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DOES NOT OPERATE BY KEY CYLINDER

SWITCH 109

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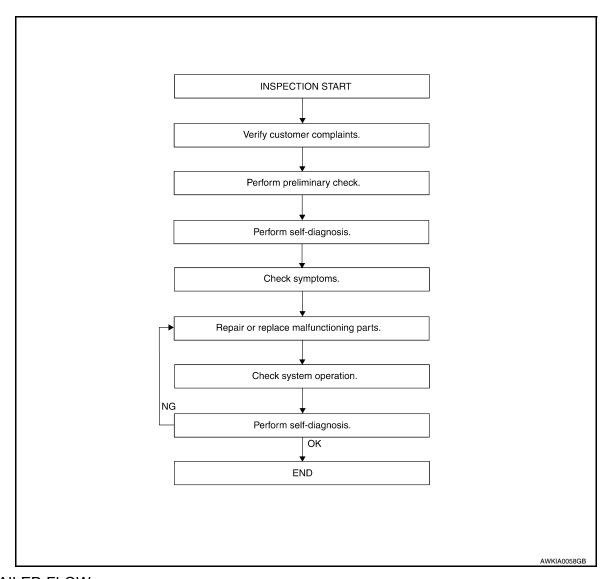
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

WORK FLOW



DETAILED FLOW

1. CUSTOMER INFORMATION

Interview the customer to obtain detailed information about the symptom.

>> GO TO 2

2. PRELIMINARY CHECK

Perform preliminary check. Refer to PWC-6, "System Diagram".

>> GO TO 3

3. SELF-DIAGNOSIS

Perform self-diagnosis. Refer to BCS-44, "DTC Index".

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

< BASIC INSPECTION >	
>> GO TO 4	А
4. SYMPTOM	
Check for symptoms. Refer to PWC-99, "Diagnosis Procedure".	В
>> GO TO 5	
5. MALFUNCTIONING PARTS	С
Repair or replace the applicable parts.	<u></u> ,
N 00 TO 0	D
>> GO TO 6 6. SYSTEM OPERATION	
Check system operation.	—— Е
>> GO TO 7 7. SELF-DIAGNOSIS	F
Perform self-diagnosis. Refer to <u>BCS-44, "DTC_Index"</u> .	
Are any DTCs indicated?	G
YES >> GO TO 5 NO >> Inspection End.	
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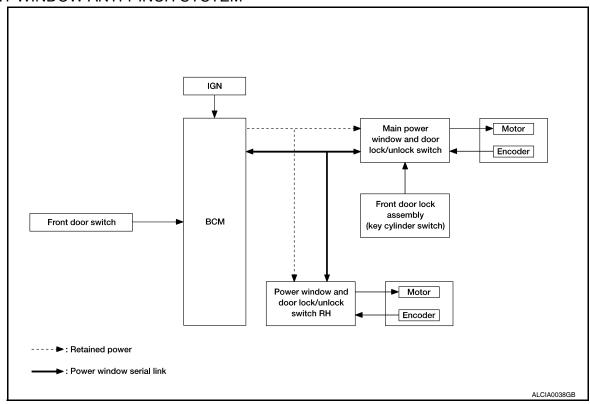
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SYSTEM DESCRIPTION

POWER WINDOW SYSTEM

System Diagram

FRONT WINDOW ANTI-PINCH SYSTEM



System Description

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POWER WINDOW MAIN SWITCH INPUT/OUTPUT SIGNAL CHART

Item	Input signal to main power window and door lock/unlock switch	Main power window and door lock/unlock switch function	Actuator	
Key cylinder switch	LOCK/UNLOCK signal (more than 1.5 seconds over)			
Encoder	Encoder pulse signal			
Main power window and door lock/unlock switch	Front power window motor LH UP/ DOWN signal	Power window control	Front power window motor	
Power window and door lock/unlock switch RH	Front power window motor RH UP/ DOWN signal	Power window control		
BCM	RAP signal			
Rear power window switch (Crew Cab)	Rear power window motor UP/DOWN signal		Rear power window motor	

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

POWER WINDOW SYSTEM

< SYSTEM DESCRIPTION >

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

POWER WINDOW OPERATION

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

REAR POWER DROP GLASS OPERATION (IF EQUIPPED)

- Rear power drop glass system is operable during the retained power operation timer after turning ignition switch ON and OFF.
- Rear power drop glass switch can open/close the rear power drop glass.

POWER WINDOW AUTO-OPERATION (FRONT LH & RH)

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

RETAINED POWER OPERATION

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

Retained power function cancel conditions

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

POWER WINDOW LOCK

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

ANTI-PINCH OPERATION (FRONT LH & RH)

- Pinch foreign material in the door glass during AUTO-UP operation, and it is the anti-pinch function that lowers the door glass 150 mm (5.91 in) 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 (5.91 in) or 2 seconds after it detects encoder pulse signal frequency change.

OPERATION CONDITION

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

NOTE:

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

KEY CYLINDER SWITCH OPERATION

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POWER WINDOW SYSTEM

< SYSTEM DESCRIPTION >

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

OPERATION CONDITION

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

KEYLESS POWER WINDOW DOWN OPERATION (FRONT LH & RH)

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

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

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

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

NOTE:

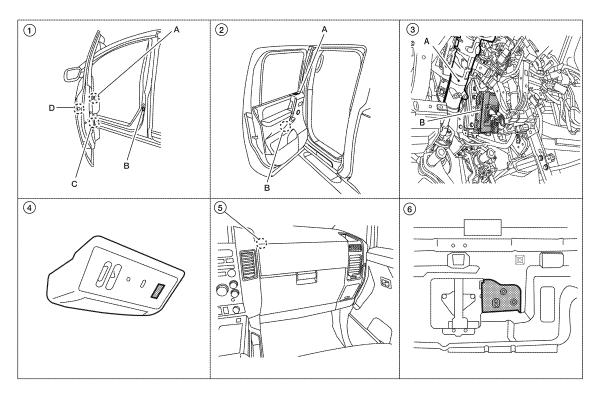
Keyless power window down operation mode can be changed by "PW DOWN SET" mode in "WORK SUP-PORT". Refer to BCS-18, "MULTI REMOTE ENT): CONSULT-III Function (BCM - MULTI REMOTE ENT)".

NOTE:

Use CONSULT-III to change settings. MODE1 (3sec)/MODE2 (OFF)/MODE3 (5sec)

Component Parts Location

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POWER WINDOW SYSTEM

< SYSTEM DESCRIPTION >

- A. Main power window and door lock/unlock switch D7, D8 (Crew Cab), D15 (King Cab) Power window and door lock/unlock switch RH D105
 B. Front door switch LH B8, RH B108
 C. Front power window motor LH D9,
- A. Rear power window switch LH D203, RH D303 (Crew Cab)
 B. Rear power window motor LH D204, RH D304 (Crew Cab)
- A. Steering column (view with instrument panel removed)
 B. BCM M18, M19, M20

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- D. Front door lock assembly LH (key cylinder switch) D14
- Rear power drop glass switch R103 5. (Crew Cab)
- Rear power drop glass up relay M154 (Crew Cab) Rear power drop glass down relay M155 (Crew Cab)
- Rear power drop glass motor B80 (view with rear finisher removed) (Crew Cab)

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Component Description

RH D104

POWER WINDOW SYSTEM

Front power window motor RH

Front door switch LH or RH

switch)

Rear power window motor (Crew Cab)

Rear power drop glass motor (Crew Cab)

Front door lock assembly LH (key cylinder

Component Function			
BCM	Supplies power supply to power window switch.Controls retained power.		
Main power window and door lock/unlock switch	 Directly controls all power window motor of all doors. Controls anti-pinch operation of front power window LH. 		
Power window and door lock/unlock switch RH	 Controls front power window motor RH. Controls anti-pinch operation of front power window RH. 		
Rear power window switch (Crew Cab)	Controls rear power window motors LH and RH.		
Rear power drop glass switch (Crew Cab)	Controls rear power drop glass motor.		
Front power window motor LH	 Integrates the ENCODER POWER and WINDOW MOTOR. Starts operating with signals from main power window and door lock/unlock switch. Transmits power window motor rotation as a pulse signal to main power window and 		

power window and door lock/unlock switch RH.

Starts operating with signal from rear power drop glass switch.

Detects door open/close condition and transmits to BCM.

Starts operating with signals from main power window and door lock/unlock switch &

Starts operating with signals from main power window and door lock/unlock switch &

Transmits operation condition of key cylinder switch to power window main switch.

door lock/unlock switch.

rear power window switch.

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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

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APPLICATION ITEM

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

Direct Diagnostic Mode	Description
Ecu Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	 The vehicle specification can be read and saved. The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION

BCM can perform the following functions.

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

RETAINED PWR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

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DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.

ACTIVE TEST

Test Item	Description
RETAINED PWR	This test is able to check retained power operation [Off/On].

WORK SUPPORT

Support Item	Setting		Description
RETAINED PWR SET	MODE3	2 min	
	MODE2	OFF	Sets the retained accessory power operating time.
	MODE1*	45 sec	

^{*:} Initial setting

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< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT CHECK (CREW CAB) POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH: Description

· BCM supplies power.

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

POWER WINDOW MAIN SWITCH: Component Function Check

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Main Power Window And Door Lock/Unlock Switch

${f 1}$. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH FUNCTION

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

>> Main power window and door lock/unlock switch power supply and ground circuit are OK. YES

NO >> Refer to PWC-12. "POWER WINDOW MAIN SWITCH: Diagnosis Procedure".

POWER WINDOW MAIN SWITCH: Diagnosis Procedure

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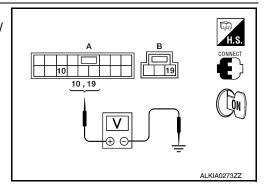
Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab".

CHECK POWER SUPPLY CIRCUIT

Turn ignition switch ON.

Check voltage between main power window and door lock/ unlock switch connectors (A and B) and ground.

(+)		Voltage (V)	
Main power window and door lock/unlock switch connector		(-)	(Approx.)
D7 (A)	10	Ground	Battery voltage
D8 (B)	19	Giouna	Dattery Voltage



Is the measurement value within the specification?

YES >> GO TO 3

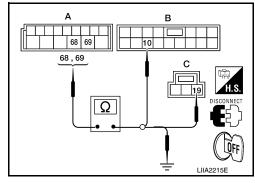
NO >> GO TO 2

2. CHECK HARNESS CONTINUITY

Turn ignition switch OFF.

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

BCM connector	Terminal	Main power window and door lock/unlock switch connector	Terminal	Continuity
M20 (A)	68	D7 (B)	10	Yes
IVIZU (A)	69	D8 (C)	19	165



< DTC/CIRCUIT DIAGNOSIS >

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

BCM connector	Terminal		Continuity
M20 (A)	68	Ground	No
W20 (A)	69		INO

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.

$3.\,$ CHECK GROUND CIRCUIT

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

Main power window and door lock/ unlock switch connector	Terminal	Ground	Continuity
D8	17		Yes

Is the inspection result normal?

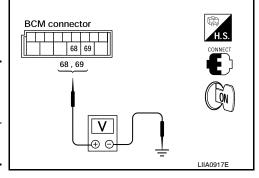
YES >> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".

NO >> Repair or replace harness.

4. CHECK BCM OUTPUT SIGNAL

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

(+)		(-)	Voltage (V) (Approx.)	
BCM connector	Terminal	(-)		
M20	68	Ground	Pattony voltago	
IVIZU	69	Giodila	Battery voltage	



Is the measurement value within the specification?

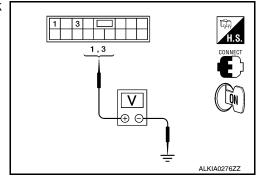
YES >> Check main power window and door lock/unlock switch output signal (rear power window switch LH) GO TO 5

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

NO >> Replace BCM. Refer to <u>BCS-53</u>, "Removal and Installation".

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

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



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< DTC/CIRCUIT DIAGNOSIS >

Te	erminal		Voltage (V)		
(+)				Window	
Main power window and door lock/unlock switch connector	Terminal	(–)	condition	(Approx.)	
	1	Ground	UP	Battery voltage	
D7			DOWN	0	
Di	3		UP	0	
			DOWN	Battery voltage	

Is the measurement value within the specification?

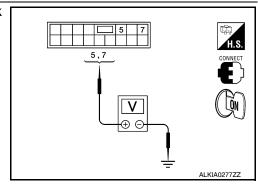
YES >> GO TO 7

NO >> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".

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

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

	Terminal			
(+)				
Main power win- dow and door lock/unlock switch connector	Terminal	(–)	Window condition	Voltage (V) (Approx.)
	7	7 Ground 5	UP	Battery voltage
D7	,		DOWN	0
D/	5		UP	0
			DOWN	Battery voltage



Is the measurement value within the specification?

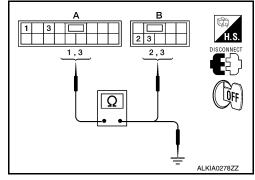
YES >> GO TO 8

NO >> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".

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

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

Main power window and door lock/unlock switch connector	Terminal	Rear power window switch LH connector	Terminal	Continuity
D7	1	D203	2	Yes
Ul	3	D203	3	162



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

Main power window and door lock/unlock switch connector	Terminal		Continuity
D7	1	Ground	No
	3		NO

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

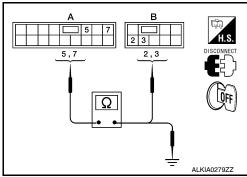
YES >> GO TO 9

NO >> Repair or replace harness.

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

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

Main power window and door lock/unlock switch connector	Terminal	Rear power window switch RH connector	Terminal	Continuity
D7	5	D303	3	Yes
υi	7	D303	2	103



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

Main power window and door lock/unlock switch connector	Terminal	O a a d	Continuity
	5	Ground	No
D1	7		NO

Is the inspection result normal?

YES >> GO TO 9

NO

NO >> Repair or replace harness.

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

Check main power window and door lock/unlock switch.

Refer to PWC-15, "POWER WINDOW MAIN SWITCH: Component Inspection".

Is the inspection result normal?

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

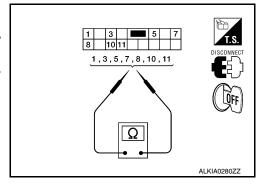
>> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".

POWER WINDOW MAIN SWITCH: Component Inspection

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

Check main power window and door lock/unlock switch.

Terr	minal	Main power window and door lock/un- lock switch condition		Continuity
10	1	Rear LH	UP	
10	7	Rear RH	OF .	
1	3	Rear LH	NEUTRAL	Yes
5	7	Rear RH	NEOTIVAL	163
10	3	Rear LH	DOWN	
10	5	Rear RH	DOWN	



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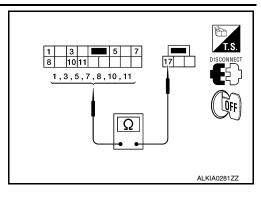
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< DTC/CIRCUIT DIAGNOSIS >

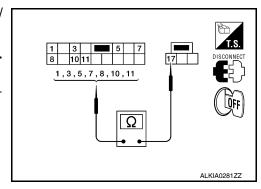
Check continuity between main power window and door lock/ unlock switch (power window lock switch). (Lock operation).

Tern	ninal	Main power window and door lock/unlock switch condition		•		Continuity
3		Rear LH	UP			
5		Rear RH	OI OI			
1		Rear LH		No		
3	17	Near Lit	NEUTRAL			
5	17	Rear RH				
7		ixeai ixii				
1		Rear LH	DOWN			
7		Rear RH	DOWN			



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

Terr	minal	Main power window and door lock/unlock switch condition		·		Continuity
3		Rear LH	UP			
5		Rear RH	O1			
1		Rear LH	NEUTRAL	Yes		
3	17	Real Ell				
5	17	Rear RH				
7		real ref				
1		Rear LH	DOWN			
7		Rear RH	BOWN			



Is the inspection result normal?

YES >> Main power window and door lock/unlock switch is OK.

NO >> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".

