

# SECTION DLK

## DOOR & LOCK

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# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

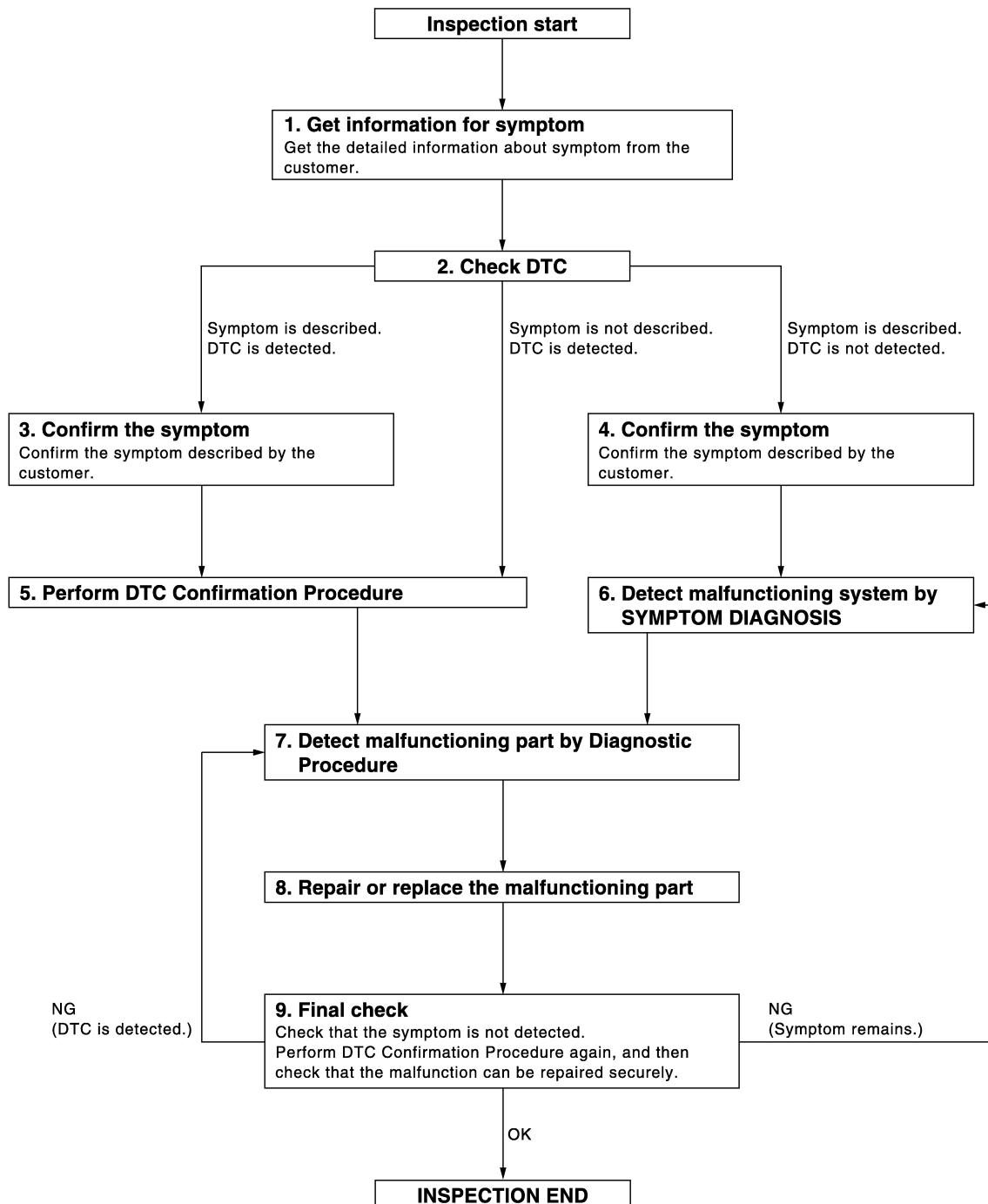
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000006179163

OVERALL SEQUENCE



DETAILED FLOW

# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

## 1. GET INFORMATION FOR SYMPTOM

Get the detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

>> GO TO 2.

## 2. CHECK DTC

1. Check DTC.
2. Perform the following procedure if DTC is displayed.
  - Record DTC and freeze frame data (Print them out with CONSULT-III.)
  - Erase DTC.
  - Study the relationship between the cause detected by DTC and the symptom described by the customer.
3. Check related service bulletins for information.

Is any symptom described and any DTC detected?

Symptom is described, DTC is displayed>>GO TO 3.

Symptom is described, DTC is not displayed>>GO TO 4.

Symptom is not described, DTC is displayed>>GO TO 5.

## 3. CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT-III to the vehicle in "DATA MONITOR" mode and check real time diagnosis results.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

## 4. CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT-III to the vehicle in "DATA MONITOR" mode and check real time diagnosis results.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

## 5. PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again.

At this time, always connect CONSULT-III to the vehicle, and check diagnostic results in real time.

If two or more DTCs are detected, refer to [DLK-72, "DTC Inspection Priority Chart"](#) and determine trouble diagnosis order.

**NOTE:**

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC Confirmation Procedure is not included in Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.  
If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC Confirmation Procedure.

Is DTC detected?

Yes >> GO TO 7.

No >> Refer to [GI-39, "Intermittent Incident"](#).

## 6. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

>> GO TO 7.

## 7. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

**NOTE:**

## DIAGNOSIS AND REPAIR WORKFLOW

### < BASIC INSPECTION >

The Diagnostic Procedure described based on open circuit inspection. A short circuit inspection is also required for the circuit check in the Diagnostic Procedure.

#### Is malfunctioning part detected?

Yes      >> GO TO 8.

No      >> Check voltage of related BCM terminals using CONSULT-III.

### 8.REPAIR OR REPLACE THE MALFUNCTIONING PART

1. Repair or replace the malfunctioning part.
2. Reconnect parts or connectors disconnected during Diagnostic Procedure again after repair and replacement.
3. Check DTC. If DTC is displayed, erase it.

>> GO TO 9.

### 9.FINAL CHECK

When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction have been repaired securely.

When symptom was described from the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

#### Does the symptom reappear?

YES (DTC is detected)>>GO TO 7.

YES (Symptom remains)>>GO TO 6.

NO      >> Inspection End.

## INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

### INSPECTION AND ADJUSTMENT

#### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

##### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:000000006179164

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Perform the system initialization when replacing BCM, replacing a key fob or registering an additional key fob.

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

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Refer to the CONSULT-III operation manual for the initialization procedure.

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# AUTOMATIC DOOR LOCKS

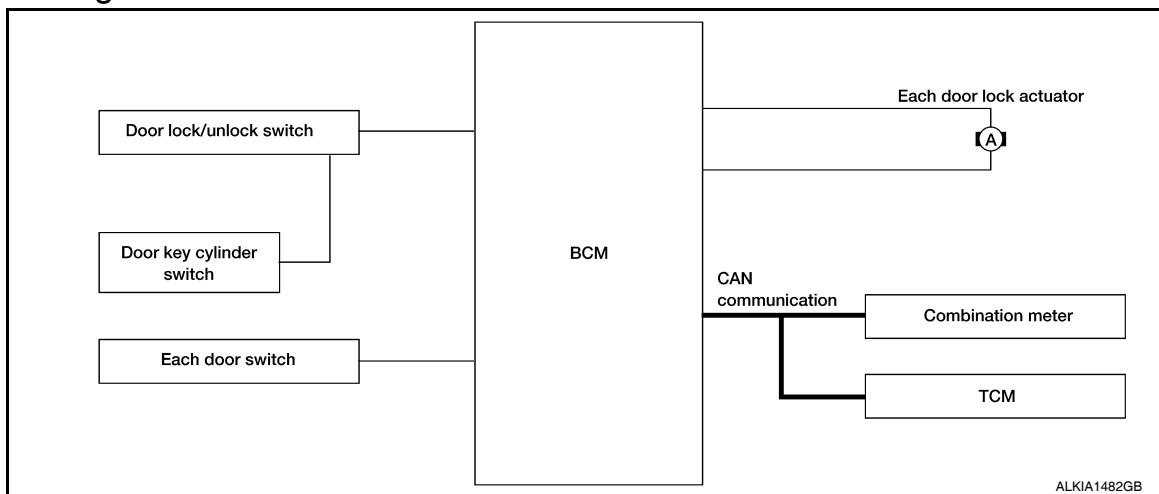
< SYSTEM DESCRIPTION >

## SYSTEM DESCRIPTION

### AUTOMATIC DOOR LOCKS

#### System Diagram

INFOID:0000000006179166



#### System Description

INFOID:0000000006179167

Input	Single	Function	Actuator
Door lock/unlock switch	Door lock/unlock signal	Door lock function	
Door key cylinder switch			
Each door switch	Door open/close signal	Key reminder function	Each door lock actuator
Combination meter	Warning buzzer signal		
	Vehicle speed signal	Automatic door lock/unlock function	
TCM	Shift position signal		

#### DOOR LOCK FUNCTION

- The door lock and unlock switch (driver side) is built into power window main switch.
- The door lock and unlock switch (passenger side) is on door trim.
- Interlocked with the locking operation of door lock and unlock switch, door lock actuators of all doors are locked.
- Interlocked with the unlocking operation of door lock and unlock switch, door lock actuators of all doors are unlocked.

#### Door Key Cylinder

- With the door key inserted in the door key cylinder on driver side, turning it to "LOCK", will lock door lock actuator of all doors.
- With the door key inserted in the door key cylinder on driver side, turning it to "UNLOCK" once unlocks the driver side door lock actuator; turning it to "UNLOCK" again within 5 seconds after the first unlock operation unlocks all of the other doors. - (SELECTIVE UNLOCK OPERATION)

Selective unlock operation mode can be changed using "DOOR LOCK-UNLOCK SET" mode in "WORK SUPPORT". Refer to [DLK-20, "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)".](#)

#### AUTOMATIC DOOR LOCKS (LOCK OPERATION)

The automatic door locks function is the function that locks all doors linked with the vehicle speed or shift position. It has 2 types as follows.

##### Vehicle Speed Sensing Auto Door Lock\*1

All doors are locked when the vehicle speed reaches 24 km/h (15 MPH) or more.

BCM outputs the lock signal to all door lock actuators when it detects that the ignition switch is turned ON, all doors are closed and the vehicle speed received from the combination meter via CAN communication becomes 24 km/h (15 MPH) or more.

# AUTOMATIC DOOR LOCKS

## < SYSTEM DESCRIPTION >

If a door is opened and closed at any time during one ignition cycle (OFF → ON), even after initial auto door lock has taken place, the BCM will relock all doors when the vehicle speed reaches 24 km/h (15 MPH) or more again.

### P Range Interlock Door Lock

All doors are locked when shifting the selector lever from the P position to any position other than P. BCM outputs the lock signal to all door lock actuators when it detects that the ignition switch is in the ON position and the shift signal received from the TCM via CAN communication is shifted from the P position to any position other than P.

#### Setting change of Automatic Door Locks (LOCK) Function

The LOCK operation setting of the automatic door locks function can be changed.

##### With CONSULT-III

The ON/OFF switching of the automatic door locks (LOCK) function and the type selection of the automatic door locks (LOCK) function can be performed at the WORK SUPPORT setting of CONSULT-III. Refer to [DLK-20, "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)".](#)

##### Without CONSULT- III

The automatic door locks (LOCK) function can be switched ON/OFF by performing the following operation.

1. Close all doors (door switch OFF).
2. Turn ignition switch ON.
3. Within 20 seconds of turning the ignition switch ON, press and hold the door lock and unlock switch to the LOCK position for more than 5 seconds.
4. The switching is completed when the hazard lamps blink.

OFF → ON : 2 blinks

ON → OFF : 1 blink

5. The ignition switch must be turned OFF and ON again between each setting change.

### AUTOMATIC DOOR LOCKS (UNLOCK OPERATION)

The automatic door locks (UNLOCK) function is the function that unlocks all doors linked with the key position or shift position. It has 2 types as follows.

#### IGN OFF Interlock Door Unlock\*1

All doors are unlocked when the power supply position is changed from ON to OFF.

BCM outputs the unlock signal to all door lock actuators when it detects that the power supply position is changed from ignition switch ON to OFF.

#### P Range Interlock Door Unlock

All doors are unlocked when shifting the selector lever from any position other than the P to P position.

BCM outputs the unlock signal to all door lock actuators when it detects that the ignition switch is in the ON position and the shift signal received from TCM via CAN communication is shifted from any position other than the P to P position.

#### Setting change of Automatic Door Locks (UNLOCK) Function

The UNLOCK operation setting of the automatic door locks function can be changed.

##### With CONSULT-III

The ON/OFF switching of the automatic door locks (UNLOCK) function and the type selection of the automatic door locks (UNLOCK) function can be performed at the WORK SUPPORT setting of CONSULT-III. Refer to [DLK-20, "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)".](#)

##### Without CONSULT- III

The automatic door locks (UNLOCK) function can be switched ON/OFF by performing the following operation.

1. Close all doors (door switch OFF).
2. Turn ignition switch ON.
3. Within 20 seconds of turning the ignition switch ON, press and hold the door lock and unlock switch to the UNLOCK position for more than 5 seconds.
4. The switching is completed when the hazard lamps blink.

OFF → ON : 2 blinks

ON → OFF : 1 blink

# AUTOMATIC DOOR LOCKS

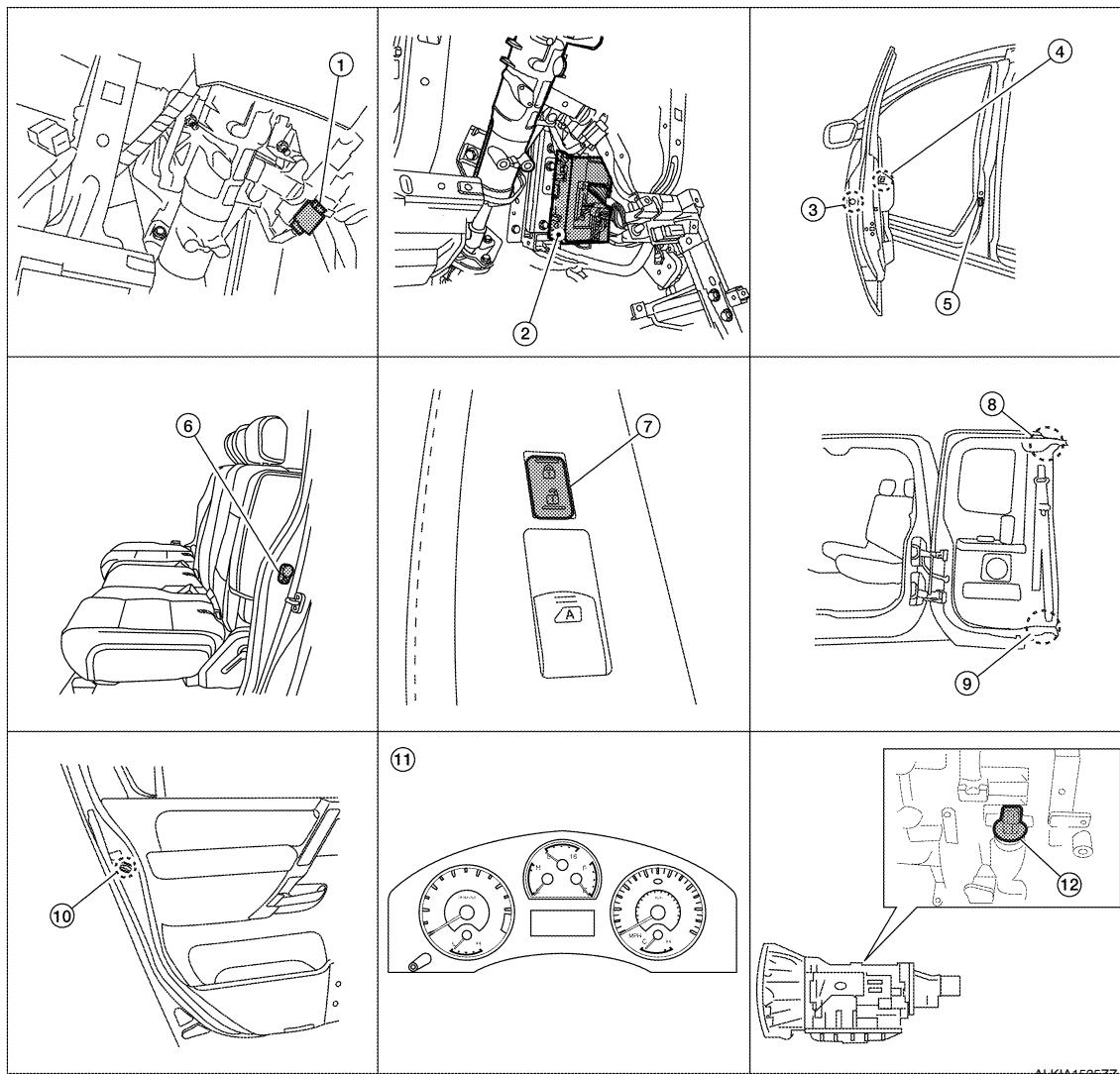
## < SYSTEM DESCRIPTION >

5. The ignition switch must be turned OFF and ON again between each setting change.

\*1: This function is set to ON before delivery.

## Component Parts Location

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1. Key switch and key lock solenoid (key switch) (floor shift) M27  
Key switch (column shift) M80
2. BCM M18, M19, M20  
(view with instrument panel LH removed)
3. Front door lock assembly LH (key cylinder switch) D14  
Front door lock actuator RH D114
4. Main power window and door lock/unlock switch D15 (king cab)  
D7, D8 (crew cab)
5. Front door switch LH B8  
RH B108
6. Rear door switch (crew cab) LH B18  
RH B116
7. Power window and door lock/unlock switch RH D105
8. Rear door switch upper (king cab) LH B73  
RH B156
9. Rear door switch lower (king cab) LH B74  
RH B157
10. Rear door lock actuator (crew cab) LH D205  
RH D305
11. Combination meter M24
12. A/T assembly F9 (floor shift), F17 (column shift)

# AUTOMATIC DOOR LOCKS

< SYSTEM DESCRIPTION >

## Component Description

INFOID:000000006179169

Item	Function
BCM	Controls the door lock function and room lamp function.
Door lock and unlock switch	Input lock or unlock signal to BCM.
Door lock actuator	Output lock/unlock signal from BCM and locks/unlocks each door.
Door switch	Input door open/close condition to BCM.
Door key cylinder switch	<ul style="list-style-type: none"><li>Input lock or unlock signal to main power window and door lock/unlock switch.</li><li>Main power window and door lock/unlock switch transmits door lock/unlock signal to BCM.</li></ul>
Combination meter	<ul style="list-style-type: none"><li>Receive buzzer signal from BCM via CAN communication line, and sounds the buzzer.</li><li>Transmits vehicle speed signal to CAN communication line.</li></ul>
TCM	Transmit shift position signal to BCM via CAN communication line.

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## DOOR LOCK FUNCTION

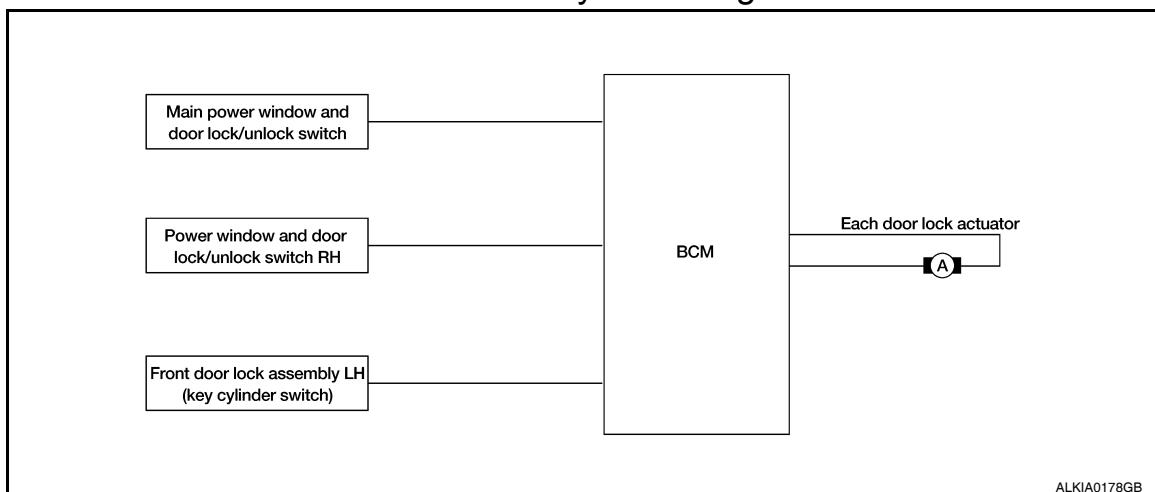
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### DOOR LOCK FUNCTION

#### DOOR LOCK AND UNLOCK SWITCH

#### DOOR LOCK AND UNLOCK SWITCH : System Diagram

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ALKIA0178GB

#### DOOR LOCK AND UNLOCK SWITCH : System Description

INFOID:000000006179171

Switch	Input/output signal to BCM	BCM function	Actuator
Main power window and door lock/unlock switch			
Power window and door lock/unlock switch	Door lock/unlock signal	Door lock/unlock control	Door lock actuator
Door key cylinder switch			

#### DOOR LOCK FUNCTION

Functions Available by Operating the Door Lock and Unlock Switches on Driver Door and Passenger Door

- Interlocked with the locking operation of door lock and unlock switch, door lock actuators of all door lock actuators are locked.
- Interlocked with the unlocking operation of door lock and unlock switch, door lock actuators of all door lock actuators are unlocked.

Functions Available by Operating the Key Cylinder Switch on Driver Door

- Interlocked with the locking operation of door key cylinder, door lock actuators of all door lock actuators are locked.

#### Selective Unlock Operation

- When door key cylinder is unlocked, door lock actuator driver side is unlocked.
- When door key cylinder is unlocked for the second time within 5 seconds after the first operation, door lock actuators on all doors are unlocked.

Select unlock operation mode can be changed using DOOR LOCK-UNLOCK SET mode in "WORK SUPPORT". Refer to [DLK-20. "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)".](#)

#### Key Reminder System

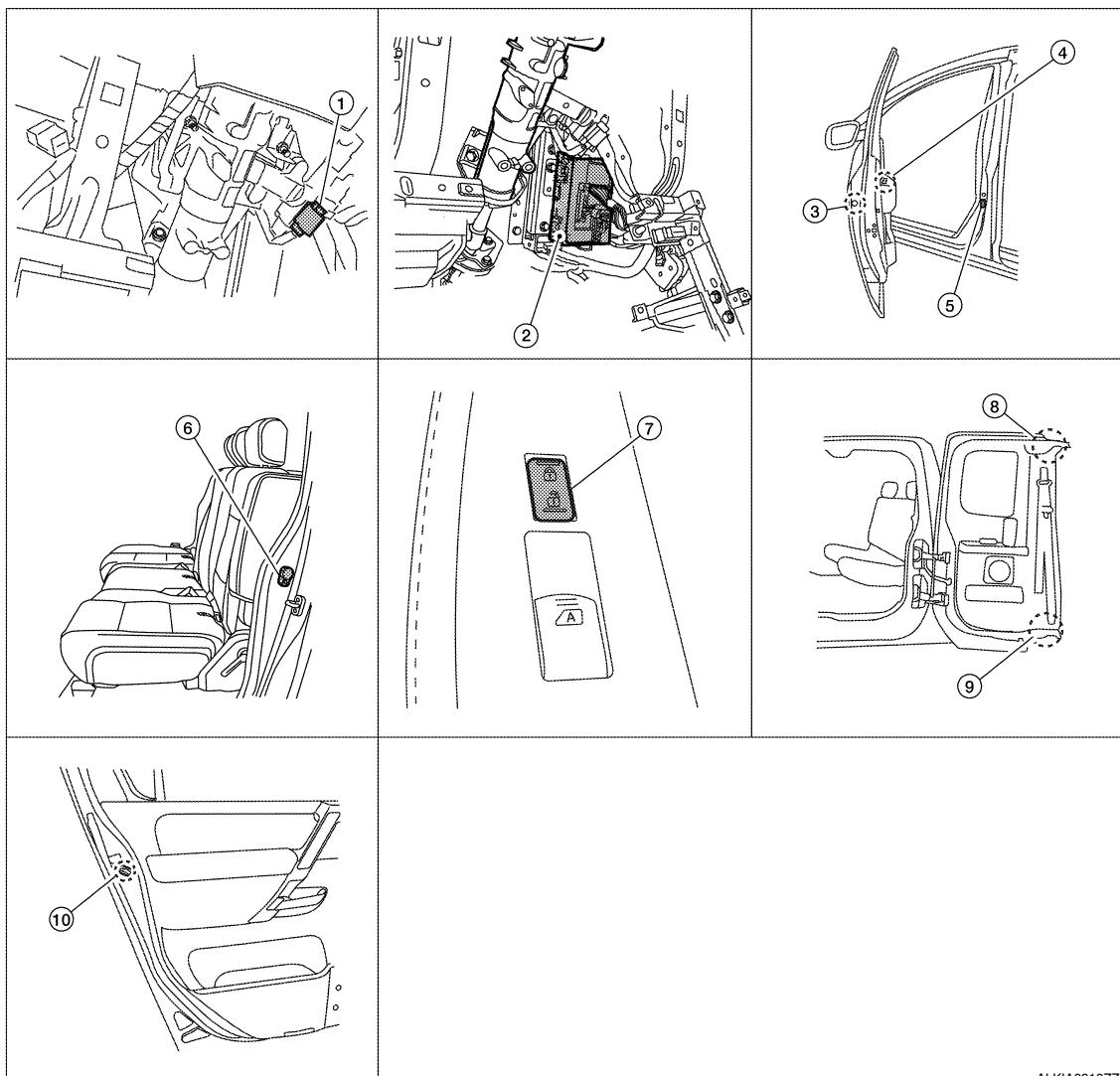
Refer to [DLK-19, "COMMON ITEM : CONSULT-III Function \(BCM - COMMON ITEM\)".](#)

# DOOR LOCK FUNCTION

## < SYSTEM DESCRIPTION >

### DOOR LOCK AND UNLOCK SWITCH : Component Parts Location

INFOID:000000006179172



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1. Key switch and key lock solenoid (key switch) (floor shift) M27  
Key switch (column shift) M80
2. Main power window and door lock/unlock switch D15 (king cab)  
D7, D8 (crew cab)
3. Power window and door lock/unlock switch RH D105
4. Rear door lock actuator (crew cab)  
LH D205  
RH D305
5. Front door lock assembly LH (key cylinder switch) D14  
Front door lock actuator RH D114
6. Rear door switch (crew cab)  
LH B18  
RH B116
7. Rear door switch upper (king cab)  
LH B73  
RH B156
8. Rear door switch lower (king cab)  
LH B74  
RH B157

### DOOR LOCK AND UNLOCK SWITCH : Component Description

INFOID:000000006179173

Item	Function
BCM	Controls the door lock function and room lamp function.
Door lock and unlock switch	Transmits lock or unlock signal to BCM.

# DOOR LOCK FUNCTION

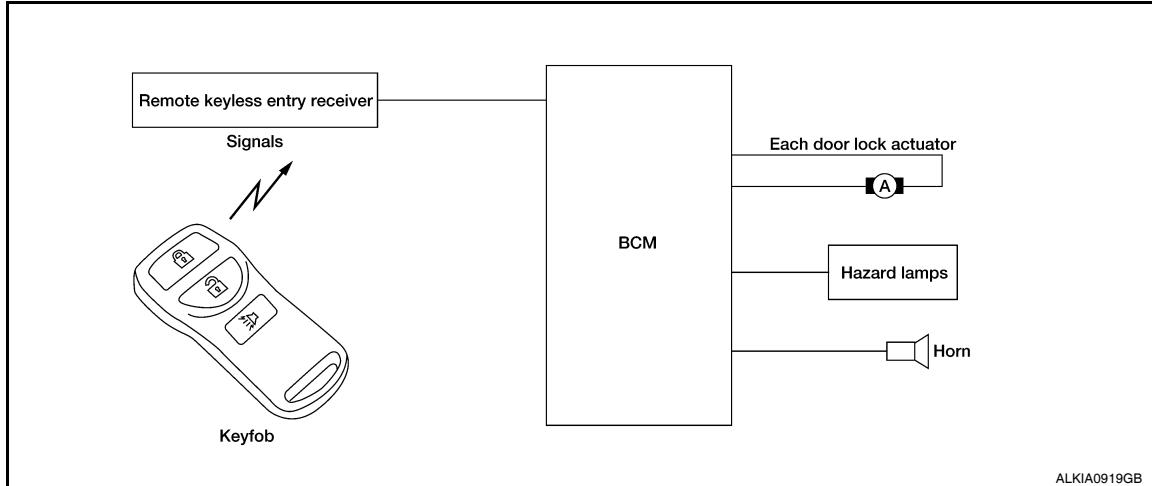
## < SYSTEM DESCRIPTION >

Item	Function
Door lock actuator	Receives lock/unlock signal from BCM and locks/unlocks each door.
Door switch	Transmits door open/close condition to BCM.

## REMOTE KEYLESS ENTRY

### REMOTE KEYLESS ENTRY : System Diagram

INFOID:000000006179174



### REMOTE KEYLESS ENTRY : System Description

INFOID:000000006179175

#### OPERATED PROCEDURE

- When the keyfob is operated, the signal from the keyfob is sent and the remote keyless entry receiver receives the signal and sends it to the BCM. The BCM only locks/unlocks the doors if the ID number matches. (Remote control entry functions)
- Using the keyfob, the transmitter sends radio waves to the remote keyless entry receiver, which then sends the received waves to the BCM. Only if the ID number matches does the BCM lock/unlock the doors. (Remote control door function)
- Unless the key is inserted into the ignition key cylinder or one of the doors is opened within 1 minute after the UNLOCK switch on the keyfob is pressed, all the doors are automatically locked. (Auto lock function)
- When a door is locked or unlocked, the vehicle turn signal lamps flash and the horn sounds to verify operation. (Active check function)
- When the key is in the ignition key cylinder (when the key switch is ON) and one of the doors is open, the door lock function does not work even when the door lock is operated with the keyfob.
- Keyfob ID set up is available.
- If a keyfob is lost, a new keyfob can be set up. A maximum of 5 IDs can be set up simultaneously.

#### REMOTE CONTROL ENTRY FUNCTIONS

- When a button on the keyfob is operated, the signal is sent from the keyfob and received by the remote keyless entry receiver.
- The received signal is sent to the BCM and compared with the registered ID number.
- If the ID number matches, the BCM sends the lock/unlock signal to each door lock actuator.
- When the door lock actuators receive this signal, each operates to lock/unlock its door.
- BCM locks all doors with input of LOCK signal from keyfob.
- When an UNLOCK signal is sent from keyfob once, driver's door will be unlocked.
- Then, if an UNLOCK signal is sent from keyfob again within 5 seconds, all other doors will be unlocked.

#### REMOTE CONTROL ENTRY OPERATION CONDITIONS

Keyfob operation	Operation condition
Door lock operation (locking)	<ul style="list-style-type: none"> <li>With key removed (key switch: OFF)</li> <li>Closing all doors (door switch: OFF)</li> </ul>
Door lock operation (unlocking)	With key removed (key switch: OFF)

# DOOR LOCK FUNCTION

## < SYSTEM DESCRIPTION >

### AUTO LOCK FUNCTION

#### Operation Description

- Unless the key is inserted into the ignition key cylinder, one of the doors is opened, or the keyfob is operated within 1 minute after a door lock is unlocked by keyfob operation, all the doors are automatically locked. The 1 minute timer count is executed by the BCM and after 1 minute, the BCM sends the lock signal to all doors.
- Lock operations are the same as for the remote control entry function.

### ACTIVE CHECK FUNCTION

#### Operation Description

When a door is locked or unlocked by keyfob operation, the vehicle turn signals flash and the horn sounds to verify operation.

- When a button on the keyfob is operated, the signal is sent from the remote controller and received by the keyless remote entry receiver.
- The received signal is sent to the BCM and compared with the registered ID number.
- If the ID number matches, the BCM uses communication to send the turn signal flashing and horn signal to the IPDM E/R.
- The IPDM E/R flashes the turn signal lamps and sounds the horn for each keyfob operation.

#### Operating function of hazard and horn reminder

	C mode		S mode	
Keyfob operation	Lock	Unlock	Lock	Unlock
Hazard warning lamp flash	Twice	Once	Twice	—
Horn sound	Once	—	—	—

### HAZARD AND HORN REMINDER

BCM output to IPDM E/R for horn reminder signal as DATA LINE (CAN-H line and CAN-L line).

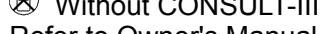
The hazard and horn reminder has C mode (horn chirp mode) and S mode (non-horn chirp mode).

#### How to change hazard and horn reminder mode



With CONSULT-III

Hazard and horn reminder can be changed using "WORK SUPPORT" mode in "MULTI ANSWER BACK SET".



Without CONSULT-III

Refer to Owner's Manual for instructions.

DLK

### INTERIOR LAMP OPERATION

When the following input signals are both supplied:

- all door switches are in the OFF position. (when all the doors are closed);
- interior lamp switch is in DOOR position.

Remote keyless entry system turns on interior lamp and ignition keyhole illumination (for 30 seconds) with input of UNLOCK signal from keyfob.

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### PANIC ALARM OPERATION

When key switch is OFF (when ignition key is not inserted in key cylinder), remote keyless entry system turns on and off horn and headlamp intermittently with input of PANIC ALARM signal from keyfob.

The alarm automatically turns off after 25 seconds or when BCM receives any signal from keyfob.

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### KEYLESS POWER WINDOW DOWN (OPEN) OPERATION

When keyfob unlock switch is turned ON with ignition switch OFF, and the switch is detected to be ON continuously for more than 1 second, the driver's door and passenger's door power windows are simultaneously opened.

Power window is operated to open and the operation continues as long as the keyfob unlock switch is pressed.

