Existed		
BCM       Rear power window switch       Continuity         M118       2       LH       D57       10       Existed         Check continuity between BCM harness connector and rear power window switch harness connector       Continuity       Continuity         M118       2       LH       D57       10       Existed         Check continuity between BCM harness connector and ground.       Continuity       Continuity         M118       2       LH       D57       10       Existed         M118       2       RH       D77       10       Existed         M118       2       Ground       Continuity         M118       2       Not existed       Not existed         M118       2       Not existed       Not existed         M118       2       S >> Replace BCM. Refer to BCS-80, "Exploded View".       Not existed								
IO >> Repair or replace harness.         CHECK HARNESS CONTINUITY         Turn ignition switch OFF.         Disconnect BCM connector.       Check continuity between BCM harness connector and rear power window switch harness connecto         Model in the inspection result normal?         Connector       Terminal         Continuity         BCM       Rear power window switch       Continuity         Connector       Terminal       Continuity         M118       2       LH       D57       10       Existed         Existed       Continuity         BCM       Continuity         Connector       Terminal       Continuity         Disconnector and ground.         BCM       Continuity         M118       2         M118       2         M118       2         Disconnector       Terminal       Continuity         M118       2 <th <<="" colspan="2" td=""><td></td><td></td><td></td><td></td><td></td><td></td></th>	<td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
CHECK HARNESS CONTINUITY         Turn ignition switch OFF.         Disconnect BCM connector.       Connector and rear power window switch harness connecto         BCM       Rear power window switch       Continuity         Connector       Terminal       Continuity         M118       2       LH       D57       10       Existed         M118       2       LH       D77       10       Existed         Continuity between BCM harness connector and ground.         BCM       Continuity         Connector       Terminal       Continuity         M118       2       Continuity         BCM       Ground       Continuity         M118       2       Not existed         M118       2       Not existed         Terminal         Ground       Continuity         M118       2       Not existed         Terminal         BCS       >> Replace BCM. Refer to BCS-80, "Exploded View".		-	S.					
Turn ignition switch OFF.         Disconnect BCM connector.         Check continuity between BCM harness connector and rear power window switch harness connector         BCM       Rear power window switch       Continuity         Connector       Terminal       Continuity         Connector       Terminal         Connector       Terminal       Continuity         M118       2       LH       D57       10       Existed         M118       2       Continuity         BCM       Continuity         Existed       Continuity         M       Contin		•						
Disconnect BCM connector.         Check continuity between BCM harness connector and rear power window switch harness connector         BCM       Rear power window switch       Continuity         Connector       Terminal       Continuity         M118       2       LH       D57       10       Existed         M118       2       LH       D77       10       Existed         Continuity between BCM harness connector and ground.         BCM       Continuity         BCM       Ground       Continuity         M118       2       Ground       Continuity         M118       2       Optimized       Continuity         M118       2       Optimized       Continuity         M118       2       Optimized       Continuity         M118       2       Optimized       Continuity         M118       2       Not existed       Not existed         the inspection result normal?         Yes       Sector       Exploded View".								
BCM     Rear power window switch     Continuity       Connector     Terminal     Connector     Terminal       M118     2     LH     D57     10     Existed       M118     2     RH     D77     10     Existed       Check continuity between BCM harness connector and ground.       BCM     Continuity       Connector     Terminal     Ground     Continuity       M118     2     Not existed       M118     2     Not existed	Disconnect BCN	I connector.						
Connector       Terminal       Continuity         M118       2       LH       D57       10       Existed         M118       2       RH       D77       10       Existed         Continuity between BCM harness connector and ground.         Continuity         BCM       Ground       Continuity         Continuity         M118       2       Continuity         M118       2       Not existed       Not existed         the inspection result normal?         YES       >> Replace BCM. Refer to BCS-80, "Exploded View".       Exploded View".	Check continuity	v between BCM h	arness connecto	r and rear pow	er window switch h	arness connecto		
Connector     Terminal     Connector     Terminal       M118     2     LH     D57     10     Existed       RH     D77     10     Existed     Existed       Check continuity between BCM harness connector and ground.       BCM     Continuity     Continuity       M118     2     Ground     Continuity       M118     2     Not existed       the inspection result normal?       YES     >> Replace BCM. Refer to BCS-80, "Exploded View".	BC	M	R	ear power window	switch	Orationity		
M118     2     RH     D77     10     Existed       Check continuity between BCM harness connector and ground.       BCM     Continuity       Connector     Terminal     Ground     Continuity       M118     2     Not existed       the inspection result normal?       YES     >> Replace BCM. Refer to BCS-80, "Exploded View".	Connector	Terminal	Con	nector	Terminal	Continuity		
RH     D77       Check continuity between BCM harness connector and ground.       BCM     Continuity       Connector     Terminal     Ground       M118     2     Not existed       the inspection result normal?       YES     >> Replace BCM. Refer to BCS-80, "Exploded View".	M118	2	LH	D57	10	Existed		
BCM     Continuity       Connector     Terminal       M118     2       M118     2       Not existed       the inspection result normal?       YES       YES		_	RH	D77				
Connector       Terminal       Ground       Continuity         M118       2       Not existed       Not existed         the inspection result normal?       //ES       >> Replace BCM. Refer to BCS-80, "Exploded View".       Image: Continuity		/ between BCM h	arness connecto	r and ground.				
Connector     Terminal     Ground       M118     2     Not existed       the inspection result normal?        'ES     >> Replace BCM. Refer to BCS-80, "Exploded View".	Check continuity							
the inspection result normal? (ES >> Replace BCM. Refer to <u>BCS-80, "Exploded View"</u> .	Check continuity	BCM				<b>A</b>		
'ES >> Replace BCM. Refer to <u>BCS-80, "Exploded View"</u> .		BCM	Terminal	Grou	Ind	Continuity		
	Connector M118			Grou	ind			
	Connector M118 the inspection rest 'ES >> Replace	ult normal? BCM. Refer to E	2 3CS-80, "Explode	-	ind			
	Connector M118 the inspection rest 'ES >> Replace	ult normal? BCM. Refer to E	2 3CS-80, "Explode	-	ind			
	Connector M118 the inspection rest 'ES >> Replace	ult normal? BCM. Refer to E	2 3CS-80, "Explode	-	ind			
	Connector M118 the inspection rest 'ES >> Replace	ult normal? BCM. Refer to E	2 3CS-80, "Explode	-	Ind			
	Connector M118 the inspection rest 'ES >> Replace	ult normal? BCM. Refer to E	2 3CS-80, "Explode	-	Ind			
	Connector M118 the inspection rest 'ES >> Replace	ult normal? BCM. Refer to E	2 3CS-80, "Explode	-	Ind			
	Connector M118 the inspection rest 'ES >> Replace	ult normal? BCM. Refer to E	2 3CS-80, "Explode	-	Ind			
	Connector M118 the inspection rest 'ES >> Replace	ult normal? BCM. Refer to E	2 3CS-80, "Explode	-	Ind			
	Connector M118 the inspection rest 'ES >> Replace	ult normal? BCM. Refer to E	2 3CS-80, "Explode	-	ind			
	Connector M118 the inspection rest 'ES >> Replace	ult normal? BCM. Refer to E	2 3CS-80, "Explode	-	Ind			
	Connector M118 the inspection resu 'ES >> Replace	ult normal? BCM. Refer to E	2 3CS-80, "Explode	-	Ind			

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT 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

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

Is the inspection result normal?

YES >> Power window motor is OK.

NO >> Refer to <u>PWC-18, "DRIVER SIDE : Diagnosis Procedure"</u>.

DRIVER SIDE : Diagnosis Procedure

INFOID:000000002993959

INFOID 000000002993957

INFOID:000000002993958

## **1.**CHECK FRONT POWER WINDOW MOTOR INPUT SIGNAL

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

(+)					Voltage (V/)
Front power windo	w motor (driver side)	(—)	Condition		Voltage (V) (Approx.)
Connector	Terminal				
	2			UP	Battery voltage
D10	2	Oracia d	Power window main switch	DOWN	0
DIO	1	Ground	Power window main switch	UP	0
	I			DOWN	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 2.

NO >> GO TO 3.

2. CHECK POWER WINDOW MOTOR

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

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace front power window motor (driver side). Refer to <u>GW-16, "Removal and Installation"</u>.

# 3.check harness continuity

1. Turn ignition switch OFF.

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

Power windo	w main switch	Front power window motor (driver side)		Continuity
Connector	Terminal	Connector	Terminal	*
D8	8	D10	2	Existed
Do	11		1	Existed

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

#### < DTC/CIRCUIT DIAGNOSIS >

## [FRONT & REAR WINDOW ANTI-PINCH]

-	Power windo	w main switch		Continuity
_	Connector	Terminal	Ground	Continuity
	D8	8	Clound	Not existed
_		11		
YE		window main switch. Refer e harness.	to <u>PWC-114, "Removal a</u>	nd Installation".
Ref	er to <u>GI-39, "Intermittent</u>	<u>Incident"</u> .		
	>> INSPECTION E	ND		
DR	IVER SIDE : Comp	onent Inspection		INFOID:0000000029935
		-		
<b>I</b> .(	CHECK POWER WINDC			
2. 3.	Disconnect front power	window motor (driver side)		er window motor (driver side
_	Front power window motor	Terr	minal	
	(driver side) connector	(+)	(-)	Motor operation
	D10	1	2	DOWN
	Dio	2	1	UP
	) >> Replace driver s SSENGER SIDE	er window motor is OK. side power window motor. I	Refer to <u>GW-16, "Removal</u>	and Installation".
PA	SSENGER SIDE : I	Description		INFOID:0000000029935
		N by receiving the signal p	ower window main switch	or front power window swite
	ssenger side).			
PA	SSENGER SIDE : (	Component Function	Check	INFOID:000000029935
1.	CHECK POWER WINDO	OW MOTOR CIRCUIT		
			eration with power window	v main switch or front powe
	dow switch (passenger s	,		
<u>is tr</u> YE	ne inspection result norm S >> Power window r			
N		9. "PASSENGER SIDE : D	liagnosis Procedure".	
PA	SSENGER SIDE : I	Diagnosis Procedure		INFOID:0000000029935
		WINDOW MOTOR INPU		
1.	Turn ignition switch OFF			
2. 3.	Disconnect front power Turn ignition switch ON.	window motor (passenger	side) connector.	

#### < DTC/CIRCUIT DIAGNOSIS >

Front power	(+) Front power window motor (passenger side)		Condition		Voltage (V) (Approx.)
Connector	Terminal				
	1			UP	Battery voltage
D40	I	Cround	Front power window switch	DOWN	0
D40	2	Ground	(passenger side)	UP	0
	2			DOWN	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 2.

NO >> GO TO 3.

2. CHECK POWER WINDOW MOTOR

Check front power window motor (passenger side). Refer to <u>PWC-20, "PASSENGER SIDE : Component Inspection"</u>.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace front power window motor (passenger side). Refer to <u>GW-16, "Removal and Installation"</u>.

**3.**CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.

- 2. Disconnect front power window switch (passenger side) connector.
- 3. Check continuity between front power window switch (passenger side) harness connector and front power window motor (passenger side) harness connector.

Front power window	switch (passenger side)	Front power window motor (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
D38	9	D40	1	Existed
030	8		2	

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

Front power window s	Front power window switch (passenger side)		Continuity
Connector	Terminal	Ground	Continuity
D38	8	Ground	Not existed
	9		NOT existed

#### Is the inspection result normal?

YES >> Replace front power window switch (passenger side). Refer to <u>PWC-114</u>, "<u>Removal and Installa-</u> <u>tion</u>".

NO >> Repair or replace harness.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

#### >> INSPECTION END

## PASSENGER SIDE : Component Inspection

## COMPONENT INSPECTION

1.CHECK POWER WINDOW MOTOR

1. Turn ignition switch OFF.

2. Disconnect front power window motor (passenger side) connector.

Revision: 2008 September

## **PWC-20**

2008 G35 Sedan

INFOID:000000002993964

## < DTC/CIRCUIT DIAGNOSIS >

# [FRONT & REAR WINDOW ANTI-PINCH]

Front power window n	notor (passen-		Terminal		
ger side) con		(+)	(-)	Moto	r condition
 D40		2	1	E	DOWN
D40		1	2		UP
NO >> Replace EAR LH EAR LH : Desc	passenger sid		ow motor. Refer to <u>GW-16, "Re</u>		INFOID:000000001
witch LH.		-	gnal from power window mair	n switch or	rear power wind
EAR LH : Com	bonent Fun	iction Chec	K		INFOID:000000001
.CHECK POWER	VINDOW MO	TOR CIRCUIT			
	ndow motor L	H operation w	ith power window main switch	or rear p	ower window sw
H. the inspection resu	lt normal?				
	ndow motor is	OK.			
NO >> Refer to [	<u>PWC-21, "RE/</u>	AR LH : Diagno	osis Procedure".		
EAR LH : Diagr	nosis Proce	edure			INFOID:000000001
.CHECK REAR PO			PUT SIGNAI		
Turn ignition swite					
. Disconnect rear p . Turn ignition swite	ower window	motor LH con	nector.		
		wer window m	notor LH harness connector ar	nd ground.	
(+)					
	w motor LH	()	Condition		Voltage (V)
Rear power windo					(Approx.)
Rear power windo	Terminal				
				UP	Battery voltage
	Terminal 1	Ground	Rear power window switch LH	DOWN	Battery voltage
Connector		Ground	Rear power window switch LH	DOWN UP	0
D52	1			DOWN	0
Connector D52	1 3 ralue within the			DOWN UP	0
Connector       D52       the measurement v       YES	1 3 value within the			DOWN UP	0
Connector D52 the measurement v YES >> GO TO 2 NO >> GO TO 3	1 3 ralue within the	e specification		DOWN UP	0
Connector D52 the measurement v YES >> GO TO 2	1 3 <u>ralue within the</u>	e specification W MOTOR 1.	2	DOWN UP	0
Connector D52 the measurement v YES >> GO TO 2 NO >> GO TO 3 CHECK REAR PO heck rear power wir efer to <u>PWC-22</u> , "Rist the inspection resu	1 3 ralue within the WER WINDO MOW motor LH EAR LH : Com It normal?	e specification W MOTOR 1.	2	DOWN UP	0
Connector         D52         the measurement v         YES       >> GO TO 2         NO       >> GO TO 3         CHECK REAR PO         heck rear power wir         efer to PWC-22. "Rest the inspection result         the inspection result         YES       >> GO TO 4	1 3 value within the WER WINDO WER WINDO dow motor LH EAR LH : Com It normal?	e specification W MOTOR 1. Iponent Inspec	<u>?</u> <u>ction"</u> .	DOWN UP DOWN	0 0 Battery voltage
Connector         D52         the measurement v         YES         YES         SGO TO 2         NO         SGO TO 3         CHECK REAR PO         heck rear power wir         efer to PWC-22. "Rest         the inspection resu         YES       >> GO TO 4         NO       >> Replace	1 3 ralue within the WER WINDO dow motor LH AR LH : Com It normal?	e specification W MOTOR I. ponent Inspec	2	DOWN UP DOWN	0 0 Battery voltage
Connector         D52         the measurement v         YES         YES         >> GO TO 2         NO         >> GO TO 3         CHECK REAR PO         heck rear power wir         efer to PWC-22. "Rist         the inspection result         YES       >> GO TO 4         NO       >> Replace         CHECK HARNESS	1 3 ralue within the WER WINDO WER WINDO dow motor LH AR LH : Com the normal? rear power wir S CONTINUIT	e specification W MOTOR I. ponent Inspec	<u>?</u> <u>ction"</u> .	DOWN UP DOWN	0 0 Battery voltage
Connector D52 the measurement v (ES >> GO TO 2 NO >> GO TO 3 .CHECK REAR PO neck rear power win efer to <u>PWC-22. "Rest the inspection resu</u> (ES >> GO TO 4 NO >> Replace	1 3 ralue within the WER WINDO WER WINDO Mow motor LH AR LH : Com A Com It normal? rear power wir S CONTINUIT ch OFF.	e specification W MOTOR I. Iponent Inspec Indow motor LH	? ction". I. Refer to <u>GW-22. "Removal a</u>	DOWN UP DOWN	0 0 Battery voltage

**PWC-21** 

#### POWER WINDOW MOTOR [FRONT & REAR WINDOW ANTI-PINCH]

#### < DTC/CIRCUIT DIAGNOSIS >

# 3. Check continuity between rear power window switch LH harness connector and rear power window motor LH harness connector.

Rear power wi	indow switch LH	Rear power window motor LH		Continuity
Connector	Terminal	Connector	Terminal	Continuity
D57	8	D52	1	Existed
057	9	052	3	Existed

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

Rear power wi	Rear power window switch LH		Continuity
Connector	Terminal	Ground	Continuity
D57	8	Giouna	Not existed
	9		NOT EXISTED

#### Is the inspection result normal?

YES >> Replace rear power window switch LH.

NO >> Repair or replace harness.

#### **4.**CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

#### >> INSPECTION END

#### REAR LH : Component Inspection

#### COMPONENT INSPECTION

#### 1.CHECK REAR POWER WINDOW MOTOR LH

#### 1. Turn ignition switch OFF.

- 2. Disconnect rear power window motor LH connector.
- Check motor operation by connecting the battery voltage directly to rear power window motor LH connector.

Rear power window motor LH	Terr	Motor condition	
connector	(+)	()	
 D52	1	3	UP
D32	3	1	DOWN

Is the inspection result normal?

YES >> Power window motor is OK.

NO >> Replace rear power window motor LH. Refer to <u>GW-22, "Removal and Installation"</u>. REAR RH

#### **REAR RH : Description**

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

**REAR RH : Component Function Check** 

# 1. CHECK POWER WINDOW MOTOR CIRCUIT

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

#### Is the inspection result normal?

YES >> Power window motor is OK.

NO >> Refer to <u>PWC-23</u>, "REAR RH : Diagnosis Procedure".

Revision: 2008 September

#### **PWC-22**

#### 2008 G35 Sedan

INFOID:000000001834042

INFOID-000000001834043

INFOID:000000001834040

#### < DTC/CIRCUIT DIAGNOSIS >

# REAR RH : Diagnosis Procedure

INFOID:000000001834044

А

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С

[FRONT & REAR WINDOW ANTI-PINCH]

# 1. CHECK REAR POWER WINDOW MOTOR INPUT SIGNAL

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

Rear power wind Connector		()	Condition		Voltage (V)
Connector	1	- (-)	Condition		(Approx.)
	Terminal			UP	
	1				Battery voltage
D72		Ground	Rear power window switch RH	DOWN	0
	3			UP	0
				DOWN	Battery voltage
<ul> <li>measurement value</li> <li>&gt;&gt; GO TO 2.</li> <li>&gt;&gt; GO TO 3.</li> <li>HECK REAR POW</li> <li>k rear power wind</li> <li>to PWC-24, "RE</li> <li>inspection result</li> </ul>	VER WINDOW dow motor RH. AR RH : Compo	MOTOR RH	<u>on"</u> .		
HECK HARNESS urn ignition switc Disconnect rear po	CONTINUITY h OFF. ower window sw etween rear po	vitch RH conne	Refer to <u>GW-22. "Removal</u> ector. vitch RH harness connector		
>> Replace re HECK HARNESS urn ignition switc Disconnect rear po Check continuity b RH harness conne	CONTINUITY h OFF. ower window sw between rear pow ector.	vitch RH conne	ector. vitch RH harness connector		power window r
>> Replace re HECK HARNESS urn ignition switc Disconnect rear po Check continuity b RH harness conne	CONTINUITY h OFF. ower window sw etween rear po	vitch RH conne wer window sv	ector.	and rear	
>> Replace re HECK HARNESS Jurn ignition switc Disconnect rear po Check continuity b RH harness conne Rear power w Connector	CONTINUITY h OFF. ower window sw etween rear por ector.	vitch RH conne wer window sv	ector. vitch RH harness connector Rear power window motor RH onnector Termina 1	and rear	power window r Continuity
>> Replace re HECK HARNESS Jurn ignition switc Disconnect rear po Check continuity b RH harness conne Rear power w	CONTINUITY h OFF. ower window sw between rear pow ector. indow switch RH	vitch RH conne wer window sv	ector. vitch RH harness connector Rear power window motor RH onnector Termina	and rear	power window r
>> Replace re HECK HARNESS Jurn ignition switc Disconnect rear po Check continuity b RH harness conne Rear power w Connector D77	CONTINUITY h OFF. ower window sw between rear power ector. indow switch RH Terminal 8 9	vitch RH conne wer window sv	ector. vitch RH harness connector Rear power window motor RH onnector Termina D72 1	and rear	power window r Continuity Existed
>> Replace re HECK HARNESS Furn ignition switc Disconnect rear por Check continuity b RH harness connect Rear power w Connector D77 Check continuity b	CONTINUITY h OFF. ower window sw between rear power ector. indow switch RH Terminal 8 9	vitch RH conne wer window sv	ector. vitch RH harness connector Rear power window motor RH onnector Termina D72 1 3	and rear	power window r Continuity Existed Ind.
>> Replace re HECK HARNESS Furn ignition switc Disconnect rear por Check continuity b RH harness connect Rear power w Connector D77 Check continuity b	CONTINUITY h OFF. ower window swetween rear power ector. indow switch RH Terminal 8 9 petween rear power	vitch RH conne wer window sv	ector. vitch RH harness connector Rear power window motor RH onnector Termina D72 1 3 vitch RH harness connecto	and rear	power window r Continuity Existed
>> Replace re HECK HARNESS Furn ignition switc Disconnect rear po Check continuity b RH harness connect Rear power w Connector D77 Check continuity b Rear po	CONTINUITY h OFF. ower window swetween rear power ector. indow switch RH Terminal 8 9 petween rear power	vitch RH conne wer window sv	ector. vitch RH harness connector Rear power window motor RH onnector Termina D72 1 3	and rear	power window r Continuity Existed Ind.

Refer to GI-39, "Intermittent Incident".

#### >> INSPECTION END

#### < DTC/CIRCUIT DIAGNOSIS >

# REAR RH : Component Inspection

INFOID:000000001834045

[FRONT & REAR WINDOW ANTI-PINCH]

#### COMPONENT INSPECTION

# 1.CHECK REAR POWER WINDOW MOTOR RH

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

Rear power window motor RH con-	Terr	minal	Motor condition	
nector	(+)	(-)		
 D72	1	3	UP	
012	3	1	DOWN	

Is the inspection result normal?

YES >> Power window motor is OK.

NO >> Replace rear power window motor RH. Refer to <u>GW-22, "Removal and Installation"</u>.

		ENCO	DDER		
< DTC/CIRCUIT DIAG	NOSIS >		[	FRONT & REA	R WINDOW ANTI-PINCH]
ENCODER					
DRIVER SIDE					
DRIVER SIDE : De	escription				INFOID:00000002993965
Detects condition of the switch as the pulse sign		motor (driv	ver side) op	peration and trar	nsmits to power window main
DRIVER SIDE : Co	omponent Functi	ion Cheo	ck		INFOID:00000002993966
1.CHECK ENCODER					
Is the inspection result r YES >> Encoder is	normal?		·		wer window main switch.
DRIVER SIDE : Di	agnosis Procedu	ure			INFOID:00000002993967
1.CHECK ENCODER	SIGNAL				
<ol> <li>Turn ignition switch</li> <li>Check signal between</li> </ol>		ain switch	harness co	onnector and gro	ound with oscilloscope.
	(+)		-		Signal
	window main switch	-1	-	()	(Reference value)
Connector	Termina 9	al			
D8	13		-	Ground	Refer to following signal
Encoder signal 1 ( Encoder signal 2	V) 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0	Dulses earlier.)	Encoder signa Encoder signa (Sta	al 2 2 0 Window	DOWN al 1 is 1/4 pulses earlier.)
Is the inspection result r	normal?				JUNICATO ISOB
YES >> GO TO 7. NO >> GO TO 2.					
2.CHECK ENCORDER	R SIGNAL CIRCUIT				
<ol> <li>Turn ignition switch</li> <li>Disconnect power v</li> </ol>	OFF. vindow main switch o etween power windo				otor (driver side) connector. d front power window motor
Power window	v main switch			window motor er side)	Continuity
Connector	Terminal	Conr	nector	Terminal	
D8 -	9 13	D	10	3 5	Existed
4. Check continuity be	tween power windov	v main swi	tch harnes	s connector and	l ground.

#### < DTC/CIRCUIT DIAGNOSIS >

#### [FRONT & REAR WINDOW ANTI-PINCH]

Power window main switch			Continuity
Connector	Terminal	Ground	Continuity
D8	9	Ground	Not existed
Do	13		NUL EXISTED

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# **3.**CHECK ENCORDER POWER SUPPLY CIRCUIT

1. Connect power window main switch connector.

2. Turn ignition switch ON.

3. Check voltage between front power window motor (driver side) harness connector and ground.

	(+)		Voltage (V)	
Connector	w motor (driver side) Terminal	- ()	(Approx.)	
D10	4	Ground	12	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> GO TO 5.

**4.**CHECK GROUND CIRCUIT

#### 1. Turn ignition switch OFF.

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

Front power windo	w motor (driver side)		Continuity
Connector	Terminal	Ground	Continuity
D10	6		Existed

Is the inspection result normal?

YES >> Replace front power window motor (driver side). Refer to <u>GW-16, "Removal and Installation"</u>. NO >> GO TO 6.

# **5.**CHECK HARNESS CONTINUITY 1

1. Turn ignition switch OFF.

2. Disconnect power window main switch connector.

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

Power windo	Power window main switch		Front power window motor (driver side)		
Connector	Terminal	Connector Terminal		Continuity	
D8	15	D10	4	Existed	

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

Power window main switch			Continuity	
Connector	Terminal	Ground	Continuity	
D8	15		Not existed	

Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-114, "Removal and Installation".

NO >> Repair or replace harness.

**6.**CHECK HARNESS CONTINUITY 2

1. Disconnect power window main switch connector.

# < DTC/CIRCUIT DIAGNOSIS >

# [FRONT & REAR WINDOW ANTI-PINCH]

Power window	main switch	Front power window	w motor (driver side)	
Connector	Terminal	Connector	Terminal	Continuity
D8	2	D10	6	Existed
ne inspection result n	ormal?			
	ver window main sw	ritch. Refer to <u>PWC-1</u>	14, "Removal and	Installation".
CHECK INTERMITTE	NT INCIDENT			
er to <u>GI-39, "Intermitt</u>	ent Incident".			
SSENGER SID	E			
<b>ASSENGER SIDE</b>	: Description			INFOID:000000
staata aanditian of the	front nower window	w motor (poppondor )	aida) anaratian ar	d transmits to front r
etects condition of the ndow switch (passenge			side) operation ar	
ASSENGER SIDE	, .	-		
				INFOID:0000000
CHECK ENCODER				
eck passenger side do	oor glass perform Al	UTO open/close oper	ation normally by	power window main s
front power window sw	vitch (passenger sid			
he inspection result n				
ES >> Encoder is C O >> Refer to PW		R SIDE : Diagnosis F	Procedure"	
		-	<u>iloceddie</u> .	
SSENGER SIDE	: Diagnosis Pr	ocedure		INFOID:0000000
CHECK ENCODER S	IGNAL			
Turn ignition switch				
0	en front power wind	low switch (passeng	er side) harness o	connector and ground
oscilloscope.				
	(+)			
Front power wind	ow switch (passenger si	ide)	(—)	Signal (Reference value)
Connector	Termina	al		(
D38	12		Ground	Refer to following signal
200	15		Cround	Refer to following signal
(V 6 Encodor cignol 1 4		Encoder signa		m m m
Encoder signal 1 <sup>4</sup> 0	┝┯╵┶┥┶┥┖┥┖╢			<b>⋣</b> ┊┞ <u>┙</u> ┝╃╘┥
(V 6			(V)	
Encoder signal 2		Encoder signa		
0			0	
(Starting	Window UP of encoder signal 2 is 1/4 p		Window D arting of encoder signal 1	
(Starting	or encoder signal 2 is 1/4 L	(Sli	aring or encoder signal	JMKIA1519GB
he inspection result ne	ormal?			
L he inspection result n ES >> GO TO 7. O >> GO TO 2.	ormal?			

## < DTC/CIRCUIT DIAGNOSIS >

# 2. CHECK ENCORDER SIGNAL CIRCUIT

#### 1. Turn ignition switch OFF.

- 2. Disconnect front power window switch (passenger side) connector and front power window motor (passenger side) connector.
- 3. Check continuity between front power window switch (passenger side) harness connector and front power window motor (passenger side) harness connector.

Front power window	switch (passenger side)	Front power window motor (passenger side)		Continuity
Connector	Terminal	Connector Terminal		Continuity
D38	12	D40	5	Existed
D30	15	D40	3	Existed

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

Front power window s	Front power window switch (passenger side)		Continuity
Connector	Terminal	Ground	Continuity
D38	12	Ground	Not existed
	15		NOT EXISTED

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

 ${
m 3.}$ Check encorder power supply circuit

1. Connect front power window switch (passenger side) connector.

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

Front power window	(+) Front power window motor (passenger side)		Voltage (V) (Approx.)
Connector	Terminal		(//pp/0x.)
D40	4	Ground	12

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> GO TO 5.

**4.**CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Check continuity between front power window motor (passenger side) harness connector and ground.

Front power window mo	otor (passenger side)		Continuity
Connector	Terminal	Ground	Continuity
D40	6	*	Existed

Is the inspection result normal?

YES >> Replace front power window motor (passenger side). Refer to <u>GW-16, "Removal and Installation"</u>. NO >> GO TO 6.

**5.**CHECK HARNESS CONTINUITY 1

1. Turn ignition switch OFF.

2. Disconnect front power window switch (passenger side) connector.

3. Check continuity between front power window switch (passenger side) harness connector and front power window motor (passenger side) harness connector.

#### < DTC/CIRCUIT DIAGNOSIS >

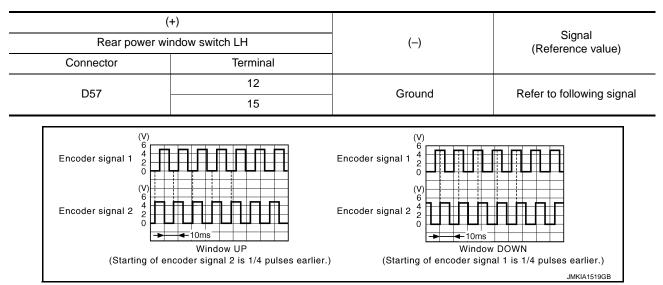
## [FRONT & REAR WINDOW ANTI-PINCH]

Front power window s	witch (passenger side)	Front power wind	low motor (passenger side)	
Connector	Terminal	Connector	Terminal	Continuity
D38	4	D40	4	Existed
4. Check continuity be	etween front power w	indow switch (pas	ssenger side) harness o	connector and ground.
Front power wir	ndow switch (passenger si	de)		Continuity
Connector	Termina	al	Ground	
D38	4			Not existed
tion".         NO       >> Repair or re <b>6.</b> CHECK HARNESS         1. Disconnect front pc         2. Check continuity be	ont power window sw eplace harness. CONTINUITY 2 ower window switch (p	passenger side) o	onnector.	4, "Removal and Installa
	witch (passenger side)		low motor (passenger side)	
Connector	Terminal	Connector	Terminal	Continuity
 D38	3	D40	6	Existed
>> INSPECTIO	ON END			
REAR LH : Descri	ption			INFOID:00000000183405
Detects condition of the as the pulse signal.	rear power window r	notor LH operatio	n and transmits to rear	power window switch LH
REAR LH : Compo	onent Function C	heck		INFOID:00000000183405
1.CHECK ENCODER	OPERATION			
power window switch L	H. İ	en/close operatio	n normally by power wi	ndow main switch or rea
Is the inspection result YES >> Encoder op NO >> Refer to PV		Diagnosis Procedu	<u>ıre"</u> .	
REAR LH : Diagno	osis Procedure			INFOID:00000000183405
1.CHECK ENCODER	SIGNAL			
1. Turn ignition switch	ON.			

2. Check signal between rear power window switch LH harness connector and ground with oscilloscope.

#### < DTC/CIRCUIT DIAGNOSIS >

#### [FRONT & REAR WINDOW ANTI-PINCH]



Is the inspection result normal?

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

# 2. CHECK ENCORDER SIGNAL CIRCUIT

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

Rear power w	rindow switch LH	Rear power wi	ndow motor LH	Continuity
Connector	Terminal	Connector	Terminal	Continuity
D57	12	D52	5	Existed
057	15	052	6	Existed

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

Rear power w	Rear power window switch LH		Continuity
Connector	Terminal	Ground	Continuity
D57	12	Ground	Not existed
	15		NOT EXISTED

#### Is the inspection result normal?

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

**3.**CHECK ENCORDER POWER SUPPLY CIRCUIT

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

, i	(+) Rear power window motor LH		Voltage (V) (Approx.)
Connector	Terminal		
D52	2	Ground	12

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> GO TO 5.

#### < DTC/CIRCUIT DIAGNOSIS >

#### 4.CHECK GROUND CIRCUIT 1. Turn ignition switch OFF. Check continuity between rear power window motor LH harness connector and ground. 2. В Rear power window motor LH Continuity Connector Terminal Ground D52 4 Existed Is the inspection result normal? YES >> Replace rear power window motor LH. Refer to <u>GW-22, "Removal and Installation"</u>. NO >> GO TO 6. D 5.CHECK HARNESS CONTINUITY 1 1. Turn ignition switch OFF. Е 2. Disconnect rear power window switch LH connector. Check continuity between rear power window switch LH harness connector and rear power window motor 3. LH harness connector. F Rear power window switch LH Rear power window motor LH Continuity Connector Terminal Connector Terminal D57 4 D52 2 Existed Check continuity between rear power window switch LH harness connector and ground. 4. Н Rear power window switch LH Continuity Connector Ground Terminal D57 4 Not existed Is the inspection result normal? YES >> Replace rear power window switch LH. Refer to PWC-114, "Removal and Installation". NO >> Repair or replace harness. $\mathbf{6.}$ CHECK HARNESS CONTINUITY 2 1. Disconnect rear power window switch LH harness connector. PWC 2. Check continuity between rear power window switch LH harness connector and rear power window motor LH harness connector. Rear power window switch LH Rear power window motor LH Continuity Connector Terminal Connector Terminal D57 3 D52 4 Existed M Is the inspection result normal? >> Replace rear power window switch LH. Refer to PWC-114, "Removal and Installation". YES NO >> Repair or replace harness. Ν I.CHECK INTERMITTENT INCIDENT Refer to GI-39, "Intermittent Incident". >> INSPECTION END REAR RH **REAR RH** : Description INFOID:000000001834056

Detects condition of the rear power window motor RH operation and transmits to rear power window switch RH as the pulse signal.

## < DTC/CIRCUIT DIAGNOSIS >

# REAR RH : Component Function Check

## **1.**CHECK ENCODER OPERATION

Check rear door RH glass perform AUTO open/close operation normally by power window main switch or rear power window switch RH.

#### Is the inspection result normal?

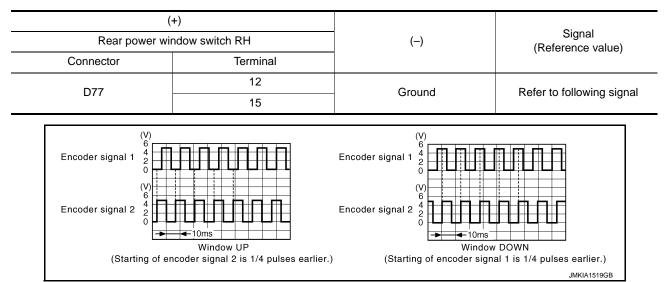
YES >> Encoder operation is OK.

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

# **REAR RH : Diagnosis Procedure**

# **1.**CHECK ENCODER SIGNAL

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



Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 2.

# 2. CHECK ENCODER SIGNAL CIRCUIT

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

Rear power w	indow switch RH	Rear power wi	ndow motor RH	Continuity
Connector	Terminal	Connector	Terminal	Continuity
D77	12	D72	5	Existed
ווט	15		6	LAISIEU

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

Rear power wi	Rear power window switch RH		Continuity
Connector	Terminal	Ground	Continuity
D77	12	Ground	Not existed
	15		NOT EXISTED

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

INFOID:000000001834057

INFOID:000000001834058

# < DTC/CIRCUIT DIAGNOSIS >

# [FRONT & REAR WINDOW ANTI-PINCH]

Connect rear power v Turn ignition switch C	DN.		noon connector and	around
Check voltage betwe		ow motor RH nar	ness connector and	grouna.
	(+)			Voltago (V/)
Rear powe	er window motor RH		()	Voltage (V) (Approx.)
Connector	Termina	ıl		
D72	2		Ground	12
the measurement value	e within the specification	ation?		
YES >> GO TO 4. NO >> GO TO 5.				
CHECK GROUND CIF				
Turn ignition switch C Check continuity betw		ndow motor PU h	arnoss connector an	d around
Check continuity betw	ween real power wir			la grouna.
Rear powe	er window motor RH			Continuity
Connector	Termina	l	Ground	Continuity
D72	4			Existed
the inspection result no	ormal?			
IO >> GO TO 6. CHECK HARNESS CO Turn ignition switch C	DFF.	Looppostor	W-22, "Removal and	
NO >> GO TO 6. • CHECK HARNESS CO • Turn ignition switch C • Disconnect rear powe • Check continuity betw RH harness connector	DFF. er window switch RH veen rear power wir or.	ndow switch RH h	arness connector an	d rear power window n
NO >> GO TO 6. • CHECK HARNESS CO Turn ignition switch C Disconnect rear power Check continuity betw RH harness connector Rear power windo	DFF. er window switch RH veen rear power win or. ow switch RH	ndow switch RH h Rear powe		
NO >> GO TO 6. .CHECK HARNESS CO Turn ignition switch C Disconnect rear power Check continuity betw RH harness connector Rear power windo Connector	DFF. er window switch RH veen rear power wir or.	ndow switch RH h Rear powe Connector	er window motor RH	Continuity
NO >> GO TO 6. CHECK HARNESS CO Turn ignition switch C Disconnect rear power Check continuity betw RH harness connector Rear power windo Connector D77	DFF. er window switch RH veen rear power win or. ow switch RH Terminal 4	ndow switch RH h Rear powe Connector D72	er window motor RH	Continuity Existed
NO >> GO TO 6. .CHECK HARNESS CO Turn ignition switch C Disconnect rear power Check continuity betw RH harness connector Rear power windor Connector D77	DFF. er window switch RH veen rear power win or. ow switch RH Terminal 4	ndow switch RH h Rear powe Connector D72	er window motor RH	Continuity Existed
NO >> GO TO 6. CHECK HARNESS CO Turn ignition switch C Disconnect rear power Check continuity betw RH harness connector Rear power windo Connector D77 Check continuity betw	DFF. er window switch RH veen rear power win or. ow switch RH Terminal 4 ween rear power win	ndow switch RH h Rear powe Connector D72	er window motor RH	Continuity Existed nd ground.
NO >> GO TO 6. CHECK HARNESS CO Turn ignition switch C Disconnect rear power Check continuity betw RH harness connector Rear power windo Connector D77 Check continuity betw	DFF. er window switch RH veen rear power win or. ow switch RH Terminal 4	ndow switch RH h Rear powe Connector D72 ndow switch RH h	er window motor RH	Continuity Existed
NO >> GO TO 6. CHECK HARNESS CO Turn ignition switch C Disconnect rear power Check continuity betw RH harness connector Rear power windo Connector D77 Check continuity betw Rear power	DFF. er window switch RH veen rear power win or. ow switch RH Terminal 4 ween rear power win r window switch RH	ndow switch RH h Rear powe Connector D72 ndow switch RH h	arness connector an er window motor RH Terminal 2 narness connector ar	Continuity Existed nd ground.
NO >> GO TO 6. CHECK HARNESS CO Turn ignition switch C Disconnect rear power Check continuity betw RH harness connector D77 Check continuity betw Rear power Connector D77 Check continuity betw Rear power Connector D77	DFF. er window switch RH veen rear power win or. ow switch RH Terminal 4 ween rear power win r window switch RH Termina 4	ndow switch RH h Rear powe Connector D72 ndow switch RH h	arness connector an er window motor RH Terminal 2 narness connector ar	Continuity Existed and ground. Continuity
NO       >> GO TO 6.         CHECK HARNESS CO         Turn ignition switch C         Disconnect rear power         Check continuity betw         Rear power windor         Connector         D77         Check continuity betw         Rear power windor         Connector         D77         Check continuity betw         Rear power windor         D77         Check continuity betw         Rear power windor         D77         Check continuity betw	DFF. er window switch RH ween rear power wir or. bw switch RH Terminal 4 ween rear power wir r window switch RH Termina 4 prmal?	Adow switch RH h	er window motor RH Terminal 2 narness connector ar Ground	Continuity Existed and ground. Continuity Not existed
NO       >> GO TO 6.         • CHECK HARNESS CO         Turn ignition switch C         Disconnect rear power         Check continuity betw         Rear power windo         Connector         D77         Check continuity betw         Rear power windo         Connector         D77         Check continuity betw         Rear power windo         Connector         D77         Check continuity betw         Rear power         Connector         D77         the inspection result no         YES       >> Replace rear	DFF. er window switch RH veen rear power wir or. ow switch RH Terminal 4 ween rear power wir r window switch RH termina 4 <u>ormal?</u> power window swit	Adow switch RH h	arness connector an er window motor RH Terminal 2 narness connector ar	Continuity Existed and ground. Continuity Not existed
NO >> GO TO 6. • CHECK HARNESS CO Turn ignition switch C Disconnect rear power Check continuity betw RH harness connector B77 Check continuity betw Rear power Connector D77 Check continuity betw Rear power Connector D77 the inspection result nor YES >> Replace rear NO >> Repair or rep	DFF. er window switch RH ween rear power win or. ween rear power win r window switch RH r window switch RH deprimal? power window switch lace harness.	Adow switch RH h	er window motor RH Terminal 2 narness connector ar Ground	Continuity Existed and ground. Continuity Not existed
NO       >> GO TO 6.         • CHECK HARNESS CO         Turn ignition switch C         Disconnect rear power         Check continuity betw         Rear power windo         Connector         D77         Check continuity betw         Rear power windo         Connector         D77         Check continuity betw         Rear power         Connector         D77         Check continuity betw         Rear power         Connector         D77         the inspection result no         YES       >> Replace rear         NO       >> Repair or rep         OCHECK HARNESS CO         Disconnect rear power	DFF. er window switch RH veen rear power win or. w switch RH Terminal 4 ween rear power win r window switch RH ween rear power win lace harness. ONTINUITY 2 er window switch RH veen rear power win	Andow switch RH h	er window motor RH Terminal 2 harness connector ar Ground PWC-114. "Removal ctor.	Continuity Existed and ground. Continuity Not existed
NO       >> GO TO 6.         • CHECK HARNESS CO         Turn ignition switch C         Disconnect rear power         Check continuity betw         Rear power windo         Connector         D77         Check continuity betw         Rear power windo         Connector         D77         Check continuity betw         Rear power         Connector         D77         Check continuity betw         Rear power         Connector         D77         Check continuity betw         Rear power         Connector         D77         Check continuity betw         YES         > Replace rear         NO         >> Repair or rep         CHECK HARNESS CO         Disconnect rear power         Check continuity betw         RH harness connector	DFF. er window switch RH veen rear power wir or. w switch RH Terminal 4 ween rear power wir r window switch RH crmal? power window switch lace harness. ONTINUITY 2 er window switch RH veen rear power wir or.	Andow switch RH h	er window motor RH  rer window motor RH  2  arrminal 2  arrness connector ar  Ground  PWC-114. "Removal  ctor. arrness connector an	Continuity Existed  Ad ground. Continuity Not existed  and Installation".
NO       >> GO TO 6.         • CHECK HARNESS CO         Turn ignition switch C         Disconnect rear power         Check continuity betw         Rear power windor         Connector         D77         Check continuity betw         Rear power windor         Connector         D77         Check continuity betw         Rear power         Connector         D77         Check continuity betw         Rear power         Connector         D77         the inspection result no         YES         >> Replace rear         NO         >> Repair or rep         CHECK HARNESS CO         Disconnect rear power         Check continuity betw         RH harness connector         Rear power windo	DFF. er window switch RH veen rear power win or. w switch RH Terminal 4 ween rear power win r window switch RH ween rear power win lace harness. ONTINUITY 2 er window switch RH veen rear power win or.	Andow switch RH h	er window motor RH  rerminal 2  narness connector an Ground  PWC-114, "Removal ctor. arness connector an er window motor RH	Continuity Existed  Ad ground. Continuity Not existed  and Installation".
NO       >> GO TO 6.         • CHECK HARNESS CO         Turn ignition switch C         Disconnect rear power         Check continuity betw         Rear power windo         Connector         D77         Check continuity betw         Rear power windo         Connector         D77         Check continuity betw         Rear power         Connector         D77         Check continuity betw         Rear power         Connector         D77         Check continuity betw         Rear power         Connector         D77         Check continuity betw         YES         > Replace rear         NO         >> Repair or rep         CHECK HARNESS CO         Disconnect rear power         Check continuity betw         RH harness connector	DFF. er window switch RH veen rear power wir or. w switch RH Terminal 4 ween rear power wir r window switch RH crmal? power window switch lace harness. ONTINUITY 2 er window switch RH veen rear power wir or.	Andow switch RH h	er window motor RH  rer window motor RH  2  arrminal 2  arrness connector ar  Ground  PWC-114. "Removal  ctor. arrness connector an	Continuity Existed  and ground. Continuity Not existed and Installation".