FRONT POWER WINDOW SWITCH

FRONT POWER WINDOW SWITCH: Description

INFOID:0000000006161034

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

FRONT POWER WINDOW SWITCH : Component Function Check

INFOID:0000000006161035

Power Window And Door Lock/Unlock Switch RH

${f 1}$. CHECK FRONT POWER WINDOW MOTOR RH FUNCTION

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

YES >> Power window and door lock/unlock switch RH power supply and ground circuit are OK.

NO >> Refer to PWC-16, "FRONT POWER WINDOW SWITCH: Diagnosis Procedure".

FRONT POWER WINDOW SWITCH: Diagnosis Procedure

INFOID:0000000006161036

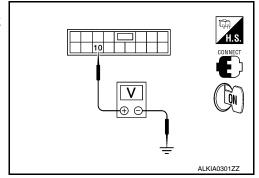
Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab".

< DTC/CIRCUIT DIAGNOSIS >

1. CHECK POWER SUPPLY CIRCUIT

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

Terr			
(+)			Voltage (V)
Power window and door lock/ unlock Terminal switch RH connector		(–)	(Approx.)
D105	10	Ground	Battery voltage



Is the measurement value within the specification?

YES >> GO TO 3

NO >> GO TO 2

2. CHECK HARNESS CONTINUITY

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

BCM connector	Terminal	Power window and door lock/unlock switch RH connector	Terminal	Continuity
M20 (A)	69	D105 (B)	10	Yes



BCM connector	Terminal	Ground	Continuity
M20 (A)	69	Ground	No

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

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

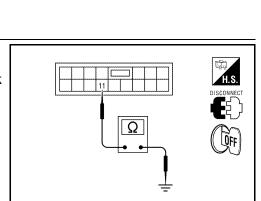
Power window and door lock/unlock switch RH	Terminal	Ground	Continuity
D105	11		Yes

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-116, "Removal and Installation".

NO >> Repair or replace harness.

CHECK BCM OUTPUT SIGNAL



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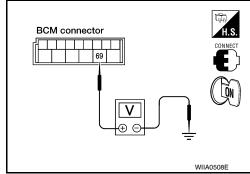
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< DTC/CIRCUIT DIAGNOSIS >

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

(+)	(+)		Voltage (V) (Approx.)
BCM connector	Terminal	(-)	, , ,
M20	69	Ground	Battery voltage



Is the measurement value within the specification?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-116, "Removal and Installation".

NO >> Replace BCM. Refer to BCS-53, "Removal and Installation".

REAR POWER WINDOW SWITCH

REAR POWER WINDOW SWITCH: Description

INFOID:0000000006161037

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

REAR POWER WINDOW SWITCH: Component Function Check

INFOID:0000000006161038

Rear Power Window Switch

${f 1}$. CHECK REAR POWER WINDOW MOTOR FUNCTION

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

YES >> Rear power window switch power supply and ground circuit are OK.

NO >> Refer to PWC-18, "REAR POWER WINDOW SWITCH: Diagnosis Procedure".

REAR POWER WINDOW SWITCH: Diagnosis Procedure

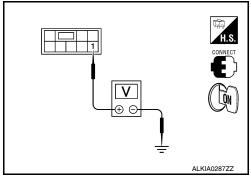
INFOID:0000000006161039

Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab".

1. CHECK POWER SUPPLY CIRCUIT

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

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



Is the measurement value within the specification?

YES >> GO TO 2 (Rear power window switch LH)

YES >> GO TO 3 (Rear power window switch RH)

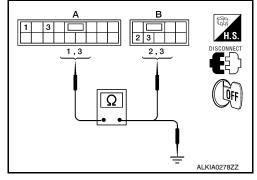
NO >> GO TO 4

${f 2}.$ CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH LH)

< DTC/CIRCUIT DIAGNOSIS >

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

Main power window and door lock/unlock switch connector	Terminal	Rear power window switch LH connector	Terminal	Continuity
D7 (A)	1	D203 (B)	2	Yes
DI (A)	3	D203 (B)	3	163



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

Main power window and door lock/un- lock switch connector	Terminal		Continuity
D7 (A)	1	Ground	No

Is the inspection result normal?

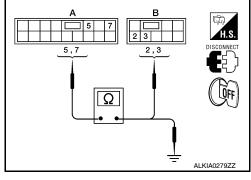
YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> Repair or replace harness.

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

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

Main power window and door lock/unlock switch connector	Terminal	Rear power window switch RH connector	Terminal	Continuity
D7 (A)	5	D303 (B)	3	Yes
Di (A)	7	D303 (B)	2	163



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

Main power window and door lock/unlock switch connector	Terminal		Continuity
D7 (A)	5	Ground	No
Dr (A)	7		INO

Is the inspection result normal?

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

NO >> Repair or replace harness.

4. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.

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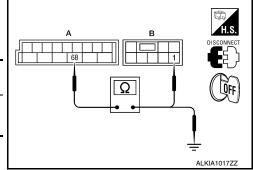
< DTC/CIRCUIT DIAGNOSIS >

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

BCM connector	Terminal	Rear power window switch connector		Terminal	Continuity
M20 (A)	68	LH	D203 (B)	1	Yes
IVIZO (A)	08	RH	D303 (B)	'	103

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

BCM connector	Terminal	Ground	Continuity
M20 (A)	68	Oround	No



Is the inspection result normal?

YES >> GO TO 5

NO >> Repair or replace harness.

5. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

Refer to PWC-20, "REAR POWER WINDOW SWITCH: Component Inspection".

Is the inspection result normal?

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

NO >> Replace rear power window switch. Refer to PWC-117, "Removal and Installation - Rear Door Switch".

REAR POWER WINDOW SWITCH: Component Inspection

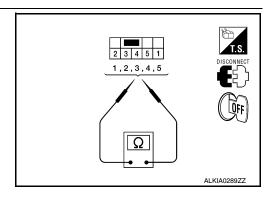
INFOID:000000000616104

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

Terr	minal	Power window switch condition	Continuity
1	5	DOWN	
3	4	DOWN	
3	4	NEUTRAL	Yes
5	2	NEOTIVAL	163
1	4	UP	
5	2	- UF	



Is the inspection result normal?

YES >> Rear power window switch is OK.

NO >> Replace rear power window switch. Refer to PWC-117, "Removal and Installation - Rear Door Switch".

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT CHECK (KING CAB) POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH: Description

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

POWER WINDOW MAIN SWITCH: Component Function Check

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Main Power Window And Door Lock/Unlock Switch

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

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

YES >> Main power window and door lock/unlock switch power supply and ground circuit are OK.

NO >> Refer to PWC-21, "POWER WINDOW MAIN SWITCH: Diagnosis Procedure".

POWER WINDOW MAIN SWITCH: Diagnosis Procedure

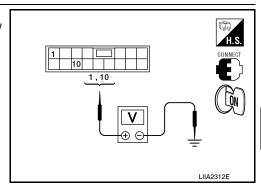
INFOID:0000000006161043

Regarding Wiring Diagram information, refer to PWC-81, "Wiring Diagram - King Cab".

1. CHECK POWER SUPPLY CIRCUIT

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

(+)			Voltage (V)
Main power window and door lock/unlock switch connector	Terminal	(-)	(Approx.)
D15	1	Ground	Battery voltage
Б13	10	Ground	Dattery voltage



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Is the measurement value within the specification?

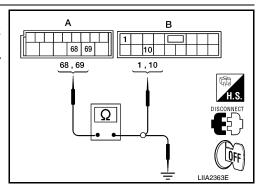
YES >> GO TO 3 NO >> GO TO 2

2. CHECK HARNESS CONTINUITY

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

BCM connector	Terminal	Main power window and door lock/unlock switch connector	Terminal	Continuity
M20 (A)	68	D15 (B)	10	Yes
IVIZU (A)	69	D 13 (B)	1	162

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



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< DTC/CIRCUIT DIAGNOSIS >

BCM connector	Terminal		Continuity
M20 (A)	68	Ground	No
IVIZU (A)	69		NO

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch.
- Check continuity between main power window and door lock/ unlock switch connector and ground.

Main power window and door lock/ unlock switch connector	Terminal	Ground	Continuity
D15	15		Yes

Is the inspection result normal?

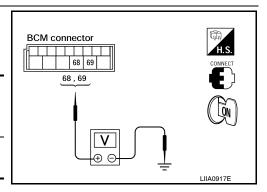
YES >> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".

NO >> Repair or replace harness.

f 4 . CHECK BCM OUTPUT SIGNAL

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

Terminals			
()		Voltage (V) (Approx.)	
Terminal	(-)	()	
68 Ground		Battery voltage	
69	Ground	battery voltage	
	Terminal 68	Terminal (-) 68 Ground	



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Main power window and door

lock/unlock switch connector

Is the measurement value within the specification?

YES >> GO TO 5

· BCM supplies power.

NO >> Replace BCM. Refer to BCS-53, "Removal and Installation".

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

Check main power window and door lock/unlock switch.

Is the inspection result normal?

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

>> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and NO Installation".

FRONT POWER WINDOW SWITCH

FRONT POWER WINDOW SWITCH: Description

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

FRONT POWER WINDOW SWITCH: Component Function Check

Power Window And Door Lock/Unlock Switch RH

 ${f 1}$. CHECK FRONT POWER WINDOW MOTOR RH FUNCTION

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

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INFOID:0000000006161045

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< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> Power window and door lock/unlock switch RH power supply and ground circuit are OK.

NO >> Refer to PWC-23, "FRONT POWER WINDOW SWITCH: Diagnosis Procedure".

FRONT POWER WINDOW SWITCH: Diagnosis Procedure

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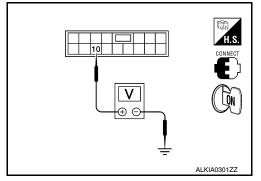
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Regarding Wiring Diagram information, refer to PWC-81, "Wiring Diagram - King Cab".

1. CHECK POWER SUPPLY CIRCUIT

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

Terr			
(+)		Voltage (V)	
Power window and door lock/ unlock switch RH connector	Terminal	(-)	(Approx.)
D105	10	Ground	Battery voltage



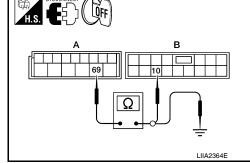
Is the measurement value within the specification?

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

2. CHECK HARNESS CONTINUITY

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

BCM connector	Terminal	Power window and door lock/unlock switch RH connector	Terminal	Continuity
M20 (A)	69	D105 (B)	10	Yes



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

BCM connector	Terminal	Ground	Continuity
M20 (A)	69	Ground	No

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.

$3.\,$ CHECK GROUND CIRCUIT

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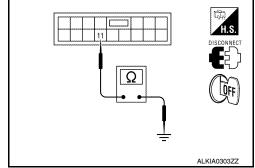
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< DTC/CIRCUIT DIAGNOSIS >

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

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



Is the inspection result normal?

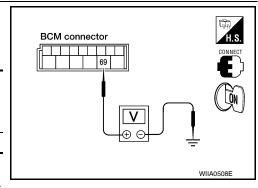
YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-116, "Removal and Installation".

NO >> Repair or replace harness.

4. CHECK BCM OUTPUT SIGNAL

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

	Mallana A.D			
(+)		(-)	Voltage (V) (Approx.)	
BCM connector	Terminal	(-)		
M20	69	Ground	Battery voltage	



Is the measurement value within the specification?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-116, "Removal and Installation".

NO >> Replace BCM. Refer to BCS-53. "Removal and Installation".

< DTC/CIRCUIT DIAGNOSIS >

POWER WINDOW MOTOR

DRIVER SIDE

DRIVER SIDE: Description

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

DRIVER SIDE: Component Function Check

INFOID:0000000006161048

1. CHECK POWER WINDOW MOTOR CIRCUIT

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

YES >> Front power window motor LH is OK.

NO >> Refer to PWC-25, "DRIVER SIDE: Diagnosis Procedure".

DRIVER SIDE : Diagnosis Procedure

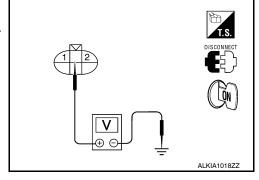
INFOID:0000000006161049

Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab" or PWC-81, "Wiring Diagram - King Cab".

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

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

Terminal					
(+)			Main power win- dow and door lock/	Voltage (V)	
Power window motor LH con- nector	Terminal	(–)	unlock switch con- dition	(Approx.)	
	2		UP	Battery voltage	
D9	2	Ground	DOWN	0	
D9	1	Giouna	UP	0	
	•		DOWN	Battery voltage	



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Is the measurement value within the specification?

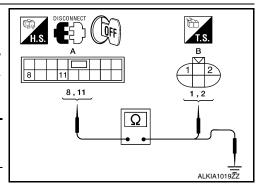
YES >> GO TO 2

NO >> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".

2. CHECK HARNESS CONTINUITY

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

Main power window and door lock/unlock switch connector	Terminal	Front power win- dow motor LH con- nector	Terminal	Continuity
D7 (A) (Crew Cab)	8	D9 (B)	2	Yes
D15 (A) (King Cab)	11	D9 (B)	1	163



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PWC-25 2011 Titan Revision: August 2010

< DTC/CIRCUIT DIAGNOSIS >

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

Main power window and door lock/unlock switch connector	Terminal		Continuity
D7 (A) (Crew Cab)	8	Ground	No
D15 (A) (King Cab	11		NO

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK POWER WINDOW MOTOR

Check front power window motor LH.

Refer to PWC-26, "DRIVER SIDE: Component Inspection".

Is the inspection result normal?

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

>> Replace power window motor LH. Refer to GW-18, "Removal and Installation". NO

DRIVER SIDE: Component Inspection

INFOID:0000000006161050

INFOID:0000000006161051

INFOID:0000000006161053

COMPONENT INSPECTION

${f 1}$. CHECK FRONT POWER WINDOW MOTOR LH

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

Terminal		Motor condition	
(+)	(-)	iviolor condition	
1	2	DOWN	
2	1	UP	

Is the inspection result normal?

YES >> Front power window motor LH is OK.

NO >> Replace front power window motor LH. Refer to GW-18, "Removal and Installation".

PASSENGER SIDE

PASSENGER SIDE: Description

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

PASSENGER SIDE: Component Function Check

INFOID:0000000006161052

CHECK POWER WINDOW MOTOR CIRCUIT

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

Is the inspection result normal?

YES >> Front power window motor RH is OK.

NO >> Refer to PWC-26, "PASSENGER SIDE : Diagnosis Procedure".

PASSENGER SIDE : Diagnosis Procedure

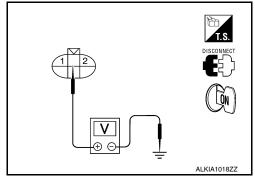
Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab" or PWC-81, "Wiring Diagram - King Cab".

${f 1}$. CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

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

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



Is the measurement value within the specification?

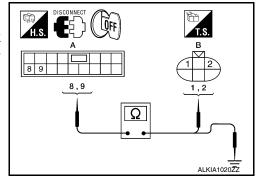
YES >> GO TO 2

NO >> Replace power window and door lock/unlock switch RH. Refer to PWC-116, "Removal and Installation".

2. CHECK HARNESS CONTINUITY

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

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105 (A)	8	D104 (B)	2	Yes
D103 (A)	9	D 104 (B)	1	163



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

Power window and door lock/unlock switch RH connector	Terminal	Ground	Continuity
D105 (A)	8		No
D 103 (A)	9		NO

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

$3.\,$ CHECK FRONT POWER WINDOW MOTOR RH

Check front power window motor RH.

Refer to PWC-27, "PASSENGER SIDE: Component Inspection".

Is the inspection result normal?

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

NO >> Replace front power window motor RH. Refer to <u>GW-18</u>, "Removal and Installation".

PASSENGER SIDE: Component Inspection

COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR RH

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

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< DTC/CIRCUIT DIAGNOSIS >

Terminal		Motor condition
(+)	(-)	Wotor Condition
1	2	DOWN
2	1	UP

Is the inspection result normal?

YES >> Front power window motor RH is OK.

NO >> Replace front power window motor RH. Refer to <u>GW-18</u>, "Removal and Installation".

