SECTION DLK
DOOR & LOCK

CONTENTS

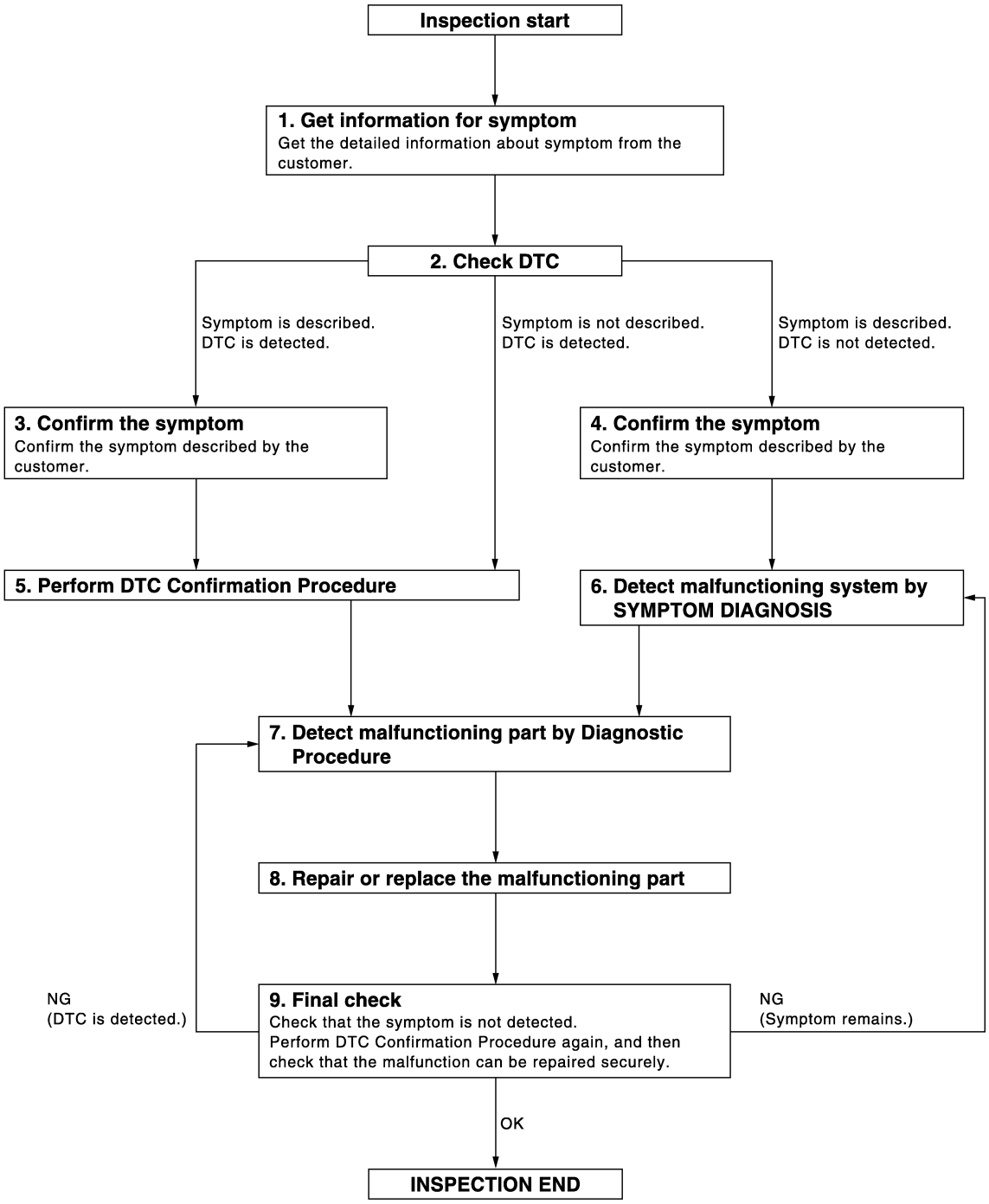
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000012563882

OVERALL SEQUENCE



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DETAILED FLOW

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).
- 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 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 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 to the vehicle, and check diagnostic results in real time.
If two or more DTCs are detected, refer to BCS-46, "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-43, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

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:

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.

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.

Is the inspection result normal?

NO (DTC is detected)>>GO TO 7
NO (Symptom remains)>>GO TO 6
YES >> Inspection End.

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:0000000012563883

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:0000000012563884

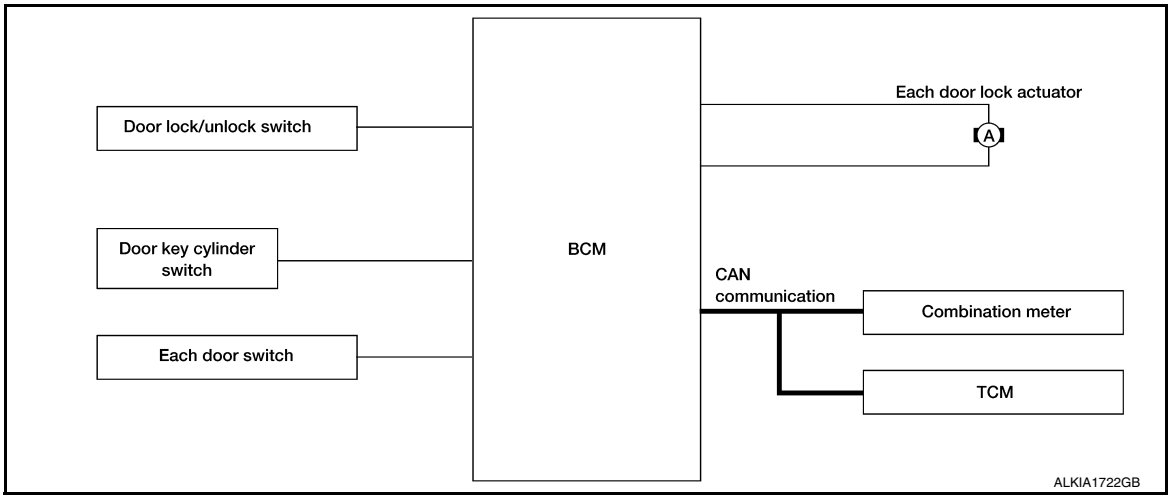
Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

SYSTEM DESCRIPTION

AUTOMATIC DOOR LOCKS

System Diagram

INFOID:0000000012563885



System Description

INFOID:0000000012563886

Input	Single	Function	Actuator
Door lock/unlock switch	Door lock/unlock signal	Door lock function	Each door lock actuator
Door key cylinder switch			
Each door switch	Door open/close signal	Key reminder function	
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 main power window and door lock/unlock switch.
- The door lock and unlock switch (passenger side) is built into power window and door lock/unlock switch RH.
- 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 BCS-20, "DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)".

AUTOMATIC DOOR LOCKS (LOCK OPERATION)

The interlock door lock function is the function that locks all doors linked with the vehicle speed.

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 15 MPH (24 km/h) or more.

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 re-lock all doors when the vehicle speed reaches 15 MPH (24 km/h) or more again.

Setting change of Automatic Door Locks (LOCK) Function

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

With CONSULT

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. Refer to BCS-20, "DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)".

Without CONSULT

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.

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.

Setting change of Automatic Door Locks (UNLOCK) Function

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

With CONSULT

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. Refer to BCS-20, "DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)".

Without CONSULT

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.