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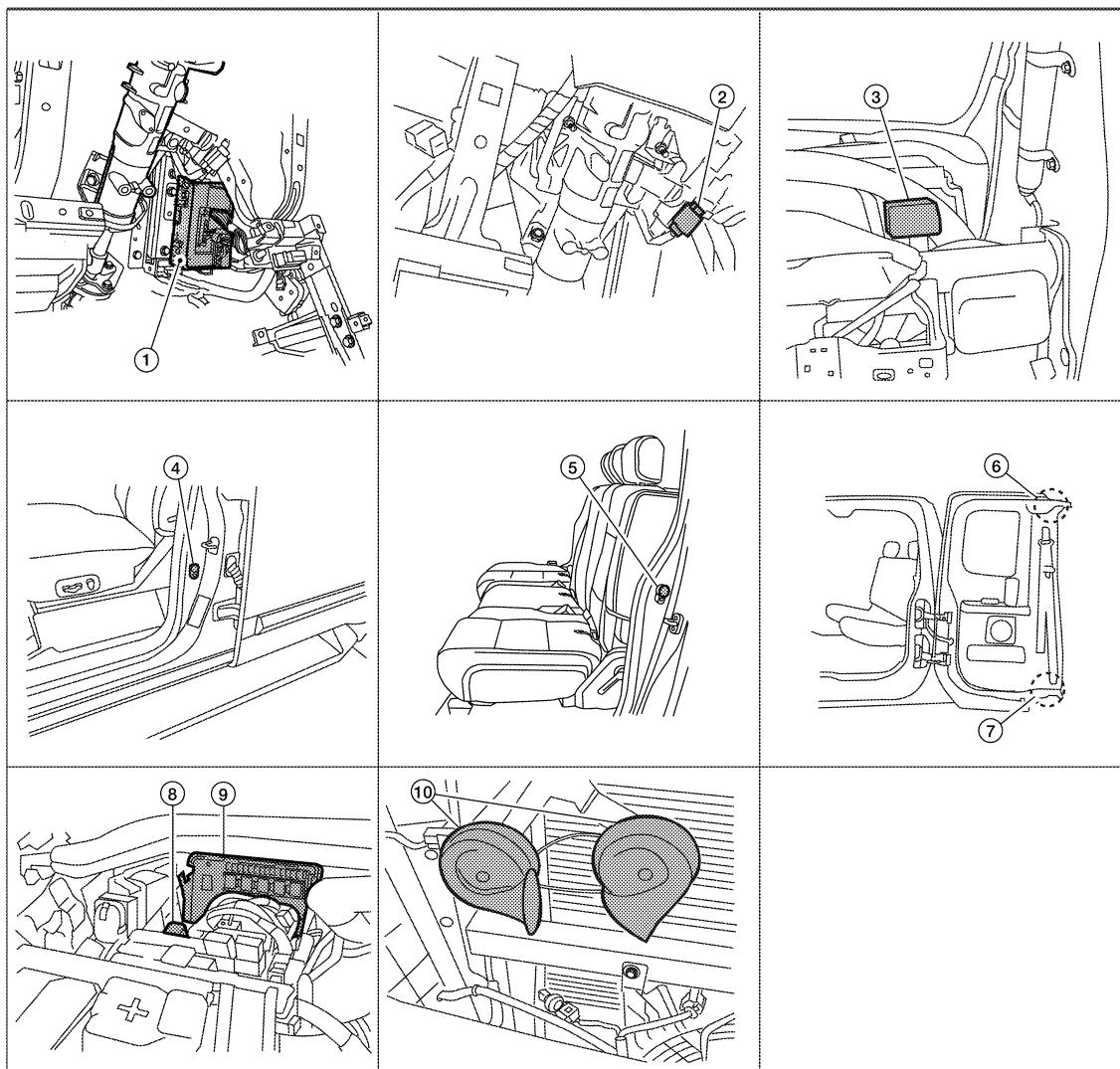
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# DOOR LOCK FUNCTION

## < SYSTEM DESCRIPTION >

### REMOTE KEYLESS ENTRY : Component Parts Location

INFOID:0000000006179176



ALKIA0920ZZ

1. BCM M18, M19, M20  
(view with instrument panel LH removed)
2. Key switch and key lock solenoid (key switch) (floor shift) M27  
Key switch (column shift) M80  
(view with instrument panel LH removed)
3. Remote keyless entry receiver M120  
(view with instrument panel RH removed)
4. Front door switch LH B8  
RH B108
5. Rear door switch (crew cab)  
LH B18  
RH B116
6. Rear door switch upper (king cab)  
LH B73  
RH B156
7. Rear door switch lower (king cab)  
LH B74  
RH B157
8. Horn relay H-11  
(view with cover removed)
9. IPDM E/R E119, E122, E123
10. Horn E3  
(view with grille removed)

### REMOTE KEYLESS ENTRY : Component Description

INFOID:0000000006179177

Item	Function
BCM	Controls the door lock function and room lamp function.
Door lock and unlock switch	Transmits lock or unlock signal to BCM.

## DOOR LOCK FUNCTION

### < SYSTEM DESCRIPTION >

Item	Function
Door switch	Transmits door open/close condition to BCM.
Remote keyless entry receiver	Receives lock/unlock signal from the keyfob, and then transmits to BCM.

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# HOMELINK UNIVERSAL TRANSCEIVER

< SYSTEM DESCRIPTION >

## HOMELINK UNIVERSAL TRANSCEIVER

### Component Description

INFOID:000000006179178

Item	Function	Reference page
Homelink universal transceiver	A maximum of 3 radio signals can be stored and transmitted to operate the garage door, etc.	Refer to Owner's Manual

# DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (BCM)

### COMMON ITEM

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

INFOID:0000000006658823

#### 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	<ul style="list-style-type: none"> <li>The vehicle specification can be read and saved.</li> <li>The vehicle specification can be written when replacing BCM.</li> </ul>
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

#### SYSTEM APPLICATION

BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		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				×			

## DOOR LOCK

# DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)

INFOID:000000006658824

## SELF DIAGNOSTIC RESULT

Refer to [DLK-73, "DTC Index"](#).

## DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.

## ACTIVE TEST

Test Item	Description
DOOR LOCK	This test is able to check door lock operation [OTR ULK/DR UNLK/ALL UNLK/ALL LCK].

## WORK SUPPORT

Support Item	Setting	Description
DOOR LOCK-UNLOCK SET	On*	Automatic door locks function ON.
	Off	Automatic door locks function OFF.
ANTI-LOCK OUT SET	Off	Anti lock out function OFF.
	On*	Anti lock out function ON.
AUTOMATIC DOOR LOCK SELECT	SHIFT OUT OF PARK	Doors lock automatically when shifted out of park (P).
	VH SPD*	Doors lock automatically when vehicle speed reaches 24 km/h (15 mph).
AUTOMATIC DOOR UNLOCK SELECT	MODE6	Drivers door unlocks automatically when key is removed.
	MODE5	Drivers door unlocks automatically when shifted into park (P).
	MODE4	Drivers door unlocks automatically when ignition is switched from ON to OFF.
	MODE3	Doors unlock automatically when key is removed.
	MODE2*	Doors unlock automatically when shifted into park (P).
	MODE1	Doors unlock automatically when ignition is switched from ON to OFF.
AUTOMATIC LOCK/UNLOCK SELECT	On*	Automatic lock/unlock function ON.
	Off	Automatic lock/unlock function OFF.

\* : Initial setting

## MULTI REMOTE ENT

MULTI REMOTE ENT : CONSULT-III Function (BCM - MULTI REMOTE ENT)

INFOID:000000006658825

## DATA MONITOR

# DIAGNOSIS SYSTEM (BCM)

## < SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.
KEYLESS PANIC [On/Off]	Indicates condition of panic signal from keyfob.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEY CYL LK SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.

## ACTIVE TEST

Test Item	Description
DOOR LOCK	This test is able to check door lock operation [OTR ULK/DR UNLK/ALL UNLK/ALL LCK].
PW REMOTO DOWN SET	This test is able to check keyfob power window down operation [Off/On].
FLASHER	This test is able to check hazard reminder operation [Off/LH/RH].
HORN	This test is able to check horn operation [On].

## WORK SUPPORT

Support Item	Setting	Description
HORN CHIRP SET	Off	Horn chirp function can be changed in this mode.
	On*	
HAZARD LAMP SET	MODE4* Lock and Unlock	Hazard warning lamp function can be changed in this mode.
	MODE3 Lock Only	
	MODE2 Unlock Only	
	MODE1 OFF	
MULTI ANSWER BACK SET	MODE2 Lock	Hazard warning lamps flash twice and horn does not sound.
	Unlock	Hazard warning lamps do not flash and horn does not sound.
	MODE1* Lock	Hazard warning lamps flash twice and horn sounds once.
	Unlock	Hazard warning lamps flash once and horn does not sound.
AUTO LOCK SET	MODE3 1 min	Auto locking function can be changed in this mode.
	MODE2 OFF	
	MODE1* 5 min	
PANIC ALRM SET	MODE3 1.5 sec	Panic alarm operation can be changed in this mode.
	MODE2 OFF	
	MODE1* 0.5 sec	
PW DOWN SET	MODE3 5 sec	Keyfob power window down can be changed in this mode.
	MODE2 OFF	
	MODE1* 3 sec	
REMO CONT ID REGIST	—	Keyfob ID code can be registered.

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## DIAGNOSIS SYSTEM (BCM)

### < SYSTEM DESCRIPTION >

Support Item	Setting	Description
REMO CONT ID ERASUR	—	Keyfob ID code can be erased.
REMO CONT ID CONFIR	—	Keyfob ID code registration is displayed.

\*: Initial setting

< DTC/CIRCUIT DIAGNOSIS >

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000006179182

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H-line, CAN L-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Signal Chart. Refer to [LAN-51, "CAN Communication Signal Chart"](#).

#### DTC Logic

INFOID:000000006179183

#### DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
U1000	CAN COMM CIRCUIT	When BCM cannot communicate CAN communication signal continuously for 2 seconds or more.	<p>In CAN communication system, any item (or items) of the following listed below is malfunctioning.</p> <ul style="list-style-type: none"><li>• Transmission</li><li>• Receiving (ECM)</li><li>• Receiving (VDC/TCS/ABS)</li><li>• Receiving (METER/M&amp;A)</li><li>• Receiving (TCM)</li><li>• Receiving (IPDM E/R)</li></ul>

#### Diagnosis Procedure

INFOID:000000006179184

##### 1. PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result".

Is "CAN COMM CIRCUIT" displayed?

YES >> Refer to [LAN-14, "Trouble Diagnosis Flow Chart"](#).  
NO >> Refer to [GI-39, "Intermittent Incident"](#).

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# U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

## U1010 CONTROL UNIT (CAN)

### DTC Logic

INFOID:0000000006179185

#### DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
U1010	CONTROL UNIT (CAN)	BCM detected internal CAN communication circuit malfunction.	BCM

### Diagnosis Procedure

INFOID:0000000006179186

#### 1 .REPLACE BCM

When DTC [U1010] is detected, replace BCM.

>> Replace BCM. Refer to [BCS-53, "Removal and Installation"](#).

### Special Repair Requirement

INFOID:0000000006179187

#### 1 .REQUIRED WORK WHEN REPLACING BCM

The BCM must be initialized when replaced. Refer to [BCS-3, "CONFIGURATION : Description"](#) for BCM configuration.

Initialize NVIS by CONSULT-III. For the details of initialization refer to CONSULT-III operation manual NATS-NVIS/NVIS.

>> Work end.

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

### BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:000000006752595

Regarding Wiring Diagram information, refer to [BCS-46, "Wiring Diagram"](#).

#### 1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
57	Battery power supply	22 (15A)
70		F (50A)
11	Ignition ACC or ON	4 (10A)
38	Ignition ON or START	59 (10A)

Is the fuse blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

#### 2. CHECK POWER SUPPLY CIRCUIT

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

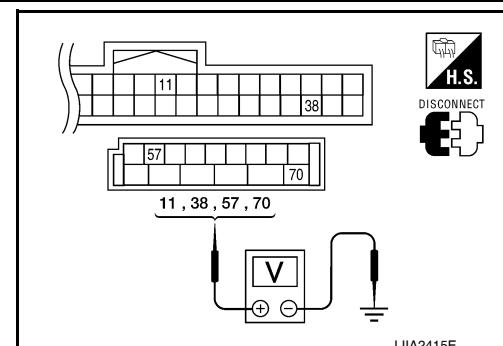
Connector	Terminals		Power source	Condition	Voltage (V) (Approx.)
	(+)	(-)			
M18	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage
	38	Ground	Ignition power supply	Ignition switch ON or START	Battery voltage
M20	57	Ground	Battery power supply	Ignition switch OFF	Battery voltage
	70	Ground	Battery power supply	Ignition switch OFF	Battery voltage

Is the measurement value normal?

YES >> GO TO 3

NO >> Repair or replace harness.

#### 3. CHECK GROUND CIRCUIT



## POWER SUPPLY AND GROUND CIRCUIT

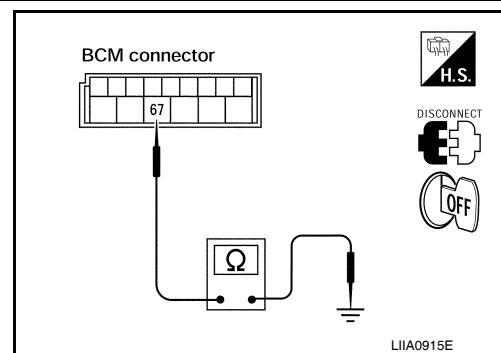
### < DTC/CIRCUIT DIAGNOSIS >

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M20	67		Yes

Does continuity exist?

YES >> Inspection End.  
NO >> Repair or replace harness.



# DOOR SWITCH

< DTC/CIRCUIT DIAGNOSIS >

## DOOR SWITCH

### KING CAB

#### KING CAB : Description

INFOID:000000006179189

Detects door open/close condition.

#### KING CAB : Component Function Check

INFOID:000000006179190

#### 1. CHECK FUNCTION

##### With CONSULT-III

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

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

Is the inspection result normal?

YES >> Door switch is OK.

NO >> Refer to [DLK-27, "KING CAB : Diagnosis Procedure"](#).

#### KING CAB : Diagnosis Procedure

INFOID:000000006179191

Regarding Wiring Diagram information, refer to [DLK-77, "Wiring Diagram - King Cab"](#).

#### 1. CHECK DOOR SWITCHES INPUT SIGNAL

##### With CONSULT-III

Check door switches ("DOOR SW-DR", "DOOR SW-AS") in DATA MONITOR mode with CONSULT-III. Refer to [DLK-20, "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)"](#).

- When doors are open:

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

- When doors are closed:

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

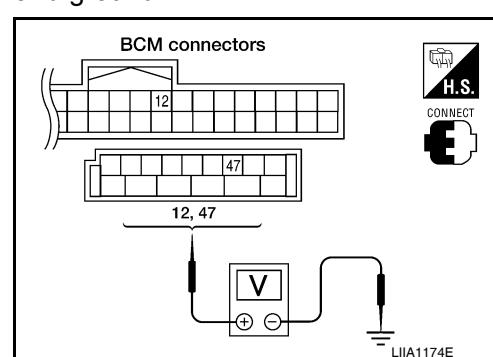
##### Without CONSULT-III

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

Connector	Item	Terminals		Condition	Voltage (V) (Approx.)
		(+)	(-)		
M19	Door switches LH	47		Ground	0 ↓ Battery voltage
M18	Door switches RH	12		Open ↓ Closed	

Is the inspection result normal?

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



#### 2. CHECK DOOR SWITCH CIRCUIT



# DOOR SWITCH

< DTC/CIRCUIT DIAGNOSIS >

CREW CAB : Diagnosis Procedure

INFOID:000000006179194

Regarding Wiring Diagram information, refer to [DLK-84, "Wiring Diagram - Crew Cab".](#)

## 1. CHECK DOOR SWITCHES INPUT SIGNAL

### With CONSULT-III

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR") in DATA MONITOR mode with CONSULT-III. Refer to [DLK-20, "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)".](#)

- When doors are open:

DOOR SW-DR	:ON
DOOR SW-AS	:ON
DOOR SW-RL	:ON
DOOR SW-RR	:ON

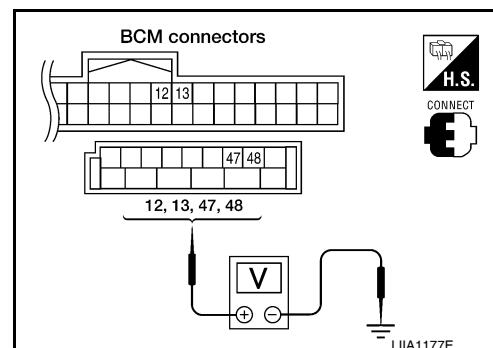
- When doors are closed:

DOOR SW-DR	:OFF
DOOR SW-AS	:OFF
DOOR SW-RL	:OFF
DOOR SW-RR	:OFF

### Without CONSULT-III

Check voltage between BCM connector M18 or M19 terminals 12, 13, 47, 48 and ground.

Connector	Item	Terminals		Condition	Voltage (V) (Approx.)
		(+)	(-)		
M19	Front door switch LH	47		Ground	0
	Rear door switch LH	48			Battery voltage
M18	Front door switch RH	12		Open ↓ Closed	
	Rear door switch RH	13			



Is the inspection result normal?

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

## 2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B18 (Rear LH), B116 (Rear RH) terminal 2 and BCM connector M18, M19 terminals 12, 13, 47 and 48.

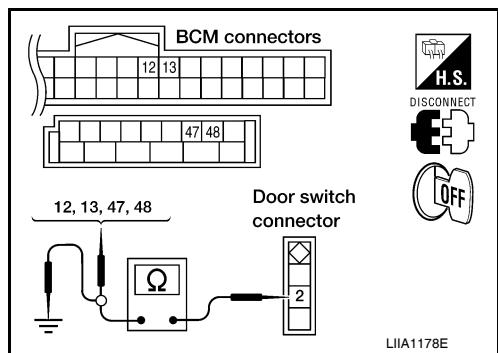
# DOOR SWITCH

## < DTC/CIRCUIT DIAGNOSIS >

2 - 47	:Continuity should exist
2 - 12	:Continuity should exist
2 - 48	:Continuity should exist
2 - 13	:Continuity should exist

4. Check continuity between door switch connector B8 (Front LH), B108 (Front RH), B18 (Rear LH), B116 (Rear RH) terminal 2 and ground.

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



### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

## 3. CHECK DOOR SWITCHES

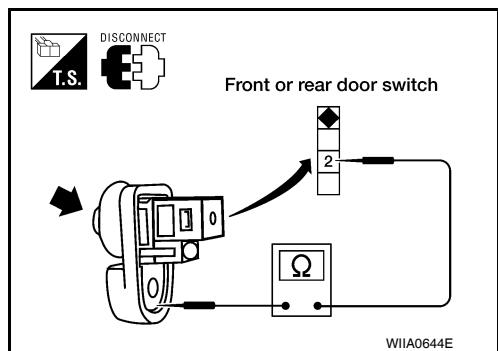
Check continuity between door switch terminal 2 and exposed metal of switch while pressing and releasing switch.

	Terminals	Condition	Continuity
Door switch (front and rear)	2 – Ground	Released	Yes
		Pressed	No

### Is the inspection result normal?

YES >> Check door switch case ground condition.

NO >> Replace door switch.



# DOOR LOCK AND UNLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

## DOOR LOCK AND UNLOCK SWITCH KING CAB

### KING CAB : Description

INFOID:000000006179195

Transmits door lock/unlock operation to BCM.

### KING CAB : Component Function Check

INFOID:000000006179196

#### 1. CHECK FUNCTION

##### With CONSULT-III

Check CDL LOCK SW, CDL UNLOCK SW in Data Monitor mode with CONSULT-III.

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

Is the inspection result normal?

YES >> Door lock and unlock switch is OK.

NO >> refer to [DLK-31, "KING CAB : Diagnosis Procedure".](#)

### KING CAB : Diagnosis Procedure

INFOID:000000006179197

Regarding Wiring Diagram information, refer to [DLK-77, "Wiring Diagram - King Cab".](#)

#### 1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

##### With CONSULT-III

Check door lock/unlock switch ("CDL LOCK SW", "CDL UNLOCK SW") in DATA MONITOR mode in CONSULT-III. Refer to [DLK-20, "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)".](#)

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- When door lock/unlock switch is turned to LOCK:

**CDL LOCK SW :ON**

- When door lock/unlock switch is turned to UNLOCK:

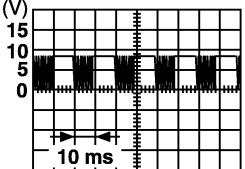
**CDL UNLOCK SW :ON**

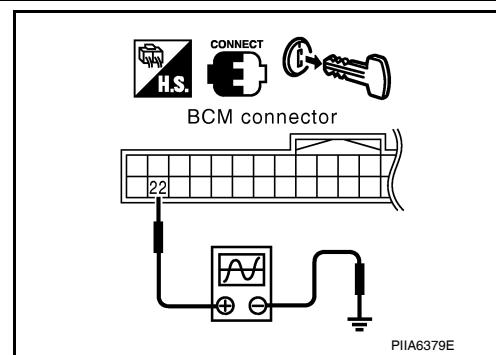
##### Without CONSULT-III

1. Remove key from ignition key cylinder.
2. Check the signal between BCM connector M18 terminal 22 and ground with oscilloscope when door lock/unlock switch is turned to LOCK or UNLOCK.
3. Make sure the signals which are shown in the figure below can be detected during 10 seconds just after the door lock/unlock switch is turned to LOCK or UNLOCK.

# DOOR LOCK AND UNLOCK SWITCH

## < DTC/CIRCUIT DIAGNOSIS >

Connector	Terminals		Signal (Reference value)
	(+)	(-)	
M18	22	Ground	 PIIA1297E



### Is the inspection result normal?

YES >> Door lock and unlock switch circuit is OK.

NO >> GO TO 2

## 2. CHECK BCM OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Using the vehicle operational key fob, press and hold the UNLOCK button for more than 3 seconds.

### The front windows should be lowered?

### Is the inspection result normal?

YES >> GO TO 3

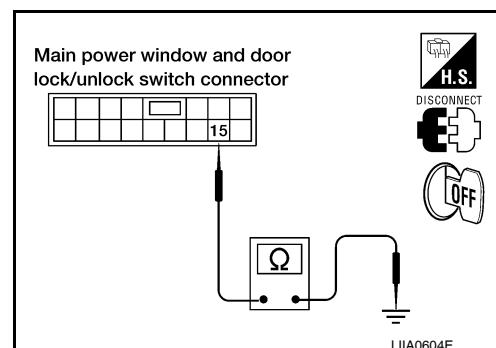
NO >> Replace BCM. Refer to [BCS-53, "Removal and Installation"](#).

## 3. CHECK DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

1. Disconnect main power window and door lock/unlock switch or power window and door lock/unlock switch RH.
2. Check continuity between main power window and door lock/unlock switch connector D15 terminal 15 and ground.

**15 - Ground**

**: Continuity should exist**



3. Check continuity between power window and door lock/unlock switch RH connector D105 terminal 11 and ground.

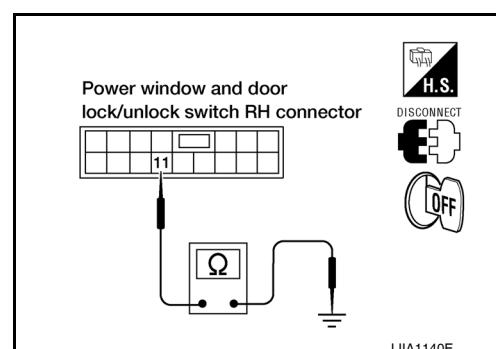
**11 - Ground**

**: Continuity should exist**

### Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.



## 4. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Disconnect BCM.

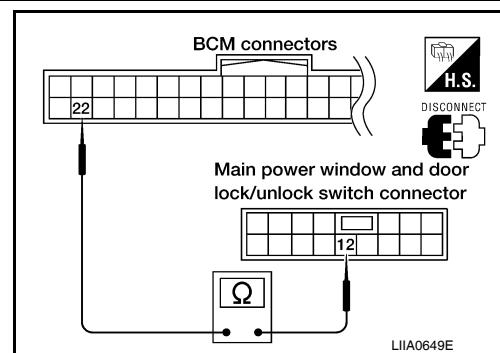
# DOOR LOCK AND UNLOCK SWITCH

## < DTC/CIRCUIT DIAGNOSIS >

2. Check continuity between BCM connector M18 terminal 22 and main power window and door lock/unlock switch connector D15 terminal 12.

**22 - 12**

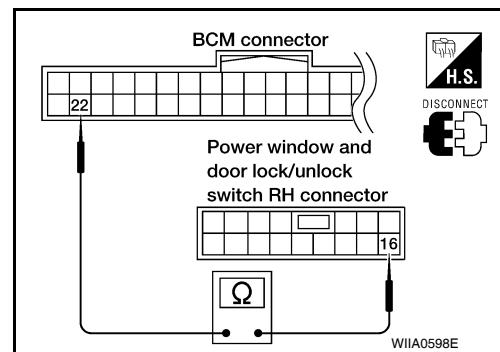
**: Continuity should exist**



3. Check continuity between BCM connector M18 terminal 22 and power window and door lock/unlock switch RH connector D105 terminal 16.

**22 - 16**

**: Continuity should exist**



4. Check continuity between BCM connector M18 terminal 22 and ground.

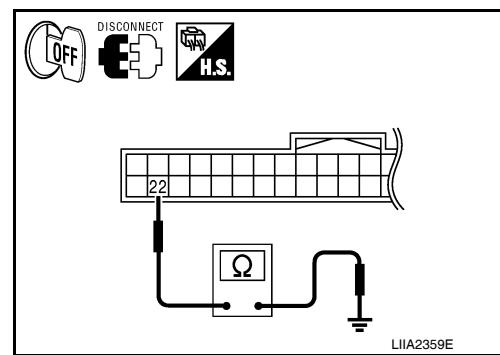
**22 - Ground**

**: Continuity should not exist**

Is the inspection result normal?

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

NO >> Repair or replace harness.



## CREW CAB

### CREW CAB : Description

INFOID:0000000006179198

Transmits door lock/unlock operation to BCM.

### CREW CAB : Component Function Check

INFOID:0000000006179199

#### 1. CHECK FUNCTION

##### With CONSULT-III

Check CDL LOCK SW, CDL UNLOCK SW in Data Monitor mode with CONSULT-III.

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

Is the inspection result normal?

YES >> Door lock and unlock switch is OK.

NO >> Refer to [DLK-34. "CREW CAB : Diagnosis Procedure".](#)

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# DOOR LOCK AND UNLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

CREW CAB : Diagnosis Procedure

INFOID:0000000006179200

Regarding Wiring Diagram information, refer to [DLK-84, "Wiring Diagram - Crew Cab".](#)

## 1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

 With CONSULT-III

Check door lock/unlock switch ("CDL LOCK SW", "CDL UNLOCK SW") in DATA MONITOR mode in CONSULT-III. Refer to [DLK-20, "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)".](#)

- When door lock/unlock switch is turned to LOCK:

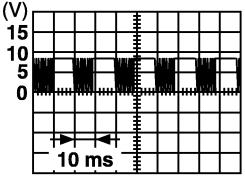
**CDL LOCK SW** :ON

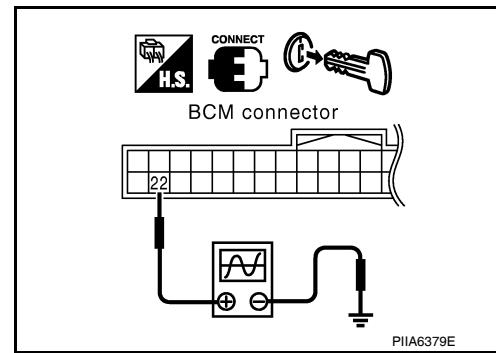
- When door lock/unlock switch is turned to UNLOCK:

**CDL UNLOCK SW** :ON

 Without CONSULT-III

1. Remove key from ignition key cylinder.
2. Check the signal between BCM connector M18 terminal 22 and ground with oscilloscope when door lock/unlock switch is turned to LOCK or UNLOCK.
3. Make sure the signals which are shown in the figure below can be detected during 10 seconds just after the door lock/unlock switch is turned to LOCK or UNLOCK.

Connector	Terminals		Signal (Reference value)
	(+)	(-)	
M18	22	Ground	 PIIA1297E



Is the inspection result normal?

YES >> Door lock and unlock switch circuit is OK.

NO >> GO TO 2

## 2. CHECK BCM OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Using the vehicle operational key fob, press and hold the UNLOCK button for more than 3 seconds.

**The front windows should be lowered?**

Is the inspection result normal?

YES >> GO TO 3

NO >> Replace BCM. Refer to [BCS-53, "Removal and Installation".](#)

## 3. CHECK DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch or power window and door lock/unlock switch RH.

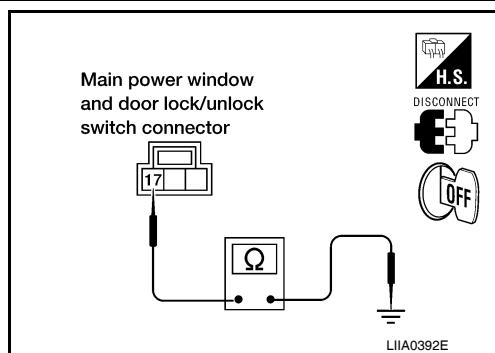
# DOOR LOCK AND UNLOCK SWITCH

## < DTC/CIRCUIT DIAGNOSIS >

- Check continuity between main power window and door lock/ unlock switch connector D8 terminal 17 and ground.

**17 - Ground**

**: Continuity should exist**



- Check continuity between power window and door lock/ unlock switch RH connector D105 terminal 11 and ground.

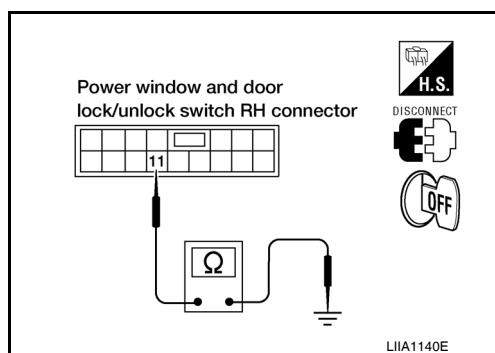
**11 - Ground**

**: Continuity should exist**

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.

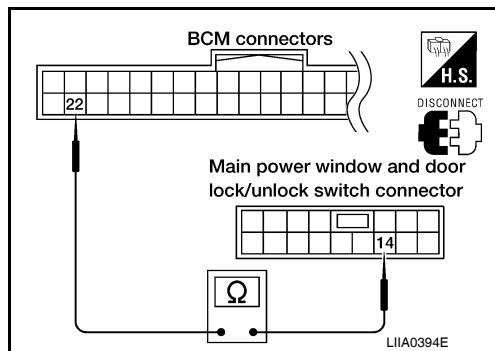


## 4. CHECK POWER WINDOW SERIAL LINK CIRCUIT

- Disconnect BCM.
- Check continuity between BCM connector M18 terminal 22 and main power window and door lock/ unlock switch connector D7 terminal 14.

**22 - 14**

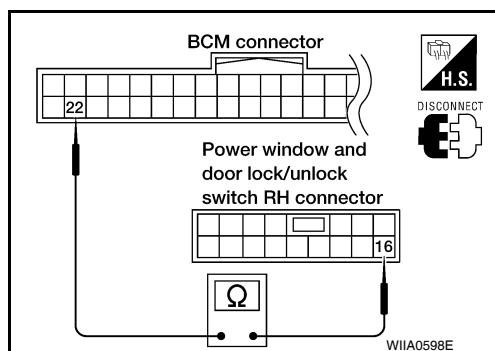
**: Continuity should exist**



- Check continuity between BCM connector M18 terminal 22 and power window and door lock/ unlock switch RH connector D105 terminal 16.

**22 - 16**

**: Continuity should exist**



## DOOR LOCK AND UNLOCK SWITCH

### < DTC/CIRCUIT DIAGNOSIS >

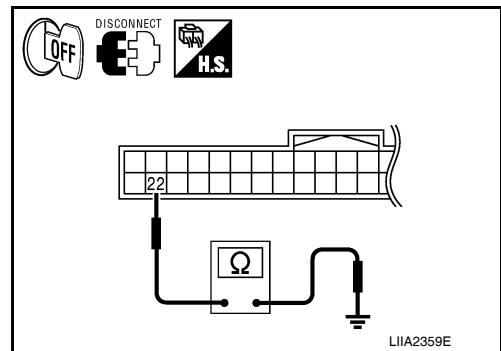
4. Check continuity between BCM connector M18 terminal 22 and ground.

**22 - Ground** : **Continuity should not exist**

#### Is the inspection result normal?

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

NO >> Repair or replace harness.



# FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)

< DTC/CIRCUIT DIAGNOSIS >

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

### KING CAB : Description

INFOID:000000006179201

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

### KING CAB : Component Function Check

INFOID:000000006179202

#### 1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check "KEY CYL LK-SW" AND "KEY CYL UN-SW" in DATA MONITOR mode for "POWER DOOR LOCK SYSTEM" with CONSULT-III.

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

Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Refer to [DLK-37, "KING CAB : Diagnosis Procedure".](#)

### KING CAB : Diagnosis Procedure

INFOID:000000006179203

Regarding Wiring Diagram information, refer to [DLK-77, "Wiring Diagram - King Cab".](#)

#### 1. CHECK DOOR KEY CYLINDER SWITCH LH

With CONSULT-III

Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW") in DATA MONITOR mode with CONSULT-III. Refer to [DLK-20, "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)".](#)

- When key inserted in front key cylinder is turned to LOCK:

**KEY CYL LK-SW : ON**

- When key inserted in front key cylinder is turned to UNLOCK:

**KEY CYL UN-SW : ON**

Without CONSULT-III

Check voltage between main power window and door lock/unlock switch connector D15 terminals 6, 7 and ground.

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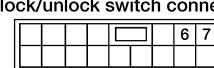
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# FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)

< DTC/CIRCUIT DIAGNOSIS >

Connector	Terminals		Condition	Voltage (V) (Approx.)	
	(+)	(-)			
D15	6	Ground	Neutral/Unlock	5	
			Lock	0	
	7		Neutral/Lock	5	
			Unlock	0	

Main power window and door lock/unlock switch connector



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Is the inspection result normal?

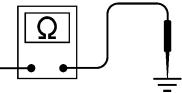
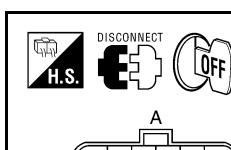
YES >> Front door lock assembly LH (key cylinder switch) signal is OK.

NO >> GO TO 2

## 2. CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

1. Turn ignition switch OFF.
2. Disconnect front door lock assembly LH (key cylinder switch).
3. Check continuity between front door lock assembly LH (key cylinder switch) connector (A) D14 terminal 5 and body ground.