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 LH CIRCUIT

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

Is the inspection result normal?

YES >> Rear power window motor LH is OK.

NO >> Refer to PWC-28, "REAR LH: Diagnosis Procedure"

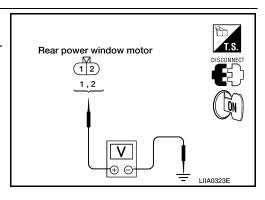
REAR LH: Diagnosis Procedure

Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab".

1. CHECK REAR POWER WINDOW SWITCH OUTPUT SIGNAL

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

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



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Is the measurement value within the specification?

YES >> GO TO 2

NO >> Check rear power window switch LH. Refer to PWC-18, "REAR POWER WINDOW SWITCH: Component Function Check".

CHECK HARNESS CONTINUITY

< DTC/CIRCUIT DIAGNOSIS >

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

Rear power window switch LH connector	Terminal	Rear power window motor LH connector	Terminal	Continuity
D203 (A)	5	D204 (B)	2	Yes
	4	D204 (B)	1	163

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

A 4 5 4 , 5 Ω	B M (1 2) 1,2	H.S. DISCONNECT T.S.
		ALKIA1036GB

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

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH.

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

Is the inspection result normal?

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

NO >> Replace rear power window motor LH. Refer to <u>GW-22, "Rear Door Glass Regulator Assembly"</u>.

REAR LH: Component Inspection

ZIION INFOID:0000000006161058

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW MOTOR LH

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

Terminal		Motor condition
(+)	(-)	Wotor condition
2	1	DOWN
1	2	UP

Is the inspection result normal?

YES >> Rear power window motor LH is OK.

NO >> Replace rear power window motor LH. Refer to <u>GW-22, "Rear Door Glass Regulator Assembly"</u>.

REAR RH

REAR RH : Description

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

REAR RH: Component Function Check

1. CHECK REAR POWER WINDOW MOTOR RH CIRCUIT

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

Is the inspection result normal?

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< DTC/CIRCUIT DIAGNOSIS >

YES >> Rear power window motor RH is OK.

NO >> Refer to PWC-30, "REAR RH: Diagnosis Procedure".

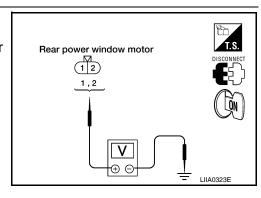
REAR RH: Diagnosis Procedure

Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab".

1. CHECK REAR POWER WINDOW SWITCH RH OUTPUT SIGNAL

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

Terminal			_		
(+)			Rear power window switch	Voltage (V)	
Rear power window motor RH connector	Terminal	(-)	RH condition	(Approx.)	
	1	Ground	UP	Battery voltage	
D304			DOWN	0	
D30 4	2	Ground	UP	0	
			DOWN	Battery voltage	



INFOID:0000000006161061

Is the measurement value within the specification?

YES >> GO TO 2

NO >> Check rear power window switch RH. Refer to PWC-18, "REAR POWER WINDOW SWITCH: Component Function Check".

2. CHECK HARNESS CONTINUITY

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

Rear power window switch RH connector	Terminal	Rear power window motor RH connector	Terminal	Continuity
D303 (A)	5	D304 (B)	2	Yes
	4	D304 (B)	1	163

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

A 4,5	B	H.S.
		DISCONNECT
Ω		T.S.
		ALKIA1036GB

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

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH.

Refer to PWC-31, "REAR RH: Component Inspection".

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

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

NO >> Replace rear power window motor RH. Refer to <u>GW-22</u>, "Rear <u>Door Glass Regulator Assembly"</u>.

REAR RH: Component Inspection

INFOID:0000000006161062

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW MOTOR RH

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

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

Is the inspection result normal?

YES >> Rear power window motor RH is OK.

NO >> Replace rear power window motor RH. Refer to <u>GW-22</u>, "Rear <u>Door Glass Regulator Assembly"</u>.

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< DTC/CIRCUIT DIAGNOSIS >

ENCODER CIRCUIT CHECK FRONT (CREW CAB)

DRIVER SIDE

DRIVER SIDE: Description

INFOID:0000000006161063

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

DRIVER SIDE: Component Function Check

INFOID:0000000006161064

1. CHECK ENCODER OPERATION

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

Is the inspection result normal?

YES >> Encoder operation is OK.

NO >> Refer to PWC-32, "DRIVER SIDE : Diagnosis Procedure"

DRIVER SIDE: Diagnosis Procedure

INFOID:0000000006161065

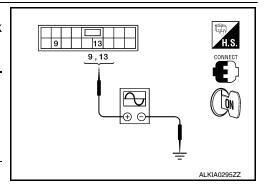
Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab".

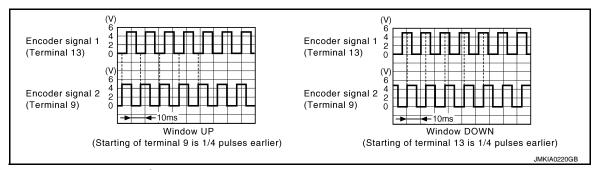
1. CHECK ENCODER OPERATION

1. Turn ignition switch ON.

2. Check signal between main power window and door lock/unlock switch connector and ground with oscilloscope.

T			
(+)			Signal
Main power window and door lock/unlock switch connector	Terminal	(–)	(Reference value)
D7	9	Ground	Refer to following signal





Is the inspection result normal?

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

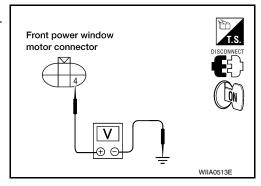
NO >> GO TO 2

2. CHECK FRONT POWER WINDOW MOTOR LH POWER SUPPLY

< DTC/CIRCUIT DIAGNOSIS >

- 1. Disconnect front power window motor LH.
- Check voltage between front power window motor LH connector and ground.

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



Is the measurement value within the specification?

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

3. CHECK HARNESS CONTINUITY 1

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

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

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

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

H.S. DISCONNECT OFF T.S. A B A ALKIA10217ZZ

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".

NO >> Repair or replace harness.

4. CHECK GROUND CIRCUIT

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

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

Front power window motor connector DISCONNECT OFF LIIA0923E

Is the inspection result normal?

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

CHECK HARNESS CONTINUITY 2

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< DTC/CIRCUIT DIAGNOSIS >

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

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

Main power window and door lock/unlock switch connector

Is the inspection result normal?

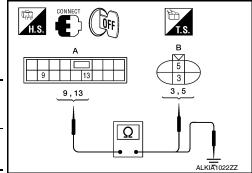
YES >> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".

NO >> Repair or replace harness.

CHECK HARNESS CONTINUITY 3

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

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D7 (A)	9	D9 (B)	5	Yes
D7 (A)	13	D9 (B)	3	165



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

Main power window and door lock/unlock switch connector	Terminal		Continuity
D7 (A)	9	Ground	No
Di (A)	13		140

Is the inspection result normal?

YES >> Replace front power window motor LH. Refer to GW-18, "Removal and Installation".

NO >> Repair or replace harness.

PASSENGER SIDE

PASSENGER SIDE: Description

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

PASSENGER SIDE : Component Function Check

1. CHECK ENCODER OPERATION

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

Is the inspection result normal?

YES >> Encoder operation is OK.

NO >> Refer to PWC-34, "PASSENGER SIDE : Diagnosis Procedure".

PASSENGER SIDE: Diagnosis Procedure

Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab".

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INFOID:0000000006161068

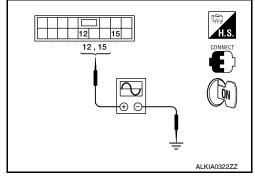
Revision: August 2010 PWC-34 2011 Titan

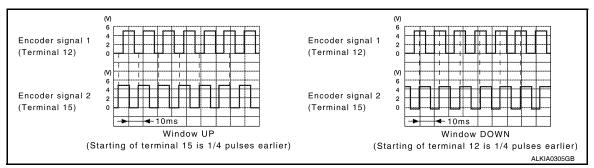
< DTC/CIRCUIT DIAGNOSIS >

1. CHECK ENCODER SIGNAL

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

-				
(+)			Signal	
Power window and door lock/unlock switch RH connector	Terminal	(–)	(Reference value)	
D105	12	Ground	Refer to following	
D 105	15	Giouna	signal	





Is the inspection result normal?

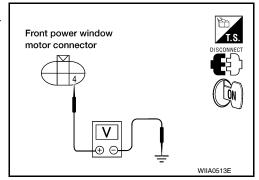
YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> GO TO 2

2. CHECK FRONT POWER WINDOW MOTOR RH POWER SUPPLY

- Disconnect front power window motor RH.
- 2. Check voltage between front power window motor RH connector and ground.

(+)			Voltage (V) (Approx.)
Front power window motor RH connector	Terminal	Terminal (-)	
D105	4	Ground	10



Is the measurement value within the specification?

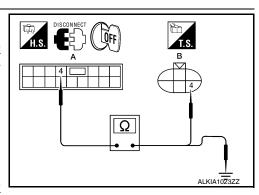
YES >> GO TO 4 NO >> GO TO 3

${f 3}.$ CHECK HARNESS CONTINUITY 1

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

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105 (A)	4	D104 (B)	4	Yes

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



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< DTC/CIRCUIT DIAGNOSIS >

Power window and door lock/ unlock switch RH connector	Terminal	Ground	Continuity
D105 (A)	4		No

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-116, "Removal and Installation".

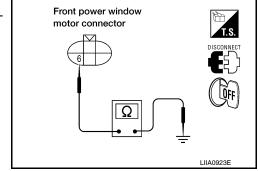
NO >> Repair or replace harness.

4. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Check continuity between front power window motor RH connector and ground.

Front power window motor RH connector	Terminal	Ground	Continuity
D104	6		Yes



Is the inspection result normal?

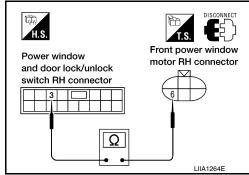
YES >> GO TO 6 NO >> GO TO 5

5. CHECK HARNESS CONTINUITY 2

1. Disconnect power window and door lock/unlock switch RH.

Check continuity between power window and door lock/unlock switch RH connector and front power window motor RH connector.

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105	3	D104	6	Yes



Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-116, "Removal and Installation".

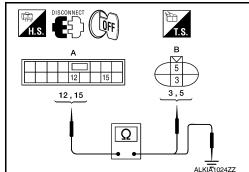
NO >> Repair or replace harness.

6. CHECK HARNESS CONTINUITY 3

1. Disconnect power window and door lock/unlock switch RH.

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

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105 (A)	12	D104 (B)	3	Yes
D105 (A)	15	D104 (B)	5	168



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

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

ENCODER CIRCUIT CHECK FRONT (CREW CAB)

< DTC/CIRCUIT DIAGNOSIS >

is the	inspection	result	normal?

YES >> Replace front power window motor RH. Refer to <u>GW-18</u>, "<u>Removal and Installation</u>".

NO >> Repair or replace harness.

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ENCODER CIRCUIT CHECK FRONT (KING CAB)

DRIVER SIDE

DRIVER SIDE : Description

INFOID:0000000006161069

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

DRIVER SIDE: Component Function Check

INFOID:0000000006161070

1. CHECK ENCODER OPERATION

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

Is the inspection result normal?

YES >> Encoder operation is OK.

NO >> Refer to PWC-38, "DRIVER SIDE : Diagnosis Procedure"

DRIVER SIDE: Diagnosis Procedure

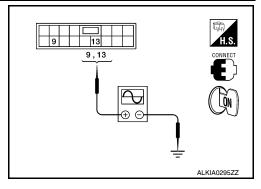
INFOID:0000000006161071

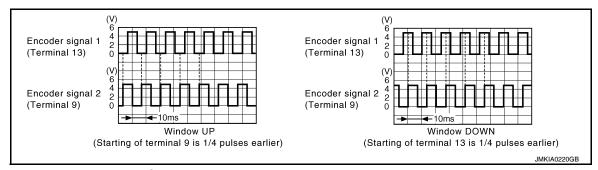
Regarding Wiring Diagram information, refer to PWC-81, "Wiring Diagram - King Cab".

1. CHECK ENCODER OPERATION

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

_	Т				
	(+)			Signal	
_	Main power window and door lock/unlock Terminal switch connector		(–)	(Reference value)	
_	D15	9	Ground	Refer to following signal	





Is the inspection result normal?

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

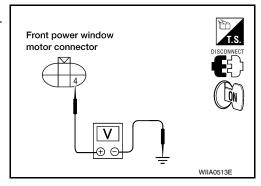
NO >> GO TO 2

2. CHECK FRONT POWER WINDOW MOTOR LH POWER SUPPLY

< DTC/CIRCUIT DIAGNOSIS >

- 1. Disconnect front power window motor LH.
- Check voltage between front power window motor LH connector and ground.

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



Is the measurement value within the specification?

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

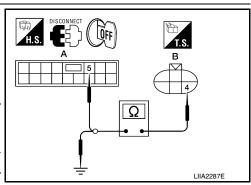
3. CHECK HARNESS CONTINUITY 1

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

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D15 (A)	5	D9 (B)	4	Yes

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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D9 (B)	4		No



Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".

NO >> Repair or replace harness.

4. CHECK GROUND CIRCUIT

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

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

Front power window motor connector DISCONNECT OFF LIIA0923E

Is the inspection result normal?

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

$\mathbf{5}$. CHECK HARNESS CONTINUITY 2

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

Main power window and door lock/unlock switch connector	Terminal	Front power win- dow motor LH con- nector	Terminal	Continuity
D15	14	D9	6	Yes

Is the inspection result normal?

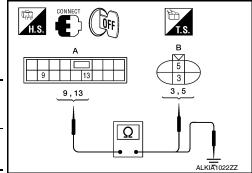
YES >> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".

NO >> Repair or replace harness.

CHECK HARNESS CONTINUITY 3

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

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D15 (A)	9	D9 (B)	5	Yes
D13 (A)	13	D9 (B)	3	165



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

Main power window and door lock/unlock switch connector	Terminal	_	Continuity
D15 (A)	9	Ground	No
D13 (A)	13		110

Is the inspection result normal?

YES >> Replace front power window motor LH. Refer to GW-18, "Removal and Installation".

NO >> Repair or replace harness.

PASSENGER SIDE

PASSENGER SIDE: Description

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

PASSENGER SIDE : Component Function Check

1. CHECK ENCODER OPERATION

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

Is the inspection result normal?

YES >> Encoder operation is OK.

NO >> Refer to PWC-40, "PASSENGER SIDE : Diagnosis Procedure".

PASSENGER SIDE : Diagnosis Procedure

Regarding Wiring Diagram information, refer to PWC-81, "Wiring Diagram - King Cab".

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INFOID:0000000006161074

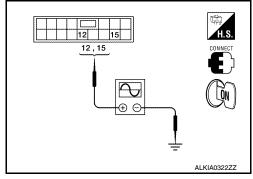
Revision: August 2010 PWC-40 2011 Titan

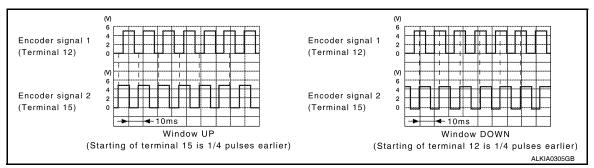
< DTC/CIRCUIT DIAGNOSIS >

1. CHECK ENCODER SIGNAL

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

-				
(+)			Signal	
Power window and door lock/unlock switch RH connector	lock/unlock switch RH Terminal		(Reference value)	
D105 12 15		Ground	Refer to following signal	





Is the inspection result normal?

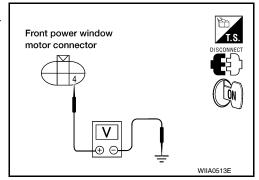
YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> GO TO 2

2. CHECK FRONT POWER WINDOW MOTOR RH POWER SUPPLY

- 1. Disconnect front power window motor RH.
- 2. Check voltage between front power window motor RH connector and ground.