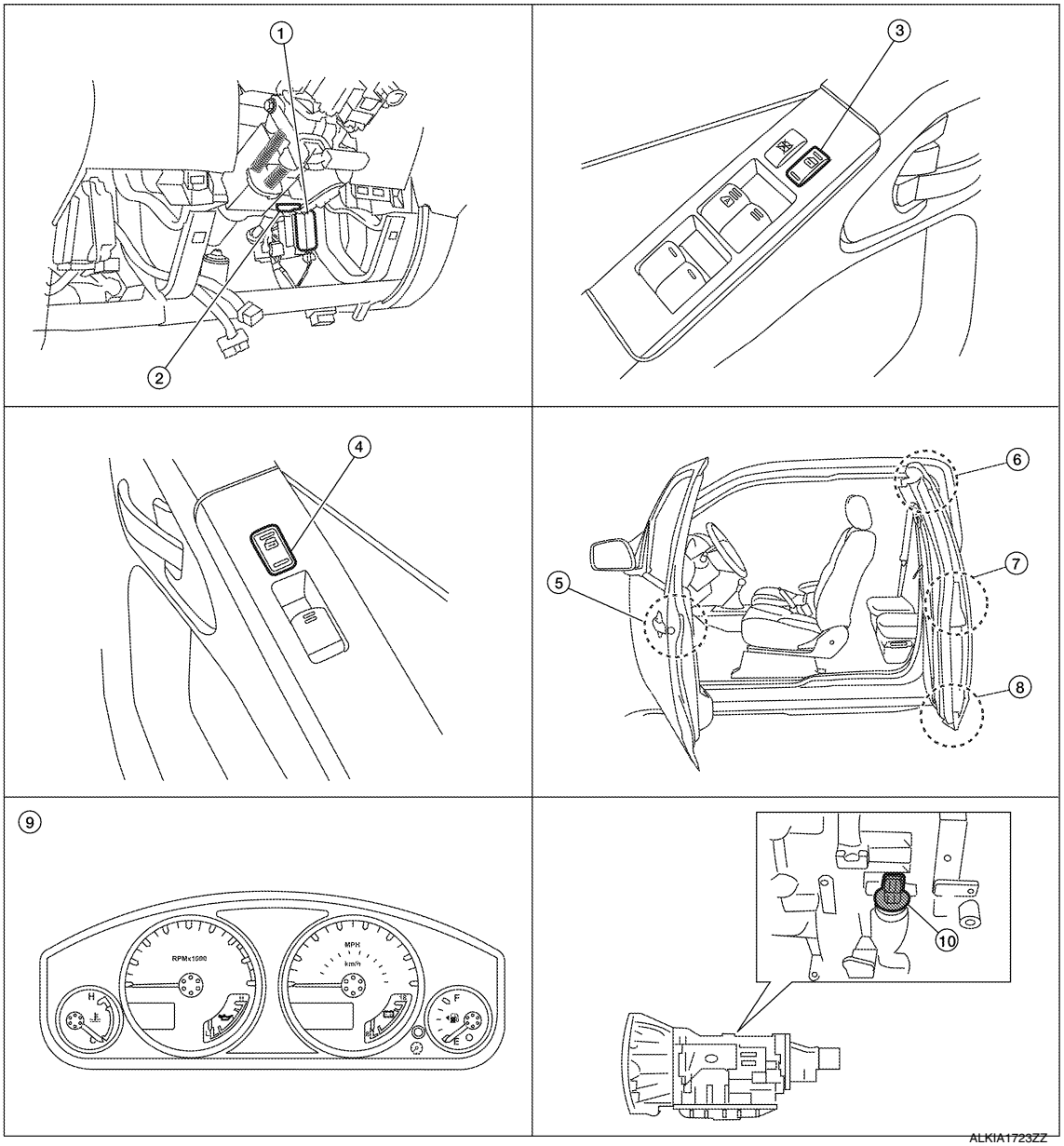
OFF → ON	: 2 blinks
ON → OFF	: 1 blink

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 - King Cab

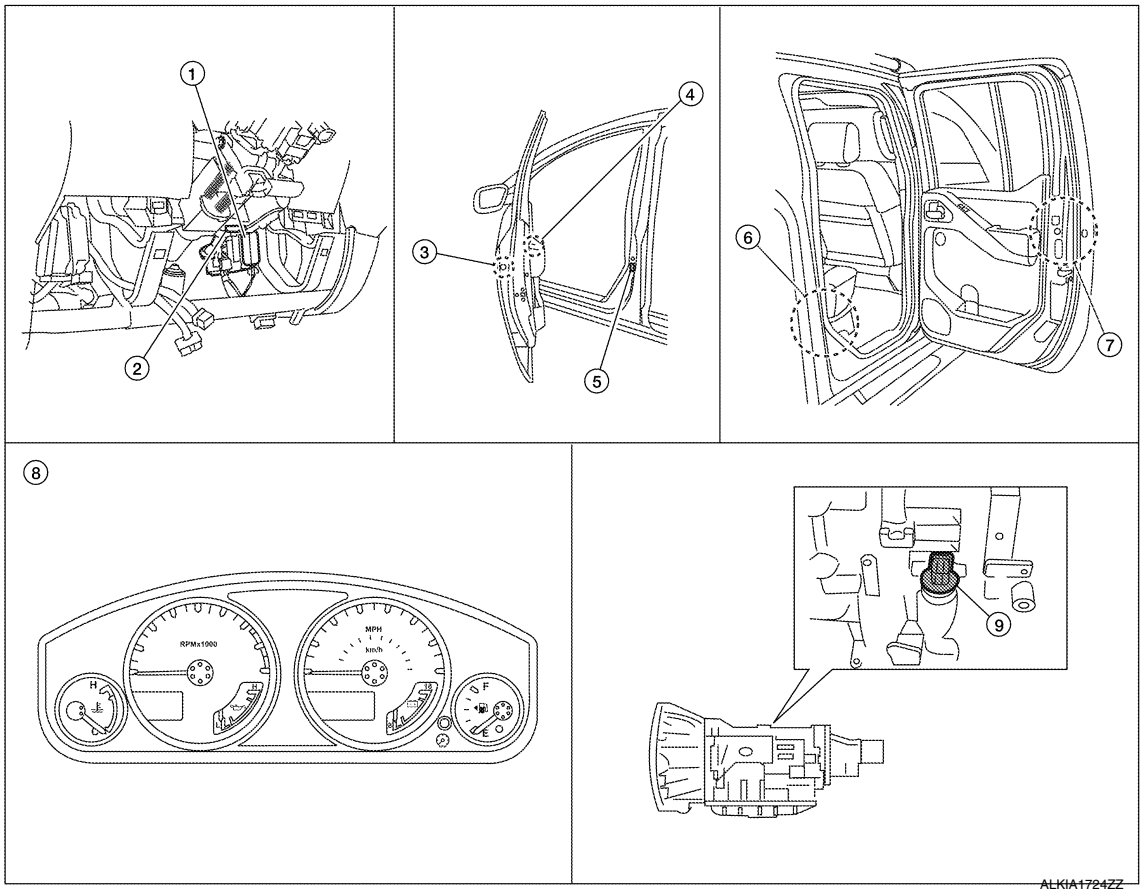
INFOID:0000000012563887



1. BCM M18, M19, M20 (view with lower instrument panel LH removed)
2. Key switch M27
3. Main power window and door lock/unlock switch D7
4. Power window and door lock/unlock switch RH D105
5. Front door lock assembly LH (key cylinder switch) D14
   Front door lock actuator RH D114
6. Rear door switch upper
   LH D211
   RH D312
7. Front door switch
   LH D213
   RH D314
8. Rear door switch lower
   LH D212
   RH D313
9. Combination meter M24
10. A/T assembly (TCM) F9

Component Parts Location - Crew Cab

INFOID:0000000012563888



1. BCM M18, M19, M20 (view with lower instrument panel LH removed)
2. Key switch M27
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 D7 Power window and door lock/unlock switch RH D105
5. Front door switch LH B8 RH B108
6. Rear door switch LH B18 RH B116
7. Rear door lock actuator LH D205 RH D305
8. Combination meter M24
9. A/T assembly (TCM) F9

Component Description

INFOID:0000000012563889

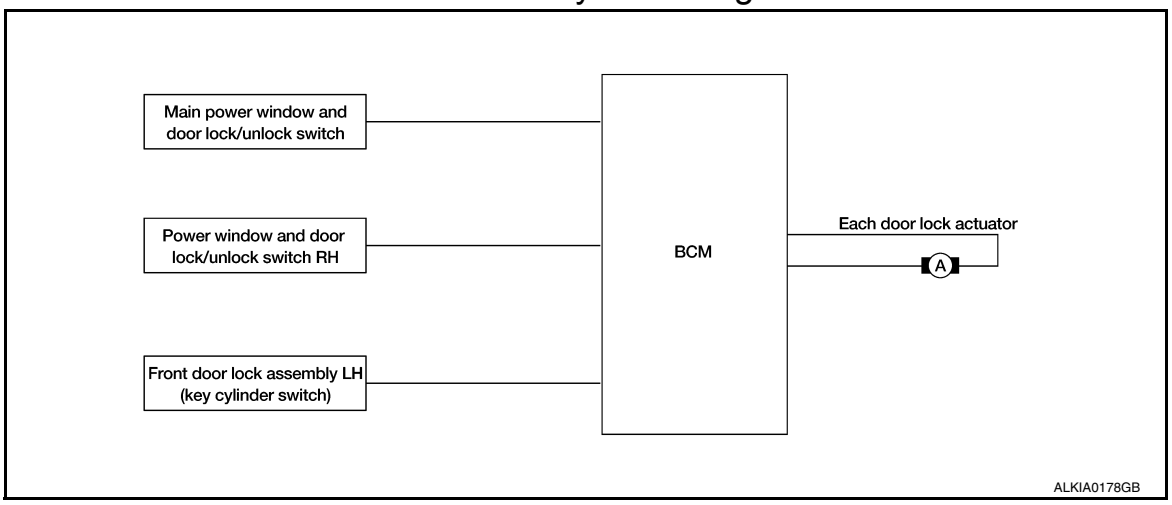
Item	Function
BCM	Controls the door lock function and room lamp function.
Door lock and unlock switch	Input lock or unlock signal to BCM.
Door lock actuator	Output lock/unlock signal from BCM and locks/unlocks each door.
Door switch	Input door open/close condition to BCM.
Door key cylinder switch	• Input lock or unlock signal to main power window and door lock/unlock switch. • Main power window and door lock/unlock switch transmits door lock/unlock signal to BCM.
Combination meter	• Receive buzzer signal from BCM via CAN communication line, and sounds the buzzer. • Transmits vehicle speed signal to BCM via CAN communication line.
TCM	Transmit shift position signal to BCM via CAN communication line.

DOOR LOCK FUNCTION

DOOR LOCK AND UNLOCK SWITCH

DOOR LOCK AND UNLOCK SWITCH : System Diagram

INFOID:0000000012563890



DOOR LOCK AND UNLOCK SWITCH : System Description

INFOID:0000000012563891

Switch	Input/output signal to BCM	BCM function	Actuator
Main power window and door lock/unlock switch	Door lock/unlock signal	Door lock/unlock control	Door lock actuator
Power window and door lock/ unlock switch RH			
Front 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 driver door key cylinder is unlocked, door lock actuator driver side is unlocked.
- When driver door key cylinder is unlocked for the second time within 5 seconds after the first operation, door lock actuators on all doors are unlocked.

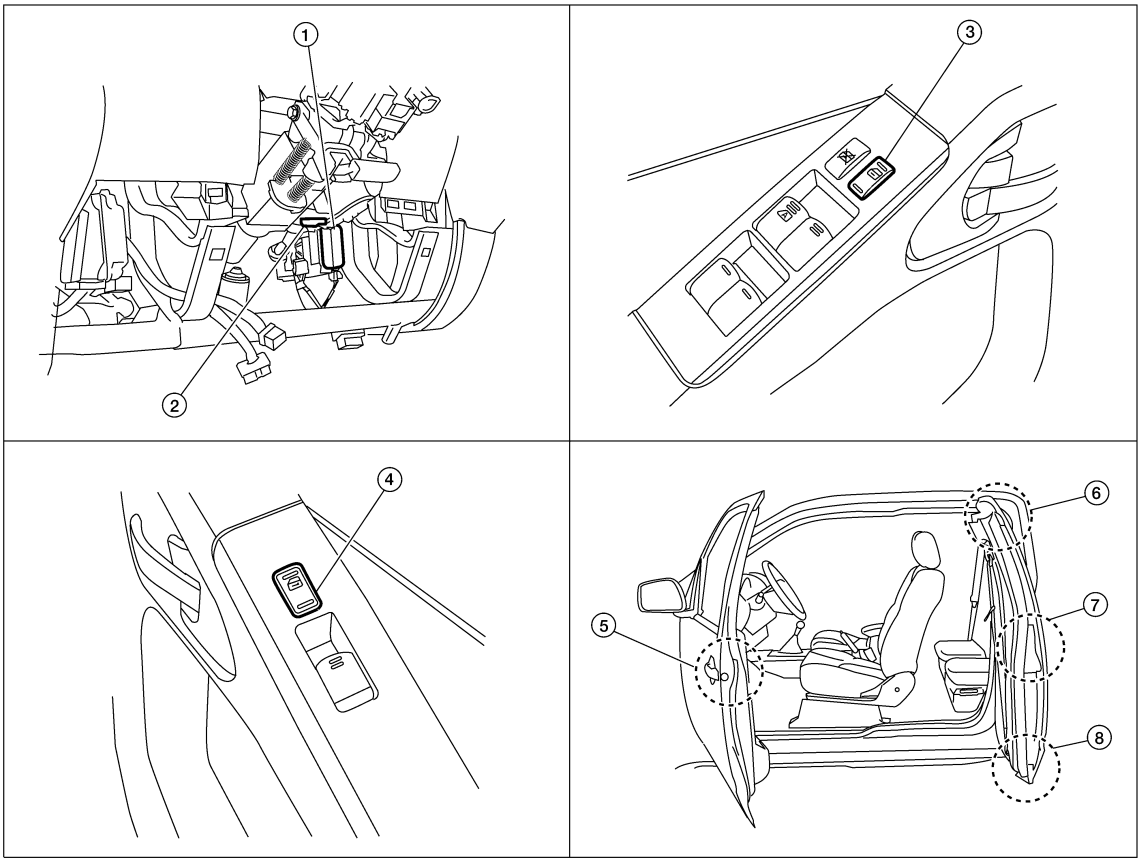
Select unlock operation mode can be changed using AUTOMATIC DOOR UNLOCK SELECT mode in “WORK SUPPORT”. Refer to BCS-20, "DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)".