Connector	Terminals	Continuity
D14	5 – Ground	Yes



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Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

## 3. CHECK DOOR KEY CYLINDER SWITCH LH

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

Terminals	Condition	Continuity
1 – 5	Key is turned to UNLOCK or neutral.	No
	Key is turned to LOCK.	Yes
5 – 6	Key is turned to LOCK or neutral.	No
	Key is turned to UNLOCK.	Yes

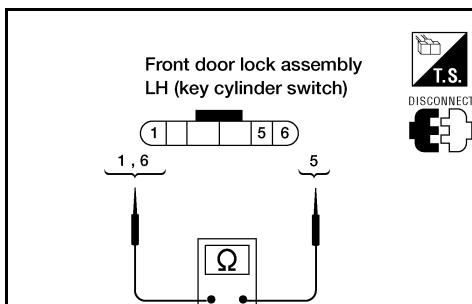
Is the inspection result normal?

YES >> GO TO 4

NO >> Replace front door lock assembly LH (key cylinder switch). Refer to [DLK-127, "Removal and Installation"](#).

## 4. CHECK DOOR KEY CYLINDER HARNESS

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



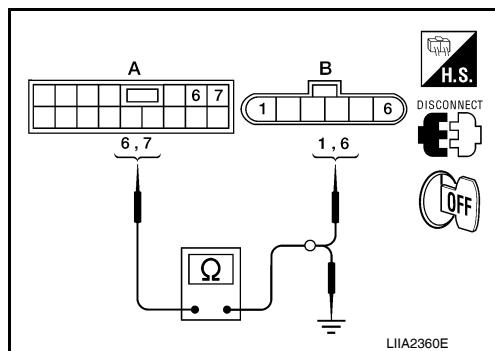
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# FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)

## < DTC/CIRCUIT DIAGNOSIS >

2. Check continuity between main power window and door lock/ unlock switch connector (A) D15 terminals 6, 7 and front door lock assembly LH (key cylinder switch) connector (B) D14 terminals 1, 6 and body ground.

Connector	Terminals	Connector	Terminals	Continuity
A: Main power window and door lock/ unlock switch	6	B: Front door lock assembly LH (key cylinder switch)	1	Yes
	7		6	Yes
	6, 7	Ground		No



### Is the inspection result normal?

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

NO >> Repair or replace harness.

## CREW CAB

### CREW CAB : Description

INFOID:0000000006179204

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

### CREW CAB : Component Function Check

INFOID:0000000006179205

## 1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check "KEY CYL LK-SW" AND "KEY CYL UN-SW" in DATA MONITOR mode for "POWER DOOR LOCK SYSTEM" with CONSULT-III.

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

### Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Refer to [DLK-39, "CREW CAB : Diagnosis Procedure"](#).

## CREW CAB : Diagnosis Procedure

INFOID:0000000006179206

Regarding Wiring Diagram information, refer to [DLK-84, "Wiring Diagram - Crew Cab"](#).

## 1. CHECK DOOR KEY CYLINDER SWITCH LH

### With CONSULT-III

Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW") in DATA MONITOR mode with CONSULT-III. Refer to [DLK-20, "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)"](#).

- When key inserted in front key cylinder is turned to LOCK:

**KEY CYL LK-SW : ON**

- When key inserted in front key cylinder is turned to UNLOCK:

# FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)

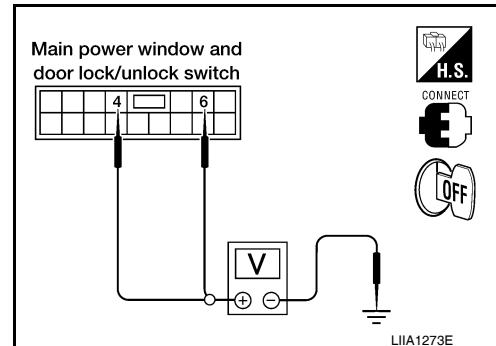
< DTC/CIRCUIT DIAGNOSIS >

**KEY CYL UN-SW : ON**

Without CONSULT-III

Check voltage between main power window and door lock/unlock switch connector D7 terminals 4, 6 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)	
	(+)	(-)			
D7	4	Ground	Neutral/Unlock	5	
			Lock	0	
	6		Neutral/Lock	5	
			Unlock	0	



Is the inspection result normal?

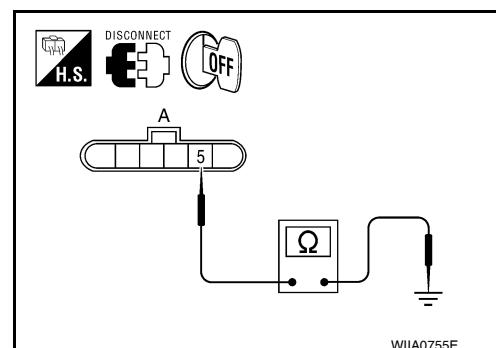
YES >> Front door lock assembly LH (key cylinder switch) signal is OK.

NO >> GO TO 2

## 2. CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

1. Turn ignition switch OFF.
2. Disconnect front door lock assembly LH (key cylinder switch).
3. Check continuity between front door lock assembly LH (key cylinder switch) connector (A) D14 terminal 5 and body ground.

Connector	Terminals	Continuity
D14	5 – Ground	Yes



Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

## 3. CHECK DOOR KEY CYLINDER SWITCH LH

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

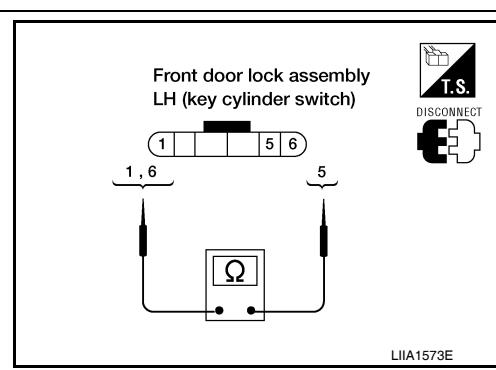
Terminals	Condition	Continuity
1 – 5	Key is turned to UNLOCK or neutral.	No
	Key is turned to LOCK.	Yes
5 – 6	Key is turned to LOCK or neutral.	No
	Key is turned to UNLOCK.	Yes

Is the inspection result normal?

YES >> GO TO 4

NO >> Replace front door lock assembly LH (key cylinder switch). Refer to [DLK-127, "Removal and Installation"](#).

## 4. CHECK DOOR KEY CYLINDER HARNESS

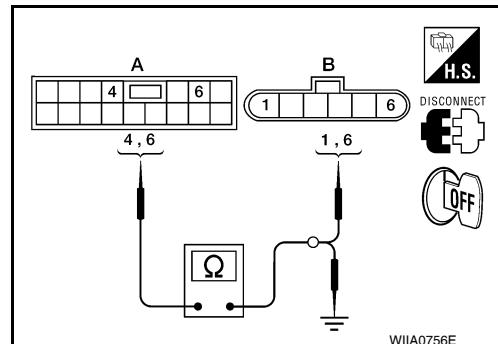


## FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)

### < DTC/CIRCUIT DIAGNOSIS >

1. Disconnect main power window and door lock/unlock switch.
2. Check continuity between main power window and door lock/ unlock switch connector (A) D7 terminals 4, 6 and front door lock assembly LH (key cylinder switch) connector (B) D14 terminals 1, 6 and body ground.

Connector	Terminals	Connector	Terminals	Continuity
A: Main power window and door lock/ unlock switch	4	B: Front door lock assembly LH (key cylinder switch)	1	Yes
	6		6	Yes
	4, 6	Ground		No



### Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch.  
 NO >> Repair or replace harness.

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# KEY SWITCH (BCM INPUT)

< DTC/CIRCUIT DIAGNOSIS >

## KEY SWITCH (BCM INPUT)

### COLUMN SHIFT

#### COLUMN SHIFT : Diagnosis Procedure

INFOID:000000006179207

Regarding Wiring Diagram information, refer to [DLK-77, "Wiring Diagram - King Cab"](#) or [DLK-84, "Wiring Diagram - Crew Cab"](#).

#### 1. CHECK KEY SWITCH INPUT SIGNAL

 With CONSULT-III

Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT-III. Refer to [DLK-20, "DOOR LOCK: CONSULT-III Function \(BCM - DOOR LOCK\)"](#).

- When key is inserted to ignition key cylinder:

**KEY ON SW** :ON

- When key is removed from ignition key cylinder:

**KEY ON SW** :OFF

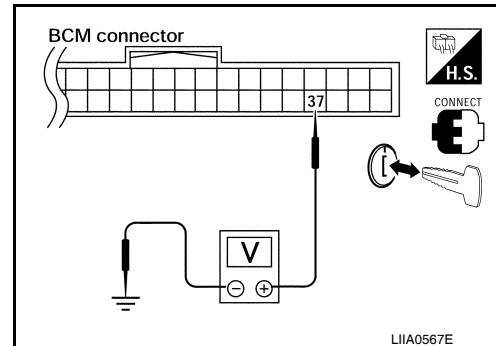
 Without CONSULT-III

Check voltage between BCM connector M18 terminal 37 and ground.

Connector	Terminals		Condition	Voltage (V)
	(+)	(-)		
M18	37	Ground	Key is inserted.	Battery voltage
			Key is removed.	0

Is the inspection result normal?

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



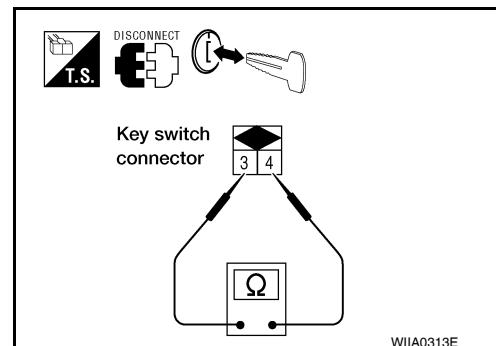
#### 2. CHECK KEY SWITCH

1. Turn ignition switch OFF.
2. Disconnect key switch connector.
3. Check continuity between key switch terminals 3 and 4.

Terminals	Condition	Continuity
3 – 4	Key is inserted.	Yes
	Key is removed.	No

Is the inspection result normal?

YES >> GO TO 3  
NO >> Replace key switch.



#### 3. CHECK KEY SWITCH CIRCUIT

1. Disconnect BCM connector.

# KEY SWITCH (BCM INPUT)

## < DTC/CIRCUIT DIAGNOSIS >

2. Check continuity between the BCM harness connector M18 terminal 37 and key switch harness connector M80 terminal 4.
3. Check continuity between BCM harness connector M18 terminal 37 (B/R) and ground.

**37 - 4** : Continuity should exist  
**37 - Ground** : Continuity should not exist

### Is the inspection result normal?

YES >> Check the following:

- 10A fuse [No. 19, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse

NO >> Repair or replace harness.

## FLOOR SHIFT

### FLOOR SHIFT : Diagnosis Procedure

INFOID:000000006179208

Regarding Wiring Diagram information, refer to [DLK-77, "Wiring Diagram - King Cab"](#) or [DLK-84, "Wiring Diagram - Crew Cab"](#).

## 1. CHECK KEY SWITCH AND KEY LOCK SOLENOID (KEY SWITCH) INPUT SIGNAL

With CONSULT-III

Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT-III. Refer to [DLK-20, "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)"](#).

- When key is inserted to ignition key cylinder:

**KEY ON SW** :ON

- When key is removed from ignition key cylinder:

**KEY ON SW** :OFF

Without CONSULT-III

Check voltage between BCM connector M18 terminal 37 and ground.

Connector	Terminals		Condition	Voltage (V)
	(+)	(-)		
M18	37	Ground	Key is inserted.	Battery voltage
			Key is removed.	0

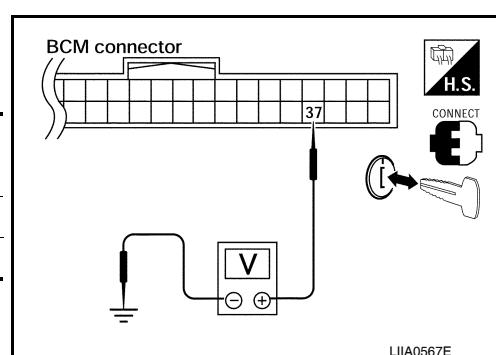
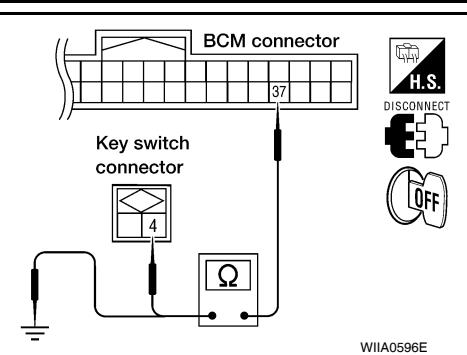
### Is the inspection result normal?

YES >> Key switch and key lock solenoid (key switch) circuit is OK.

NO >> GO TO 2

## 2. CHECK KEY SWITCH AND KEY LOCK SOLENOID (KEY SWITCH)

1. Turn ignition switch OFF.
2. Disconnect key switch and key lock solenoid (key switch) connector.
3. Check continuity between key switch and key lock solenoid (key switch) terminals 3 and 4.



## KEY SWITCH (BCM INPUT)

### < DTC/CIRCUIT DIAGNOSIS >

Terminals	Condition	Continuity
3 – 4	Key is inserted.	Yes
	Key is removed.	No

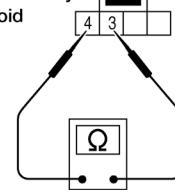
Is the inspection result normal?

YES >> GO TO 3

NO >> Replace key switch and key lock solenoid (key switch).



Key switch and key lock solenoid



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### 3. CHECK KEY SWITCH AND KEY LOCK SOLENOID (KEY SWITCH) CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between the BCM harness connector M18 terminal 37 and key switch and key lock solenoid (key switch) harness connector M27 terminal 4.
3. Check continuity between BCM harness connector M18 terminal 37 and ground.

**37 - 4** : Continuity should exist

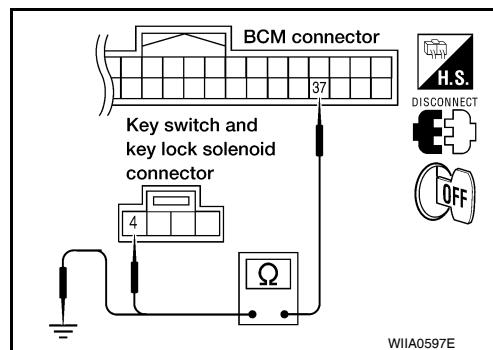
**37 - Ground** : Continuity should not exist

Is the inspection result normal?

YES >> Check the following:

- 10A fuse [No. 19, located in fuse block (J/B)]
- Harness for open or short between key switch and key lock solenoid (key switch) and fuse

NO >> Repair or replace harness.



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# DOOR LOCK ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

## DOOR LOCK ACTUATOR

### FRONT LH

#### FRONT LH : Description

INFOID:000000006179209

Locks/unlocks the door with the signal from BCM.

#### FRONT LH : Component Function Check

INFOID:000000006179210

##### 1. CHECK FUNCTION

1. Use CONSULT-III to perform Active Test "DOOR LOCK".
2. Touch "ALL LCK" or "ALL ULK" to check that it works normally.

Is the inspection result normal?

YES >> Door lock actuator is OK.

NO >> Refer to [DLK-45, "FRONT LH : Diagnosis Procedure"](#).

#### FRONT LH : Diagnosis Procedure

INFOID:000000006179211

Regarding Wiring Diagram information, refer to [DLK-77, "Wiring Diagram - King Cab"](#) or [DLK-84, "Wiring Diagram - Crew Cab"](#).

##### 1. CHECK DOOR LOCK ACTUATOR SIGNAL

Check voltage between BCM connector M20 terminals 59, 65 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M20	59	Ground	Driver door lock/unlock switch is turned to UNLOCK	0 → Battery voltage
	65		Driver door lock/unlock switch is turned to LOCK	0 → Battery voltage

Is the inspection result normal?

YES >> GO TO 2

NO >> Replace BCM. Refer to [BCS-53, "Removal and Installation"](#).

##### 2. CHECK DOOR LOCK ACTUATOR HARNESS

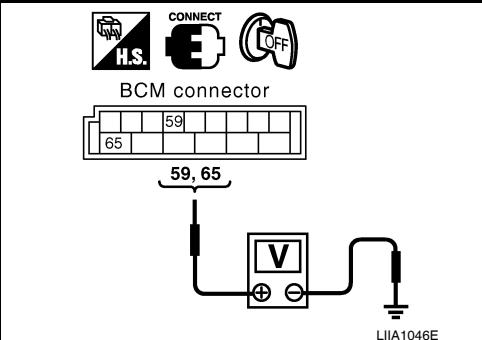
1. Disconnect BCM and front door lock assembly LH.
2. Check continuity between BCM connector M20 terminals 59, 65 and front door lock assembly LH connector D14 terminals 2, 3.

Connector	Terminals	Connector	Terminals	Continuity
M20	59	D14	2	Yes
	65		3	Yes

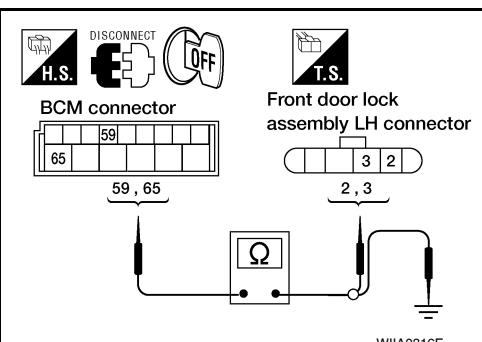
3. Check continuity between BCM connector M20 terminals 59, 65 and ground.

Connector	Terminals		Continuity
M20	59	Ground	No
	65		No

Is the inspection result normal?



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# DOOR LOCK ACTUATOR

## < DTC/CIRCUIT DIAGNOSIS >

YES >> Replace front door lock assembly LH. Refer to [DLK-127, "Removal and Installation"](#).  
NO >> Repair or replace harness.

## FRONT RH

### FRONT RH : Description

INFOID:000000006179212

Locks/unlocks the door with the signal from BCM.

### FRONT RH : Component Function Check

INFOID:000000006179213

#### 1. CHECK FUNCTION

1. Use CONSULT-III to perform Active Test DOOR LOCK.
2. Touch "ALL LCK" or "ALL ULK" to check that it works normally.

##### Is the inspection result normal?

YES >> Door lock actuator is OK.  
NO >> Refer to [DLK-46, "FRONT RH : Diagnosis Procedure"](#).

### FRONT RH : Diagnosis Procedure

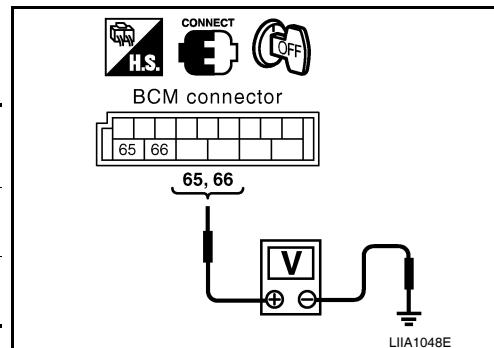
INFOID:000000006179214

Regarding Wiring Diagram information, refer to [DLK-77, "Wiring Diagram - King Cab"](#) or [DLK-84, "Wiring Diagram - Crew Cab"](#).

#### 1. CHECK DOOR LOCK ACTUATOR SIGNAL

Check voltage between BCM connector M20 terminals 65, 66 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M20	65	Ground	Door lock/unlock switch is turned to LOCK	0 → Battery voltage
	66		Door lock/unlock switch is turned to UNLOCK	0 → Battery voltage



##### Is the inspection result normal?

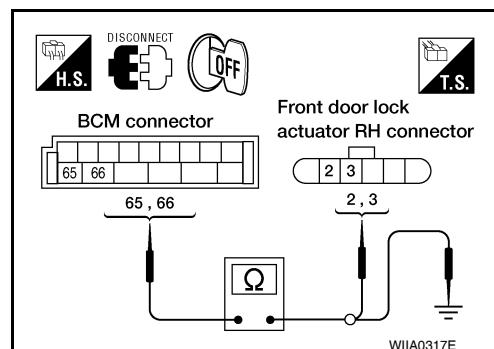
YES >> GO TO 2  
NO >> Replace BCM. Refer to [BCS-53, "Removal and Installation"](#).

#### 2. CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and door lock actuator RH.
2. Check continuity between BCM connector M20 terminals 65, 66 and front door lock actuator RH terminals 2, 3.

Terminals		Continuity
65	3	Yes
66	2	Yes

3. Check continuity between BCM connector M20 terminals 65, 66 and ground.



Terminals		Continuity
65	Ground	No
66		No

##### Is the inspection result normal?

# DOOR LOCK ACTUATOR

## < DTC/CIRCUIT DIAGNOSIS >

YES >> Replace front door lock actuator RH. Refer to [DLK-127, "Removal and Installation"](#).  
NO >> Repair or replace harness.

## REAR RH/LH

### REAR RH/LH : Description

INFOID:000000006179215

Locks/unlocks the door with the signal from BCM.

### REAR RH/LH : Component Function Check

INFOID:000000006179216

#### 1. CHECK FUNCTION

1. Use CONSULT-III to perform Active Test "DOOR LOCK".
2. Touch "ALL LCK" or "ALL ULK" to check that it works normally.

Is the inspection result normal?

YES >> Door lock actuator is OK.  
NO >> Refer to [DLK-47, "REAR RH/LH : Diagnosis Procedure"](#).

### REAR RH/LH : Diagnosis Procedure

INFOID:000000006179217

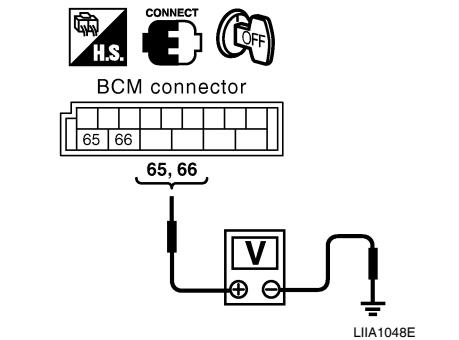
Regarding Wiring Diagram information, refer to [DLK-84, "Wiring Diagram - Crew Cab"](#).

#### 1. CHECK DOOR LOCK ACTUATOR SIGNAL

Check voltage between BCM connector M20 terminals 65, 66 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M20	65	Ground	Door lock/unlock switch is turned to LOCK	0 → Battery voltage
	66		Door lock/unlock switch is turned to UNLOCK	0 → Battery voltage

Is the inspection result normal?



YES >> GO TO 2  
NO >> Replace BCM. Refer to [BCS-53, "Removal and Installation"](#).

#### 2. CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and inoperative door lock actuator.
2. Check continuity between BCM connector M20 terminals 65, 66 and rear door lock actuator connector terminals 2, 3.

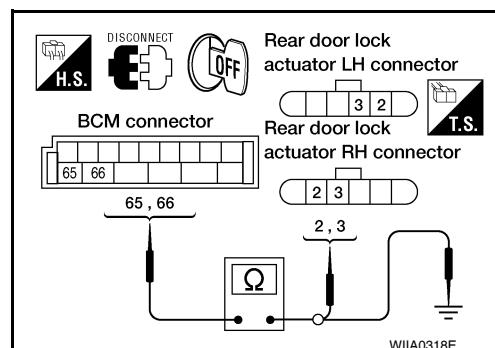
Terminals		Continuity
65	3	Yes
66	2	Yes

3. Check continuity between BCM connector M20 terminals 65, 66 and ground.

Terminals		Continuity
65	Ground	No
66		No

Is the inspection result normal?

YES >> Replace door lock actuator. Refer to [DLK-131, "Removal and Installation"](#).



## DOOR LOCK ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

NO      >> Repair or replace harness.

---

# REMOTE KEYLESS ENTRY RECEIVER

< DTC/CIRCUIT DIAGNOSIS >

## REMOTE KEYLESS ENTRY RECEIVER

### Description

INFOID:0000000006179218

Receives keyfob operation and transmits to BCM.

### Component Function Check

INFOID:0000000006179219

#### 1. CHECK FUNCTION

##### With CONSULT-III

Check remote keyless entry receiver by pressing the keyfob lock and unlock buttons then monitoring KEYLESS LOCK, KEYLESS UNLOCK in Data Monitor mode with CONSULT-III.

Monitor item	Condition	
KEYLESS LOCK	LOCK	: ON
	UNLOCK	: OFF
KEYLESS UNLOCK	LOCK	: OFF
	UNLOCK	: ON

Is the inspection result normal?

YES >> Remote keyless entry receiver is OK.

NO >> Refer to [DLK-49, "Diagnosis Procedure"](#).

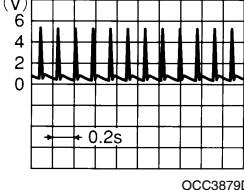
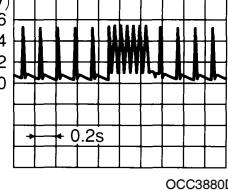
### Diagnosis Procedure

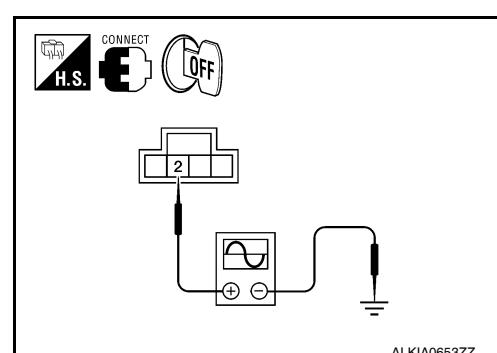
INFOID:0000000006179220

Regarding Wiring Diagram information, refer to [DLK-94, "Wiring Diagram"](#).

#### 1. CHECK REMOTE KEYLESS ENTRY RECEIVER OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Check remote keyless entry receiver signal with an oscilloscope.

Terminals		Keyfob condition	Signal (Reference value)
(+)	(-)		
Remote keyless entry receiver connector	Terminal	No function	 OCC3879D
			 OCC3880D



Is the inspection result normal?

# REMOTE KEYLESS ENTRY RECEIVER

## < DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 2  
NO >> GO TO 4

## 2. REMOTE KEYLESS ENTRY RECEIVER 5-VOLT CIRCUIT INSPECTION

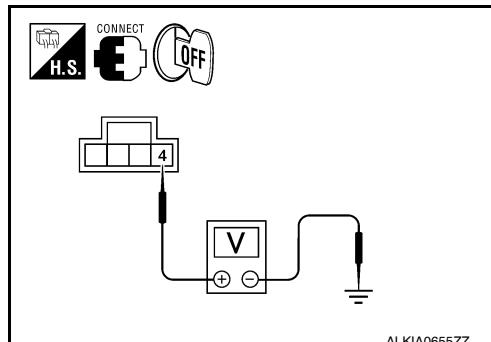
Check voltage between remote keyless entry receiver connector M120 terminal 4 and ground.

**4 - Ground**

: Approx. 5 volt.

Is the inspection result normal?

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



## 3. REMOTE KEYLESS ENTRY RECEIVER GROUND CIRCUIT INSPECTION

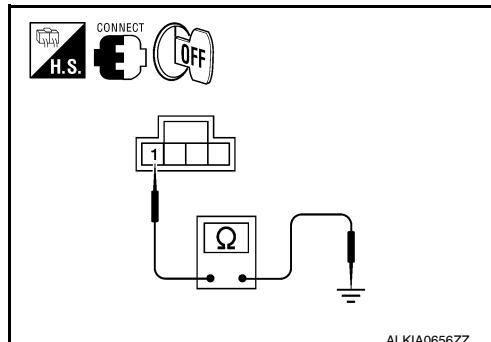
Check continuity between remote keyless entry receiver connector M120 terminal 1 and ground.

**1 - Ground**

: Continuity should exist.

Is the inspection result normal?

YES >> Replace remote keyless entry receiver.  
NO >> GO TO 4



## 4. HARNESS INSPECTION BETWEEN BCM AND RKE RECEIVER

1. Disconnect remote keyless entry receiver and BCM connectors.
2. Check continuity between BCM connector M18 terminals 18, 19, 20 and remote keyless entry receiver connector M120 terminals 1, 2, 4.

**1 - 18**

: Continuity should exist.

**2 - 20**

: Continuity should exist.

**4 - 19**

: Continuity should exist.

3. Check continuity between remote keyless entry receiver connector M120 terminals 1, 2, 4 and ground.

**1 - Ground**

: Continuity should not exist.

**2 - Ground**

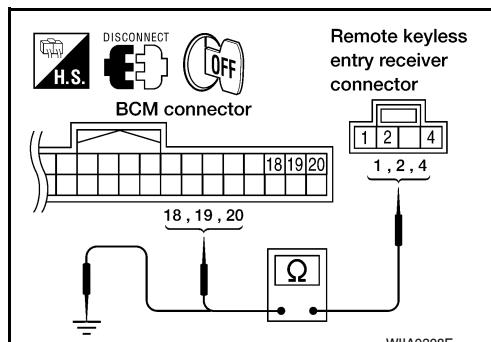
: Continuity should not exist.

**4 - Ground**

: Continuity should not exist.

Is the inspection result normal?

YES >> Replace remote keyless entry receiver.  
NO >> Repair or replace the harness between the remote keyless entry receiver and BCM.



# KEYFOB BATTERY AND FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

## KEYFOB BATTERY AND FUNCTION

### Description

INFOID:000000006179221

The following functions are available when having and carrying electronic ID.

- Door lock/unlock
- Panic alarm

Remote control entry function and panic alarm function are available when operating the remote buttons.

### Component Function Check

INFOID:000000006179222

#### 1. CHECK FUNCTION

##### With CONSULT-III

Check keyfob by pressing the keyfob lock and unlock buttons then monitoring KEYLESS LOCK, KEYLESS UNLOCK in Data Monitor mode with CONSULT-III.

Monitor item	Condition	
KEYLESS LOCK	LOCK	: ON
	UNLOCK	: OFF
KEYLESS UNLOCK	LOCK	: OFF
	UNLOCK	: ON

Is the inspection result normal?

YES >> Keyfob is OK.  
NO >> Refer to [DLK-51, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000006179223

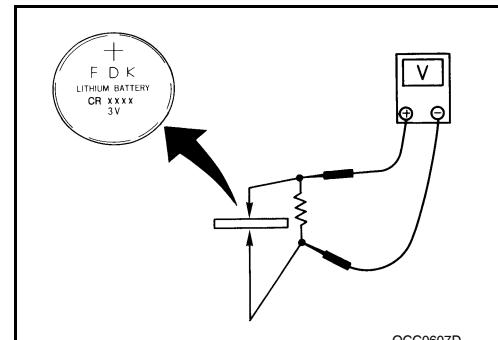
#### 1. CHECK KEYFOB BATTERY

Check by connecting a resistance (approximately  $300\Omega$ ) so that the current value becomes about 10 mA.

**Standard : Approx. 2.5 - 3.0V**

Is the measurement value within specification?

YES >> GO TO 2  
NO >> Replace Keyfob battery.

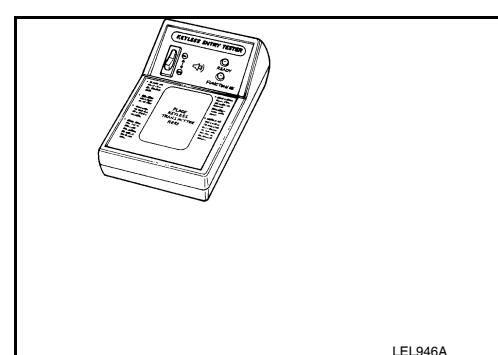


#### 2. CHECK KEYFOB FUNCTION

Check keyfob function using Remote Keyless Entry Tester J-43241.

Does the test pass?

YES >> Keyfob is OK.  
NO >> Replace keyfob. Refer to CONSULT-III Operation Manual.



# KEYFOB BATTERY AND FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

## Component Inspection

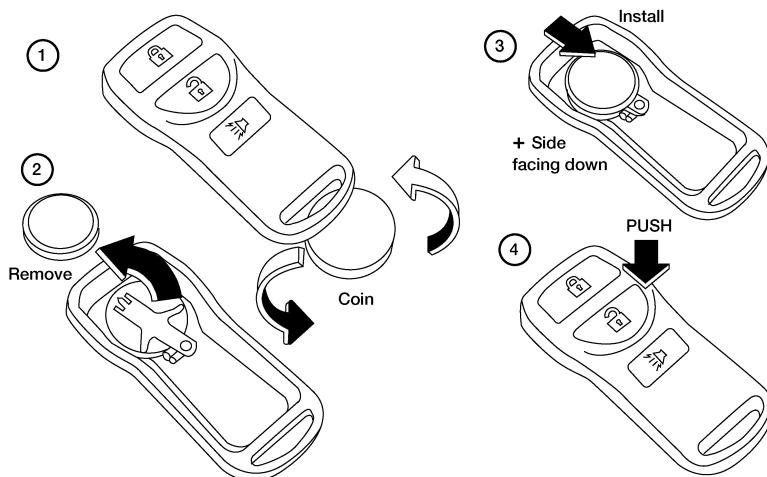
INFOID:0000000006179224

### 1. REPLACE KEYFOB BATTERY

#### NOTE:

- Be careful not to touch the circuit board or battery terminal.
- The keyfob is water-resistant. However, if it does get wet, immediately wipe it dry.

1. Open the lid using a coin.
2. Remove the battery.
3. Install the new battery, positive side down.
4. Close the lid securely. Push the keyfob buttons two or three times to check operation.



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Check keyfob operation after replacing the battery.

#### Is the inspection result normal?

YES >> Keyfob is OK.

NO >> Check remote keyless entry receiver. Refer to [DLK-49, "Component Function Check"](#).

## Special Repair Requirement

INFOID:0000000006179225

Refer to CONSULT-III Operation Manual.

# HORN FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

## HORN FUNCTION

### Description

INFOID:0000000006179226

Perform answer-back for each operation with horn.

### Component Function Check

INFOID:0000000006179227

#### 1. CHECK FUNCTION

1. Select "HORN" in "ACTIVE TEST" mode with CONSULT-III.
2. Check the horn (high/low) operation.

Test item		Description	
HORN	ON	Horn relay	ON (for 20 ms)

Is the operation normal?

YES >> INSPECTION END.

NO >> Go to [DLK-53, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:0000000006179228

Regarding Wiring Diagram information, refer to [DLK-94, "Wiring Diagram"](#).

#### 1. CHECK HORN FUNCTION

Check horn function with horn switch

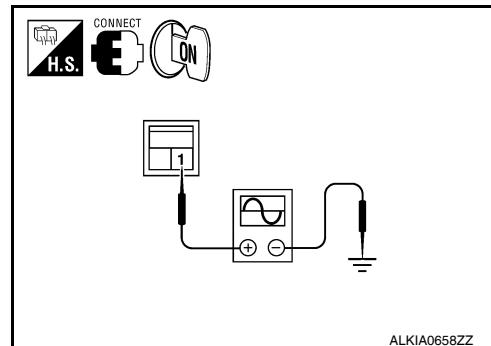
Do the horns sound?