(+)			Voltage (V)
Front power window motor RH connector	Terminal	(–)	(Approx.)
D105	4	Ground	10



Is the measurement value within the specification?

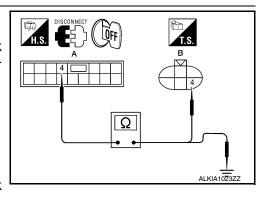
YES >> GO TO 4 NO >> GO TO 3

${f 3}.$ CHECK HARNESS CONTINUITY 1

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

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105 (A)	4	D104 (B)	4	Yes

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



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Power window and door lock/ unlock switch RH connector	Terminal	Ground	Continuity
D105 (A)	4		No

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-116, "Removal and Installation".

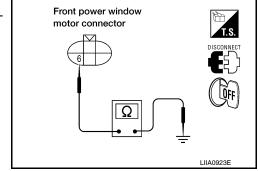
NO >> Repair or replace harness.

4. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Check continuity between front power window motor RH connector and ground.

Front power window motor RH connector	Terminal	Ground	Continuity
D104	6		Yes



Is the inspection result normal?

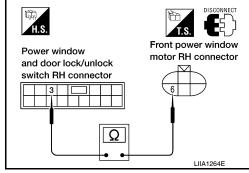
YES >> GO TO 6 NO >> GO TO 5

5. CHECK HARNESS CONTINUITY 2

1. Disconnect power window and door lock/unlock switch RH.

 Check continuity between power window and door lock/unlock switch RH connector and front power window motor RH connector.

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105	3	D104	6	Yes



Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-116, "Removal and Installation".

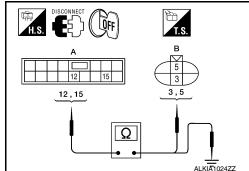
NO >> Repair or replace harness.

6. CHECK HARNESS CONTINUITY 3

1. Disconnect power window and door lock/unlock switch RH.

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

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105 (A)	12	D104 (B)	3	Yes
D103 (A)	15	D104 (B)	5	163



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

Power window and door lock/unlock switch RH connector	Terminal Ground		Continuity
D105 (A)	12		No
	15		140

< DTC/CIRCUIT DIAGNOSIS >

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YES >> Replace front power window motor RH. Refer to <u>GW-18</u>, "<u>Removal and Installation</u>".

NO >> Repair or replace harness.

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Description INFOID:000000006161075

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

Component Function Check

INFOID:0000000006161076

1. CHECK FRONT DOOR SWITCH INPUT SIGNAL

Check ("DOOR SW-DR" and "DOOR SW-AS") in "DATA MONITOR" mode with CONSULT-III. Refer to <u>BCS-24, "RETAINED PWR: CONSULT-III Function (BCM - RETAINED PWR)"</u>.

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

Is the inspection result normal?

YES >> Front door switch circuit is OK.

NO >> Refer to PWC-44, "Diagnosis Procedure (Crew Cab)".

Diagnosis Procedure (Crew Cab)

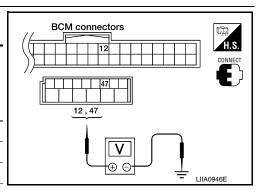
INFOID:0000000006161077

Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab".

1. CHECK FRONT DOOR SWITCH

Check voltage between BCM connector and ground.

Terminals					
(+)			Door condition		Voltage (V)
BCM connector	Terminal	(-)			(Approx.)
M18	12	- Ground	Front door	OPEN	0
IVITO			RH	CLOSE	Battery voltage
M19	47	Ground	Front door	OPEN	0
	71		LH	CLOSE	Battery voltage



Is the measurement value within the specification?

YES >> Replace BCM. Refer to BCS-53, "Removal and Installation".

NO >> GO TO 2

2. CHECK HARNESS CONTINUITY

< DTC/CIRCUIT DIAGNOSIS >

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

BCM connector	Terminal	Front door switch connector	Terminal	Continuity
M18	12	RH: B108	2	Yes
M19	47	LH: B8	2	163

4. Check continuity between front door switch connector and ground.

Front door switch connector	Terminal	0 1	Continuity
B8 (LH)	2	Ground	No
B108 (RH)			110

Is the inspection result normal?

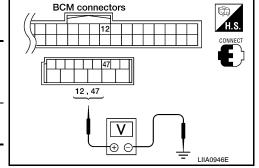
YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK BCM OUTPUT SIGNAL

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

Terminal			V-11 0.0	
(-	+)	(–)	Voltage (V) (Approx.)	
BCM connector	Terminal	(-)	,	
M18	12	Ground	Battery voltage	
M19	47	Ground	Dattery voltage	



Is the measurement value within the specification?

YES >> GO TO 4

NO >> Replace BCM. Refer to <u>BCS-53</u>, "Removal and Installation".

4. CHECK FRONT DOOR SWITCH

Check front door switch.

Refer to PWC-46, "Component Inspection (Crew Cab)".

Is the inspection result normal?

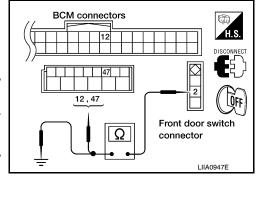
YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> Replace front door switch.

Diagnosis Procedure (King Cab)

Regarding Wiring Diagram information, refer to PWC-81, "Wiring Diagram - King Cab".

1. CHECK FRONT DOOR SWITCH



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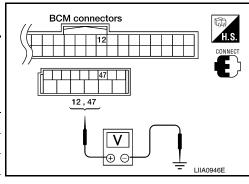
INFOID:0000000006161078

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< DTC/CIRCUIT DIAGNOSIS >

Check voltage between BCM connector and ground.

	Terminals				
(+)			Door c	ondition	Voltage (V) (Approx.)
BCM connector	Terminal	(–)	2001 00114111011		
M18	12		Front door	OPEN	0
IVITO	12	Ground	RH	CLOSE	Battery voltage
M19	47	Giodila	Front door	OPEN	0
IVITS	47		LH	CLOSE	Battery voltage



Is the measurement value within the specification?

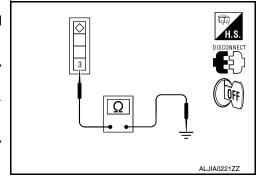
YES >> Replace BCM. Refer to BCS-53, "Removal and Installation".

NO >> GO TO 2

2. CHECK FRONT DOOR SWITCH GROUND CIRCUIT

- 1. Disconnect front door switch.
- Check continuity between front door switch connector and ground.

Front door switch connector	Terminal		Continuity
B8 (LH)	3	Ground	Yes
B108 (RH)	3		165



Is the inspection result normal?

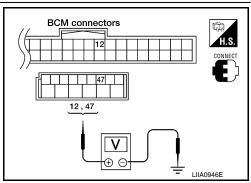
YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK BCM OUTPUT SIGNAL

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

	Terminal				
(-	+) (-)		Voltage (V) (Approx.)		
BCM connector	Terminal	(-)	(11 /		
M18	12	Ground	Battery voltage		
M19	47	Giodila	Dattery voltage		



Is the measurement value within the specification?

YES >> GO TO 4

NO >> Replace BCM. Refer to BCS-53, "Removal and Installation".

CHECK FRONT DOOR SWITCH

Check front door switch.

Refer to PWC-47, "Component Inspection (King Cab)".

Is the inspection result normal?

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

NO >> Replace front door switch.

Component Inspection (Crew Cab)

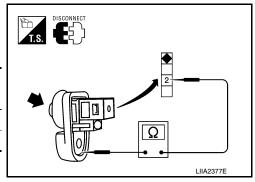
INFOID:0000000006161079

1. CHECK FRONT DOOR SWITCH

< DTC/CIRCUIT DIAGNOSIS >

- 1. Turn ignition switch OFF.
- 2. Disconnect front door switch.
- 3. Check continuity between front door switch terminals.

-	Terminal	Condition	nn.	Continuity
Fron	t door switch	Condition		Continuity
2	Ground part of	Front door switch	Pushed	No
	door switch	Tront door switch	Released	Yes



Is the inspection result normal?

YES >> Inspection End.

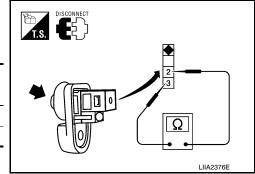
NO >> Replace front door switch.

Component Inspection (King Cab)

1. CHECK FRONT DOOR SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect front door switch.
- 3. Check continuity between front door switch terminals.

Term	ninal	Condition		Continuity
Front do	or switch	Condition		Continuity
2	3	Front door switch	Pushed	No
	3	Tront door switch	Released	Yes



Is the inspection result normal?

YES >> Inspection End.

NO >> Replace front door switch.

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Revision: August 2010 PWC-47 2011 Titan

FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) CHECK (CREW CAB)

< DTC/CIRCUIT DIAGNOSIS >

FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) CHECK (CREW CAB)

Description INFOID:00000000616108

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

Component Function Check

INFOID:0000000006161082

1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check ("KEY CYL LK-SW", "KEY CYL UN-SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT-III. Refer to BCS-16, "DOOR LOCK: CONSULT-III Function (BCM - DOOR LOCK)".

Monitor item	Condition		
KEY CYL LK-SW	Lock	: ON	
RET CTE EN-SW	Neutral / Unlock	: OFF	
KEY CYL UN-SW	Unlock	: ON	
RET CTL UN-SW	Neutral / Lock	: OFF	

Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Refer to PWC-48, "Diagnosis Procedure".

Diagnosis Procedure

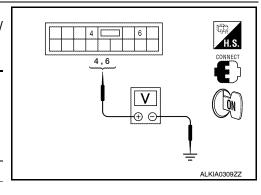
INFOID:0000000006161083

Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab".

1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

To	erminals			
(+)				Voltage (V)
Main power window and door lock/unlock switch connector	Terminal	(-)	Key position	(Approx.)
	4		Lock	0
D7	4	Ground	Neutral/Unlock	5
Di	6	Giodila	Unlock	0
	0		Neutral/Lock	5



Is the measurement value within the specification?

YES >> Replace main power window and door lock/unlock switch.

NO >> GO TO 2

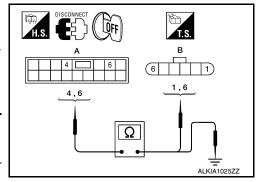
2. CHECK DOOR KEY CYLINDER SIGNAL CIRCUIT

FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) CHECK (CREW CAB)

< DTC/CIRCUIT DIAGNOSIS >

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

Main power window and door lock/unlock switch connector	Terminal	Front door lock as- sembly LH (key cylin- der switch) connector	Terminal	Continuity
D7 (A)	4	D14 (B)	1	Yes
DI (A)	6	D14 (B)	6	165



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

Main power window and door lock/unlock switch connector	Terminal	0	Continuity
D7 (A)	4	Ground	No
Dr (A)	6		NO

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK DOOR KEY CYLINDER SWITCH GROUND CIRCUIT

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

Front door lock assembly LH (key cylinder switch) connector	Terminal	Ground	Continuity
D14	5		Yes

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.

4. CHECK DOOR KEY CYLINDER SWITCH

Check door key cylinder switch.

Refer to PWC-49, "Component Inspection".

Is the inspection result normal?

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

NO >> Replace front door lock assembly LH (key cylinder switch).

Component Inspection

COMPONENT INSPECTION

1. CHECK DOOR KEY CYLINDER SWITCH

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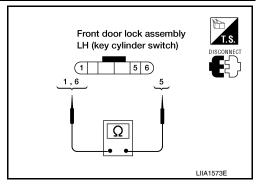
Revision: August 2010 PWC-49 2011 Titan

FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) CHECK (CREW CAB)

< DTC/CIRCUIT DIAGNOSIS >

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

Term	inal		
Front door lock (key cylinder sw	•	Key position	Continuity
6		Unlock	Yes
O	5	Neutral/Lock	No
1	5	Lock	Yes
1		Neutral/Unlock	No



Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Replace front door lock assembly LH (key cylinder switch).

FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) CHECK (KING CAB)

< DTC/CIRCUIT DIAGNOSIS >

FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) CHECK (KING CAB)

Description

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

Component Function Check

1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check ("KEY CYL LK-SW", "KEY CYL UN-SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT-III. Refer to BCS-16, "DOOR LOCK: CONSULT-III Function (BCM - DOOR LOCK)".

Monitor item	Condition		
KEY CYL LK-SW	Lock	: ON	
RET CTL LR-SW	Neutral / Unlock	: OFF	
KEY CYL UN-SW	Unlock	: ON	
KET CTL UIN-3VV	Neutral / Lock	: OFF	

Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Refer to PWC-51, "Diagnosis Procedure".

Diagnosis Procedure

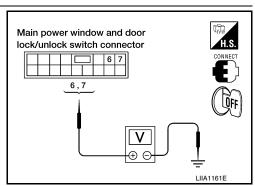
Regarding Wiring Diagram information, refer to PWC-81, "Wiring Diagram - King Cab".

1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

1. Turn ignition switch ON.

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

Te	erminals			
(+)				Voltage (V)
Main power window and door lock/unlock switch connector	Terminal	(–)	Key position	(Approx.)
	6		Lock	0
D15	O	Ground	Neutral/Unlock	0 5
D13	7	Giodila	Unlock	0
	,		Neutral/Lock	5



Is the measurement value within the specification?

YES >> Replace main power window and door lock/unlock switch.

NO >> GO TO 2

2. CHECK DOOR KEY CYLINDER SIGNAL CIRCUIT

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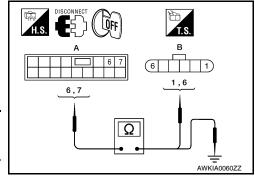
Revision: August 2010 PWC-51 2011 Titan

FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) CHECK (KING CAB)

< DTC/CIRCUIT DIAGNOSIS >

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

Main power window and door lock/unlock switch connector	Terminal	Front door lock as- sembly LH (key cylin- der switch) connector	Terminal	Continuity
D15 (A)	6	D14 (B)	1	Yes
D13 (A)	7	D14 (B)	6	168



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

Main power window and door lock/unlock switch connector	Terminal		Continuity
D15 (A)	6	Ground	No
D13 (A)	7		NO

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK DOOR KEY CYLINDER SWITCH GROUND CIRCUIT

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

Front door lock assembly LH (key cylinder switch) connector	Terminal	Ground	Continuity
D14	5		Yes

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.

4. CHECK DOOR KEY CYLINDER SWITCH

Check door key cylinder switch.

Refer to PWC-52, "Component Inspection".

Is the inspection result normal?

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

NO >> Replace front door lock assembly LH (key cylinder switch).

Component Inspection

INFOID:0000000006161088

COMPONENT INSPECTION

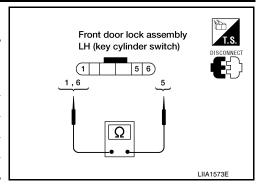
1. CHECK DOOR KEY CYLINDER SWITCH

FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) CHECK (KING CAB)

< DTC/CIRCUIT DIAGNOSIS >

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

Term	ninal			
Front door lock assembly LH (key cylinder switch) connector		Key position	Continuity	
6		Unlock	Yes	
O	5	Neutral/Lock	No	
1	J .	Lock	Yes	
ı		Neutral/Unlock	No	



Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Replace front door lock assembly LH (key cylinder switch).

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< DTC/CIRCUIT DIAGNOSIS >

POWER WINDOW SERIAL LINK POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH: Description

INFOID:0000000006161089

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

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

Keyless power window down signal

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

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

POWER WINDOW MAIN SWITCH: Component Function Check

INFOID:0000000006161090

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

Check ("CDL LOCK SW", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT-III. Refer to BCS-16, "DOOR LOCK: CONSULT-III Function (BCM - DOOR LOCK)".

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

Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> Refer to PWC-54, "POWER WINDOW MAIN SWITCH: Diagnosis Procedure".

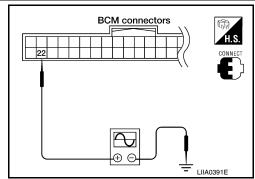
POWER WINDOW MAIN SWITCH: Diagnosis Procedure

INFOID:0000000006161091

Regarding Wiring Diagram information, refer to <u>PWC-88</u>, "Wiring <u>Diagram - Crew Cab"</u> or <u>PWC-81</u>, "Wiring <u>Diagram - King Cab"</u>.