# < DTC/CIRCUIT DIAGNOSIS >

7. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END

# POWER WINDOW SERIAL LINK

# POWER WINDOW MAIN SWITCH

# POWER WINDOW MAIN SWITCH : Description

Power window main switch, front power window switch (passenger side), rear power window switch and BCM transmit and receive the signal by power window serial link.

The signal mentioned below is transmitted from BCM to power window main switch, front power window c switch (passenger side) and rear power window switch.

Keyless power window down signal

The signal mentioned below is transmitted from power window main switch to front power window switch (passenger side) and rear power window switch.

- Front passenger side door window and rear door window 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

1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

# With CONSULT-III

Check ("CDL LOCK SW ", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYS-TEM" with CONSULT-III. Refer to <u>DLK-53, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)"</u>.

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

# Is the inspection result normal?

- YES >> Power window serial link is OK.
- NO >> Refer to PWC-35, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure".

# POWER WINDOW MAIN SWITCH : Diagnosis Procedure

**1.**CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect power window main switch connector.
- 3. Check signal between power window main switch harness connector and ground with oscilloscope when door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".
- Check that signals which are shown in the figure below can be detected during 10 seconds just after door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".

(+)			
Power window	main switch	()	Signal (Reference value)
Connector	Terminal		
D8	14	Ground	(V) 15 10 10 10 10 10 10 10 10 10 10

Is the inspection result normal?

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# POWER WINDOW SERIAL LINK

#### < DTC/CIRCUIT DIAGNOSIS >

## [FRONT & REAR WINDOW ANTI-PINCH]

YES >> Replace power window main switch. Refer to <u>PWC-114, "Removal and Installation"</u>.

NO >> GO TO 2.

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

- 1. Disconnect BCM connector.
- 2. Check continuity between BCM harness connector and power window main switch harness connector.

BCM		Power window main switch		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M123	132	D8	14	Existed	

#### 3. Check continuity between BCM harness connector and ground.

BCM			Continuity
Connector	Terminal	Ground	Continuity
M123	132		Not existed

#### Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-80, "Exploded View"</u>.

NO >> Repair or replace harness.

# FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

# FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Description

Power window main switch, front power window switch (passenger side), rear power window switch and BCM transmit and receive the signal by power window serial link.

The signal mentioned below is transmitted from BCM to power window main switch, front power window switch (passenger side) and rear power window switch.

Keyless power window down signal

The signal mentioned below is transmitted from power window main switch to front power window switch (passenger side) and rear power window switch.

- Front passenger side door window and rear door window operation signal
- Power window control by key cylinder switch signal
- Power window lock switch signal
- Retained power operation signal

# FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Component Function Check

# **1.**CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

#### (B) With CONSULT-III

Check ("CDL LOCK SW ", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYS-TEM" with CONSULT-III. Refer to <u>DLK-53, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)"</u>.

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

Is the inspection result normal?

- YES >> Power window serial link is OK.
- NO >> Refer to <u>PWC-37</u>, "FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure".

< DTC/CIRCUIT DIAGNOSIS >

## FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure

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[FRONT & REAR WINDOW ANTI-PINCH]

1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect front power window switch (passenger side) connector.
- Check signal between front power window switch (passenger side) harness connector and ground with oscilloscope when door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".
- 4. Check that signals which are shown in the figure below can be detected during 10 seconds just after door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".

(+) Front power window swi Connector	itch (passenger side) Terminal	()	Signal (Reference value)	E
D38	16	Ground	(V) 15 10 5 0 10 10 10 10 10 10 10 15 10 10 10 10 10 10 10 10 10 10	F

Is the inspection result normal?

YES >> Replace front power window switch (passenger side). Refer to <u>PWC-114, "Removal and Installa-tion"</u>.
 NO >> GO TO 2.

**2.**CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Disconnect BCM connector.

2. Check continuity between BCM harness connector and front power window switch (passenger side) harness connector.

P	Continuity	witch (passenger side)	Front power window s	CM	BC
	Continuity	Terminal	Connector	Terminal	Connector
_	Existed	16	D38	132	M123

3. Check continuity between BCM harness connector and ground.

B	CM		Continuity	Μ
Connector	Terminal	Ground	Continuity	1 V I
M123	132		Not existed	

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-80, "Exploded View"</u>.

NO >> Repair or replace harness.

#### REAR LH

#### **REAR LH** : Description

INFOID:000000001834074

Power window main switch, front power window switch (passenger side), rear power window switch and BCM transmit and receive the signal by power window serial link.

The signal mentioned below is transmitted from BCM to power window main switch, front power window switch (passenger side) and rear power window switch.

Keyless power window down signal

The signal mentioned below is transmitted from power window main switch to front power window switch (passenger side) and rear power window switch.

• Front passenger side door window and rear door window operation signal

#### **PWC-37**

#### < DTC/CIRCUIT DIAGNOSIS >

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

#### **REAR LH : Component Function Check**

INFOID:000000001834075

[FRONT & REAR WINDOW ANTI-PINCH]

#### **1.**CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

#### (I) With CONSULT-III

Check ("CDL LOCK SW ", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYS-TEM" with CONSULT-III. Refer to <u>DLK-53, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)"</u>.

Monitor item	C	Condition
CDL LOCK SW	LOCK	: ON
	UNLOCK	: OFF
CDL UNLOCK SW	LOCK	: OFF
	UNLOCK	: ON

#### Is the inspection result normal?

- YES >> Power window serial link is OK.
- NO >> Refer to <u>PWC-38</u>, "REAR LH : Diagnosis Procedure".

REAR LH : Diagnosis Procedure

INFOID:000000001834076

# 1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window switch LH connector.
- 3. Check signal between rear power window switch LH harness connector and ground with oscilloscope when door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".
- 4. Check that signals which are shown in the figure below can be detected during 10 second just after door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".

(+) Rear power wind	low switch LH	(-)	Signal (Reference value)
Connector	Terminal		
D57	16	Ground	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10

#### Is the inspection result normal?

YES >> Replace rear power window switch LH.

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

#### 1. Disconnect BCM connector.

2. Check continuity between BCM harness connector and rear power window switch LH harness connector.

B	BCM		Rear power window switch LH	
Connector	Terminal	Connector	Terminal	Continuity
M123	132	D57	16	Existed

3. Check continuity between BCM harness connector and ground.

#### < DTC/CIRCUIT DIAGNOSIS >

BC			Continuity
Connector	Terminal	Ground	
M123	132		Not existed
the inspection result norma YES >> Replace BCM. R NO >> Repair or replace	efer to <u>BCS-80, "Explod</u>	ed View".	
EAR RH : Description	1		INFOID:000000001834
ansmit and receive the sign he signal mentioned below witch (passenger side) and Keyless power window dov	al by power window seri is transmitted from B0 ear power window swite vn signal	al link. CM to power window ma ch.	power window switch and BC ain switch, front power windo
he signal mentioned below i enger side) and rear power Front passenger side door Power window control by ke Power window lock switch s Retained power operation s	window switch. window and rear door w ey cylinder switch signal signal	indow operation signal	front power window switch (pa
	t Function Check		INFOID:000000001834
EAR RH : Componer			NN 012.000000001034
.CHECK POWER WINDO	N SWITCH OUTPUT SI	DATA MONITOR" mode f	or "POWER DOOR LOCK SYS
.CHECK POWER WINDO	N SWITCH OUTPUT SI	DATA MONITOR" mode f	or "POWER DOOR LOCK SYS <u>stion (BCM - DOOR LOCK)"</u> .
CHECK POWER WINDO With CONSULT-III heck ("CDL LOCK SW ", "C EM" with CONSULT-III. Refe	N SWITCH OUTPUT SI	DATA MONITOR" mode fo	or "POWER DOOR LOCK SYS <u>stion (BCM - DOOR LOCK)"</u> .
CHECK POWER WINDO With CONSULT-III heck ("CDL LOCK SW ", "C EM" with CONSULT-III. Refe	N SWITCH OUTPUT SI	DATA MONITOR" mode fo DCK : CONSULT-III Func Condit	or "POWER DOOR LOCK SYS stion (BCM - DOOR LOCK)".
CHECK POWER WINDON With CONSULT-III heck ("CDL LOCK SW ", "C EM" with CONSULT-III. Refe	N SWITCH OUTPUT SI	DATA MONITOR" mode fr DCK : CONSULT-III Func Condit LOCK	or "POWER DOOR LOCK SYS <u>etion (BCM - DOOR LOCK)"</u> . tion : ON
CHECK POWER WINDO With CONSULT-III heck ("CDL LOCK SW ", "C EM" with CONSULT-III. Refe	N SWITCH OUTPUT SI	DATA MONITOR" mode for DCK : CONSULT-III Func Condit LOCK UNLOCK	or "POWER DOOR LOCK SYS <u>stion (BCM - DOOR LOCK)"</u> . tion : ON : OFF
CHECK POWER WINDON With CONSULT-III heck ("CDL LOCK SW ", "C EM" with CONSULT-III. Refe CDL LOCK SW CDL UNLOCK SW the inspection result norma YES >> Power window se	W SWITCH OUTPUT SI DL UNLOCK SW") in "E er to DLK-53. "DOOR LO	DATA MONITOR" mode fr DCK : CONSULT-III Func Condit LOCK UNLOCK LOCK UNLOCK	or "POWER DOOR LOCK SYS <u>etion (BCM - DOOR LOCK)"</u> . tion : ON : OFF : OFF
CHECK POWER WINDON With CONSULT-III heck ("CDL LOCK SW ", "C EM" with CONSULT-III. Refe CDL LOCK SW CDL UNLOCK SW the inspection result norma YES >> Power window se	W SWITCH OUTPUT SI DL UNLOCK SW") in "E er to DLK-53, "DOOR LO	DATA MONITOR" mode fr DCK : CONSULT-III Func Condit LOCK UNLOCK LOCK UNLOCK	or "POWER DOOR LOCK SYS <u>etion (BCM - DOOR LOCK)"</u> . tion : ON : OFF : OFF
CHECK POWER WINDON With CONSULT-III heck ("CDL LOCK SW ", "C EM" with CONSULT-III. Refe CDL LOCK SW CDL LOCK SW CDL UNLOCK SW the inspection result norma YES >> Power window se NO >> Refer to <u>PWC-39</u>	W SWITCH OUTPUT SI	DATA MONITOR" mode fr DCK : CONSULT-III Fund Condit LOCK UNLOCK LOCK UNLOCK	or "POWER DOOR LOCK SYS tion (BCM - DOOR LOCK)". tion : ON : OFF : OFF : ON

#### < DTC/CIRCUIT DIAGNOSIS >

(+) Rear power wind	low switch RH	(-)	Signal (Reference value)
Connector	Terminal		
D77	16	Ground	(V) 15 10 0 0 10 10 10 10 10 10 10

Is the inspection result normal?

YES >> Replace rear power window switch RH.

NO >> GO TO 2.

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Disconnect BCM connector.

2. Check continuity between BCM harness connector and rear power window switch RH harness connector.

B	BCM		Rear power window switch RH	
Connector	Terminal	Connector	Terminal	Continuity
M123	132	D77	16	Existed

3. Check continuity between BCM harness connector and ground.

B	BCM		Continuity
Connector	Terminal	Ground	Continuity
M123	132		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-80, "Exploded View"</u>.

NO >> Repair or replace harness.

#### POWER WINDOW LOCK SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

# POWER WINDOW LOCK SWITCH

## Description

Ground circuit of power window main switch shuts off if power window lock switch of power window main 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 power window main switch and operation is checked.

Does power window lock operate?

- YES >> Replace power window main switch. Refer to <u>PWC-114, "Removal and Installation"</u>.
- NO >> Check condition of harness and connector.

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[FRONT & REAR WINDOW ANTI-PINCH]

# ECU DIAGNOSIS INFORMATION BCM (BODY CONTROL MODULE)

## **Reference Value**

INFOID:000000004743860

# VALUES ON THE DIAGNOSIS TOOL

#### CONSULT-III MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
	Front wiper switch HI	On
FR WIPER LOW	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 LAMP SW	Lighting switch 1ST or 2ND	On
	Other than lighting switch HI	Off
HI BEAM SW	Lighting switch HI	On
	Other than lighting switch 2ND	Off
HEAD LAMP SW 1	Lighting switch 2ND	On
	Other than lighting switch 2ND	Off
HEAD LAMP SW 2	Lighting switch 2ND	On
	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On
	Front fog lamp switch OFF	Off
FR FOG SW	Front fog lamp switch ON	On
RR FOG SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
	Driver door closed	Off
DOOR SW-DR	Driver door opened	On
	Passenger door closed	Off
DOOR SW-AS	Passenger door opened	On
	Rear RH door closed	Off
DOOR SW-RR	Rear RH door opened	On

#### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
DOOR SW-RL	Rear LH door closed	Off	
DOOK SW-KL	Rear LH door opened	On	
DOOR SW-BK	NOTE: The item is indicated, but not monitored.	Off	
	Other than power door lock switch LOCK	Off	
CDL LOCK SW	Power door lock switch LOCK	On	
	Other than power door lock switch UNLOCK	Off	
CDL UNLOCK SW	Power door lock switch UNLOCK	On	
	Other than driver door key cylinder LOCK position	Off	
KEY CYL LK-SW	Driver door key cylinder LOCK position	On	
	Other than driver door key cylinder UNLOCK position	Off	
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On	
KEY CYL SW-TR	<b>NOTE:</b> The item is indicated, but not monitored.	Off	
	Hazard switch is not pressed	Off	
HAZARD SW	Hazard switch is pressed	On	
REAR DEF SW	NOTE: The item is indicated, but not monitored.	Off	
H/L WASH SW	NOTE: The item is indicated, but not monitored.	Off	
TR CANCEL SW	Trunk lid opener cancel switch OFF	Off	
	Trunk lid opener cancel switch ON	On	
TR/BD OPEN SW	Trunk lid opener switch OFF	Off	
IR/BD OPEN SW	While the trunk lid opener switch is turned ON	On	
	Trunk lid closed	Off	
TRNK/HAT MNTR	Trunk lid opened	On	
	LOCK button of Intelligent Key is not pressed	Off	
RKE-LOCK	LOCK button of Intelligent Key is pressed	On	
	UNLOCK button of Intelligent Key is not pressed	Off	
RKE-UNLOCK	UNLOCK button of Intelligent Key is pressed	On	
	TRUNK OPEN button of Intelligent Key is not pressed	Off	
RKE-TR/BD	TRUNK OPEN button of Intelligent Key is pressed	On	
	PANIC button of Intelligent Key is not pressed	Off	
RKE-PANIC	PANIC button of Intelligent Key is pressed	On	
	UNLOCK button of Intelligent Key is not pressed	Off	
RKE-P/W OPEN	UNLOCK button of Intelligent Key is pressed and held	On	
	LOCK/UNLOCK button of Intelligent Key is not pressed and held si- multaneously	Off	
RKE-MODE CHG	LOCK/UNLOCK button of Intelligent Key is pressed and held simul- taneously	On	
	Bright outside of the vehicle	Close to 5 V	
OPTICAL SENSOR	Dark outside of the vehicle	Close to 0 V	
	Driver door request switch is not pressed	Off	
REQ SW-DR	Driver door request switch is pressed	On	
	Passenger door request switch is not pressed	Off	
REQ SW-AS	Passenger door request switch is pressed	On	

#### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
REQ SW-BD/TR	Trunk request switch is not pressed	Off
REQ 3W-BD/TR	Trunk request switch is pressed	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
F 0311 3W	Push-button ignition switch (push switch) is pressed	On
IGN RLY2 -F/B	Ignition switch in OFF or ACC position	Off
IGN KLTZ -F/B	Ignition switch in ON position	On
ACC RLY -F/B	Ignition switch in OFF position	Off
ACC KLT -F/B	Ignition switch in ACC or ON position	On
CLUCH SW	The clutch pedal is not depressed	Off
CLUCH SW	The clutch pedal is depressed	On
	The brake pedal is depressed when No. 7 fuse is blown	Off
BRAKE SW 1	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal	On
	The brake pedal is not depressed	Off
BRAKE SW 2	The brake pedal is depressed	On
DETE/CANCL SW	<ul> <li>Selector lever in P position (Except M/T models)</li> <li>The clutch pedal is depressed (M/T models)</li> </ul>	Off
DETE/CANCE SW	<ul> <li>Selector lever in any position other than P (Except M/T models)</li> <li>The clutch pedal is not depressed (M/T models)</li> </ul>	On
SFT PN/N SW	Selector lever in any position other than P and N	Off
SFT FININ SW	Selector lever in P or N position	On
S/L -LOCK	Steering is unlocked	Off
S/L-LUCK	Steering is locked	On
S/L -UNLOCK	Steering is locked	Off
3/L -UNLOCK	Steering is unlocked	On
S/L RELAY-F/B	Ignition switch in OFF or ACC position	Off
J/L RELAT-F/B	Ignition switch in ON position	On
UNLK SEN-DR	Driver door is unlocked	Off
UNER SEN-DR	Driver door is locked	On
	Push-button ignition switch (push-switch) is not pressed	Off
PUSH SW -IPDM	Push-button ignition switch (push-switch) is pressed	On
	Ignition switch in OFF or ACC position	Off
IGN RLY1 -F/B	Ignition switch in ON position	On
	Selector lever in any position other than P	Off
DETE SW -IPDM	Selector lever in P position	On
SFT PN -IPDM	<ul> <li>Selector lever in any position other than P and N (Except M/T models)</li> <li>The clutch pedal is not depressed (M/T models)</li> </ul>	Off
	<ul> <li>Selector lever in P or N position (Except M/T models)</li> <li>The clutch pedal is depressed (M/T models)</li> </ul>	On
	Selector lever in any position other than P	Off
SFT P -MET	Selector lever in P position	On
	Selector lever in any position other than N	Off
SFT N -MET	Selector lever in N position	On

#### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status				
	Engine stopped	Stop				
	While the engine stalls	Stall				
ENGINE STATE	At engine cranking	Crank				
	Engine running	Run				
	Steering is unlocked	Off				
S/L LOCK-IPDM	Steering is locked	On				
	Steering is locked	Off				
S/L UNLK-IPDM	Steering is unlocked	On				
S/L RELAY-REQ	Steering lock system is not the LOCK condition and the changing condition from LOCK to UNLOCK	Off				
5/L RELAT-REQ	Steering lock system are not the LOCK condition or the changing condition from LOCK to UNLOCK	On				
VEH SPEED 1	While driving	Equivalent to speedometer reading				
VEH SPEED 2	While driving	Equivalent to speedometer reading				
	Driver door is locked	LOCK				
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY				
	Driver door is unlocked	UNLK				
	Passenger door is locked	LOCK				
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)         READY					
	Passenger door is unlocked	UNLK				
	Steering is locked	Reset				
ID OK FLAG	Steering is unlocked	Set				
	The engine start is prohibited	Reset				
PRMT ENG STRT	The engine start is permitted	Set				
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset				
	Intelligent Key is not inserted into key slot	Off				
KEY SW -SLOT	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: The item is indicated, but not monitored.	_				
CONFRM ID ALL	The key ID that the key slot receives is not recognized by any key ID registered to BCM.	Yet				
	The key ID that the key slot receives is recognized by any key ID registered to BCM.	Done				
CONFIRM ID4	The key ID that the key slot receives is not recognized by the fourth key ID registered to BCM.	Yet				
	The key ID that the key slot receives is recognized by the fourth key ID registered to BCM.	Done				
CONFIRM ID3	The key ID that the key slot receives is not recognized by the third key ID registered to BCM.	Yet				
	The key ID that the key slot receives is recognized by the third key ID registered to BCM.	Done				
CONFIRM ID2	The key ID that the key slot receives is not recognized by the sec- ond key ID registered to BCM.	Yet				
	The key ID that the key slot receives is recognized by the second key ID registered to BCM.	Done				

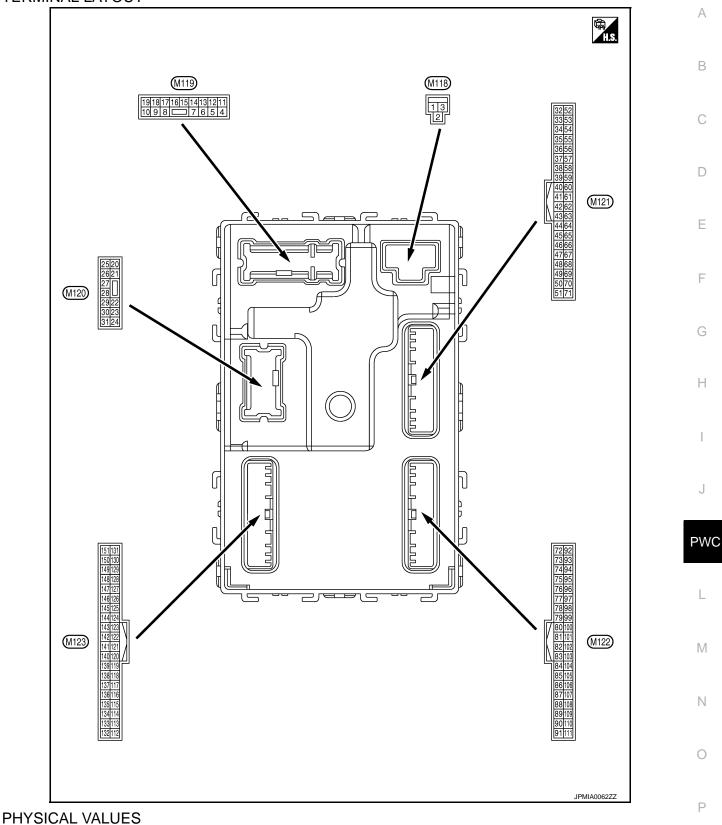
#### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
CONFIRM ID1	The key ID that the key slot receives is not recognized by the first key ID registered to BCM.	Yet
CONFIRMIDI	The key ID that the key slot receives is recognized by the first key ID registered to BCM.	Done
TP 4	The ID of fourth Intelligent Key is not registered to BCM	Yet
1F 4	The ID of fourth Intelligent Key is registered to BCM	Done
TP 3	The ID of third Intelligent Key is not registered to BCM	Yet
14.2	The ID of third Intelligent Key is registered to BCM	Done
TP 2	The ID of second Intelligent Key is not registered to BCM	Yet
IF Z	The ID of second Intelligent Key is registered to BCM	Done
TP 1	The ID of first Intelligent Key is not registered to BCM	Yet
IFI	The ID of first Intelligent Key is registered to BCM	Done
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
	ID of front LH tire transmitter is registered	Done
ID REGST FL1	ID of front LH tire transmitter is not registered	Yet
	ID of front RH tire transmitter is registered	Done
ID REGST FR1	ID of front RH tire transmitter is not registered	Yet
	ID of rear RH tire transmitter is registered	Done
ID REGST RR1	ID of rear RH tire transmitter is not registered	Yet
	ID of rear LH tire transmitter is registered	Done
ID REGST RL1	ID of rear LH tire transmitter is not registered	Yet
	Tire pressure indicator OFF	Off
WARNING LAMP	Tire pressure indicator ON	On
	Tire pressure warning alarm is not sounding	Off
BUZZER	Tire pressure warning alarm is sounding	On

#### < ECU DIAGNOSIS INFORMATION >

# [FRONT & REAR WINDOW ANTI-PINCH]

**TERMINAL LAYOUT** 



J

#### < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description	I			Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
2 (Y)	Ground	P/W power supply (BAT)	Output	Ignition switch OF	F	Battery voltage
3 (O)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
4		Interior room lamp	0.1.1	After passing the in er operation time	nterior room lamp battery sav-	0 V
(LG)	Ground	power supply	Output	Any other time after lamp battery saver	er passing the interior room r operation time	Battery voltage
5		Passenger door UN-			UNLOCK (Actuator is activated)	Battery voltage
(V)	Ground	LOCK	Output	Passenger door	Other than UNLOCK (Actuator is not activated)	0 V
7	0		0.1.1	0	ON	0 V
(Y)	Ground	Step lamp	Output	Step lamp	OFF	Battery voltage
8	Ground	All doors, fuel lid	Output	All doors fuel lid	LOCK (Actuator is activat- ed)	Battery voltage
(V)	Ground	LOCK	Output	All doors, fuel lid	Other than LOCK (Actuator is not activated)	0 V
9	Cround	Driver door, fuel lid	Output	Driver door, fuel	UNLOCK (Actuator is activated)	Battery voltage
(G)	Ground	UNLOCK	Output	lid	Other than UNLOCK (Actuator is not activated)	0 V
10	Crownd	Rear RH door and	Output	Rear RH door	UNLOCK (Actuator is activated)	Battery voltage
(BR)	Ground	rear LH door UN- LOCK	Output	and rear LH door	Other than UNLOCK (Actuator is not activated)	0 V
11 (R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
13 (B)	Ground	Ground		Ignition switch ON		0 V
					OFF	0 V
14 (W)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp	ON	NOTE: When the illumination brighten- ing/dimming level is in the neutral position
15	Ground	ACC indicator laws	Outrout	Ignition owitch	OFF	Battery voltage
(Y)	Ground	ACC indicator lamp	Output	Ignition switch	ACC or ON	0 V

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(Wire +	e color) -	Signal name	Input/ Output		Condition	value (Approx.)	A
					Turn signal switch OFF	0 V	_
17 (W)	Ground	Turn signal (Front RH)	Output	lgnition switch ON	Turn signal switch RH	(V) 15 10 5 0 1 s 10 1 s FKID0926E 6.5 V	B C D
					Turn signal switch OFF	0 V	Е
18 (O)	Ground	Turn signal (Front LH)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s FKID0926E 6.5 V	F
19	Ground	Room lamp timer	Output	Interior room	OFF	Battery voltage	Н
(V)	Giouria	control	Output	lamp	ON	0 V	
					Turn signal switch OFF	0 V	
20 (V)	Ground	Turn signal (Rear RH)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 Fillo 10 10 10 10 10 10 10 10 10 10	J PWC
23	Ground	Trunk lid opening	Output	Trunk lid	Open (Trunk lid opener ac- tuator is activated)	Battery voltage	L
(G)					Close (Trunk lid opener ac- tuator is not activated)	0 V	
					Turn signal switch OFF	0 V	M
25 (G)	Ground	Turn signal (Rear LH)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s PKID0926E 6.5 V	N
20					ON	0.0 V	Ρ
30 (R)	Ground	Trunk room lamp	Output	Trunk room lamp	OFF	Battery voltage	
. /							

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(vvire +	e color) _	Signal name	Input/ Output		Condition	(Approx.)
34	Ground	Trunk room antenna	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 0 1 s JMKIA0062GB
(SB)		1 (-)	Cutput	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 0 1 s JMKIA0063GB
35 (V)	Ground	Trunk room antenna	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 1 s JMKIA0062GB
(v)		1 (+)		OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 1 s JMKIA0063GB
38	Ground	Ground Rear bumper anten- na (-) Output		When the trunk lid request switch	When Intelligent Key is in the antenna detection area	(V) 15 0 0 1 s JMKIA0062GB
(B)			is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 0 1 s 0 1 s 0 JMKIA0063GB	

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	•				
(Wird +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A				
39		Rear bumper anten-		When the trunk lid request switch	When Intelligent Key is in the antenna detection area	(V) 15 0 15 0 15 0 15 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 10 15 15 15 15 15 15 15 15 15 15	B C D				
(W)	Ground	na (+)	Output	is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	E				
47		Ignition relay (IPDM			OFF or ACC	Battery voltage	G				
(Y)	Ground	E/R) control	Output	Ignition switch	ON	0 V	-				
50 (R)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (Trunk is closed)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V	H				
					ON (Trunk is open)	0 V	-				
				Ignition switch OFF (M/T mod-	When the clutch pedal is depressed	Battery voltage	PWC				
				els)	When the clutch pedal is not depressed	0 V	L				
52 (SB)	Ground	Starter relay control	Output	Output	Output	Output	Output	Ignition switch ON (Except M/T	When selector lever is in P or N position and the brake is depressed	Battery voltage	- M
				models)	When selector lever is in P or N position and the brake is not depressed	0 V	IVI				
					ON (Pressed)	0 V	Ν				
61 (W)	Ground	Trunk request switch	Input	Trunk request switch	OFF (Not pressed)	(V) 15 0 5 10 10 ms JPMIA0016GB 1.0 V	O P				
64	Ground	Request switch buzz-	Output	Request switch	Sounding	0 V	-				
(V)	Ground	er	Output	buzzer	Not sounding	Battery voltage	-				

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire +	e color) _	Signal name	Input/ Output	Condition		(Approx.)
			•		Pressed	0 V
67 (GR)	Ground	Trunk lid opener switch	Input	Trunk lid opener switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V
68 (BR)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closes)	(V) 15 0 5 0 10 ms JPMIA0011GB 11.8 V
					ON (When rear RH door opens)	0 V
69 (R)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (When rear LH door closes)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V
					ON (When rear LH door opens)	0 V
72	Ground	Room antenna 2 (-)	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 5 1 5 0 1 5 15 15 15 15 15 15 15 15 15 15 15 15 15
(R)	Ground	(Center console)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 5 1 1 5 10 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0

#### < ECU DIAGNOSIS INFORMATION >

Terminal No.		Description				)/-1	
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
73	Ground	Room antenna 2 (+)	Outout	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	B C D
(G)	Ground	(Center console)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	E
74	Ground	Passenger door an-	Output	Output Senger door re- quest switch is operated with ig- nition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 0 10 10 10 10 10 10 10 10 10	G H
(SB)	Ground	tenna (-)	Cutput		operated with ig- nition switch OFF Wr in t	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB
75	Ground	Passenger door an-		When the pas- senger door re- quest switch is operated with ig- nition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	M
(BR)	Ground	tenna (+)	Output		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	P

#### < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value
(Wire +	e color)	Signal name	Input/ Output	Condition		(Approx.)
76	Ground	Driver door antenna	Output	When the driver door request	When Intelligent Key is in the antenna detection area	(V) 15 0 0 1 s JMKIA0062GB
(V)		(-)	Culput	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 10 10 10 10 10 10 10 10 10
77	Ground	Driver door antenna	Output door request switch is opera	When the driver door request	When Intelligent Key is in the antenna detection area	(V) 15 0 1 s JMKIA0062GB
(LG)		(+)		ed with ignition	ed with ignition switch OFF When Intelli	When Intelligent Key is not in the antenna detection area
78	Ground	Room antenna (-) (In-		Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB
(Y)		strument panel)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 5 0 1 s JMKIA0063GB

#### < ECU DIAGNOSIS INFORMATION >

# [FRONT & REAR WINDOW ANTI-PINCH]

	inal No.	Description				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	А
79		Room antenna (+)		Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	B C D
(BR)	Ground	(Instrument panel)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	E
80 (GR)	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.	G
81 (W)	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.	Н
82 (R)	Ground	Ignition relay [fuse block (J/B)] control	Output	Ignition switch	OFF or ACC ON	0 V Battery voltage	I
83	Ground	Remote keyless entry	Input/	During waiting		(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	J PW0
(Y)	Ground	receiver signal	Output	When operating e	ither button on Intelligent Key	(V) 15 10 5 0 1 ms JMKIA0065GB	M
						<u> </u>	0

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#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color) -	Signal name	Input/ Output	Condition		(Approx.)
					All switch OFF (Wiper intermittent dial 4)	(V) 15 0 5 0 2 ms JPMIA0041GB 1.4 V
87 (BR)	Ground	Combination switch INPUT 5	Input	Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V
					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 1.3 V

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	0
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	A
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V	B C D
88	Ground	Combination switch	Input	Combination	Lighting switch HI (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V	E
(V)	Giouna	INPUT 3	niput	switch	Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V	G H 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 1.3 V	J PWC
89	Crownd	Push-button ignition	lanut	Push-button igni-	Pressed	0 V	
(BR)	Ground	switch (Push switch)	Input	tion switch (push switch)	Not pressed	Battery voltage	M
90 (P)	Ground	CAN - L	Input/ Output		_	_	
91 (L)	Ground	CAN - H	Input/ Output		_	_	Ν
					OFF	0 V	
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	Blinking	(V) 15 0 10 10 10 10 10 10 10 10 10	P
					ON	Battery voltage	
	1			I	I		

#### < ECU DIAGNOSIS INFORMATION >

Term	inal No.	Description				Value	
(Wire +	e color)	Signal name	Input/ Output		Condition	Value (Approx.)	
93					OFF or ACC	0 V	
(V)	Ground	ON indicator lamp	Output	Ignition switch	ON	Battery voltage	
95					OFF	0 V	
(O)	Ground	ACC relay control	Output	Ignition switch	ACC or ON	Battery voltage	
96 (GR)	Ground	A/T device (Detention switch) power supply	Output			Battery voltage	
97		Steering lock condi-			LOCK status	0 V	
(L)	Ground	tion No. 1	Input	Steering lock	UNLOCK status	Battery voltage	
98		Steering lock condi-			LOCK status	Battery voltage	
98 (P)	Ground	tion No. 2	Input	Steering lock	UNLOCK status	0 V	
		Calester laver Dinesi			P position	0 V	
		Selector lever P posi- tion switch		Selector lever	Any position other than P	Battery voltage	
					OFF (Clutch pedal is de-		
		ASCD clutch switch		ASCD clutch	pressed)	0 V	
99 (R)	Ground	(M/T models without ICC)	Input	switch	ON (Clutch pedal is not de- pressed)	Battery voltage	
					OFF (Clutch pedal is de-	0 V	
		ICC clutch switch (M/		ICC clutch switch	pressed)		
		T models with ICC)			ON (Clutch pedal is not depressed)	Battery voltage	
					ON (Pressed)	0 V	
100 (G)	Ground	Passenger door re- quest switch	Input	Passenger door request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V	
					ON (Pressed)	0 V	
101 (SB)	Ground	Driver door request switch	Input	Driver door re- quest switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V	
400		Player for materia			OFF or ACC	0 V	
102 (O)	Ground	Blower fan motor re- lay control	Output	Ignition switch	ON	Battery voltage	
103 (LG)	Ground	Remote keyless entry receiver power sup- ply	Output	Ignition switch OFI		Battery voltage	
106	Cround	Steering wheel lock	Outroit	Ignition owitch	OFF or ACC	Battery voltage	
(W)	Ground	unit power supply	Output	Ignition switch	ON	0 V	

#### < ECU DIAGNOSIS INFORMATION >

# [FRONT & REAR WINDOW ANTI-PINCH]

	Terminal No. Description (Wire color)				Value		
(Wire) +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	А
					All switch OFF	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V	B C D
					Turn signal switch LH	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V	E
107 (LG)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH	(V) 15 10 0 2 ms JPMIA0036GB 1.3 V	G H
					Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3 V	J PWC
					Front washer switch ON	(V) 15 10 5 0 2 ms JPMIA0039GB	M
						1.3 V	0

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#### < ECU DIAGNOSIS INFORMATION >

	Terminal No. (Wire color)		Description			Value	
+		Signal name	Input/ Output	Condition		(Approx.)	
					All switch OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0041GB 1.4 V	
108	Ground	Combination switch	Input	Combination	Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0038GB 1.3 V	
(R)		INPUT 4		switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0036GB 1.3 V	
					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 1.3 V	

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Malua	
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
					All switch OFF	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V	B C D
					Lighting switch PASS	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V	E
109 (Y)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 0 2.ms JPMIA0036GB 1.3 V	G H I
					Front wiper switch INT	(V) 15 0 2 ms JPMIA0038GB 1.3 V	J PWC
					Front wiper switch HI	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V	M
					Pressed	0 V	0
110 (G)	Ground	Hazard switch	Input	Hazard switch	Not pressed	(V) 15 0 5 10 10 10 10 10 10 10 10 10 10 10 10 10	Ρ

#### < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description				Value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
			Output		LOCK status	Battery voltage	
111 (Y)	Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK or UNLOCK	(V) 15 10 50 50 ms JMKIA0066GB	
					For 15 seconds after UN- LOCK	Battery voltage	
					15 seconds or later after UNLOCK	0 V	
113	Ground	Optical sensor signal	Input	Ignition switch	When bright outside of the vehicle	Close to 5 V	
(P)	Cround	optical concer signal	mput	ON	When dark outside of the vehicle	Close to 0 V	
114	Ground	Clutch interlock	Input	Clutch interlock	OFF (Clutch pedal is not depressed)	0 V	
(R)	Cround	switch	mput	switch	ON (Clutch pedal is de- pressed)	Battery voltage	
116 (SB)	Ground	Stop lamp switch 1	Input		_	Battery voltage	
				Stop lamp switch	OFF (Brake pedal is not depressed)	0 V	
118 (P)	Ground	Stop lamp switch 2	Input		ON (Brake pedal is de- pressed)	Battery voltage	
				ICC brake hold	OFF	0 V	
				relay (With ICC)	ON	Battery voltage	
119 (SB)	Ground	Front door lock as- sembly driver side (Unlock sensor)	Input	Driver door	LOCK status	(V) 15 10 10 10 ms JPMIA0011GB 11.8 V	
					UNLOCK status	0 V	
121	Ground	Key slot switch	Input	When Intelligent K	ey is inserted into key slot	Battery voltage	
(R)	Cround		input	When Intelligent Ke	ey is not inserted into key slot	0 V	
122 (V)	Ground	ACC feedback signal	Input	Ignition switch	OFF ACC or ON	0 V Battery voltage	
123	Ground	IGN feedback signal	Input	Ignition switch	OFF or ACC	0 V	
(W)	Ground	IGIN RECUBACK SIGNAL	input	Ignition Switch	ON	Battery voltage	

#### < ECU DIAGNOSIS INFORMATION >

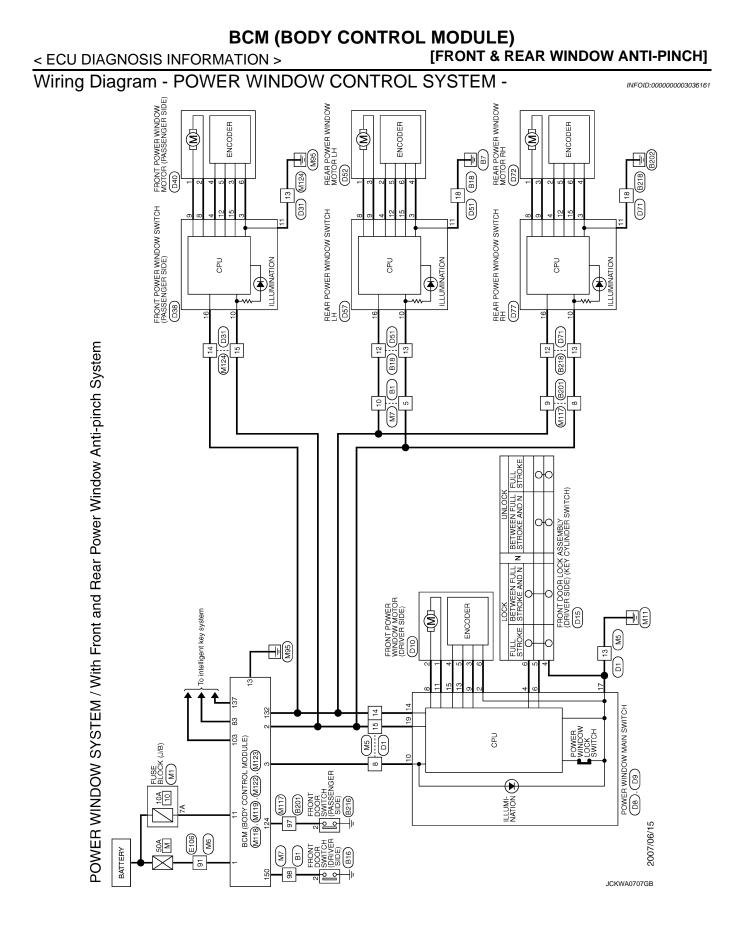
	inal No.	Description			Value		Value		
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A		
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closes)	(V) 15 10 5 0 10 ms JPMIA0011GB	B C D		
					ON (When passenger door opens)	11.8 V 0 V			
129 (O)	Ground	Trunk lid opener can- cel switch	Input	Trunk lid opener cancel switch	CANCEL	(V) 15 10 5 0 10 ms JPMIA0012GB	E F G		
					ON	1.1 V 0 V	Н		
132 (V)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		(V) 15 0 10 10 ms JPMIA0013GB 10.2 V	J		
				Ignition switch OF	F or ACC	0 V			
				5	ON (When tail lamps OFF)	5.5 V	PWC		
						<b>NOTE:</b> The pulse width of this wave is varied by the illumination brightening/dimming level.	L		
133 (W)	Ground	Push-button ignition switch illumination	Output	Push-button igni- tion switch illumi- nation	ON (When tail lamps ON)	(V) 15 10 5 0 JPMIA0159GB	M		
					OFF	0 V	~		
134	Ground	LOCK indicator lamp	Output	LOCK indicator	ON	0 V	0		
(GR) 137		Receiver and sensor	-	lamp	OFF	Battery voltage	Р		
(O)	Ground	ground	Input	Ignition switch ON		0 V	Γ		
138	Ground	Receiver and sensor	Output	Ignition switch	OFF	0 V			
(V)		power supply output			ACC or ON	5.0 V			

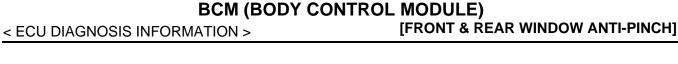
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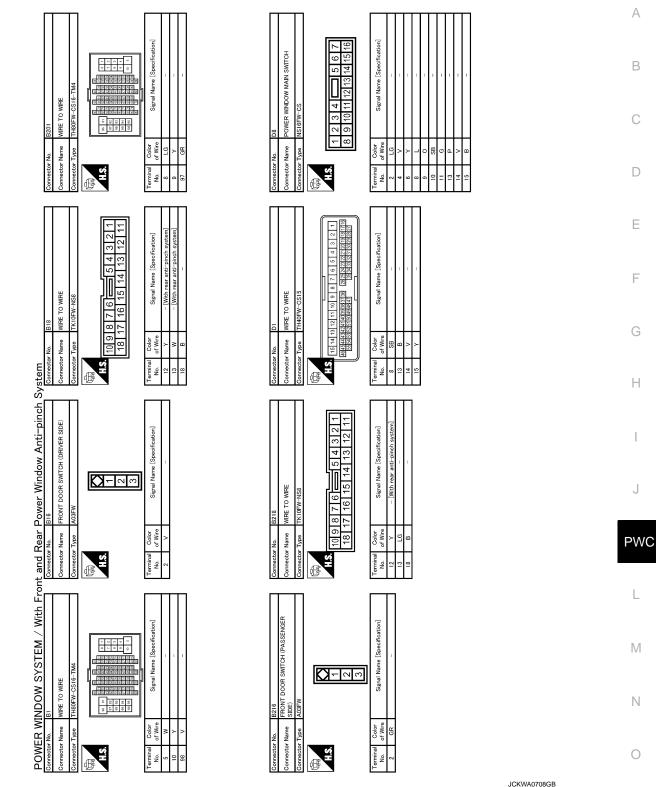
	inal No.	Description				Value
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
139	Ground	Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 6 4 2 0 ••• 0.2s OCC3881D
(L)	Ground	er signal	Output		When receiving the signal from the transmitter	(V) 6 4 2 0 ••• 0.25
140	Ground	Selector lever P/N	Input	Selector lever	P or N position	12.0 V
(GR)		position signal			Except P and N positions ON	0 V 0 V
141 (G)	Ground	Security indicator sig- nal	Output	Security indicator	Blinking	(V) 15 10 5 0 15 10 5 0 15 15 10 15 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 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 10 15 10 10 15 10 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10
					OFF	Battery voltage
					All switch OFF	0 V
142 (O)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 1ST Lighting switch HI Lighting switch 2ND Turn signal switch RH	(V) 15 0 5 0 2 ms JPMIA0031GB 10.7 V
143 (P)	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 • Wiper intermittent dial 7	0 V (V) 15 10 2 ms JPMIA0032GB 10.7 V

#### < ECU DIAGNOSIS INFORMATION >

	inal No.					Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	value (Approx.)	
					All switch OFF (Wiper intermittent dial 4)	0 V	
144	Ground	Combination switch	Output	Combination	Front washer switch ON (Wiper intermittent dial 4)		
(G)	Clound	OUTPUT 2	Culput	switch	Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	10 0 2 ms JPMIA0033GB 10.7 V	
					All switch OFF	0 V	
					Front wiper switch INT		
				Combination	Front wiper switch LO		
145 (L)	Ground	Combination switch OUTPUT 3	Output	switch (Wiper intermit- tent dial 4)	Lighting switch AUTO	10 5 0 2 ms JPMIA0034GB	
					All switch OFF	10.7 V	
					Front fog lamp switch ON		
					Lighting switch 2ND		
146		Combination switch		Combination switch	Lighting switch PASS		
(SB)	Ground	OUTPUT 4	Output	(Wiper intermit- tent dial 4)	Turn signal switch LH	10 0 2 ms JPMIA0035GB 10.7 V	
149	Ground	Tire pressure warn-	Input		_	5 V	
(W)		ing check switch	<u> </u>				
150 (GR)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closes)	(V) 15 10 10 10 10 11.8 V	
					ON (When driver door opens)	0 V	
151	Ground	Rear window defog-	Outrout	Rear window de-	Active	0 V	
(G)	Ground	ger relay	Output	fogger	Not activated	Battery voltage	

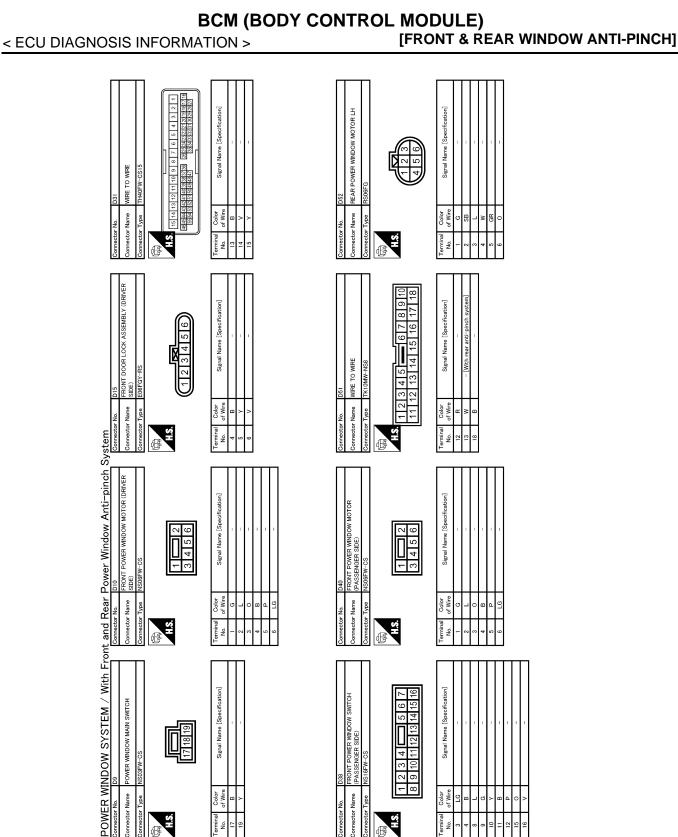






Revision: 2008 September

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Connector Name

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Color of Wire

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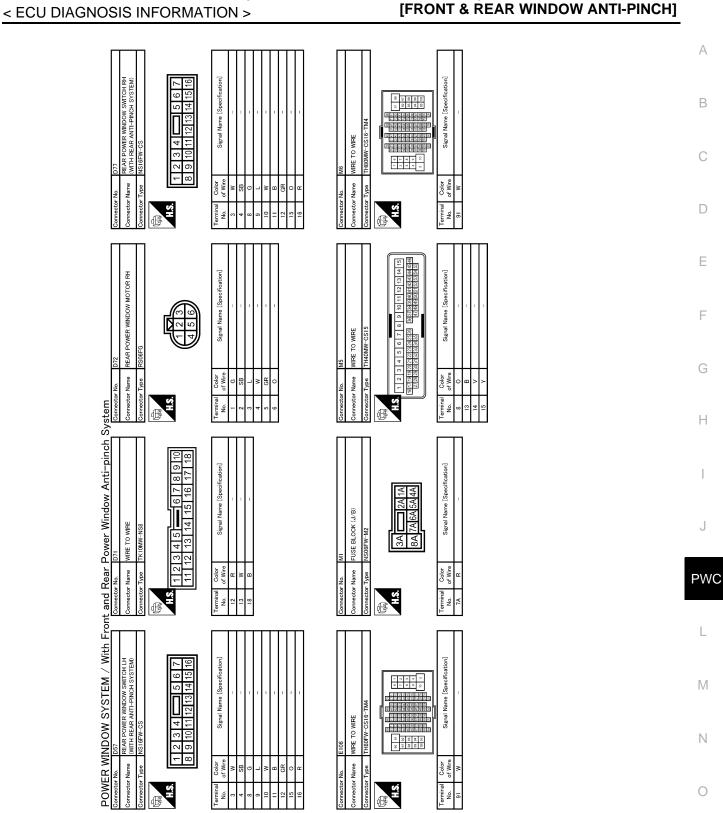
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Color of Wire

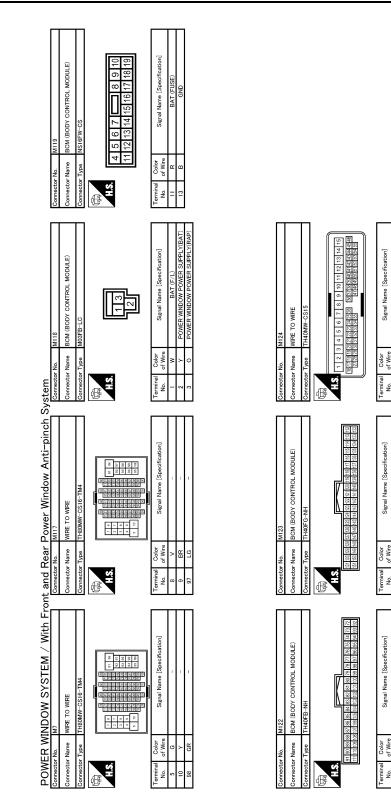
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INFOID:000000004743861

## Fail-safe

#### FAIL-SAFE CONTROL BY DTC

BCM performs fail-safe control when any DTC are detected.

DOOR SW

**VEYLESS TUNER SIGI** 

#### < ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	Erase DTC
B2190: NATS ANTTENA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch $ON \rightarrow OFF$
B2557: VEHICLE SPEED	Inhibit steering lock	When normal vehicle speed signals are received from ABS actua- tor and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following CAN signal communication status be- comes consistent</li> <li>Starter control relay signal</li> <li>Starter relay status signal</li> </ul>
B2563: HI VOLTAGE	<ul><li>Inhibit engine cranking</li><li>Inhibit steering lock</li></ul>	500 ms after the power supply voltage decreases to less than 18 V
B2601: SHIFT POSITION	Inhibit steering lock	<ul> <li>500 ms after the following signal reception status becomes consistent</li> <li>Selector lever P position switch signal</li> <li>P range signal (CAN)</li> </ul>
B2602: SHIFT POSITION	Inhibit steering lock	<ul> <li>5 seconds after the following BCM recognition conditions are fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Vehicle speed: 4 km/h (2.5 MPH) or more</li> </ul>
B2603: SHIFT POSI STATUS	Inhibit steering lock	<ul> <li>500 ms after the following BCM recognition conditions are fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> </ul>
B2604: PNP SW	Inhibit steering lock	<ul> <li>500 ms after any of the following BCM recognition conditions are fulfilled</li> <li>Status 1</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: P and N position (battery voltage)</li> <li>P range signal or N range signal (CAN): ON</li> <li>Status 2</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> <li>P range signal and N range signal (CAN): OFF</li> </ul>
B2605: PNP SW	Inhibit steering lock	<ul> <li>500 ms after any of the following BCM recognition conditions are fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Power position: IGN</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> <li>Interlock/PNP switch signal (CAN): OFF</li> <li>Status 2</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: P or N position (battery voltage)</li> <li>PNP switch signal (CAN): ON</li> </ul>
B2606: S/L RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following CAN signal communication status becomes consistent</li> <li>Steering lock relay signal (Request signal)</li> <li>Steering lock relay signal (Condition signal)</li> </ul>

#### < ECU DIAGNOSIS INFORMATION >

# [FRONT & REAR WINDOW ANTI-PINCH]

Display contents of CONSULT	Fail-safe	Cancellation
B2607: S/L RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following CAN signal communication status becomes consistent</li> <li>Steering lock relay signal (Request signal)</li> <li>Steering lock relay signal (Condition signal)</li> </ul>
B2608: STARTER RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following signal communication status becomes consistent</li> <li>Starter motor relay control signal</li> <li>Starter relay status signal (CAN)</li> </ul>
B2609: S/L STATUS	<ul><li>Inhibit engine cranking</li><li>Inhibit steering lock</li></ul>	<ul> <li>When the following steering lock conditions agree</li> <li>BCM steering lock control status</li> <li>Steering lock condition No. 1 signal status</li> <li>Steering lock condition No. 2 signal status</li> </ul>
B260A: IGNITION RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following conditions are fulfilled</li> <li>IGN relay (IPDM E/R) control signal: OFF (Battery voltage)</li> <li>Ignition ON signal (CAN to IPDM E/R): OFF (Request signal)</li> <li>Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)</li> </ul>
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	<ul><li>When any of the following conditions are fulfilled</li><li>Power position changes to ACC</li><li>Receives engine status signal (CAN)</li></ul>
B2612: S/L STATUS	<ul><li>Inhibit engine cranking</li><li>Inhibit steering lock</li></ul>	<ul> <li>When any of the following conditions are fulfilled</li> <li>Steering lock unit status signal (CAN) is received normally</li> <li>The BCM steering lock control status matches the steering lock status recognized by the steering lock unit status signal (CAN from IPDM E/R)</li> </ul>
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM be- comes normal
B2619: BCM	Inhibit engine cranking	1 second after the steering lock unit power supply output control in- side BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization
B26E1: ENG STATE NO RES	Inhibit engine cranking	<ul><li>When any of the following conditions are fulfilled</li><li>Power position changes to ACC</li><li>Receives engine status signal (CAN)</li></ul>

#### HIGH FLASHER OPERATION

BCM detects the turn signal lamp circuit status by the current value.

BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

#### NOTE:

The blinking speed is normal while activating the hazard warning lamp.

#### DTC Inspection Priority Chart

INFOID:000000004743862

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
2	U1000: CAN COMM     U1010: CONTROL UNIT(CAN)
3	<ul> <li>B2190: NATS ANTTENA AMP</li> <li>B2191: DIFFERENCE OF KEY</li> <li>B2192: ID DISCORD BCM-ECM</li> <li>B2193: CHAIN OF BCM-ECM</li> <li>B2195: ANTI SCANNING</li> </ul>

#### **BCM (BODY CONTROL MODULE)**

#### < ECU DIAGNOSIS INFORMATION >

### [FRONT & REAR WINDOW ANTI-PINCH]

Priority	DTC	
Priority 4	DTC DTC B2013: ID DISCORD BCM-S/L B2014: CHAIN OF S/L-BCM B2553: IGNITION RELAY B2555: STOP LAMP B2556: PUSH-BTN IGN SW B2557: VEHICLE SPEED B2560: STARTER CONT RELAY B2601: SHIFT POSITION B2602: SHIFT POSI STATUS B2604: PNP SW B2605: PNP SW B2605: PNP SW B2606: S/L RELAY B2607: S/L RELAY B2608: STARTER RELAY B2609: S/L STATUS B2609: S/L STATUS B2609: S/L STATUS B2609: S/L STATUS B2609: S/L STARTER RELAY B2600: STEERING LOCK UNIT B2600: STEERING LOCK UNIT	
	<ul> <li>B260D: STEERING LOCK UNIT</li> <li>B260F: ENG STATE SIG LOST</li> <li>B2611: ACC RELAY</li> <li>B2612: S/L STATUS</li> <li>B2614: ACC RELAY CIRC</li> <li>B2615: BLOWER RELAY CIRC</li> <li>B2616: IGN RELAY CIRC</li> <li>B2617: STARTER RELAY CIRC</li> <li>B2618: BCM</li> <li>B2619: BCM</li> <li>B2619: BCM</li> <li>B2614: VEHICLE TYPE</li> <li>B26E1: ENG STATE NO RES</li> <li>C1729: VHCL SPEED SIG ERR</li> <li>U0415: VEHICLE SPEED SIG</li> </ul>	
5	<ul> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> <li>C1711: [NO DATA] RR</li> <li>C1712: [CHECKSUM ERR] FL</li> <li>C1713: [CHECKSUM ERR] FR</li> <li>C1714: [CHECKSUM ERR] RR</li> <li>C1715: [CHECKSUM ERR] RR</li> <li>C1716: [PRESSDATA ERR] FL</li> <li>C1718: [PRESSDATA ERR] FR</li> <li>C1719: [PRESSDATA ERR] RR</li> <li>C1720: [CODE ERR] FR</li> <li>C1721: [CODE ERR] FR</li> <li>C1722: [CODE ERR] RR</li> <li>C1723: [CODE ERR] RR</li> <li>C1724: [BATT VOLT LOW] FL</li> <li>C1726: [BATT VOLT LOW] FR</li> <li>C1726: [BATT VOLT LOW] RR</li> <li>C1727: [BATT VOLT LOW] RL</li> <li>C1727: [BATT VOLT LOW] RL</li> <li>C1727: [BATT VOLT LOW] RL</li> </ul>	
6	C1734: CONTROL UNIT     B2621: INSIDE ANTENNA     B2622: INSIDE ANTENNA     B2623: INSIDE ANTENNA	

#### BCM (BODY CONTROL MODULE) ATION > [FRONT & REAR WINDOW ANTI-PINCH]

< ECU DIAGNOSIS INFORMATION >

#### DTC Index

INFOID:000000004743863

#### NOTE:

The details of time display are as follows.

• CRNT: A malfunction is detected now.

• PAST: A malfunction was detected in the past.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data and IGN Counter, refer to BCS-13, "COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)".

CONSULT display	Fail-safe	Freeze Frame Data	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	—	—	—	_	BCS-33
U1010: CONTROL UNIT(CAN)	—	—	—	_	BCS-34
U0415: VEHICLE SPEED SIG	—	—	—	_	BCS-35
B2013: ID DISCORD BCM-S/L	×	×	—	—	<u>SEC-54</u>
B2014: CHAIN OF S/L-BCM	×	×	—	_	<u>SEC-55</u>
B2190: NATS ANTTENA AMP	×	—	—	_	<u>SEC-46</u>
B2191: DIFFERENCE OF KEY	×	_	—	—	<u>SEC-49</u>
B2192: ID DISCORD BCM-ECM	×	_	—	—	<u>SEC-50</u>
B2193: CHAIN OF BCM-ECM	×	_	—	_	<u>SEC-52</u>
B2195: ANTI SCANNING	×	—	—	_	<u>SEC-53</u>
B2553: IGNITION RELAY	—	×	—	_	PCS-50
B2555: STOP LAMP	—	×	—	_	<u>SEC-58</u>
B2556: PUSH-BTN IGN SW	_	×	×	_	<u>SEC-60</u>
B2557: VEHICLE SPEED	×	×	×	_	<u>SEC-62</u>
B2560: STARTER CONT RELAY	×	×	×	—	<u>SEC-63</u>
B2562: LOW VOLTAGE	—	×	—	_	BCS-36
B2563: HI VOLTAGE	×	×	×	_	BCS-37
B2601: SHIFT POSITION	×	×	×	—	<u>SEC-64</u>
B2602: SHIFT POSITION	×	×	×	_	<u>SEC-67</u>
B2603: SHIFT POSI STATUS	×	×	×	_	<u>SEC-69</u>
B2604: PNP SW	×	×	×	—	<u>SEC-72</u>
B2605: PNP SW	×	×	×	_	<u>SEC-74</u>
B2606: S/L RELAY	×	×	×	_	<u>SEC-76</u>
B2607: S/L RELAY	×	×	×	_	<u>SEC-77</u>
B2608: STARTER RELAY	×	×	×	_	<u>SEC-79</u>
B2609: S/L STATUS	×	×	×	_	SEC-81
B260A: IGNITION RELAY	×	×	×	_	PCS-52
B260B: STEERING LOCK UNIT	—	×	×	—	<u>SEC-85</u>
B260C: STEERING LOCK UNIT	—	×	×		<u>SEC-86</u>
B260D: STEERING LOCK UNIT	—	×	×	—	<u>SEC-87</u>
B260F: ENG STATE SIG LOST	×	×	×	—	<u>SEC-88</u>
B2611: ACC RELAY	—	×	—		PCS-54
B2612: S/L STATUS	×	×	×		<u>SEC-90</u>
B2614: ACC RELAY CIRC	_	×	×	_	PCS-57

Revision: 2008 September

### BCM (BODY CONTROL MODULE)

#### < ECU DIAGNOSIS INFORMATION >

### [FRONT & REAR WINDOW ANTI-PINCH]

CONSULT display	Fail-safe	Freeze Frame Data	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	A
B2615: BLOWER RELAY CIRC	—	×	×	_	PCS-60	•
B2616: IGN RELAY CIRC	—	×	×	—	PCS-63	В
B2617: STARTER RELAY CIRC	×	×	×	_	<u>SEC-94</u>	-
B2618: BCM	×	×	×	—	PCS-66	С
B2619: BCM	×	×	×	—	<u>SEC-96</u>	
B261A: PUSH-BTN IGN SW	—	×	×	—	<u>SEC-97</u>	-
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	_	<u>SEC-100</u>	D
B2621: INSIDE ANTENNA	—	×	—	—	DLK-61	-
B2622: INSIDE ANTENNA	_	×	—	_	DLK-63	E
B2623: INSIDE ANTENNA	—	×	—	_	DLK-65	-
B26E1: ENG STATE NO RES	×	×	×	—	<u>SEC-89</u>	F
C1704: LOW PRESSURE FL	—	_	—	×	<u>WT-15</u>	. Г
C1705: LOW PRESSURE FR	_	_	—	×	<u>WT-15</u>	-
C1706: LOW PRESSURE RR	_	_	—	×	<u>WT-15</u>	G
C1707: LOW PRESSURE RL	—	_	—	×	<u>WT-15</u>	-
C1708: [NO DATA] FL	_	_	—	×	<u>WT-17</u>	
C1709: [NO DATA] FR	—	_	—	×	<u>WT-17</u>	- H
C1710: [NO DATA] RR	—	_	—	×	<u>WT-17</u>	-
C1711: [NO DATA] RL	_	_	—	×	<u>WT-17</u>	
C1712: [CHECKSUM ERR] FL	_	_	—	×	<u>WT-20</u>	-
C1713: [CHECKSUM ERR] FR	_	_	—	×	<u>WT-20</u>	
C1714: [CHECKSUM ERR] RR	_	_	—	×	<u>WT-20</u>	J
C1715: [CHECKSUM ERR] RL	_	_	—	×	<u>WT-20</u>	
C1716: [PRESSDATA ERR] FL	_		—	×	<u>WT-23</u>	PW
C1717: [PRESSDATA ERR] FR	—	_	—	×	<u>WT-23</u>	-
C1718: [PRESSDATA ERR] RR	_	_	—	×	<u>WT-23</u>	-
C1719: [PRESSDATA ERR] RL	—	_	—	×	<u>WT-23</u>	L
C1720: [CODE ERR] FL	_		—	×	<u>WT-25</u>	-
C1721: [CODE ERR] FR	—	_	—	×	<u>WT-25</u>	M
C1722: [CODE ERR] RR	_		_	×	<u>WT-25</u>	111
C1723: [CODE ERR] RL	—	—	—	×	<u>WT-25</u>	-
C1724: [BATT VOLT LOW] FL			—	×	<u>WT-28</u>	N
C1725: [BATT VOLT LOW] FR				×	<u>WT-28</u>	-
C1726: [BATT VOLT LOW] RR			—	×	<u>WT-28</u>	-
C1727: [BATT VOLT LOW] RL	_		_	×	<u>WT-28</u>	- 0
C1729: VHCL SPEED SIG ERR	_		—	×	<u>WT-31</u>	-
C1734: CONTROL UNIT	_		_	×	<u>WT-32</u>	P

## < ECU DIAGNOSIS INFORMATION >

### POWER WINDOW MAIN SWITCH

#### **Reference Value**

INFOID:000000001834088

#### TERMINAL LAYOUT

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		2     4     6       8     9     10     11     13     14     15				
						JMKIA0132ZZ
A	. D8		B.	D9		

#### PHYSICAL VALUES

#### POWER WINDOW MAIN SWITCH

	nal No. color)	Description		Condition	Voltage [V]
+	-	Signal name	Input/ Output	Condition	(Approx.)
2 (LG)	Ground	Encoder ground		_	0
4 (Y)	Ground	Door key cylinder switch LOCK signal	Input	Key position (Neutral $\rightarrow$ Locked)	$5 \rightarrow 0$
6 (Y)	Ground	Door key cylinder switch UNLOCK signal	Input	Key position (Neutral $\rightarrow$ Unlocked)	$5 \rightarrow 0$
8 (L)	11 (G)	Front driver side power win- dow motor UP signal	Output	When front LH switch in power window main switch is UP at operated.	Battery voltage
9 (O)	2 (LG)	Encoder pulse signal 2	Input	When power window mo- tor operates.	(V) 6 4 2 0 10 ms JMKIA0070GB
				IGN SW ON	Battery voltage
10	Ground	Rap signal	Input	Within 45 second after ig- nition switch is turned to OFF	Battery voltage
(SB)				When driver side or pas- senger side door is opened during retained power operation	0
11 (G)	8 (L)	Front driver side power win- dow motor DOWN signal	Output	When front LH switch in power window main switch is DOWN at operated.	Battery voltage

#### < ECU DIAGNOSIS INFORMATION >

#### [FRONT & REAR WINDOW ANTI-PINCH]

Terminal No. (wire color)		Description		Condition	Voltage [V]	
+	-	Signal name	Input/ Output	Condition	(Approx.)	
13 (P)	2 (LG)	Encoder pulse signal 1	Input	When power window mo- tor operates.		
					10 ms JIKIA0070GB	
14 (V)	Ground	Power window serial link	Input/ Output	IGN SW ON or power win- dow timer operating.	(V) 15 10 5 0 •••••••	
					JPMIA0013GB	
15 (B)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates.	12	
17 (B)	Ground	Ground	_	—	0	
19 (Y)	Ground	Battery power supply	Input	_	Battery voltage	

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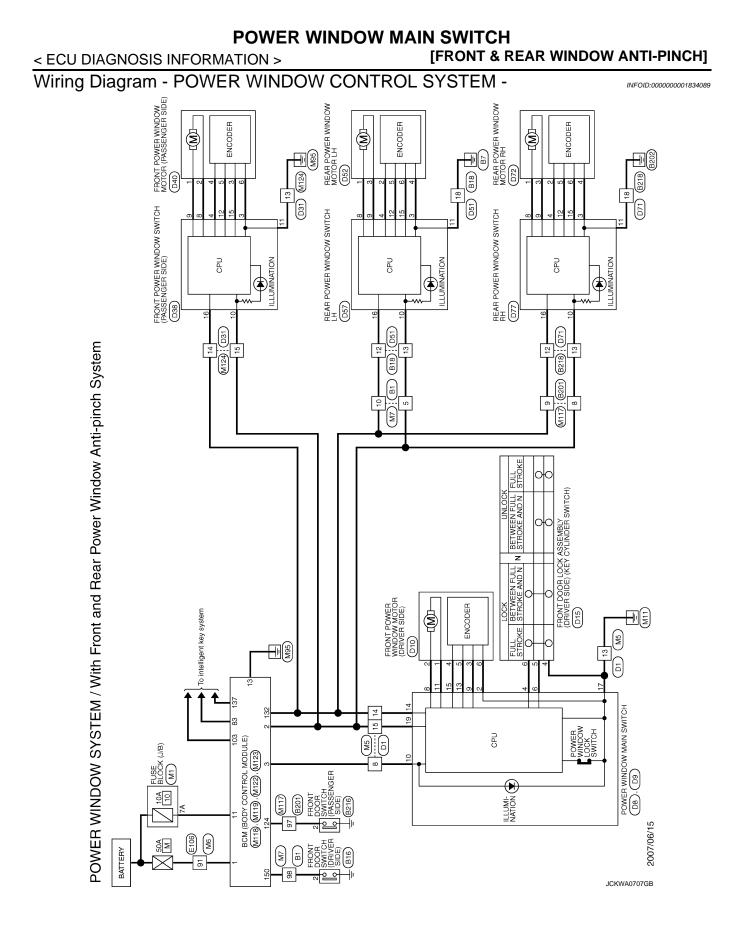
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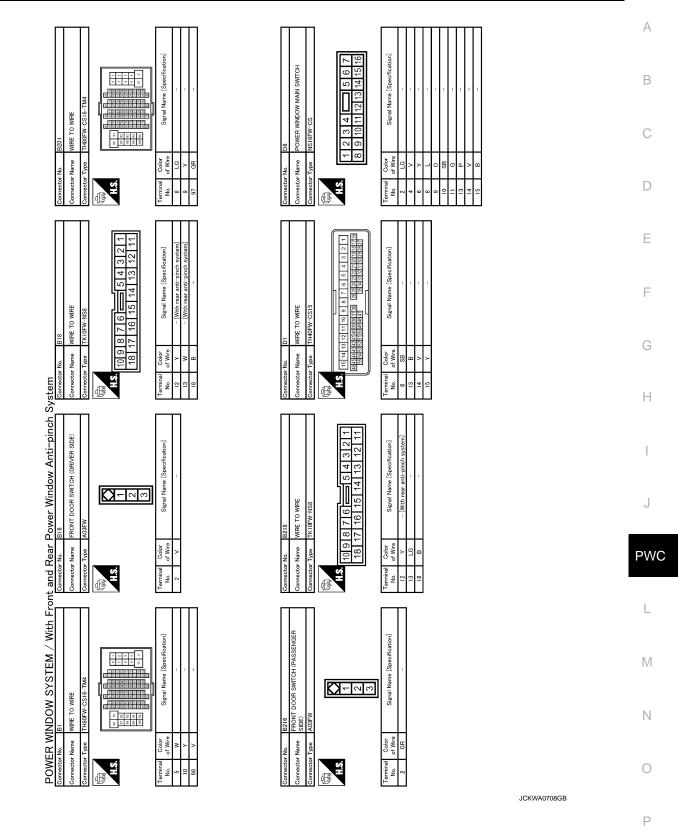
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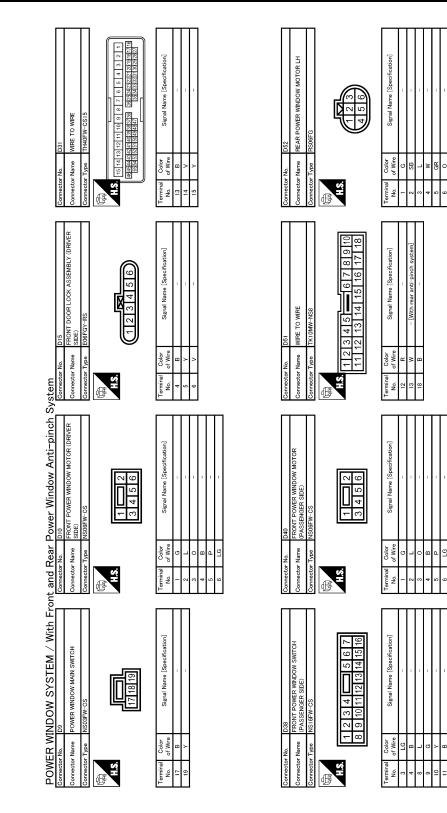
#### < ECU DIAGNOSIS INFORMATION >

### [FRONT & REAR WINDOW ANTI-PINCH]

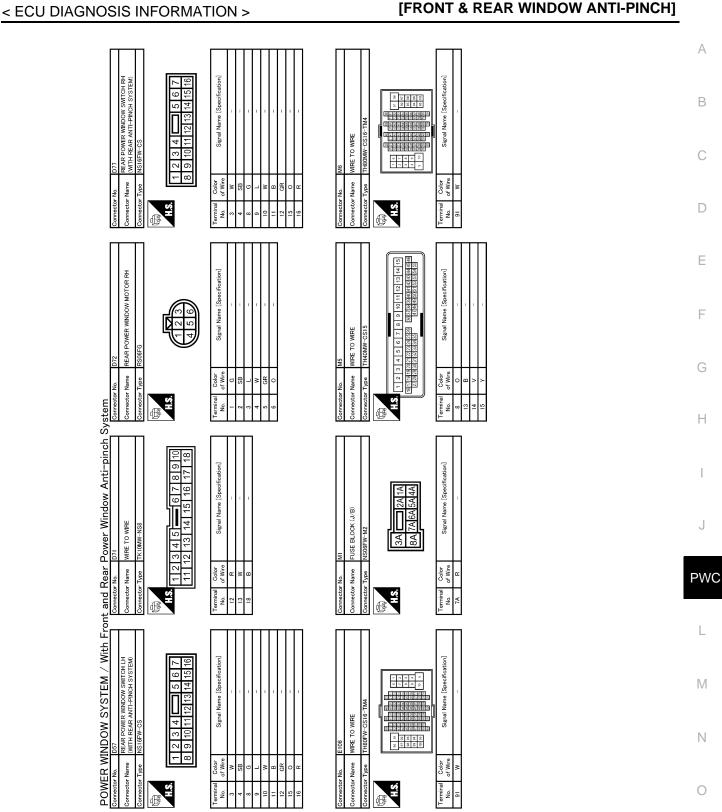


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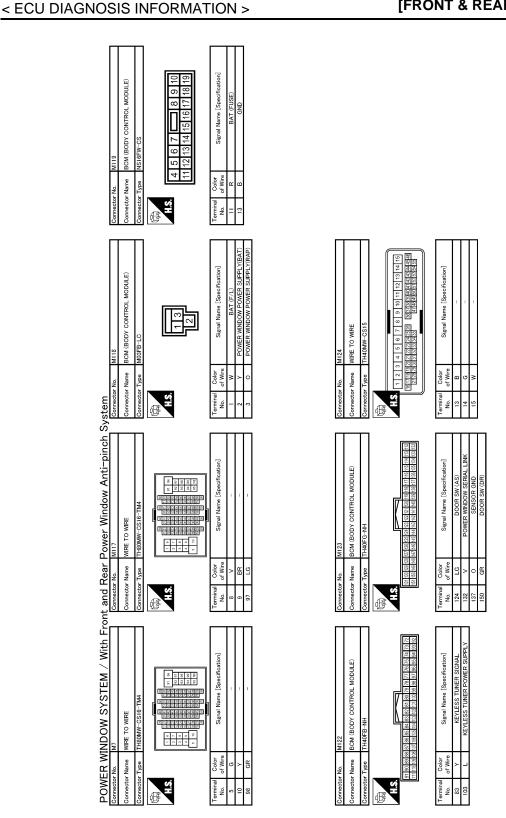


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#### Fail Safe

#### 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.

# POWER WINDOW MAIN SWITCH

#### < ECU DIAGNOSIS INFORMATION >

#### [FRONT & REAR 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 malfunc- tion	When the pulse signal that is detected during glass open/close operation detects the opposite con- dition 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 opera- tion.
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.