YES >> GO TO 2

NO >> Go to [HRN-3, "Wiring Diagram"](#).

#### 2. CHECK HORN RELAY POWER SUPPLY

1. Turn ignition switch ON.
2. Perform "ACTIVE TEST", "HORN" with CONSULT-III.
3. Using an oscilloscope or analog voltmeter, check voltage between horn relay harness connector and ground.



Horn relay		Ground	Test item	Voltage (V) (Approx.)		
Connector	Terminal					
H-1	1	Ground	HORN	ON		
				Battery voltage → 0 → Battery voltage		
				Other than above		
				Battery voltage		

Is the inspection result normal?

YES >> GO TO 4

NO >> GO TO 3

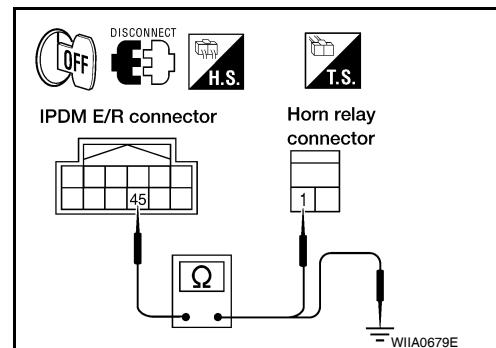
#### 3. CHECK HORN RELAY CIRCUIT

1. Turn ignition switch OFF.

## HORN FUNCTION

### < DTC/CIRCUIT DIAGNOSIS >

2. Disconnect IPDM E/R and horn relay connector.
3. Check continuity between IPDM E/R harness connector and horn relay harness connector.



IPDM E/R		Horn relay		Continuity
Connector	Terminal	Connector	Terminal	
E122	45		H-1	1

4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E122	45	Ground	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-28, "Removal and Installation of IPDM E/R"](#).

NO >> Repair or replace harness.

# WARNING CHIME FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

## WARNING CHIME FUNCTION

### Description

INFOID:0000000006179229

Performs operation method guide and warning with buzzer.

### Component Function Check

INFOID:0000000006179230

#### 1.CHECK FUNCTION

##### With CONSULT-III

1. Turn ignition switch ON.
2. Using Consult-III, check the operation of the inside chime by performing "INSIDE BUZZER" ACTIVE TEST.

##### Does the inside chime operate normally?

YES >> Warning buzzer into combination meter is OK.  
NO >> Refer to [DLK-55, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:0000000006179231

#### 1.CHECK METER BUZZER CIRCUIT

The inoperative warning chime is contained inside the combination meter. Replace combination meter. Refer to [MWI-93, "Removal and Installation"](#).

>> Inspection end.

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## HAZARD FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

### HAZARD FUNCTION

#### Description

INFOID:0000000006179232

Perform answer-back for each operation with number of blinks.

#### Component Function Check

INFOID:0000000006179233

##### 1.CHECK FUNCTION

Check hazard warning lamp "FLASHER" in ACTIVE TEST.

Is the inspection result normal?

YES >> Hazard warning lamp circuit is OK.

NO >> Refer to [DLK-56, "Diagnosis Procedure"](#).

#### Diagnosis Procedure

INFOID:0000000006179234

##### 1.CHECK HAZARD SWITCH CIRCUIT

Operate the hazard lights by turning ON the hazard warning switch.

Do the lights operate normally?

YES >> Replace the BCM. Refer to [BCS-53, "Removal and Installation"](#).

NO >> Repair or replace hazard warning switch circuit. Refer to [EXL-4, "Work Flow"](#).

# HEADLAMP FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

## HEADLAMP FUNCTION

### Diagnosis Procedure

INFOID:000000006179235

#### 1. CHECK HEADLAMP OPERATION

Do headlamps operate with headlamp switch?

YES or NO

YES    >> Headlamp circuit is OK.

NO    >> Check headlamp circuit. Refer to [EXL-4, "Work Flow"](#).

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## MAP LAMP AND IGNITION KEYHOLE ILLUMINATION FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

## MAP LAMP AND IGNITION KEYHOLE ILLUMINATION FUNCTION

### Diagnosis Procedure

INFOID:000000006179236

#### 1. CHECK MAP LAMP OPERATION

When room lamp switch is in "DOOR" position, open the driver or passenger door.  
Map lamp and ignition keyhole illumination should illuminate.

Is the inspection result normal?

YES    >> Map lamp circuit is OK.

NO    >> Check map lamp circuit. Refer to [INL-3, "Work Flow"](#).

# KEYFOB ID SET UP WITH CONSULT-III

< DTC/CIRCUIT DIAGNOSIS >

## KEYFOB ID SET UP WITH CONSULT-III

### ID Code Entry Procedure

INFOID:000000006179237

#### KEYFOB ID SET UP WITH CONSULT-III

##### **NOTE:**

- If a keyfob is lost, the ID code of the lost keyfob must be erased to prevent unauthorized use. A specific ID code can be erased with CONSULT-III. However, when the ID code of a lost keyfob is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new keyfobs must be re-registered.
- When registering an additional keyfob, the existing ID codes in memory may or may not be erased. If five ID codes are stored in memory when an additional code is registered, only the oldest code is erased. If less than five codes are stored in memory when an additional code is registered, the new ID code is added and no ID codes are erased.
- Entry of a maximum of five ID codes is allowed. When more than five codes are entered, the oldest ID code will be erased.
- Even if the same ID code that is already in memory is input, the same ID code can be entered. The code is counted as an additional code.

1. Turn ignition switch ON.
2. Select “BCM”.
3. Select “MULTI REMOTE ENT”.
4. Select “WORK SUPPORT”.
5. You can register, erase or confirm a keyfob ID code. To register a new code, select the following option and follow CONSULT-III instructions:
  - “REMO CONT ID REGIST”  
Use this mode to register a keyfob ID code.
  - NOTE:**  
**Register the ID code when keyfob or BCM is replaced, or when additional keyfob is required.**
  - “REMO CONT ID ERASUR”  
Use this mode to erase a keyfob ID code.
  - “REMO CONT ID CONFIR”  
Use this mode to confirm if a keyfob ID code is registered or not.

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# KEYFOB ID SET UP WITHOUT CONSULT-III

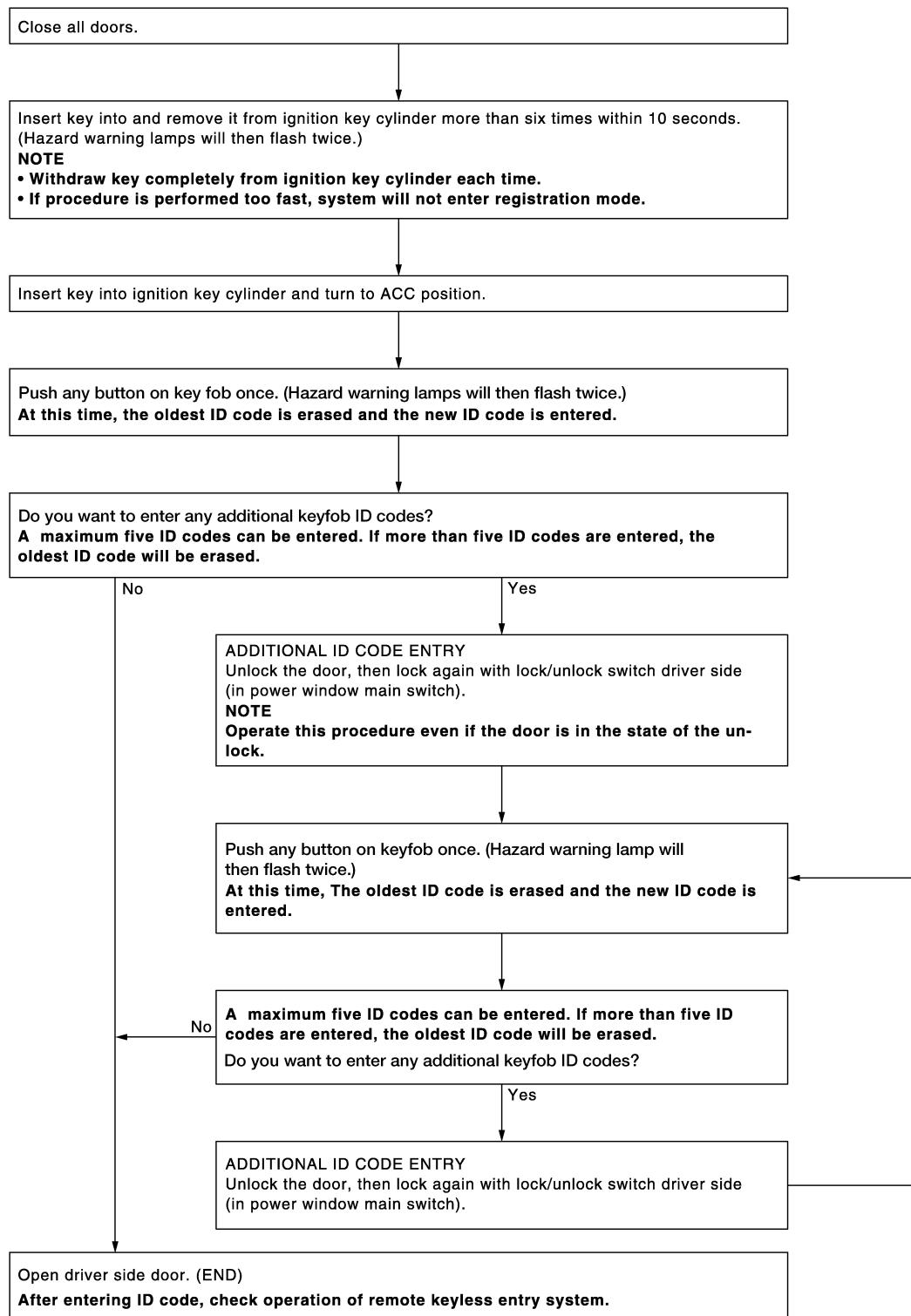
< DTC/CIRCUIT DIAGNOSIS >

## KEYFOB ID SET UP WITHOUT CONSULT-III

### ID Code Entry Procedure

INFOID:0000000006179238

### KEYFOB ID SET UP WITHOUT CONSULT-III



#### NOTE:

- If a keyfob is lost, the ID code of the lost keyfob must be erased to prevent unauthorized use. A specific ID code can be erased with CONSULT-III. However, when the ID code of a lost keyfob is not known, all control-

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## KEYFOB ID SET UP WITHOUT CONSULT-III

### < DTC/CIRCUIT DIAGNOSIS >

ler ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new keyfobs must be re-registered.

To erase all ID codes in memory, register one ID code (keyfob) five times. After all ID codes are erased, the ID codes of all remaining and/or new keyfobs must be re-registered.

- When registering an additional keyfob, the existing ID codes in memory may or may not be erased. If five ID codes are stored in memory, when an additional code is registered, only the oldest code is erased. If less than five ID codes are stored in memory, when an additional ID code is registered, the new ID code is added and no ID codes are erased.
- If you need to activate more than two additional new keyfobs, repeat the procedure “Additional ID code entry” for each new keyfob.
- Entry of maximum five ID codes is allowed. When more than five ID codes are entered, the oldest ID code will be erased.
- Even if same ID code that is already in the memory is input, the same ID code can be entered. The code is counted as an additional code.

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# HOMELINK UNIVERSAL TRANSCEIVER

< DTC/CIRCUIT DIAGNOSIS >

## HOMELINK UNIVERSAL TRANSCEIVER

### Description

INFOID:0000000006179240

Homelink universal transceiver can store and transmit a maximum of 3 radio signals.

Allows operation of garage doors, gates, home and office lighting, entry door locks and security system, etc. Homelink universal transceiver power supply uses vehicle battery, which enables it to maintain every program in case battery is discharged or removed.

### Component Function Check

INFOID:0000000006179241

#### 1. CHECK FUNCTION

Check that system receiver (garage door opener, etc.) operates with original hand-held transmitter.

Is the inspection result normal?

YES >> GO TO 2

NO >> Receiver or hand-held transmitter is malfunctioning.

#### 2. CHECK ILLUMINATION

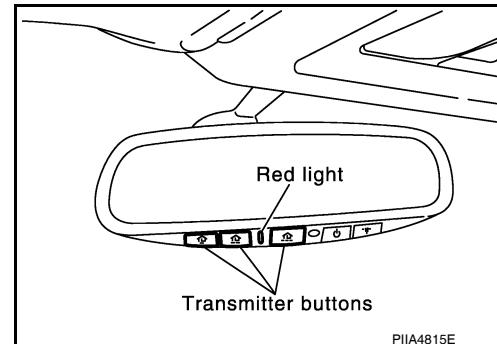
1. Turn ignition switch "OFF".

2. Press each of the transmitter buttons and watch for the red light to illuminate with each button.

Is the inspection result normal?

YES >> GO TO 3

NO >> Refer to [DLK-62, "Diagnosis Procedure"](#).



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#### 3. CHECK TRANSMITTER

Check transmitter with Tool\*.

\*:For details, refer to Technical Service Bulletin.

Is the inspection result normal?

YES >> Receiver or hand-held transmitter malfunction, not vehicle related.

NO >> Replace auto anti-dazzling inside mirror (homelink universal transceiver).

### Diagnosis Procedure

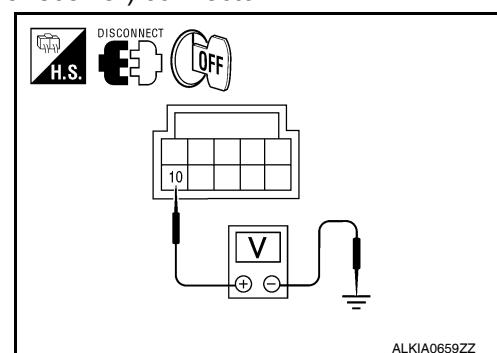
INFOID:0000000006179242

Regarding Wiring Diagram information, refer to [DLK-75, "Wiring Diagram"](#).

#### 1. CHECK POWER SUPPLY

1. Disconnect auto anti-dazzling inside mirror (homelink universal transceiver) connector.

2. Check voltage between auto anti-dazzling inside mirror (homelink universal transceiver) harness connector and ground.



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# HOMELINK UNIVERSAL TRANSCEIVER

## < DTC/CIRCUIT DIAGNOSIS >

Auto anti-dazzling inside mirror (Homelink universal transceiver) connector	Terminal	Condition	Voltage (V) (Approx.)
R7	10	Ground	Ignition switch position: LOCK Battery voltage

Is the inspection result normal?

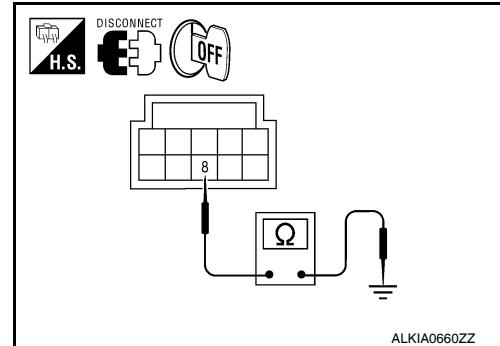
YES >> GO TO 2

NO >> Check the following.

- 10A fuse [No. 19 located in the fuse block (J/B)]
- Harness for open or short between fuse and auto anti-dazzling inside mirror (homelink universal transceiver).

## 2.CHECK GROUND CIRCUIT

Check continuity between auto anti-dazzling inside mirror (homelink universal transceiver) harness connector and ground.



Auto anti-dazzling inside mirror (Homelink universal transceiver) connector	Terminal	Ground	Continuity
R7	8		Yes

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair harness.

## 3.CHECK INTERMITTENT INCIDENT

Refer to [GI-39, "Intermittent Incident"](#).

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>> INSPECTION END.

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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

## ECU DIAGNOSIS INFORMATION

### BCM (BODY CONTROL MODULE)

#### Reference Value

INFOID:0000000006658826

#### VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF or ON	Off
	Ignition switch ACC	On
AIR COND SW	A/C switch OFF	Off
	A/C switch ON	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AIR PRESS RR	Rear right tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AUTO LIGHT SW	Lighting switch OFF	Off
	Lighting switch AUTO	On
BRAKE SW	Brake pedal released	Off
	Brake pedal applied	On
BUCKLE SW	Seat belt buckle unfastened	Off
	Seat belt buckle fastened	On
BUZZER	Buzzer in combination meter OFF	Off
	Buzzer in combination meter ON	On
CARGO LAMP SW	Cargo lamp switch OFF	Off
	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
	Rear door LH opened	On
DOOR SW-RR	Rear door RH closed	Off
	Rear door RH opened	On
FAN ON SIG	Blower motor fan switch OFF	Off
	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
	Front washer switch ON	On

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
FR WIPER LOW	Front wiper switch OFF	Off	A
	Front wiper switch LO	On	
FR WIPER HI	Front wiper switch OFF	Off	B
	Front wiper switch HI	On	
FR WIPER INT	Front wiper switch OFF	Off	C
	Front wiper switch INT	On	
FR WIPER STOP	Any position other than front wiper stop position	Off	D
	Front wiper stop position	On	
HAZARD SW	When hazard switch is not pressed	Off	E
	When hazard switch is pressed	On	
HEAD LAMP SW1	Headlamp switch OFF	Off	F
	Headlamp switch 1st	On	
HEAD LAMP SW2	Headlamp switch OFF	Off	G
	Headlamp switch 1st	On	
HI BEAM SW	High beam switch OFF	Off	H
	High beam switch HI	On	
ID REGST FL1	ID registration of front left tire incomplete	YET	I
	ID registration of front left tire complete	DONE	
ID REGST FR1	ID registration of front right tire incomplete	YET	J
	ID registration of front right tire complete	DONE	
ID REGST RL1	ID registration of rear left tire incomplete	YET	DLK
	ID registration of rear left tire complete	DONE	
ID REGST RR1	ID registration of rear right tire incomplete	YET	L
	ID registration of rear right tire complete	DONE	
IGN ON SW	Ignition switch OFF or ACC	Off	M
	Ignition switch ON	On	
IGN SW CAN	Ignition switch OFF or ACC	Off	N
	Ignition switch ON	On	
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7	O
KEY CYL LK-SW	Door key cylinder LOCK position	Off	P
	Door key cylinder other than LOCK position	On	
KEY CYL UN-SW	Door key cylinder UNLOCK position	Off	L
	Door key cylinder other than UNLOCK position	On	
KEY ON SW	Mechanical key is removed from key cylinder	Off	M
	Mechanical key is inserted to key cylinder	On	
KEYLESS LOCK	LOCK button of key fob is not pressed	Off	N
	LOCK button of key fob is pressed	On	
KEYLESS PANIC	PANIC button of key fob is not pressed	Off	O
	PANIC button of key fob is pressed	On	
KEYLESS UNLOCK	UNLOCK button of key fob is not pressed	Off	P
	UNLOCK button of key fob is pressed	On	
LIGHT SW 1ST	Lighting switch OFF	Off	L
	Lighting switch 1st	On	

## BCM (BODY CONTROL MODULE)

### < 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
	Dark outside of the vehicle	Close to 0V
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
TURN SIGNAL L	Turn signal switch OFF	Off
	Turn signal switch LH	On
TURN SIGNAL R	Turn signal switch OFF	Off
	Turn signal switch RH	On
VEHICLE SPEED	While driving	Equivalent to speedometer reading
WARNING LAMP	Low tire pressure warning lamp in combination meter OFF	Off
	Low tire pressure warning lamp in combination meter ON	On

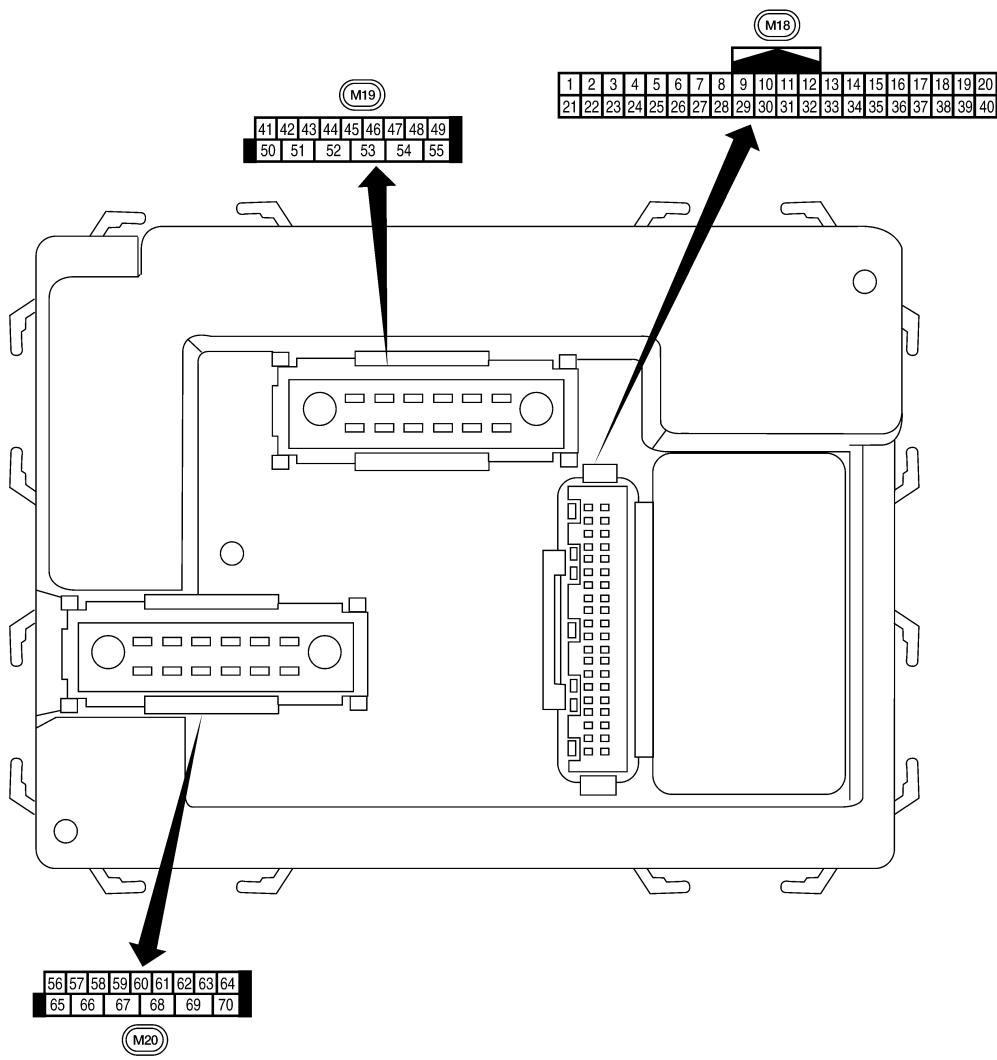
# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

## Terminal Layout

INFOID:000000006658827

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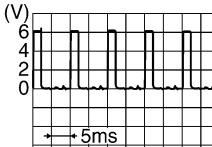
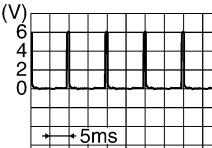
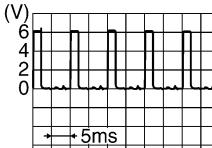
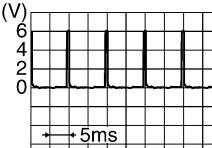
LIIA2443E

## Physical Values

INFOID:000000006658828

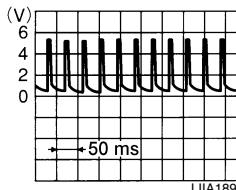
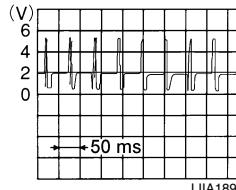
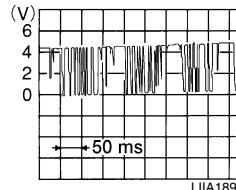
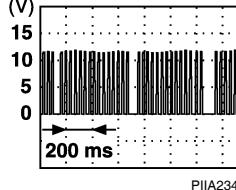
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

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

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
19	V/W	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	 (V) 6 4 2 0 + 50 ms LIIA1893E
20	G/W	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons released)	 (V) 6 4 2 0 + 50 ms LIIA1894E
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	 (V) 6 4 2 0 + 50 ms LIIA1895E
21	G	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
22	G	BUS	—	—	Ignition switch ON or power window timer operates	 (V) 15 10 5 0 + 200 ms PIIA2344E
23	G/O	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
27	W/R	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
28	L/R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	W/B	Hazard switch	Input	OFF	ON	0V
					OFF	5V
31	P/L	Cargo lamp switch	Input	OFF	Cargo lamp switch ON	0
					Cargo lamp switch OFF	Battery voltage

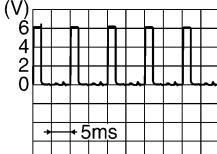
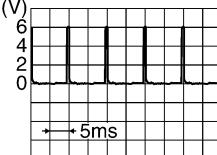
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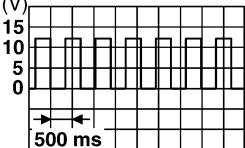
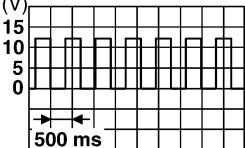
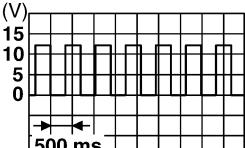
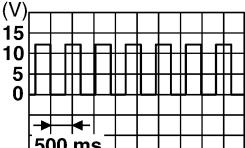
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

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

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
51	G/Y	Trailer turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	 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 assembly LH actuator (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	G/B	Turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
61	G/Y	Turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
62	R/W	Step lamp LH and RH	Output	OFF	ON (any door open)	0V
					OFF (all doors closed)	Battery voltage
63	L	Interior room/map lamp	Output	OFF	Any door switch	ON (open) OFF (closed)
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66	G/Y	Front door lock actuator RH and rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage

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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
67	B	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

INFOID:0000000006658829

### 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:0000000006658830

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	<ul style="list-style-type: none"> <li>• C1729: VHCL SPEED SIG ERR</li> <li>• C1735: IGNITION SIGNAL</li> </ul>
4	<ul style="list-style-type: none"> <li>• C1704: LOW PRESSURE FL</li> <li>• C1705: LOW PRESSURE FR</li> <li>• C1706: LOW PRESSURE RR</li> <li>• C1707: LOW PRESSURE RL</li> <li>• C1708: [NO DATA] FL</li> <li>• C1709: [NO DATA] FR</li> <li>• C1710: [NO DATA] RR</li> <li>• C1711: [NO DATA] RL</li> <li>• C1712: [CHECKSUM ERR] FL</li> <li>• C1713: [CHECKSUM ERR] FR</li> <li>• C1714: [CHECKSUM ERR] RR</li> <li>• C1715: [CHECKSUM ERR] RL</li> <li>• C1716: [PRESSDATA ERR] FL</li> <li>• C1717: [PRESSDATA ERR] FR</li> <li>• C1718: [PRESSDATA ERR] RR</li> <li>• C1719: [PRESSDATA ERR] RL</li> <li>• C1720: [CODE ERR] FL</li> <li>• C1721: [CODE ERR] FR</li> <li>• C1722: [CODE ERR] RR</li> <li>• C1723: [CODE ERR] RL</li> <li>• C1724: [BATT VOLT LOW] FL</li> <li>• C1725: [BATT VOLT LOW] FR</li> <li>• C1726: [BATT VOLT LOW] RR</li> <li>• C1727: [BATT VOLT LOW] RL</li> </ul>

## DTC Index

INFOID:000000006658831

### 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.

DLK

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	—	—	<a href="#">BCS-27</a>
B2190: NATS ANTENNA AMP	—	—	<a href="#">SEC-18</a>
B2191: DIFFERENCE OF KEY	—	—	<a href="#">SEC-21</a>
B2192: ID DISCORD BCM-ECM	—	—	<a href="#">SEC-22</a>
B2193: CHAIN OF BCM-ECM	—	—	<a href="#">SEC-24</a>
C1708: [NO DATA] FL	—	—	<a href="#">WT-14</a>
C1709: [NO DATA] FR	—	—	<a href="#">WT-14</a>
C1710: [NO DATA] RR	—	—	<a href="#">WT-14</a>
C1711: [NO DATA] RL	—	—	<a href="#">WT-14</a>
C1712: [CHECKSUM ERR] FL	—	—	<a href="#">WT-16</a>
C1713: [CHECKSUM ERR] FR	—	—	<a href="#">WT-16</a>
C1714: [CHECKSUM ERR] RR	—	—	<a href="#">WT-16</a>
C1715: [CHECKSUM ERR] RL	—	—	<a href="#">WT-16</a>

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

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

# INTEGRATED HOMELINK TRANSMITTER

< WIRING DIAGRAM >

## WIRING DIAGRAM

### INTEGRATED HOMELINK TRANSMITTER

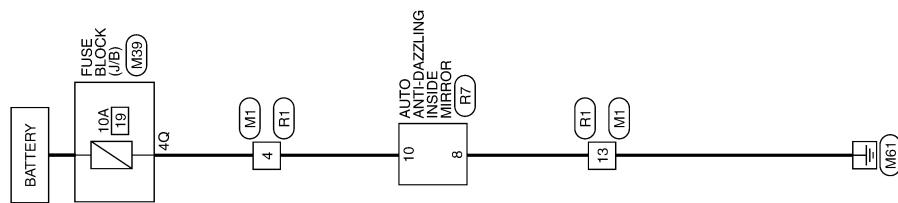
#### Wiring Diagram

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INTEGRATED HOMELINK TRANSMITTER



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ABKWA1206GB

# INTEGRATED HOMELINK TRANSMITTER

< WIRING DIAGRAM >

## INTEGRATED HOMELINK TRANSMITTER CONNECTORS

Connector No.	M1	
Connector Name	WIRE TO WIRE	
Connector Color	WHITE	
		
		
Connector No.	M39	
Connector Name	FUSE BLOCK (J/B)	
Connector Color	WHITE	
		
		
Terminal No.	Color of Wire	Signal Name
4	Y/R	—
13	B	—

Terminal No.	Color of Wire	Signal Name
4	Y/R	—
13	B	—

Connector No.	R7
Connector Name	AUTO ANTI-DAZZLING INSIDE MIRROR
Connector Color	GRAY
	
	

Terminal No.	Color of Wire	Signal Name
4	Y/R	—
13	B	—

Terminal No.	Color of Wire	Signal Name
8	B	GND
10	Y/R	B+

AAKIA0091GB

# POWER DOOR LOCK SYSTEM

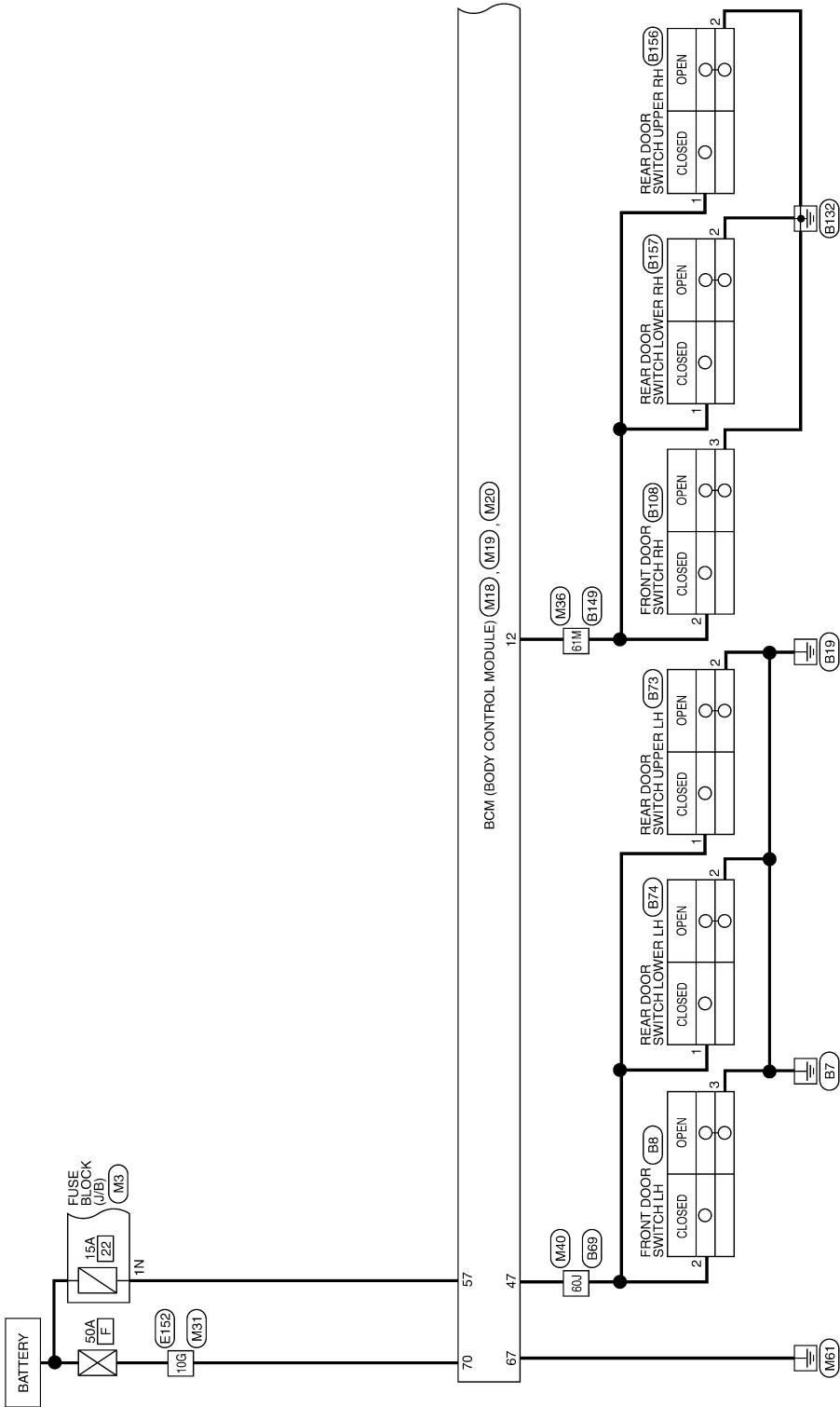
< WIRING DIAGRAM >

## POWER DOOR LOCK SYSTEM

Wiring Diagram - King Cab

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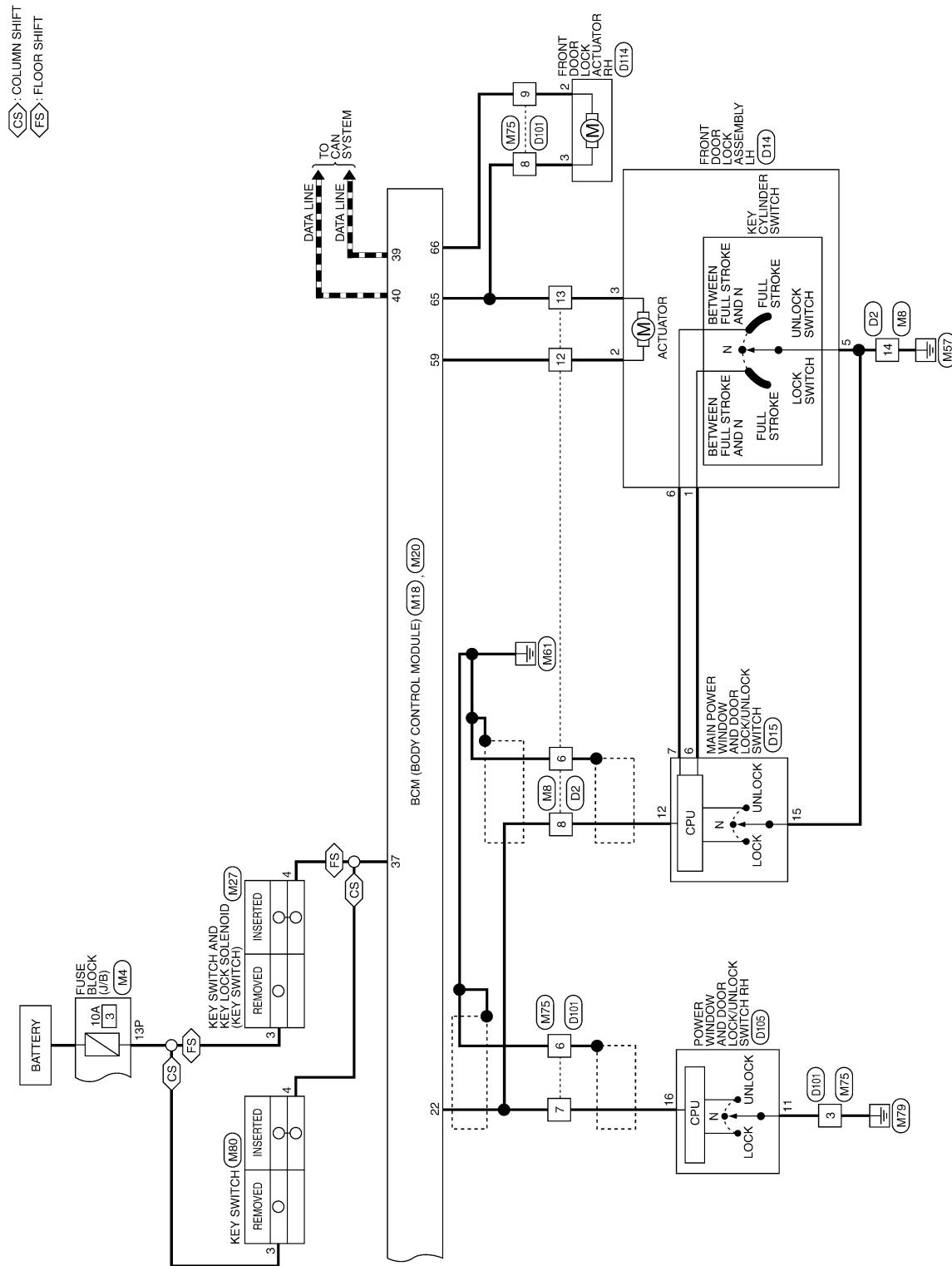
POWER DOOR LOCK SYSTEM - KING CAB