Key Reminder System

Refer to DLK-42, "Diagnosis Procedure".

DOOR LOCK AND UNLOCK SWITCH : Component Parts Location - King Cab

INFOID:0000000012563892



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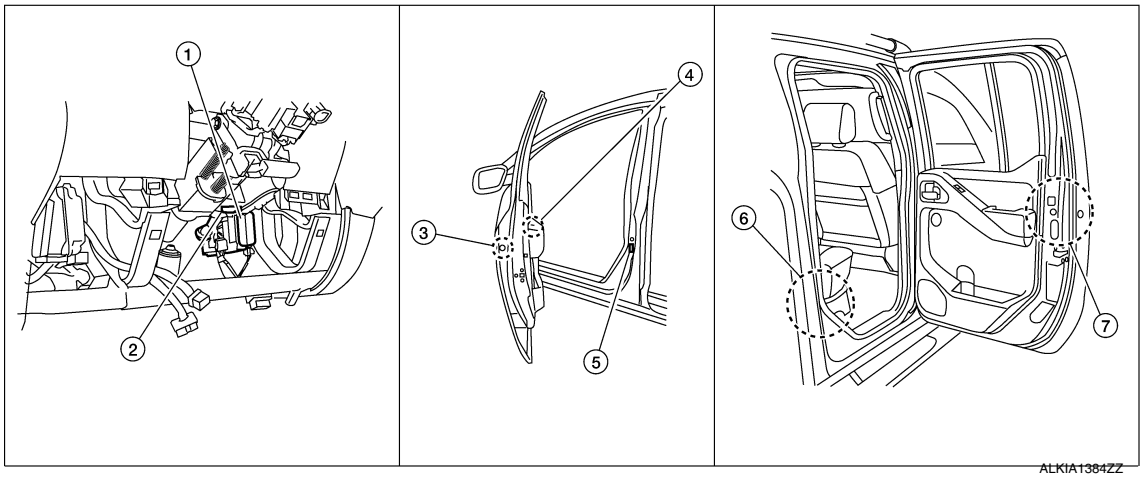
1. BCM M18, M19, M20 (view with lower instrument panel LH removed)
2. Key switch M27
3. Main power window and door lock/unlock switch D7
4. Power window and door lock/unlock switch RH D105
5. Front door lock assembly LH (key cylinder switch) D14
   Front door lock actuator RH D114
6. Rear door switch upper
   LH D211
   RH D312
7. Front door switch
   LH D213
   RH D314
8. Rear door switch lower
   LH D212
   RH D313

DOOR LOCK AND UNLOCK SWITCH : Component Parts Location - Crew Cab

INFOID:0000000012563893



1. BCM M18, M19, M20 (view with lower instrument panel LH removed)
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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 D7
   Power window and door lock/unlock switch RH D105
5. Front door switch
   LH B8
   RH B108
6. Rear door switch
   LH B18
   RH B116
7. Rear door lock actuator
   LH D205
   RH D305

DOOR LOCK AND UNLOCK SWITCH : Component Description

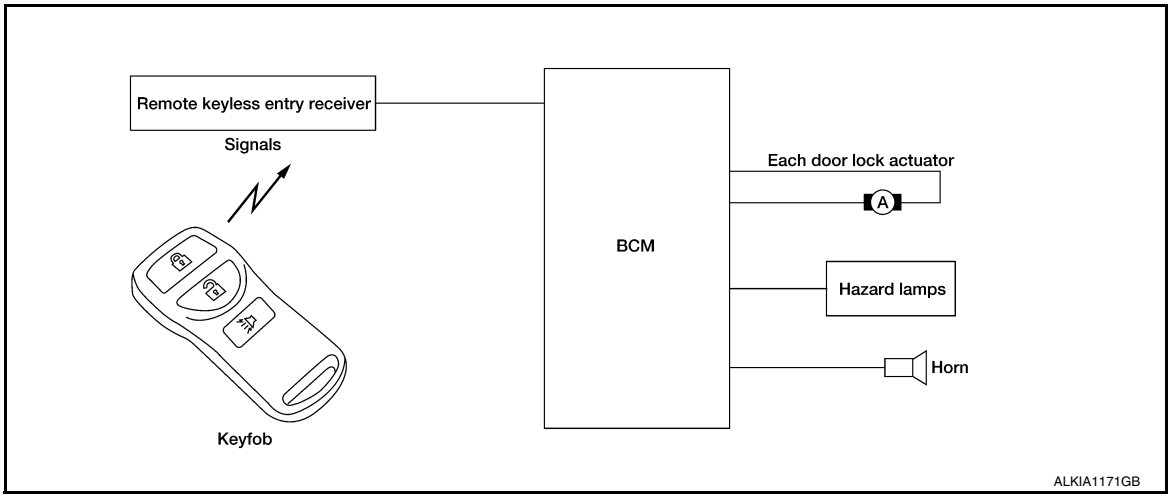
INFOID:0000000012563894

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 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:0000000012563895



REMOTE KEYLESS ENTRY : System Description

INFOID:0000000012563896

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)	• With key removed (key switch: OFF) • Closing all doors (door switch: OFF)
Door lock operation (unlocking)	With key removed (key switch: OFF)

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

	MODE 1 (C mode)		MODE 2 (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

Hazard and horn reminder can be changed using “WORK SUPPORT” mode in “MULTI ANSWER BACK SET".
Refer to BCS-22, "MULTI REMOTE ENT : CONSULT Function (BCM - MULTI REMOTE ENT)".

Without CONSULT

Refer to Owner's Manual for instructions.

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.

PANIC ALARM OPERATION

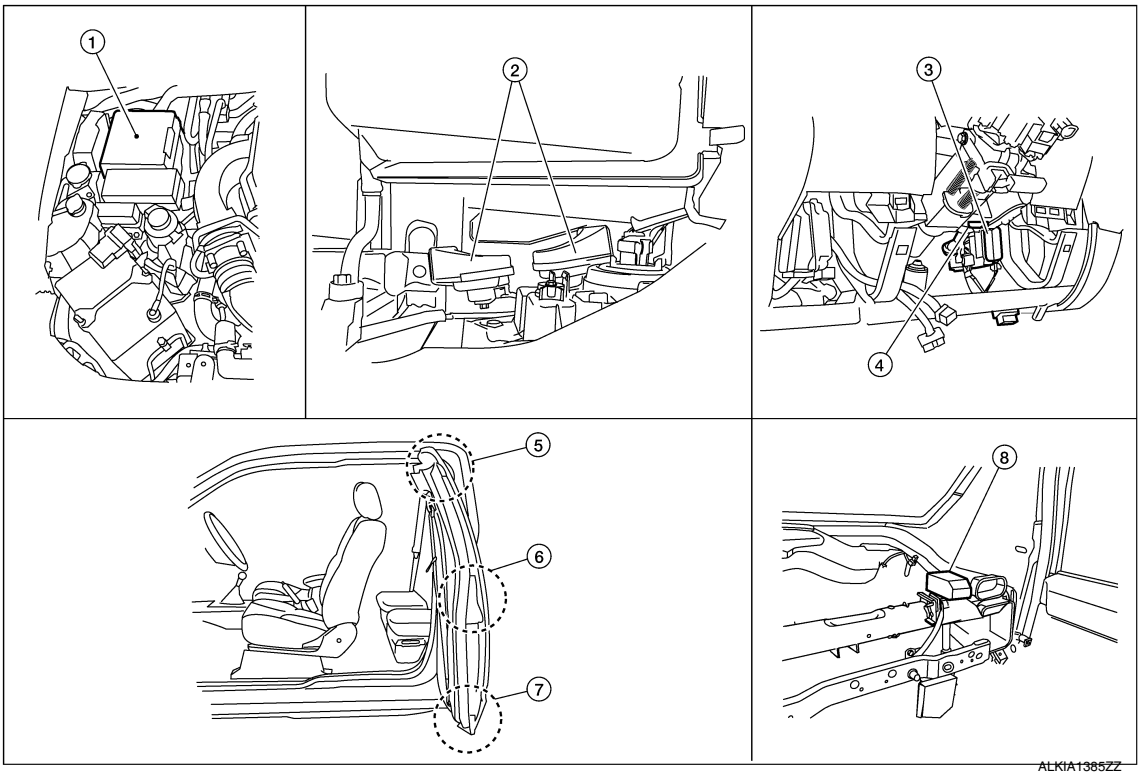
When key switch is OFF (when ignition key is not inserted in key cylinder), remote keyless entry system turns on and off horn and headlamp intermittently with input of PANIC ALARM signal from keyfob.
The alarm automatically turns off after 25 seconds or when BCM receives any signal from keyfob.

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.