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

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



< DTC/CIRCUIT DIAGNOSIS >

	Terminal		
(+)		(-)	Signal (Reference value)
BCM connector	Terminal	(-)	(
M18	22	Ground	(V) 15 10 5 0

Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> GO TO 2

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Turn ignition switch OFF.

- Disconnect BCM and main power window and door lock/unlock switch.
- Check continuity between BCM connector (A) and main power window and door lock/unlock switch connector (B) (Crew Cab) or (C) (King Cab).

BCM connector	Terminal	Main power window and door lock/unlock switch connector	Terminal	Continuity
M18 (A)	22	D7 (B)	14	Yes
W10 (A)	22	D15 (C)	12	103

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

BCM connector	Terminal	Ground	Continuity
M18 (A)	22	Ground	No

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".

NO >> Repair or replace harness.

FRONT POWER WINDOW SWITCH

FRONT POWER WINDOW SWITCH: Description

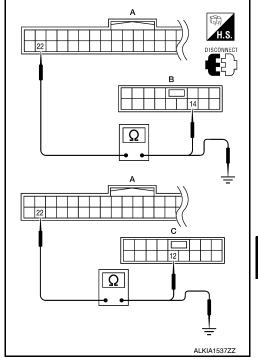
Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and BCM transmit and receive the signal by power window serial link.

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

Keyless power window down signal

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

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



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< DTC/CIRCUIT DIAGNOSIS >

FRONT POWER WINDOW SWITCH : Component Function Check

INFOID:0000000006161093

${f 1}.$ CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH OUTPUT SIGNAL

Check ("CDL LOCK SW", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT-III. Refer to BCS-16, "DOOR LOCK: CONSULT-III Function (BCM - DOOR LOCK)".

Monitor item	(Condition	
CDL LOCK SW	LOCK	: ON	
CDE LOCK SW	UNLOCK	: OFF	
CDL UNLOCK SW	LOCK	: OFF	
ODL UNLOCK 3W	UNLOCK	: ON	

Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> Refer to PWC-56, "FRONT POWER WINDOW SWITCH: Diagnosis Procedure".

FRONT POWER WINDOW SWITCH: Diagnosis Procedure

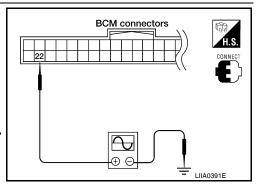
INFOID:0000000006161094

Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab" or PWC-81, "Wiring Diagram - King Cab".

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

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

	Terminal		0:1	
(+)		()	Signal (Reference value)	
BCM connector	Terminal	(-)	(
M18	22	Ground	(V) 15 10 5 0 10 ms	



Is the inspection result normal?

YES >> Power window serial link is OK.

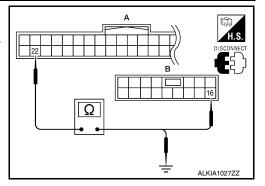
NO >> GO TO 2

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

BCM connector	Terminal	Power window and door lock/unlock switch RH connector	Terminal	Continuity
M18 (A)	22	D105 (B)	16	Yes



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

BCM connector	Terminal Ground		Continuity
M18 (A)	22	Ground	No

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".

NO >> Repair or replace harness.

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Revision: August 2010 PWC-57 2011 Titan

POWER WINDOW LOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

POWER WINDOW LOCK SWITCH

Description INFOID:0000000006161095

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

Component Function Check

INFOID:0000000006161096

1. CHECK POWER WINDOW LOCK SIGNAL

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

- YES >> Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation".
- NO >> Check condition of harness and connector.

REAR POWER DROP GLASS CIRCUIT CHECK

< DTC/CIRCUIT DIAGNOSIS >

REAR POWER DROP GLASS CIRCUIT CHECK

Rear Power Drop Glass Circuit Inspection

INFOID:0000000006161097

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Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab".

1. CHECK REAR POWER DROP GLASS SWITCH OPERATION

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power drop glass switch.
- 3. Check continuity between rear power drop glass switch terminals 1, 3 and 5.

Tern	ninal	Condition	Continuity
3	5	Rear power drop glass switch is pressed DOWN	Yes
3	1	Rear power drop glass switch is pressed UP	Yes

Is the inspection result normal?

YES >> GO TO 2

NO >> Replace rear power drop glass switch. Refer to PWC-117, "Removal and Installation - Power Drop Glass Switch".

2. CHECK REAR POWER DROP GLASS SWITCH GROUND CIRCUIT HARNESS CONTINUITY

Check continuity between rear power drop glass switch connector R103 terminal 3 and ground.

3 - Ground : Continuity should exist.

Is the inspection result normal?

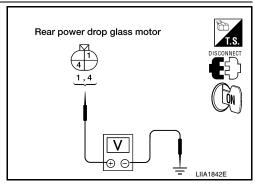
YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK REAR POWER DROP GLASS SIGNAL

- Connect rear power drop glass switch.
- 2. Disconnect rear power drop glass motor.
- 3. Turn ignition switch ON.
- 4. Check voltage between rear power drop glass motor connector B80 terminals 1, 4 and ground.

Term	inals	Condition	Voltage (V) (Approx.)	
(+)	(-)	Condition		
1		Up	Battery voltage	
1	Cround	Down	0	
4	Giodila	Up	0	
4		Down	Battery voltage	
		Terminals (+) (-) 1 Ground 4	(+) (-) Condition 1 Up Down Up	



Is the inspection result normal?

YES >> Replace rear power drop glass motor. Refer to <u>GW-13</u>, "<u>Removal and Installation</u>".

NO >> Repair or replace harness.

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REAR POWER DROP GLASS DOWN RELAY CHECK

< DTC/CIRCUIT DIAGNOSIS >

REAR POWER DROP GLASS DOWN RELAY CHECK

Rear Power Drop Glass Down Relay Check

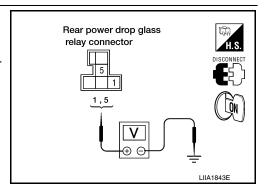
INFOID:0000000006161098

Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab".

1. CHECK REAR POWER DROP GLASS UP RELAY POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power drop glass down relay.
- 3. Turn ignition switch ON.
- Check voltage between rear power drop glass down relay connector and ground.

Connector	Term	ninals	Voltage (V)	
Connector	(+)	(-)	(Approx.)	
M155	1	Ground	Battery voltage	
W 133	5	Ground	Dattery Voltage	



Is the inspection result normal?

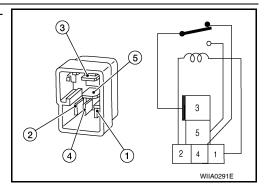
YES >> GO TO 2

NO >> Repair or replace harness.

2. CHECK REAR POWER DROP GLASS DOWN RELAY

Check continuity between rear power drop glass down relay terminals 3 and 4, 3 and 5.

Terminal		Condition	Continuity
	4	12V direct current supply between terminals 1 and 2	No
2		No current supply	Yes
3	5	12V direct current supply between terminals 1 and 2	Yes
		No current supply	No



Is the inspection result normal?

YES >> GO TO 3

NO >> Replace rear power drop glass down relay.

3. Check rear power drop glass down relay ground circuit

Check continuity between rear power drop glass down relay connector M155 terminal 4 and ground.

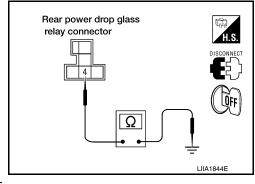
4 - Ground

: Continuity should exist.

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.



4. CHECK REAR POWER DROP GLASS DOWN RELAY CIRCUIT

REAR POWER DROP GLASS DOWN RELAY CHECK

< DTC/CIRCUIT DIAGNOSIS >

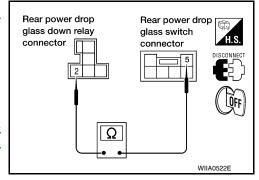
- 1. Disconnect rear power drop glass switch.
- Check continuity between rear power drop glass down relay connector M155 terminal 2 and rear power drop glass switch connector R103 terminal 5.

2 - 5

: Continuity should exist.

Is the inspection result normal?

- YES >> Replace rear power drop glass switch. Refer to PWC-117. "Removal and Installation Power Drop Glass Switch".
- NO >> Repair or replace harness.



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REAR POWER DROP GLASS UP RELAY CHECK

< DTC/CIRCUIT DIAGNOSIS >

REAR POWER DROP GLASS UP RELAY CHECK

Rear Power Drop Glass Up Relay Check

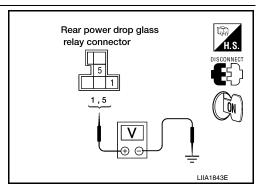
INFOID:0000000006161099

Regarding Wiring Diagram information, refer to PWC-88, "Wiring Diagram - Crew Cab".

1. CHECK REAR POWER DROP GLASS UP RELAY POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power drop glass up relay.
- 3. Turn ignition switch ON.
- 4. Check voltage between rear power drop glass up relay connector and ground.

Connector	Term	ninals	Voltage (V)	
Connector	(+)	(-)	(Approx.)	
M154	1	Ground	Battery voltage	
W134	5	Oround	Dattery Voltage	



Is the inspection result normal?

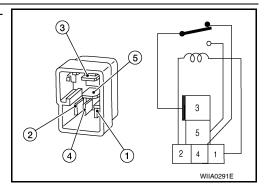
YES >> GO TO 2

NO >> Repair or replace harness.

2. CHECK REAR POWER DROP GLASS UP RELAY

Check continuity between rear power drop glass down relay terminals 3 and 4, 3 and 5.

Terminal		Condition	Continuity
	4	12V direct current supply between terminals 1 and 2	No
3		No current supply	Yes
	5	12V direct current supply between terminals 1 and 2	Yes
		No current supply	No



Is the inspection result normal?

YES >> GO TO 3

NO >> Replace rear power drop glass up relay.

3. CHECK REAR POWER DROP GLASS UP RELAY GROUND CIRCUIT

Check continuity between rear power drop glass up relay connector M154 terminal 4 and ground.

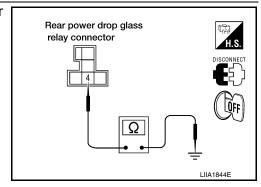
4 - Ground

: Continuity should exist.

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.



4. CHECK REAR POWER DROP GLASS UP RELAY CIRCUIT

REAR POWER DROP GLASS UP RELAY CHECK

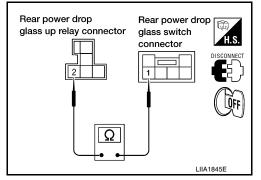
< DTC/CIRCUIT DIAGNOSIS >

- 1. Disconnect rear power drop glass switch.
- Check continuity between rear power drop glass up relay connector M154 terminal 2 and rear power drop glass switch connector R103 terminal 1.

2 - 1 : Continuity should exist.

Is the inspection result normal?

- YES >> Replace rear power drop glass switch. Refer to PWC-117. "Removal and Installation Power Drop Glass Switch".
- NO >> Repair or replace harness.



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< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF or ON	Off
ACC ON SW	Ignition switch ACC	On
AIR COND SW	A/C switch OFF	Off
AIR COND 3W	A/C switch ON	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm ² , psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm ² , psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm ² , psi
AIR PRESS RR	Rear right tire air pressure value	kPa, kg/cm ² , psi
AUTO LIGHT SW	Lighting switch OFF	Off
AUTU LIGHT SW	Lighting switch AUTO	On
BRAKE SW	Brake pedal released	Off
BRAKE SW	Brake pedal applied	On
BUCKLE SW	Seat belt buckle unfastened	Off
BOOKLE SW	Seat belt buckle fastened	On
BUZZER	Buzzer in combination meter OFF	Off
BOZZEN	Buzzer in combination meter ON	On
CARGO LAMP SW	Cargo lamp switch OFF	Off
O/ARGO E/AWII GW	Cargo lamp switch ON	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the LOCK side	On
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the UNLOCK side	On
DOOR SW-AS	Front door RH closed	Off
	Front door RH opened	On
DOOR SW-DR	Front door LH closed	Off
	Front door LH opened	On
DOOR SW-RL	Rear door LH closed	Off
DOOK OW KE	Rear door LH opened	On
DOOR SW-RR	Rear door RH closed	Off
DOOK SW-KK	Rear door RH opened	On
FAN ON SIG	Blower motor fan switch OFF	Off
TAIN ON OIG	Blower motor fan switch ON	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
FR WASHER SW	Front washer switch OFF	Off
THE WASHINGTON	Front washer switch ON	On

< ECU DIAGNOSIS INFORMATION >

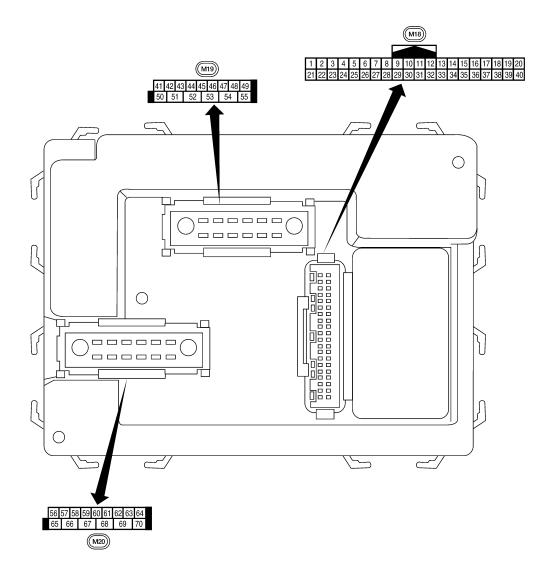
Monitor Item	Condition	Value/Status	
	Front wiper switch OFF	Off	-
FR WIPER LOW	Front wiper switch LO	On	
	Front wiper switch OFF	Off	
FR WIPER HI	Front wiper switch HI	On	
	Front wiper switch OFF	Off	
FR WIPER INT	Front wiper switch INT	On	(
ED WIDED STOD	Any position other than front wiper stop position	Off	
FR WIPER STOP	Front wiper stop position	On	
HAZADD CM	When hazard switch is not pressed	Off	
HAZARD SW	When hazard switch is pressed	On	
HEAD LAMP SW1	Headlamp switch OFF	Off	
HEAD LAWP SWI	Headlamp switch 1st	On	
HEAD LAMD SWO	Headlamp switch OFF	Off	
HEAD LAMP SW2	Headlamp switch 1st	On	
HI BEAM SW	High beam switch OFF	Off	
UI BEAM 2M	High beam switch HI	On	(
ID DECCT EL 4	ID registration of front left tire incomplete	YET	
ID REGST FL1	ID registration of front left tire complete	DONE	
D REGST FR1	ID registration of front right tire incomplete	YET	
	ID registration of front right tire complete	DONE	
ID REGST RL1	ID registration of rear left tire incomplete	YET	
ID REGOT RET	ID registration of rear left tire complete	DONE	
ID REGST RR1	ID registration of rear right tire incomplete	YET	
ID NEGOT KIKT	ID registration of rear right tire complete	DONE	
IGN ON SW	Ignition switch OFF or ACC	Off	
IGN ON SW	Ignition switch ON	On	P'
IGN SW CAN	Ignition switch OFF or ACC	Off	
GN SW CAN	Ignition switch ON	On	
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7	
KEY CYL LK-SW	Door key cylinder LOCK position	Off	
KET OTE EK-OW	Door key cylinder other than LOCK position	On	
KEY CYL UN-SW	Door key cylinder UNLOCK position	Off	
KET OTE ON-SW	Door key cylinder other than UNLOCK position	On	
KEY ON SW	Mechanical key is removed from key cylinder	Off	
	Mechanical key is inserted to key cylinder	On	
KEYLESS LOCK	LOCK button of key fob is not pressed	Off	
METELOG LOOK	LOCK button of key fob is pressed	On	
KEYLESS PANIC	PANIC button of key fob is not pressed	Off	
NETELOS PAINIC	PANIC button of key fob is pressed	On	
KEYLESS UNLOCK	UNLOCK button of key fob is not pressed	Off	
INL I LLOS UNLUUN	UNLOCK button of key fob is pressed	On	
LIGHT SW 1ST	Lighting switch OFF	Off	
LIGITI OW 101	Lighting switch 1st	On	