AAKWA0032GB

# POWER DOOR LOCK SYSTEM

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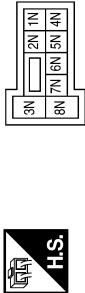
ABKWA1211GB

## POWER DOOR LOCK SYSTEM

## < WIRING DIAGRAM >

## POWER DOOR LOCK SYSTEM CONNECTORS - KING CAB

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

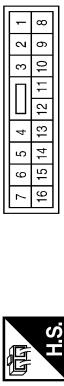


Terminal No.	Color of Wire	Signal Name
1N	Y/R	—

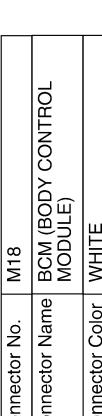
Terminal No.	Color of Wire	Signal Name
13P	P	—



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



Terminal No.	Color of Wire	Signal Name
6	SHIELD	—
8	G	—
12	G	—
13	V	—
14	B	—



Connector No.	M119
Connector Name	BCM(BODY CONTROL MODULE)
Connector Color	WHITE



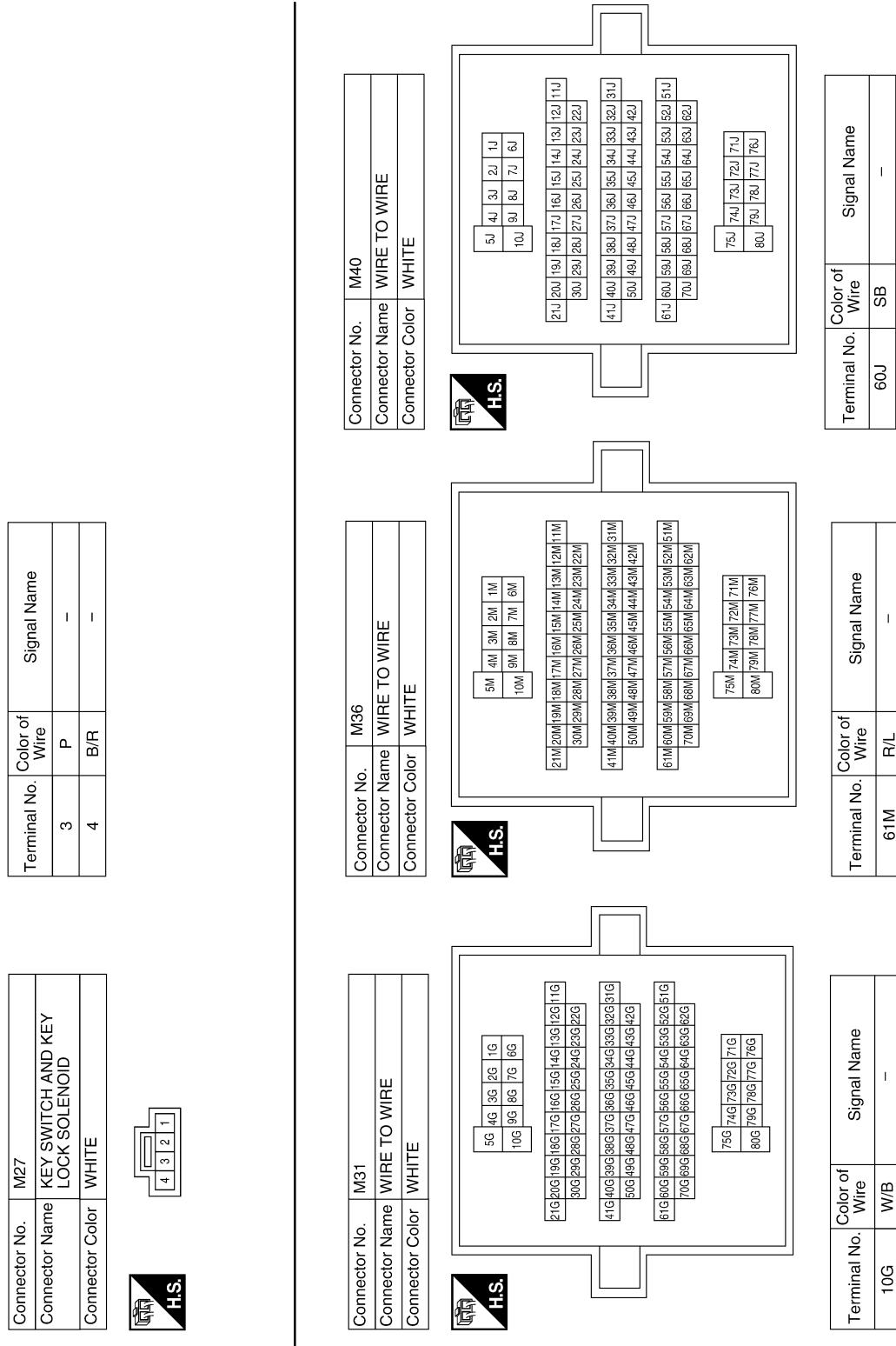
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
57	Y/R	BAT (FUSE)
59	G	DOOR UNLOCK OUTPUT (DR)
65	V	DOOR LOCK OUTPUT (ALL)
66	G/Y	DOOR UNLOCK OUTPUT (OTHER)
67	B	GND (POWER)
70	W/B	BAT (F/L)



## POWER DOOR LOCK SYSTEM

## < WIRING DIAGRAM >



ABKIA1400GB

# POWER DOOR LOCK SYSTEM

< WIRING DIAGRAM >

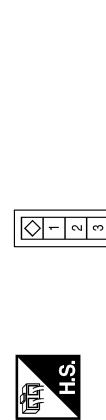
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Connector Name	WIRE TO WIRE
Connector Color	WHITE



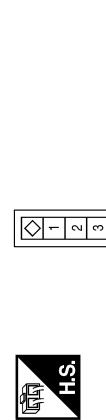
Terminal No.	Color of Wire	Signal Name
3	B	—
6	SHIELD	—
7	G	—
8	V	—
9	G/Y	—

Terminal No.	Color of Wire	Signal Name
3	P	—
4	B/R	—

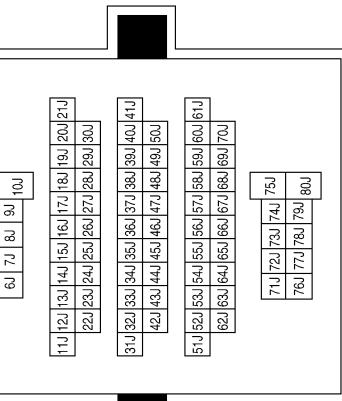
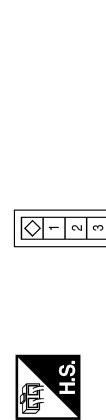
Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE



1	—	—
2	—	—
3	—	—



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



Terminal No.	Color of Wire	Signal Name
60J	SB	—

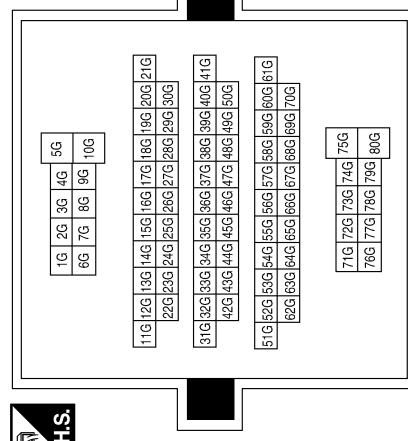
Terminal No.	Color of Wire	Signal Name
10G	W/B	—

ABKIA1401GB

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE



1G	2G	3G	4G	5G	—														
6G	7G	8G	9G	10G	—														
11G	12G	13G	14G	15G	16G	17G	18G	19G	20G	21G									
22G	23G	24G	25G	26G	27G	28G	29G	30G	31G	32G									
31G	32G	33G	34G	35G	36G	37G	38G	39G	40G	41G									
42G	43G	44G	45G	46G	47G	48G	49G	50G	42J	43J	44J	45J	46J	47J	48J	49J	50J		
51G	52G	53G	54G	55G	56G	57G	58G	59G	60G	61G									
62G	63G	64G	65G	66G	67G	68G	69G	70G	62J	63J	64J	65J	66J	67J	68J	69J	70J		
71G	72G	73G	74G	75G	76G	77G	78G	79G	80G	71J	72J	73J	74J	75J	76J	77J	78J	79J	80J



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# POWER DOOR LOCK SYSTEM

< WIRING DIAGRAM >

Connector No.	B74
Connector Name	REAR DOOR SWITCH LOWER LH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B	-

Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B	-

Connector No.	B73
Connector Name	REAR DOOR SWITCH UPPER LH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B	-

Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B	-

Terminal No.	Color of Wire	Signal Name
2	R/L	-
3	B	-



Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B	-



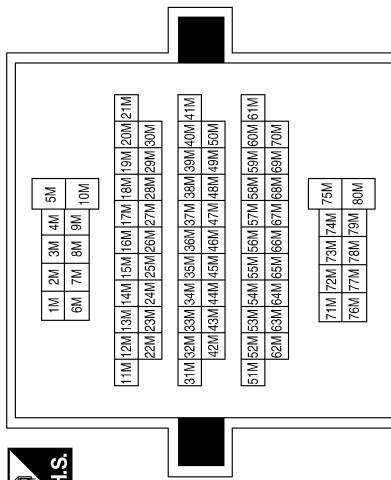
Terminal No.	Color of Wire	Signal Name
2	R/L	-
3	B	-



Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B	-



Terminal No.	Color of Wire	Signal Name
2	R/L	-
3	B	-

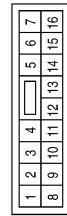


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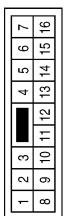
# POWER DOOR LOCK SYSTEM

< WIRING DIAGRAM >

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

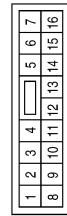


Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

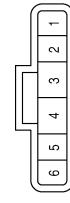


Terminal No.	Color of Wire	Signal Name
6	SHIELD	-
8	LG/W	-
12	G	-
13	V	-
14	B	-
1	L	LOCK
2	G	UNLOCK
3	V	LOCK
5	B	GND
6	R	UNLOCK

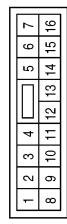
Terminal No.	Color of Wire	Signal Name
1	L	LOCK
2	G	UNLOCK
3	V	LOCK
5	B	GND
6	R	UNLOCK
15	B	GND



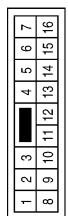
Connector No.	D14
Connector Name	FRONT DOOR LOCK ACTUATOR RH
Connector Color	BLACK



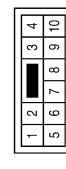
Connector No.	D14
Connector Name	FRONT DOOR LOCK ACTUATOR RH
Connector Color	BLACK



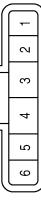
Connector No.	D105
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE



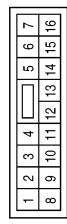
Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
11	B	GND
16	LG/W	ANTI PINCH SERIAL LINK



Terminal No.	Color of Wire	Signal Name
2	G/Y	UNLOCK
3	V	LOCK



Terminal No.	Color of Wire	Signal Name
3	B	-
6	SHIELD	-
7	LG/W	-
8	V	-
9	G/Y	-
11	B	LOCK
16	LG/W	ANTI PINCH SERIAL LINK



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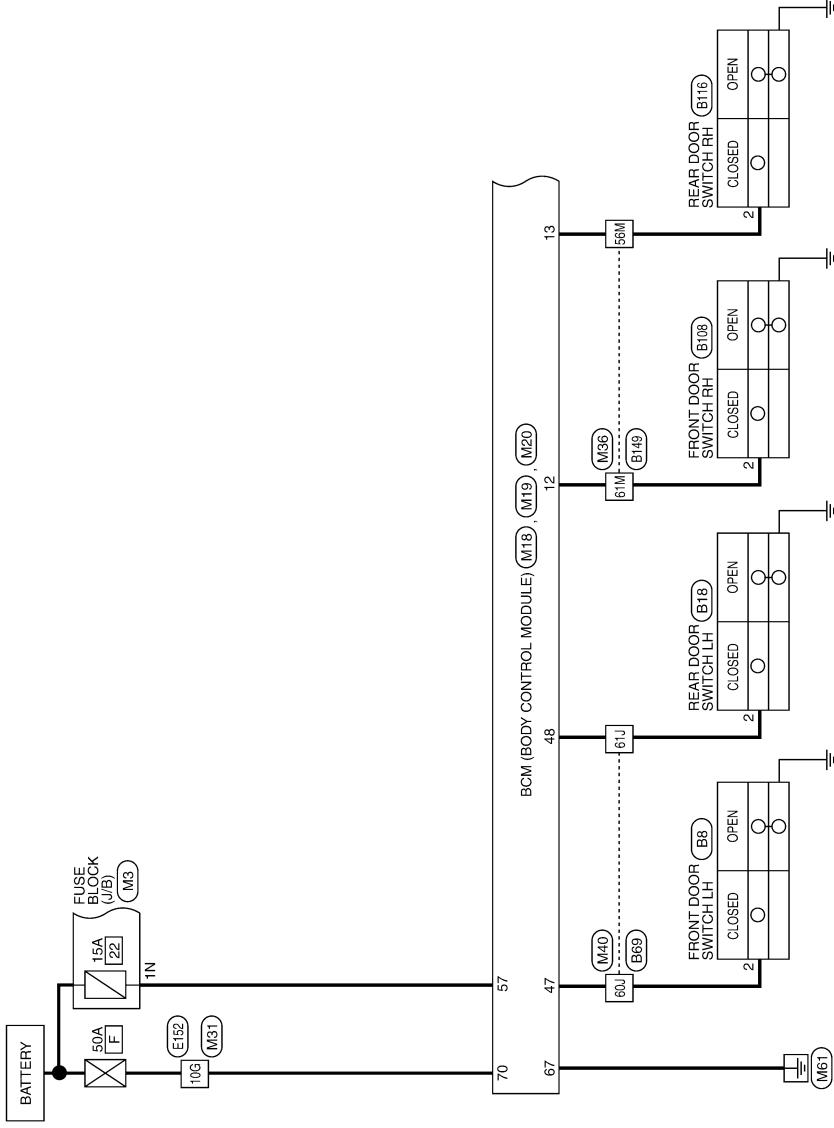
# POWER DOOR LOCK SYSTEM

< WIRING DIAGRAM >

## Wiring Diagram - Crew Cab

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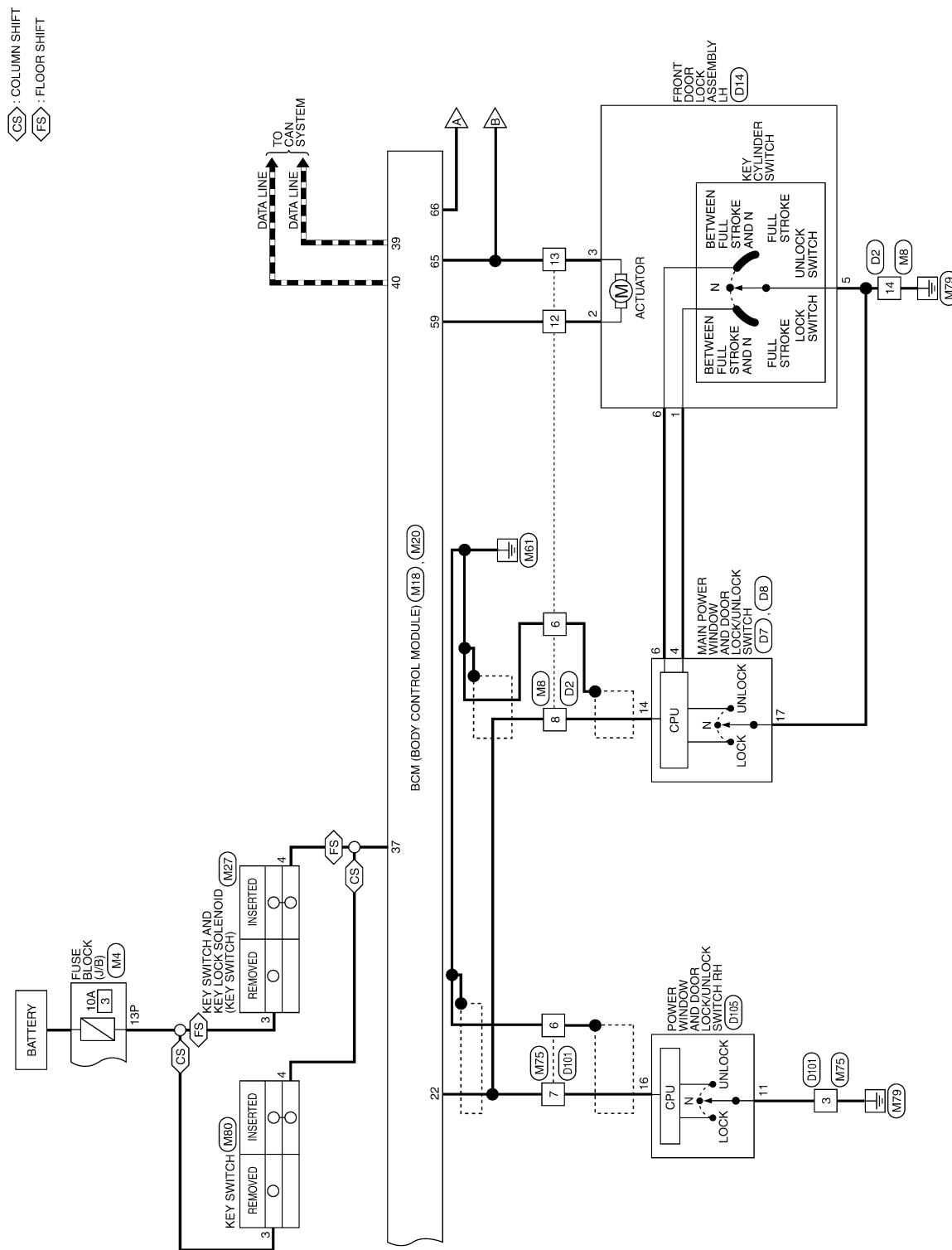
### POWER DOOR LOCK SYSTEM - CREW CAB



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# POWER DOOR LOCK SYSTEM

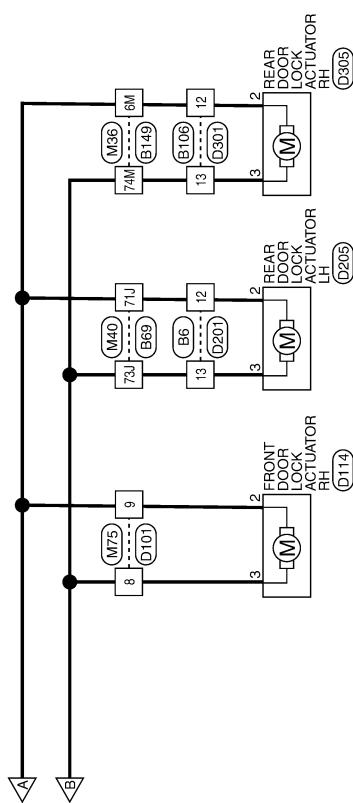
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# POWER DOOR LOCK SYSTEM

< WIRING DIAGRAM >



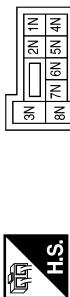
ALKWA0168GB

# POWER DOOR LOCK SYSTEM

< WIRING DIAGRAM >

## POWER DOOR LOCK SYSTEM CONNECTORS - CREW CAB

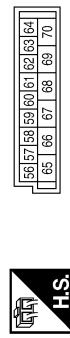
Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1N	Y/R	—

Terminal No.	Color of Wire	Signal Name
13P	P	—

Terminal No.	Color of Wire	Signal Name
6	SHIELD	—
8	G	—
12	G	—
13	V	—
14	B	—



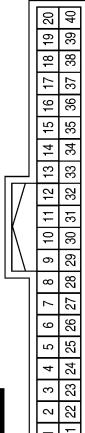
Terminal No.	Color of Wire	Signal Name
56	57	58
57	58	59
58	59	60
59	60	61
60	61	62
61	62	63
62	63	64
63	64	65
64	65	66
65	66	67
66	67	68
67	68	69
68	69	70

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



Terminal No.	Color of Wire	Signal Name
41	R/Y	DOOR SW (RL)
42	SB	DOOR SW (DR)



Terminal No.	Color of Wire	Signal Name
12	R/L	DOOR SW (AS)
13	GR	DOOR SW (RR)
22	G	ANTI-PINCH SERIAL LINK (RX, TX)
37	B/R	KEY SW
39	L	CAN-H
40	P	CAN-L

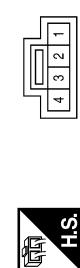
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# POWER DOOR LOCK SYSTEM

< WIRING DIAGRAM >

Terminal No.	Color of Wire	Signal Name
10G	W/B	-

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	P	-
4	B/R	-



2G	20G	19G	8G	17G	16G	15G	4G	13G	12G	1G
3G	29G	28G	27G	26G	25G	24G	23G	22G		
4G	40G	39G	38G	37G	36G	35G	34G	33G	32G	31G
5G	49G	8G	47G	46G	45G	34G	43G	42G		
6G	60G	59G	58G	57G	56G	55G	54G	53G	52G	51G
7G	79G	8G	67G	86G	76G	85G	34G	63G	82G	
75G	74G	73G	52G	71G						
80G	79G	78G	77G	76G						

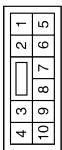
Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE

2M	20M	19M	18M	17M	16M	15M	14M	13M	12M	11M
3M	29M	28M	27M	26M	25M	24M	23M	22M		
4M	40M	39M	38M	37M	36M	35M	34M	33M	32M	31M
5M	49M	48M	47M	46M	45M	44M	43M	42M		
6M	60M	59M	58M	57M	56M	55M	54M	53M	52M	51M
7M	68M	67M	66M	65M	64M	63M	62M	61M		
75M	74M	73M	72M	71M						
80M	79M	78M	77M	76M						

# POWER DOOR LOCK SYSTEM

< WIRING DIAGRAM >

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



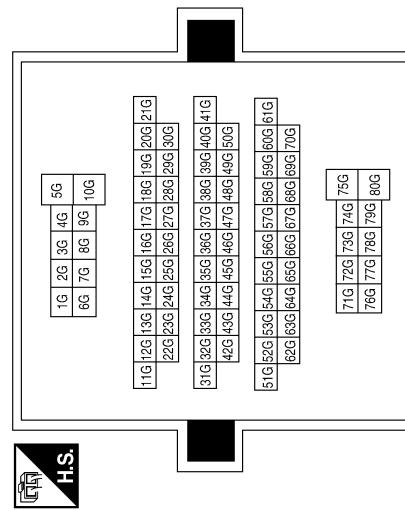
Terminal No.	Color of Wire	Signal Name
60J	SB	-
61J	R/Y	-
71J	G/Y	-
73J	V	-

Terminal No.	Color of Wire	Signal Name
4	3	2
10	9	8
9	8	7
1	7	6
5	6	5



Terminal No.	Color of Wire	Signal Name
3	B	-
6	SHIELD	-
7	G	-
8	V	-
9	G/Y	-

Terminal No.	Color of Wire	Signal Name
10G	W/B	-



Terminal No.	Color of Wire	Signal Name
3	P	-
4	B/R	-



Terminal No.	Color of Wire	Signal Name
11G	12G	13G
14G	15G	16G
17G	18G	19G
20G	21G	22G
24G	25G	26G
27G	28G	29G
30G	31G	32G
34G	35G	36G
37G	38G	39G
39G	40G	41G
42G	43G	44G
45G	46G	47G
48G	49G	50G
51G	52G	53G
54G	55G	56G
57G	58G	59G
60G	61G	62G
63G	64G	65G
66G	67G	68G
69G	70G	
71G	72G	73G
74G	75G	
76G	77G	78G
79G	80G	

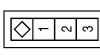
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## POWER DOOR LOCK SYSTEM

## < WIRING DIAGRAM >

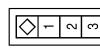
Connector No.	B18
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE



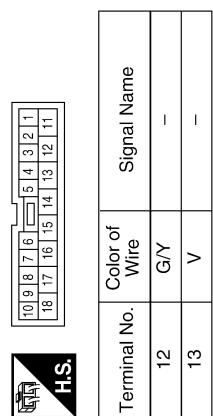
Terminal No.	Color of Wire	Signal Name
2	R/Y	—



Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE



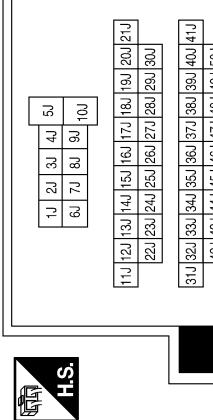
Terminal No.	Color of Wire	Signal Name
2	SB	—



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



Terminal No.	Color of Wire	Signal Name
12	G/Y	—
13	V	—



# POWER DOOR LOCK SYSTEM

< WIRING DIAGRAM >

Connector No	B108
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	R/L	-

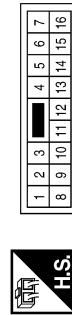
# POWER DOOR LOCK SYSTEM

Connector No	B116
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	GR	-

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



Terminal No.	Color of Wire	Signal Name
6M	G/Y	-
56M	GR	-
61M	R/L	-
74M	V	-

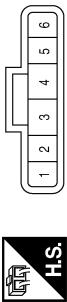
Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE



# POWER DOOR LOCK SYSTEM

< WIRING DIAGRAM >

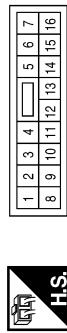
Connector No.	D7
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (CREW CAB)
Connector Color	WHITE



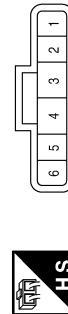
Terminal No.	Color of Wire	Signal Name	Signal Name
17	B	GND	
4	L	LOCK	
6	R	UNLOCK	
14	LG/W	ANTI PINCH SERIAL LINK	

Terminal No.	Color of Wire	Signal Name	Signal Name
17	B	GND	
4	L	LOCK	
6	R	UNLOCK	
14	LG/W	ANTI PINCH SERIAL LINK	

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

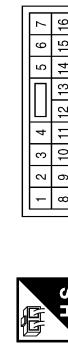


Terminal No.	Color of Wire	Signal Name
1	L	LOCK
2	G	UNLOCK
3	V	LOCK
5	B	GND
6	R	UNLOCK



Terminal No.	Color of Wire	Signal Name
2	Gr/Y	UNLOCK
3	V	LOCK

Terminal No.	Color of Wire	Signal Name	Signal Name
1	L	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH	
2	G		
3	V		



Terminal No.	Color of Wire	Signal Name	Signal Name
1	L	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH	
2	G		
3	V		



Terminal No.	Color of Wire	Signal Name
1	L	LOCK
2	G	UNLOCK
3	V	LOCK
5	B	GND
6	R	UNLOCK



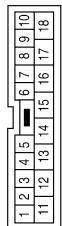
Terminal No.	Color of Wire	Signal Name	Signal Name
2	Gr/Y	UNLOCK	
3	V	LOCK	
4	LG/W	ANTI PINCH SERIAL LINK	



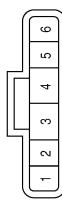
# POWER DOOR LOCK SYSTEM

## < WIRING DIAGRAM >

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

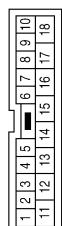


Connector No.	D205
Connector Name	REAR DOOR LOCK ACTUATOR LH
Connector Color	BLACK



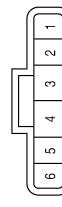
Terminal No.	Color of Wire	Signal Name
2	GR/Y	UNLOCK
3	V	LOCK

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



Terminal No.	Color of Wire	Signal Name
12	GR/Y	—
13	V	—

Connector No.	D305
Connector Name	REAR DOOR LOCK ACTUATOR RH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
2	GR/Y	UNLOCK
3	V	LOCK

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# REMOTE KEYLESS ENTRY SYSTEM

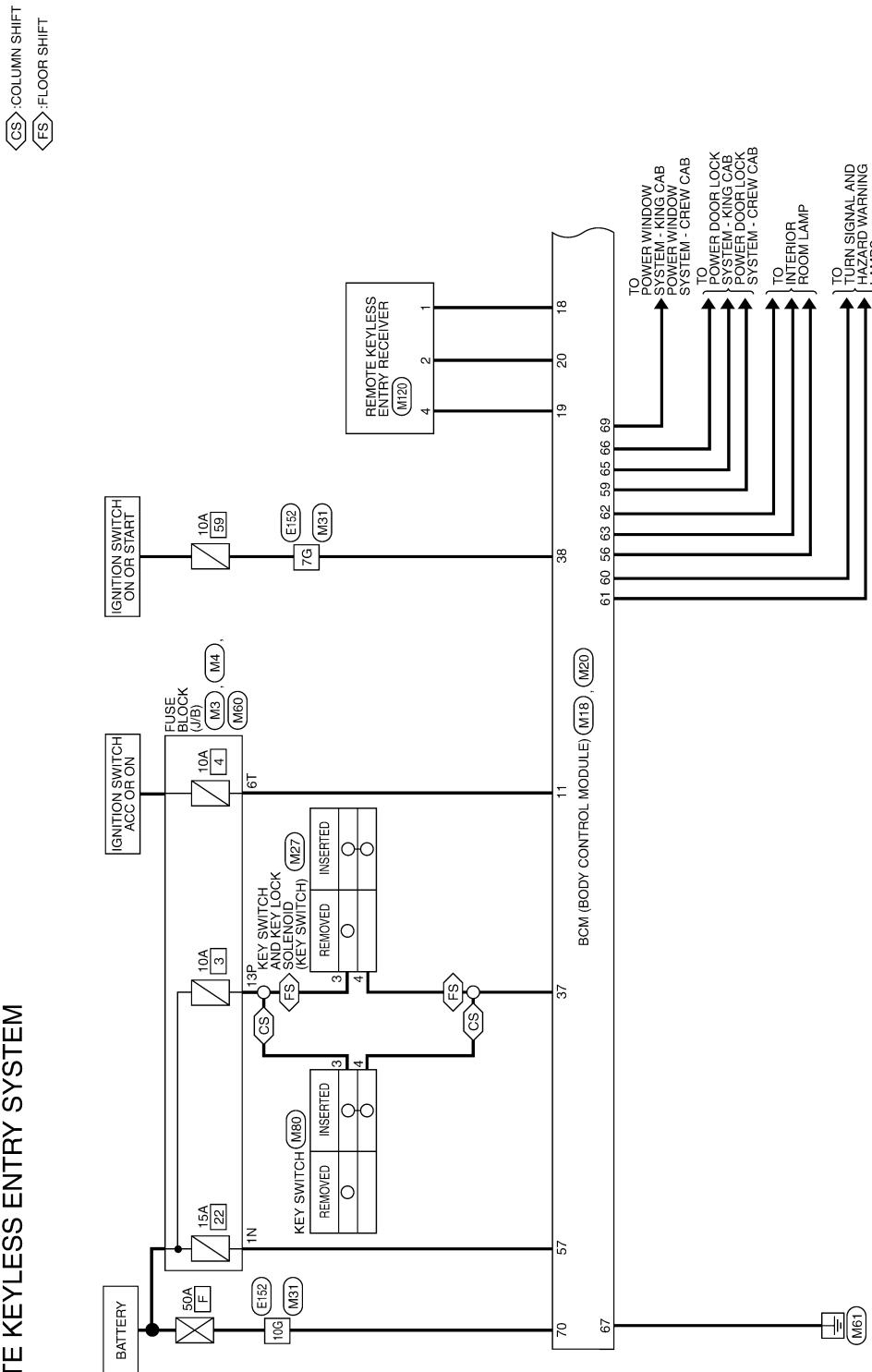
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## REMOTE KEYLESS ENTRY SYSTEM