REMOTE KEYLESS ENTRY : Component Parts Location - King Cab

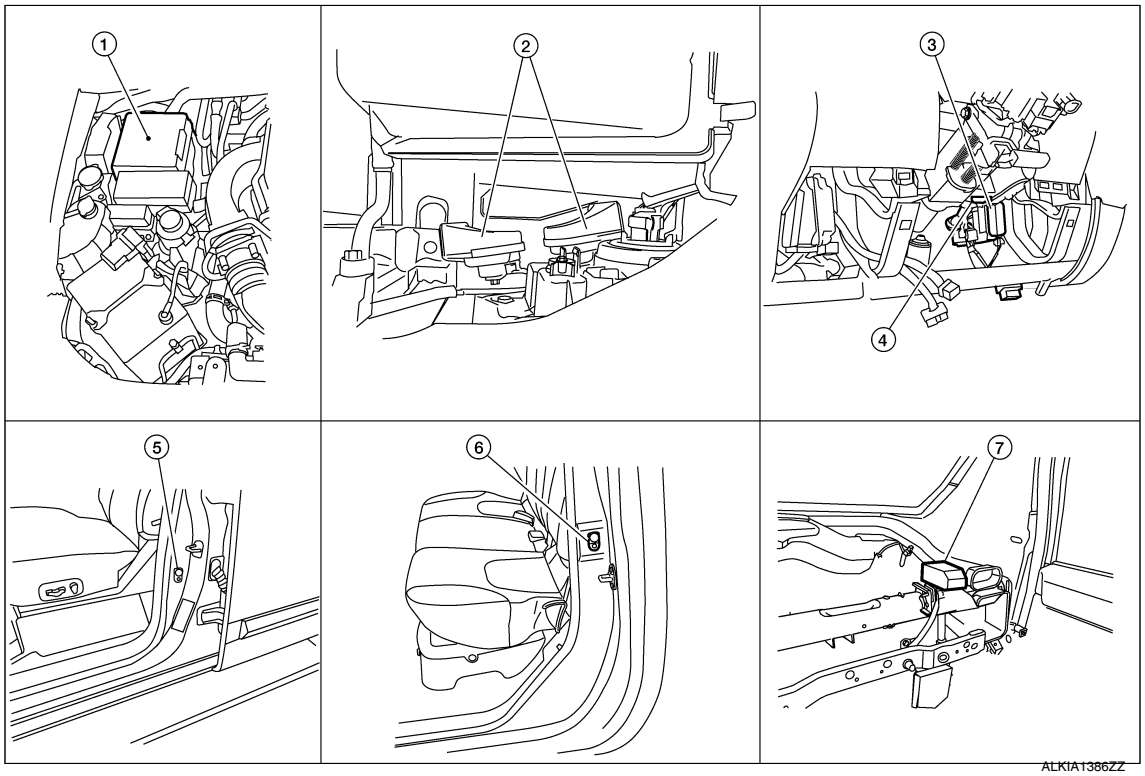
INFOID:0000000012563897



1. IPDM E/R E122, E124
2. Horns E6 (behind front combination lamp LH)
3. BCM M18, M19, M20 (view with lower instrument panel LH removed)
4. Key switch M27
5. Rear door switch upper LH D211 RH D312
6. Front door switch LH D213 RH D314
7. Rear door switch lower LH D212 RH D313
8. Remote keyless entry receiver M120 (view with instrument panel RH removed)

REMOTE KEYLESS ENTRY : Component Parts Location - Crew Cab

INFOID:0000000012563898



1. IPDM E/R E122, E124
2. Horns E6 (behind front combination lamp LH)
3. BCM M18, M19, M20 (view with lower instrument lower panel LH removed)
4. Key switch M27
5. Front door switch LH B8 RH B108
6. Rear door switch LH B18 RH B116
7. Remote keyless entry receiver M120 (view with instrument panel RH removed)

REMOTE KEYLESS ENTRY : Component Description

INFOID:0000000012563899

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

HOMELINK UNIVERSAL TRANSCEIVER

Component Description

INFOID:0000000012563900

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

INFOID:0000000012797797

APPLICATION ITEM
CONSULT performs the following functions via CAN communication with BCM.

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

SYSTEM APPLICATION
BCM can perform the following functions.

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	HEAD LAMP			×	×	×		
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

DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)

INFOID:0000000012797801

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 ULK/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 P	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 Function (BCM - MULTI REMOTE ENT)

INFOID:0000000012797802

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.
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 ULK/ALL LCK].
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	
REMO CONT ID REGIST	—		Keyfob ID code can be registered.
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

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000012797803

Refer to LAN-54, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000012797804

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible cause
U1000	CAN COMM CIRCUIT	When BCM cannot communicate CAN communication signal continuously for 2 seconds or more.	Any item (or items) of the following listed below is malfunctioning in CAN communication system. • Transmission • Receiving (ECM) • Receiving (METER/M&A) • Receiving (TCM) • Receiving (IPDM E/R)

Diagnosis Procedure

INFOID:0000000012797805

1. PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check “Self Diagnostic Result” of BCM.

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to LAN-14, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-43, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000012797806

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000012797807

1.REPLACE BCM

When DTC [U1010] is detected, replace BCM.

>> Replace BCM. Refer to BCS-56, "Removal and Installation".

Special Repair Requirement

INFOID:0000000012797808

1.REQUIRED WORK WHEN REPLACING BCM

The BCM must be initialized when replaced. Refer to (Body Control System) for BCM configuration.
Initialize NVIS by CONSULT. For the details of initialization refer to CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000012563910

Regarding Wiring Diagram information, refer to BCS-49, "Wiring Diagram".

1. CHECK FUSES AND FUSIBLE LINK

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

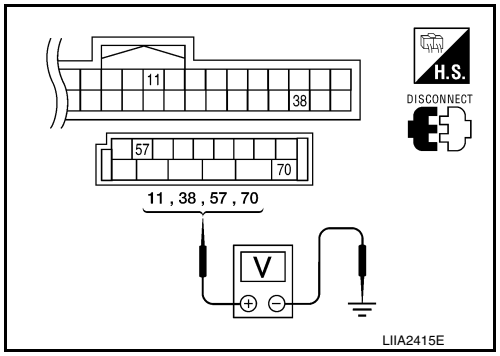
Terminal No.	Signal name	Fuses and fusible link No.
57	Battery power supply	21 (10A)
70		G (50A)
11	Ignition ACC or ON	4 (10A)
38	Ignition ON or START	1 (10A)

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 (+)	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

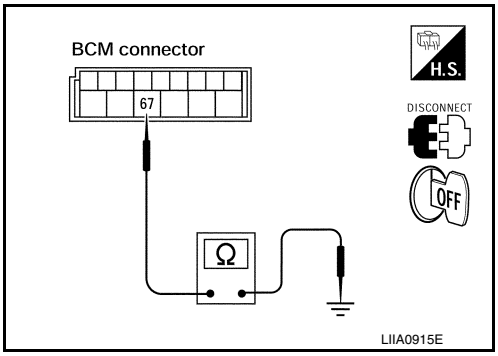
Is the measurement value normal?

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

3. CHECK GROUND CIRCUIT

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
KING CAB

KING CAB : Description

INFOID:0000000012563911

Detects door open/close condition.

KING CAB : Component Function Check

INFOID:0000000012563912

1.CHECK FUNCTION

With CONSULT
Check door switches in Data Monitor mode with CONSULT.

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

Is the inspection result normal?

YES >> Door switch is OK.
NO >> Refer to DLK-27, "KING CAB : Diagnosis Procedure".

KING CAB : Diagnosis Procedure

INFOID:0000000012563913

Regarding Wiring Diagram information, refer to DLK-77, "Wiring Diagram - King Cab".

1.CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT
Check door switches ("DOOR SW-DR", "DOOR SW-AS") in DATA MONITOR mode with CONSULT. Refer to BCS-20, "DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)".

- When any doors are open:

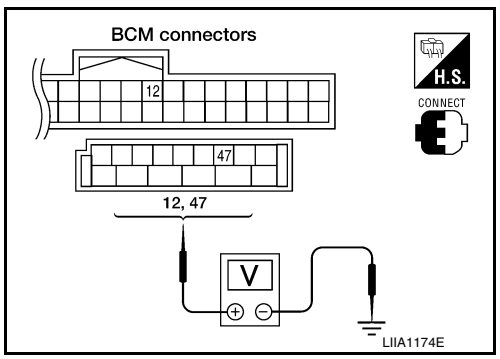
DOOR SW-DR :ON
DOOR SW-AS :ON

- When any doors are closed:

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

Without CONSULT
Check voltage between BCM connector M18 or M19 terminals 12, 47 and ground.

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

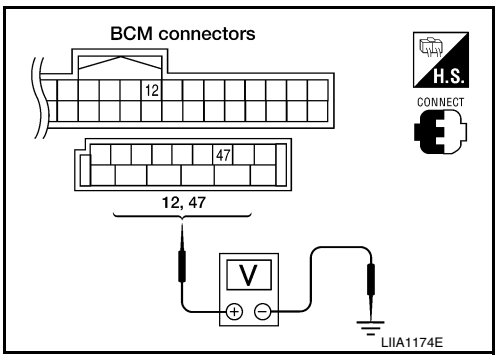


Is the inspection result normal?

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

2.CHECK BCM OUTPUT VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect door switches.
3. Check voltage between BCM connector M18, M19 terminals 12, 47 and ground.



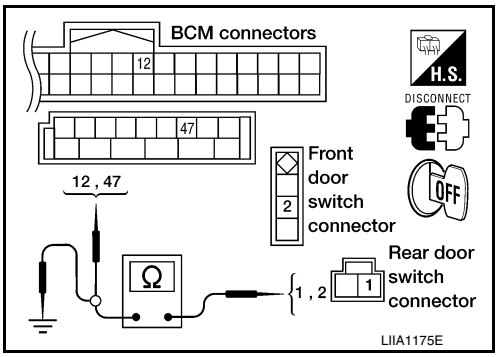
12 - Ground	**: Battery voltage**
47 - Ground	**: Battery voltage**

Is the inspection result normal?

YES >> GO TO 3
NO >> Replace BCM. Refer to BCS-56, "Removal and Installation".

3.CHECK DOOR SWITCH CIRCUIT

1. Disconnect BCM.
2. Check continuity between door switch connector D213 (Front LH), D314 (Front RH) terminal 2, D211 (Rear upper LH), D312 (Rear upper RH), D212 (Rear lower LH), D313 (Rear lower RH) terminal 1 and BCM connector M18, M19 terminals 12, and 47.



2 - 47	**: Continuity should exist**
2 - 12	**: Continuity should exist**
1 - 47	**: Continuity should exist**
1 - 12	**: Continuity should exist**

3. Check continuity between door switch connector D213 (Front LH), D314 (Front RH) terminal 2, D211 (Rear upper LH), D312 (Rear upper RH), D212 (Rear lower LH), D313 (Rear lower RH) terminal 1 and ground.

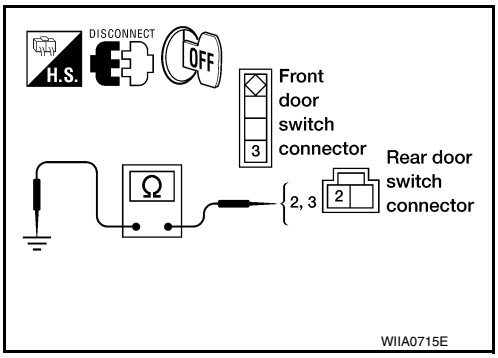
2 - Ground	**: Continuity should not exist**
1 - Ground	**: Continuity should not exist**

Is the inspection result normal?