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< ECU DIAGNOSIS INFORMATION >

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

Terminal Layout



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Physical Values

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

Stand-by (keyfob buttons released) Remote keyless entry receiver (signal) Input OFF When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed) When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	A1893E
Remote keyless entry receiver (power supply) Output OFF Ignition switch OFF Stand-by (keyfob buttons released) Stand-by (keyfob buttons released) When remote keyless entry receiver (signal) When remote keyless entry receiver receiver signal from keyfob (keyfob buttons pressed) When remote keyless entry receiver receiver signal from keyfob (keyfob buttons pressed)	
Stand-by (keyfob buttons released) Remote keyless entry receiver (signal) OFF When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed) When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	11894E
When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	
Just after turning ignitio	A1895E
21 G NATS antenna amp. Input OFF → ON Ignition switch (OFF → ON) ON: Pointer of tester smove for approx. 1 secoreturn to battery voltage.	should ond, then
23 G/O Security indicator Output OFF Goes OFF → illuminates (Evlary voltage → ery 2.4 seconds) Battery voltage →	0V
BR NATS antenna amp. Input OFF → ON Ignition switch (OFF → ON) Just after turning ignition ON: Pointer of tester smove for approx. 1 secon return to battery voltage.	should ond, then
27 W/R Compressor ON signal Input ON A/C switch OFF 5V A/C switch ON OV	
Front blower motor OFF Battery voltage	
28 L/R Front blower monitor Input ON Front blower motor ON 0V	
29 W/B Hazard switch Input OFF ON OV	
OFF 5V Cargo lamp switch ON 0	
31 P/L Cargo lamp switch Input OFF	

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< ECU DIAGNOSIS INFORMATION >

	\ <i>\</i> /i~~	re	Signal		Measuring condition	Deference value or wavefer	
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)	
32	R/G	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 +-5ms SKIA5291E	
33	R/Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 	
34	L	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **-5ms SKIA5291E	
35	O/B	Combination switch output 2					
36	R/W	Combination switch output 1	Output	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **5ms SKIA5292E
37	B/R	Key switch and key	Input	OFF	Key inserted	Battery voltage	
	5/11	lock solenoid	mpat	0	Key inserted	0V	
38	W/L	Ignition switch (ON)	Input	ON	_	Battery voltage	
39	L	CAN-H	_	_	_	_	
40	Р	CAN-L	_	_	_	_	
47	SB	Front door switch LH (All) Rear door switch lower LH (King Cab)	Input	OFF	ON (open)	0V	
		Rear door switch up- per LH (King Cab)			OFF (closed)	Battery voltage	
48	R/Y	Rear door switch LH	Innut	OFF	ON (open)	0V	
-1 0	IVI	(Crew Cab)		OI F	OFF (closed)	Battery voltage	
50	R/Y	Cargo bed lamp con-	Output	OFF	Cargo lamp switch (ON)	0V	
50 R		R/Y trol	trol		Odiput Of I	Cargo lamp switch (OFF)	Battery voltage

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< ECU DIAGNOSIS INFORMATION >

	Wire		Signal	Measuring condition		Reference value or waveform	
Terminal color		Signal name	input/ output	Ignition switch	Operation	or condition	(Approx.)
51	G/Y	Trailer turn signal (right)	Output	ON	Turn right ON		(V) 15 10 50 500 ms SKIA3009J
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON		(V) 15 10 5 0 500 ms SKIA3009J
56	R/G	Battery saver output	Output	OFF	15 minutes after ignition switch is turned OFF		0V
				ON	_		Battery voltage
57	Y/R	Battery power supply	Input	OFF	_		Battery voltage
58	W/R	Optical sensor	Input	ON	When optical sensor is illuminated		3.1V or more
					When optical sensor is not illuminated		0.6V or less
59	G	Front door lock as- sembly LH actuator	Output	OFF	OFF (neutral)		0V
59	G	(unlock)			ON (unlock)		Battery voltage
60	G/B	Turn signal (left)	Output	ON	Turn left ON		(V) 15 10 5 0 500 ms
61	G/Y	Turn signal (right)	Output	ON	Turn right ON		(V) 15 10 5 0 500 ms SKIA3009J
62	R/W	Step lamp LH and RH	Output	OFF	ON (any door open)		0V
	17/1/	Step rattip LFT atto KH	Output	UFF	OFF (all doors	closed)	Battery voltage
63	L	Interior room/map lamp	Output	OFF	Any door switch	ON (open) OFF (closed)	0V Battery voltage
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral) ON (lock)		0V Battery voltage
		Front door lock actua-			OFF (neutral)		0V
66	G/Y	tor RH and rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral) ON (unlock)		Battery voltage

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< ECU DIAGNOSIS INFORMATION >

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

Fail Safe

Fail-safe index

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

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

DTC Inspection Priority Chart

INFOID:0000000006628753

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

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

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Priority	DTC	
3	C1729: VHCL SPEED SIG ERR C1735: IGNITION SIGNAL	
	C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR	
4	C1710: [NO DATA] RR C1711: [NO DATA] RL C1712: [CHECKSUM ERR] FL C1713: [CHECKSUM ERR] FR C1714: [CHECKSUM ERR] RR C1715: [CHECKSUM ERR] RL	
	 C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL C1720: [CODE ERR] FL 	
	 C1721: [CODE ERR] FR C1722: [CODE ERR] RR C1723: [CODE ERR] RL C1724: [BATT VOLT LOW] FL C1725: [BATT VOLT LOW] FR 	
	C1726: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RL	

DTC Index

NOTE:

Details of time display

CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.

1 - 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1
 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter
 remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch
 OFF → ON after returning to the normal condition if the malfunction is detected again.

CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_
U1000: CAN COMM CIRCUIT	_	_	BCS-27
B2190: NATS ANTTENA AMP	_	_	SEC-18
B2191: DIFFERENCE OF KEY	_	_	<u>SEC-21</u>
B2192: ID DISCORD BCM-ECM	_	_	SEC-22
B2193: CHAIN OF BCM-ECM	_	_	SEC-24
C1708: [NO DATA] FL	_	_	<u>WT-14</u>
C1709: [NO DATA] FR	_	_	<u>WT-14</u>
C1710: [NO DATA] RR	_	_	<u>WT-14</u>
C1711: [NO DATA] RL	_	_	<u>WT-14</u>
C1712: [CHECKSUM ERR] FL	_	_	<u>WT-16</u>
C1713: [CHECKSUM ERR] FR	_	_	<u>WT-16</u>
C1714: [CHECKSUM ERR] RR	_	_	<u>WT-16</u>
C1715: [CHECKSUM ERR] RL	_	_	<u>WT-16</u>

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

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

< ECU DIAGNOSIS INFORMATION >

POWER WINDOW MAIN SWITCH

Reference Value (Crew Cab)

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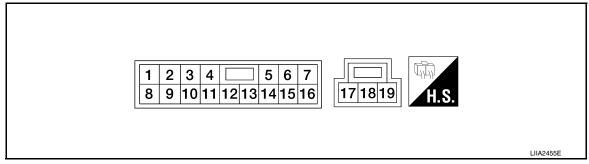
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TERMINAL LAYOUT



PHYSICAL VALUES

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Termina (Wire o		Description		Condition	Voltage [V]		
+	_	Signal name	Input/ Output	Condition	(Approx.)		
1 (R/Y)	Ground	Rear power window motor LH UP signal	Output	When rear LH switch in power window main switch is operated UP.	Battery voltage		
2 (W/B)	Ground	Encoder ground	_	_	0		
3 (R/B)	Ground	Rear power window motor LH DOWN signal	Output	When rear LH switch in power window main switch is operated DOWN.	Battery voltage		
4 (L)	Ground	Door key cylinder switch LH LOCK signal	Input	Key position (Neutral → Locked)	5 → 0		
5 (L)	Ground	Rear power window motor RH DOWN signal	Output	When rear RH switch in power window main switch is operated DOWN.	Battery voltage		
6 (R)	Ground	Door key cylinder switch LH UNLOCK signal	Input	Key position (Neutral → Unlocked)	5 → 0		
7 (R)	Ground	Rear power window motor RH UP signal	Output	When rear RH switch in power window main switch is operated UP.	Battery voltage		
8 (G/R)	11	Front door power window motor LH UP signal	Output	When front LH switch in power window main switch is operated UP.	Battery voltage		
9 (O)	2	Encoder pulse signal 2	Input	When power window motor operates.	(V) 6 4 2 0 10 ms		

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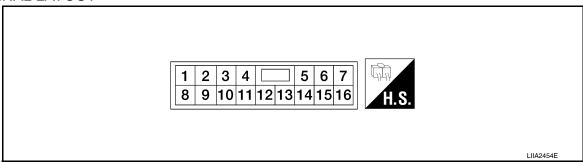
< ECU DIAGNOSIS INFORMATION >

Termina (Wire c		Description		Condition	Voltage [V]
+	_	Signal name	Input/ Output	Condition	(Approx.)
				IGN SW ON	Battery voltage
10 (W/L)	Ground	RAP signal	Input	Within 45 second after ignition switch is turned to OFF.	Battery voltage
				When front LH or RH door is opened during retained power operation.	0
11 (G/W)	8	Front door power window motor LH DOWN signal	Output	When front LH switch in power window main switch is operated DOWN.	Battery voltage
13 (G/Y)	2	Encoder pulse signal 1	Input	When power window motor operates.	(V) 6 4 2 0 10 ms
14 (LG/W)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	(V) 15 10 5 0 JPMIA0013GB
15 (BR)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates.	10
17 (B)	Ground	Ground	_	_	0
19 (W/R)	Ground	Battery power supply	Input	_	Battery voltage

Reference Value (King Cab)

INFOID:0000000006161108

TERMINAL LAYOUT



PHYSICAL VALUES

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

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< ECU DIAGNOSIS INFORMATION >

	nal No. color)	Description		Condition	Voltage [V]
+	_	Signal name	Input/ Output	Condition	(Approx.)
1 (W/R)	Ground	Battery power supply	Input	_	Battery voltage
5 (BR)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates	10
6 (L)	Ground	Door key cylinder switch LH LOCK signal	Input	Key position (Neutral → Locked)	5 → 0
7 (R)	Ground	Door key cylinder switch LH UNLOCK signal	Input	Key position (Neutral → Unlocked)	5 → 0
8 (G/R)	11	Front door power window motor LH UP signal	Output	When front LH switch in power window main switch is operated UP.	Battery voltage
9 (O)	3	Encoder pulse signal 2	Input	When power window motor operates.	(V) 6 4 2 0 10 ms
				IGN SW ON	Battery voltage
10	Ground	RAP signal	Input	Within 45 second after ignition switch is turned to OFF.	Battery voltage
(W/L)	Ciouna	Total Signal	mput	When front LH or RH door is opened during retained power operation.	0
11 (G/W)	8	Front door power window motor LH DOWN signal	Output	When front LH switch in power window main switch is operated DOWN.	Battery voltage
12 (LG/W)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	(V) 15 10 5 0 10 ms JPMIA0013GB
13 (G/Y)	3	Encoder pulse signal 1	Input	When power window motor operates.	(V) 6 4 2 0 10 ms
14 (W/B)	Ground	Encoder ground	_	_	0
15 (B)	Ground	Ground	_	_	0

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< ECU DIAGNOSIS INFORMATION >

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.

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 fail-safe control.

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

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

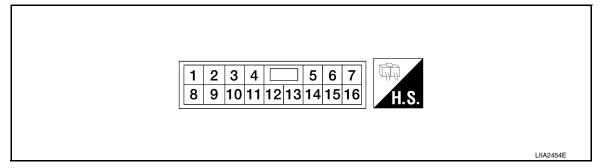
FRONT POWER WINDOW SWITCH

< ECU DIAGNOSIS INFORMATION >

FRONT POWER WINDOW SWITCH

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

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

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FRONT POWER WINDOW SWITCH

< ECU DIAGNOSIS INFORMATION >

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

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.

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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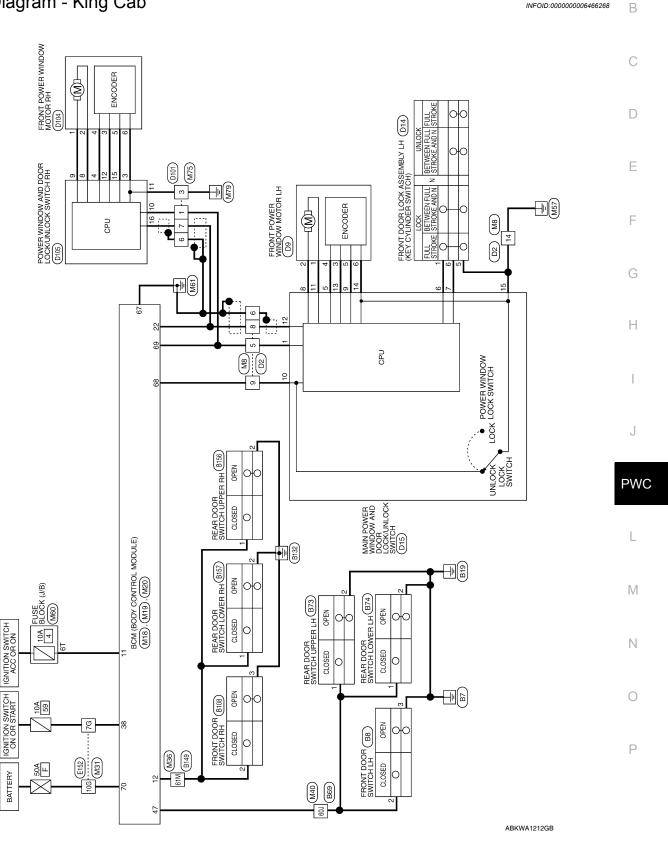
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POWER WINDOW SYSTEM - KING CAB

WIRING DIAGRAM

POWER WINDOW SYSTEM

Wiring Diagram - King Cab



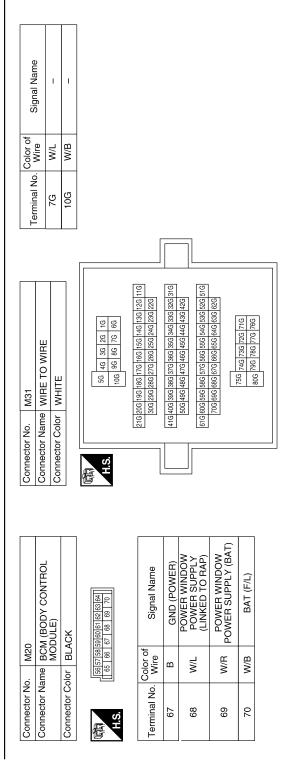
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POWER WINDOW SYSTEM CONNECTORS - KING CAB

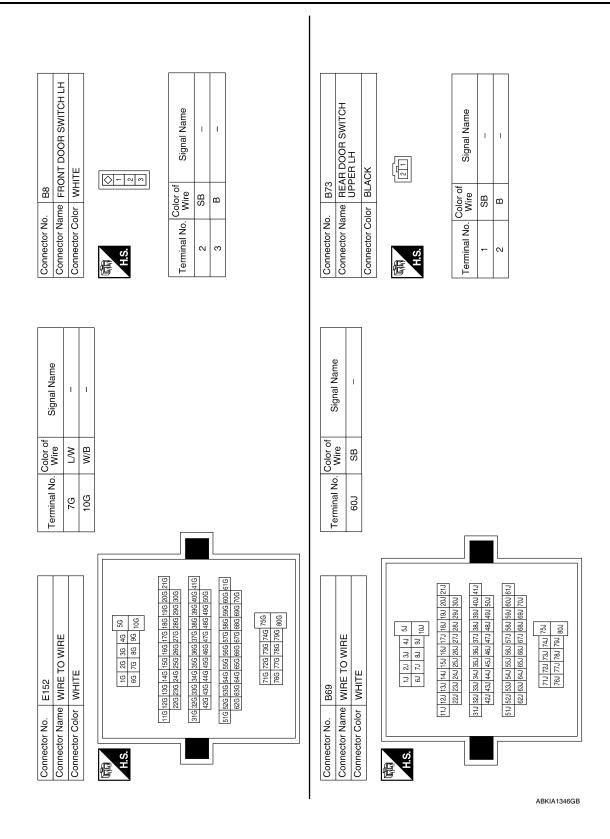
			7 6 5 4 5 4 5 1 1 10 9 8	
3	WHITE	Connector Color WHITE		
C	MODULE)	-	WHITE	Connector Color WHITE
<u>ŏ</u>	Connector Name BCM (BODY CONTROL	Connector Name	WIRE TO WIRE	Connector Name WIRE TO WIRE
ŏ	M18	Connector No. M18	M8	Connector No. M8