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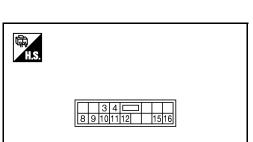
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#### < ECU DIAGNOSIS INFORMATION >

### FRONT POWER WINDOW SWITCH

**Reference Value** 



JMKIA0134ZZ

#### PHYSICAL VALUES FRONT POWER WINDOW SWITCH

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

INFOID:000000001834091

#### FRONT POWER WINDOW SWITCH

#### < ECU DIAGNOSIS INFORMATION >

#### [FRONT & REAR WINDOW ANTI-PINCH]

	minal No. ire color)	Description		Condition	Voltage [V]	A
+	-	Signal name	Input/ Output	Condition	(Approx.)	
15 (O)	3 (LG)	Encoder pulse signal 2	Input	When power window motor operates.	(V) 6 4 2 0 10 ms JMKIA0070GB	B C D
16 (V)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	(V) 15 0 0 10 ms JPMA0013GB	E

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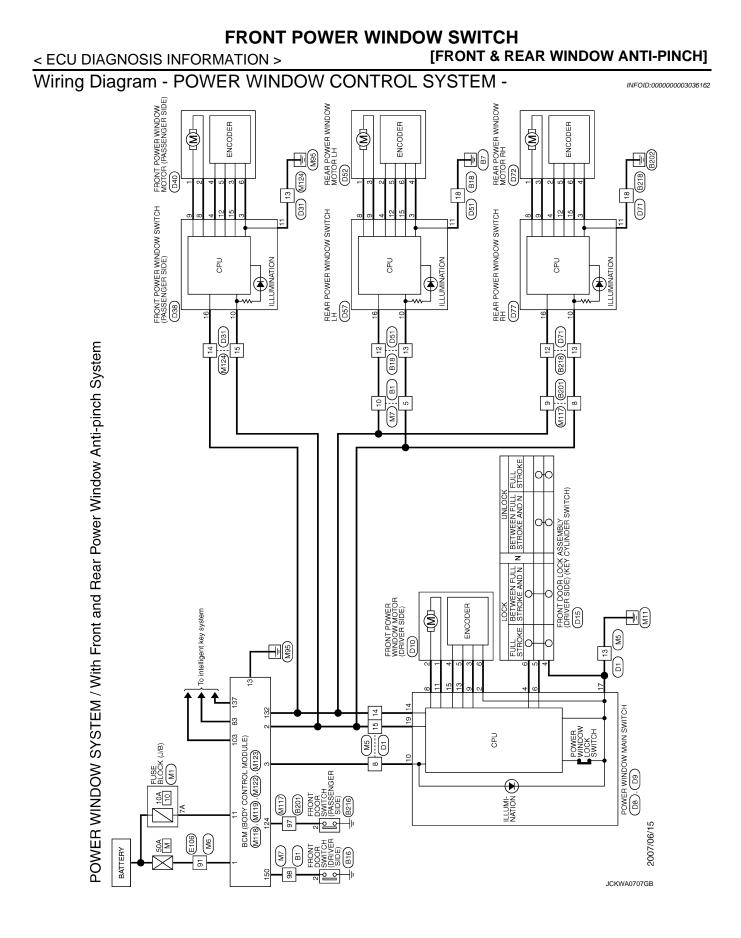
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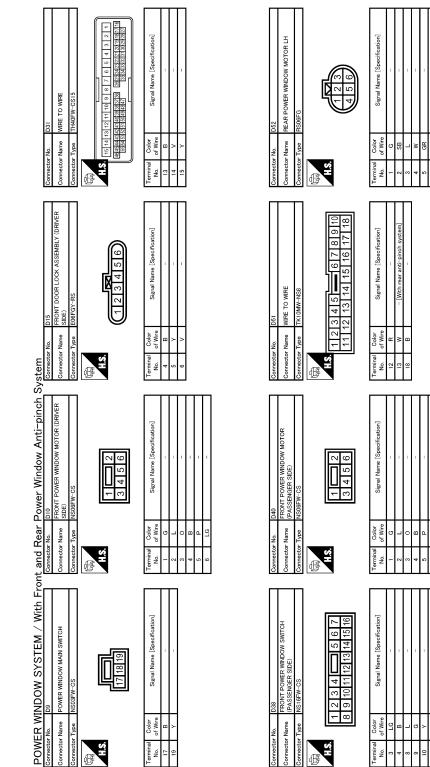


#### FRONT POWER WINDOW SWITCH < ECU DIAGNOSIS INFORMATION > [FRONT & REAR WINDOW ANTI-PINCH]

#### А Signal Name [Specification] POWER WINDOW MAIN SWITCH Signal Name [Specific 8 1 8 3 10 5 В MIRE TO WIRE Φ IS16FW-OS С 96 97 92 92 98 94 90 94 95 8 Color of Wire Color of Wire nector Name 800 ctor Type ector Name H.S. D H.S. Terminal No. erminal No. 倨 E Ε 2625243322212019181716 35343332313029292927 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 Signal Name [Specification] Signal Name [Specification] F 4645444342414039383736 555453525150494847 MRE TO WIRE WIRE TO WIRE H40FW-G Color of Wire Color of Wire Connector Name nector Name tor Type H.S.H Terminal No. H.S. and Rear Power Window Anti-pinch System erminal No. đ ſ Н FRONT DOOR SWITCH (DRIVER SIDE) Signal Name [Specification] Signal Name [Specification] 2 4 က 5 4 $\square \neg \square$ J WIRE TO WIRE lα Color of Wire Color of Wire nector Name nector Name 18 PWC Terminal No. H.S. H.S. erminal No. 8 E E POWER WINDOW SYSTEM / With Front L DOOR SWITCH (PASSENGER Signal Name [Specification] Signal Name [Specification] 5 4 2 2 1 30 4 3 2 1 30 4 4 3 5 1 Μ $\square \neg \neg \square$ MRE TO WIRE Ν 96 91 97 92 98 93 98 94 101 95 FRONT SIDE) Color of Wire Color of Wire nector Name nector Name g H.S. HS. erminal No. Ο srmina No. ß Æ

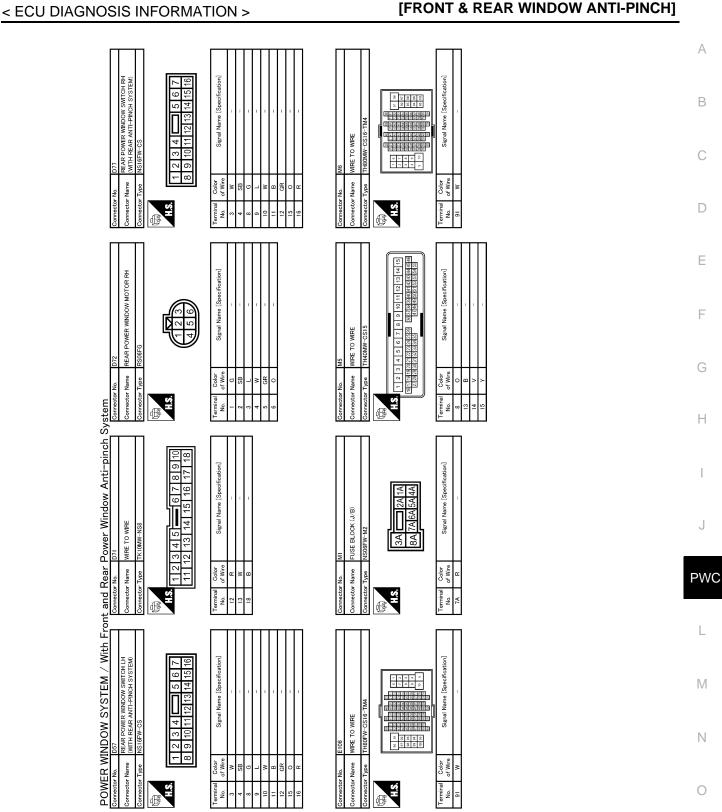
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#### FRONT POWER WINDOW SWITCH [FRONT & REAR WINDOW ANTI-PINCH] < ECU DIAGNOSIS INFORMATION >



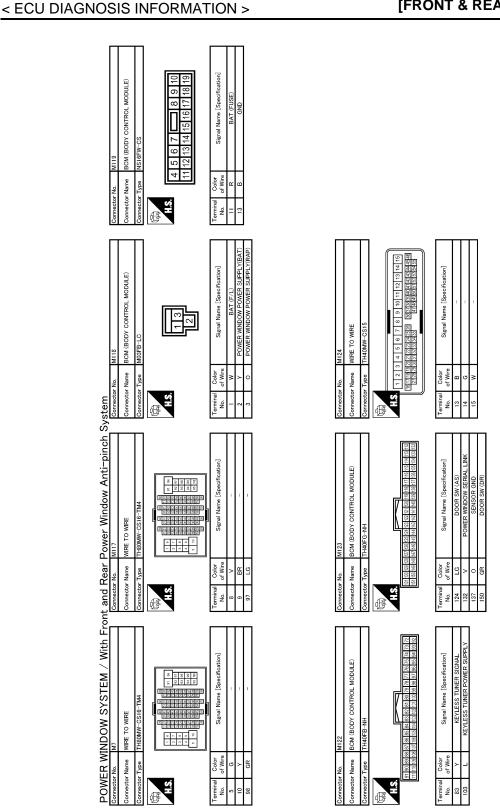
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FRONT POWER WINDOW SWITCH

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INFOID:000000001834093

### Fail Safe

#### 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.

#### FRONT POWER WINDOW SWITCH MATION > [FRONT & REAR WINDOW ANTI-PINCH]

#### FRONT POWER WINDOW SWITCH

#### < ECU DIAGNOSIS INFORMATION >

#### [FRONT & REAR 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 malfunc- tion	When the pulse signal that is detected during glass open/close operation detects the opposite con- dition 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 opera- tion.
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.

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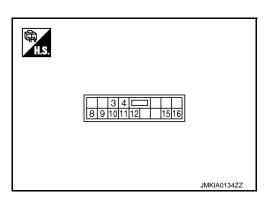
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Revision: 2008 September

### < ECU DIAGNOSIS INFORMATION >

### REAR POWER WINDOW SWITCH

#### **Reference Value**



#### PHYSICAL VALUES

#### REAR POWER WINDOW SWITCH

	inal No. e color)	Description		Condition	Voltage [V]
+	-	Signal name	Input/ Output	Condition	(Approx.)
3 (W)	Ground	Encoder ground	_	_	0
4 (SB)	Ground	Encoder power supply	Output	When ignition switch ON or pow- er window timer operates	12
8 (G)	9 (L)	Power window motor UP signal	Output	When power window motor is UP at operated.	Battery voltage
9 (L)	8 (G)	Power window motor DOWN signal	Output	When power window motor is DOWN at operated.	Battery voltage
10 (W)	Ground	Battery power supply	Input	_	Battery voltage
11 (B)	Ground	Ground	_	_	0
12 (GR)	3 (W)	Encoder pulse signal 1	Input	When power window motor oper- ates.	(V) 6 4 2 0 10 ms JMKIA0070GB

#### REAR POWER WINDOW SWITCH

#### < ECU DIAGNOSIS INFORMATION >

### [FRONT & REAR WINDOW ANTI-PINCH]

	minal No. re color)	Description		Condition	Voltage [V] (Approx.)	А
+	-	Signal name	Input/ Output	Condition		
15 (O)	3 (W)	Encoder pulse signal 2	Input	When power window motor oper- ates.	(V) 6 4 2 0 10 ms JMKIA0070GB	B C D
16 (R)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10	E

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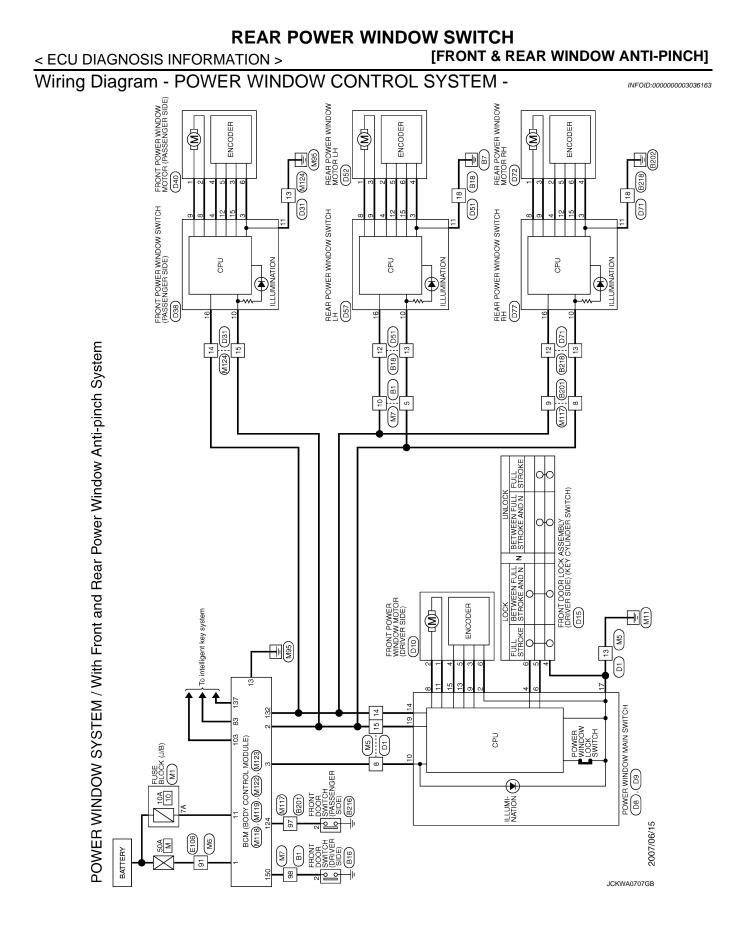
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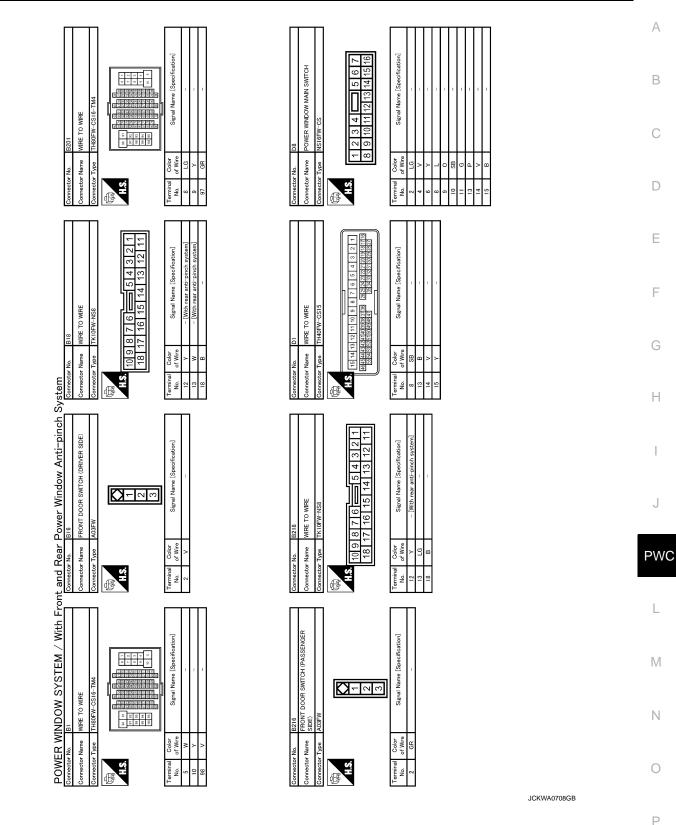
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### REAR POWER WINDOW SWITCH

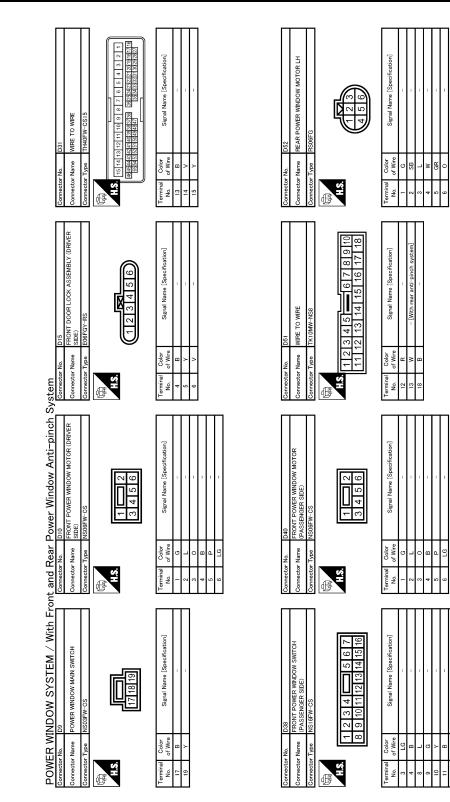
#### < ECU DIAGNOSIS INFORMATION >

### [FRONT & REAR WINDOW ANTI-PINCH]

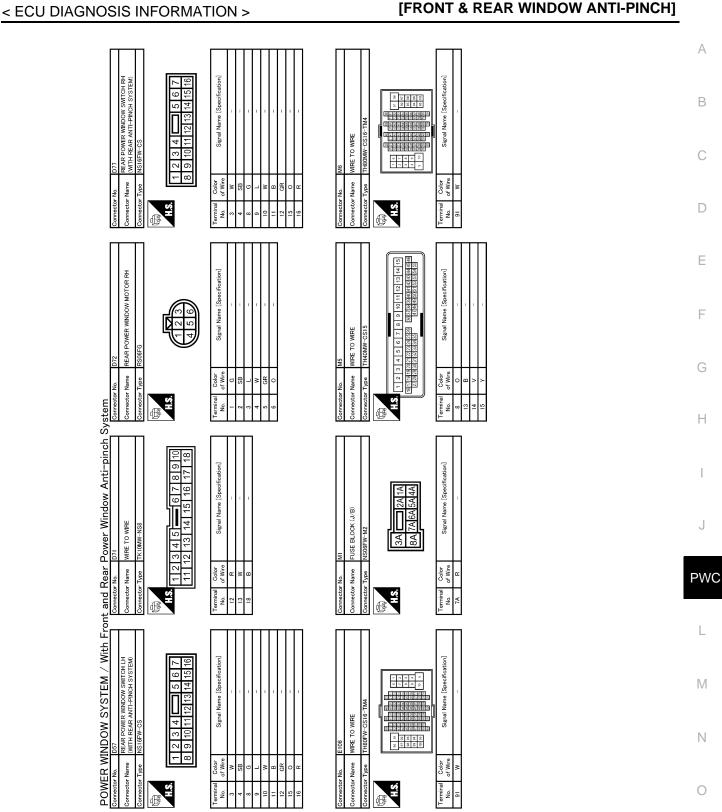




#### < ECU DIAGNOSIS INFORMATION >

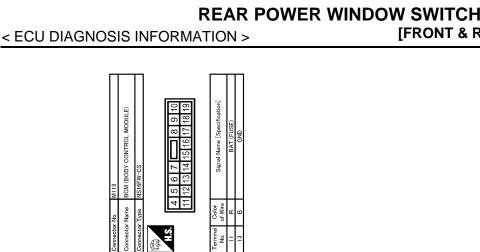


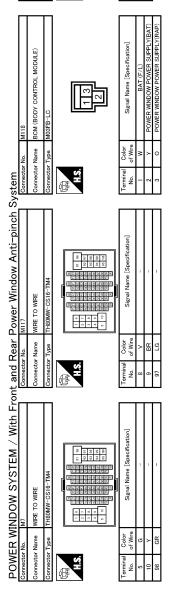
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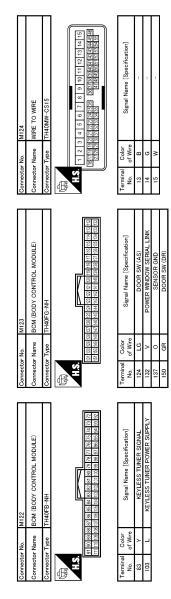


**REAR POWER WINDOW SWITCH** 

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JCKWA0711GB

INFOID:000000001834096

### Fail Safe

#### 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.

#### **REAR POWER WINDOW SWITCH**

#### < ECU DIAGNOSIS INFORMATION >

#### [FRONT & REAR 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 malfunc- tion	When the pulse signal that is detected during glass open/close operation detects the opposite con- dition 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 opera- tion.	
Malfunction of not yet up- dated closed position of glass	When glass open/close operation is continuously performed without fully closing more than the spec- ified 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.

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### NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

#### < SYMPTOM DIAGNOSIS >

[FRONT & REAR WINDOW ANTI-PINCH]

### SYMPTOM DIAGNOSIS

# NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

Diagnosis Procedure

INFOID:000000002993985

**1.**CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit. PWC-14, "BCM : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK POWER WINDOW MAIN SWITCH SERIAL LINK CIRCUIT

Check power window serial link circuit.

Refer to <u>PWC-35. "POWER WINDOW MAIN SWITCH : Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. CONFIRM THE OPERATION

Confirm the operation again.

#### Is the result normal?

- YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.
- NO >> GO TO 1.

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [FRONT & REAR WINDOW ANTI-PINCH]	
DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE	А
Diagnosis Procedure	
<b>1.</b> CHECK POWER WINDOW MAIN SWITCH POWER SUPPLY AND GROUND CIRCUIT	В
Check power window switch power supply and ground circuit. Refer to PWC-14, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure".	
Is the inspection result normal?	С
YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts.	
2. CHECK DRIVER SIDE POWER WINDOW MOTOR	D
Check driver side power window motor. Refer to <u>PWC-18, "DRIVER SIDE : Component Function Check"</u> .	Е
Is the measurement value within the specification?	
YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts.	F
3.CONFIRM THE OPERATION	
Confirm the operation again.	G
<u>Is the result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> .	0
NO $>>$ GO TO 1.	Н

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#### FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE [FRONT & REAR WINDOW ANTI-PINCH] < SYMPTOM DIAGNOSIS >

FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE POWER WINDOW MAIN SWITCH IS OPERATED

POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure INFOID:0000002993987

1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) SERIAL LINK CIRCUIT

Check front power window switch (passenger side) serial link circuit. Refer to PWC-36, "FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2 . Confirm the operation

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> GO TO 1.

FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED

#### FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED : Diagnosis Procedure INFOID:000000003035291

**1.**REPLACE FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Replace front power window switch (passenger side). Refer to PWC-114, "Removal and Installation"

>> INSPECTION END WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW SWITCH ARE OPERATED

WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW SWITCH ARE OPERATED : Diagnosis Procedure

INFOID:000000003035292

1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) POWER SUPPLY AND GROUND CIR-CUIT

Check front power window switch (passenger side) power supply and ground circuit. Refer to PWC-15, "FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.

>> Repair or replace the malfunctioning parts. NO

2.CHECK PASSENGER SIDE POWER WINDOW MOTOR CIRCUIT

Check passenger side power window motor circuit. Refer to PWC-19, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

 ${
m 3.}$  CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> GO TO 1.

REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE
< SYMPTOM DIAGNOSIS > [FRONT & REAR WINDOW ANTI-PINCH]
REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE
POWER WINDOW MAIN SWITCH IS OPERATED
POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure INFOID:00000001834100
1. CHECK REAR POWER WINDOW SWITCH LH SERIAL LINK CIRCUIT
Check rear power window switch LH serial link circuit. Refer to <u>PWC-38</u> , "REAR LH : Component Function Check".
Is the inspection result normal?
YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.
Confirm the operation again.
YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> .
NO >> GO TO 1.
REAR POWER WINDOW SWITCH LH IS OPERATED
REAR POWER WINDOW SWITCH LH IS OPERATED : Diagnosis Procedure
1. REPLACE REAR POWER WINDOW SWITCH LH
Replace rear power window switch LH.
Refer to <u>PWC-114, "Removal and Installation"</u>
>> INSPECTION END
WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH LH ARE OPERATED
WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW
SWITCH LH ARE OPERATED : Diagnosis Procedure
1. CHECK REAR POWER WINDOW SWITCH POWER SUPPLY AND GROUND CIRCUIT
Check rear power window switch power supply and ground circuit. Refer to <u>PWC-16, "REAR POWER WINDOW SWITCH : Diagnosis Procedure"</u> .
Is the inspection result normal?
YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts. 2.CHECK REAR POWER WINDOW MOTOR LH
Ν
Check rear power window motor LH. Refer to <u>PWC-21, "REAR LH : Component Function Check"</u> .
Is the inspection result normal?
YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts.
NO >> Repair or replace the malfunctioning parts. 3.CONFIRM THE OPERATION
Confirm the operation again.
Is the result normal?
YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> .
NO >> GO TO 1.

### REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[FRONT & REAR WINDOW ANTI-PINCH]

REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE POWER WINDOW MAIN SWITCH IS OPERATED

POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure INFOLD:00000001834101

1. CHECK REAR POWER WINDOW SWITCH RH SERIAL LINK CIRCUIT

Check rear power window switch RH serial link circuit. Refer to <u>PWC-39, "REAR RH : Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> GO TO 1.

REAR POWER WINDOW SWITCH RH IS OPERATED

REAR POWER WINDOW SWITCH RH IS OPERATED : Diagnosis Procedure

INFOID:000000003035470

**1.**REPLACE REAR POWER WINDOW SWITCH RH

Replace rear power window switch RH. Refer to <u>PWC-114, "Removal and Installation"</u>

>> INSPECTION END WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED

WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED : Diagnosis Procedure

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

Check rear power window switch power supply and ground circuit. Refer to <u>PWC-16. "REAR POWER WINDOW SWITCH : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

**2.**CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH.

Refer to PWC-22, "REAR RH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

 ${
m 3.}$  CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-39. "Intermittent Incident".

NO >> GO TO 1.

ANTI-PINCH FUNCTION DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [FRONT & REAR WINDOW ANTI-PINCH]
ANTI-PINCH FUNCTION DOES NOT OPERATE
DRIVER SIDE
DRIVER SIDE : Diagnosis Procedure
1.PERFORM INITIALIZATION PROCEDURE
Initialization procedure is executed and operation is confirmed. Refer to <u>PWC-7, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Require-</u> <u>ment"</u> .
Is the inspection result normal?         YES       >> INSPECTION END         NO       >> GO TO 2.
2.CHECK ENCODER (DRIVER SIDE) CIRCUIT
Check encoder (driver side) circuit. Refer to <u>PWC-25, "DRIVER SIDE : Component Function Check"</u> .
<u>Is the inspection result normal?</u> YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.
3.CONFIRM THE OPERATION
Confirm the operation again. <u>Is the result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> . NO >> GO TO 1. PASSENGER SIDE
PASSENGER SIDE : Diagnosis Procedure
1.PERFORM INITIALIZAITON PROCEDURE
Initialization procedure is executed and operation is confirmed. Refer to <u>PWC-7, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"</u> .
Is the inspection result normal? YES >> INSPECTION END NO >> GO TO 2.
2.CHECK ENCODER (PASSENGER SIDE) CIRCUIT
Check encoder (passenger side) circuit. Refer to <u>PWC-27, "PASSENGER SIDE : Component Function Check"</u> .
Is the inspection result normal?         YES       >> GO TO 3.         NO       >> Repair or replace the malfunctioning parts.
<b>3.</b> CONFIRM THE OPERATION
Confirm the operation again. <u>Is the result normal?</u>
Confirm the operation again.
Confirm the operation again.       Is the result normal?         YES       >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".         NO       >> GO TO 1.
Confirm the operation again. <u>Is the result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> . NO >> GO TO 1. REAR LH

#### ANTI-PINCH FUNCTION DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[FRONT & REAR WINDOW ANTI-PINCH]

Refer to <u>PWC-7</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK ENCODER (REAR LH) CIRCUIT

Check encoder (rear LH) circuit.

Refer to PWC-29, "REAR LH : Component Function Check" .

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> GO TO 1.

REAR RH

#### REAR RH : Diagnosis Procedure

INFOID:000000002998704

#### **1.**PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed. Refer to <u>PWC-7</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

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

**2.**CHECK ENCODER (REAR RH) CIRCUIT

Check encoder (rear RH) circuit. Refer to <u>PWC-32, "REAR RH : Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.confirm the operation

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> GO TO 1.

AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMAL- LY		
< SYMPTOM DIAGNOSIS >	[FRONT & REAR WINDOW ANTI-PINCH]	
AUTO OPERATION DOES NOT OPERATE	BUT MANUAL OPERATE NOR-	
MALLY		
DRIVER SIDE		
DRIVER SIDE : Diagnosis Procedure	INFOID:00000002993990	
<b>1.</b> PERFORM INITIALIZATION PROCEDURE		
Initialization procedure is executed and operation is confirmed. Refer to <u>PWC-7, "ADDITIONAL SERVICE WHEN REPLACIN</u> ment".	G CONTROL UNIT : Special Repair Require-	
Is the inspection result normal?		
YES >> INSPECTION END NO >> GO TO 2.		
2. CHECK ENCODER (DRIVER SIDE) CIRCUIT		
Check encoder (driver side) circuit.		
Refer to <u>PWC-25</u> , "DRIVER SIDE : Component Function Check Is the inspection result normal?	<u>K"</u> .	
YES >> GO TO 3.		
NO >> Repair or replace the malfunctioning parts.		
<b>3.</b> CONFIRM THE OPERATION Confirm the operation again.		
Is the result normal?		
YES >> Check intermittent incident. Refer to <u>GI-39, "Interm</u> NO >> GO TO 1.	ittent Incident".	
NO >> GO TO 1. PASSENGER SIDE		
PASSENGER SIDE : Diagnosis Procedure	INFOID:00000002993991	
<b>1.</b> PERFORM INITIALIZAITON PROCEDURE		
Initialization procedure is executed and operation is confirmed. Refer to <u>PWC-7</u> , "ADDITIONAL SERVICE WHEN REPLACIN	G CONTROL UNIT : Special Repair Require-	
<u>ment"</u> . <u>Is the inspection result normal?</u>		
YES >> INSPECTION END		
NO $\rightarrow$ GO TO 2. 2.CHECK ENCODER (PASSENGER SIDE) CIRCUIT		
Check encoder (passenger side) circuit.		
Refer to PWC-27, "PASSENGER SIDE : Component Function	Check".	
<u>Is the inspection result normal?</u> YES >> GO TO 3.		
NO >> Repair or replace the malfunctioning parts.		
3.CONFIRM THE OPERATION		
Confirm the operation again.		
<u>Is the result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-39. "Interm</u>	ittent Incident".	
NO >> GO TO 1.		
REAR LH		

#### AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMAL-

LY

< SYMPTOM DIAGNOSIS >

#### [FRONT & REAR WINDOW ANTI-PINCH]

REAR LH : Diagnosis Procedure

INFOID:000000002998721

#### **1.**PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.

Refer to <u>PWC-7</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2. CHECK ENCODER (REAR LH) CIRCUIT

Check encoder (rear LH) circuit.

Refer to PWC-29, "REAR LH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.confirm the operation

Confirm the operation again.

Is the result normal?

- YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".
- NO >> GO TO 1.
- REAR RH

**REAR RH** : Diagnosis Procedure

INFOID:000000002998722

**1.**PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed. Refer to <u>PWC-7, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Require-</u> <u>ment"</u>.

Is the inspection result normal?

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

2.CHECK ENCODER (REAR RH) CIRCUIT

Check encoder (rear RH) circuit.

Refer to PWC-32, "REAR RH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

 ${\it 3.}$  confirm the operation

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> GO TO 1.

## POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >	[FRONT & REAR WINDOW ANTI-PINCH]
POWER WINDOW RETAINED POWER	OPERATION DOES NOT OPER-
ATE PROPERLY	

Diagnosis Procedure	INFOID:00000002993992
1.CHECK DOOR SWITCH	
Check door switch. Refer to DLK-68, "Component Function Check".	C
Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2.CONFIRM THE OPERATION	D
Confirm the operation again.	E
<u>Is the result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> . NO >> GO TO 1.	F
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## DOES NOT OPERATE BY KEY CYLINDER SWITCH

< SYMPTOM DIAGNOSIS >

## DOES NOT OPERATE BY KEY CYLINDER SWITCH

Diagnosis Procedure

INFOID:000000002993993

[FRONT & REAR WINDOW ANTI-PINCH]

**1.**PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed. Refer to <u>PWC-7</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

 $2. {\sf CHECK \ DRIVER \ SIDE \ DOOR \ LOCK \ ASSEMBLY \ ({\sf KEY \ CYLINDER \ SWITCH})}$ 

Check driver side door lock assembly (key cylinder switch). Refer to <u>DLK-77, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

- YES >> Check intermittent incident. Refer to GI-39. "Intermittent Incident".
- NO >> GO TO 1.

## POWER WINDOW LOCK SWITCH DOES NOT FUNCTION < SYMPTOM DIAGNOSIS > [FRONT & REAR WINDOW ANTI-PINCH]

## POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

		Δ
Diagnosis Procedure	INFOID:000000002993994	
1.REPLACE POWER WINDOW MAIN SWITCH		В
Replace power window main switch.		
>> Refer to PWC-114, "Removal and Installation".		С
		D

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POWER WINDOW SWITCH ILLUMINATION DOES NOT ILLUMIN < SYMPTOM DIAGNOSIS > [FRONT & REAR WINDOW]	
POWER WINDOW SWITCH ILLUMINATION DOES NOT ILLUMIN DRIVER SIDE	NATE
DRIVER SIDE : Diagnosis Procedure	INFOID:000000001834114
1.REPLACE POWER WINDOW MAIN SWITCH	
Replace power window main switch. Refer to <u>PWC-114, "Removal and Installation"</u> .	
>> INSPECTION END PASSENGER SIDE	
PASSENGER SIDE : Diagnosis Procedure	INFOID:000000001834115
<b>1.</b> REPLACE FRONT POWER WINDOW SWITCH (PASSENGER SIDE)	
Replace front power window switch (passenger side). Refer to <u>PWC-114, "Removal and Installation"</u> .	
>> INSPECTION END REAR LH	
REAR LH : Diagnosis Procedure	INFOID:000000001834116
<b>1.</b> REPLACE REAR POWER WINDOW SWITCH LH	
Replace rear power window switch LH. Refer to <u>PWC-114, "Removal and Installation"</u> .	
>> INSPECTION END REAR RH	
REAR RH : Diagnosis Procedure	INFOID:000000001834117
<b>1.</b> REPLACE REAR POWER WINDOW SWITCH RH	
Replace rear power window switch RH. Refer to <u>PWC-114, "Removal and Installation"</u> .	
>> INSPECTION END	

# < 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 "SRS AIR BAG" and "SEAT BELT" 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 "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### WARNING:

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



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[FRONT & REAR WINDOW ANTI-PINCH]

## REMOVAL AND INSTALLATION POWER WINDOW MAIN SWITCH

## Removal and Installation

#### REMOVAL

- Remove the power window main switch finisher (2). Refer to <u>INT-11, "Removal and Installation"</u>.
- 2. Power window main switch (1) is removed from power window main switch finisher (2) using flat-head screw driver (A) etc.



#### CAUTION:

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

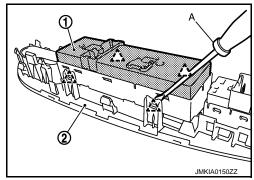
The same procedure is also performed for front power window switch (passenger side) and rear power window switch (LH & RH).

#### INSTALLATION

Install in the reverse order of removal.

#### NOTE:

Power window main switch is exchanged or is detached it is necessary to do the initialization procedure. Refer to <u>PWC-7</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".



INFOID:000000001834120

BASIC INSPECTION	
DIAGNOSIS AND REPAIR WORKFLOW	
Work Flow	INFOID:000000003018722
DETAILED FLOW	
<b>1.</b> OBTAIN INFORMATION ABOUT SYMPTOM	
Interview the customer to obtain the malfunction information (conditions tion occurred) as much as possible when the customer brings the vehicle	
>> GO TO 2.	
2. REPRODUCE THE MALFUNCTION INFORMATION	
Check the malfunction on the vehicle that the customer describes. Inspect the relation of the symptoms and the condition when the symptor	ns occur.
>> GO TO 3. <b>3.</b> IDENTIFY THE MALFUNCTIONING SYSTEM WITH "SYMPTOM DIA	GNOSIS"
Use "Symptom diagnosis" from the symptom inspection result in step 2. ing the diagnosis based on possible causes and symptoms.	
>> GO TO 4.	
4. IDENTIFY MALFUNCTIONING PARTS WITH "COMPONENT DIAGN	
Perform the diagnosis with "Component diagnosis" of the applicable syst	em.
>> GO TO 5.	
5. REPAIR OR REPLACE THE MALFUNCTIONING PARTS	
Repair or replace the specified malfunctioning parts.	
>> GO TO 6.	
6.FINAL CHECK	
Check that malfunctions are not reproduced when obtaining the malfun	ction information from the customer,
	ction information from the customer,
Check that malfunctions are not reproduced when obtaining the malfun referring to the symptom inspection result in step 2. <u>Is the malfunctioning part repaired or replaced?</u> YES >> Trouble diagnosis is completed.	ction information from the customer,
Check that malfunctions are not reproduced when obtaining the malfun referring to the symptom inspection result in step 2. Is the malfunctioning part repaired or replaced?	ction information from the customer,
Check that malfunctions are not reproduced when obtaining the malfun referring to the symptom inspection result in step 2. <u>Is the malfunctioning part repaired or replaced?</u> YES >> Trouble diagnosis is completed.	ction information from the customer,
Check that malfunctions are not reproduced when obtaining the malfun referring to the symptom inspection result in step 2. <u>Is the malfunctioning part repaired or replaced?</u> YES >> Trouble diagnosis is completed.	ction information from the customer,
Check that malfunctions are not reproduced when obtaining the malfun	ction information from the customer,

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**INSPECTION AND ADJUSTMENT** 

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

#### ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description

Initial setting is necessary when battery terminal is removed.

#### 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

#### INITIALIZATION PROCEDURE

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

#### CHECK ANTI-PINCH FUNCTION

- 1. Fully open the door window.
- 2. Place a wooden piece (wooden hammer handle, etc.) at 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 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 <u>PWC-82, "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.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:000000003018725

Refer to <u>PWC-116</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description".

## ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

Refer to PWC-116. "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".

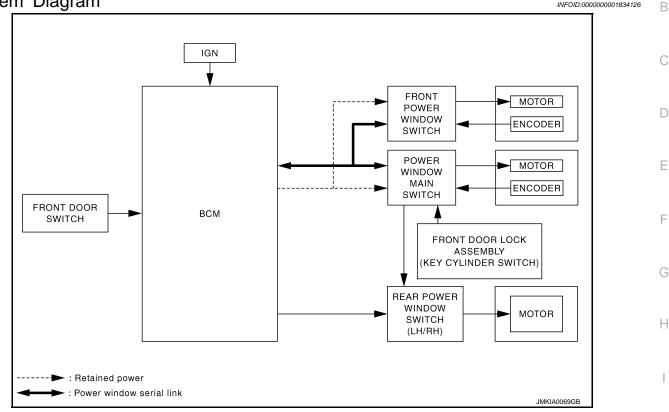
## [FRONT WINDOW ANTI-PINCH]

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INFOID:000000001834126

## SYSTEM DESCRIPTION POWER WINDOW SYSTEM

## System Diagram



## System Description

#### POWER WINDOW MAIN SWITCH **INPUT/OUTPUT SIGNAL CHART**

Item	Input signal to power window main switch	Power window main switch function	Actuator
Key cylinder switch	LOCK/UNLOCK signal (more than 1.5 seconds over)		
Encoder	Encoder pulse signal		
Power window main switch	Front power window motor (driver side) UP/DOWN signal		Front power window motor
Front power window switch (passenger side)	Front power window motor (passenger side) UP/DOWN signal	Power window control	
BCM	RAP signal		
Rear power window switch	Rear power window motor UP/DOWN signal		Rear power window motor

FRONT POWER WINDOW SWITCH **INPUT/OUTPUT SIGNAL CHART** 

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## POWER WINDOW SYSTEM

#### < SYSTEM DESCRIPTION >

Item	Input signal to front power window switch	Front power window switch function	Actuator
Front power window switch (passenger side)	Front power window motor (passen- ger side) UP/DOWN signal	Power window control	Front power window motor
Encoder	Encoder pulse signal		(passenger side)
BCM	RAP signal		

#### POWER WINDOW OPERATION

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

#### POWER WINDOW AUTO-OPERATION (FRONT DRIVER SIDE & PASSENGER SIDE)

- AUTO UP/DOWN operation can be performed when power window main switch & front power window switch (passenger side) 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 power window main switch shuts off when power window lock switch is ON. This inhibits power window switch operation except with the power window switch.

#### ANTI-PINCH OPERATION (FRONT DRIVER SIDE & PASSENGER SIDE)

- Pinch foreign material in the door glass during AUTO-UP operation, and it is the anti-pinch function that lowers the door glass 150 mm 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 front 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 1.5 seconds or more to OPEN or CLOSE front power windows when ignition switch is OFF. In addition, it stops when key position is moved to NEU-TRAL when operating.

#### **OPERATION CONDITION**

- Ignition switch OFF.
- Hold door key cylinder to LOCK position for 1.5 seconds or more to perform CLOSE operation of the door glass.

#### **PWC-118**

## POWER WINDOW SYSTEM

#### < SYSTEM DESCRIPTION >

#### [FRONT WINDOW ANTI-PINCH]

 Hold door key cylinder to UNLOCK position for 1.5 seconds or more to perform OPEN operation of the door glass.

#### KEYLESS POWER WINDOW DOWN OPERATION (FRONT DRIVER SIDE & PASSENGER SIDE)

Front power windows open when the unlock button on Intelligent Key is activated and kept pressed for more than 3\* seconds with the ignition switch OFF. The windows keep opening if the unlock button is continuously <sup>B</sup> 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. Keyless power window down operation mode can be changed by "PW DOWN SET" mode in "WORK SUP-PORT". Refer to <u>DLK-54, "INTELLIGENT KEY : CONSULT-III Function (BCM - INTELLIGENT KEY)"</u>.