YES >> GO TO 4
NO >> Repair or replace harness.

4.CHECK DOOR SWITCHES GROUND CIRCUIT

Check continuity between door switch connector D213 (Front LH), D314 (Front RH) terminal 3, D211 (Rear upper LH), D312 (Rear upper RH), D212 (Rear lower LH), D313 (Rear lower RH) terminal 2 and ground.



3 - Ground	**: Continuity should exist**
2 - Ground	**: Continuity should exist**

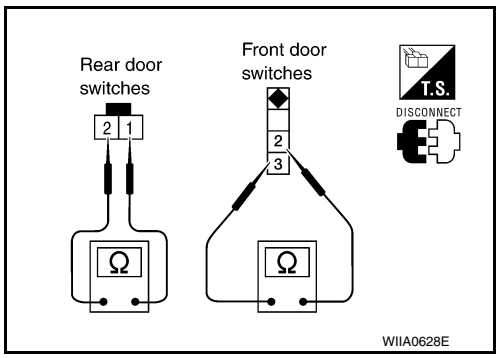
Is the inspection result normal?

YES >> GO TO 5
NO >> Repair or replace harness.

5.CHECK DOOR SWITCHES

Check continuity between door switch terminals.

Item	Terminal	Condition	Continuity
Door switches (front)	2 – 3	Open	Yes
		Closed	No
Door switches (rear upper and lower)	1 – 2	Open	Yes
		Closed	No



Is the inspection result normal?

YES >> Check condition of harness and connector.
NO >> Replace door switch.

CREW CAB

CREW CAB : Description

INFOID:0000000012563914

Detects door open/close condition.

CREW CAB : Component Function Check

INFOID:0000000012563915

1.CHECK FUNCTION

With CONSULT

Check door switches in Data Monitor mode with CONSULT.

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

Is the inspection result normal?

YES >> Door switch is OK.
NO >> Refer to DLK-29, "CREW CAB : Diagnosis Procedure".

CREW CAB : Diagnosis Procedure

INFOID:0000000012563916

Regarding Wiring Diagram information, refer to DLK-87, "Wiring Diagram - Crew Cab".

1.CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT

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

- When any doors are open:

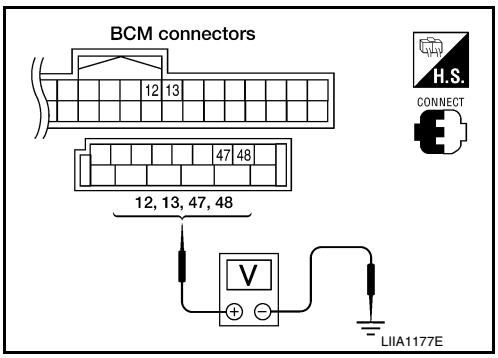
DOOR SW-DR : ON
DOOR SW-AS : ON
DOOR SW-RL : ON
DOOR SW-RR : ON

- When any doors are closed:

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

Without CONSULT
Check voltage between BCM connector M18 or M19 terminals 12, 13, 47, 48 and ground.

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



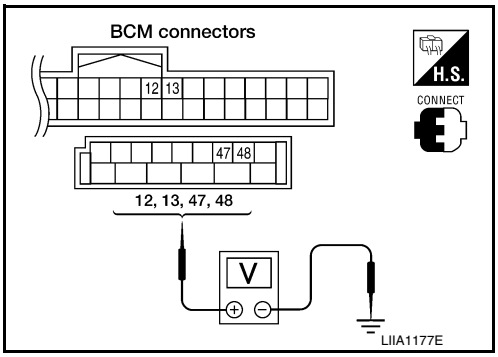
Is the inspection result normal?

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

2.CHECK BCM OUTPUT VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect door switches.
3. Check voltage between BCM connector M18, M19 terminals 12, 13, 47, 48 and ground.

12 - Ground : Battery voltage
13 - Ground : Battery voltage
47 - Ground : Battery voltage
48 - Ground : Battery voltage



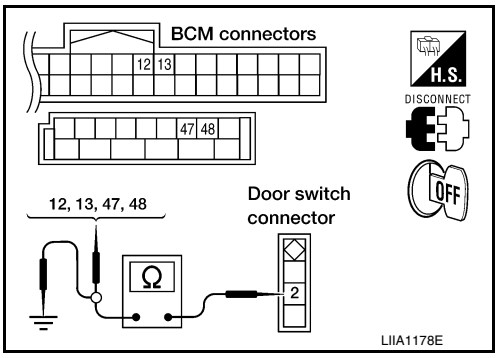
Is the inspection result normal?

YES >> GO TO 3
NO >> Replace BCM. Refer to BCS-56, "Removal and Installation".

3.CHECK DOOR SWITCH CIRCUIT

1. Disconnect door switch and BCM.
2. 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.

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



3. 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.

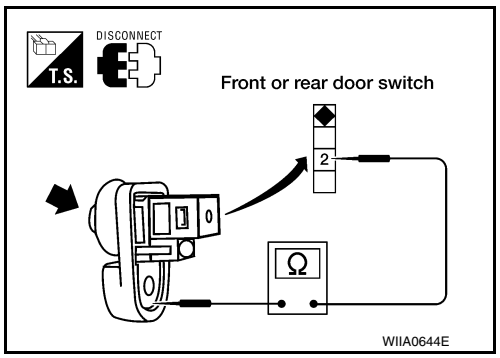
Is the inspection result normal?

YES >> GO TO 4
NO >> Repair or replace harness.

4.CHECK DOOR SWITCHES

1. Disconnect door switch.
2. Check continuity between door switch terminals.

	Terminal	Condition	Continuity
Door switch	2 – Ground	Open	Yes
		Closed	No



Is the inspection result normal?

YES >> Check switch case ground condition.
NO >> Replace door switch.

DOOR LOCK AND UNLOCK SWITCH
KING CAB

KING CAB : Description

INFOID:0000000012563917

Transmits door lock/unlock operation to BCM.

KING CAB : Component Function Check

INFOID:0000000012563918

1.CHECK FUNCTION

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

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-32, "KING CAB : Diagnosis Procedure".

KING CAB : Diagnosis Procedure

INFOID:0000000012563919

Regarding Wiring Diagram information, refer to DLK-77, "Wiring Diagram - King Cab".

1.CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT
Check door lock/unlock switch ("CDL LOCK SW", "CDL UNLOCK SW") in DATA MONITOR mode in CONSULT–III. Refer to BCS-20, "DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)".

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

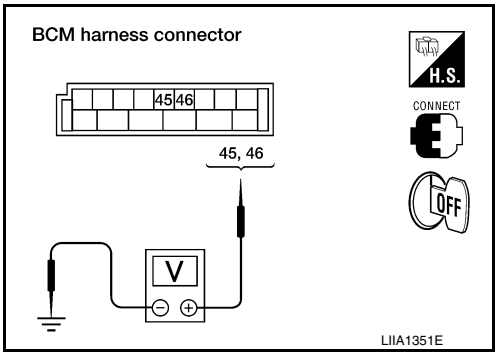
CDL LOCK SW : ON

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

CDL UNLOCK SW : ON

Without CONSULT
Check voltage between BCM connector M19 terminals 45, 46 and ground.

Connector	Terminals (+)	Terminals (–)	Condition	Voltage (V) (Approx.)
M19	46	Ground	Door lock/unlock switch is neutral.	Battery voltage
			Door lock/unlock switch is turned to UNLOCK.	0
	45	Ground	Door lock/unlock switch is neutral.	Battery voltage
			Door lock/unlock switch is turned to LOCK.	0



Is the inspection result normal?

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

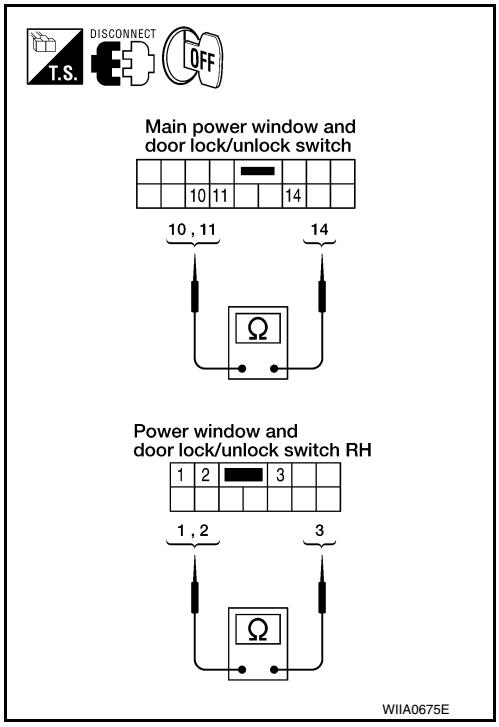
2.CHECK DOOR LOCK/UNLOCK SWITCH

1. Turn ignition switch OFF.
2. Disconnect door lock/unlock switch.
3. Check continuity between main power window and door lock/unlock switch terminals 10, 11 and 14.

Terminal		Condition	Continuity
10	14	Lock	Yes
		Unlock/Neutral	No
11		Unlock	Yes
		Lock/Neutral	No

4. Check continuity between power window and door lock/unlock switch RH terminals 1, 2 and 3.

Terminal		Condition	Continuity
1	3	Lock	Yes
		Unlock/Neutral	No
2		Unlock	Yes
		Lock/Neutral	No



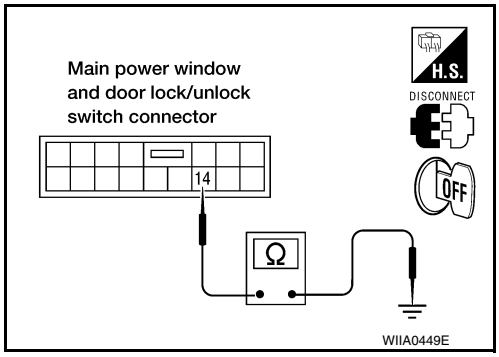
Is the inspection result normal?

YES >> GO TO 3
NO >> Replace door lock/unlock switch.

3.CHECK DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

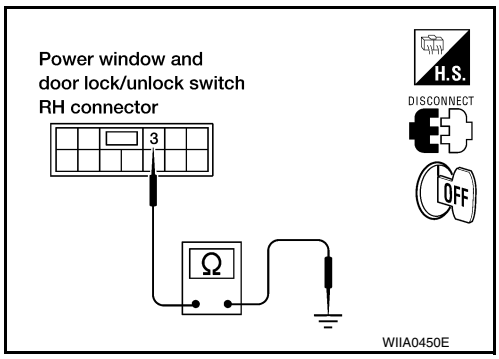
1. Disconnect main power window and door lock/unlock switch or power window and door lock/unlock switch RH.
2. Check continuity between main power window and door lock/unlock switch connector D7 terminal 14 and ground.