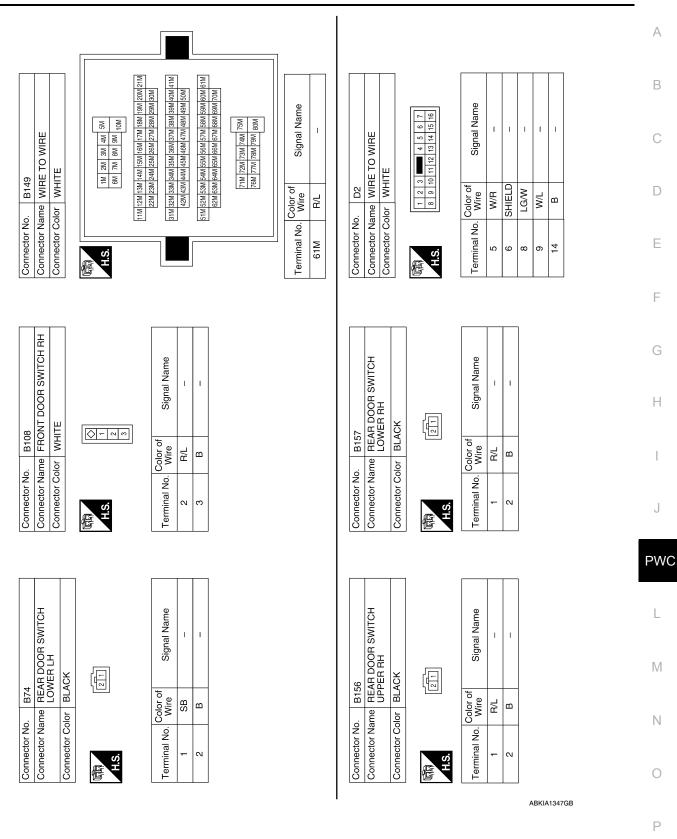
Connector No. M19	Connector Name BCM (BODY CONTROL	MODULE)	Connector Color WHITE	\[\left\{ 41 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			Terminal No. Wire Signal Name	47 SB DOOR SW (DR)	_			
Con	Con		Con	是 H.S.	19 20 39 40		Tern					
8	Connector Name BCM (BODY CONTROL	MODULE)	НТЕ		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 1 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 38		Signal Name		ACC SW	(SV) WS GOOD	CAN WE HOOD	ANTI-PINCH SERIAL LINK (RX, TX)
M18	ne BC	S E	or WF	<u>[</u>	6 7 8		Solor of		0	2	1 // L	G
Connector No.	Connector Nar		Connector Color WHITE	H.S.	1 2 3 4 5 1 21 22 23 24 25 2		Terminal No. Wire	7		10	7	22
			7									7
8	WIRE TO WIRE	HTH.		6 5 4	of Signal Name	1	- Q	ı		_	1	
. M8	me W	lor	-	7 6 16 15	Color o Wire	W/B	SHIELD	G	1////	N/L	α	1
Connector No.	Connector Name	Connector Color WHI		响 H.S.	Terminal No. Wire	2	9	80	c	D)	14	



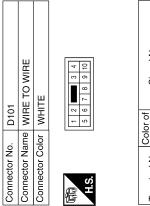
ABKIA1345GB

o. M60 ame FUSE BLOCK (J/B)	27	Color of Signal Name O								A B C
Connector No. Connector Name Connector Color	H.S.	Terminal No.								Е
										F
TO WIRE	5J 4J 3J 2J 1J	21.1 20.1 19.1 18.1 17.1 16.1 15.1 14.1 13.1 12.1 11.1 13.1 13.1 12.1 11.1 13.1	75J 73J 72J 77J 80J 78J 78J	Signal Name						G
Connector No. M40 Connector Name WIRE TO WIRE Connector Color WHITE	S.H	21.1 20.1 19.1 18.1 18.1 18.1 18.1 18.1 18.1 18	12, 18	Terminal No. Wire 60J SB						ı
Con	E =			Tern						J
				1						PW0
E TO WIRE	5M 4M 3M 2M 1M 10M 9M 8M 7M 6M	21M 20M 19M 19M 17M 16M 15M 14M 13M 12M 11M 13M 12M 11M 13M 12M 11M 13M 12M 13M 13M	75M 74M 73M 72M 77M 76M	Signal Name	E TO WIRE	2 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Signal Name	1 1 1	1 1	L
. M36 me WIRE lor WHI		30M 29M 30M 29M 41M 40M 39M 50M 49M 51M 60M 59M		Color of Wire R/L	. M75 me WIRE	4 01	Color of Wire	8 B	G G	N
Connector No. M36 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.			Terminal No. 61M	Connector No. M75 Connector Name WIRE TO WIRE Connector Color WHITE	同 H.S.	Terminal No.			0
					I			AAKIA0	120GB	Р
										Р





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		1					
WIRE TO WIRE	III.	2	Signal Name	-	-	-	-
	lor WHITE	<u>- 10</u>	Color of Wire	W/R	В	SHIELD	LG/W
Connector Name	Connector Color	H.S.	Terminal No.	-	3	9	

Connector No.	6Q .			Connector No.	D14	
Connector Na	me FFR	Connector Name FRONT POWER WINDOW MOTOR LH		Connector Nan	ne FRC ASS	Connector Name FRONT DOOR LOCK ASSEMBLY LH
Connector Color GRAY	lor GF	AAY		Connector Color BLACK	or BLA	Š
H.S.		2 4 5 8 1 8 8		H.S.	2 3	4 5 6
Terminal No. Wire	Color o Wire	f Signal Name	-	Terminal No. Wire	Solor of Wire	Signal Name
-	G/W	ı		1	_	LOCK

GND

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Color of Wire G/R G/R G/Y BR

0 3 0

4 0 2

Signal Name	LOCK	UNLOCK	ı	_	ı	-	ANTI PINCH SERIAL LINK	I	-	GND
Color of Wire	٦	œ	G/R	0	M/L	G/W	LG/W	G/Y	M/B	В
Terminal No.	9	7	8	6	10	11	12	13	14	15

ABKIA2876GB

W/R BR

2

POWER WINDOW SYSTEM

< WIRING DIAGRAM >

	_	_	_	_		_
Signal Name	I	-	GND	_	_	LG/W ANTIPINCH SERIAL LINK
Color of Wire	g	W/R	В	G/Y	G/W	LG/W
Terminal No. Wire	6	10	Ξ	12	15	16

15	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH	11	2 3 4 6 5 6 7 9 10 11 12 13 14 15 16	Signal Name	1
. D105		lor WHITE	8 8	Color of Wire	W/B
Connector No.	Connector Name	Connector Color	原动 H.S.	Terminal No.	3

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





Signal Name	ı	1	1	I	1	1
Color of Wire	5	٦	G/Y	G/R	G/W	M/B
Terminal No.	-	2		4	5	9

G/R

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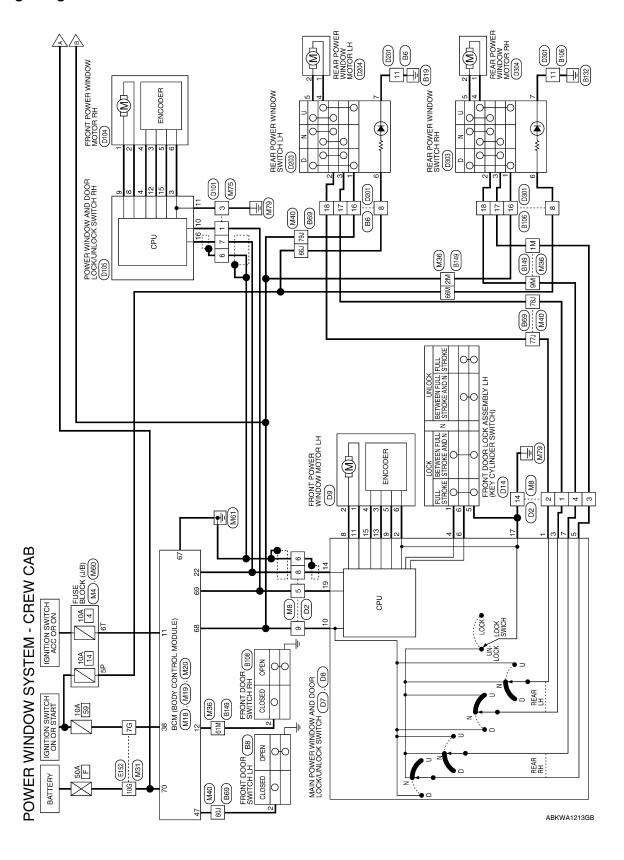
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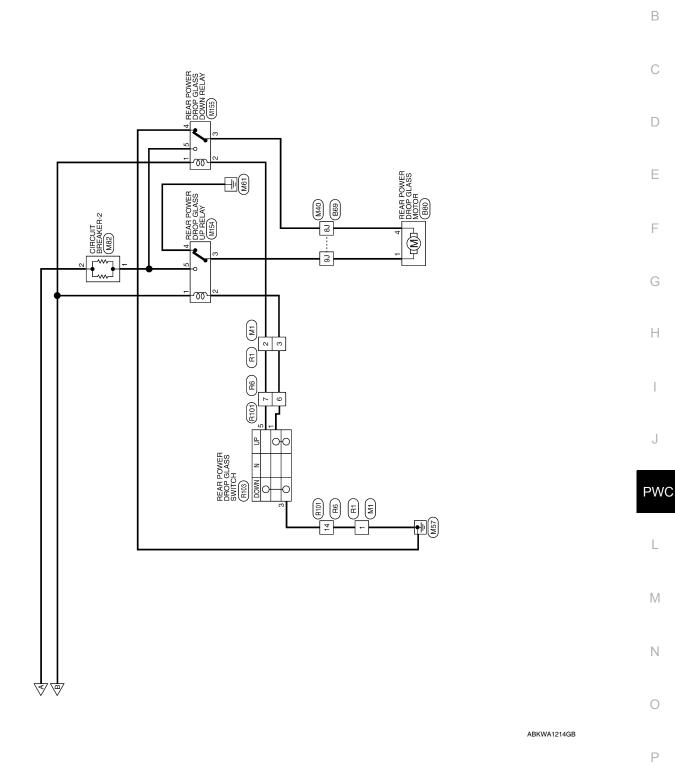
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Wiring Diagram - Crew Cab

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2011 Titan

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POWER WINDOW SYSTEM CONNECTORS - CREW CAB

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

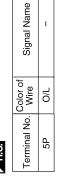
ector No.	M1
ector Name	ector Name WIRE TO WIRE
ector Color WHITE	WHITE
10 10 10 10 10 10 10 10 10 10 10 10 10 1	7 6 5 4 6 5 7 1 10 9 8

	Signal Name	I	ı	ı
	Color of Wire	В	M/¬	G
5	erminal No.	1	2	3

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

Connector Name WIRE TO WIRE Connector Color WHITE

Connector No.



13 12 11 10 9 8	Signal Name	1	1	1	1	1	1	1	1	-
7 6 5 16 16 14 1	Color of Wire	B/B	R/Y	Т	В	W/R	SHIELD	В	M/L	В
明.S.	Terminal No.	1	2	3	4	2	9	8	6	14

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

Connector Name | BCM (BODY CONTROL | MODULE)

M19

Connector No.

WHITE

Connector Color





Signal Nam	MOA) GND
Color of Wire	В
minal No.	29

DOOR SW (DR)

Signal Name

Color of Wire SB

Terminal No.

47

Signal Name	GND (POWER)	POWER WINDOW POWER SUPPLY (LINKED TO RAP)	POWER WINDOW POWER SUPPLY (BAT)	BAT (F/L)
Color of Wire	В	M/L	W/R	M/B
Terminal No. Wire	29	89	69	70

				19 20 39 40					
m	BCM (BODY CONTROL MODULE)	WHITE		8 9 10 11 12 13 14 15 16 17 18 12 28 29 30 31 32 33 34 35 36 37 38	Signal Name	ACC SW	DOOR SW (AS)	ANTI-PINCH SERIAL LINK (RX, TX)	MS N5I
M18		_		25 26 27 28 2	Color of Wire	0	R/L	g	M/L
Connector No.	Connector Name	Connector Color	原 H.S.	1 2 3 4 5 21 22 23 24 25 2	Terminal No.	-	12	22	38
	•								

ABKIA1342GB

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		В
		С
		D
		Е
		F
φ Ε		G
Signal Name	Signal Name	Н
Color of W/L W/L W/B	Color of W/L R/L O/L	I
Terminal No 7G 10G	Terminal No 1M 2M 9M 61M 66M 668M 6	J
		PWC
70 10 10 10 10 10 10 10 10 10 10 10 10 10	1M 1M 1M 1M 1M 1M 1M 1M	L
E TO WIRE TE S6 46 36 100 90 86 100 90 86 100 88	E TO WIRE TE SM 4M 3M 2M 10M 9M 8M 7M 10M 9M 8M 7M 10M 3M 8M 3M 28M 37M 38M 38M 38M 37M 38M 38M 38M 37M 38M 57M 17M 48M 47M 45M 75M 74M 778M 77 17M 778M 778M 778M 17M 77	M
Name WIRI	Name WIR Color WHI	Ν
Connector Connector	Connector Connector H.S.	0
	AAKIA0117GB	Р
Terminal No. M31	Connector No. M36	PWC

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Connector Name WIRE TO WIRE		l erminal No.	Wire	Signal Name	Connector Name		M60 FUSE BLOCK (J/B)
		8.1	B/B	1	Connector Color	_	,
		6	٨	1			
	F	P09	SB	ı	E	21	
54 41 31 21 11		199	O/L	ı	O I	6T 5T 4T	4T 3T
8		L27	R/Y	1			
		787	B/B	1			
21.1 20.1 19.1 18.1 17.1 16.1 15.1 14.1 13.1 12.1 11.1 30.1 29.1 28.1 27.1 26.1 25.1 24.1 23.1 22.1		791	M/L	_	Terminal No.	Color of Wire	Signal Name
7 6		H.S.		<u> </u>	原 H.S.		ω ω 4 -
3 8 7 8 5 1		管	<u> </u>				[s
٥		H.S.		<u> </u>	H.S.		-
Color of Signal Name		Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
ı		-	87	1	-	M/L	1
ı	<u> </u>	2	W/B	1	2	g	ı
I	J				ю	<u>></u>	ı
ı					4	В	1
					22	L/B	ı

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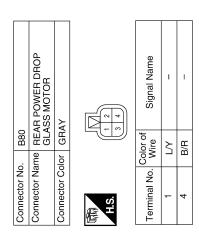
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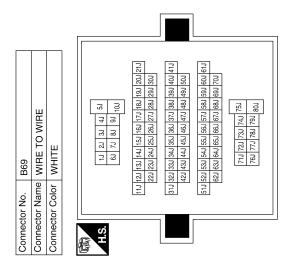
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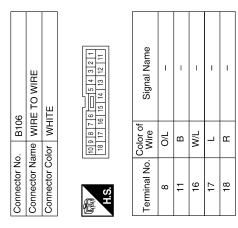
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	_	_				_	_
Signal Name	-	I	I	ı	_	ı	_
Color of Wire	B/B	⊱	SB	O/L	R/Υ	R/B	T/M
Terminal No. Wire	8.1	91	609	66J	L27	787	79J