#### NOTE:

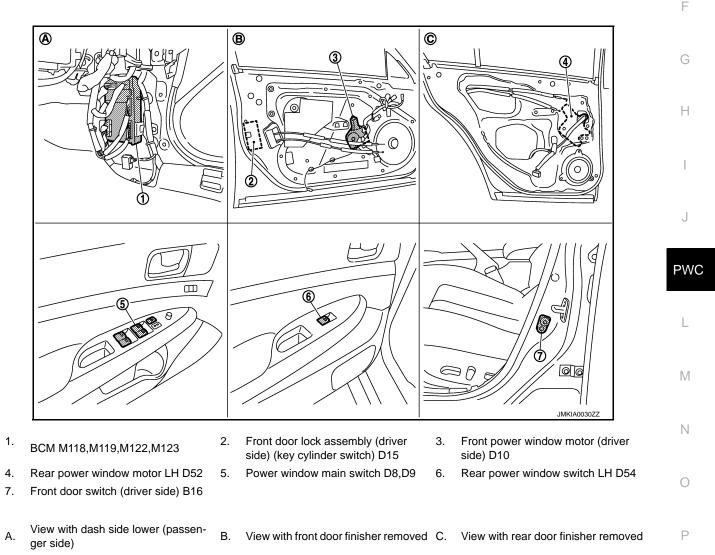
Use CONSULT-III to change settings. MODE 1 (3 sec) / MODE 2 (OFF) / MODE 3 (5 sec)

Component Parts Location

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< SYSTEM DESCRIPTION >

## **Component Description**

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#### POWER WINDOW SYSTEM [FRONT WINDOW ANTI-PINCH]

Component	Function
BCM	<ul><li>Supplies power supply to power window switch.</li><li>Controls retained power.</li></ul>
Power window main switch	<ul><li>Directly controls all power window motor of all doors.</li><li>Controls anti-pinch operation of power window.</li></ul>
Front power window switch	<ul><li>Controls power window motor of passenger door.</li><li>Controls anti-pinch operation of power window.</li></ul>
Rear power window switch	Controls power window motor of rear right and left doors.
Front power window motor	<ul> <li>Integrates the ENCODER POWER and WINDOW MOTOR.</li> <li>Starts operating with signals from power window main switch &amp; front power window switch (passenger side).</li> <li>Transmits power window motor rotation as a pulse signal to power window switch.</li> </ul>
Rear power window motor	Starts operating with signals from power window main switch & rear power window switch.
Front door lock assembly (key cylinder switch)	Transmits operation condition of key cylinder switch to power window main switch.
Front door switch	Detects door open/close condition and transmits to BCM.

#### DIAGNOSIS SYSTEM (BCM) [FRONT WINDOW ANTI-PINCH]

## < SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

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#### INFOID:000000001834130

## APPLICATION ITEM

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

Diagnosis mode	Function Description	
Work Support	Changes the setting for each system function.	_
Self Diagnostic Result	Displays the diagnosis results judged by BCM.	D
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III opera- tion manual.	_
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.	F
Configuration	This function is not used even though it is displayed.	

#### 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.

				$\times\!\!:$ Applicable item	Н
System	Sub system coloction item	Diagnosis mode			
System	Sub system selection item	Work Support	Data Monitor	Active Test	
Door lock	DOOR LOCK	×	×	×	I
Rear window defogger	REAR DEFOGGER		×	×	
Warning chime	BUZZER		×	×	J
Interior room lamp timer	INT LAMP	×	×	×	
Exterior lamp	HEAD LAMP	×	×	×	
Wiper and washer	WIPER	×	×	×	PWC
Turn signal and hazard warning lamps	FLASHER	×	×	×	
	AIR CONDITONER*		×		L
Intelligent Key system	INTELLIGENT KEY	×	×	×	
Combination switch	COMB SW		×		
Body control system	BCM	×			M
IVIS - NATS	IMMU		×	×	
Interior room lamp battery saver	BATTERY SAVER	×	×	×	N
Trunk open	TRUNK		×		I N
Vehicle security system	THEFT ALM	×	×	×	
RAP system	RETAINED PWR		×		0
Signal buffer system	SIGNAL BUFFER		×	×	
TPMS	TPMS (AIR PRESSURE MONITOR)	×	×	×	D

\*: This item is displayed, but is not used.

#### FREEZE FRAME DATA (FFD) AND IGN COUNTER

Freeze Frame Data

The BCM records the following condition at the moment a particular DTC is detected.

- Vehicle Speed
- Odo/Trip Meter

#### **PWC-121**

## **DIAGNOSIS SYSTEM (BCM)**

#### < SYSTEM DESCRIPTION >

#### • Vehicle Condition (BCM detected condition)

CONSULT screen terms	Description
SLEEP>LOCK	While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK")
SLEEP>OFF	While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)
LOCK>ACC	While turning power supply position from "LOCK" to "ACC"
ACC>ON	While turning power supply position from "ACC" to "IGN"
RUN>ACC	While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)
CRANK>RUN	While turning power supply position from "CRANKING" to "RUN" (From cranking up the en- gine to run it)
RUN>URGENT	While turning power supply position from "RUN" to "ACC" (Emergency stop operation)
ACC>OFF	While turning power supply position from "ACC" to "OFF"
OFF>LOCK	While turning power supply position from "OFF" to "LOCK"
OFF>ACC	While turning power supply position from "OFF" to "ACC"
ON>CRANK	While turning power supply position from "IGN" to "CRANKING"
OFF>SLEEP	While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode
LOCK>SLEEP	While turning BCM status from normal mode (Power supply position is "LOCK".) to low pow- er consumption mode
LOCK	Power supply position is "LOCK" (Ignition switch OFF with steering is locked.)
OFF	Power supply position is "OFF" (Ignition switch OFF with steering is unlocked.)
ACC	Power supply position is "ACC" (Ignition switch ACC)
ON	Power supply position is "IGN" (Ignition switch ON with engine stopped)
ENGINE RUN	Power supply position is "RUN" (Ignition switch ON with engine running)
CRANKING	Power supply position is "CRANKING" (At engine cranking)

#### **IGN** Counter

IGN counter indicates the number of times that ignition switch is turned ON after DTC is detected.

- The number is 0 when a malfunction is detected now.
- The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON.
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

## RETAIND PWR

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

INFOID:000000001834131

#### Data monitor

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

POWER	SUPPLY AN	D GROUND C	IRCUIT	
< DTC/CIRCUIT DIAGNOSIS >			[FRONT WINDO	N ANTI-PINCH]
DTC/CIRCUIT DIAG	SNOSIS			
POWER SUPPLY AND G	ROUND CIR	CUIT		A
BCM				В
BCM : Diagnosis Procedure				INFOID:000000003009566
1.CHECK FUSE AND FUSIBLE LIN	IK			С
Check that the following fuse and fus	sible link are not blo	own.		
Terminal No.	Signal	name	Fuse and fusibl	e link No. D
1	Detter ( pe	war awah i	М	
11	Battery po	wer supply	10	E
NO>> GO TO 2.2.CHECK POWER SUPPLY CIRCU1.1.Turn ignition switch OFF.2.Disconnect BCM connectors.3.Check voltage between BCM has		nd ground.		G
(+)				H
BCM		(-)		′oltage .pprox.)
Connector	Terminal			
M118 M119	1	Ground	Batte	ry voltage
Is the measurement value normal?         YES       >> GO TO 3.         NO       >> Repair harness or connect <b>3.</b> CHECK GROUND CIRCUIT	ector.			PW
Check continuity between BCM harn	ess connector and	ground.		L
BCM			Co	ontinuity
Connector M119	Terminal 13	Ground	F	xisted
Does continuity exist? YES >> INSPECTION END NO >> Repair harness or conne POWER WINDOW MAIN S	ector.			N
POWER WINDOW MAIN SV	VITCH : Diagno	osis Procedure	9	INFOID:000000003009567
1.CHECK POWER SUPPLY CIRCU	ЛТ			D
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect power window main</li> <li>Turn ignition switch ON.</li> <li>Check voltage between power w</li> </ol>			or and ground.	Г

## POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

(+)					
Power	window main switch		(—)	Voltage (V) (Approx.)	
Connector	Termina	al		( ) ] ] /	
D8	10		Ground	Battery voltage	
D9	19		Stound	Ballery voltage	
the measurement va	lue within the specific	ation?			
YES >> GO TO 2. NO >> GO TO 3.					
CHECK GROUND	CIRCUIT				
	etween power windov	w main switch harnes	s connector and	ground.	
Connector	window main switch		Ground	Continuity	
D9	17		Ground	Existed	
the inequation requilt	normal?				
the inspection result					
CHECK HARNESS Turn ignition switch Disconnect BCM c	eplace harness. CONTINUITY OFF. onnector.	connector and powe	r window main s	witch harness connect	
YES >> INSPECTINO NO >> Repair or r CHECK HARNESS Turn ignition switch Disconnect BCM c Check continuity b	eplace harness. CONTINUITY OFF. onnector.		r window main s w main switch	witch harness connect	
YES >> INSPECTINO NO >> Repair or r CHECK HARNESS Turn ignition switch Disconnect BCM c Check continuity b	eplace harness. CONTINUITY n OFF. onnector. etween BCM harness			witch harness connect	
YES >> INSPECTINO >> Repair or r CHECK HARNESS Turn ignition switch Disconnect BCM c Check continuity b	eplace harness. CONTINUITY OFF. onnector. etween BCM harness	Power window	w main switch		

BC	JM		Continuity	
Connector	Terminal	Ground	Continuity	
M118	2	Croana	Not existed	
WITTO	3		NOT EXISTED	

#### Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-80, "Exploded View"</u>.

NO >> Repair or replace harness.

FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

## FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure

INFOID:000000003009568

## 1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect front power window switch (passenger side) connector.

3. Check voltage between front power window switch (passenger side) harness connector and ground.

## POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[FRONT WINDOW ANTI-PINCH]

	(+)					
	Front power window switch (passenger side)				()	Voltage (V) (Approx.)
	Connector	Termina	nal			
	D38	10			Ground	Battery voltage
YE NC 2.0	ES >> GO TO 2. D >> GO TO 3. CHECK GROUND C	ue within the specific IRCUIT en front power windo		bassenger	side) harness con	nector and ground.
-		ower window switch assenger side)				Continuity
	Connector	Termina	al		Ground	Continuity
	D38	11				Existed
1. 2.	Disconnect BCM co Check continuity be ness connector.		s connector	r and front	power window sw	itch (passenger side) har
-			F	Front power v	window switch	
_	BC			(passen	window switch ger side)	Continuity
_	Connector	Terminal	Conn	(passen nector	ger side) Terminal	
	Connector M118	Terminal 2	Conn	(passen lector 38	ger side) Terminal 10	Continuity Existed
	Connector M118	Terminal 2 etween BCM harness	Conn	(passen lector 38	ger side) Terminal 10	
	Connector M118 Check continuity be	Terminal 2 etween BCM harness BCM	Conn D: connector	(passen nector 38 and grour	ger side) Terminal 10 nd.	Existed
	Connector M118 Check continuity be Connector	Terminal 2 etween BCM harness BCM Termina	Conn D: connector	(passen nector 38 and grour	ger side) Terminal 10	Continuity
_	Connector M118 Check continuity be	Terminal 2 etween BCM harness BCM Termina 2	Conn D: connector	(passen nector 38 and grour	ger side) Terminal 10 nd.	Existed
s th YE NC	Connector M118 Check continuity be Connector M118 the inspection result r S >> Replace BC D >> Repair or re AR POWER W	Terminal 2 etween BCM harness BCM Termina 2	Conn D: connector al , "Exploded	(passen lector 38 and grour	ger side) Terminal 10 nd. Ground	Existed Continuity Not existed
	Connector M118 Check continuity be Connector M118 De inspection result r S >> Replace BC D >> Repair or re AR POWER W AR POWER WI CHECK POWER SU	Terminal 2 etween BCM harness BCM Termina 2 mormal? CM. Refer to BCS-80 eplace harness. /INDOW SWITCH INDOW SWITCH	Conn D: connector al , "Exploded	(passen lector 38 and grour	ger side) Terminal 10 nd. Ground	Continuity
YE NC RE RE 1.0	Connector M118 Check continuity be Connector M118 The inspection result r S >> Replace BC D >> Repair or re AR POWER WI AR POWER WI CHECK POWER SU Turn ignition switch Disconnect rear pow Turn ignition switch	Terminal 2 etween BCM harness BCM Termina 2 normal? CM. Refer to BCS-80 eplace harness. /INDOW SWITCH INDOW SWITCH INDOW SWITCH OFF. wer window switch co	Conn D: s connector al , "Exploded CH H : Diagn onnectors.	(passen nector 38 and grour <u>d View"</u> .	ger side) Terminal 10 nd. Ground Dcedure	Existed Continuity Not existed INFOID:0000000018341
	Connector M118 Check continuity be Connector M118 The inspection result r S >> Replace BC D >> Repair or re AR POWER WI AR POWER WI CHECK POWER SU Turn ignition switch Disconnect rear pow Turn ignition switch	Terminal 2 etween BCM harness BCM Termina 2 mormal? CM. Refer to BCS-80 eplace harness. /INDOW SWITCH INDOW SWITCH IPPLY CIRCUIT OFF. wer window switch co ON.	Conn D: s connector al , "Exploded CH H : Diagn onnectors.	(passen nector 38 and grour <u>d View"</u> .	ger side) Terminal 10 nd. Ground Dcedure	Continuity Continuity Not existed
	Connector M118 Check continuity be Connector M118 The inspection result r S >> Replace BC D >> Repair or re AR POWER WI AR POWER WI CHECK POWER SU Turn ignition switch Disconnect rear pow Turn ignition switch Check voltage betw	Terminal 2 etween BCM harness BCM Termina 2 normal? CM. Refer to BCS-80 eplace harness. /INDOW SWITCH INDOW S	Conn D: s connector al , "Exploded CH H : Diagr onnectors. low switch	(passen nector 38 and grour <u>d View"</u> . hosis Pro	ger side) Terminal 10 nd. Ground Dcedure	Existed Continuity Not existed INFOID:00000000183414
	Connector M118 Check continuity be Connector M118 The inspection result r S >> Replace BC D >> Repair or re AR POWER WI AR POWER WI CHECK POWER SU Turn ignition switch Disconnect rear pow Turn ignition switch Check voltage betw	Terminal 2 etween BCM harness BCM Termina 2 mormal? CM. Refer to BCS-80 eplace harness. /INDOW SWITCH INDOW SWITCH INDOW SWITCH IPPLY CIRCUIT OFF. wer window switch co ON. //een rear power windo (+) Rear power window switch //	Conn D: s connector al , "Exploded CH H : Diagr onnectors. low switch	(passen nector 38 and grour <u>d View"</u> .	ger side) Terminal 10 nd. Ground Dcedure Dnnector and grour	Continuity Continuity Not existed
	Connector M118 Check continuity be Connector M118 The inspection result r S >> Replace BC D >> Repair or re AR POWER WI AR POWER WI CHECK POWER SU Turn ignition switch Disconnect rear pow Turn ignition switch Check voltage betw	Terminal 2 etween BCM harness BCM Termina 2 normal? CM. Refer to BCS-80 eplace harness. /INDOW SWITCH INDOW S	Conn D: s connector al , "Exploded CH H : Diagr onnectors. low switch	(passen nector 38 and grour <u>d View"</u> . hosis Pro harness co ninal	ger side) Terminal 10 nd. Ground Dcedure Dnnector and grour	Existed       Continuity       Not existed   INFOID:00000000163414 INFOID:00000000163414 INFOID:00000000163414

## POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

#### Is the measurement value within the specification?

YES >> GO TO 2.

NO >> GO TO 3.

2. CHECK GROUND CIRCUIT

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

	Rear power window switc		Continuity		
Conr	Connector		Ground	Continuity	
LH	D54	7	Ground	Existed	
RH	D74			Existed	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace harness.

**3.**CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.

2. Disconnect BCM connector.

3. Check continuity between BCM harness connector and rear power window switch harness connector.

B	CM	Rear power window switch			Continuity	
Connector	Terminal	Conr	nector	Terminal	Continuity	
M118	2	LH	D54	1	Existed	
IVITO	5	RH	D74		Existed	

4. Check continuity between BCM harness connector and ground.

BC	CM		Continuity
Connector	Terminal	Ground	Continuity
M118	3	*	Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-80, "Exploded View"</u>.

NO >> Repair or replace harness.

## **REAR POWER WINDOW SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

## 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.

## **Component Function Check**

## 1. CHECK REAR POWER WINDOW FUNCTION

Check rear power window motor operatation with rear power window switch. Is the inspection result normal?

- YES >> Rear power window switch is OK.
- NO >> Refer to <u>PWC-127, "Diagnosis Procedure"</u>.

## Diagnosis Procedure

## 1.CHECK REAR POWER WINDOW MOTOR INPUT SIGNAL

#### 1. Turn ignition switch ON.

2. Check voltage between rear power window switch harness connector and ground.

	(+) Rear power window switch		(+)									
Rear			()	(–) Condition		Voltage (V) (Approx.)	Н					
Conr	ector	Terminal				(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
		2			UP	Battery voltage						
LH		D54		Power window main switch	DOWN	0						
LU	D04	3 Gro	2	2	2	2	2		(rear LH)	UP	0	
			Ground	a	DOWN	Battery voltage	J					
				UP	Battery voltage	-						
RH	D74			Power window main switch	DOWN	0						
КП	D74	D743		(rear RH)	UP	0	PW					
					DOWN	Battery voltage						

Is the measurement value within the specification?

YES >> GO TO 2.

NO >> GO TO 3.

2. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

Refer to PWC-128, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace rear power window switch. Refer to <u>PWC-210, "Removal and Installation"</u>.

**3.**CHECK HARNESS CONTINUITY

2. Disconnect power window main switch connector and rear power window switch connector.

Check continuity between power window main switch harness connector and rear power window switch harness connector.

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INFOID:000000003019389

INFOID:000000003019390

INFOID:000000003019391

Ν

## REAR POWER WINDOW SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

Power windo	Power window main switch		Rear power window switch			
Connector	Terminal	Connector		Terminal	Continuity	
	1	LH	D54	2		
D8	3	LII	034	3	Existed	
Do	5	RH	D74	3	Existed	
	7	КП	D74	2		

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

Power window n	nain switch		Continuity	
Connector	Terminal		Continuity	
	1	Ground		
D <sup>o</sup>	3	Giouna	Not existed	
D8	5		NOI EXISIED	
	7	-		

#### Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-210, "Removal and Installation".

NO >> Repair or replace harness.

**4.**CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident"

>> INSPECTION END

**Component Inspection** 

#### COMPONENT INSPECTION

## 1.CHECK REAR POWER WINDOW SWITCH

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

Rear power window switch	Terminal		Power window switch condition	Continuity
	1	5	UP	
	3	4		
D54 (LH)	3	4	NEUTRAL	Existed
D74 (RH)	5	2	NEUTRAL	Existed
	1	4	DOWN	
	5	2	DOWN	

#### Is the inspection result normal?

YES >> Rear power window switch is OK.

NO >> Replace rear power window switch. Refer to PWC-210, "Removal and Installation".

INFOID:000000003019392

_	DTC/CIRCUIT D				[F		NDOW ANTI-PINCH]
	OWER WIN RIVER SIDE	DOM MOL	OK				
DF	RIVER SIDE	: Description					INFOID:000000003059259
Do	or glass moves l	JP/DOWN by re	ceiving the	e signal from powe	r window ma	ain switch.	
DF	RIVER SIDE	: Componen	t Functio	on Check			INFOID:000000003059260
1.	CHECK POWER	R WINDOW MO	TOR CIRC	UIT			
<u>ls 1</u> Y	the inspection res	sult normal? window motor is	OK.	operation with pov		main switc	h.
DF	RIVER SIDE	: Diagnosis F	Procedu	re			INFOID:000000003059261
1.	CHECK FRONT	POWER WIND	OW MOTO	OR INPUT SIGNAL			
1. 2. 3. 4.	Turn ignition sv Check voltage	nt power window vitch ON. between front po		iver side) connecto ow motor (driver sic		connector	-
-	(+ Front power window		()		Condition		Voltage (V)
-	Connector	Terminal	(-)		Condition		(Approx.)
-		2				UP	Battery voltage
	D10	<i>L</i>	Ground	I Power window	main switch	DOWN	0
		1				UP DOWN	0 Battery voltage
Y N	the measuremen ES >> GO TO O >> GO TO CHECK POWEF	2. 3.	·	ition?			P
	eck front power						
	efer to <u>PWC-130.</u> the inspection re		: Compon	ent Inspection".			
Y	ES >> GO TO	4.	ndow moto	or (driver side). Ref	er to GW-1	6. "Remov	al and Installation".
-	CHECK HARNE			(,			
1. 2. 3.	Check continui	ver window mair	er window		ess connect	or and fro	nt power window motor
-	Power w	vindow main switch			window moto ver side)	r	Continuity
-	Connector	Termi	nal	Connector		ninal	
	D8	8		D10	:	2	Existed
		11			1	1	

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

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#### < DTC/CIRCUIT DIAGNOSIS >

Power windo	w main switch		Continuity
Connector	Terminal	Ground	Continuity
D8	8	Ground	Not existed
20	11		NOT CRISIED

#### Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-114, "Removal and Installation".

NO >> Repair or replace harness.

**4.**CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

#### >> INSPECTION END

## **DRIVER SIDE : Component Inspection**

. . .

## COMPONENT INSPECTION

1.CHECK POWER WINDOW MOTOR

1. Turn ignition switch OFF.

- 2. Disconnect front power window motor (driver side) connector.
- 3. Check motor operation by connecting the battery voltage directly to front power window motor (driver side) connector.

Front power window motor	Terr	ninal	Motor operation
(driver side) connector	(+)	(-)	
D10	1	2	DOWN
DIO	2	1	UP

Is the inspection result normal?

YES >> Driver side power window motor is OK.

NO >> Replace driver side power window motor. Refer to <u>GW-16. "Removal and Installation"</u>. PASSENGER SIDE

## PASSENGER SIDE : Description

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

PASSENGER SIDE : Component Function Check

**1.** CHECK POWER WINDOW MOTOR CIRCUIT

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

Is the inspection result normal?

YES >> Power window motor is OK.

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

PASSENGER SIDE : Diagnosis Procedure

1.CHECK FRONT POWER WINDOW MOTOR INPUT SIGNAL

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

3. Turn ignition switch ON.

4. Check voltage between front power window motor (passenger side) harness connector and ground.

#### **PWC-130**

INFOID:000000003009578

INFOID:000000003009577

INFOID:000000003059262

INFOID:000000003009579

#### < DTC/CIRCUIT DIAGNOSIS >

NO       >> GO TO 3.         .CHECK POWER WINDOW MOTOR         neck front power window motor (passenger side).         afer to <u>PWC-131. "PASSENGER SIDE : Component Inspection".</u> the inspection result normal?         YES       >> GO TO 4.         VO       >> Replace front power window motor (passenger side). Refer to <u>GW-16. "Removal and Installation</u> .         .CHECK HARNESS CONTINUITY         Turn ignition switch OFF.         Disconnect front power window switch (passenger side) connector.         Check continuity between front power window switch (passenger side) harness connector and front power window motor (passenger side)         Connector       Terminal         Data       8         0       2         Check continuity between front power window switch (passenger side) connector and ground.         Front power window switch (passenger side)       Continuity         Data       8       9         D40       1       Existed         Check continuity between front power window switch (passenger side) connector and ground.       Continuity         Front power window switch (passenger side)       Ground       Continuity         D38       8       9       Not existed         b38       9       Not existed       Not existed         b38	(-	+)					
D40         1         Ground         Front power window switch (passenger side)         UP DOWN         Battery voltage DOWN           the measurement value within the specification?           YES         >> GO TO 2.           VO         >> GO TO 3.           CHECK POWER WINDOW MOTOR           reck front power window motor (passenger side).           off to PWC-131. "PASSENGER SIDE : Component Inspection".           the inspection result normal?           YES         >> GO TO 4.           VO         >> Replace front power window motor (passenger side). Refer to <u>GW-16. "Removal and Installation</u> .CHECK HARNESS CONTINUITY         Turn ignition switch OFF.           Disconnect front power window switch (passenger side) connector.         Check continuity between front power window switch (passenger side) harness connector and front power window motor (passenger side) harness connector and front power window motor (passenger side) harness connector and front power window motor (passenger side) harness connector and ground           Front power window switch (passenger side)         Dato         1         Existed           Check continuity between front power window switch (passenger side) connector and ground.         Continuity           Connector         Terminal         Ground         Continuity           D38         9         D40         2         Existed           Check cont			()		Condition		
D40         1         Ground         Front power window switch (passenger side)         DOWN         0           UP         0	Connector	Terminal				1	
D40       2       Ground       Interplayer window switch (passenger side)       UP       0         UP       0       DOWN       Battery voltage         the measurement value within the specification?       (ES >> 60 TO 2. (V) >> 60 TO 3.          LCHECK POWER WINDOW MOTOR           reck front power window motor (passenger side).       set to PWC-131. "PASSENGER SIDE : Component Inspection".         the inspection result normal?       (ES >> 60 TO 4.         VO       >> Replace front power window motor (passenger side).       Refer to GW-16. "Removal and Installation"         CHECK HARNESS CONTINUITY       Turn ignition switch OFF.       Disconnect front power window switch (passenger side) connector.         Check continuity between front power window switch (passenger side) harness connector and front power window wotor (passenger side) harness connector and front power window switch (passenger side)       Continuity         D38       9       D40       2       Existed         Check continuity between front power window switch (passenger side)       Continuity       Continuity         D38       9       D40       2       Existed         Check continuity between front power window switch (passenger side)       Continuity       Continuity         D38       9       D40       2       Existed       Continuity <td></td> <td>1</td> <td></td> <td></td> <td></td> <td>UP</td> <td>Battery voltage</td>		1				UP	Battery voltage
2         DOWN         Battery voltage           the measurement value within the specification?         Convertige         DOWN         Battery voltage           VG         >> GO TO 2.         Convertige         Conver	D40		Ground				0
Ite measurement value within the specification?         YES       >> GO TO 2.         YO       >> GO TO 3.         CHECK POWER WINDOW MOTOR         neck front power window motor (passenger side).         afer to PWC-131. "PASSENGER SIDE : Component Inspection".         the inspection result normal?         YES       >> GO TO 4.         YO       >> Replace front power window motor (passenger side). Refer to GW-16, "Removal and Installation         .CHECK HARNESS CONTINUITY       Turn ignition switch OFF.         Disconnect front power window switch (passenger side) connector.       Check continuity between front power window switch (passenger side) harness connector and front power window motor (passenger side) harness connector and front power window motor (passenger side)         Front power window switch (passenger side)       Continuity         Connector       Terminal       Continuity         D38       9       D40       2         Check continuity between front power window switch (passenger side) connector and ground.       Existed       Continuity         Front power window switch (passenger side)       Ground       Continuity         D38       9       D40       2       Continuity         Existed       8       9       Not existed       Not existed         D38       9       0       <		2		(passe	enger side)	_	
YES       >> GO TO 2.         YES       >> GO TO 3.         CHECK POWER WINDOW MOTOR         neck front power window motor (passenger side).         ser to <u>PWC-131. "PASSENGER SIDE : Component Inspection".</u> the inspection result normal?         YES       >> GO TO 4.         QO       >> Replace front power window motor (passenger side). Refer to <u>GW-16. "Removal and Installation</u> CHECK HARNESS CONTINUITY       Turn ignition switch OFF.         Disconnect front power window switch (passenger side) connector.       Check continuity between front power window switch (passenger side) harness connector and front power window motor (passenger side) harness connector.         Front power window switch (passenger side)       Front power window switch (passenger side)       Continuity         Quart       0       1       Existed       Continuity         Connector       Terminal       Connector       Continuity         Quart       8       9       D40       1       Existed         Check continuity between front power window switch (passenger side)       Continuity       Continuity         Quart       8       9       D40       1       Existed         Check continuity between front power window switch (passenger side)       Continuity       Continuity       Continuity         Quar						DOWN	Battery voltage
sfer to <u>PWC-131, "PASSENGER SIDE : Component Inspection"</u> . the inspection result normal2 'ES >> G0 T0 4. IO >> Replace front power window motor (passenger side). Refer to <u>GW-16, "Removal and Installation</u> .CHECK HARNESS CONTINUITY Turn ignition switch OFF. Disconnect front power window switch (passenger side) connector. Check continuity between front power window switch (passenger side) harness connector and front power window motor (passenger side) harness connector. Front power window switch (passenger side) Front power window motor (passenger side) Connector Terminal Connector Terminal D38 9 D40 1 Existed Continuity between front power window switch (passenger side) connector and ground. Front power window switch (passenger side) Continuity between front power window switch (passenger side) connector and ground. Front power window switch (passenger side) Continuity between front power window switch (passenger side) connector and ground. Front power window switch (passenger side) Continuity Connector Terminal Ground Not existed the inspection result normal? YES >> Replace front power window switch (passenger side). Refer to <u>PWC-114. "Removal and Installation"</u> . IO >> Replace front power window switch (passenger side). Refer to <u>PWC-114. "Removal and Installation"</u> . IO >> Replace front power window switch (passenger side). Refer to <u>PWC-114. "Removal and Installation"</u> . IO >> Replace front power window switch (passenger side). Refer to <u>PWC-114. "Removal and Installation"</u> . IO >> Repair or replace harness. .CHECK INTERMITTENT INCIDENT afer to <u>GI-39. "Intermittent Incident"</u> . >> INSPECTION END ASSENGER SIDE : Component Inspection DMPONENT INSPECTION	YES >> GO TO 2 NO >> GO TO 2 CHECK POWER	2. 3. WINDOW MOTO	R				
Disconnect front power window switch (passenger side) connector.         Check continuity between front power window switch (passenger side) harness connector and front power window motor (passenger side)         Front power window switch (passenger side)       Front power window motor (passenger side)         Connector       Terminal         038       9         040       1         Existed         Check continuity between front power window switch (passenger side)       Continuity         038       9       040       1       Existed         Check continuity between front power window switch (passenger side)       Continuity       Continuity         Check continuity between front power window switch (passenger side)       Continuity       Continuity         Check continuity between front power window switch (passenger side)       Continuity       Continuity         Connector       Terminal       Ground       Continuity         D38       8       9       Not existed       Not existed         D38       9       0       Not existed       Not existed         the inspection result normal?       Front power window switch (passenger side). Refer to PWC-114. "Removal and Installation".       NO       >> Repair or replace harness.         .CHECK INTERMITERT INCIDENT       Serepair or replace harness.       >> IN	tefer to <u>PWC-131, "</u> the inspection residences YES >> GO TO A NO >> Replace	PASSENGER SI <u>ult normal?</u> 4. front power wind	DE : Componer		_	<u>16, "Rer</u>	noval and Installation".
Connector         Terminal         Connector         Terminal           D38         9         D40         1         Existed           Check continuity between front power window switch (passenger side) connector and ground.         Existed         Continuity           Front power window switch (passenger side)         Continuity         Continuity           Connector         Terminal         Ground         Continuity           D38         8         9         Not existed           the inspection result normal?         Continuity         Continuity           VCS         Replace front power window switch (passenger side). Refer to PWC-114. "Removal and Installation".           VO         >> Repair or replace harness.         CHECK INTERMITTENT INCIDENT           effer to GI-39. "Intermittent Incident".         >> INSPECTION END           ASSENGER SIDE : Component Inspection         DATE DATE DATE DATE DATE DATE DATE DATE	<ol> <li>Disconnect front</li> <li>Check continuity</li> </ol>	power window sw between front po	wer window sw	vitch (passer		ess con	nector and front power
Connector         Terminal         Connector         Terminal           D38         9         D40         1         Existed           Check continuity between front power window switch (passenger side)         connector and ground.         Existed           Front power window switch (passenger side)         Continuity         Continuity           Connector         Terminal         Continuity           D38         8         0         Continuity           D38         8         0         Not existed           D38         8         9         Not existed           the inspection result normal?         Continuity         Not existed           /CES         >> Replace front power window switch (passenger side). Refer to PWC-114. "Removal and Installation".           MO         >> Repair or replace harness.         CHECK INTERMITTENT INCIDENT           efer to G1-39. "Intermittent Incident".         >> INSPECTION END           ASSENGER SIDE : Component Inspection         MFORE CONCONCEND	Front power windo	w switch (passenger	side) Front	power window r	motor (passenger	side)	Continuity
D38       D40       2       Existed         Check continuity between front power window switch (passenger side) connector and ground.         Front power window switch (passenger side)       Continuity         Connector       Terminal       Ground       Continuity         D38       8       9       Not existed         D38       8       9       Not existed         the inspection result normal?       (ES >> Replace front power window switch (passenger side). Refer to PWC-114. "Removal and Installation".         VO >> Repair or replace harness.	Connector	Terminal	Co	onnector	Terminal		Continuity
8       2         Check continuity between front power window switch (passenger side) connector and ground.         Front power window switch (passenger side)       Continuity         Connector       Terminal         D38       8         9       Not existed         the inspection result normal?       Yes         (ES       >> Replace front power window switch (passenger side). Refer to PWC-114. "Removal and Installation".         NO       >> Repair or replace harness.         .CHECK INTERMITTENT INCIDENT         efer to GI-39. "Intermittent Incident".         >> INSPECTION END         ASSENGER SIDE : Component Inspection         OMPONENT INSPECTION	D38	9		D40	1		Existed
Front power window switch (passenger side)       Continuity         Connector       Terminal         D38       8         9       Not existed         the inspection result normal?       Replace front power window switch (passenger side). Refer to PWC-114, "Removal and Installation".         VO       >> Replace front power window switch (passenger side). Refer to PWC-114, "Removal and Installation".         VO       >> Repair or replace harness.         .CHECK INTERMITTENT INCIDENT         effer to GI-39, "Intermittent Incident".         >> INSPECTION END         ASSENGER SIDE : Component Inspection         OMPONENT INSPECTION		8		540	2		Existed
Connector         Terminal         Continuity           D38         8         9         Not existed           1038         9         Not existed         Not existed           111         111         111         Not existed         Not existed           111         111         111         111         Not existed         Not existed           111	. Check continuity	between front po	ower window sv	vitch (passer	nger side) coni	nector a	nd ground.
Connector         Terminal         Continuity           D38         8         9         Not existed           1038         9         Not existed         Not existed           111         111         111         Not existed         Not existed           111         111         111         111         Not existed         Not existed           111	Front power	window switch (pass	enger side)				
D38       8       Not existed         9       9       Not existed         the inspection result normal?       (ES >> Replace front power window switch (passenger side). Refer to PWC-114. "Removal and Installation".         VO >> Repair or replace harness. <t< td=""><td>·</td><td></td><td><u> </u></td><td></td><td></td><td></td><td>Continuity</td></t<>	·		<u> </u>				Continuity
9         the inspection result normal?         (ES       >> Replace front power window switch (passenger side). Refer to PWC-114. "Removal and Installation".         NO       >> Repair or replace harness.         .CHECK INTERMITTENT INCIDENT         efer to GI-39. "Intermittent Incident".         >> INSPECTION END         ASSENGER SIDE : Component Inspection         OMPONENT INSPECTION			8		Ground		
YES >> Replace front power window switch (passenger side). Refer to <u>PWC-114. "Removal and Installation"</u> . NO >> Repair or replace harnessCHECK INTERMITTENT INCIDENT efer to <u>GI-39. "Intermittent Incident"</u> . >> INSPECTION END ASSENGER SIDE : Component Inspection OMPONENT INSPECTION	D38		9				Not existed
	tion". NO >> Repair of CHECK INTERM Refer to <u>GI-39, "Inte</u> >> INSPEC PASSENGER S	r replace harness TTENT INCIDEN mittent Incident". TION END IDE : Compor	s. T		). Refer to <u>PW</u>	<u>C-114. '</u>	
CHECK POWER WINDOW MOTOR			_				
			R				
Turn ignition switch OFF. Disconnect front power window motor (passenger side) connector.			otor (nonconce	vr eide) cons	octor		

## **PWC-131**

#### Check motor operation by connecting the battery voltage directly to front power window motor (passenger side) connector.

Front power window motor (passen-	Terr	ninal	Motor condition
ger side) connector	(+)	()	
 D40	2	1	DOWN
D40	1	2	UP

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

YES >> Passenger side power window motor is OK.

NO >> Replace passenger side power window motor. Refer to <u>GW-16. "Removal and Installation"</u>. REAR LH

## REAR LH : Description

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

## **REAR LH : Component Function Check**

1.CHECK REAR POWER WINDOW MOTOR CURCUIT

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

Is the inspection result normal?

- YES >> Power window motor is OK.
- NO >> Refer to <u>PWC-132</u>, "REAR LH : Diagnosis Procedure"

#### **REAR LH : Diagnosis Procedure**

1.CHECK REAR POWER WINDOW MOTOR INPUT SIGNAL

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

	+) ndow motor LH	(—)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(Applox.)
	1			UP	Battery voltage
D52	I		Poor power window switch I H	DOWN	0
D52	0	Ground	Rear power window switch LH	UP	0
	3			DOWN	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK REAR POWER WINDOW MOTOR

Check rear power window motor LH.

Refer to PWC-133, "REAR LH : Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace rear power window motor LH. Refer to <u>GW-22, "Removal and Installation"</u>.

3.CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.