### Wiring Diagram

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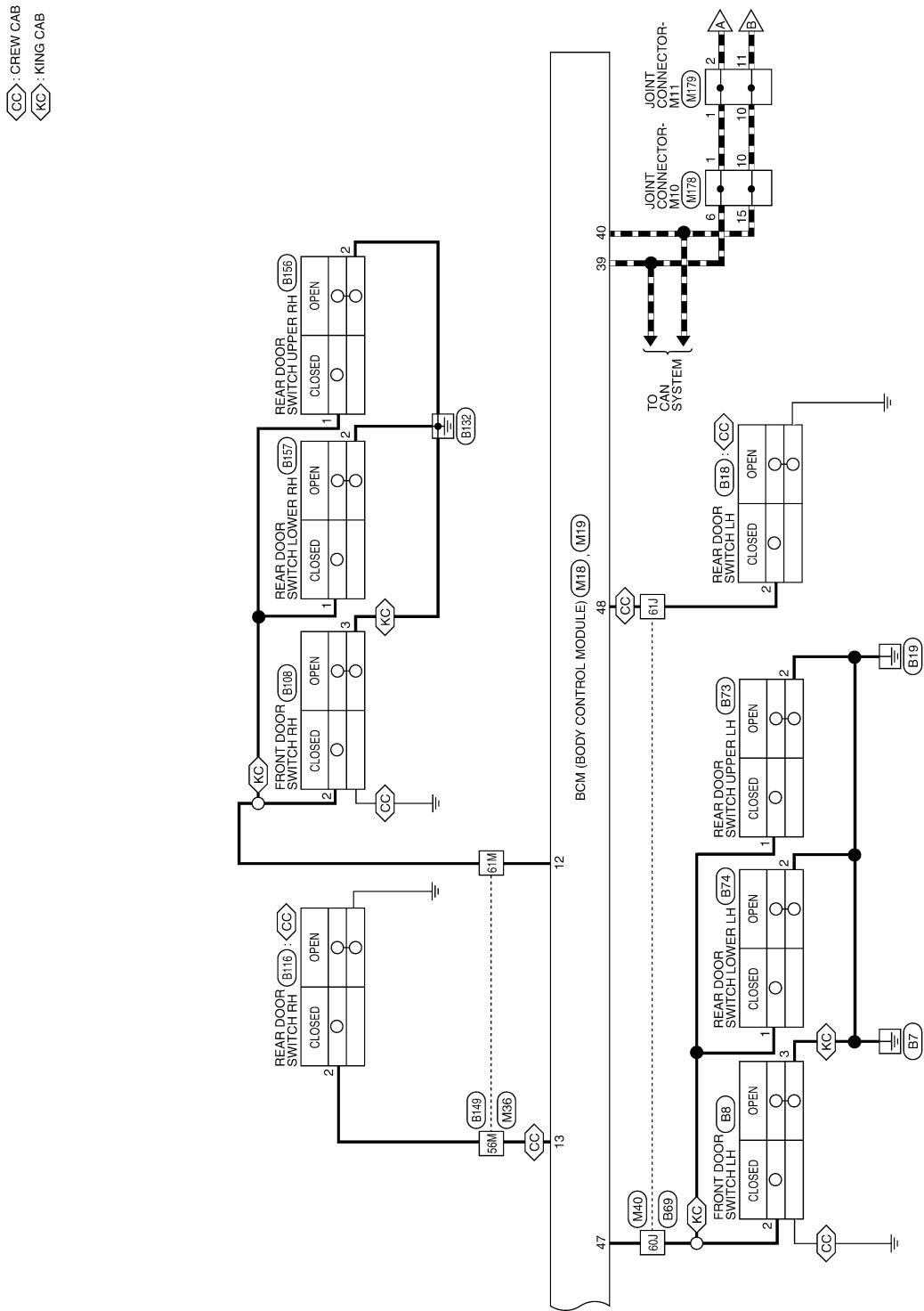
### REMOTE KEYLESS ENTRY SYSTEM



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## REMOTE KEYLESS ENTRY SYSTEM

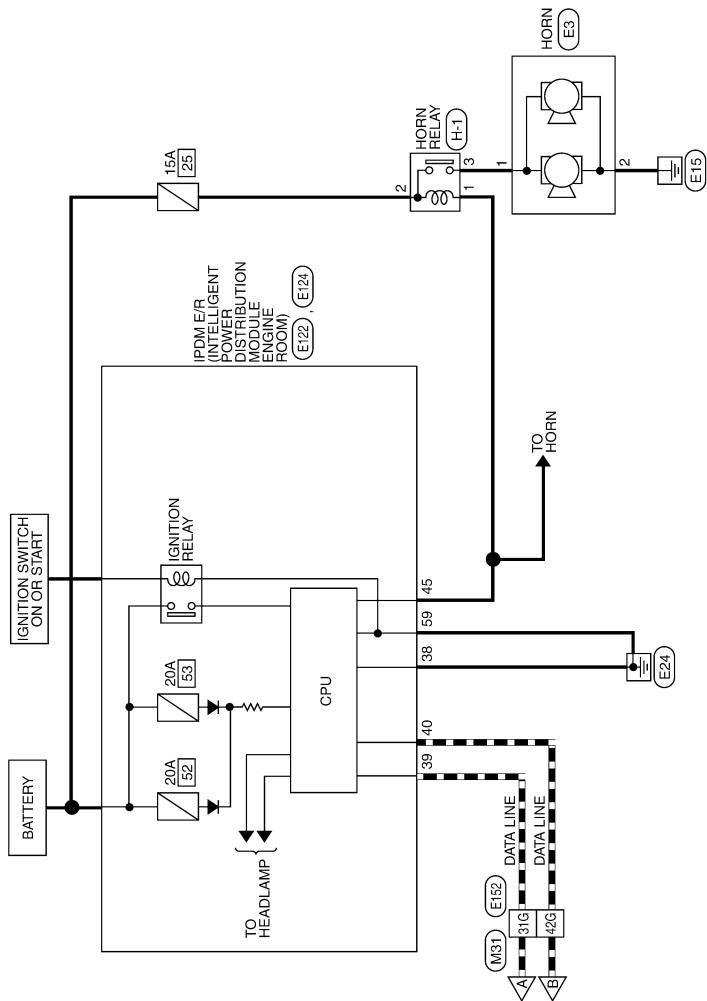
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# REMOTE KEYLESS ENTRY SYSTEM

< WIRING DIAGRAM >



ABKWA0479GB

# REMOTE KEYLESS ENTRY SYSTEM

< WIRING DIAGRAM >

## REMOTE KEYLESS ENTRY SYSTEM CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1N	Y/R	-

Terminal No.	Color of Wire	Signal Name
1N	Y/R	-

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

Terminal No.	Color of Wire	Signal Name
1	2	3
2	4	5
3	6	7
4	8	9
5	10	11
6	12	13
7	14	15
8	16	17
9	18	19
10	19	20
11	20	21
12	21	22
13	22	23
14	23	24
15	24	25
16	25	26
17	26	27
18	27	28
19	28	29
20	29	30
21	30	31
22	31	32
23	32	33
24	33	34
25	34	35
26	35	36
27	36	37
28	37	38
29	38	39
30	39	40



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



Terminal No.	Color of Wire	Signal Name
13P	P	-
1N	-	-



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



Terminal No.	Color of Wire	Signal Name
56	57	58
55	56	59
65	66	60
66	67	61
67	68	62
68	69	63
69	70	64



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



Terminal No.	Color of Wire	Signal Name
47	SB	DOOR SW (DR)
48	R/Y	DOOR SW (RL)



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



Terminal No.	Color of Wire	Signal Name
56	R/G	BATTERY SAVER OUTPUT
57	Y/R	BAT (FUSE)



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



Terminal No.	Color of Wire	Signal Name
59	G	DOOR UNLOCK OUTPUT (DR)
60	G/B	FLASHER OUTPUT (LEFT)



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



Terminal No.	Color of Wire	Signal Name
61	G/Y	FLASHER OUTPUT (RIGHT)
62	R/W	STEP LAMP OUTPUT



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



Terminal No.	Color of Wire	Signal Name
63	L	ROOM LAMP OUTPUT
65	V	DOOR LOCK OUTPUT (ALL)



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



Terminal No.	Color of Wire	Signal Name
66	G/Y	DOOR UNLOCK OUTPUT(OTHER)
67	B	GND (POWER)



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



Terminal No.	Color of Wire	Signal Name
69	W/R	POWER WINDOW POWER SUPPLY (BAT)
70	W/B	BAT (F/L)



Revision: August 2010

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# REMOTE KEYLESS ENTRY SYSTEM

< WIRING DIAGRAM >

Terminal No.	Color of Wire	Signal Name
7G	W/L	-
10G	W/B	-
31G	L	-
42G	P	-

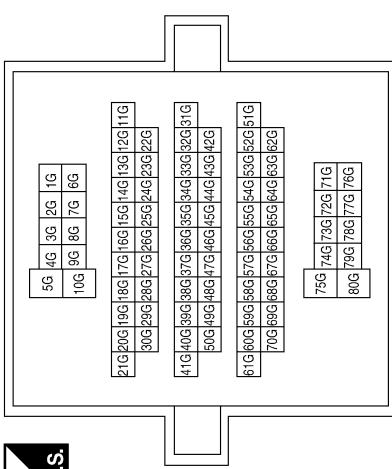
Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	M27
Connector Name	KEY SWITCH AND KEY LOCK SOLENOID
Connector Color	WHITE

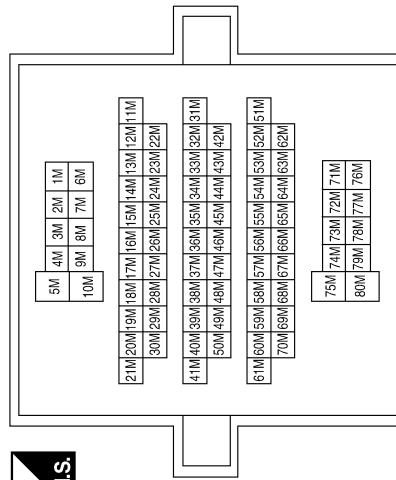


Terminal No.	Color of Wire	Signal Name
3	P	-
4	B/R	-



Terminal No.	Color of Wire	Signal Name
56M	GR	-
61M	F/L	-

Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE

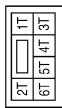


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# REMOTE KEYLESS ENTRY SYSTEM

< WIRING DIAGRAM >

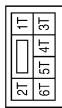
Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Color	WHITE



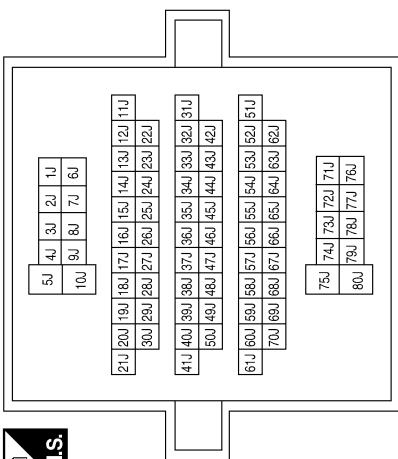
Terminal No.	Color of Wire	Signal Name
60J	SB	-
61J	RY	-



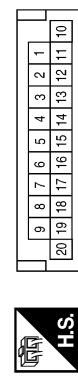
Terminal No.	Color of Wire	Signal Name
6T	O	-



Connector No.	M80
Connector Name	KEY SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6T	O	-



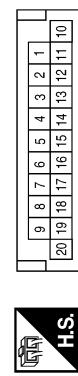
Connector No.	M120
Connector Name	REMOTE KEYLESS ENTRY RECEIVER
Connector Color	WHITE



Connector No.	M178
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
6T	O	-



Terminal No.	Color of Wire	Signal Name
1	L	-
6	L	-
10	P	-
15	P	-

Terminal No.	Color of Wire	Signal Name
1	P	GND
2	GW	SIGNAL
4	VW	POWER

Terminal No.	Color of Wire	Signal Name
3	P	-
4	B/R	-

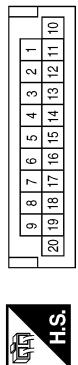
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# REMOTE KEYLESS ENTRY SYSTEM

< WIRING DIAGRAM >

Connector No.	M179
Connector Name	JOINT CONNECTOR-M11
Connector Color	BLUE



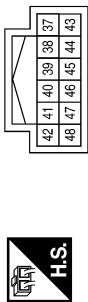
Connector No.	E3
Connector Name	HORN
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	L	-
2	L	-
10	P	-
11	P	-

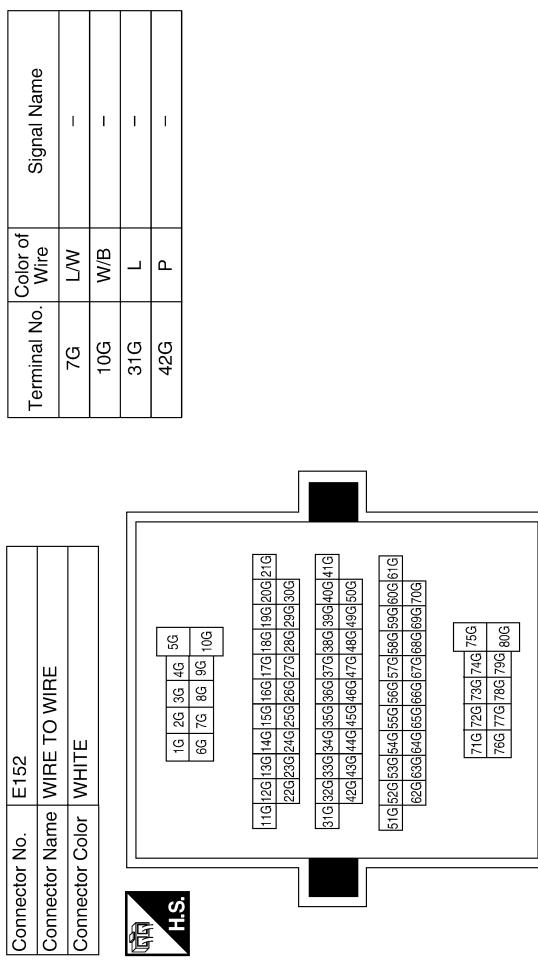
Terminal No.	Color of Wire	Signal Name
1	G	-
2	B	-

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L
45	G/W	ANTI THEFT HORN

Terminal No.	Color of Wire	Signal Name
7G	L/W	-
10G	W/B	-
31G	L	-
42G	P	-



# REMOTE KEYLESS ENTRY SYSTEM

< WIRING DIAGRAM >

Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE



1	2	3
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Terminal No.	Color of Wire	Signal Name
2	SB	-
3	B	-

Terminal No.	Color of Wire	Signal Name
2	SB	-
3	B	-

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



1	2	3	4	5
6	7	8	9	10

Connector No.	B73
Connector Name	REAR DOOR SWITCH
Connector Color	BLACK



2	1
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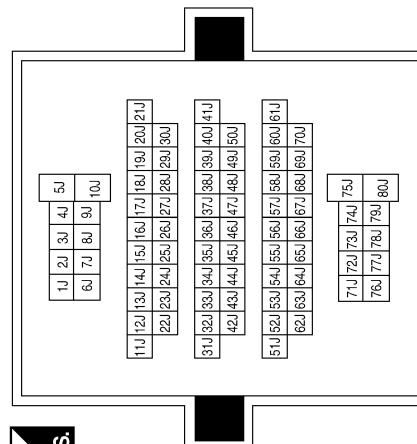
Connector No.	B73
Connector Name	REAR DOOR SWITCH
Connector Color	BLACK



2	1
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Terminal No.	Color of Wire	Signal Name
60J	SB	-
61J	R/Y	-

11J	12J	13J	14J	15J	16J	17J	18J	19J	20J	21J
22J	23J	24J	25J	26J	27J	28J	29J	30J		
31J	32J	33J	34J	35J	36J	37J	38J	39J	40J	41J
42J	43J	44J	45J	46J	47J	48J	49J	50J		
51J	52J	53J	54J	55J	56J	57J	58J	59J	60J	61J
62J	63J	64J	65J	66J	67J	68J	69J	70J		



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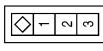
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# REMOTE KEYLESS ENTRY SYSTEM

## < WIRING DIAGRAM >

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



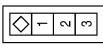
Terminal No.	Color of Wire	Signal Name
2	R/L	-
3	B	-

Terminal No.	Color of Wire	Signal Name
2	GR	-
3	-	-



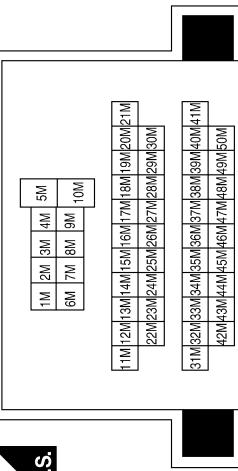
Terminal No.	Color of Wire	Signal Name
1	R/L	-
2	B	-

Connector No.	B74
Connector Name	REAR DOOR SWITCH LOWER LH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B	-

Terminal No.	Color of Wire	Signal Name
56M	GR	-
61M	R/L	-



Connector No.	B116
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE



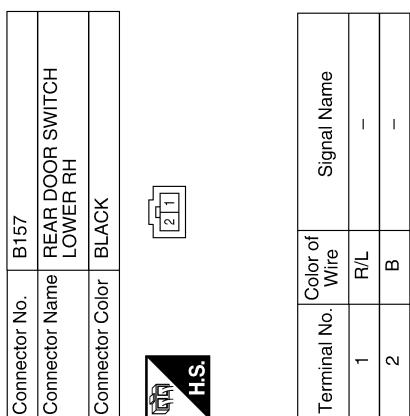
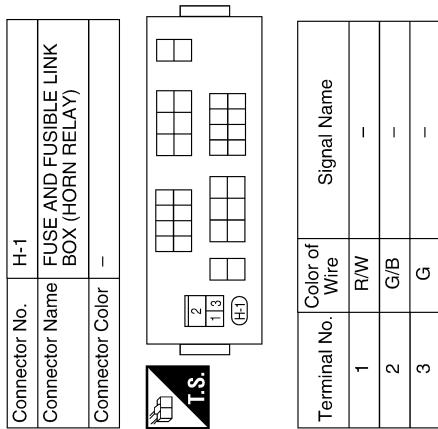
Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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# REMOTE KEYLESS ENTRY SYSTEM

< WIRING DIAGRAM >



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&lt; SYMPTOM DIAGNOSIS &gt;

**SYMPTOM DIAGNOSIS****DOOR LOCK****Symptom Table**

INFOID:000000006179252

**DOOR LOCK SYSTEM****NOTE:**

- Before performing the diagnosis in the following table, check "Work flow". Refer to [DLK-4, "Work Flow"](#).
- If the following symptoms" are detected, check systems shown in the "Diagnosis/service procedure" column in this order.

Symptom	Repair order	Refer to page
Key reminder door function does not operate properly.	1a. Door switch check (king cab)	<a href="#">DLK-27</a>
	1b. Door switch check (crew cab)	<a href="#">DLK-28</a>
	2a. Key switch check (column shift)	<a href="#">DLK-42</a>
	2b. Key switch and key lock solenoid (key switch) check (floor shift)	<a href="#">DLK-43</a>
	3. Replace BCM.	<a href="#">BCS-53</a>
Power door lock does not operate with door lock and unlock switch on main power window and door lock/unlock switch or power window and door lock/unlock switch RH.	1. Door lock/unlock switch check (driver side)	<a href="#">DLK-31</a>
	2. Door lock/unlock switch check (passenger side)	<a href="#">DLK-33</a>
Specific door lock actuator does not operate.	1. Door lock actuator check (Front LH)	<a href="#">DLK-45</a>
	2. Door lock actuator check (Front RH)	<a href="#">DLK-46</a>
	3. Door lock actuator check (Rear LH)	<a href="#">DLK-47</a>
	4. Door lock actuator check (Rear RH)	<a href="#">DLK-47</a>
Power door lock does not operate with front door key cylinder LH operation.	1. Front door lock assembly LH (key cylinder switch) check	<a href="#">DLK-37</a>
	2. Replace BCM.	<a href="#">BCS-53</a>
Power door lock does not operate.	1. BCM power supply and ground circuit check	<a href="#">BCS-28</a>
	2. Door lock/unlock switch check	<a href="#">DLK-31</a>

# REMOTE KEYLESS ENTRY SYSTEM

< SYMPTOM DIAGNOSIS >

## REMOTE KEYLESS ENTRY SYSTEM

### Symptom Table

INFOID:0000000006179253

### REMOTE KEYLESS ENTRY SYSTEM

Symptom	Diagnoses/service procedure	Reference page
All functions of remote keyless entry system do not operate.	<p>1. Keyfob battery and function check (use Remote Keyless Entry Tester J-43241)  <b>NOTE:</b>  If the result of keyfob function check is OK, keyfob is not malfunctioning.</p> <p>2. Check BCM and remote keyless entry receiver.</p>	<a href="#">DLK-51</a> <a href="#">DLK-49</a>
The new ID of keyfob cannot be entered.	<p>1. Keyfob battery and function check (use Remote Keyless Entry Tester J-43241)  <b>NOTE:</b>  If the result of keyfob function check is OK, keyfob is not malfunctioning.</p> <p>2a. Key switch check (column shift)</p> <p>2b. Key switch and key lock solenoid (key switch) check (floor shift)</p> <p>3a. Door switch check (king cab)</p> <p>3b. Door switch check (crew cab)</p> <p>4. ACC power check</p> <p>5. Replace BCM.</p>	<a href="#">DLK-51</a> <a href="#">DLK-42</a> <a href="#">DLK-43</a> <a href="#">DLK-27</a> <a href="#">DLK-28</a> <a href="#">BCS-28</a> <a href="#">BCS-53</a>
Door lock or unlock does not function. (If the power door lock system does not operate manually, check power door lock system)	<p>1. Keyfob battery and function check (use Remote Keyless Entry Tester J-43241)  <b>NOTE:</b>  If the result of keyfob function check is OK, keyfob is not malfunctioning.</p> <p>2. Replace BCM.</p>	<a href="#">DLK-14</a> <a href="#">BCS-53</a>
Hazard and horn reminder does not activate properly when pressing lock or unlock button of keyfob.	<p>1. Check hazard and horn reminder mode with CONSULT-III  <b>NOTE:</b>  Hazard and horn reminder mode can be changed.  First check the hazard and horn reminder mode setting.</p> <p>2a. Door switch check (king cab)</p> <p>2b. Door switch check (crew cab)</p> <p>3. Replace BCM.</p>	<a href="#">DLK-14</a> <a href="#">DLK-27</a> <a href="#">DLK-28</a> <a href="#">BCS-53</a>
Hazard reminder does not activate properly when pressing lock or unlock button of keyfob. (Horn reminder OK)	<p>1. Check hazard reminder mode with CONSULT-III  <b>NOTE:</b>  Hazard reminder mode can be changed.  First check the hazard reminder mode setting.</p> <p>2. Check hazard function with hazard switch</p> <p>3. Replace BCM.</p>	<a href="#">DLK-14</a> <a href="#">—</a> <a href="#">BCS-53</a>
Horn reminder does not activate properly when pressing lock or unlock button of keyfob. (Hazard reminder OK)	<p>1. Check horn reminder mode with CONSULT-III  <b>NOTE:</b>  Horn reminder mode can be changed.  First check the horn reminder mode setting.</p> <p>2. Check horn function with horn switch</p> <p>3. IPDM E/R operation check</p> <p>4. Replace BCM.</p>	<a href="#">DLK-14</a> <a href="#">—</a> <a href="#">DLK-53</a> <a href="#">BCS-53</a>
Room lamp, ignition keyhole illumination and step lamp operation do not activate properly.	1. Room lamp operation check	<a href="#">—</a>

# REMOTE KEYLESS ENTRY SYSTEM

## < SYMPTOM DIAGNOSIS >

Symptom	Diagnoses/service procedure	Reference page
	2. Ignition keyhole illumination operation check	—
	3. Step lamp operation check	—
	4a. Door switch check (king cab)	<a href="#">DLK-27</a>
	4b. Door switch check (crew cab)	<a href="#">DLK-28</a>
	5. Replace BCM.	<a href="#">BCS-53</a>
Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed.	<p>1. Keyfob battery and function check (use Remote Keyless Entry Tester J-43241)  <b>NOTE:</b>  If the result of keyfob function check is OK, keyfob is not malfunctioning.</p> <p>2a. Key switch check (column shift)</p> <p>2b. Key switch and key lock solenoid (key switch) check (floor shift)</p> <p>3. Replace BCM.</p>	<a href="#">DLK-51</a>
Auto door lock operation does not activate properly. (All other remote keyless entry functions OK.)	<p>1. Check auto door lock operation mode with CONSULT-III  <b>NOTE:</b>  Auto door lock operation mode can be changed.  First check the auto door lock operation mode setting.</p> <p>2. Replace BCM.</p>	<a href="#">DLK-12</a> <a href="#">BCS-53</a>
Keyless power window down (open) operation does not activate properly. (All other remote keyless entry functions OK.)	<p>1. Check power window down operation mode with CONSULT-III  <b>NOTE:</b>  Power window down operation mode can be changed.  First check the power window down operation mode setting.</p> <p>2. Check power window function with switch</p> <p>3. Replace BCM.</p>	— — <a href="#">BCS-53</a>

# HOMELINK UNIVERSAL TRANSCEIVER

< SYMPTOM DIAGNOSIS >

## HOMELINK UNIVERSAL TRANSCEIVER

### Symptom Table

INFOID:000000006179254

#### HOMELINK UNIVERSAL TRANSCEIVER MALFUNCTION

Symptom	Diagnosis/service procedure	Reference page
Homelink universal transceiver does not operate properly.	1. Check homelink universal transceiver function. 2. Check Intermittent Incident.	<a href="#">DLK-62</a> <a href="#">GI-39</a>

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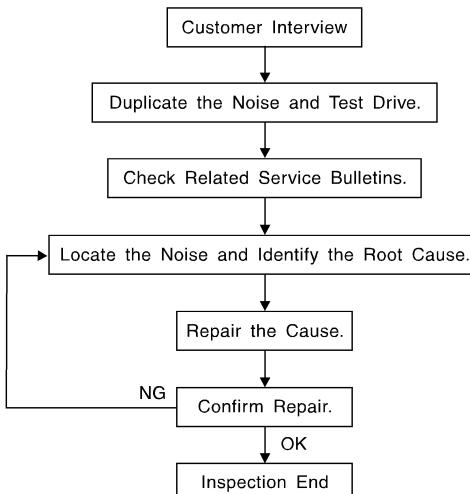
# SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

## SQUEAK AND RATTLE TROUBLE DIAGNOSES

### Work Flow

INFOID:0000000006179255



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### CUSTOMER INTERVIEW

Interview the customer if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any customer's comments; refer to [DLK-112, "Diagnostic Worksheet"](#). This information is necessary to duplicate the conditions that exist when the noise occurs.

- The customer may not be able to provide a detailed description or the location of the noise. Attempt to obtain all the facts and conditions that exist when the noise occurs (or does not occur).
- If there is more than one noise in the vehicle, be sure to diagnose and repair the noise that the customer is concerned about. This can be accomplished by test driving the vehicle with the customer.
- After identifying the type of noise, isolate the noise in terms of its characteristics. The noise characteristics are provided so the customer, service adviser and technician are all speaking the same language when defining the noise.
- Squeak —(Like tennis shoes on a clean floor)  
Squeak characteristics include the light contact/fast movement/brought on by road conditions/hard surfaces = higher pitch noise/softer surfaces = lower pitch noises/edge to surface = chirping.
- Creak—(Like walking on an old wooden floor)  
Creak characteristics include firm contact/slow movement/twisting with a rotational movement/pitch dependent on materials/often brought on by activity.
- Rattle—(Like shaking a baby rattle)  
Rattle characteristics include the fast repeated contact/vibration or similar movement/loose parts/missing clip or fastener/incorrect clearance.
- Knock —(Like a knock on a door)  
Knock characteristics include hollow sounding/sometimes repeating/often brought on by driver action.
- Tick—(Like a clock second hand)  
Tick characteristics include gentle contacting of light materials/loose components/can be caused by driver action or road conditions.
- Thump—(Heavy, muffled knock noise)  
Thump characteristics include softer knock/dead sound often brought on by activity.
- Buzz—(Like a bumble bee)  
Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending upon the person. A noise that you may judge as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

### DUPLICATE THE NOISE AND TEST DRIVE

If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when you confirm the repair.

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## < SYMPTOM DIAGNOSIS >

If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

- 1) Close a door.
- 2) Tap or push/pull around the area where the noise appears to be coming from.
- 3) Rev the engine.
- 4) Use a floor jack to recreate vehicle "twist".
- 5) At idle, apply engine load (electrical load, half-clutch on M/T model, drive position on A/T models).
- 6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.

- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
- If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

## CHECK RELATED SERVICE BULLETINS

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.

If a TSB relates to the symptom, follow the procedure to repair the noise.

## LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis Ear: J-39570, Engine Ear: J-39565 and mechanic's stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:
  - removing the components in the area that you suspect the noise is coming from.  
Do not use too much force when removing clips and fasteners, otherwise clips and fasteners can be broken or lost during the repair, resulting in the creation of new noise.
  - tapping or pushing/pulling the component that you suspect is causing the noise.  
Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
  - feeling for a vibration with your hand by touching the component(s) that you suspect is (are) causing the noise.
  - placing a piece of paper between components that you suspect are causing the noise.
  - looking for loose components and contact marks.

Refer to [DLK-110, "Generic Squeak and Rattle Troubleshooting"](#).

## REPAIR THE CAUSE

- If the cause is a loose component, tighten the component securely.
- If the cause is insufficient clearance between components:
  - separate components by repositioning or loosening and retightening the component, if possible.
  - insulate components with a suitable insulator such as urethane pads, foam blocks, felt cloth tape or urethane tape. A NISSAN Squeak and Rattle Kit (J-43980) is available through your authorized NISSAN Parts Department.

### CAUTION:

Do not use excessive force as many components are constructed of plastic and may be damaged.

Always check with the Parts Department for the latest parts information.

The following materials are contained in the NISSAN Squeak and Rattle Kit (J-43980). Each item can be ordered separately as needed.

### URETHANE PADS [1.5 mm (0.059 in) thick]

Insulates connectors, harness, etc.

76268-9E005: 100×135 mm (3.94×5.31 in)/76884-71L01: 60×85 mm (2.36×3.35 in)/76884-71L02: 15×25 mm (0.59×0.98 in)

### INSULATOR (Foam blocks)

Insulates components from contact. Can be used to fill space behind a panel.

73982-9E000: 45 mm (1.77 in) thick, 50×50 mm (1.97×1.97 in)/73982-50Y00: 10 mm (0.39 in) thick, 50×50 mm (1.97×1.97 in)

### INSULATOR (Light foam block)

80845-71L00: 30 mm (1.18 in) thick, 30×50 mm (1.18×1.97 in)

### FELT CLOTH TAPE

Used to insulate where movement does not occur. Ideal for instrument panel applications.

68370-4B000: 15×25 mm (0.59×0.98 in) pad/68239-13E00: 5 mm (0.20 in) wide tape roll. The following materials not found in the kit can also be used to repair squeaks and rattles.

### UHMW (TEFLON) TAPE

Insulates where slight movement is present. Ideal for instrument panel applications.

### SILICONE GREASE

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## < SYMPTOM DIAGNOSIS >

**Used instead of UHMW tape that will be visible or not fit.**

**Note: Will only last a few months.**

**SILICONE SPRAY**

**Use when grease cannot be applied.**

**DUCT TAPE**

**Use to eliminate movement.**

## CONFIRM THE REPAIR

Confirm that the cause of a noise is repaired by test driving the vehicle. Operate the vehicle under the same conditions as when the noise originally occurred. Refer to the notes on the Diagnostic Worksheet.

## Generic Squeak and Rattle Troubleshooting

INFOID:000000006179256

Refer to Table of Contents for specific component removal and installation information.

### INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

1. The cluster lid A and instrument panel
2. Acrylic lens and combination meter housing
3. Instrument panel to front pillar garnish
4. Instrument panel to windshield
5. Instrument panel pins
6. Wiring harnesses behind the combination meter
7. A/C defroster duct and duct joint

These incidents can usually be located by tapping or moving the components to duplicate the noise or by pressing on the components while driving to stop the noise. Most of these incidents can be repaired by applying felt cloth tape or silicone spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.

#### **CAUTION:**

**Do not use silicone spray to isolate a squeak or rattle. If you saturate the area with silicone, you will not be able to recheck the repair.**

### CENTER CONSOLE

Components to pay attention to include:

1. Shift selector assembly cover to finisher
2. A/C control unit and cluster lid C
3. Wiring harnesses behind audio and A/C control unit

The instrument panel repair and isolation procedures also apply to the center console.

### DOORS

Pay attention to the:

1. Finisher and inner panel making a slapping noise
2. Inside handle escutcheon to door finisher
3. Wiring harnesses tapping
4. Door striker out of alignment causing a popping noise on starts and stops

Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. You can usually insulate the areas with felt cloth tape or insulator foam blocks from the NISSAN Squeak and Rattle Kit (J-43980) to repair the noise.

### TRUNK

Trunk noises are often caused by a loose jack or loose items put into the trunk by the owner.

In addition look for:

1. Trunk lid bumpers out of adjustment
2. Trunk lid striker out of adjustment
3. The trunk lid torsion bars knocking together
4. A loose license plate or bracket

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## < SYMPTOM DIAGNOSIS >

Most of these incidents can be repaired by adjusting, securing or insulating the item(s) or component(s) causing the noise.

### SUNROOF/HEADLINING

Noises in the sunroof/headlining area can often be traced to one of the following:

1. Sunroof lid, rail, linkage or seals making a rattle or light knocking noise
2. Sun visor shaft shaking in the holder
3. Front or rear windshield touching headliner and squeaking

Again, pressing on the components to stop the noise while duplicating the conditions can isolate most of these incidents. Repairs usually consist of insulating with felt cloth tape.