Connector No.). B108	8
Connector Name	me FR0	FRONT DOOR SWITCH RH
Connector Color	olor WHITE	ITE
所 H.S.		
Terminal No.	Color of Wire	Signal Name
2	B/L	ı



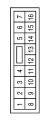
ABKIA2880GB

Connector No. R1 Connector Name WIRE TO WIRE Connector Color WHITE #.S. 1 2 3 4 5 6 7 1 1 1 1 1 1 1 1 1	Connector No. R103 Connector Name REAR POWER DROP GLASS SWITCH Connector Color WHITE Terminal No. Wire 1 G	B C C
		F
Signal Name	R101 WIRE TO WIRE WHITE 2 3	G
Color of W/L N/ire R/L O/L O/L		I
Terminal No. 1M 2M 9M 61M 66M	Connector No. Connector Name Connector Color H.S. H.S. 14	J
		PV
B149	Signal Name	L
N N N N N N N N N N N N N N N N N N N	R6 MRE T Nor white Nor white Nor of white S 4 Mire G Color of Nor of	
Connector No. Connector Name Connector Color H.S.	Connector No. R6 Connector No. R6 Connector Color WHITE Connector Color of F F F F F F F F F	N
	ABKIA2881GB	
		F

Revision: August 2010 PWC-95 2011 Titan

Signal Name	UNLOCK	1	1	ı	1	-	ı	1	ANTI PINICH SERIAL LINK
Color of Wire	œ	œ	G/R	0	M/L	G/W	G/Y	LG/W	BB
Terminal No.	9	7	8	6	10	11	13	14	15

Connector No.	2Q
onnector Name	Connector Name AND DOOR LOCK/UNLOCK SWITCH (CREW CAB)
Connector Color WHITE	WHITE









Signal Name	I	I	-	1	ļ	I	ı	I	I
Color of Wire	B/B	R/Υ	Т	Я	W/R	SHIELD	LG/W	M/L	В
Terminal No. Wire	1	2	8	7	9	9	8	6	14

14	FRONT DOOR LOCK ASSEMBLY LH	-ACK	
Connector No. D14	Connector Name FRONT DOOR LOCK ASSEMBLY LH	Connector Color BLACK	

BLACK	Connector Color
FRONT DOOR ASSEMBLY LH	Connector Name
D14	Connector No.

Conr	Conr	E
MDON		

6G	Connector Name FRONT POWER WINDOV MOTOR LH	GRAY	
Connector No.	Connector Name	Connector Color GRAY	

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (CREW CAB)

Connector Name Connector Color

Connector No.

WHITE



	2
H.S.	
19	

Signal Name	ı	1	I	l	1	ı
Color of Wire	G/W	G/R	G/Y	BR	0	M/B
Terminal No.	-	2	က	4	5	9

Signal Name

Color of Wire

Terminal No.

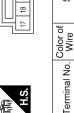
LOCK GND UNLOCK

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18 19	Signal Name	GND	P-WDW BAT
	Color of Wire	В	W/R
	ġ		

17 19





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Connector Name FRONT POWER WINDOW MOTOR RH

D104

Connector No.

Connector Name WIRE TO WIRE

D101

Connector No.

Connector Color WHITE

GRAY

Connector Color

Signal Name

Color of Wire

Terminal No.

Signal Name

Color of Wire

Terminal No.

W/R

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SHIELD

LG/W

-	WIRE TO WIRE	WHITE	4 5 — 6 7 8 9 10 13 14 15 16 17 18	Signal Name	_	-	-	-	_
. D201			1 2 3 4	Color of Wire	O/L	В	M/L	B/B	R/Υ
Connector No.	Connector Name	Connector Color	语	Ferminal No.	8	11	16	17	18

ANTI PINCH SEPRIAL LINK

LG/W

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1	1	1	1	1	1		Signal Name	ı	ı	ı	GND	ı	1	
_ഗ	7	G/Y	G/R	G/W	M/B		Color of Wire	_	g	W/R	В	G/Y	G/W	
_	2	3	4	2	9		nal No.	<u>ω</u>	6	0	1	2	5	

Connector No.	D105
Connector Name	Connector Name DOOR LOCK/UNLOCK SWITCH RH
Connector Color WHITE	WHITE
E	1 2 3 4 6 7
Į	8 9 10 11 12 13 14 15 16

POWER WINDOW ANI DOOR LOCK/UNLOCK SWITCH RH	WHITE	3 4	Signal Name	1	-
	_	8 1 2	Color of Wire	M/B	G/R
Connector Name	Connector Color	雨 H.S.	Terminal No.	က	4

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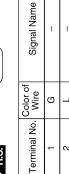
Connector No.	D301
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE

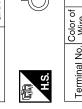


Signal Name	I	I	ı	ı	ı
Color of Wire	O/L	В	M/L	٦	В
Terminal No.	8	11	91	11	18









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9	REAR POWER WINDOW SWITCH LH	WHITE	6 7 8	Signal Name	BAT	UP	DOWN	DOWN	d۸	-	-	
. D203				Color of Wire	M/L	R/Υ	B/B	G		O/L	В	
connector No.	Sonnector Name	Connector Color	是 S.T.	Ferminal No.	1	2	က	4	5	9	7	



REAR POWER WINDOW SWITCH RH

D303

Connector No.

Connector Name Connector Color

WHITE











Signal Name	BAT	UP	DOWN	DOWN	UP	I	I
Color of Wire	M/L	Œ	٦	Y/B	BR	J/O	В
Terminal No.	-	2	3	4	5	9	2

ABKIA2884GB

NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

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

Diagnosis Procedure

 $oldsymbol{1}$. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.

Refer to BCS-28, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

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

Check power window switch main power supply and ground circuit.

Refer to PWC-12, "POWER WINDOW MAIN SWITCH: Component Function Check" (Crew Cab) or PWC-21, "POWER WINDOW MAIN SWITCH: Component Function Check" (King Cab).

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace the malfunctioning parts.

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

Check main power window and door lock/unlock switch serial circuit.

Refer to PWC-12, "POWER WINDOW MAIN SWITCH: Component Function Check" (Crew Cab) or PWC-21, "POWER WINDOW MAIN SWITCH: Component Function Check" (King Cab).

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace the malfunctioning parts.

 $oldsymbol{4}$. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Check main power window and door lock/unlock switch.

Refer to PWC-12, "POWER WINDOW MAIN SWITCH: Component Function Check" (Crew Cab) or PWC-21 "POWER WINDOW MAIN SWITCH: Component Function Check" (King Cab).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident". **PWC**

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DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000006161117

1. CHECK FRONT POWER WINDOW MOTOR LH

Check front power window motor LH.

Refer to PWC-25, "DRIVER SIDE: Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPER-**ATF** Diagnosis Procedure

INFOID:0000000006161118

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

Check power window and door lock/unlock switch RH.

Refer to PWC-16, "FRONT POWER WINDOW SWITCH: Component Function Check" (Crew Cab) or PWC-22, "FRONT POWER WINDOW SWITCH: Component Function Check" (King Cab).

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

2. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH SERIAL LINK CIRCUIT

Check power window and door lock/unlock switch RH serial link circuit.

Refer to PWC-56. "FRONT POWER WINDOW SWITCH: Component Function Check".

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace the malfunctioning parts.

 $3.\,$ CHECK FRONT POWER WINDOW MOTOR RH CIRCUIT

Check front power window motor RH circuit.

Refer to PWC-26, "PASSENGER SIDE: Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

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PWC-101 2011 Titan Revision: August 2010

REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000006161119

1. CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH.

Refer to PWC-18, "REAR POWER WINDOW SWITCH: Component Function Check".

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

2. CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH.

Refer to PWC-28, "REAR LH: Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS > REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE Α Diagnosis Procedure INFOID:0000000006161120 1. CHECK REAR POWER WINDOW SWITCH RH В Check rear power window switch RH. Refer to PWC-18, "REAR POWER WINDOW SWITCH: Component Function Check". C Is the inspection result normal? YES >> GO TO 2 NO >> Repair or replace the malfunctioning parts. 2. CHECK REAR POWER WINDOW MOTOR RH D Check rear power window motor RH. Refer to PWC-29, "REAR RH: Component Function Check". Е Is the inspection result normal? YES >> Inspection End. NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident". F Н J **PWC** L M Ν 0

Revision: August 2010 PWC-103 2011 Titan

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:0000000006161121

1. CHECK DOOR WINDOW SLIDING PART

- A foreign material adheres to window glass or glass run rubber.
- · Glass run rubber wear or deformation.
- Sash is tilted too much or not enough.

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

2. CHECK ENCODER CIRCUIT

Check encoder circuit.

Refer to <u>PWC-32</u>, "<u>DRIVER SIDE</u>: <u>Component Function Check"</u> (Crew Cab) or <u>PWC-38</u>, "<u>DRIVER SIDE</u>: <u>Component Function Check"</u> (King Cab).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:0000000006161122

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- 1. CHECK DOOR WINDOW SLIDING PART
- · A foreign material adheres to window glass or glass run rubber.
- Glass run rubber wear or deformation.
- · Sash is tilted too much or not enough.

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

2. CHECK ENCODER CIRCUIT

Check encoder circuit.

Refer to <u>PWC-34</u>, "<u>PASSENGER SIDE</u>: <u>Component Function Check</u>" (Crew Cab) or <u>PWC-40</u>, "<u>PASSENGER SIDE</u>: <u>Component Function Check</u>" (King Cab).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

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Revision: August 2010 PWC-105 2011 Titan

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:0000000006161123

1. CHECK AUTO UP INITIALIZATION

Refer to TSB.

Does automatic function operate normally?

YES >> Inspection End.

NO >> GO TO 2.

2. CHECK ENCODER

Check encoder.

Refer to <u>PWC-32</u>, "<u>DRIVER SIDE</u>: <u>Component Function Check</u>" (Crew Cab) or <u>PWC-38</u>, "<u>DRIVER SIDE</u>: <u>Component Function Check</u>" (King Cab).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

Revision: August 2010 PWC-106 2011 Titan

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:0000000006161124

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1. CHECK AUTO UP INITIALIZATION

Refer to TSB.

Does automatic function operate normally?

YES >> Inspection End.

NO >> GO TO 2.

2. CHECK ENCODER

Check encoder.

Refer to <u>PWC-34</u>, "<u>PASSENGER SIDE</u>: <u>Component Function Check</u>" (Crew Cab) or <u>PWC-40</u>, "<u>PASSENGER SIDE</u>: <u>Component Function Check</u>" (King Cab).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

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Revision: August 2010 PWC-107 2011 Titan

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:0000000006161125

1. CHECK FRONT DOOR SWITCH

Check front door switch.

Refer to PWC-44, "Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

DOES NOT OPERATE BY KEY CYLINDER SWITCH

< SYMPTOM DIAGNOSIS >

DOES NOT OPERATE BY KEY CYLINDER SWITCH

Diagnosis Procedure

INFOID:0000000006161126

1. CHECK FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)

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

Refer to <u>PWC-48</u>, "Component Function Check" (Crew Cab) or <u>PWC-51</u>, "Component Function Check" (King Cab).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

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KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000006161127

1. CHECK KEYFOB FUNCTION

Check keyfob function.

Refer to <u>BCS-18</u>, "<u>MULTI REMOTE ENT</u>: <u>CONSULT-III Function (BCM - MULTI REMOTE ENT)</u>" with remote keyless entry system.

Is the inspection result normal?

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

NO >> Replace BCM. Refer to BCS-53, "Removal and Installation".

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

< SYMPTOM DIAGNOSIS > POWER WINDOW LOCK SWITCH DOES NOT FUNCTION Α Diagnosis Procedure INFOID:0000000006161128 ${\bf 1}$. REPLACE MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH В Replace main power window and door lock/unlock switch. Refer to PWC-115, "Removal and Installation". C Is the inspection result normal? YES >> Inspection End. NO >> Check intermittent incident. Refer to GI-39. "Intermittent Incident". D Е F Н J L

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REAR POWER DROP GLASS DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

REAR POWER DROP GLASS DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000006161129

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.

Refer to BCS-28, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

2. CHECK REAR POWER DROP GLASS SWITCH

Check rear power drop glass switch.

Refer to PWC-59, "Rear Power Drop Glass Circuit Inspection".

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace the malfunctioning parts.

3. CHECK REAR POWER DROP GLASS MOTOR CIRCUIT

Check rear power drop glass motor circuit.

Refer to PWC-59, "Rear Power Drop Glass Circuit Inspection".

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace the malfunctioning parts.

4. CHECK REAR POWER DROP GLASS RELAYS

Check rear power drop glass relays.

Refer to PWC-60, "Rear Power Drop Glass Down Relay Check" and PWC-62, "Rear Power Drop Glass Up Relay Check".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRF-TFNSIONER"

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

WARNING:

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

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

WARNING:

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

Precaution for Work INFOID:0000000006698796

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

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PREPARATION

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PREPARATION

Special Service Tool

INFOID:0000000006698795

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

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

< REMOVAL AND INSTALLATION >

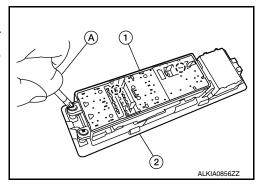
REMOVAL AND INSTALLATION

POWER WINDOW MAIN SWITCH

Removal and Installation

REMOVAL

- 1. Remove the main power window and door lock/unlock switch finisher (2) from the front door finisher LH. Refer to INT-10. "Removal and Installation".
- 2. Remove the screws from the main power window and door lock/ unlock switch (1) using suitable tool (A). Then release the main power window door lock/unlock switch (1) from the finisher (2).



INSTALLATION

Installation is in the reverse order of removal.

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FRONT POWER WINDOW SWITCH

< REMOVAL AND INSTALLATION >

FRONT POWER WINDOW SWITCH

Removal and Installation

REMOVAL

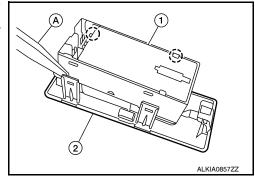
 Remove the power window and door lock/unlock switch finisher (2) from the front door finisher RH. Refer to <u>INT-10</u>, "Removal and Installation".

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2. Remove the power window and door lock/unlock switch (1) from the power window and door lock/unlock switch finisher (2) by releasing the tabs using suitable tool (A).

CAUTION:

Wrap a cloth around suitable tools to protect components from damage.



INFOID:0000000006161132

INSTALLATION

Installation is in the reverse order of removal.

REAR POWER WINDOW SWITCH

< REMOVAL AND INSTALLATION >

REAR POWER WINDOW SWITCH

Removal and Installation - Rear Door Switch

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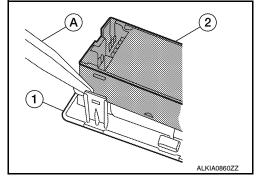
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REMOVAL

- 1. Remove the rear power window switch finisher (1) from the rear door finisher. Refer to INT-10, "Removal and Installation".
- 2. Remove the rear power window switch (2) from the power window switch finisher (1) by releasing the tabs using suitable tool (A).

CAUTION:

Wrap a cloth around suitable tools to protect components from damage.



INSTALLATION

Installation is in the reverse order of removal.

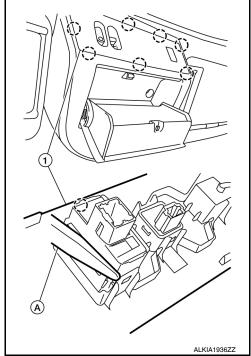
Removal and Installation - Power Drop Glass Switch

INFOID:0000000006161134

REMOVAL

- Using a suitable tool (A) release the pawls and remove the overhead console switch finisher (1) from overhead console.
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- 2. Using same tool (A) release the tabs and remove power drop glass switch from the overhead console switch finisher (1).

Wrap a cloth around suitable tools to protect components from damage.



INSTALLATION

Installation is in the reverse order of removal.

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Revision: August 2010 PWC-117 2011 Titan