2. Disconnect rear power window switch LH connector.

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INFOID:000000001834156

INFOID:000000001834157

#### < DTC/CIRCUIT DIAGNOSIS >

## [FRONT WINDOW ANTI-PINCH]

	ow switch LH	Rear power	window motor LH	
Connector	Terminal	Connector	Terminal	Continuity
D54	5	D52	1	Existed
	4		3	
Check continuity betw	ween rear power	window switch LH har	mess connector and	d ground.
Rea	r power window switc	h LH		
Connector		Terminal		Continuity
D54		5	- Ground	Not existed
D34		4		Not existed
the inspection result nc ES >> Replace rear	<u>ormal?</u> power window sv	witch I H		
IO >> Repair or rep				
.CHECK INTERMITTE	NT INCIDENT			
efer to <u>GI-39, "Intermitte</u>	ent Incident".			
>> INSPECTION	N END			
EAR LH : Compon	nent Inspectio	n		INFOID:0000000018
OMPONENT INSPEC				
.CHECK REAR POWE				
		TOR		
Turn ignition switch C	DFF.			
Turn ignition switch C Disconnect rear powe	DFF. er window motor I	LH connector.	rectly to rear power	window motor LH conn
Turn ignition switch C Disconnect rear powe	DFF. er window motor I	LH connector.	rectly to rear power	window motor LH conn
Turn ignition switch C Disconnect rear powe Check motor operation tor.	DFF. er window motor I on by connecting	LH connector.	rectly to rear power	
Turn ignition switch C Disconnect rear powe Check motor operation	DFF. er window motor I on by connecting	LH connector. the battery voltage di	rectly to rear power	window motor LH conn Motor condition
Turn ignition switch C Disconnect rear powe Check motor operation tor. Rear power window motor nector	DFF. er window motor I on by connecting	LH connector. the battery voltage dir Terminal		window motor LH conne Motor condition DOWN
Turn ignition switch C Disconnect rear powe Check motor operation tor.	DFF. er window motor I on by connecting	LH connector. the battery voltage dir Terminal (+)	(-)	Motor condition
Turn ignition switch C Disconnect rear powe Check motor operation tor. Rear power window motor nector D52 the inspection result no	DFF. er window motor I on by connecting r LH con-	LH connector. the battery voltage dir Terminal (+) 3	(-) 1	Motor condition DOWN
Turn ignition switch C Disconnect rear powe Check motor operation tor. Rear power window motor nector D52 the inspection result no YES >> Power window	DFF. er window motor l on by connecting r LH con-	LH connector. the battery voltage dir Terminal (+) 3 1	(-) 1 3	Motor condition DOWN UP
Turn ignition switch C Disconnect rear powe Check motor operation tor. Rear power window motor nector D52 the inspection result no YES >> Power window NO >> Replace rear	DFF. er window motor l on by connecting r LH con-	LH connector. the battery voltage dir Terminal (+) 3	(-) 1 3	Motor condition DOWN UP
Turn ignition switch C Disconnect rear powe Check motor operation tor. Rear power window motor nector D52 the inspection result no YES >> Power windo NO >> Replace rear EAR RH	DFF. er window motor I on by connecting r LH con-	LH connector. the battery voltage dir Terminal (+) 3 1	(-) 1 3	Motor condition DOWN UP
Turn ignition switch C Disconnect rear powe Check motor operation tor. Rear power window motor nector D52 the inspection result no (ES >> Power windo) NO >> Replace rear EAR RH	DFF. er window motor I on by connecting r LH con-	LH connector. the battery voltage dir Terminal (+) 3 1	(-) 1 3	Motor condition DOWN UP Installation".
Turn ignition switch C Disconnect rear powe Check motor operation tor. Rear power window motor nector D52 the inspection result no (ES >> Power windo) NO >> Replace rear EAR RH EAR RH : Description por glass moves UP/DC	DFF. er window motor I on by connecting r LH con- <u>prmal?</u> w motor is OK. power window m tion	LH connector. the battery voltage dir Terminal (+) 3 1 1 otor LH. Refer to <u>GW</u>	(-) 1 3	Motor condition DOWN UP Installation".
Turn ignition switch C Disconnect rear powe Check motor operation tor. Rear power window motor nector D52 the inspection result no (ES >> Power windo) NO >> Replace rear EAR RH EAR RH : Description por glass moves UP/DC	DFF. er window motor I on by connecting r LH con- <u>prmal?</u> w motor is OK. power window m tion	LH connector. the battery voltage dir Terminal (+) 3 1 1 otor LH. Refer to <u>GW</u>	(-) 1 3	Motor condition DOWN UP Installation".
Turn ignition switch C Disconnect rear power Check motor operation tor. Rear power window motor nector D52 the inspection result no (ES >> Power window NO >> Replace rear EAR RH EAR RH EAR RH : Descriptor poor glass moves UP/DC vitch RH.	DFF. er window motor I on by connecting r LH con- <u>prmal?</u> w motor is OK. power window m tion DWN by receiving	LH connector. the battery voltage dir Terminal (+) 3 1 notor LH. Refer to <u>GW</u>	(-) 1 3	Motor condition DOWN UP Installation". INFOID:00000000016 vitch or rear power wind
Turn ignition switch C Disconnect rear power Check motor operation tor. Rear power window motor nector D52 the inspection result not (ES >> Power window NO >> Replace rear EAR RH EAR RH : Description oor glass moves UP/DC vitch RH. EAR RH : Compor	DFF. er window motor I on by connecting r LH con- <u>ormal?</u> w motor is OK. power window m tion DWN by receiving nent Function	LH connector. the battery voltage dir Terminal (+) 3 1 otor LH. Refer to <u>GW</u> g the signal from pow Check	(-) 1 3	Motor condition DOWN UP Installation".
Turn ignition switch C Disconnect rear powe Check motor operation tor. Rear power window motor nector D52 the inspection result not (ES >> Power window NO >> Replace rear EAR RH EAR RH : Description or glass moves UP/DC vitch RH. EAR RH : Compor . CHECK REAR POWE	DFF. er window motor I on by connecting r LH con- <u>ormal?</u> w motor is OK. power window m tion DWN by receiving nent Function ER WINDOW MO	LH connector. the battery voltage dir Terminal (+) 3 1 botor LH. Refer to GW otor LH. Refer to GW botor LH. Refer to GW Check TOR CIRCUIT	(-) 1 3 	Motor condition DOWN UP Installation". INFOID:0000000018
Turn ignition switch C Disconnect rear powe Check motor operation tor. Rear power window motor nector D52 the inspection result no YES >> Power window	DFF. er window motor I on by connecting r LH con- <u>ormal?</u> w motor is OK. power window m tion DWN by receiving nent Function ER WINDOW MO	LH connector. the battery voltage dir Terminal (+) 3 1 botor LH. Refer to GW otor LH. Refer to GW botor LH. Refer to GW Check TOR CIRCUIT	(-) 1 3 	Motor condition DOWN UP Installation". INFOID:000000001

#### < DTC/CIRCUIT DIAGNOSIS >

## REAR RH : Diagnosis Procedure

[FRONT WINDOW ANTI-PINCH]

INFOID:000000001834161

#### **1.**CHECK REAR POWER WINDOW MOTOR INPUT SIGNAL

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

	+) ndow motor RH	()	Condition		Voltage (V) (Approx.)
Connector	Terminal	*			
	1			UP	Battery voltage
D72	I	Ground	Rear power window switch RH	DOWN	0
DIZ	3	Ground		UP	0
	3			DOWN	Battery voltage

#### Is the measurement value within the specification?

YES >> GO TO 2.

NO >> GO TO 3.

#### 2.CHECK REAR POWER WINDOW MOTOR

Check rear power window motor RH.

Refer to PWC-135, "REAR RH : Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace rear power window motor RH. Refer to <u>GW-22, "Removal and Installation"</u>.

#### **3.**CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.

2. Disconnect rear power window switch RH connector.

3. Check continuity between rear power window switch RH harness connector and rear power window motor RH harness connector.

Rear power wi	ndow switch RH	Rear power wi	ndow motor RH	Continuity
Connector	Terminal	Connector	Terminal	Continuity
D74	5	D72	1	Existed
014	4	DIZ	3	

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

Rear power wir	ndow switch RH		Continuity
Connector	Terminal	Ground	Continuity
D74	5	Ground	Not existed
074	4		NOT EXISTED

Is the inspection result normal?

YES >> Replace rear power window switch RH.

NO >> Repair or replace harness.

**4.**CHECK INTERMITTENT INCIDENT

Refer to GI-39. "Intermittent Incident".

#### >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

## [FRONT WINDOW ANTI-PINCH]

Disconnect rear power window motor RH connector. Check motor operation by connecting the battery voltage directly to rear power window motor RH con- pr. ear power window motor RH con- nector (+) (-) D72 1 D72 inspection result normal?				INFOID:0000000183
Furninginition switch OFF.         Disconnect rear power window motor RH connector.         Check motor operation by connecting the battery voltage directly to rear power window motor RH connector.         Terminal         Motor condition         OPEN         D72       Image: Colspan="2">OPEN         Image: Colspan="2">Image: Colspan="2">OPEN         Terminal       Motor condition         OPEN       OPEN         D72       Image: Colspan="2">OPEN         Image: Colspan="2">Image: Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2"				
Disconnect rear power window motor RH connector. Check motor operation by connecting the battery voltage directly to rear power window motor RH con- nector (+) (-) Motor condition D72 3 1 DOWN 1 3 UP inspection result normal? >> Power window motor is OK.	HECK REAR POWER WINDOW	MOTOR RH		
Check motor operation by connecting the battery voltage directly to rear power window motor RH connector         Terminal         Motor condition         072       3       1       DOWN         1       3       UP         inspection result normal?         > Power window motor is OK.	Furn ignition switch OFF.	actor DU connact		
or.       Terminal     Motor condition       ear power window motor RH connector     (+)     (-)       D72     3     1     DOWN       D72     1     3     UP       inspection result normal?     >> Power window motor is OK.     K.				power window motor RH conne
Image: constraint of the constr	or.	5 ,	0	
nector         (+)         (-)         Model Condition           D72         3         1         DOWN           1         3         UP           inspection result normal?           5         >> Power window motor is OK.	ear power window motor RH con-	Terr	ninal	
D72     1     3     UP       inspection result normal?     >> Power window motor is OK.		(+)	(-)	Motor condition
1     3     UP       inspection result normal?     >> Power window motor is OK.	D72	3	1	DOWN
>> Power window motor is OK.	012	1	3	UP
	e inspection result normal?			
>> Replace rear power window motor RH. Refer to <u>GW-22, "Removal and Installation"</u> .				
			fer to <u>GW-22, "Remo</u>	val and Installation".

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## < DTC/CIRCUIT DIAGNOSIS > ENCODER

## DRIVER SIDE

**DRIVER SIDE : Description** 

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

DRIVER SIDE : Component Function Check

## 1.CHECK ENCODER

Check driver side door glass perform AUTO open/close operation normally by power window main switch. <u>Is the inspection result normal?</u>

- YES >> Encoder is OK.
- NO >> Refer to <u>PWC-136</u>, "DRIVER SIDE : Diagnosis Procedure".

## **DRIVER SIDE : Diagnosis Procedure**

INFOID:000000003009593

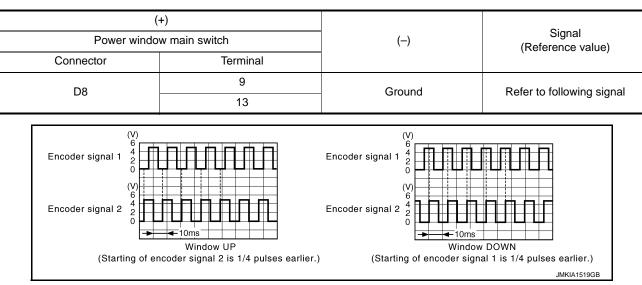
INFOID:000000003009591

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## **1.**CHECK ENCODER SIGNAL

#### 1. Turn ignition switch ON.

2. Check signal between power window main switch harness connector and ground with oscilloscope.



Is the inspection result normal?

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

NO >> GO 10 2.

## 2. CHECK ENCORDER SIGNAL CIRCUIT

1. Turn ignition switch OFF.

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

Power windo	w main switch		window motor er side)	Continuity
Connector	Terminal	Connector	Terminal	
D9	9	<b>D</b> 10	3	Eviated
D8	13	D10	5	Existed

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

#### < DTC/CIRCUIT DIAGNOSIS >

## [FRONT WINDOW ANTI-PINCH]

	window main switch				
				Continuity	
Connector	Termina	al	Ground		
D8	9			Not existed	ł
(h	13				
	eplace harness. R POWER SUPPLY (	CIRCUIT			
Connect power wir Turn ignition switch	ndow main switch con	inector.	/er side) harness cor	nnector and ground.	
	(+)				
Front power	window motor (driver side)	)	()	Voltage (V)	
Connector	Termina		. ,	(Approx.)	
D10	4		Ground	12	
Turn ignition switch Check continuity b Front power Connector D10 the inspection result	n OFF. etween front power w window motor (driver side Termina 6 normal?	) al	Ground	Continuity	
Turn ignition switch Check continuity b Front power Connector D10 the inspection result YES >> Replace fro NO >> GO TO 6. CHECK HARNESS Turn ignition switch Disconnect power	o OFF. etween front power w window motor (driver side Termina 6 normal? ont power window mo CONTINUITY 1 o OFF. window main switch o etween power window	) al otor (driver side	Ground ). Refer to <u>GW-16, "I</u>	Continuity Existed Removal and Install	ation"
Turn ignition switch Check continuity b Front power Connector D10 the inspection result YES >> Replace fro NO >> GO TO 6. CHECK HARNESS Turn ignition switch Disconnect power Check continuity b (driver side) harnes	o OFF. etween front power w window motor (driver side Termina 6 normal? ont power window mo CONTINUITY 1 o OFF. window main switch o etween power window	) al otor (driver side connector. w main switch	Ground ). Refer to <u>GW-16, "I</u>	Continuity Existed Removal and Install and front power win	ation"
Turn ignition switch Check continuity b Front power Connector D10 the inspection result YES >> Replace fro NO >> GO TO 6. .CHECK HARNESS Turn ignition switch Disconnect power Check continuity b (driver side) harnes	o OFF. etween front power w window motor (driver side Termina 6 normal? ont power window mo CONTINUITY 1 o OFF. window main switch o etween power window ss connector.	) al otor (driver side connector. w main switch	Ground ). Refer to <u>GW-16, "I</u> harness connector a r window motor (driver sid	Continuity Existed Removal and Install and front power win	ation"
Turn ignition switch Check continuity b Front power Connector D10 the inspection result (ES >> Replace fro IO >> GO TO 6. CHECK HARNESS Turn ignition switch Disconnect power Check continuity b (driver side) harnes	in OFF. etween front power w window motor (driver side Termina 6 normal? ont power window mo CONTINUITY 1 in OFF. window main switch of etween power window ss connector.	) al otor (driver side connector. w main switch Front powe	Ground ). Refer to <u>GW-16, "I</u> harness connector a	Continuity Existed Removal and Install and front power win	ation" Idow r
Turn ignition switch Check continuity b Front power Connector D10 the inspection result /ES >> Replace fro JO >> GO TO 6. .CHECK HARNESS Turn ignition switch Disconnect power Check continuity b (driver side) harnes Power windo Connector D8	o OFF. etween front power w window motor (driver side Termina 6 normal? ont power window mo CONTINUITY 1 o OFF. window main switch o etween power windor ss connector.	) al otor (driver side connector. w main switch Front powe Connector D10	Ground ). Refer to <u>GW-16, "</u> harness connector a r window motor (driver sid r <u>Termina</u> 4	Continuity Existed Removal and Install and front power win de) Continu Existe	ation" Idow r
Turn ignition switch Check continuity b Front power Connector D10 the inspection result YES >> Replace fro NO >> GO TO 6. .CHECK HARNESS Turn ignition switch Disconnect power Check continuity b (driver side) harnes Power windo Connector D8 Check continuity b	o OFF. etween front power w window motor (driver side Termina 0 normal? ont power window mo CONTINUITY 1 o OFF. window main switch of etween power window ss connector. w main switch Terminal 15	) al otor (driver side connector. w main switch Front powe Connector D10	Ground ). Refer to <u>GW-16, "</u> harness connector a r window motor (driver sid r <u>Termina</u> 4	Continuity Existed Removal and Install and front power win ie) Continu Existend ground.	lation" Idow I
<ul> <li>Check continuity b</li> <li>Front power</li> <li>Connector</li> <li>D10</li> <li>the inspection result</li> <li>YES &gt;&gt; Replace from NO &gt;&gt; GO TO 6.</li> <li>CHECK HARNESS</li> <li>Turn ignition switch</li> <li>Disconnect power</li> <li>Check continuity be (driver side) harnes</li> <li>Power winder</li> <li>Connector</li> <li>D8</li> <li>Check continuity be</li> </ul>	in OFF. etween front power w window motor (driver side Termina 6 normal? ont power window mo CONTINUITY 1 in OFF. window main switch of etween power window ss connector. w main switch Terminal 15 etween power window	) al otor (driver side connector. w main switch Front powe Connector D10 v main switch h	Ground ). Refer to <u>GW-16, "</u> harness connector a r window motor (driver sid r <u>Termina</u> 4	Continuity Existed Removal and Install and front power win de) Continu Existe	ation" adow r uity

6.CHECK HARNESS CONTINUITY 2

1. Disconnect power window main switch connector.

#### < DTC/CIRCUIT DIAGNOSIS >

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

Power windo	Power window main switch		Front power window motor (driver side)	
Connector	Terminal	Connector	Connector Terminal Continui	
D8	2	D10	6	Existed

Is the inspection result normal?

YES >> Replace power window main switch. Refer to <u>PWC-210, "Removal and Installation"</u>.

NO >> Repair or replace harness.

7. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

#### >> INSPECTION END PASSENGER SIDE

## **PASSENGER SIDE : Description**

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

## PASSENGER SIDE : Component Function Check

## **1.**CHECK ENCODER

Check passenger side door glass perform AUTO open/close operation normally by power window main switch or front power window switch (passenger side).

Is the inspection result normal?

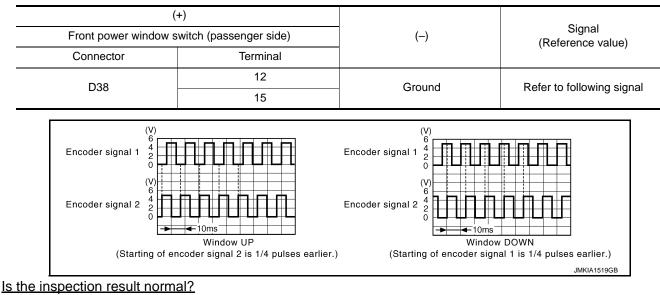
YES >> Encoder is OK.

NO >> Refer to <u>PWC-138</u>, "PASSENGER SIDE : Diagnosis Procedure".

## **PASSENGER SIDE : Diagnosis Procedure**

## **1.**CHECK ENCODER SIGNAL

- 1. Turn ignition switch ON.
- 2. Check signal between front power window switch (passenger side) harness connector and ground with oscilloscope.



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INFOID:000000003009595

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#### < DTC/CIRCUIT DIAGNOSIS >

#### [FRONT WINDOW ANTI-PINCH]

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#### 1. Turn ignition switch OFF.

- 2. Disconnect front power window switch (passenger side) connector and front power window motor (passenger side) connector.
- 3. Check continuity between front power window switch (passenger side) harness connector and front power window motor (passenger side) harness connector.

Front power window	Front power window switch (passenger side) Front power window motor (passenger side)		Continuity	С	
Connector	Terminal	Connector	Terminal	Continuity	
D38	12	D40	5	Existed	D
030	15	040	3	LAISIEU	D

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

Front power window	Front power window switch (passenger side)		Continuity
Connector	Terminal	Orecord	Continuity
D38	12	- Ground	Not existed
030	15		NOL EXISTED

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

#### ${f 3.}$ CHECK ENCORDER POWER SUPPLY CIRCUIT

1. Connect front power window switch (passenger side) connector.

2. Turn ignition switch ON.

3. Check voltage between front power window motor (passenger side) harness connector and ground.

(+	-)			_
Front power window m	Front power window motor (passenger side)		Voltage (V) (Approx.)	J
Connector	Terminal			
D40	4	Ground	12	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> GO TO 5.

**4.**CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Check continuity between front power window motor (passenger side) harness connector and ground.

Front power window mo		Continuity	•	
 Connector Terminal		Ground	Continuity	Ν
D40	6		Existed	-

Is the inspection result normal?

YES >> Replace front power window motor (passenger side). Refer to <u>GW-16, "Removal and Installation"</u>. NO >> GO TO 6.

## **5.**CHECK HARNESS CONTINUITY 1

1. Turn ignition switch OFF.

2. Disconnect front power window switch (passenger side) connector.

3. Check continuity between front power window switch (passenger side) harness connector and front power window motor (passenger side) harness connector.

#### < DTC/CIRCUIT DIAGNOSIS >

Front power window s	Front power window switch (passenger side)		Front power window motor (passenger side)	
Connector	Terminal	Connector Terminal		Continuity
D38	4	D40	4	Existed

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

Front power window switch (passenger side)			Continuity
Connector	Connector Terminal		Continuity
D38	4		Not existed

Is the inspection result normal?

YES >> Replace front power window switch (passenger side). Refer to <u>PWC-210, "Removal and Installa-</u> tion".

NO >> Repair or replace harness.

6. CHECK HARNESS CONTINUITY 2

1. Disconnect front power window switch (passenger side) connector.

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

Front power window s	ont power window switch (passenger side)		Front power window motor (passenger side)	
Connector	Terminal	Connector	Terminal	Continuity
D38	3	D40	6	Existed

Is the inspection result normal?

YES >> Replace front power window switch (passenger side). Refer to <u>PWC-210, "Removal and Installa-</u> tion".

NO  $>> \overline{\text{Repair}}$  or replace harness.

**7.**CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident"

>> INSPECTION END

OWER WINDOW	/ SERIAL LIN	K		
OWER WINDOW				
	MAIN SWITCH	: Description		INFOID:00000000300
ower window main switc	h, front power wind	dow switch (passe	enger side)	and BCM transmit and receive th
ignal by power window se he signal mentioned belo witch (passenger side). Keyless power window o	erial link. ow is transmitted fr down signal	om BCM to powe	r window n	nain switch and front power windo
enger side). Front passenger side do Power window control by Power window lock switc	or window operatio y key cylinder switc ch signal	n signal	main switch	
Retained power operatio	0	_		
	MAIN SWITCH	: Component	Functior	
.CHECK POWER WIND	OW SWITCH OUT	PUT SIGNAL		
				de for "POWER DOOR LOCK SY Function (BCM - DOOR LOCK)".
Monitor it	tem		C	Condition
CDL LOCK SW		LO	СК	: ON
			OCK	: OFF
CDL UNLOCK SW	<u>mal?</u> v serial link is OK.	LO	OCK	: OFF : OFF : ON
<ul> <li><u>s the inspection result nor</u></li> <li>YES &gt;&gt; Power window</li> <li>NO &gt;&gt; Refer to <u>PWC</u></li> <li><b>POWER WINDOW N</b></li> <li><b>.</b> CHECK POWER WIND</li> <li><b>.</b> Turn ignition switch OI</li> <li>Disconnect power win</li> <li>Check signal between door lock and unlock s</li> </ul>	v serial link is OK. -141, "POWER WII MAIN SWITCH DOW SWITCH OUT FF. dow main switch co power window ma switch (driver side a ich are shown in th	LO UNL NDOW MAIN SW Diagnosis P PUT SIGNAL Onnector. in switch harness and passenger sid e figure below car	ск оск <u>ITCH : Diac</u> rocedure s connector le) is turned n be detecto	: OFF : ON gnosis Procedure".
<ul> <li><u>s the inspection result nor</u></li> <li>YES &gt;&gt; Power window</li> <li>NO &gt;&gt; Refer to <u>PWC</u></li> <li><b>POWER WINDOW N</b></li> <li><b>.</b> CHECK POWER WIND</li> <li><b>.</b> CHECK POWER WIND</li> <li><b>.</b> Turn ignition switch OI</li> <li>. Disconnect power win</li> <li>. Check signal between door lock and unlock s</li> <li>. Check that signals wh</li> </ul>	v serial link is OK. -141, "POWER WII MAIN SWITCH DOW SWITCH OUT FF. dow main switch co power window ma switch (driver side a ich are shown in th	LO UNL NDOW MAIN SW Diagnosis P PUT SIGNAL Onnector. in switch harness and passenger sid e figure below car	ск оск <u>ITCH : Diac</u> rocedure s connector le) is turned n be detecto	: OFF : ON gnosis Procedure". and ground with oscilloscope who d to "LOCK" or "UNLOCK". ed during 10 seconds just after do LOCK" or "UNLOCK".
<ul> <li>the inspection result nor</li> <li>YES &gt;&gt; Power window</li> <li>NO &gt;&gt; Refer to PWC</li> <li>POWER WINDOW N</li> <li>CHECK POWER WIND</li> <li>Turn ignition switch OI</li> <li>Disconnect power win</li> <li>Check signal between door lock and unlock s</li> <li>Check that signals wh lock and unlock switch</li> </ul>	v serial link is OK. -141, "POWER WII MAIN SWITCH DOW SWITCH OUT FF. dow main switch co power window ma switch (driver side a ich are shown in th n (driver side and pa	LO UNL NDOW MAIN SW Diagnosis P PUT SIGNAL Onnector. in switch harness and passenger sid e figure below car	ск оск <u>ITCH : Diac</u> rocedure s connector le) is turned n be detecto	: OFF : ON gnosis Procedure".
<ul> <li>the inspection result nor</li> <li>YES &gt;&gt; Power window</li> <li>NO &gt;&gt; Refer to PWC</li> <li>POWER WINDOW N</li> <li>CHECK POWER WIND</li> <li>CHECK POWER WIND</li> <li>Turn ignition switch OI</li> <li>Disconnect power win</li> <li>Check signal between door lock and unlock s</li> <li>Check that signals wh lock and unlock switch</li> <li>(+)</li> </ul>	v serial link is OK. -141, "POWER WII MAIN SWITCH DOW SWITCH OUT FF. dow main switch co power window ma switch (driver side a ich are shown in th n (driver side and pa	LO UNL NDOW MAIN SW : Diagnosis P PUT SIGNAL Onnector. in switch harness and passenger side e figure below car assenger side) is	ск оск <u>ITCH : Diac</u> rocedure s connector le) is turned n be detecto	: OFF : ON gnosis Procedure". and ground with oscilloscope who d to "LOCK" or "UNLOCK". ed during 10 seconds just after do LOCK" or "UNLOCK".

**POWER WINDOW SERIAL LINK** 

## POWER WINDOW SERIAL LINK

#### < DTC/CIRCUIT DIAGNOSIS >

YES >> Replace power window main switch. Refer to PWC-114, "Removal and Installation".

NO >> GO TO 2.

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

- 1. Disconnect BCM connector.
- Check continuity between BCM harness connector and power window main switch harness connector. 2.

B	BCM		Power window main switch	
Connector	Terminal	Connector	Terminal	Continuity
M123	132	D8	14	Existed

#### Check continuity between BCM harness connector and ground. 3.

BC	BCM		Continuity
Connector	Connector Terminal		Continuity
M123	132		Not existed

#### Is the inspection result normal?

>> Replace BCM. Refer to BCS-80, "Exploded View". YES

NO >> Repair or replace harness.

## FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

#### FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Description INFOID:000000003009608

Power window main switch, front power window switch (passenger side) and BCM transmit and receive the signal by power window serial link.

The signal mentioned below is transmitted from BCM to power window main switch and front power window switch (passenger side).

Keyless power window down signal

The signal mentioned below is transmitted from power window main switch to front power window switch (passenger side).

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

#### FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Component Function Check

INFOID:000000003009611

#### 1.CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

#### (P) With CONSULT-III

Check ("CDL LOCK SW ", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYS-TEM" with CONSULT-III. Refer to DLK-53, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

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

#### Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> Refer to PWC-143, "FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure".

## POWER WINDOW SERIAL LINK

< DTC/CIRCUIT DIAGNOSIS >

#### [FRONT WINDOW ANTI-PINCH]

## FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure

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1.CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect front power window switch (passenger side) connector.
- Check signal between front power window switch (passenger side) harness connector and ground with oscilloscope when door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".
- 4. Check that signals which are shown in the figure below can be detected during 10 seconds just after door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".

Fro	(+) Front power window switch (passenger side) Connector Terminal		()	Signal (Reference value)	E
	D38	16	Ground	(V) 15 10 5 0 10 ms JPMIA0013GB	F

Is the inspection result normal?

YES >> Replace front power window switch (passenger side). Refer to <u>PWC-114, "Removal and Installa-tion"</u>.
 NO >> GO TO 2.

**2.**CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Disconnect BCM connector.

2. Check continuity between BCM harness connector and front power window switch (passenger side) harness connector.

BCM		Front power window switch (passenger side)		Continuity	PW
Connector	Terminal	Connector	Terminal	Continuity	
M123	132	D38	16	Existed	

3. Check continuity between BCM harness connector and ground.

_	BCM			Continuity	М
_	Connector	Terminal	Ground	Continuity	1 1 1
	M123	132		Not existed	-

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-80, "Exploded View"</u>.

NO >> Repair or replace harness.

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#### < DTC/CIRCUIT DIAGNOSIS >

## POWER WINDOW LOCK SWITCH

## Description

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

#### Component Function Check

INFOID:000000003009620

INFOID:000000003009619

1.CHECK POWER WINDOW LOCK SIGNAL

Exchanges for a normal power window main switch and operation is checked.

Does power window lock operate?

YES >> Replace power window main switch. Refer to <u>PWC-210, "Removal and Installation"</u>.

NO >> Check condition of harness and connector.

# ECU DIAGNOSIS INFORMATION BCM (BODY CONTROL MODULE)

# **Reference Value**

### VALUES ON THE DIAGNOSIS TOOL

#### CONSULT-III MONITOR ITEM

Monitor Item	Condition	Value/Status	
FR WIPER HI	Other than front wiper switch HI	Off	_
	Front wiper switch HI	On	D
	Other than front wiper switch LO	Off	
FR WIPER LOW	Other than front wiper switch HI         Off           Front wiper switch HI         On           W         Other than front wiper switch LO         Off           Front wiper switch LO         On           SW         Front washer switch OFF         Off           Front washer switch OFF         Off           Front washer switch INT         Off           Front wiper switch INT         On           Promet washer switch INT         On           Front wiper is not in STOP position         Off           Front wiper is in STOP position         Off           Front wiper is in STOP position         Off           Viper intermittent dial is in a dial position 1 - 7         Wiper intermittent dial position           Other than turn signal switch RH         Off           Turn signal switch LH         Off           Turn signal switch LH         Off           Turn signal switch 1ST or 2ND         Off           Uighting switch 1ST or 2ND         Off           Uighting switch 2ND         Off           Uighting switch 2ND         Off           Uighting switch 2ND         Off           Uighting switch PASS         Off           Uighting switch PASS         Off           Uighting switch AUTO	E	
	Front washer switch OFF	Off	
FR WASHER SW	Front washer switch ON	On	
	Other than front wiper switch INT	Off	F
FR WIPER INT	Front wiper switch INT	On	
	Front wiper is not in STOP position	Off	G
FR WIPER STOP	Front wiper is in STOP position	On	G
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position	
	Other than turn signal switch RH	Off	Н
I URN 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 LAMP SVV	Lighting switch 1ST or 2ND	On	J
	Other than lighting switch HI	Off	
HI BEAM SW	Lighting switch HI	On	
	Other than lighting switch 2ND	Off	PW
HEAD LAMP SVV 1	Lighting switch 2ND	On	
	Other than lighting switch 2ND	Off	L
HEAD LAMP SVV 2	Lighting switch 2ND	On	
	Other than lighting switch PASS	Off	
PASSING SW	Lighting switch PASS	On	M
	Other than lighting switch AUTO	Off	
T VOLUME	Lighting switch AUTO	On	N
	Front fog lamp switch OFF	Off	
-R FUG SW	Front fog lamp switch ON	On	
RR FOG SW		Off	0
	Driver door closed	Off	
DOOR SW-DR	Driver door opened	On	P
	Passenger door closed	Off	
DOOR SW-AS	Passenger door opened	On	
	Rear RH door closed	Off	
DOOR SW-RR	Rear RH door opened	On	

INFOID:000000004743864 В

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#### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
DOOR SW-RL	Rear LH door closed	Off
DOOR OW RE	Rear LH door opened	On
DOOR SW-BK	<b>NOTE:</b> The item is indicated, but not monitored.	Off
	Other than power door lock switch LOCK	Off
IAZARD SW	Power door lock switch LOCK	On
	Other than power door lock switch UNLOCK	Off
ODE ONEOOR OW	Power door lock switch UNLOCK	On
	Other than driver door key cylinder LOCK position	Off
NET OTE EN-OW	Driver door key cylinder LOCK position	On
KEY OVI LIN-SW/	Other than driver door key cylinder UNLOCK position	Off
REF CTE ON-SW	Driver door key cylinder UNLOCK position	On
KEY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off
	Hazard switch is not pressed	Off
	Hazard switch is pressed	On
REAR DEF SW	NOTE: The item is indicated, but not monitored.	Off
H/L WASH SW	NOTE: The item is indicated, but not monitored.	Off
TR CANCEL SW	Trunk lid opener cancel switch OFF	Off
	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
TRNK/HAT MNTR	Trunk lid closed	Off
	Trunk lid opened	On
RKE-LOCK	LOCK button of Intelligent Key is not pressed	Off
	LOCK button of Intelligent Key is pressed	On
RKE-UNLOCK	UNLOCK button of Intelligent Key is not pressed	Off
	UNLOCK button of Intelligent Key is pressed	On
	TRUNK OPEN button of Intelligent Key is not pressed	Off
	TRUNK OPEN button of Intelligent Key is pressed	On
	PANIC button of Intelligent Key is not pressed	Off
	PANIC button of Intelligent Key is pressed	On
	UNLOCK button of Intelligent Key is not pressed	Off
	UNLOCK button of Intelligent Key is pressed and held	On
	LOCK/UNLOCK button of Intelligent Key is not pressed and held si- multaneously	Off
	LOCK/UNLOCK button of Intelligent Key is pressed and held simul- taneously	On
	Bright outside of the vehicle	Close to 5 V
OPTICAL SENSOR	Dark outside of the vehicle	Close to 0 V
	Driver door request switch is not pressed	Off
KEQ SW-DK	Driver door request switch is pressed	On
	Passenger door request switch is not pressed	Off
RKE-TR/BD RKE-PANIC RKE-P/W OPEN RKE-MODE CHG OPTICAL SENSOR REQ SW-DR REQ SW-AS	Passenger door request switch is pressed	On

### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
	Trunk request switch is not pressed	Off
KEQ SW-BD/TR	Trunk request switch is pressed	On
	Push-button ignition switch (push switch) is not pressed	Off
PUSH 3W	Push-button ignition switch (push switch) is pressed	On
	Ignition switch in OFF or ACC position	Off
IGN RLY2 -F/B	Ignition switch in ON position	On
	Ignition switch in OFF position	Off
ACC RLY -F/B	Ignition switch in ACC or ON position	On
	The clutch pedal is not depressed	Off
CLUCH SW	The clutch pedal is depressed	On
	The brake pedal is depressed when No. 7 fuse is blown	Off
BRAKE SW 1	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal	On
	The brake pedal is not depressed	Off
BRAKE SW 2	The brake pedal is depressed	On
	<ul> <li>Selector lever in P position (Except M/T models)</li> <li>The clutch pedal is depressed (M/T models)</li> </ul>	Off
DETE/CANCL SW	<ul> <li>Selector lever in any position other than P (Except M/T models)</li> <li>The clutch pedal is not depressed (M/T models)</li> </ul>	On
	Selector lever in any position other than P and N	Off
T PN/N SW     Selector lev     Selector lev     Selector lev     Selector lev     Selector lev     Steering is     Steering is     Steering is	Selector lever in P or N position	On
	Steering is unlocked	Off
S/L -LOCK	Steering is locked	On
	Steering is locked	Off
S/L-UNLOCK	Steering is unlocked	On
	Ignition switch in OFF or ACC position	Off
S/L RELAY-F/B	Ignition switch in ON position	On
	Driver door is unlocked	Off
UNLK SEN-DR	Driver door is locked	On
	Push-button ignition switch (push-switch) is not pressed	Off
-09H 2AA -ILDM	Push-button ignition switch (push-switch) is pressed	On
REQ SW-BD/TRTrunk rec Trunk rec Trunk rec PuSH SWPUSH SWPush-but Push-but Ignition s Ignition sGN RLY2 -F/BIgnition s Ignition sACC RLY -F/BIgnition s Ignition sACC RLY -F/BIgnition s Ignition sCLUCH SWThe cluto The cluto The brak 7 fuse isBRAKE SW 1The brak The brak 7 fuse isBRAKE SW 2The brak The brak 7 fuse isBRAKE SW 2The brak The brak SECTBRAKE SW 2The brak The brak SelectorBRAKE SW 2Selector SelectorBRAKE SW 2Selector SelectorBRAKE SW 2Selector SelectorBRAKE SW 2Selector SelectorBRAKE SW 2Selector SelectorBRAKE SW 2Selector SelectorBRAKE SW 2Selector SelectorSFT PN/N SWSelector SelectorS/L -LOCKSteering Ignition sS/L -LOCKSteering Ignition sS/L -LOCKSteering SelectorS/L -UNLOCKSteering Ignition sS/L -UNLOCKSteering Ignition sS/L RELAY-F/BIgnition sIgnition sIgnition sJNLK SEN-DRIgnition sODETE SW -IPDMPush-but Push-but SelectorSFT PN -IPDMSelector SelectorSFT P -METSelector SelectorSFT N -METSelectorSelectorSelector	Ignition switch in OFF or ACC position	Off
GN KLY1 -F/B	Ignition switch in ON position	On
	Selector lever in any position other than P	Off
DETE SW -IPDM	Selector lever in P position	On
SFT PN -IPDM	<ul> <li>Selector lever in any position other than P and N (Except M/T models)</li> <li>The clutch pedal is not depressed (M/T models)</li> </ul>	Off
RAKE SW 1 The 7 fu RAKE SW 2 The The The Selection of the Selection of the The Selection of the Selection of the The The The The The The Selection of the Selection of the S	<ul> <li>Selector lever in P or N position (Except M/T models)</li> <li>The clutch pedal is depressed (M/T models)</li> </ul>	On
SET D MET	Selector lever in any position other than P	Off
SFIF-IVIE1	Selector lever in P position	On
	Selector lever in any position other than N	Off
SEL N -MEL	Selector lever in N position	On

### < ECU DIAGNOSIS INFORMATION >

	peedometer reading
ENGINE STATE       At engine cranking       Crank         Engine running       Run         S/L LOCK-IPDM       Steering is unlocked       Off         S/L UNLK-IPDM       Steering is locked       On         S/L UNLK-IPDM       Steering is locked       Off         S/L UNLK-IPDM       Steering is locked       On         S/L RELAY-REQ       Steering lock system is not the LOCK condition and the changing condition from LOCK to UNLOCK       Off         S/L RELAY-REQ       Steering lock system are not the LOCK condition or the changing condition from LOCK to UNLOCK       On         VEH SPEED 1       While driving       Equivalent to sp         VEH SPEED 2       While driving       Equivalent to sp         DOOR STAT-DR       Driver door is locked       LOCK         Passenger door is locked       UNLK       LOCK	
At engine crankingCrankEngine runningRunS/L LOCK-IPDMSteering is unlockedOffS/L LOCK-IPDMSteering is lockedOnS/L UNLK-IPDMSteering is lockedOffS/L UNLK-IPDMSteering is unlockedOnS/L RELAY-REQSteering lock system is not the LOCK condition and the changing condition from LOCK to UNLOCKOffS/L RELAY-REQSteering lock system are not the LOCK condition or the changing condition from LOCK to UNLOCKOnVEH SPEED 1While drivingEquivalent to spVEH SPEED 2While drivingEquivalent to spDOOR STAT-DRDriver door is lockedUNLKPassenger door is lockedUNLKUNLK	
S/L LOCK-IPDMSteering is unlockedOffS/L LOCK-IPDMSteering is lockedOnS/L UNLK-IPDMSteering is lockedOffS/L UNLK-IPDMSteering is unlockedOnS/L RELAY-REQSteering lock system is not the LOCK condition and the changing condition from LOCK to UNLOCKOffS/L RELAY-REQSteering lock system are not the LOCK condition or the changing condition from LOCK to UNLOCKOnVEH SPEED 1While drivingEquivalent to spVEH SPEED 2While drivingEquivalent to spDOOR STAT-DRDriver door is lockedLOCKWait with selective UNLOCK operation (5 seconds)READYDriver door is unlockedUNLKPassenger door is lockedLOCK	
S/L LOCK-IPDM       Steering is locked       On         S/L UNLK-IPDM       Steering is locked       Off         S/L UNLK-IPDM       Steering is unlocked       On         S/L RELAY-REQ       Steering lock system is not the LOCK condition and the changing condition from LOCK to UNLOCK       Off         S/L RELAY-REQ       Steering lock system are not the LOCK condition or the changing condition from LOCK to UNLOCK       On         VEH SPEED 1       While driving       Equivalent to sp         VEH SPEED 2       While driving       Equivalent to sp         DOOR STAT-DR       Driver door is locked       LOCK         Passenger door is locked       UNLK	
Steering is lockedOnS/L UNLK-IPDMSteering is lockedOffS/L UNLK-IPDMSteering is unlockedOnS/L RELAY-REQSteering lock system is not the LOCK condition and the changing condition from LOCK to UNLOCKOffS/L RELAY-REQSteering lock system are not the LOCK condition or the changing condition from LOCK to UNLOCKOnVEH SPEED 1While drivingEquivalent to spVEH SPEED 2While drivingEquivalent to spDOOR STAT-DRDriver door is lockedLOCKWait with selective UNLOCK operation (5 seconds)READYDriver door is unlockedUNLKPassenger door is lockedLOCK	
S/L UNLK-IPDM       Steering is unlocked       On         SL RELAY-REQ       Steering lock system is not the LOCK condition and the changing condition from LOCK to UNLOCK       Off         S/L RELAY-REQ       Steering lock system are not the LOCK condition or the changing condition from LOCK to UNLOCK       On         VEH SPEED 1       While driving       Equivalent to sp         VEH SPEED 2       While driving       Equivalent to sp         DOOR STAT-DR       Driver door is locked       LOCK         Passenger door is locked       UNLK         Passenger door is locked       LOCK	
Steering is unlockedOnSteering lock system is not the LOCK condition and the changing condition from LOCK to UNLOCKOffSteering lock system are not the LOCK condition or the changing condition from LOCK to UNLOCKOnVEH SPEED 1While drivingEquivalent to spVEH SPEED 2While drivingEquivalent to spDOOR STAT-DRDriver door is lockedLOCKWait with selective UNLOCK operation (5 seconds)READYDriver door is lockedUNLKPassenger door is lockedLOCK	
S/L RELAY-REQcondition from LOCK to UNLOCKOffSteering lock system are not the LOCK condition or the changing condition from LOCK to UNLOCKOnVEH SPEED 1While drivingEquivalent to spVEH SPEED 2While drivingEquivalent to spDOOR STAT-DRDriver door is lockedLOCKDiver door is unlockedUNLKUNLKPassenger door is lockedLOCK	
Steering lock system are not the LOCK condition or the changing condition from LOCK to UNLOCKOnVEH SPEED 1While drivingEquivalent to spVEH SPEED 2While drivingEquivalent to spDOOR STAT-DRDriver door is lockedLOCKWait with selective UNLOCK operation (5 seconds)READYDriver door is lockedUNLKPassenger door is lockedLOCK	
VEH SPEED 2       While driving       Equivalent to sp         DOOR STAT-DR       Driver door is locked       LOCK         Wait with selective UNLOCK operation (5 seconds)       READY         Driver door is unlocked       UNLK         Passenger door is locked       LOCK	
DOOR STAT-DR     Driver door is locked     LOCK       Wait with selective UNLOCK operation (5 seconds)     READY       Driver door is unlocked     UNLK       Passenger door is locked     LOCK	peedometer reading
DOOR STAT-DR     Wait with selective UNLOCK operation (5 seconds)     READY       Driver door is unlocked     UNLK       Passenger door is locked     LOCK	
Driver door is unlocked     UNLK       Passenger door is locked     LOCK	
Passenger door is locked LOCK	
DOOR STAT-AS         Wait with selective UNLOCK operation (5 seconds)         READY	
Passenger door is unlocked UNLK	
ID OK FLAG Steering is locked Reset	
Steering is unlocked Set	
PRMT ENG STRT The engine start is prohibited Reset	
The engine start is permitted Set	
PRMT RKE STRT     NOTE: The item is indicated, but not monitored.     Reset	
KEY SW -SLOT	
Intelligent Key is inserted into key slot On	
RKE OPE COUN1         During the operation of Intelligent Key         Operation frequencies	ency of Intelligent Key
RKE OPE COUN2     NOTE: The item is indicated, but not monitored.	_
CONFRM ID ALL The key ID that the key slot receives is not recognized by any key ID registered to BCM. Yet	
The key ID that the key slot receives is recognized by any key ID registered to BCM.	
The key ID that the key slot receives is not recognized by the fourth key ID registered to BCM.	
CONFIRM ID4 The key ID that the key slot receives is recognized by the fourth key ID registered to BCM. Done	
CONFIRM ID2 The key ID that the key slot receives is not recognized by the third key ID registered to BCM.	
CONFIRM ID3 The key ID that the key slot receives is recognized by the third key ID registered to BCM. Done	
CONFIRMING The key ID that the key slot receives is not recognized by the sec- ond key ID registered to BCM. Yet	
CONFIRM ID2 The key ID that the key slot receives is recognized by the second key ID registered to BCM.	