### OVERHEAD CONSOLE (FRONT AND REAR)

Overhead console noises are often caused by the console panel clips not being engaged correctly. Most of these incidents are repaired by pushing up on the console at the clip locations until the clips engage.

In addition look for:

1. Loose harness or harness connectors.
2. Front console map/reading lamp lens loose.
3. Loose screws at console attachment points.

### SEATS

When isolating seat noise it's important to note the position the seat is in and the load placed on the seat when the noise is present. These conditions should be duplicated when verifying and isolating the cause of the noise.

Cause of seat noise include:

1. Headrest rods and holder
2. A squeak between the seat pad cushion and frame
3. The rear seatback lock and bracket

These noises can be isolated by moving or pressing on the suspected components while duplicating the conditions under which the noise occurs. Most of these incidents can be repaired by repositioning the component or applying urethane tape to the contact area.

### UNDERHOOD

Some interior noise may be caused by components under the hood or on the engine wall. The noise is then transmitted into the passenger compartment.

Causes of transmitted underhood noise include:

1. Any component installed to the engine wall
2. Components that pass through the engine wall
3. Engine wall mounts and connectors
4. Loose radiator installation pins
5. Hood bumpers out of adjustment
6. Hood striker out of adjustment

These noises can be difficult to isolate since they cannot be reached from the interior of the vehicle. The best method is to secure, move or insulate one component at a time and test drive the vehicle. Also, engine RPM or load can be changed to isolate the noise. Repairs can usually be made by moving, adjusting, securing, or insulating the component causing the noise.

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# SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

## Diagnostic Worksheet

INFOID:0000000006179257

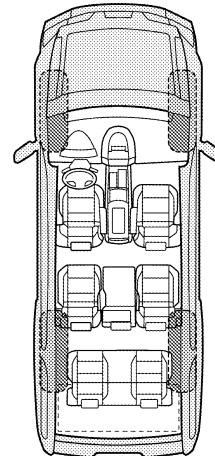
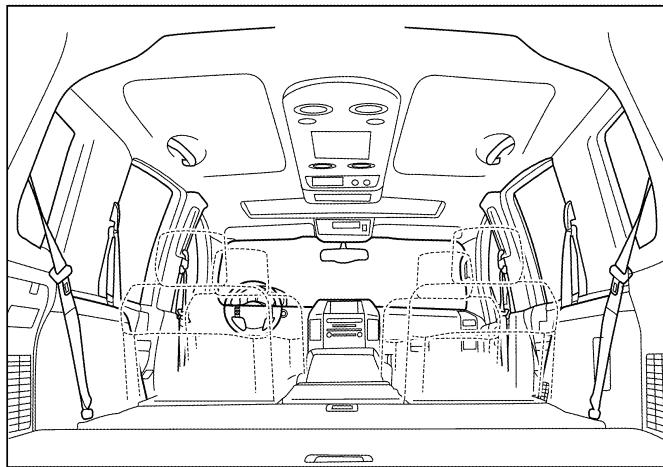
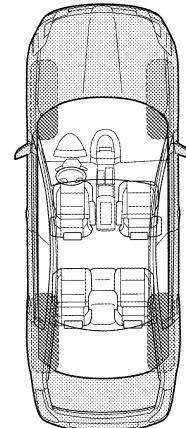
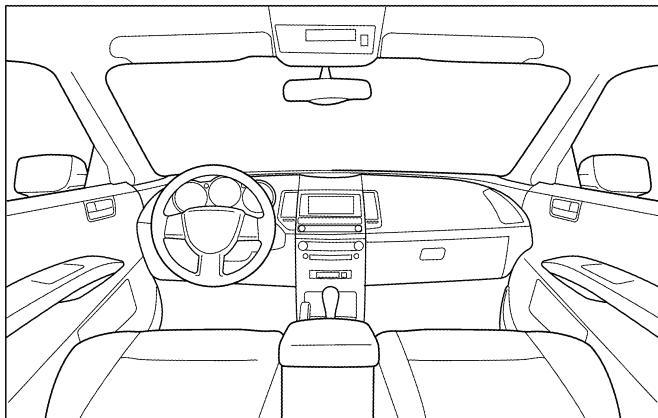
Dear Customer:

We are concerned about your satisfaction with your vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your vehicle right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions. You may be asked to take a test drive with a service advisor or technician to ensure we confirm the noise you are hearing.

### SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

#### I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)

The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.



Continue to page 2 of the worksheet and briefly describe the location of the noise or rattle. In addition, please indicate the conditions which are present when the noise occurs.

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

## SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

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### II. WHEN DOES IT OCCUR? (please check the boxes that apply)

<input type="checkbox"/> Anytime	<input type="checkbox"/> After sitting out in the rain
<input type="checkbox"/> 1st time in the morning	<input type="checkbox"/> When it is raining or wet
<input type="checkbox"/> Only when it is cold outside	<input type="checkbox"/> Dry or dusty conditions
<input type="checkbox"/> Only when it is hot outside	<input type="checkbox"/> Other: _____

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### III. WHEN DRIVING:

<input type="checkbox"/> Through driveways	<input type="checkbox"/> Squeak (like tennis shoes on a clean floor)
<input type="checkbox"/> Over rough roads	<input type="checkbox"/> Creak (like walking on an old wooden floor)
<input type="checkbox"/> Over speed bumps	<input type="checkbox"/> Rattle (like shaking a baby rattle)
<input type="checkbox"/> Only about _____ mph	<input type="checkbox"/> Knock (like a knock at the door)
<input type="checkbox"/> On acceleration	<input type="checkbox"/> Tick (like a clock second hand)
<input type="checkbox"/> Coming to a stop	<input type="checkbox"/> Thump (heavy muffled knock noise)
<input type="checkbox"/> On turns: left, right or either (circle)	<input type="checkbox"/> Buzz (like a bumble bee)
<input type="checkbox"/> With passengers or cargo	
<input type="checkbox"/> Other: _____	
<input type="checkbox"/> After driving _____ miles or _____ minutes	

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### IV. WHAT TYPE OF NOISE

<input type="checkbox"/> Squeak (like tennis shoes on a clean floor)
<input type="checkbox"/> Creak (like walking on an old wooden floor)
<input type="checkbox"/> Rattle (like shaking a baby rattle)
<input type="checkbox"/> Knock (like a knock at the door)
<input type="checkbox"/> Tick (like a clock second hand)
<input type="checkbox"/> Thump (heavy muffled knock noise)
<input type="checkbox"/> Buzz (like a bumble bee)

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## TO BE COMPLETED BY DEALERSHIP PERSONNEL

Test Drive Notes:

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DLK

YES	NO	Initials of person performing
-----	----	-------------------------------

L

Vehicle test driven with customer	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Noise verified on test drive	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Noise source located and repaired	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Follow up test drive performed to confirm repair	<input type="checkbox"/>	<input type="checkbox"/>	_____

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VIN: \_\_\_\_\_ Customer Name: \_\_\_\_\_

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W.O.# \_\_\_\_\_ Date: \_\_\_\_\_

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This form must be attached to Work Order

LAIA0071E

## PRECAUTIONS

< PRECAUTION >

# PRECAUTION

## PRECAUTIONS

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

INFOID:000000006179258

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

#### **WARNING:**

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

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

#### **WARNING:**

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

### Precaution for work

INFOID:000000006179259

- After removing and installing the opening/closing parts, be sure to carry out fitting adjustments to check their operation.
- Check the lubrication level, damage, and wear of each part. If necessary, grease or replace it.

## PREPARATION

< PREPARATION >

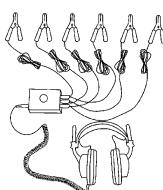
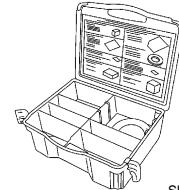
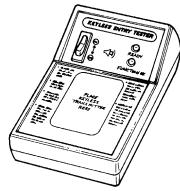
# PREPARATION

## PREPARATION

### Special Service Tool

INFOID:000000006179260

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-39570) Chassis ear	 SIIA0993E Locating the noise
— (J-43980) NISSAN Squeak and Rattle Kit	 SIIA0994E Repairing the cause of noise
— (J-43241) Remote Keyless Entry Tester	 LEL946A Used to test key fobs

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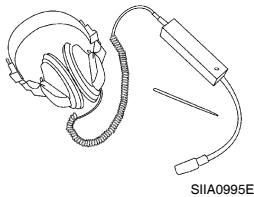
## PREPARATION

< PREPARATION >

Commercial Service Tool

INFOID:0000000006179261

(Kent-Moore No.) Tool name	Description
(J-39565) Engine ear	Locating the noise



# HOOD

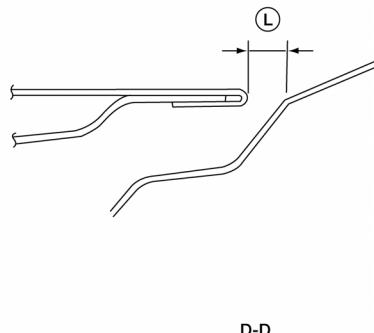
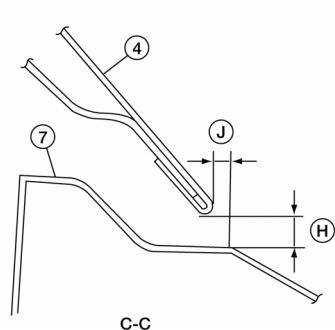
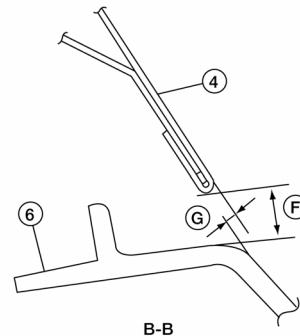
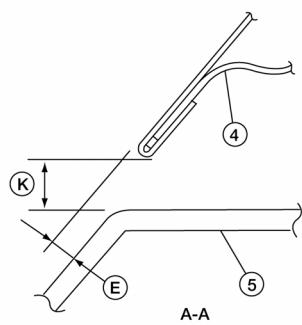
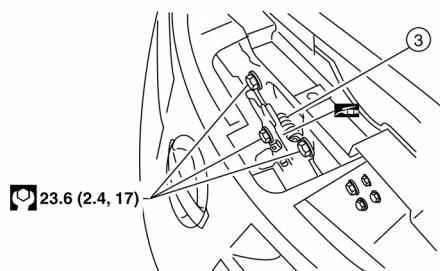
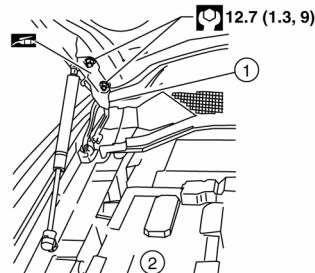
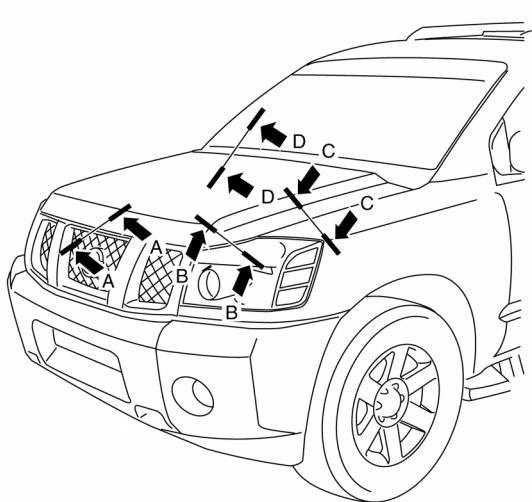
< REMOVAL AND INSTALLATION >

## REMOVAL AND INSTALLATION HOOD

### Fitting Adjustment

INFOID:000000006179262

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# HOOD

## < REMOVAL AND INSTALLATION >

1. Hood hinge	2. Hood stay	3. Hood lock assembly
4. Hood assembly	5. Front grille	6. Headlamp
7. Front fender	E. 2.0 mm (0.079 in)	F. 8.0mm (0.315 in)
G. 0.8 mm (0.031 in)	H. 5.0 mm (0.197 in)	J. 0.0 mm (0.00 in)
K. 8.0 mm (0.315 in)	L. 8.8 mm (0.346 in)	

### CLEARANCE AND SURFACE HEIGHT ADJUSTMENT

1. Remove the front grille. Refer to [EXT-19, "Removal and Installation"](#).
2. Remove the hood lock assembly and adjust the height by rotating the bumper rubber until the hood clearance of hood and fender becomes 1 mm (0.04 in) lower than fitting standard dimension.
3. Temporarily tighten the hood lock, and position it by engaging it with the hood striker. Check the lock and striker for looseness, and tighten the lock bolt to the specified torque.
4. Adjust the clearance and surface height of hood and fender according to the fitting standard dimension by rotating right and left bumper rubbers.

**CAUTION:**

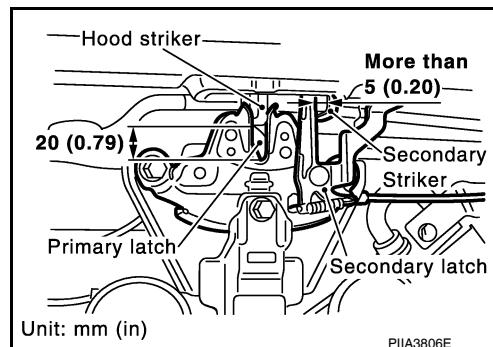
Adjust right/left gap between hood and each part to the following specification.

**Hood and headlamp (B-B)     $8.0 \pm 2.0 \text{ mm (0.315} \pm 0.079 \text{ in)}$**

5. Install the front grille. Refer to [EXT-19, "Removal and Installation"](#).

### HOOD LOCK ADJUSTMENT

1. Remove the front grille. Refer to [EXT-19, "Removal and Installation"](#).
2. Move the hood lock to the left or right so that striker center is vertically aligned with hood lock center (when viewed from vehicle front).
3. Make sure the secondary latch is properly engaged with the secondary striker with hood's own weight by dropping it from approx. 200 mm (7.87 in) height or by pressing it lightly approx. 3 kg (29 N, 7lb).
4. After adjusting hood lock, tighten the lock bolts to the specified torque.
5. Install the front grille. Refer to [EXT-19, "Removal and Installation"](#).



### Removal and Installation of Hood Assembly

INFOID:0000000006179263

1. Support the hood with a suitable tool.

**WARNING:**

Body injury may occur if no supporting rod is holding the hood open when removing the damper stay.

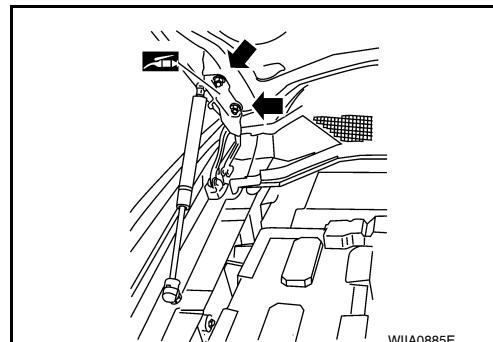
2. Remove the hinge nuts from the hood to remove the hood assembly.

**CAUTION:**

Operate with two workers, because of its heavy weight.

Installation is in the reverse order of removal.

- Adjust the hood. Refer to [DLK-117, "Fitting Adjustment"](#).
- Adjust the hood lock. Refer to [DLK-117, "Fitting Adjustment"](#).

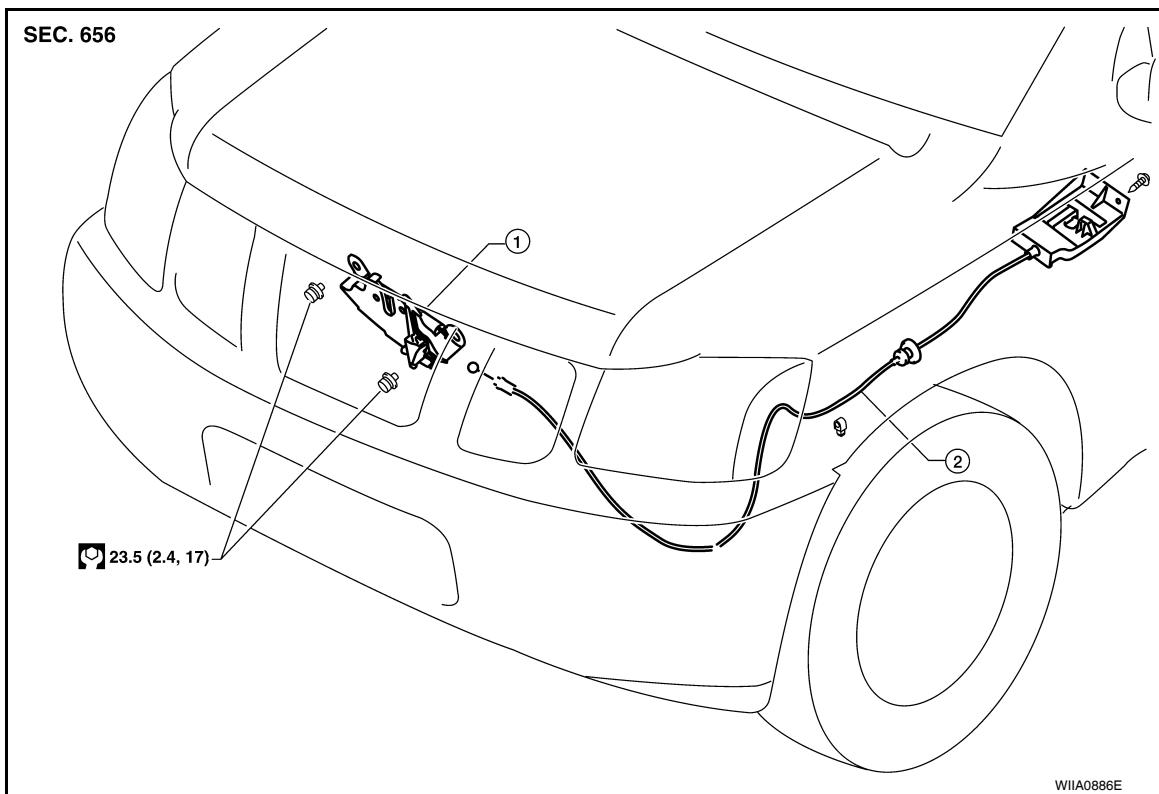


# HOOD

## < REMOVAL AND INSTALLATION >

### Removal and Installation of Hood Lock Control

INFOID:000000006179264



1. Hood lock assembly

2. Hood lock cable

## REMOVAL

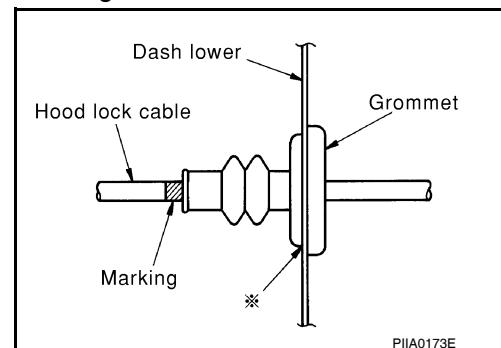
1. Remove the hood lock.
2. Unclip the hood lock cable from the radiator core support upper and the hoodledge.
3. Remove the bolt and the hood opener.
4. Remove the grommet from the dash lower, and pull the hood lock cable toward the passenger room.

**CAUTION:**

**While pulling, be careful not to damage the outside of the hood lock cable.**

## INSTALLATION

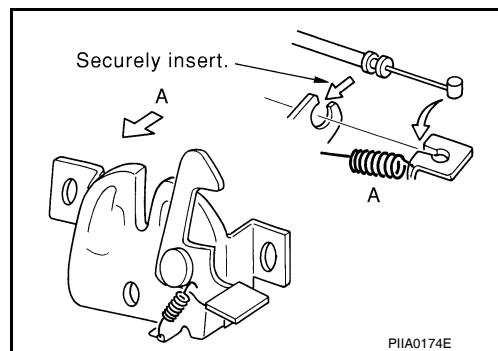
1. Pull the hood lock cable through the hole in dash lower panel into the engine room. Be careful not to bend the cable too much, keeping the radius 100mm (3.94 in) or more.
2. Make sure the cable is not offset from the positioning grommet, and from inside the vehicle, push the grommet into the dash lower hole securely.
3. Apply the sealant around the grommet at (\*) mark.



# HOOD

## < REMOVAL AND INSTALLATION >

4. Install the cable securely to the lock.
5. After installing, check the hood lock adjustment and hood opener operation.



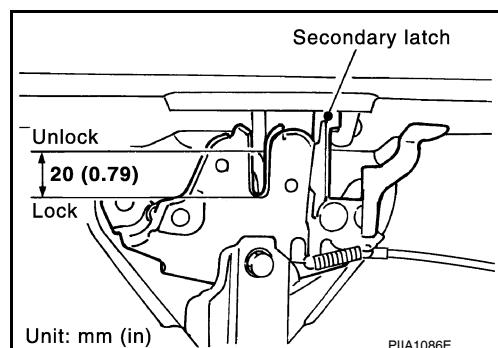
## Hood Lock Control Inspection

INFOID:000000006179265

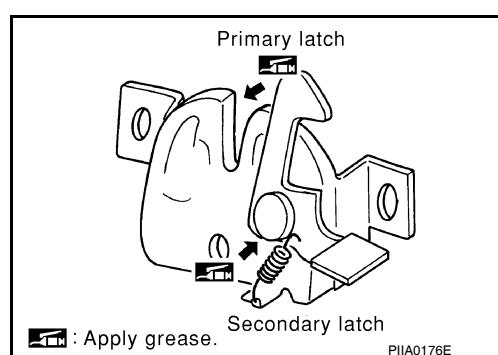
### CAUTION:

If the hood lock cable is bent or deformed, replace it.

1. Make sure the secondary latch is properly engaged with the secondary striker with hood's own weight by dropping it from approx. 200 mm (7.87 in) height.
2. While operating the hood opener, carefully make sure the front end of the hood is raised by approx. 20 mm (0.79 in). Also make sure the hood opener returns to the original position.



3. Check the hood lock lubrication condition. If necessary, apply "body grease" to the points shown in the figure.

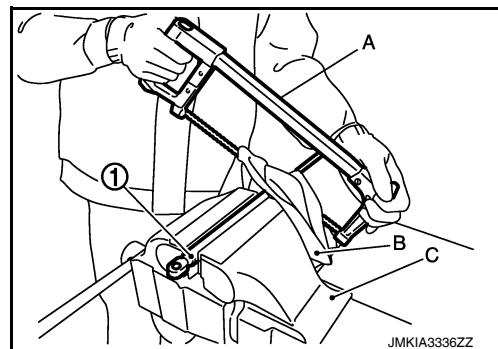


## Hood Stay Disposal

1. Fix hood stay (1) using a vise (C).
2. Using hacksaw (A) slowly make 2 holes in the hood stay, in numerical order as shown in the figure.

### CAUTION:

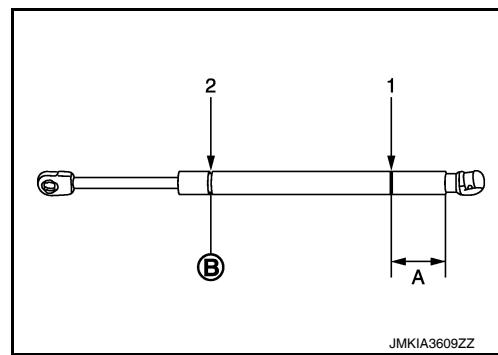
- When cutting a hole on hood stay, always cover a hacksaw using a shop cloth (B) to avoid scattering metal fragments or oil.
- Wear eye protection (safety glasses).
- Wear gloves.



# HOOD

## < REMOVAL AND INSTALLATION >

A: 20 mm (0.787 in)  
B: Cut at the groove.



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# DOOR

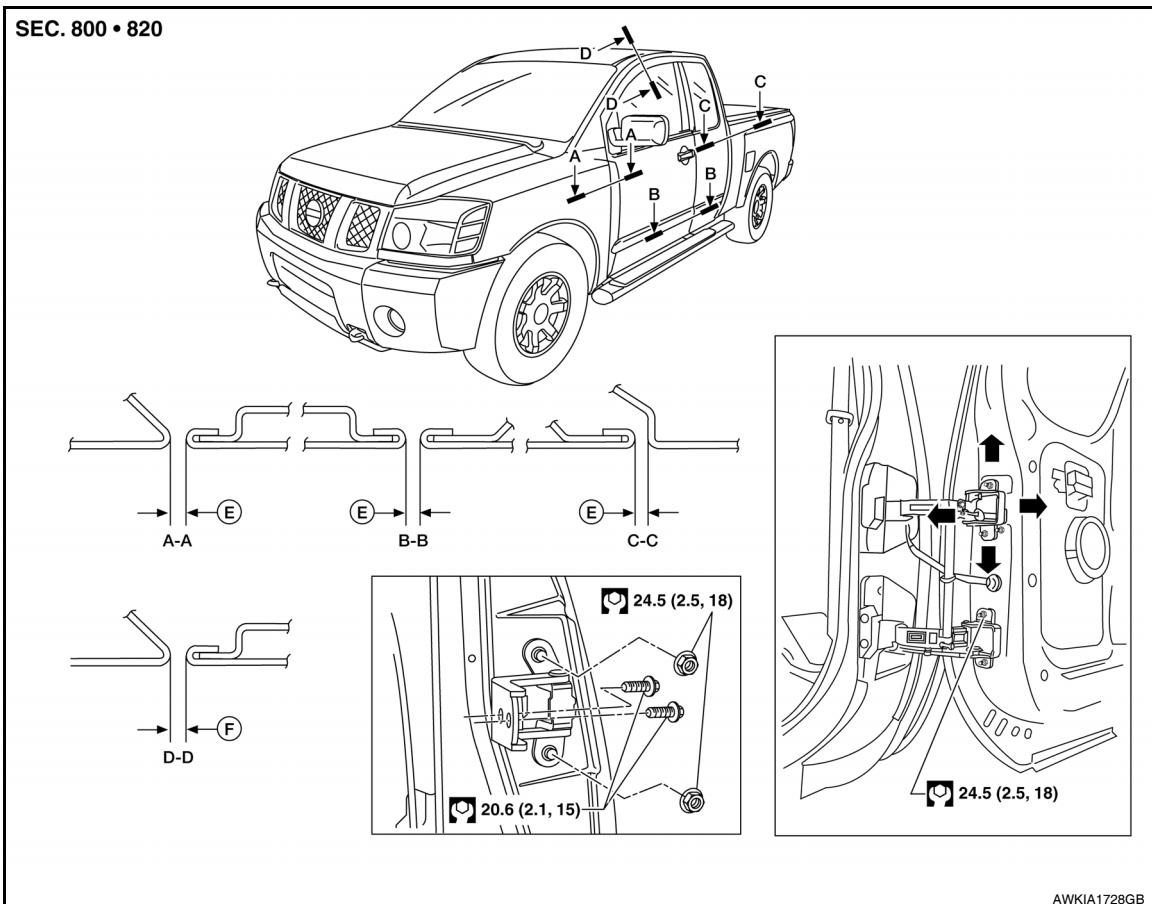
## < REMOVAL AND INSTALLATION >

### DOOR

#### Fitting Adjustment

INFOID:0000000006179267

#### KING CAB



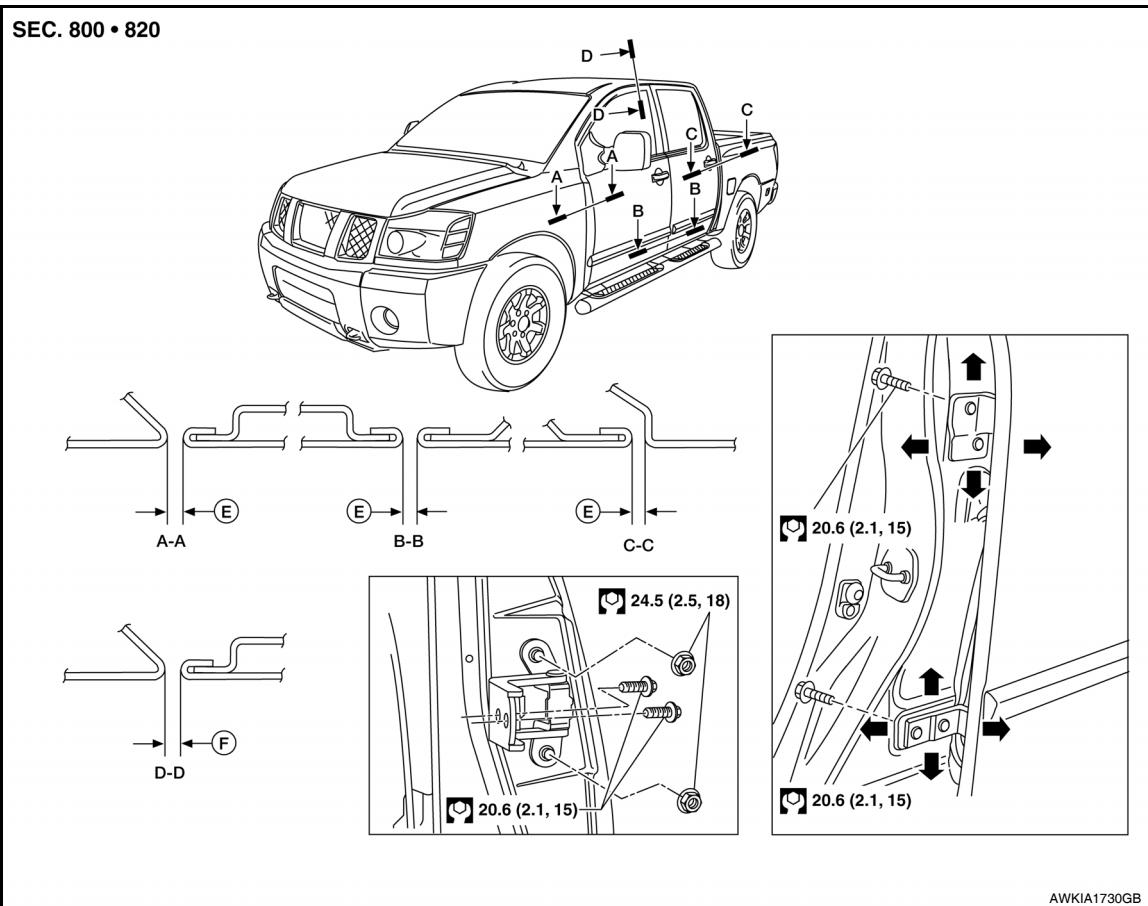
E.  $4.5 \pm 1.0 \text{ mm} (0.177 \pm 0.039 \text{ in})$

F.  $6.5 \pm 1.0 \text{ mm} (0.256 \pm 0.039 \text{ in})$

# DOOR

## < REMOVAL AND INSTALLATION >

### CREW CAB



E.  $4.5 \pm 1.0 \text{ mm} (0.177 \pm 0.039 \text{ in})$

F.  $6.5 \pm 1.0 \text{ mm} (0.256 \pm 0.039 \text{ in})$

#### Front Door

Longitudinal clearance and surface height adjustment at front end

1. Remove the front fender. Refer to [EXT-22, "Removal and Installation"](#).
2. Loosen the hinge bolts. Raise the front door at rear end to adjust.
3. Install the front fender. Refer to [EXT-22, "Removal and Installation"](#).

#### Rear Door Crew Cab

Longitudinal clearance and surface height adjustment at rear end

1. Remove the center pillar upper garnish. Refer to [INT-14, "Removal and Installation"](#).
2. Accessing from inside the vehicle, loosen the nuts. Open the rear door, and raise the rear door at rear end to adjust. Tighten the nuts to specification.

**Rear door hinge nuts : 24.5 N·m (2.5 kg-m, 18 ft-lb)**

3. Install the center pillar upper garnish. Refer to [INT-14, "Removal and Installation"](#).

#### Rear Door King Cab

Longitudinal clearance and surface height adjustment at front end

1. With the door open, support and loosen the hinge to door nuts.
2. Adjust the door position as necessary.
3. Tighten the nuts to specification.

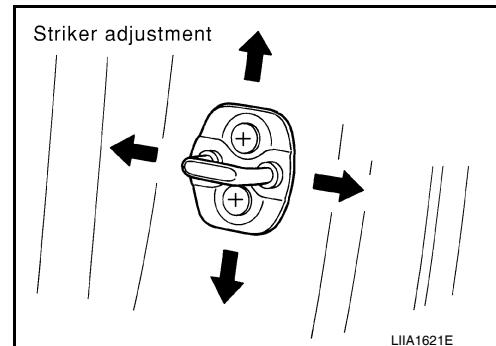
**Rear door hinge nuts : 24.5 N·m (2.5 kg-m, 18 ft-lb)**

# DOOR

## < REMOVAL AND INSTALLATION >

### Striker adjustment

1. Adjust the striker so that it becomes parallel with the lock insertion direction.



### Removal and Installation

INFOID:000000006179268

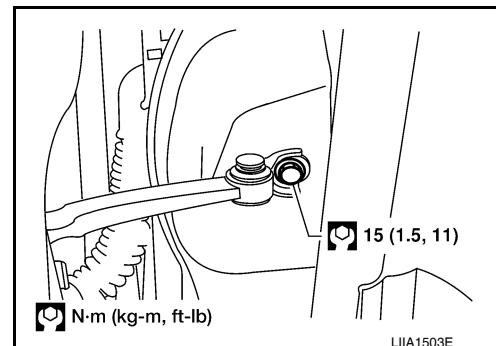
#### KING CAB

##### Front Door

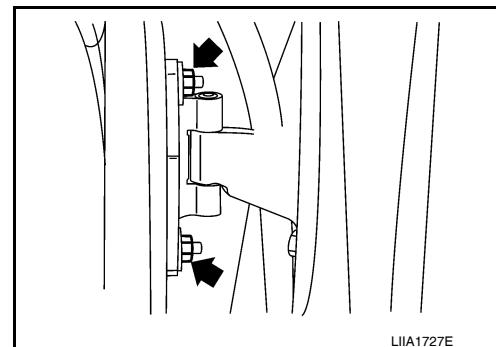
###### **CAUTION:**

- When removing and installing the door assembly, support the door with a jack and shop cloth to protect the door and body.
- When removing and installing door assembly, be sure to carry out the fitting adjustment.
- Check the hinge rotating part for poor lubrication. If necessary, apply body grease.

1. Remove the front door lock assembly. Refer to [DLK-127, "Removal and Installation"](#).
2. Remove the door harness.
3. Remove the check link cover.
4. Remove the check link bolt from the hinge pillar.



5. Remove the door-side hinge nuts and bolts, and remove the door assembly.



Installation is in the reverse order of removal.

- Align the front door. Refer to [DLK-122, "Fitting Adjustment"](#).