14 - Ground : Continuity should exist.



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

3 - Ground : Continuity should exist.



Is the inspection result normal?

YES >> GO TO 4
NO >> Repair or replace harness.

4.CHECK DOOR LOCK SWITCH CIRCUIT

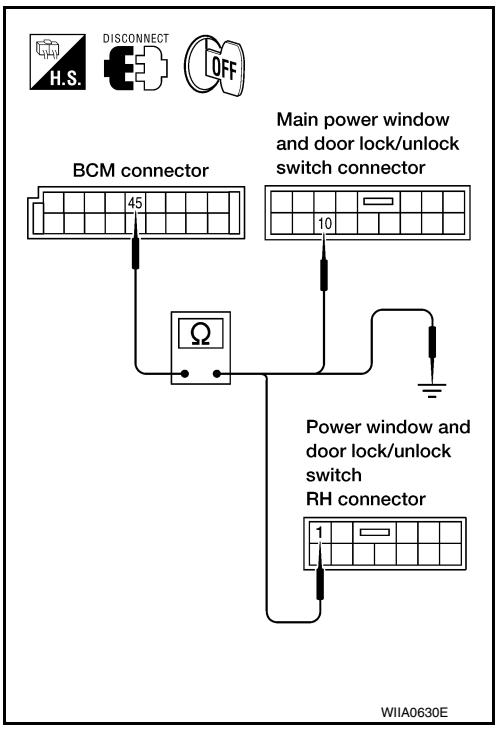
1. Disconnect BCM.

2. Check continuity between BCM connector M19 terminal 45 and main power window and door lock/unlock switch connector D7 terminal 10 or power window and door lock/unlock switch RH connector D105 terminal 1.

1 - 45 : Continuity should exist.
10 - 45 : Continuity should exist.

3. Check continuity between BCM connector M19 terminal 45 and ground.

45 - Ground : Continuity should not exist.



4. Check continuity between BCM connector M19 terminal 46 and main power window and door lock/unlock switch LH connector D7 terminal 11 or power window and door lock/unlock switch RH connector D105 terminal 2.

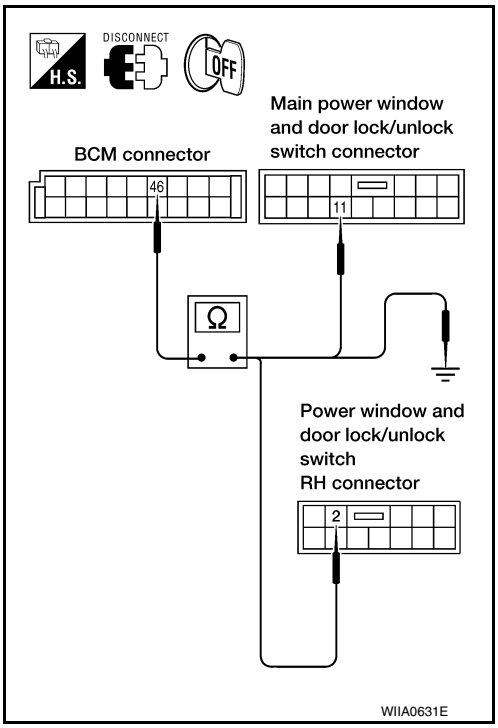
2 - 46 : Continuity should exist.
11 - 46 : Continuity should exist.

5. Check continuity between BCM connector M19 terminal 46 and ground.

46 - Ground : Continuity should not exist.

Is the inspection result normal?

YES >> GO TO 5
NO >> Repair or replace harness.

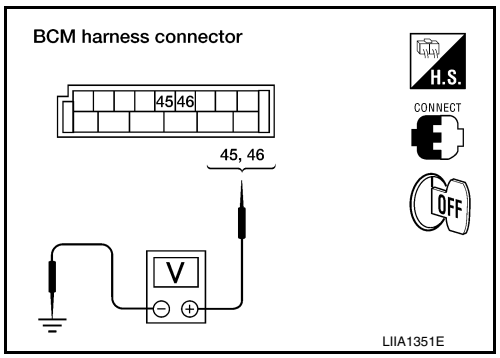


5. CHECK BCM OUTPUT VOLTAGE

1. Connect BCM.

2. Check voltage between BCM connector M19 terminals 45, 46 and ground.

45 - Ground : Battery voltage
46 - Ground : Battery voltage



Is the inspection result normal?

YES >> Check condition of the harness and connector.
NO >> Replace BCM. Refer to BCS-56, "Removal and Installation".

CREW CAB

CREW CAB : Description

INFOID:0000000012563920

Transmits door lock/unlock operation to BCM.

CREW CAB : Component Function Check

INFOID:0000000012563921

1.CHECK FUNCTION

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

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-35, "CREW CAB : Diagnosis Procedure".

CREW CAB : Diagnosis Procedure

INFOID:0000000012563922

Regarding Wiring Diagram information, refer to DLK-87, "Wiring Diagram - Crew Cab".

1.CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT
Check door lock/unlock switch ("CDL LOCK SW", "CDL UNLOCK SW") in DATA MONITOR mode in CONSULT. Refer to BCS-20, "DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)".
- When door lock/unlock switch is turned to LOCK:

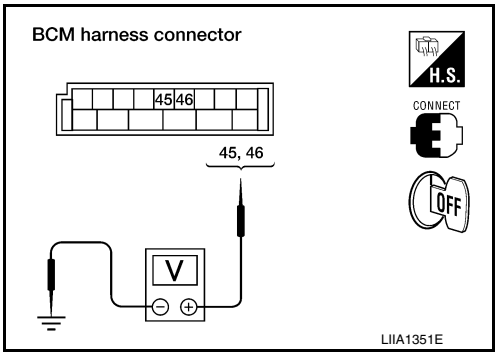
CDL LOCK SW : ON

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

CDL UNLOCK SW : ON

Without CONSULT
Check voltage between BCM connector M19 terminals 45, 46 and ground.

Connector	Terminals (+)	Terminals (–)	Condition	Voltage (V) (Approx.)
M19	46	Ground	Door lock/unlock switch is neutral.	Battery voltage
			Door lock/unlock switch is turned to UNLOCK.	0
	45	Ground	Door lock/unlock switch is neutral.	Battery voltage
			Door lock/unlock switch is turned to LOCK.	0



Is the inspection result normal?

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

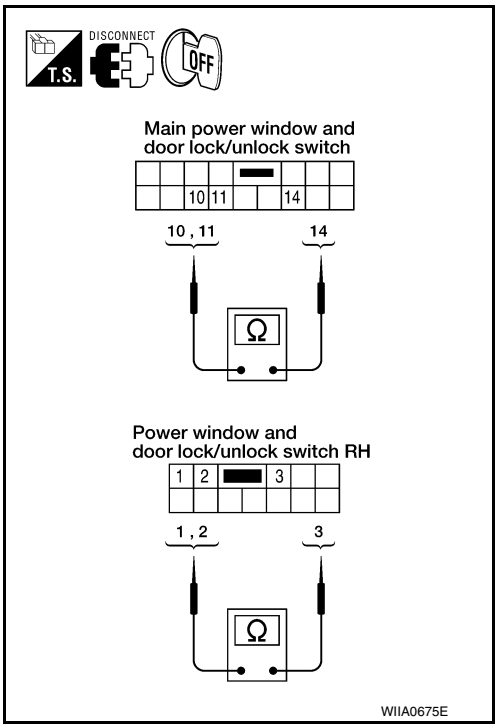
2.CHECK DOOR LOCK/UNLOCK SWITCH

1. Turn ignition switch OFF.
2. Disconnect door lock/unlock switch.
3. Check continuity between main power window and door lock/unlock switch terminals 10, 11 and 14.

Terminal		Condition	Continuity
10	14	Lock	Yes
		Unlock/Neutral	No
11		Unlock	Yes
		Lock/Neutral	No

4. Check continuity between power window and door lock/unlock switch RH terminals 1, 2 and 3.

Terminal		Condition	Continuity
1	3	Lock	Yes
		Unlock/Neutral	No
2		Unlock	Yes
		Lock/Neutral	No



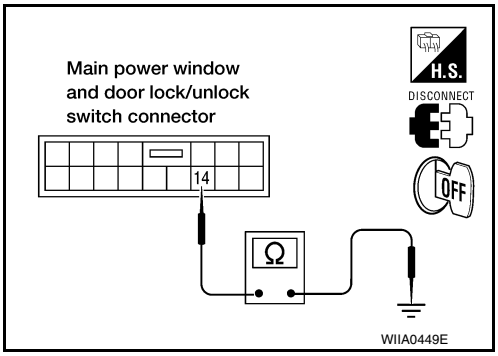
Is the inspection result normal?

YES >> GO TO 3
NO >> Replace door lock/unlock switch.

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 D7 terminal 14 and ground.

14 - Ground : Continuity should exist.

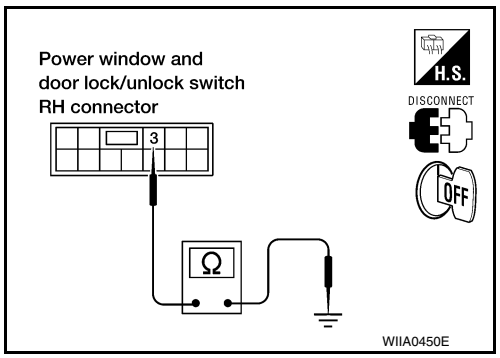


3. Check continuity between power window and door lock/unlock switch RH connector D105 terminal 3 and ground

3 - Ground : Continuity should exist.

Is the inspection result normal?

YES >> GO TO 4
NO >> Repair or replace harness.