#### < ECU DIAGNOSIS INFORMATION >

[FRONT WINDOW ANTI-PINCH]

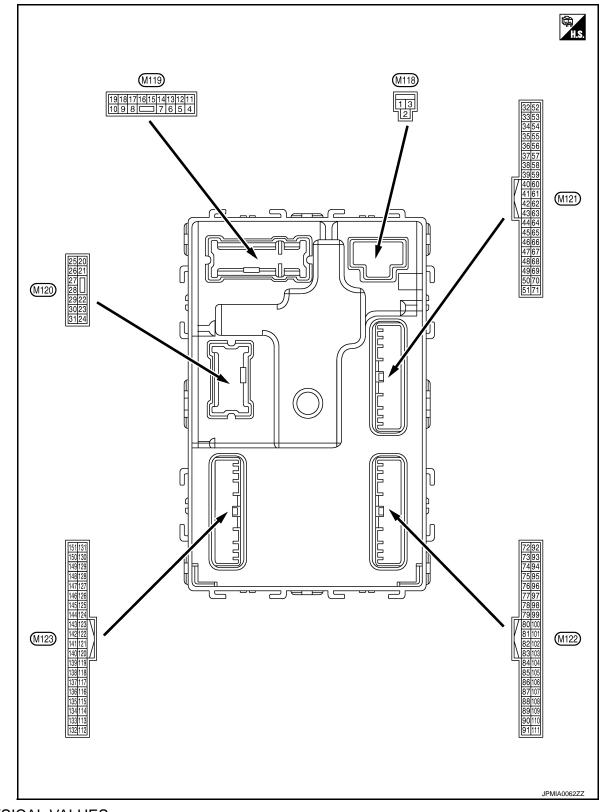
Monitor Item	Condition	Value/Status	0
	The key ID that the key slot receives is not recognized by the first key ID registered to BCM.	Yet	- A
CONFIRM ID1 TP 4 TP 3 TP 2 TP 1 AIR PRESS FL AIR PRESS FR AIR PRESS RR	The key ID that the key slot receives is recognized by the first key ID registered to BCM.	Done	В
	The ID of fourth Intelligent Key is not registered to BCM	Yet	
15 4	The ID of fourth Intelligent Key is registered to BCM	Done	C
TD 2	The ID of third Intelligent Key is not registered to BCM	Yet	
IFJ	The ID of third Intelligent Key is registered to BCM	Done	
тр 2	The ID of second Intelligent Key is not registered to BCM	Yet	D
1F 2	The ID of second Intelligent Key is registered to BCM	Done	_
TD 1	The ID of first Intelligent Key is not registered to BCM	Yet	
	The ID of first Intelligent Key is registered to BCM	Done	
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	_ 1
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire	G
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire	
	ID of front LH tire transmitter is registered	Done	- 11
ID REGST FLT	ID of front LH tire transmitter is not registered	Yet	_
	ID of front RH tire transmitter is registered	Done	
P 2 P 1 IR PRESS FL IR PRESS FR IR PRESS RR IR PRESS RL IR PRESS RL	ID of front RH tire transmitter is not registered	Yet	_
	ID of rear RH tire transmitter is registered	Done	_
ID REGOT RRT	ID of rear RH tire transmitter is not registered	Yet	J
	ID of rear LH tire transmitter is registered	Done	_
ID REGST RET	ID of rear LH tire transmitter is not registered	Yet	PW
	Tire pressure indicator OFF	Off	
	Tire pressure indicator ON	On	
	Tire pressure warning alarm is not sounding	Off	L
DULLER	Tire pressure warning alarm is sounding	On	

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[FRONT WINDOW ANTI-PINCH]

**TERMINAL LAYOUT** 



PHYSICAL VALUES

#### < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description			O an dition	Value	
+		Signal name	Input/ Output		Condition	(Approx.)	
1 (W)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage	
2 (Y)	Ground	P/W power supply (BAT)	Output	Ignition switch OFI	F	Battery voltage	
3 (O)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage	
4	Ground	Interior room lamp	Outrout	After passing the ir er operation time	nterior room lamp battery sav-	0 V	
(LG)	Ground	power supply	Output	Any other time after lamp battery saver	er passing the interior room	Battery voltage	
5	0	Passenger door UN-	0 1 1	<b>D</b>	UNLOCK (Actuator is activated)	Battery voltage	
(V)	Ground	LOCK	Output	Passenger door	Other than UNLOCK (Actuator is not activated)	0 V	
7	Crowned	Stop Joma	0	Stop Jama	ON	0 V	
(Y)	Ground	Step lamp	Output	Step lamp	OFF	Battery voltage	
8	0	All doors, fuel lid	0		LOCK (Actuator is activat- ed)	Battery voltage	
(V)	Ground	LOCK	Output	Output	Output All doors, fuel lid	Other than LOCK (Actuator is not activated)	0 V
9	Ground	Driver door, fuel lid	Outrout	Driver door, fuel	UNLOCK (Actuator is activated)	Battery voltage	
(G)	Ground	UNLOCK	Output	lid	Other than UNLOCK (Actuator is not activated)	0 V	
10	Ground	Rear RH door and rear LH door UN-	Quitout	Rear RH door	UNLOCK (Actuator is activated)	Battery voltage	
(BR)	Giouna	LOCK	Output	and rear LH door	Other than UNLOCK (Actuator is not activated)	0 V	
11 (R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage	
13 (B)	Ground	Ground	_	Ignition switch ON		0 V	
14 (W)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp	OFF	0 V NOTE: When the illumination brighten- ing/dimming level is in the neutral position (V) 10 0 2 ms JSNIA0010GB	
15	Ground	ACC indicator lamp	Output	Ignition switch	OFF	Battery voltage	
(Y)	2.50110				ACC or ON	0 V	

#### < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description	Input/		Condition	Value
+	-	Signal name	Output			(Approx.)
					Turn signal switch OFF	0 V
17 (W)	Ground	Turn signal (Front RH)	Output	Ignition switch ON	Turn signal switch RH	1 S 0 FKID0926E 6.5 V
					Turn signal switch OFF	0 V
18 (O)	Ground	Turn signal (Front LH)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 50 1 s PKID0926E 6.5 V
19	Ground	Room lamp timer	Output	Interior room	OFF	Battery voltage
(V)		control		lamp	ON	0 V
20 (V)	Ground	Turn signal (Rear RH)	Output	Ignition switch ON	Turn signal switch OFF	0 V
23	Ground	Trunk lid opening	Output	Trunk lid	Open (Trunk lid opener ac- tuator is activated)	Battery voltage
(G)		- 5			Close (Trunk lid opener ac- tuator is not activated)	0 V
					Turn signal switch OFF	0 V
25 (G)	Ground	Turn signal (Rear LH)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 15 15 15 15 15 15 15 15 15 15
30					ON	0 V
(R)	Ground	Trunk room lamp	Output	Trunk room lamp	OFF	Battery voltage

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description					
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
34	Ground	Trunk room antenna	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	B C D
(SB) Ground	1 (-)	Output	ŎFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	E F	
35	Ground	Trunk room antenna	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	G H I
35 (V) G	Giouna	1 (+)	Cutput	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	J PWC
38	Ground	Rear bumper anten-	Output	When the trunk lid request switch	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	M
38 (B)	Ground	na (-)	Output	is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 0 1 s JMKIA0063GB	O P

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
39	Ground	Rear bumper anten-	Output	When the trunk lid request switch	When Intelligent Key is in the antenna detection area	(V) 15 0 5 0 1 s JMKIA0062GB
(W)	Clound	na (+)	Guiput	is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 0 1 s JJKKIA0063GB
47	<b>•</b> •	Ignition relay (IPDM	<b>.</b>		OFF or ACC	Battery voltage
(Y)	Ground	E/R) control	Output	Ignition switch	ON	0 V
50 (R)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (Trunk is closed)	(V) 15 10 10 10 10 11.8 V JPMA0011GB 11.8 V
					ON (Trunk is open)	0 V
				Ignition switch OFF (M/T mod-	When the clutch pedal is depressed	Battery voltage
				els)	When the clutch pedal is not depressed	0 V
52 (SB)	Ground	Starter relay control	Output	Ignition switch ON (Except M/T	When selector lever is in P or N position and the brake is depressed	Battery voltage
				models)	When selector lever is in P or N position and the brake is not depressed	0 V
					ON (Pressed)	0 V
61 (W)	Ground	Trunk request switch	Input	Trunk request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V
		Request switch buzz-	Output	Request switch	Sounding	0 V
64	Ground	noquool ownon buzz				

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				No.	
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
					Pressed	0 V	D
67 (GR)	Ground	Trunk lid opener switch	Input	Trunk lid opener switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V	B C D
68 (BR)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closes)	(V) 15 0 5 0 10 ms JPMIA0011GB 11.8 V	F
					ON (When rear RH door opens)	0 V	Н
69 (R)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (When rear LH door closes)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V	l J
					ON (When rear LH door opens)	0 V	PWC
		d Room antenna 2 (-)	Room antenna 2 (-) Output		When Intelligent Key is in the passenger compart-	(V) 15 10 5 0	L
72	Ground			Ignition switch	ment	JMKIA0062GB	M
(R)		(Center console)		OFF			I N
					When Intelligent Key is not in the passenger compart- ment		0
						JMKIA0063GB	Ρ

### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	
73	Ground	Room antenna 2 (+)	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	
(G)		(Center console)	Cutput	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 0 1 s JMKIA0063GB	
74	Ground	ound Passenger door an- tenna (-)		When the pas- senger door re- quest switch is operated with ig- nition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 1 1 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 1 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
74 (SB)	Ground		Output		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	
75	Ground	d Passenger door an- tenna (+) Output		When the pas-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 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 1 1 1 1 1 1 1 1 1 1 1	
75 (BR)	Ground		senger door re- quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 1 5 0 1 5 1 5		

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description	escription		Value		٨
(VVir +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	A
76		Driver door antenna		When the driver door request	When Intelligent Key is in the antenna detection area	(V) 15 0 10 10 10 10 10 10 10 10 10	B C D
(V)	Ground	(-)	Output	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 10 1 1 1 1 1 1 1 1 1 1 1 1 1	E
77	Ground	Driver door antenna	Output	When the driver door request	When Intelligent Key is in the antenna detection area	(V) 15 0 5 0 1 s JMKIA0062GB	G H I
(LG)	Ground	(+)		switch is operat- ed with ignition switch OFF	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	J PWC
78	Ground	Room antenna (-) (In-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	M
(Y)	Ground	strument panel)	Jouput	OFF	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	P

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description		Condition		Value
(VVir +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
79	Crowned Room antenna (+)		When Intelligent Key is in the passenger compart- ment	(V) 15 0 15 0 15 0 15 15 15 15 15 15 15 15 15 15		
(BR)	Ground	(Instrument panel)	Output	Ignition switch OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 0 1 s JMKIA0063GB
80 (GR)	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.
81 (W)	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.
82 (R)	Ground	Ignition relay [fuse block (J/B)] control	Output	Ignition switch	OFF or ACC ON	0 V Battery voltage
83	Ground	Remote keyless entry	Input/	During waiting		(V) 15 10 5 0 1 1 1 ms JMKIA0064GB
(Y)	Sidurd	receiver signal	Output	When operating e	ither button on Intelligent Key	(V) 15 10 5 0 1 1 ms JMKIA0065GB

#### < ECU DIAGNOSIS INFORMATION >

### [FRONT WINDOW ANTI-PINCH]

	inal No.	Description				Value	
(VVir +	e color) –	Signal name	Input/ Output	Condition (Approx.)			A
					All switch OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0041GB 1.4 V	B C D
87 (BR)	Ground	Combination switch INPUT 5	Input	Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0037GB 1.3 V	E
					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 1.3 V	G H

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## < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description				Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF (Wiper intermittent dial 4)	(V) 10 0 2 ms JPMIA0041GB 1.4 V
88	Ground	Combination switch	Input	Combination switch	Lighting switch HI (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0036GB 1.3 V
(V)		INPUT 3			Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0037GB 1.3 V
					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 0 2 ms JPMIA0040GB 1.3 V
89 (BR)	Ground	Push-button ignition switch (Push switch)	Input	Push-button igni- tion switch (push switch)	Pressed Not pressed	0 V Battery voltage
90 (P)	Ground	CAN - L	Input/ Output			
91 (L)	Ground	CAN - H	Input/ Output		_	_
					OFF	0 V
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	Blinking	(V) 15 0 1 1 1 2 JPMIA0015GB
					ON	6.5 V Battery voltage

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description	Description			Value
(Wire +	e color)	Signal name	Input/ Output		Condition	(Approx.)
93			output		OFF or ACC	0 V
93 (V)	Ground	ON indicator lamp	Output	Ignition switch	ON	Battery voltage
					OFF	0 V
95 (O)	Ground	ACC relay control	Output	Ignition switch	ACC or ON	Battery voltage
96 (GR)	Ground	A/T device (Detention switch) power supply	Output		_	Battery voltage
97		Steering lock condi-			LOCK status	0 V
(L)	Ground	tion No. 1	Input	Steering lock	UNLOCK status	Battery voltage
98		Steering lock condi-			LOCK status	Battery voltage
90 (P)	Ground	tion No. 2	Input	Steering lock	UNLOCK status	0 V
		Salastar lavar Dinasi			P position	0 V
		Selector lever P posi- tion switch		Selector lever	Any position other than P	Battery voltage
		ASCD clutch switch		ASCD clutch	OFF (Clutch pedal is de- pressed)	0 V
99 (R)	Ground	(M/T models without ICC)	Input	switch	ON (Clutch pedal is not de- pressed)	Battery voltage
		ICC clutch switch (M/			OFF (Clutch pedal is de- pressed)	0 V
		T models with ICC)		ICC clutch switch	ON (Clutch pedal is not depressed)	Battery voltage
					ON (Pressed)	0 V
100 (G)	Ground	Passenger door re- quest switch	Input	Passenger door request switch	OFF (Not pressed)	(V) 15 0 5 0 10 ms JPMIA0016GB 1.0 V
					ON (Pressed)	0 V
101 (SB)	Ground	Driver door request switch	Input	Driver door re- quest switch	OFF (Not pressed)	(V) 15 10 0 10 ms JPMIA0016GB 1.0 V
102	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0 V
(O)		lay control	Supul	-grittori switch	ON	Battery voltage
103 (LG)	Ground	Remote keyless entry receiver power sup- ply	Output	Ignition switch OFF		Battery voltage
106	Ground	Steering wheel lock	Outrout	Ignition owitch	OFF or ACC	Battery voltage
(W)	Ground	unit power supply	Output	Ignition switch	ON	0 V

#### < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description		Condition		Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF	(V) 15 10 5 0 <i>z</i> ms JPMIA0041GB 1.4 V
					Turn signal switch LH	(V) 15 0 2 ms JPMIA0037GB 1.3 V
107 (LG)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH	(V) 10 0 10 0 10 10 10 10 10 10
					Front wiper switch LO	(V) 15 10 2 ms JPMIA0038GB 1.3 V
					Front washer switch ON	(V) 15 0 2 ms JPMIA0039GB 1.3 V

#### < ECU DIAGNOSIS INFORMATION >

## [FRONT WINDOW ANTI-PINCH]

	inal No.	Description				Value	Δ
(VVir +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	A
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V	B C D
108	Ground	Combination switch		Combination	Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0038GB 1.3 V	E
(R)	Ground	INPUT 4	Input	switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 0 2 ms 1.3 V	G H
					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 1.3 V	J PWC

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#### < ECU DIAGNOSIS INFORMATION >

	iinal No. e color)	Description		Condition		Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V
					Lighting switch PASS	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V
109 (Y)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V
					Front wiper switch INT	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3 V
					Front wiper switch HI	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V
					Pressed	0 V
110 (G)	Ground	Hazard switch	Input	Hazard switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0012GB 1.1 V

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				\/e!	-
(Wire +	e color) _	Signal name	Input/ Output		Condition	Value (Approx.)	A
			e aip ai		LOCK status	Battery voltage	_
111 (Y)	Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK or UNLOCK	(V) 15 10 50 50 ms JMKIA0066GB	C D
					For 15 seconds after UN- LOCK	Battery voltage	E
					15 seconds or later after UNLOCK	0 V	_
113	Ground	Optical sensor signal	Input	Ignition switch	When bright outside of the vehicle	Close to 5 V	F
(P)	Ground	Optical sensor signal	input	ON	When dark outside of the vehicle	Close to 0 V	G
114	Ground	Clutch interlock	Input	Clutch interlock	OFF (Clutch pedal is not depressed)	0 V	-
(R)	Cround	switch	input	switch	ON (Clutch pedal is de- pressed)	Battery voltage	H
116 (SB)	Ground	Stop lamp switch 1	Input		_	Battery voltage	
				Stop lamp switch	OFF (Brake pedal is not depressed)	0 V	_
118 (P)	Ground	Stop lamp switch 2	Input	Stop lamp switch	ON (Brake pedal is de- pressed)	Battery voltage	J
				ICC brake hold	OFF	0 V	
				relay (With ICC)	ON	Battery voltage	PWC
119 (SB)	Ground	Front door lock as- sembly driver side (Unlock sensor)	Input	Driver door	LOCK status	(V) 15 10 5 0 +>	L
					UNLOCK status	JPMIA0011GB 11.8 V	- N
121	Ground	Key slot switch	Innut	When Intelligent Key is inserted into key slot When Intelligent Key is not inserted into key slot		Battery voltage	-
(R)	Ground	NEY SIDE SWILCH	Input			0 V	0
122	Ground	ACC feedback signal	Input	Ignition switch	OFF	0 V	-
(V)			P ***	5	ACC or ON	Battery voltage	P
123	Ground	IGN feedback signal	Input	Ignition switch	OFF or ACC	0 V	٢
(W)		-			ON	Battery voltage	-

#### < ECU DIAGNOSIS INFORMATION >

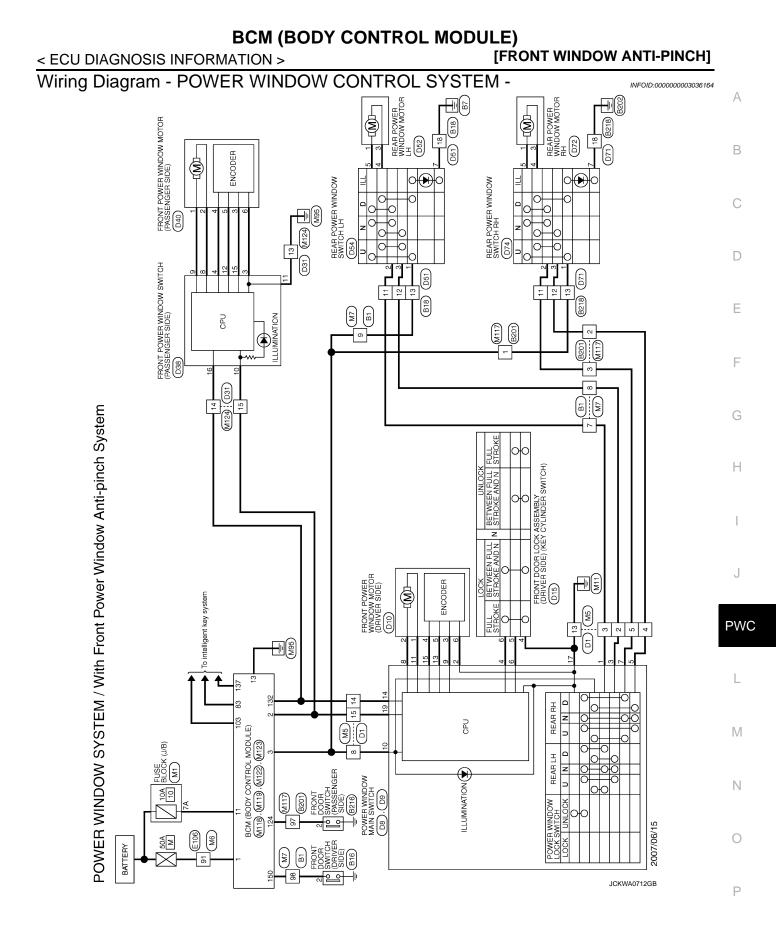
	inal No. e color)			<b>6</b>		Value
		Signal name	Input/ Output		Condition	(Approx.)
+ 124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closes) ON (When passenger door opens)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V 0 V
129 (O)	Ground	Trunk lid opener can- cel switch	Input	Trunk lid opener cancel switch	CANCEL	(V) 15 10 5 10 10 10 10 10 JPMIA0012GB 1.1 V
					ON	0 V
132 (V)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		(V) 15 10 10 10 10 10.2 V
				Ignition switch OF	F or ACC	0 V
133 (W)	Ground	Push-button ignition switch illumination	Output	Push-button igni- tion switch illumi- nation	ON (When tail lamps OFF) ON (When tail lamps ON) OFF	5.5 V <b>NOTE:</b> The pulse width of this wave is varied by the illumination bright- ening/dimming level. (V) 15 10 5 0 JPMIA0159GB 0 V
					ON	0 V
134 (GR)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	OFF	Battery voltage
137 (O)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V
138	Ground	Receiver and sensor	Outrout	Ignition owitch	OFF	0 V
(V)	Ground	power supply output	Output	Ignition switch	ACC or ON	5.0 V

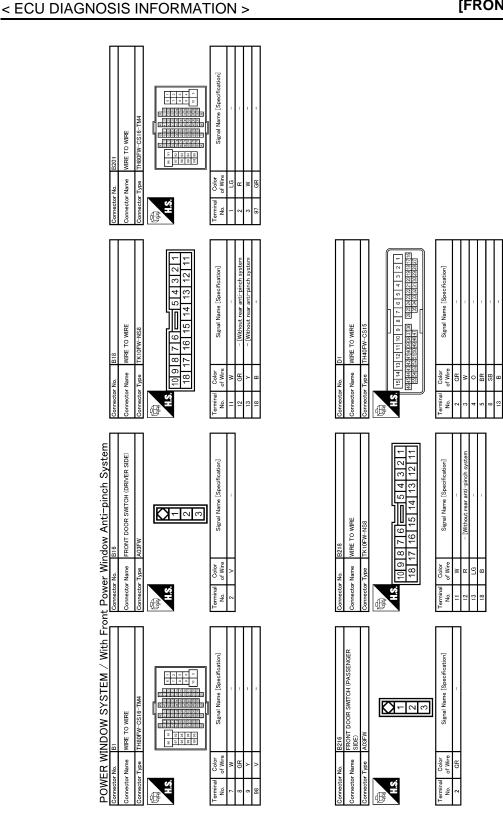
### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(Wire +	e color) –	Signal name	Input/ Output	Condition		(Approx.)	A
139	Ground	Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 6 2 0 • • 0.2s OCC3881D	B C D
(L)	Ground	er signal	Output	ŎN	When receiving the signal from the transmitter	(V) 6 4 2 0 + 0.2s OCC3880D	E
140	Ground	Selector lever P/N	Input	Selector lever	P or N position	12.0 V	G
(GR)	Cround	position signal	mput		Except P and N positions	0 V	
					ON	0 V	Н
141 (G)	Ground	Security indicator sig- nal	Output	Security indicator	Blinking	(V) 15 0 1 s JPMIA0014GB 11.3 V	J
					OFF	Battery voltage	PW
					All switch OFF	0 V	
142	Ground	Combination switch	Output	Combination switch	Lighting switch 1ST Lighting switch HI Lighting switch 2ND	(V) 15 10	L
(O)	Cround	OUTPUT 5	Output	(Wiper intermit- tent dial 4)	Turn signal switch RH	0 2 ms JPMIA0031GB	M
					All switch OFF (Wiper intermittent dial 4)	10.7 V	N
					Front wiper switch HI (Wiper intermittent dial 4)		0
143 (P)	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	(V) 15 10 2 ms JPMIA0032GB 10.7 V	Ρ

#### < ECU DIAGNOSIS INFORMATION >

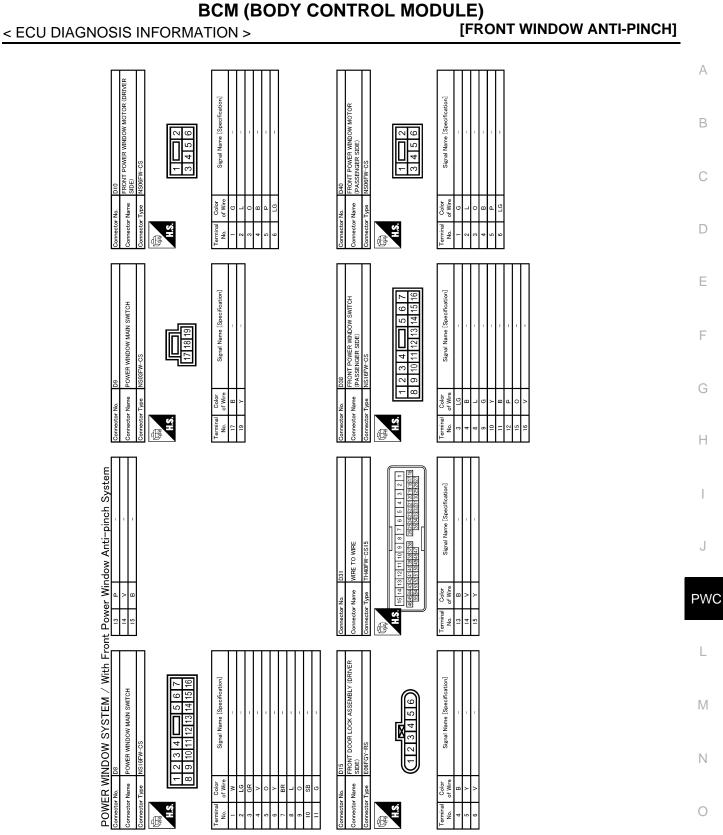
	inal No.	Description				Value		
(Wire +	e color) -	Signal name	Input/ Output		Condition	(Approx.)		
					All switch OFF (Wiper intermittent dial 4)	0 V		
					Front washer switch ON (Wiper intermittent dial 4)	(V) 15		
144 (G)	Ground	Combination switch OUTPUT 2	Output	Combination switch	<ul> <li>Any of the conditions below with all switch OFF</li> <li>Wiper intermittent dial 1</li> <li>Wiper intermittent dial 5</li> <li>Wiper intermittent dial 6</li> </ul>	10 0 2 ms JPMIA0033GB 10.7 V		
					All switch OFF	0 V		
					Front wiper switch INT			
				Combination	Front wiper switch LO	(V) 15		
145 (L)	Ground	Combination switch OUTPUT 3	Output	switch (Wiper intermit- tent dial 4)	Lighting switch AUTO	10 5 0 2 ms 10.7 V		
					All switch OFF	0 V		
					Front fog lamp switch ON			
				Combination	Lighting switch 2ND	(V) 15		
146	Ground	Combination switch	Output	switch	Lighting switch PASS			
(SB)		OUTPUT 4		(Wiper intermit- tent dial 4)	Turn signal switch LH	0 2 ms 10.7 V		
149 (W)	Ground	Tire pressure warn- ing check switch	Input			5 V		
150 (GR)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closes)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V		
					ON (When driver door opens)	0 V		
151	Ground	Rear window defog-	Output	Rear window de-	Active	0 V		
(G)		ger relay	<b>- -</b>	fogger	Not activated	Battery voltage		





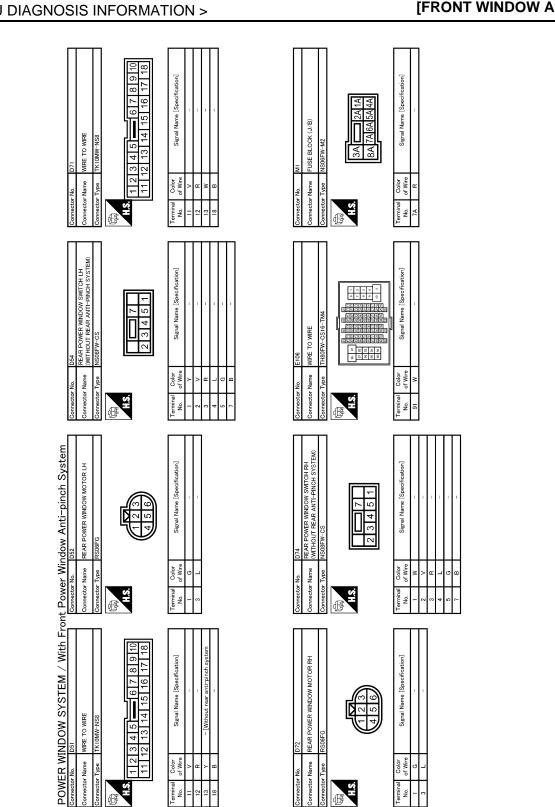
JCKWA0713GB

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JCKWA0714GB

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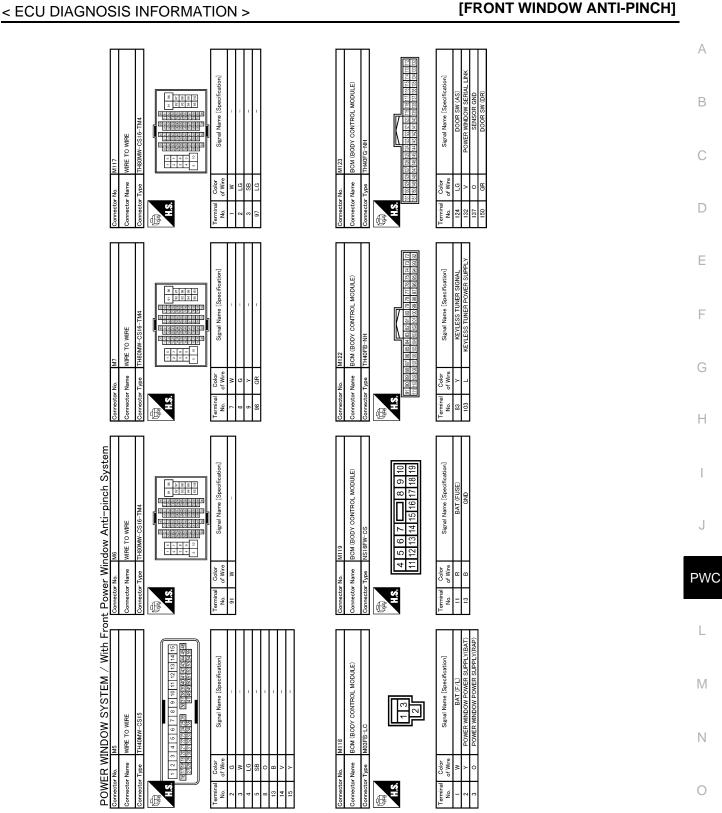
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# **BCM (BODY CONTROL MODULE)**

### < ECU DIAGNOSIS INFORMATION >

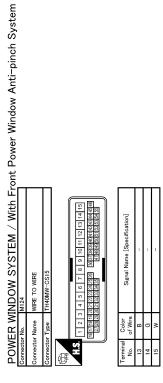
[FRONT WINDOW ANTI-PINCH]

Revision: 2008 September



JCKWA0716GB

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Fail-safe

### FAIL-SAFE CONTROL BY DTC

BCM performs fail-safe control when any DTC are detected.

JCKWA0717GB

INFOID:000000004743865

#### < ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	Erase DTC
B2190: NATS ANTTENA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch $ON \rightarrow OFF$
B2557: VEHICLE SPEED	Inhibit steering lock	When normal vehicle speed signals are received from ABS actua- tor and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following CAN signal communication status becomes consistent</li> <li>Starter control relay signal</li> <li>Starter relay status signal</li> </ul>
B2563: HI VOLTAGE	<ul><li>Inhibit engine cranking</li><li>Inhibit steering lock</li></ul>	500 ms after the power supply voltage decreases to less than 18 ${\sf V}$
B2601: SHIFT POSITION	Inhibit steering lock	<ul> <li>500 ms after the following signal reception status becomes consistent</li> <li>Selector lever P position switch signal</li> <li>P range signal (CAN)</li> </ul>
B2602: SHIFT POSITION	Inhibit steering lock	<ul> <li>5 seconds after the following BCM recognition conditions are fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Vehicle speed: 4 km/h (2.5 MPH) or more</li> </ul>
B2603: SHIFT POSI STATUS	Inhibit steering lock	<ul> <li>500 ms after the following BCM recognition conditions are fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> </ul>
B2604: PNP SW	Inhibit steering lock	<ul> <li>500 ms after any of the following BCM recognition conditions are fulfilled</li> <li>Status 1</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: P and N position (battery voltage)</li> <li>P range signal or N range signal (CAN): ON</li> <li>Status 2</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> <li>P range signal and N range signal (CAN): OFF</li> </ul>
B2605: PNP SW	Inhibit steering lock	<ul> <li>500 ms after any of the following BCM recognition conditions are fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Power position: IGN</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> <li>Interlock/PNP switch signal (CAN): OFF</li> <li>Status 2</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: P or N position (battery voltage)</li> <li>PNP switch signal (CAN): ON</li> </ul>
B2606: S/L RELAY Inhibit engine cranking		<ul> <li>500 ms after the following CAN signal communication status becomes consistent</li> <li>Steering lock relay signal (Request signal)</li> <li>Steering lock relay signal (Condition signal)</li> </ul>

#### < ECU DIAGNOSIS INFORMATION >

#### [FRONT WINDOW ANTI-PINCH]

Display contents of CONSULT	Fail-safe	Cancellation	
B2607: S/L RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following CAN signal communication status becomes consistent</li> <li>Steering lock relay signal (Request signal)</li> <li>Steering lock relay signal (Condition signal)</li> </ul>	
B2608: STARTER RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following signal communication status becomes consistent</li> <li>Starter motor relay control signal</li> <li>Starter relay status signal (CAN)</li> </ul>	
B2609: S/L STATUS	<ul><li>Inhibit engine cranking</li><li>Inhibit steering lock</li></ul>	<ul> <li>When the following steering lock conditions agree</li> <li>BCM steering lock control status</li> <li>Steering lock condition No. 1 signal status</li> <li>Steering lock condition No. 2 signal status</li> </ul>	
B260A: IGNITION RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following conditions are fulfilled</li> <li>IGN relay (IPDM E/R) control signal: OFF (Battery voltage)</li> <li>Ignition ON signal (CAN to IPDM E/R): OFF (Request signal)</li> <li>Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)</li> </ul>	
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	<ul><li>When any of the following conditions are fulfilled</li><li>Power position changes to ACC</li><li>Receives engine status signal (CAN)</li></ul>	
B2612: S/L STATUS	<ul><li>Inhibit engine cranking</li><li>Inhibit steering lock</li></ul>	<ul> <li>When any of the following conditions are fulfilled</li> <li>Steering lock unit status signal (CAN) is received normally</li> <li>The BCM steering lock control status matches the steering lock status recognized by the steering lock unit status signal (CAN from IPDM E/R)</li> </ul>	
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal	
B2618: BCM Inhibit engine cranking		1 second after the ignition relay (IPDM E/R) control inside BCM be- comes normal	
B2619: BCM	Inhibit engine cranking	1 second after the steering lock unit power supply output control in- side BCM becomes normal	
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization	
B26E1: ENG STATE NO RES	Inhibit engine cranking	<ul><li>When any of the following conditions are fulfilled</li><li>Power position changes to ACC</li><li>Receives engine status signal (CAN)</li></ul>	

#### HIGH FLASHER OPERATION

BCM detects the turn signal lamp circuit status by the current value.

BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

#### NOTE:

The blinking speed is normal while activating the hazard warning lamp.

#### DTC Inspection Priority Chart

INFOID:000000004743866

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
2	U1000: CAN COMM     U1010: CONTROL UNIT(CAN)
3	<ul> <li>B2190: NATS ANTTENA AMP</li> <li>B2191: DIFFERENCE OF KEY</li> <li>B2192: ID DISCORD BCM-ECM</li> <li>B2193: CHAIN OF BCM-ECM</li> <li>B2195: ANTI SCANNING</li> </ul>

# < ECU DIAGNOSIS INFORMATION >

	NOSIS INFORMATION >	
Priority		DTC
4	<ul> <li>B2013: ID DISCORD BCM-S/L</li> <li>B2014: CHAIN OF S/L-BCM</li> <li>B2553: IGNITION RELAY</li> <li>B2555: STOP LAMP</li> <li>B2556: PUSH-BTN IGN SW</li> <li>B2557: VEHICLE SPEED</li> <li>B2560: STARTER CONT RELAY</li> <li>B2601: SHIFT POSITION</li> <li>B2602: SHIFT POSI STATUS</li> <li>B2603: SHIFT POSI STATUS</li> <li>B2604: PNP SW</li> <li>B2606: S/L RELAY</li> <li>B2606: S/L RELAY</li> <li>B2607: S/L RELAY</li> <li>B2608: STARTER RELAY</li> <li>B2608: STARTER RELAY</li> <li>B2609: S/L STATUS</li> <li>B2609: S/L STATUS</li> <li>B2608: STEERING LOCK UNIT</li> <li>B2600: STEERING LOCK UNIT</li> <li>B2600: STEERING LOCK UNIT</li> <li>B2601: STEERING LOCK UNIT</li> <li>B2601: STEERING LOCK UNIT</li> <li>B2602: STEERING LOCK UNIT</li> <li>B2601: STEERING LOCK UNIT</li> <li>B2601: STEERING LOCK UNIT</li> <li>B2601: STEERING LOCK UNIT</li> <li>B2601: STEERING LOCK UNIT</li> <li>B2611: ACC RELAY</li> <li>B2611: ACC RELAY</li> <li>B2614: ACC RELAY CIRC</li> <li>B2615: BLOWER RELAY CIRC</li> <li>B2616: IGN RELAY CIRC</li> <li>B2616: IGN RELAY CIRC</li> <li>B2617: STARTER RELAY CIRC</li> <li>B2618: BCM</li> <li>B2619: BCM</li> <li>B2614: PUSH-BTN IGN SW</li> </ul>	
5	<ul> <li>00415: VEHICLE SPEED SIG</li> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> <li>C1711: [NO DATA] RR</li> <li>C1711: [NO DATA] RL</li> <li>C1712: [CHECKSUM ERR] FL</li> <li>C1713: [CHECKSUM ERR] FR</li> <li>C1714: [CHECKSUM ERR] RR</li> <li>C1715: [CHECKSUM ERR] RL</li> <li>C1716: [PRESSDATA ERR] FL</li> <li>C1717: [PRESSDATA ERR] FR</li> <li>C1718: [PRESSDATA ERR] FR</li> <li>C1719: [PRESSDATA ERR] RR</li> <li>C1720: [CODE ERR] FL</li> <li>C1721: [CODE ERR] FR</li> <li>C1722: [CODE ERR] FR</li> <li>C1723: [CODE ERR] RR</li> <li>C1723: [CODE ERR] RR</li> <li>C1724: [BATT VOLT LOW] FL</li> <li>C1725: [BATT VOLT LOW] FR</li> <li>C1727: [BATT VOLT LOW] RR</li> <li>C1727: [BATT VOLT LOW] RL</li> <li>C1734: CONTROL UNIT</li> </ul>	
6	B2621: INSIDE ANTENNA     B2622: INSIDE ANTENNA     B2623: INSIDE ANTENNA	

< ECU DIAGNOSIS INFORMATION >

### DTC Index

INFOID:000000004743867

[FRONT WINDOW ANTI-PINCH]

#### NOTE:

The details of time display are as follows.