##### Rear Door

###### **CAUTION:**

- When removing and installing the door assembly, support the door with a jack and shop cloth to protect the door and body.
- When removing and installing door assembly, be sure to carry out the fitting adjustment.
- Check the hinge rotating part for poor lubrication. If necessary, apply body grease.

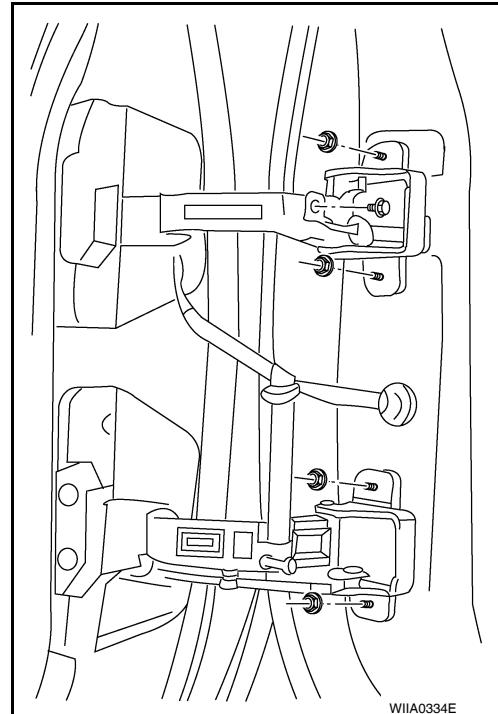
# DOOR

## < REMOVAL AND INSTALLATION >

1. Remove the door glass. Refer to [GW-23, "Removal"](#).
2. Remove the speaker.
3. Remove the door handles and latch assembly. Refer to [DLK-130, "Component Structure"](#).
4. Remove the check link.
5. Remove the wire harness.
6. Remove the door assembly.

Installation is in the reverse order of removal.

- Align the rear door. Refer to [DLK-122, "Fitting Adjustment"](#).



## CREW CAB

### CAUTION:

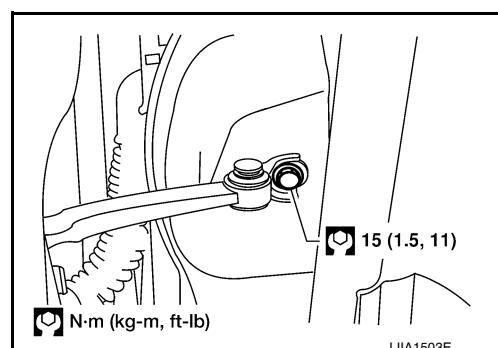
- When removing and installing the door assembly, support the door with a jack and shop cloth to protect the door and body.
- When removing and installing door assembly, be sure to carry out the fitting adjustment.
- Check the hinge rotating part for poor lubrication. If necessary, apply body grease.

1. Remove the rear door lock assembly. Refer to [DLK-131, "Removal and Installation"](#).
2. Remove the door harness.
3. Remove the check link cover.
4. Remove the check link bolt from the hinge pillar.

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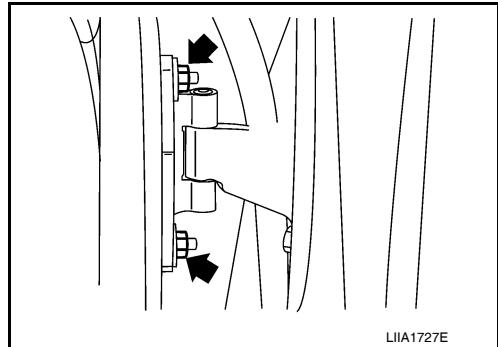
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## DOOR

### < REMOVAL AND INSTALLATION >

5. Remove the door-side hinge nuts and bolts, and the door assembly.



Installation is in the reverse order of removal.

- Align the front door. Refer to [DLK-122, "Fitting Adjustment"](#).

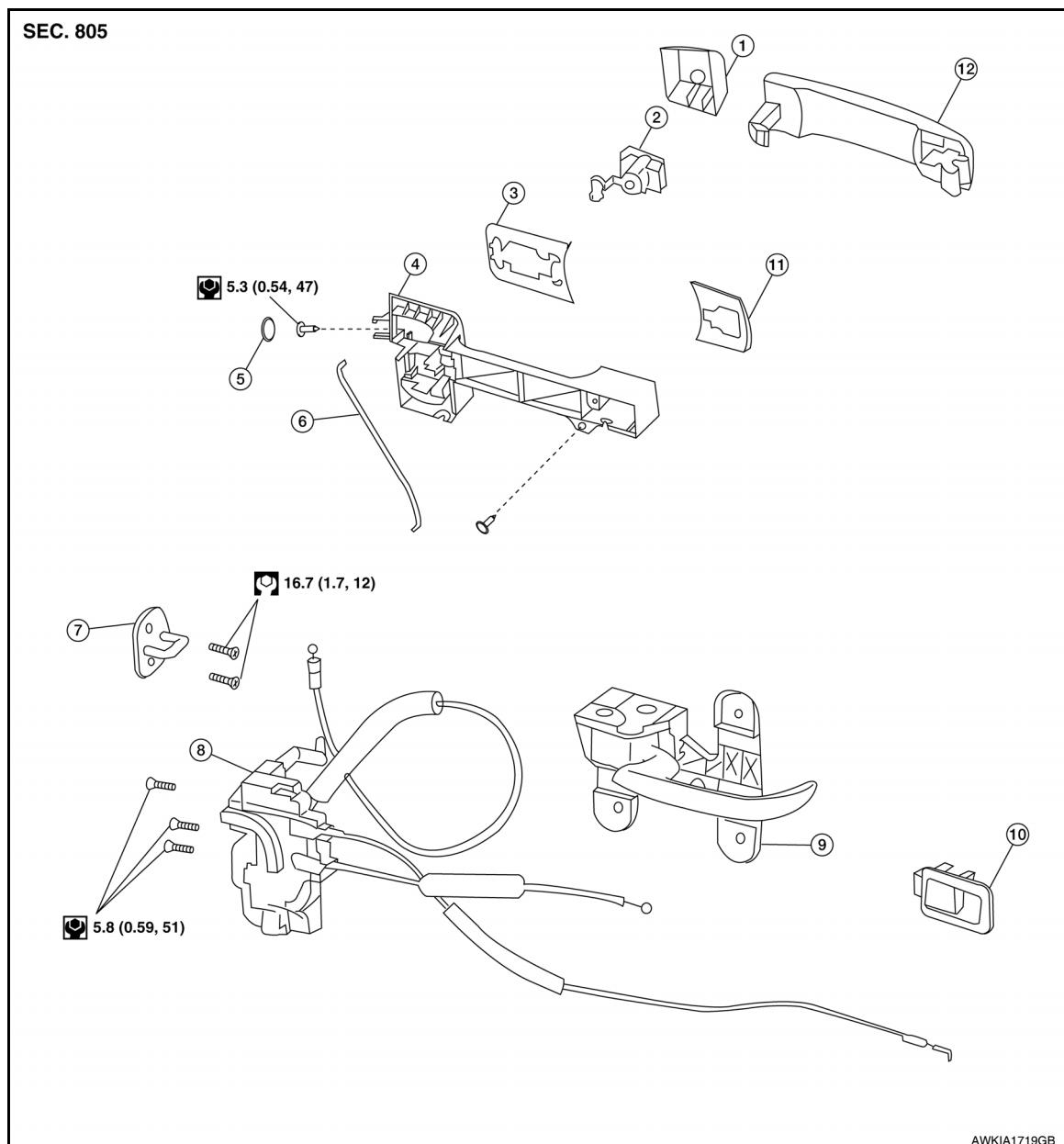
# FRONT DOOR LOCK

< REMOVAL AND INSTALLATION >

## FRONT DOOR LOCK

### Component Structure

INFOID:0000000006179269



1. Door key cylinder assembly (Driver side) 2. Key cylinder assembly (Driver side only)	3. Rear gasket	
4. Outside handle bracket	5. Grommet	6. Key cylinder rod (Driver side only)
7. Front door striker	8. Door lock assembly	9. Inside handle assembly
10. Inside door lock lever	11. Front gasket	12. Outside handle assembly

### Removal and Installation

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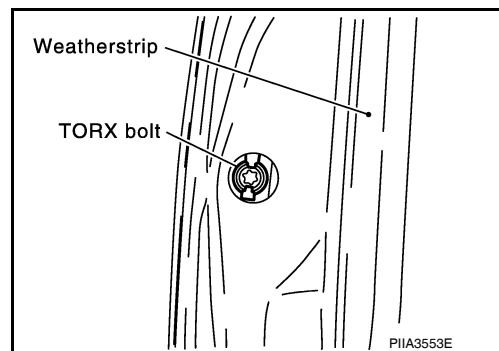
#### REMOVAL

1. Remove the front door window regulator. Refer to [GW-18, "Removal and Installation"](#).
2. Remove the front door window rear glass run.

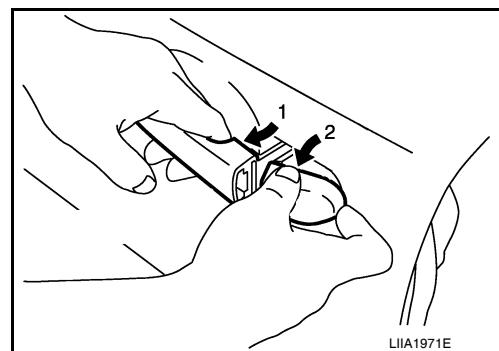
# FRONT DOOR LOCK

## < REMOVAL AND INSTALLATION >

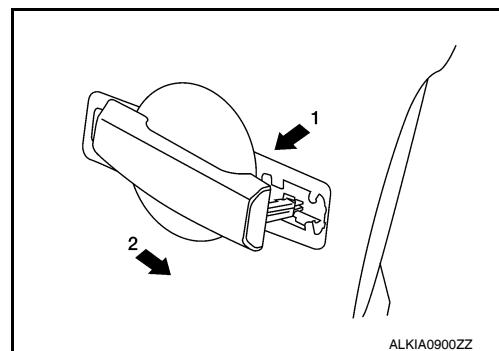
3. Remove the door side grommet, and the bolt (TORX T30) from the grommet hole.



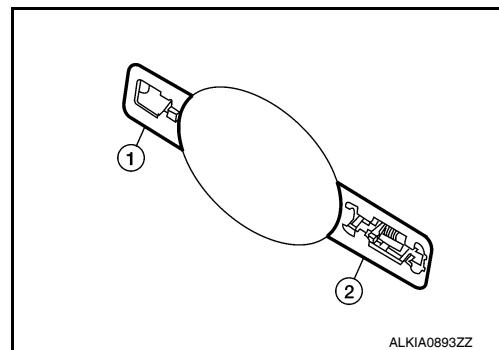
4. While pulling the outside handle, remove the door key cylinder assembly or outside handle escutcheon.



5. Separate the key cylinder rod from the door key cylinder assembly (if equipped).
6. While pulling the outside handle, slide it toward rear of vehicle to remove.



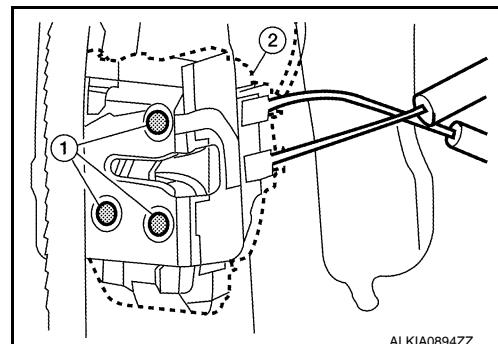
7. Remove the front gasket (1) and rear gasket (2).



# FRONT DOOR LOCK

## < REMOVAL AND INSTALLATION >

8. Remove the TORX bolts (T30) (1), and separate the door lock assembly (2) from the door.

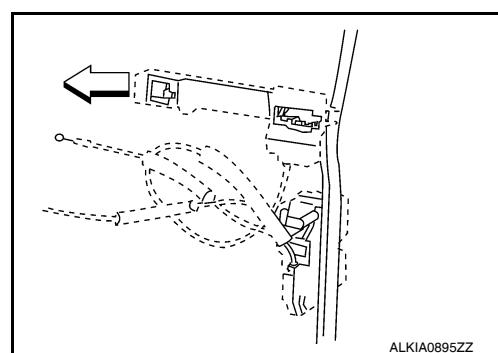


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9. While pulling the outside handle bracket, slide it toward the front of the vehicle to remove it and the door lock assembly as shown.



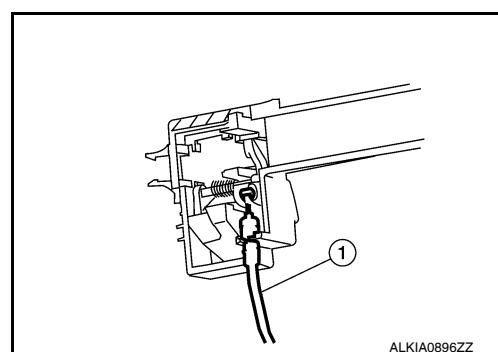
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10. Disconnect the door lock actuator electrical connector.

11. Separate the outside handle cable connection (1) from the outside handle bracket.



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## INSTALLATION

Installation is in the reverse order of removal.

### CAUTION:

To install the key cylinder rod, be sure to rotate the key cylinder rod holder until a click is felt.

## Disassembly and Assembly

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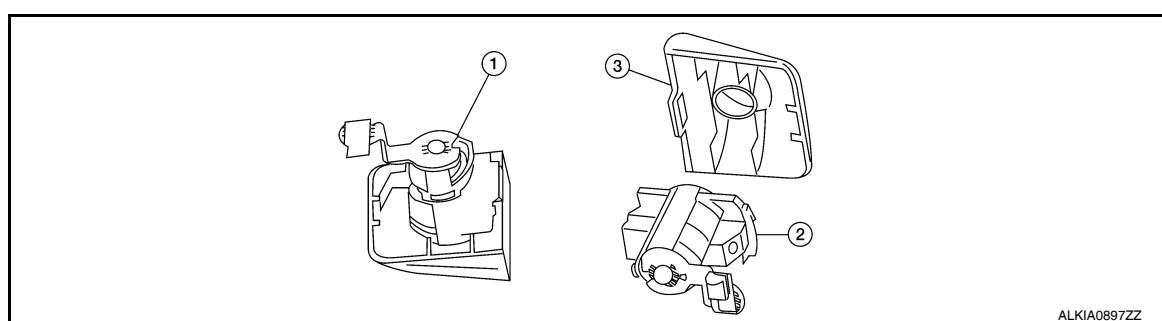
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## DOOR KEY CYLINDER ASSEMBLY



1. Door key cylinder assembly

2. Key cylinder assembly

3. Door key cylinder escutcheon

Release the door key cylinder escutcheon pawls to remove the door key cylinder.

# REAR DOOR LOCK

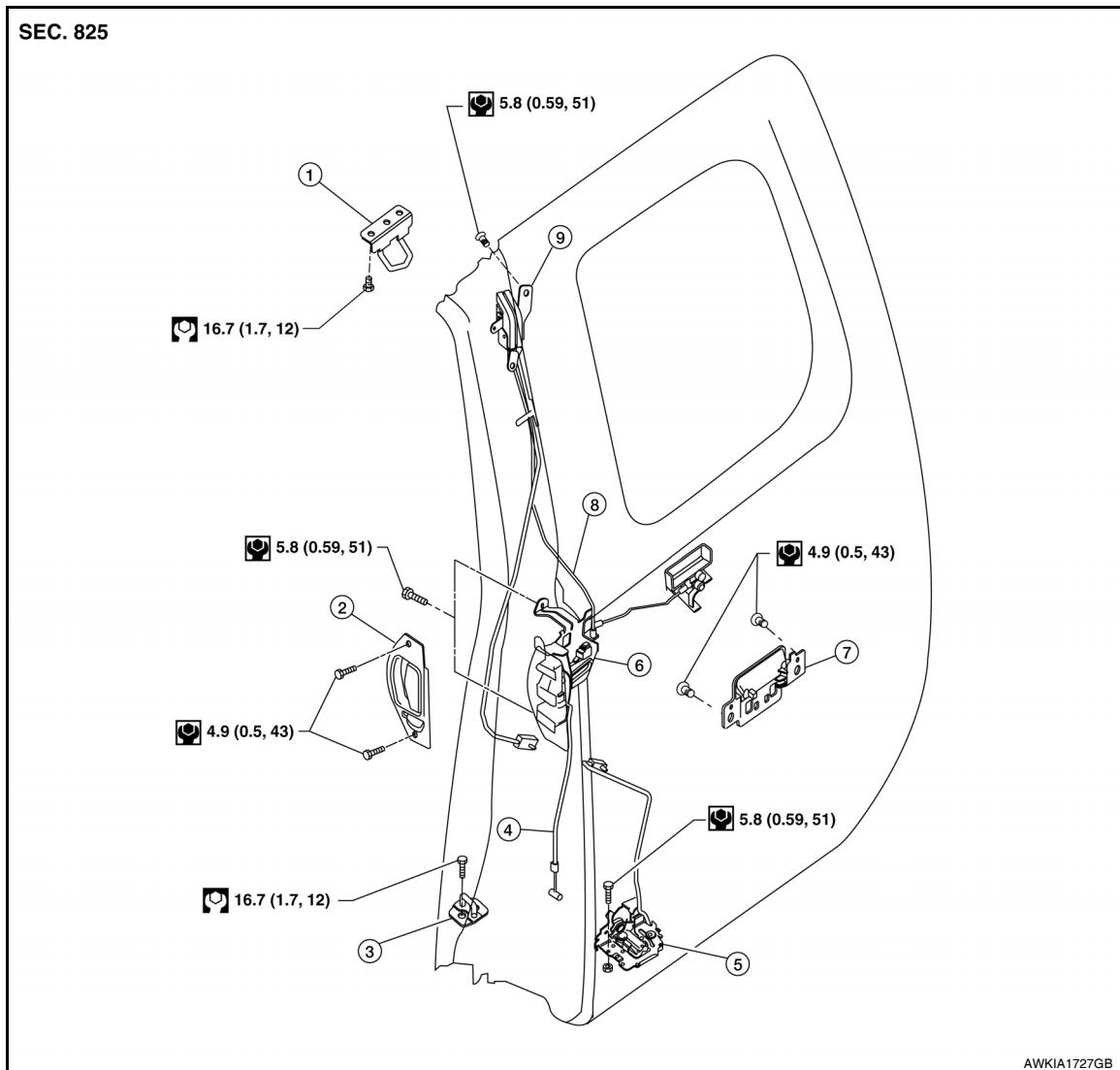
< REMOVAL AND INSTALLATION >

## REAR DOOR LOCK

### Component Structure

INFOID:0000000006179272

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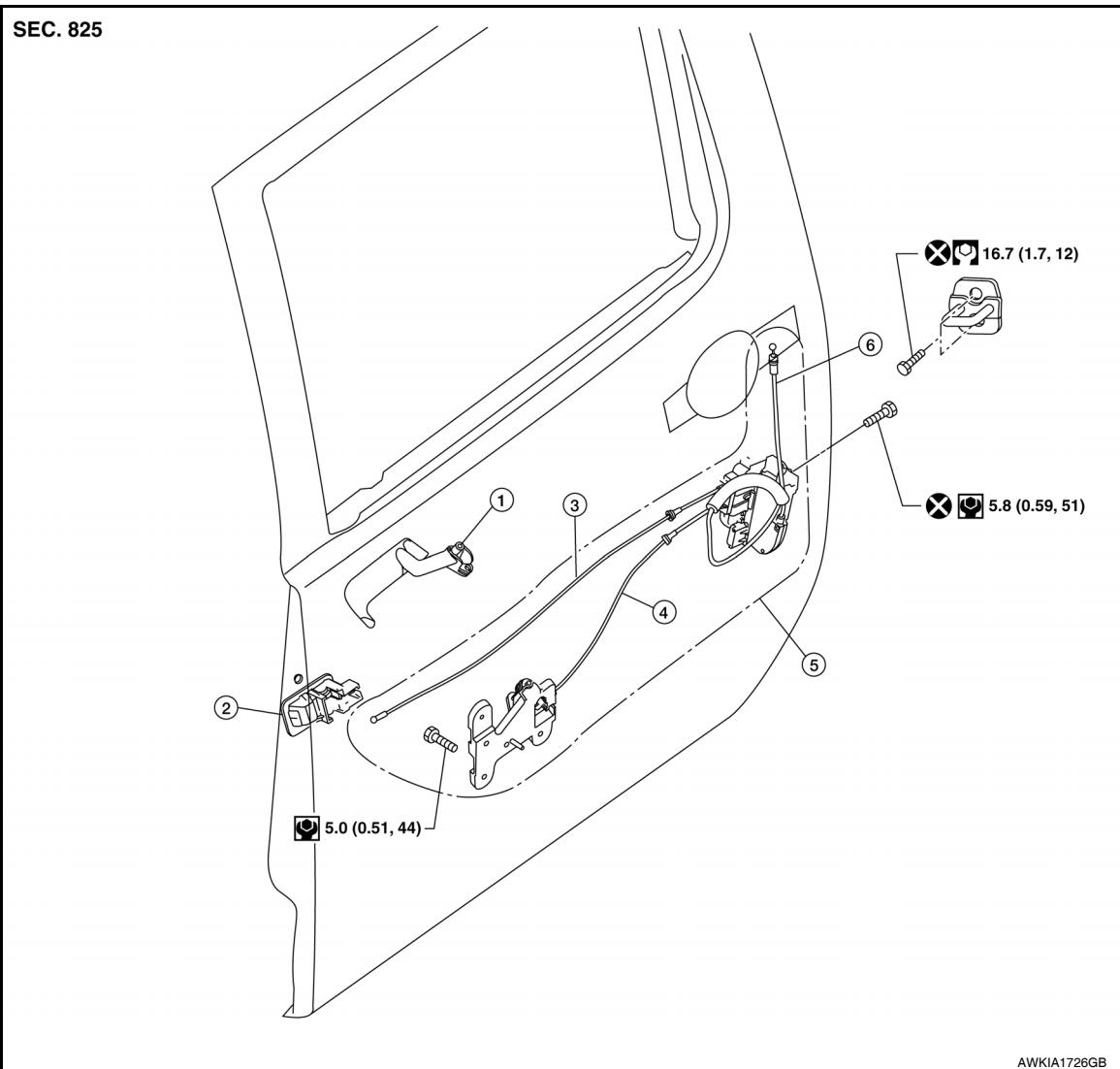


1. Rear upper door lock striker
2. Rear door handle
3. Rear lower door lock striker
4. Lower latch cable
5. Rear lower door latch
6. Rear door lock assembly
7. Rear inside door handle
8. Upper latch cable
9. Rear upper door latch

# REAR DOOR LOCK

## < REMOVAL AND INSTALLATION >

### CREW CAB



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1. Rear inside door handle
2. Rear door lock knob
3. Lock knob cable
4. Inside handle cable
5. Rear door lock/remote control assembly
6. Outside handle cable

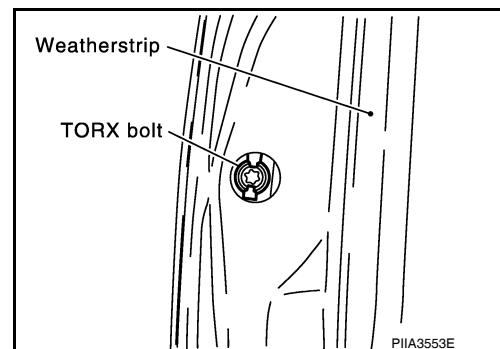
## Removal and Installation

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### REMOVAL

1. Remove the rear door finisher. Refer to [INT-10, "Removal and Installation"](#).
2. Remove the vapor sheet.
3. Remove the door side grommet and the bolt (TORX T30) from the grommet hole.

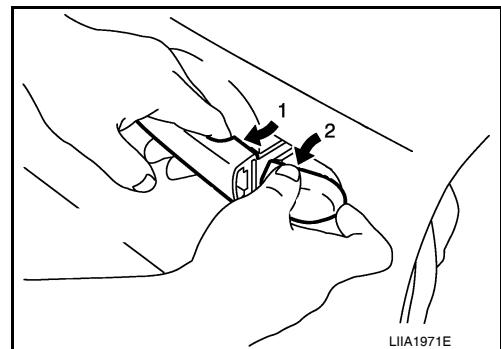


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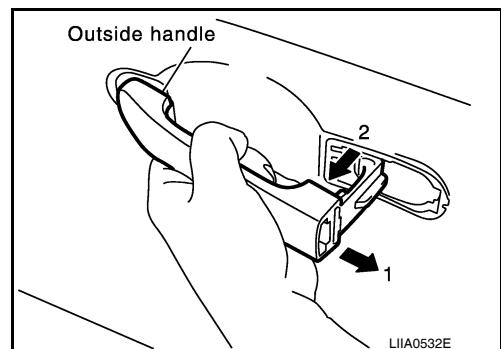
## REAR DOOR LOCK

### < REMOVAL AND INSTALLATION >

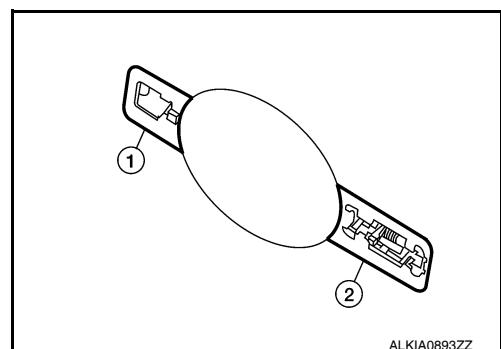
4. While pulling the outside handle, remove the door handle escutcheon.



5. While pulling the outside handle, slide it toward the rear of vehicle to remove.

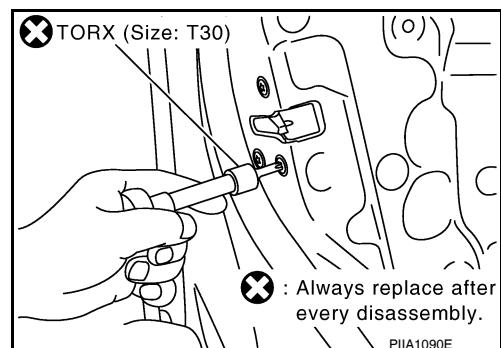


6. Remove the front gasket (1) and rear gaskets (2).



7. Remove the inside handle screws.

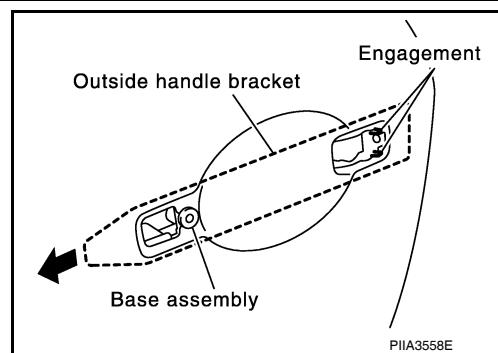
8. Remove the TORX bolts (T30), remove the door lock assembly.



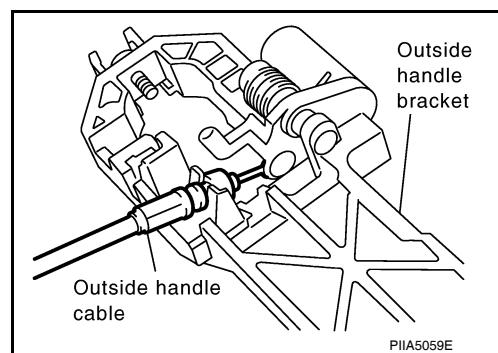
## REAR DOOR LOCK

### < REMOVAL AND INSTALLATION >

9. While pulling outside handle bracket, slide toward rear of vehicle to remove outside handle bracket and door lock assembly.



10. Disconnect the outside handle cable.



### INSTALLATION

Installation is in the reverse order of removal.

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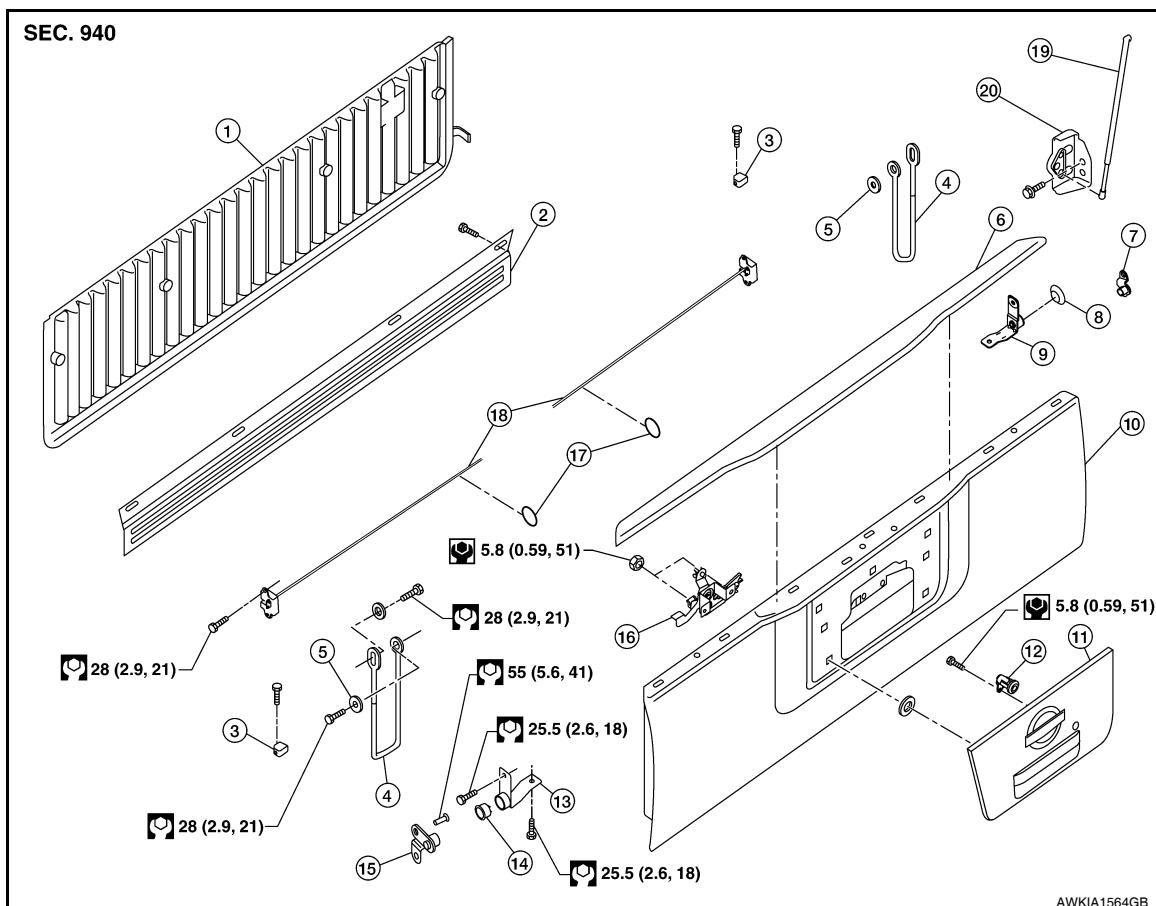
# TAIL GATE

## < REMOVAL AND INSTALLATION >

### TAIL GATE

#### Removal and Installation

INFOID:0000000006179274



1. Rear gate liner cover (if equipped)	2. Rear gate inner panel	3. Rear gate rubber bumper
4. Rear gate stay assembly	5. Washer	6. Rear gate cover
7. Rear gate hinge assembly (RH), body side	8. Rear gate ring (RH)	9. Rear gate hinge assembly (RH), gate side
10. Rear gate	11. Rear gate handle	12. Rear gate lock cylinder
13. Rear gate hinge assembly (LH), gate side	14. Rear gate ring (LH)	15. Rear gate hinge assembly (LH), body side
16. Rear gate control assembly	17. Rubber bumper	18. Rear gate latch assembly (RH & LH)
19. Gas stay	20. Gas stay bracket	

### GAS STAY

#### Removal

#### **WARNING:**

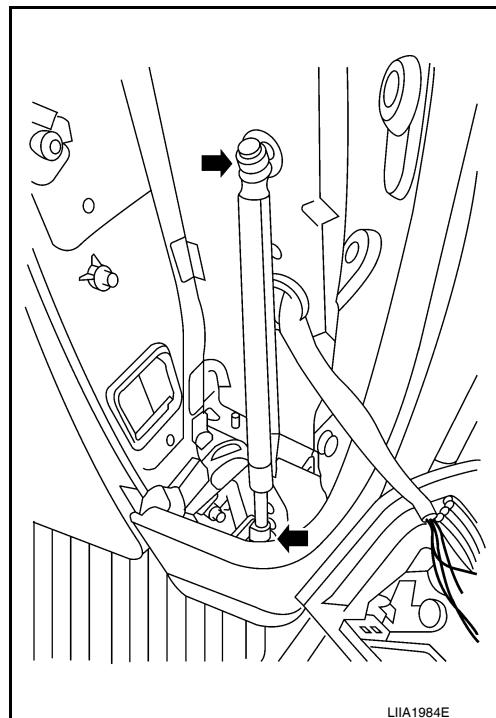
The gas stay is under high pressure. Remove the gas stay only with the tailgate fully closed. Injury may result if the gas stay is removed when the tailgate is open.

1. Remove the RH rear combination lamp assembly. Refer to [EXL-148, "Removal and Installation"](#).

# TAIL GATE

## < REMOVAL AND INSTALLATION >

2. Remove the gas stay.



### Installation

Installation is in the reverse order of removal.

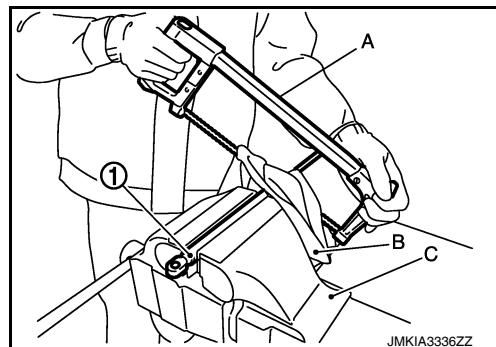
### Tail Gate Gas Stay Disposal

INFOID:000000006179275

1. Fix tail gate gas stay (1) using a vise (C).
2. Using hacksaw (A) slowly make 2 holes in the tail gate gas stay, in numerical order as shown in the figure.

#### CAUTION:

- When cutting a hole on tail gate gas stay, always cover a hacksaw using a shop cloth (B) to avoid scattering metal fragments or oil.
- Wear eye protection (safety glasses).
- Wear gloves.



A: 20 mm (0.787 in)

B: Cut at the groove.