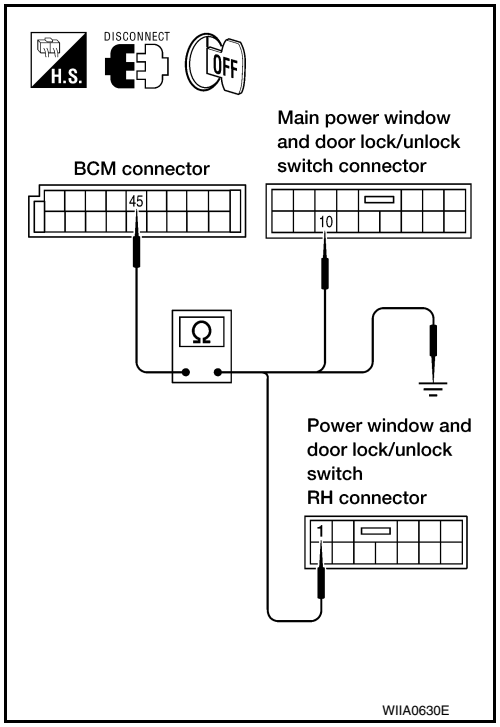
4. CHECK DOOR LOCK SWITCH CIRCUIT

1. Disconnect BCM.
2. Check continuity between BCM connector M19 terminal 45 and main power window and door lock/unlock switch connector D7 terminal 10 or power window and door lock/unlock switch RH connector D105 terminal 1.

1 - 45 : Continuity should exist.
10 - 45 : Continuity should exist.

3. Check continuity between BCM connector M19 terminal 45 and ground.

45 - Ground : Continuity should not exist.



4. Check continuity between BCM connector M19 terminal 46 and main power window and door lock/unlock switch LH connector D7 terminal 11 or power window and door lock/unlock switch RH connector D105 terminal 2.

2 - 46 **: Continuity should exist.**

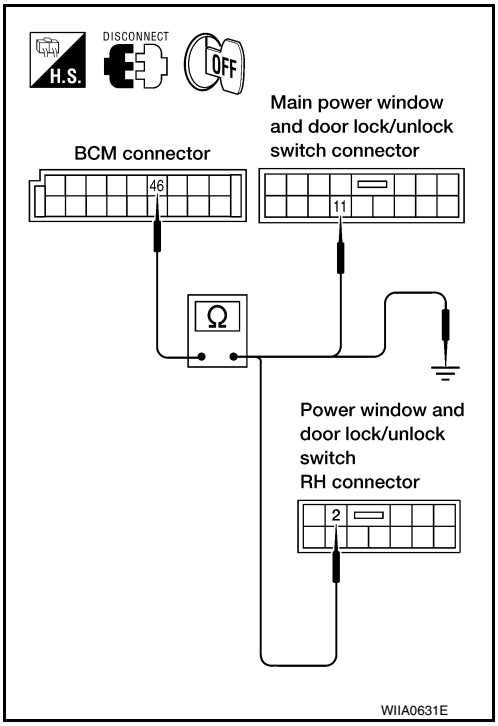
11 - 46 **: Continuity should exist.**

5. Check continuity between BCM connector M19 terminal 46 and ground.

46 - Ground **: Continuity should not exist.**

Is the inspection result normal?

YES >> GO TO 5
NO >> Repair or replace harness.



5. CHECK BCM OUTPUT VOLTAGE

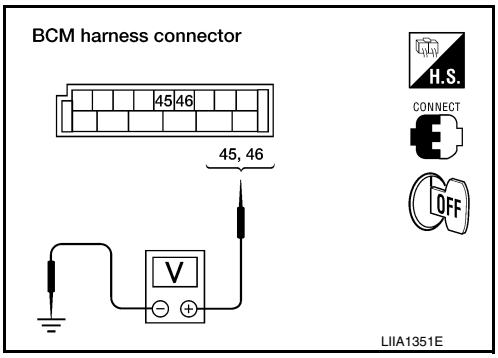
1. Connect BCM.
2. Check voltage between BCM connector M19 terminals 45, 46 and ground.

45 - Ground **: Battery voltage**

46 - Ground **: Battery voltage**

Is the inspection result normal?

YES >> Check condition of the harness and connector.
NO >> Replace BCM. Refer to BCS-56, "Removal and Installation".



KEY CYLINDER SWITCH

DRIVER SIDE

DRIVER SIDE : Description

INFOID:0000000012563923

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.

DRIVER SIDE : Component Function Check

INFOID:0000000012563924

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check "KEY CYL LK-SW" AND "KEY CYL UN-SW" in Data Monitor mode for “DOOR LOCK” with CONSULT.

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, "DRIVER SIDE : Diagnosis Procedure".

DRIVER SIDE : Diagnosis Procedure

INFOID:0000000012563925

Regarding Wiring Diagram information, refer to DLK-77, "Wiring Diagram - King Cab" or DLK-87, "Wiring Diagram - Crew Cab".

1.CHECK DOOR KEY CYLINDER SWITCH LH

With CONSULT
Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW") in DATA MONITOR mode in CONSULT. Refer to BCS-20, "DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)".

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

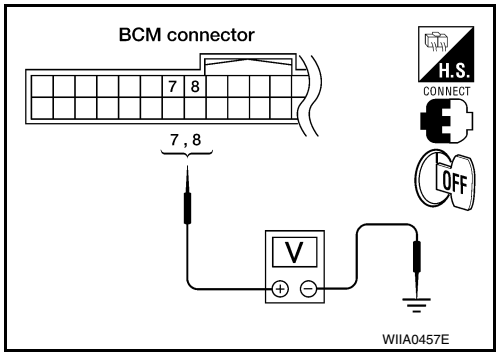
KEY CYL LK-SW : ON

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

KEY CYL UN-SW : ON

Without CONSULT
Check voltage between BCM connector M18 terminals 7, 8 and ground.

Connector	Terminals (+)	Terminals (–)	Condition	Voltage (V) (Approx.)
M18	7	Ground	Neutral/Lock	1.5
			Unlock	0
	8		Neutral/Unlock	1.5
			Lock	0



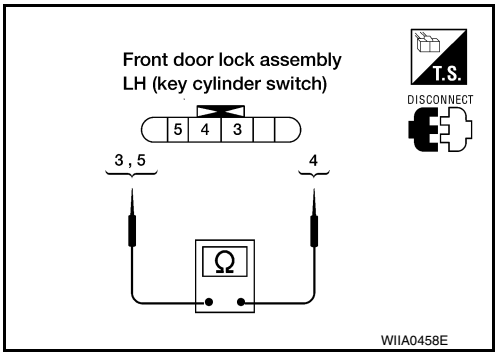
Is the inspection result normal?

YES >> Front door lock assembly LH (key cylinder switch) signal is OK.
NO >> GO TO 2

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

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 terminals 3, 4 and 5.

Terminals	Condition	Continuity
4 – 5	Key is turned to LOCK.	Yes
	Key is in N position or turned to UNLOCK	No
3 – 4	Key is turned to UNLOCK.	Yes
	Key is in N position or turned to LOCK	No



Is the inspection result normal?

YES >> GO TO 3
NO >> Replace front door lock assembly LH (key cylinder switch). Refer to DLK-137, "Removal and Installation".

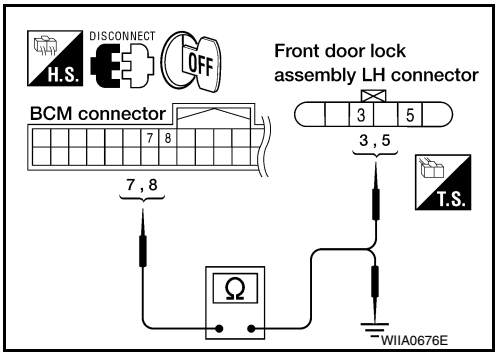
3.CHECK FRONT DOOR LOCK ASSEMBLY LH HARNESS

1. Disconnect BCM.
2. Check continuity between BCM connector M18 terminals 7, 8 and front door lock assembly LH connector D14 terminals 3, 5.

7 - 3 : Continuity should exist.
8 - 5 : Continuity should exist.

3. Check continuity between BCM connector M18 terminals 7, 8 and ground.

7 - Ground : Continuity should not exist.
8 - Ground : Continuity should not exist.



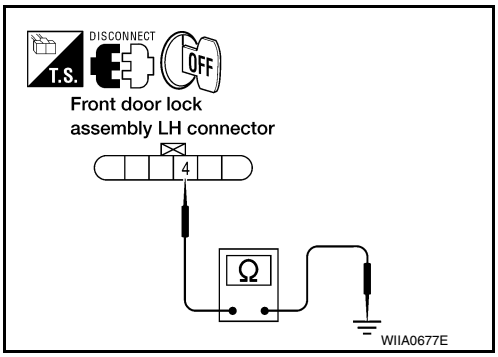
Is the inspection result normal?

YES >> GO TO 4
NO >> Repair or replace harness.

4.CHECK FRONT DOOR LOCK ASSEMBLY LH GROUND

Check continuity between front door lock assembly LH connector D14 terminal 4 and ground.

4 - Ground : Continuity should exist.



Is the inspection result normal?

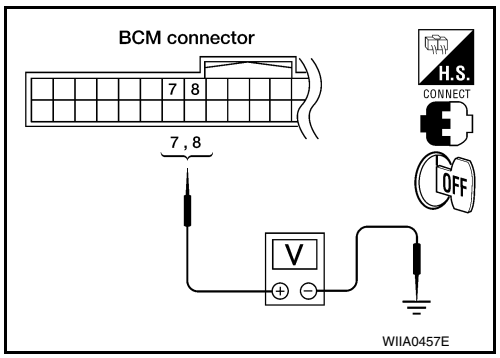
YES >> GO TO 5
NO >> Repair or replace harness.

5.CHECK BCM OUTPUT VOLTAGE

1. Connect BCM.

2. Check voltage between BCM connector M18 terminals 7, 8 and ground.

7 - Ground	**: Approx. 1.5V**
8 - Ground	**: Approx. 1.5V**



Is the inspection result normal?

YES >> Check condition of the harness and connector.
NO >> Replace BCM. Refer to BCS-56, "Removal and Installation".

KEY SWITCH (BCM INPUT)

Diagnosis Procedure

INFOID:0000000012563926

Regarding Wiring Diagram information, refer to DLK-77, "Wiring Diagram - King Cab" or DLK-87, "Wiring Diagram - Crew Cab".

1.CHECK KEY SWITCH INPUT SIGNAL

With CONSULT

Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT. Refer to BCS-20, "DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)".

- When key is inserted to ignition key cylinder:

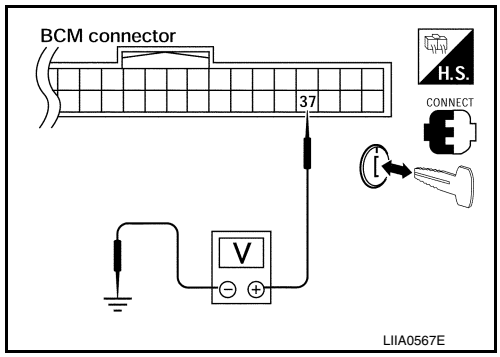
KEY ON SW : ON

- When key is removed from ignition key cylinder:

KEY ON SW : OFF

Without CONSULT

Check voltage between BCM connector M18 terminal 37 and ground.