• CRNT: A malfunction is detected now.

• PAST: A malfunction was detected in the past.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data and IGN Counter, refer to BCS-13, "COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)".

CONSULT display	Fail-safe	Freeze Frame Data	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	—	-	—	_	BCS-33	
U1010: CONTROL UNIT(CAN)	_	—	—	_	BCS-34	
U0415: VEHICLE SPEED SIG	_	_	_	_	BCS-35	
B2013: ID DISCORD BCM-S/L	×	×	—	—	<u>SEC-54</u>	
B2014: CHAIN OF S/L-BCM	×	×	—	—	<u>SEC-55</u>	
B2190: NATS ANTTENA AMP	×	_	_	_	<u>SEC-46</u>	
B2191: DIFFERENCE OF KEY	×	_	_	_	<u>SEC-49</u>	
B2192: ID DISCORD BCM-ECM	×	—	_	_	<u>SEC-50</u>	
B2193: CHAIN OF BCM-ECM	×	—	_	_	<u>SEC-52</u>	
B2195: ANTI SCANNING	×	—	_	_	<u>SEC-53</u>	
B2553: IGNITION RELAY	_	×	—	_	PCS-50	
B2555: STOP LAMP	_	×	—	_	<u>SEC-58</u>	
B2556: PUSH-BTN IGN SW	_	×	×	_	<u>SEC-60</u>	
B2557: VEHICLE SPEED	×	×	×	_	<u>SEC-62</u>	
B2560: STARTER CONT RELAY	×	×	×	_	<u>SEC-63</u>	
B2562: LOW VOLTAGE	_	×	—	_	BCS-36	
B2563: HI VOLTAGE	×	×	×	_	BCS-37	
B2601: SHIFT POSITION	×	×	×	_	<u>SEC-64</u>	
B2602: SHIFT POSITION	×	×	×	_	<u>SEC-67</u>	
B2603: SHIFT POSI STATUS	×	×	×	_	<u>SEC-69</u>	
B2604: PNP SW	×	×	×	_	<u>SEC-72</u>	
B2605: PNP SW	×	×	×	_	<u>SEC-74</u>	
B2606: S/L RELAY	×	×	×	_	<u>SEC-76</u>	
B2607: S/L RELAY	×	×	×	_	<u>SEC-77</u>	
B2608: STARTER RELAY	×	×	×	_	<u>SEC-79</u>	
B2609: S/L STATUS	×	×	×	_	<u>SEC-81</u>	
B260A: IGNITION RELAY	×	×	×	—	PCS-52	
B260B: STEERING LOCK UNIT	_	×	×	—	<u>SEC-85</u>	
B260C: STEERING LOCK UNIT	_	×	×	—	<u>SEC-86</u>	
B260D: STEERING LOCK UNIT	_	×	×	—	<u>SEC-87</u>	
B260F: ENG STATE SIG LOST	×	×	×	—	<u>SEC-88</u>	
B2611: ACC RELAY	_	×	_		PCS-54	
B2612: S/L STATUS	×	×	×		<u>SEC-90</u>	
B2614: ACC RELAY CIRC		×	×		PCS-57	

Revision: 2008 September

#### < ECU DIAGNOSIS INFORMATION >

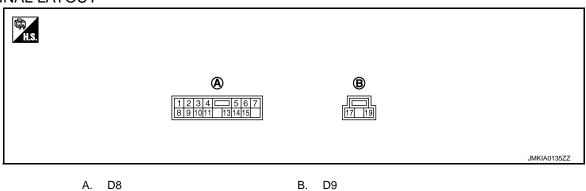
CONSULT display	CONSULT display Fail-safe Freeze F		Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	A
B2615: BLOWER RELAY CIRC	—	×	×		PCS-60	•
B2616: IGN RELAY CIRC	—	×	×	—	PCS-63	В
B2617: STARTER RELAY CIRC	×	×	×		<u>SEC-94</u>	
B2618: BCM	×	×	×	—	PCS-66	C
B2619: BCM	×	×	×	—	<u>SEC-96</u>	0
B261A: PUSH-BTN IGN SW	—	×	×	_	<u>SEC-97</u>	
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	_	<u>SEC-100</u>	D
B2621: INSIDE ANTENNA	_	×	—	—	DLK-61	
B2622: INSIDE ANTENNA	—	×	—	_	DLK-63	E
B2623: INSIDE ANTENNA		×	—		<u>DLK-65</u>	
B26E1: ENG STATE NO RES	×	×	×	—	<u>SEC-89</u>	F
C1704: LOW PRESSURE FL	—	—	—	×	<u>WT-15</u>	. Г
C1705: LOW PRESSURE FR	—	—	—	×	<u>WT-15</u>	•
C1706: LOW PRESSURE RR	—	_	—	×	<u>WT-15</u>	G
C1707: LOW PRESSURE RL	—	—	—	×	<u>WT-15</u>	
C1708: [NO DATA] FL	—	—	—	×	<u>WT-17</u>	
C1709: [NO DATA] FR	—	_	—	×	<u>WT-17</u>	-  -
C1710: [NO DATA] RR	—	—	—	×	<u>WT-17</u>	
C1711: [NO DATA] RL	_	—	—	×	<u>WT-17</u>	
C1712: [CHECKSUM ERR] FL	_	—	—	×	<u>WT-20</u>	
C1713: [CHECKSUM ERR] FR	_	_	—	×	<u>WT-20</u>	
C1714: [CHECKSUM ERR] RR	—	_	—	×	<u>WT-20</u>	J
C1715: [CHECKSUM ERR] RL	—	_	—	×	<u>WT-20</u>	
C1716: [PRESSDATA ERR] FL	_	—	—	×	<u>WT-23</u>	P٧
C1717: [PRESSDATA ERR] FR	_	—	—	×	<u>WT-23</u>	
C1718: [PRESSDATA ERR] RR	—	_	—	×	<u>WT-23</u>	•
C1719: [PRESSDATA ERR] RL	—	—	—	×	<u>WT-23</u>	L
C1720: [CODE ERR] FL	_	_	—	×	<u>WT-25</u>	
C1721: [CODE ERR] FR	—	—		×	<u>WT-25</u>	N
C1722: [CODE ERR] RR	—	—	—	×	<u>WT-25</u>	1.0
C1723: [CODE ERR] RL	—	—	—	×	<u>WT-25</u>	•
C1724: [BATT VOLT LOW] FL	—	—	—	×	<u>WT-28</u>	N
C1725: [BATT VOLT LOW] FR	—	—		×	<u>WT-28</u>	
C1726: [BATT VOLT LOW] RR	—	-	—	×	<u>WT-28</u>	0
C1727: [BATT VOLT LOW] RL	—	—	—	×	<u>WT-28</u>	0
C1729: VHCL SPEED SIG ERR				×	<u>WT-31</u>	
C1734: CONTROL UNIT	_	_	—	×	<u>WT-32</u>	P

# < ECU DIAGNOSIS INFORMATION >

# POWER WINDOW MAIN SWITCH

### Reference Value

INFOID:000000001834193



#### PHYSICAL VALUES

#### POWER WINDOW MAIN SWITCH

Terminal No. (wire color)		Description		Condition	Voltage [V]	
+	-	Signal name	Input/ Output	Condition	(Approx.)	
1 (W)	Ground	Rear power window motor LH DOWN signal	Output	When rear LH switch in pow- er window main switch is DOWN at operated.	Battery voltage	
2 (LG)	Ground	Encoder ground	_	_	0	
3 (GR)	Ground	Rear power window motor LH UP signal	Output	When rear LH switch in pow- er window main switch is UP at operated.	Battery voltage	
4 (V)	Ground	Door key cylinder switch LOCK signal	Input	Key position (Neutral $\rightarrow$ Locked)	$5 \rightarrow 0$	
5 (O)	Ground	Rear power window motor RH UP signal	Output	When rear RH switch in pow- er window main switch is UP at operated.	Battery voltage	
6 (Y)	Ground	Door key cylinder switch UNLOCK signal	Input	Key position (Neutral $\rightarrow$ Unlocked)	$5 \rightarrow 0$	
7 (BR)	Ground	Rear power window motor RH DOWN signal	Output	When rear RH switch in pow- er window main switch is DOWN at operated.	Battery voltage	
8 (L)	11 (G)	Front driver side power window motor UP signal	Output	When front LH switch in power window main switch is UP at operated.	Battery voltage	
9 (O)	2 (LG)	Encoder pulse signal 2	Input	When power window motor operates.	(V) 6 4 2 0 10 ms JMKIA0070GB	

## **POWER WINDOW MAIN SWITCH**

# < ECU DIAGNOSIS INFORMATION >

## [FRONT 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 igni- tion switch is turned to OFF	Battery voltage	
(SB) Ground				When driver side or passen- ger side door is opened dur- ing retained power operation	0	
11 (G)	8 (L)	Front driver side power window motor DOWN signal	Output	When front LH switch in power window main switch is DOWN at operated.	Battery voltage	
13 (P)	2 (LG)	Encoder pulse signal 1	Input	When power window motor operates.	(V) 6 4 2 0 10 ms JMKIA0070GB	
14 (V)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	(V) 15 0 10 10 10 10 10 10 10 10 10	
15 (B)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer oper- ates.	12	
17 (B)	Ground	Ground	_	_	0	
19 (Y)	Ground	Battery power supply	Input	—	Battery voltage	

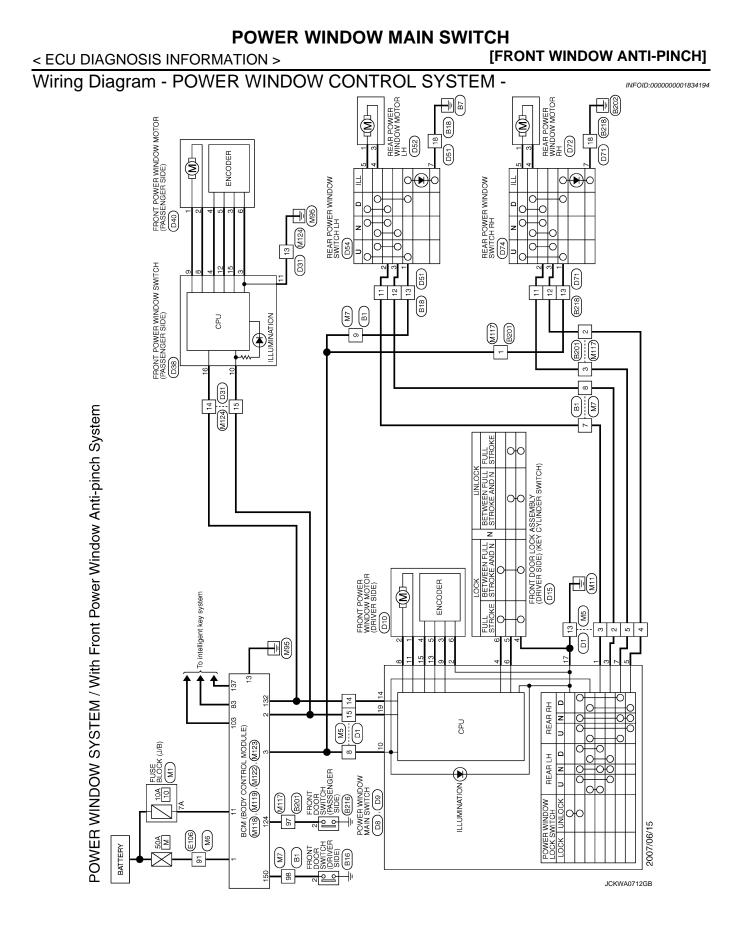
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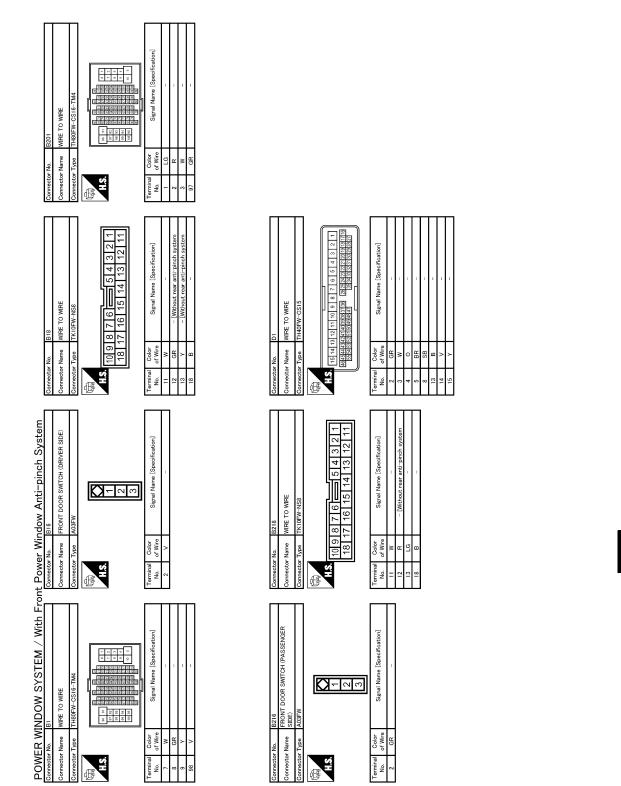
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## [FRONT WINDOW ANTI-PINCH]

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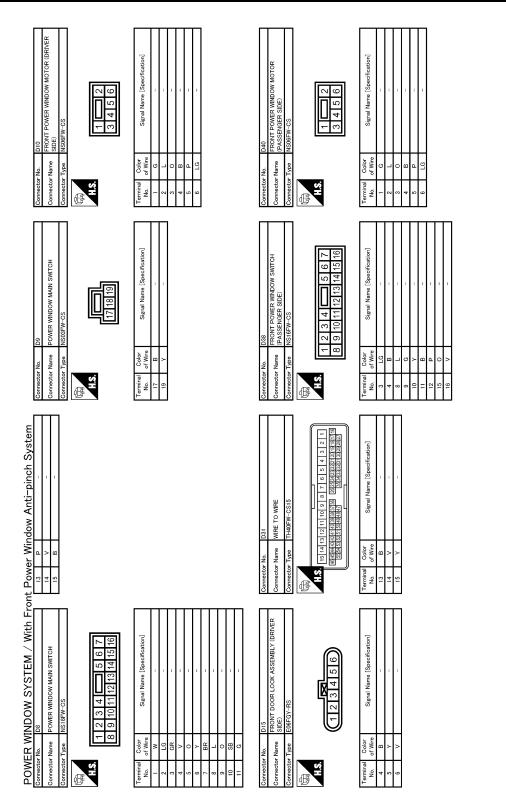
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Revision: 2008 September

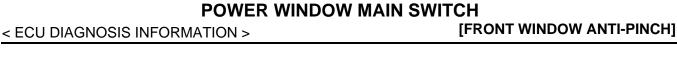
## **POWER WINDOW MAIN SWITCH**

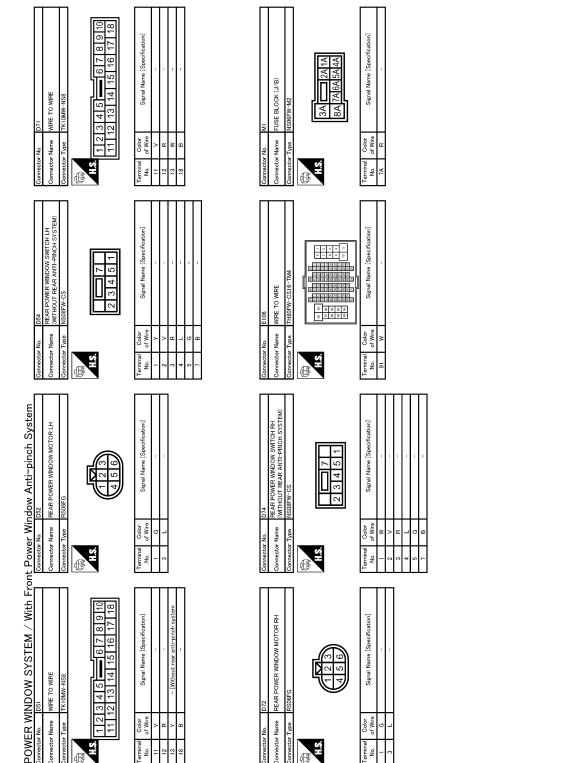
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[FRONT WINDOW ANTI-PINCH]



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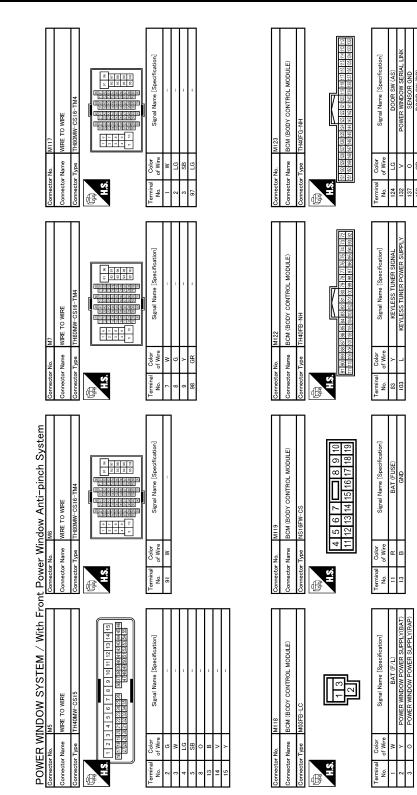
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## < ECU DIAGNOSIS INFORMATION >



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< ECU DIAGNOSIS INFORMATION >	[FRONT WINDOW ANTI-PINCH]
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Window A	PW
Power	L
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POWER WINDOW SYSTEM / With Front Powerscher       Connector Name     With To With       Connector Name     With To With       Connector Name     Mild       Connector Name     Connector       Connector Name     Connector       Connector Name     Connector       Connector Name     Connector       Connector     Signal Name       Connector     Signal Name       Connector     Connector       Connector     Signal Name       Connector     Connector       Connector     C	Ν
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**POWER WINDOW MAIN SWITCH** 

## Fail Safe

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## 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.

## **POWER WINDOW MAIN SWITCH**

#### < ECU DIAGNOSIS INFORMATION >

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.

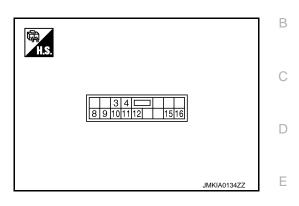
- Auto-up operation
- Anti-pinch function
- Retained power function

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.

## < ECU DIAGNOSIS INFORMATION >

# FRONT POWER WINDOW SWITCH

## **Reference Value**



## PHYSICAL VALUES

## FRONT POWER WINDOW SWITCH

Terminal No. (wire color)		Description		Condition	Voltage [V]	G
+	-	Signal name	Input/ Output	Condition	(Approx.)	Н
3 (LG)	Ground	Encoder ground		_	0	
4 (B)	Ground	Encoder power supply	Output	When ignition switch ON or pow- er window timer operates	12	I
8 (L)	9 (G)	Power window motor DOWN signal	Output	When power window motor is DOWN at operated.	Battery voltage	J
9 (G)	8 (L)	Power window motor UP signal	Output	When power window motor is UP at operated.	Battery voltage	
10 (Y)	Ground	Battery power supply	Input	_	Battery voltage	PW
11 (B)	Ground	Ground		_	0	L
12 (P)	3 (LG)	Encoder pulse signal 1	Input	When power window motor oper- ates.	(V) 6 2 0 10 ms JMKIA0070GB	M

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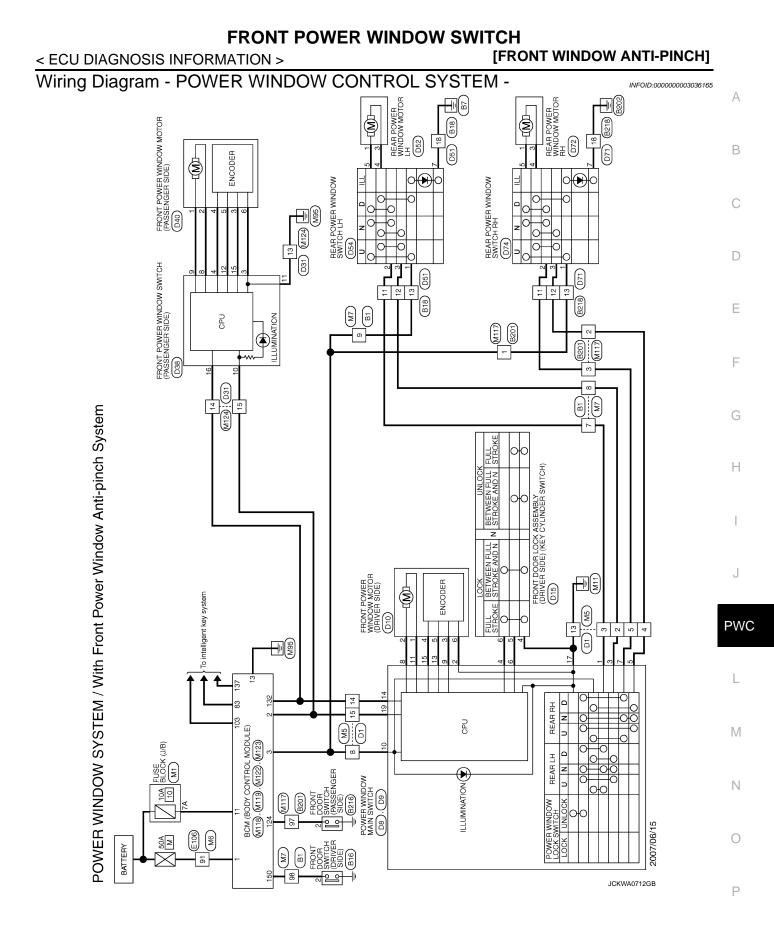
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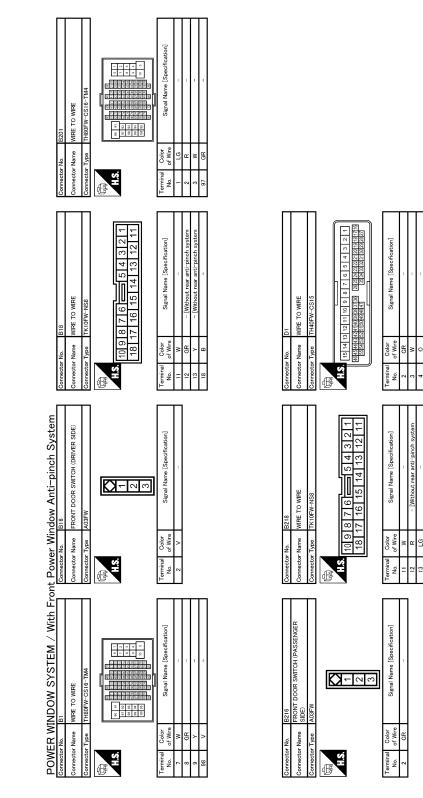
## FRONT POWER WINDOW SWITCH

## < ECU DIAGNOSIS INFORMATION >

## [FRONT WINDOW ANTI-PINCH]

Terminal No. (wire color)		Description		Condition	Voltage [V]		
+	-	Signal name	Input/ Output	Condition	(Approx.)		
15 (O)	3 (LG)	Encoder pulse signal 2	Input	When power window motor oper- ates.	(V) 6 2 0 10 ms JMKIA0070GB		
16 (V)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	(V) 15 10 5 0 10 ms JPMIA0013GB		



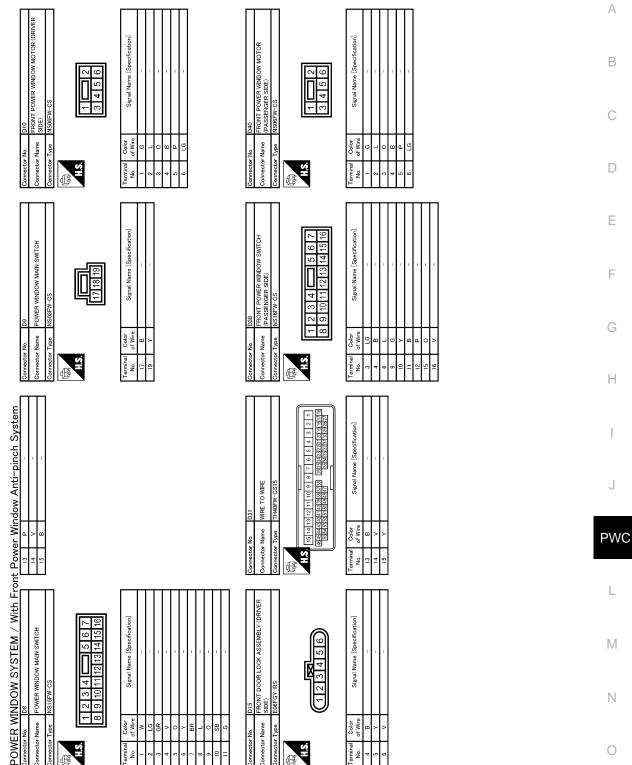


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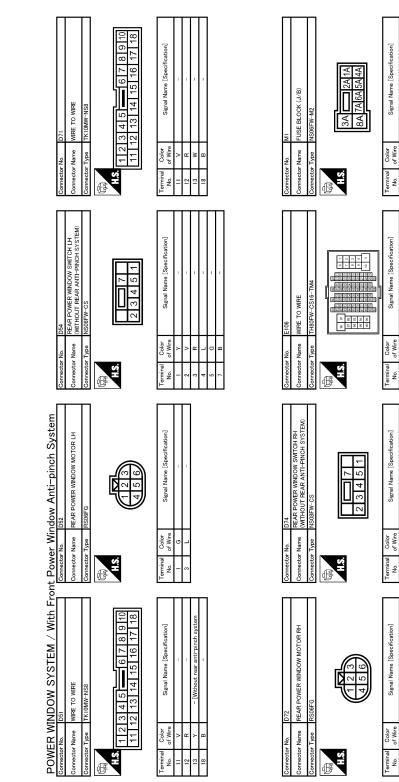
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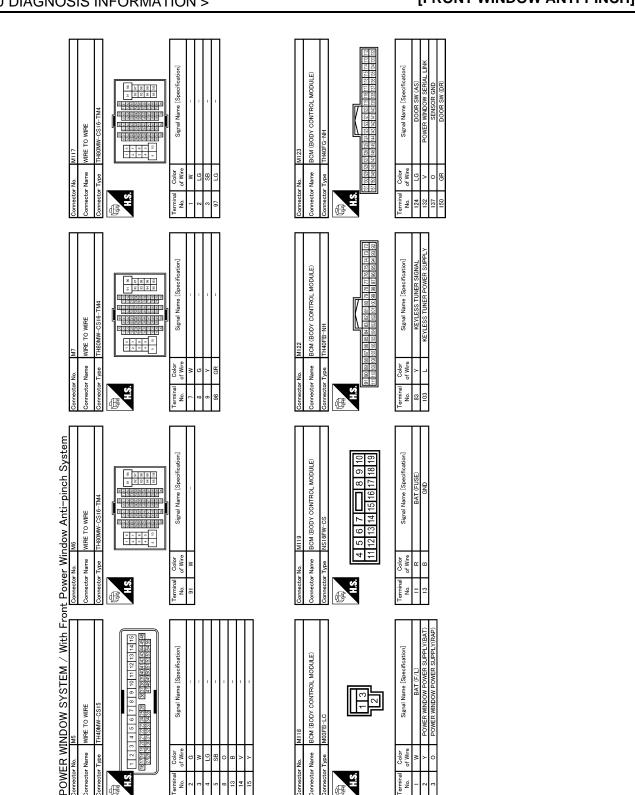
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Revision: 2008 September



# FRONT POWER WINDOW SWITCH

## < ECU DIAGNOSIS INFORMATION >

[FRONT WINDOW ANTI-PINCH]

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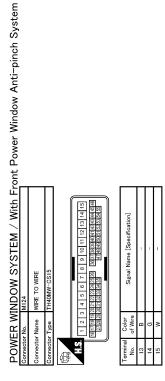
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Revision: 2008 September

JCKWA0716GB



## Fail Safe

JCKWA0717GB

INFOID:000000001834198

## 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.

## FRONT POWER WINDOW SWITCH

#### < ECU DIAGNOSIS INFORMATION >

[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.

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# NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

< SYMPTOM DIAGNOSIS >

[FRONT WINDOW ANTI-PINCH]

# SYMPTOM DIAGNOSIS

## NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

**Diagnosis** Procedure

INFOID:000000003025965

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit. Refer to PWC-14, "BCM : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

**2.**CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

- YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".
- NO >> GO TO 1.

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DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE	A
Diagnosis Procedure	INFOID:000000003009628
<b>1.</b> CHECK POWER WINDOW MAIN SWITCH POWER SUPPLY AND GROUND CIRCUIT	В
Check power window switch power supply and ground circuit. Refer to <u>PWC-123</u> , "POWER WINDOW MAIN SWITCH : Diagnosis Procedure".	
Is the inspection result normal?	С
YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts.	
2. CHECK DRIVER SIDE POWER WINDOW MOTOR	D
Check driver side power window motor. Refer to <u>PWC-129, "DRIVER SIDE : Component Function Check"</u> .	F
Is the measurement value within the specification?	
YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts.	F
3.CONFIRM THE OPERATION	
Confirm the operation again.	G
Is the result normal?	9
YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> . NO >> GO TO 1.	
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## FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [FRONT WINDOW ANTI-PINCH]

FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE POWER WINDOW MAIN SWITCH IS OPERATED

POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure INFOLD:00000003036014

**1.**CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) SERIAL LINK CIRCUIT

Check front power window switch (passenger side) serial link circuit. Refer to <u>PWC-142</u>, "FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Component Function <u>Check</u>".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-39. "Intermittent Incident".

NO >> GO TO 1.

FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED

FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED : Diagnosis
Procedure

**1.**REPLACE FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Replace front power window switch (passenger side). Refer to <u>PWC-210, "Removal and Installation"</u>

>> INSPECTION END WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW SWITCH ARE OPERATED

WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW SWITCH ARE OPERATED : Diagnosis Procedure

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

Check front power window switch (passenger side) power supply and ground circuit. Refer to <u>PWC-124, "FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

**2.**CHECK PASSENGER SIDE POWER WINDOW MOTOR CIRCUIT

Check passenger side power window motor circuit.

Refer to <u>PWC-130, "PASSENGER SIDE : Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

**3.**CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> GO TO 1.

Revision: 2008 September

PWC-200

REAR LH SIDE POWER WINDOW ALONE DO	ES NOT OPERATE
< SYMPTOM DIAGNOSIS >	[FRONT WINDOW ANTI-PINCH]
REAR LH SIDE POWER WINDOW ALONE DOES	
POWER WINDOW MAIN SWITCH IS OPERATED	A
POWER WINDOW MAIN SWITCH IS OPERATED : Diag	nosis Procedure INFOID:000000003036017
1.CHECK REAR POWER WINDOW SWITCH	
Check rear power window switch . Refer to <u>PWC-127</u> , "Component Function Check".	C
Is the inspection result normal?	
YES >> GO TO 2.	D
NO >> Repair or replace the malfunctioning parts.	
2.CONFIRM THE OPERATION	
Confirm the operation again. Is the result normal?	E
YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident</u>	lent".
NO >> GO TO 1.	F
REAR POWER WINDOW SWITCH LH IS OPERATED	
REAR POWER WINDOW SWITCH LH IS OPERATED :	Diagnosis Procedure
1. CHECK REAR POWER WINDOW SWITCH POWER SUPPLY AND C	
Check rear power window switch power supply and ground circuit. Refer to <u>PWC-125</u> , "REAR POWER WINDOW SWITCH : Diagnosis Proc	
Is the inspection result normal?	I
YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts.	
2. REPLACE REAR POWER WINDOW SWITCH LH	
Replace rear power window switch LH.	
Refer to <u>PWC-210, "Removal and Installation"</u> .	PV
>> INSPECTION END WHEN BOTH POWER WINDOW MAIN SWITCH AND SWITCH LH ARE OPERATED	
WHEN BOTH POWER WINDOW MAIN SWITCH AND R SWITCH LH ARE OPERATED : Diagnosis Procedure	
<b>1.</b> CHECK REAR POWER WINDOW MOTOR LH	Ν
Check rear power window motor LH.	
Refer to <u>PWC-132</u> , " <u>REAR LH</u> : <u>Component Function Check</u> ". <u>Is the inspection result normal?</u>	C
YES >> GO TO 2.	
NO >> Repair or replace the malfunctioning parts.	
2.CONFIRM THE OPERATION	F
Confirm the operation again.	
<u>Is the result normal?</u>	lont"
YES >> Check intermittent incident. Refer to <u>GI-39. "Intermittent Incident</u> NO >> GO TO 1.	<u>, 10, 11, 10, 10, 10, 10, 10, 10, 10, 10</u>

## REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [FRONT WINDOW ANTI-PINCH]

## REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE POWER WINDOW MAIN SWITCH IS OPERATED

POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure INFOLD:00000003036525

**1.**CHECK REAR POWER WINDOW SWITCH

Check rear power window switch . Refer to <u>PWC-127</u>, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> GO TO 1.

REAR POWER WINDOW SWITCH RH IS OPERATED

## REAR POWER WINDOW SWITCH RH IS OPERATED : Diagnosis Procedure

INFOID:000000003036526

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

Check rear power window switch power supply and ground circuit. Refer to <u>PWC-125. "REAR POWER WINDOW SWITCH : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

**2.**REPLACE REAR POWER WINDOW SWITCH RH

Replace rear power window switch RH. Refer to <u>PWC-210, "Removal and Installation"</u>.

>> INSPECTION END WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED

WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED : Diagnosis Procedure

**1.**CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH. Refer to <u>PWC-133. "REAR RH : Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-39. "Intermittent Incident"</u>.

NO >> GO TO 1.

ANTI-PINCH FUNCTION DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [FRONT WINDOW ANTI-PINCH]
ANTI-PINCH FUNCTION DOES NOT OPERATE
DRIVER SIDE
DRIVER SIDE : Diagnosis Procedure
1. PERFORM INITIALIZATION PROCEDURE
Initialization procedure is executed and operation is confirmed. Refer to <u>PWC-116, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Require-</u> ment".
Is the inspection result normal? YES >> INSPECTION END NO >> GO TO 2.
2. CHECK ENCODER (DRIVER SIDE) CIRCUIT
Check encoder (driver side) circuit. Refer to <u>PWC-136, "DRIVER SIDE : Component Function Check"</u> .
<u>Is the inspection result normal?</u> YES >> GO TO 3.
YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts.
3. CONFIRM THE OPERATION
Confirm the operation again.
<u>Is the result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> . NO >> GO TO 1. PASSENGER SIDE
PASSENCER SIDE : Diagnosis Procedure
1.PERFORM INITIALIZATION PROCEDURE
Initialization procedure is executed and operation is confirmed. Refer to <u>PWC-116, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Require-</u> <u>ment"</u> .
Is the inspection result normal?
YES >> INSPECTION END NO >> GO TO 2.
2. CHECK ENCODER (PASSENGER SIDE) CIRCUIT
Check encoder (passenger side) circuit.
Refer to <u>PWC-138, "PASSENGER SIDE : Component Function Check"</u> . Is the inspection result normal?
YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.
3.CONFIRM THE OPERATION
Confirm the operation again. <u>Is the result normal?</u>
YES >> Check intermittent incident. Refer to <u>GI-39. "Intermittent Incident"</u> . NO >> GO TO 1.

## AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMAL-

	LY
< SYMPTOM DIAGNOSIS >	[FRONT WINDOW ANTI-PINCH]
AUTO OPERATION DOES NOT	OPERATE BUT MANUAL OPERATE NOR-

MALLY **DRIVER SIDE** 

DRIVER SIDE : Diagnosis Procedure

INFOID:000000003009636

**1**.PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed. Refer to PWC-116, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement". Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK ENCODER (DRIVER SIDE) CIRCUIT

Check encoder (driver side) circuit. Refer to PWC-136, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

 ${
m 3.}$  CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> GO TO 1.

PASSENGER SIDE

**PASSENGER SIDE : Diagnosis Procedure** 

INFOID:000000003009637

## **1**. PERFORM INITIALIZAITON PROCEDURE

Initialization procedure is executed and operation is confirmed. Refer to PWC-116, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

>> INSPECTION END YES

NO >> GO TO 2.

2.CHECK ENCODER (PASSENGER SIDE) CIRCUIT

Check encoder (passenger side) circuit.

Refer to PWC-138, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

 ${f 3.}$ CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> GO TO 1.

# POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >		[FRO		OW AN	[I-PINCH]
POWER WINDOW RETA	AINED POWER	OPERATION	DOES	NOT	OPER-
ATE PROPERLY					

Diagnosis Procedure	INFOID:000000003009640	В
1.CHECK DOOR SWITCH		D
Check door switch. Refer to <u>DLK-68, "Component Function Check"</u> .		С
<u>Is the inspection result normal?</u> YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. <b>2.</b> CONFIRM THE OPERATION		D
Confirm the operation again. <u>Is the result normal?</u>		Е
YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> . NO >> GO TO 1.		F
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## DOES NOT OPERATE BY KEY CYLINDER SWITCH

< SYMPTOM DIAGNOSIS >

## DOES NOT OPERATE BY KEY CYLINDER SWITCH

Diagnosis Procedure

INFOID:000000003009641

[FRONT WINDOW ANTI-PINCH]

**1.**PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed. Refer to <u>PWC-116</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

 $2. {\sf CHECK \ DRIVER \ SIDE \ DOOR \ LOCK \ ASSEMBLY \ ({\sf KEY \ CYLINDER \ SWITCH})}$ 

Check driver side door lock assembly (key cylinder switch). Refer to <u>DLK-77, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

- YES >> Check intermittent incident. Refer to GI-39. "Intermittent Incident".
- NO >> GO TO 1.

# POWER WINDOW LOCK SWITCH DOES NOT FUNCTION < SYMPTOM DIAGNOSIS > [FRONT WINDOW ANTI-PINCH] POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

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Diagnosis Procedure	INFOID:000000001834211	~
1.REPLACE POWER WINDOW MAIN SWITCH		В
Replace power window main switch.		
>> Refer to PWC-210, "Removal and Installation".		С

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POWER WINDOW SWITCH ILL	UMINATION DOES NOT ILLUMINATE
< SYMPTOM DIAGNOSIS >	[FRONT WINDOW ANTI-PINCH]

## POWER WINDOW SWITCH ILLUMINATION DOES NOT ILLUMINATE DRIVER SIDE

DRIVER SIDE : Diagnosis Procedure	Э
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**1.**REPLACE POWER WINDOW MAIN SWITCH

Replace power window main switch. Refer to <u>PWC-210, "Removal and Installation"</u>.

>> INSPECTION END PASSENGER SIDE

**PASSENGER SIDE : Diagnosis Procedure** 

**1.**REPLACE FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Replace front power window switch (passenger side). Refer to <u>PWC-210, "Removal and Installation"</u>.

>> INSPECTION END

REAR LH

REAR LH : Diagnosis Procedure

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

Check rear power window switch power supply and ground circuit. Refer to <u>PWC-125. "REAR POWER WINDOW SWITCH : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.REPLACE REAR POWER WINDOW SWITCH LH

Replace rear power window switch LH. Refer to <u>PWC-210, "Removal and Installation"</u>.

>> INSPECTION END

REAR RH

**REAR RH : Diagnosis Procedure** 

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

Check rear power window switch power supply and ground circuit. Refer to <u>PWC-125. "REAR POWER WINDOW SWITCH : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

**2.**REPLACE REAR POWER WINDOW SWITCH RH

Replace rear power window switch RH. Refer to <u>PWC-210, "Removal and Installation"</u>.

>> INSPECTRION END

**PWC-208** 

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INFOID:000000001834213

INFOID:000000001834214

INFOID-000000001834212

# < 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 "SRS AIR BAG" and "SEAT BELT" 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 "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### WARNING:

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



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# REMOVAL AND INSTALLATION POWER WINDOW MAIN SWITCH

## Removal and Installation

## REMOVAL

- Remove the power window main switch finisher (2). Refer to <u>INT-11, "Removal and Installation"</u>.
- 2. Power window main switch (1) is removed from power window main switch finisher (2) using flat-head screw driver (A) etc.



## CAUTION:

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

The same procedure is also performed for front power window switch (passenger side) and rear power window switch (LH & RH).

## INSTALLATION

Install in the reverse order of removal.

#### NOTE:

Power window main switch is exchanged or is detached it is necessary to do the initialization procedure. Refer to <u>PWC-116, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"</u>.