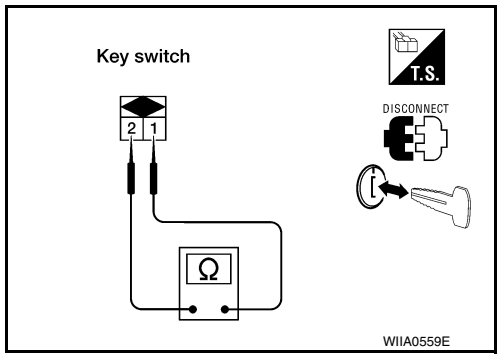
Connector	Terminal		Condition	Voltage (V) (Approx.)
	(+)	(–)		
M18	37	Ground	Key is inserted.	Battery voltage
			Key is removed.	0

Is the inspection result normal?

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

2.CHECK KEY SWITCH (INSERT)

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



Terminals	Condition	Continuity
1 – 2	Key is inserted.	Yes
	Key is removed.	No

Is the inspection result normal?

YES >> Repair or replace harness or fuse.
NO >> Replace key switch.

DOOR LOCK ACTUATOR
DRIVER SIDE

DRIVER SIDE : Description

INFOID:0000000012563927

Locks/unlocks the door with the signal from BCM.

DRIVER SIDE : Component Function Check

INFOID:0000000012563928

1.CHECK FUNCTION

1. Use CONSULT 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-43, "DRIVER SIDE : Diagnosis Procedure".

DRIVER SIDE : Diagnosis Procedure

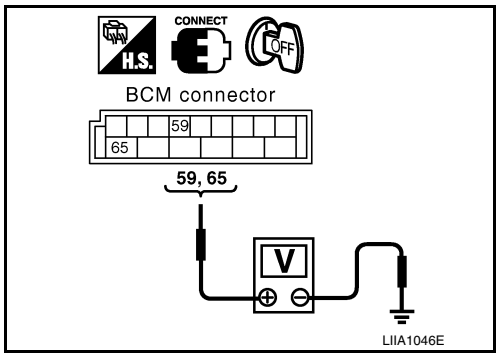
INFOID:0000000012563929

Regarding Wiring Diagram information, refer to DLK-77, "Wiring Diagram - King Cab" or DLK-87, "Wiring Diagram - Crew Cab".

1.CHECK DOOR LOCK ACTUATOR SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between BCM connector M20 terminals 59, 65 and ground.

Connector	Terminals (+)	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



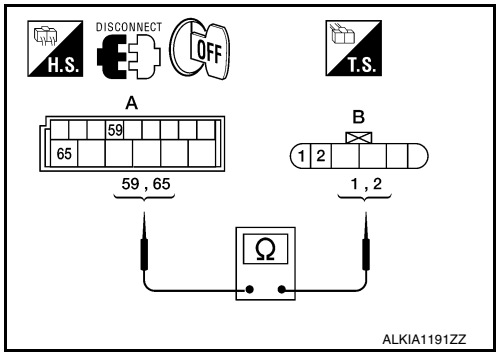
Is the inspection result normal?

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

2.CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and front door lock assembly LH (actuator).
2. Check continuity between BCM connector (A) M20 terminals 59, 65 and front door lock assembly LH (actuator) connector (B) D14 terminals 1, 2.

Connector	Terminals	Connector	Terminals	Continuity
M20	59	D14	2	Yes
	65		1	



Is the inspection result normal?

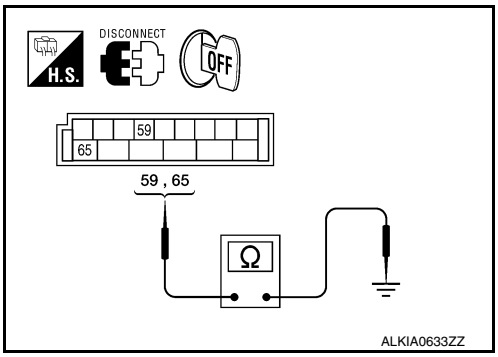
YES >> Replace front door lock assembly LH (actuator).

NO >> Repair or replace harness.

3.CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and front door lock assembly LH (actuator).
2. Check continuity between BCM connector M20 terminals 59, 65 and ground.

Connector	Terminals		Continuity
M20	59	Ground	No
	65		



Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-56, "Removal and Installation".
NO >> Repair or replace harness.

PASSENGER SIDE

PASSENGER SIDE : Description

INFOID:0000000012563930

Locks/unlocks the door with the signal from BCM.

PASSENGER SIDE : Component Function Check

INFOID:0000000012563931

1.CHECK FUNCTION

1. Use CONSULT 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-44, "PASSENGER SIDE : Diagnosis Procedure".

PASSENGER SIDE : Diagnosis Procedure

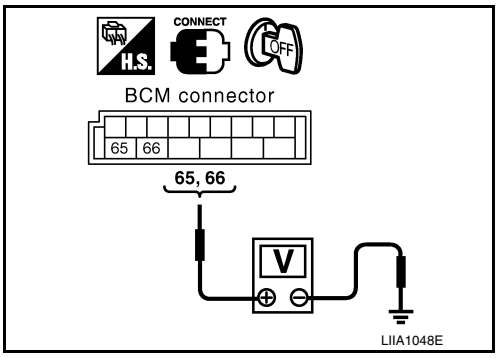
INFOID:0000000012563932

Regarding Wiring Diagram information, refer to DLK-77, "Wiring Diagram - King Cab" or DLK-87, "Wiring Diagram - Crew Cab".

1.CHECK FRONT DOOR LOCK ACTUATOR RH SIGNAL

1. Turn ignition switch OFF.
2. 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 for 300 ms
	66		Door lock/unlock switch is turned to UNLOCK	



Is the inspection result normal?

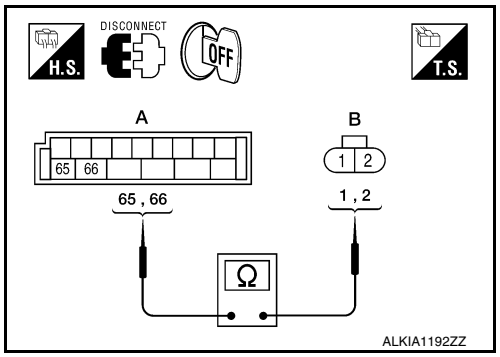
YES >> GO TO 2

NO >> GO TO 3

2.CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and front door lock actuator RH.
2. Check continuity between BCM connector (A) M20 terminals 65, 66 and front door lock actuator RH (B) D114 terminals 1, 2.

Terminal		Continuity
65	2	Yes
66	1	



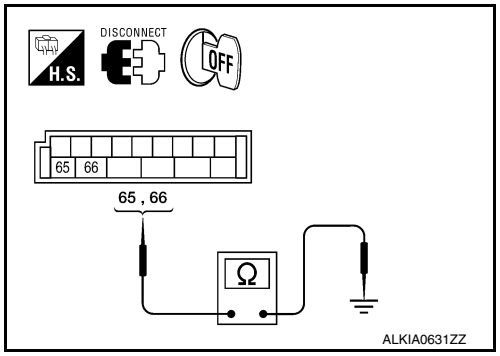
Is the inspection result normal?

YES >> Replace front door lock actuator RH. Refer to DLK-137, "Removal and Installation".
NO >> Repair or replace harness.

3.CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and front door lock actuator RH.
2. Check continuity between BCM connector M19 terminals 65, 66 and ground.

Terminals		Continuity
65	Ground	No
66		



Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-56, "Removal and Installation".
NO >> Repair or replace harness.

REAR LH

REAR LH : Description

INFOID:0000000012563933

Locks/unlocks the door with the signal from BCM.

REAR LH : Component Function Check

INFOID:0000000012563934

1.CHECK FUNCTION

1. Use CONSULT 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, "REAR LH : Diagnosis Procedure".

REAR LH : Diagnosis Procedure

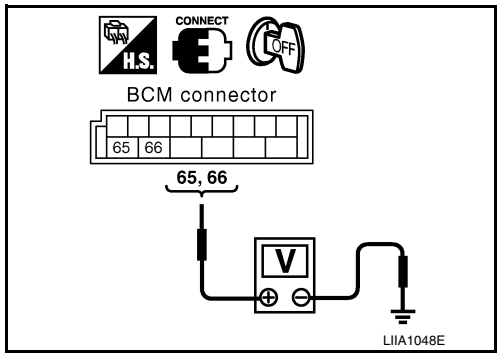
INFOID:0000000012563935

Regarding Wiring Diagram information, refer to DLK-87, "Wiring Diagram - Crew Cab".

1.CHECK DOOR LOCK ACTUATOR SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between BCM connector M20 terminals 65, 66 and ground.

Connector	Terminals (+)	Terminals (-)	Condition	Voltage (V) (Approx.)
M20	65	Ground	Door lock/unlock switch is turned to LOCK	0 → Battery voltage for 300 ms
	66		Door lock/unlock switch is turned to UNLOCK	



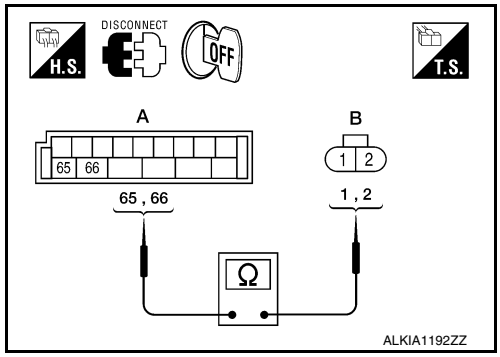
Is the inspection result normal?

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

2.CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and rear door lock actuator LH.
2. Check continuity between BCM connector (A) M20 terminals 65, 66 and rear door lock actuator LH connector (B) D205 terminals 1, 2.

Terminals		Continuity
65	2	Yes
66	1	



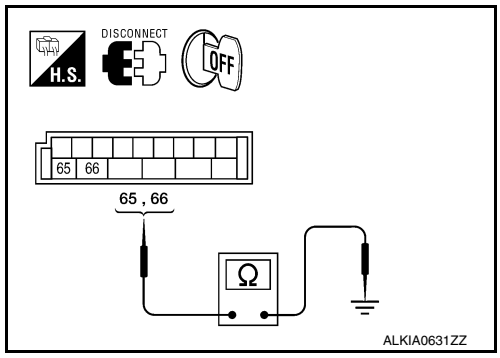
Is the inspection result normal?

YES >> Replace rear door lock actuator LH.
NO >> Repair or replace harness.

3.CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and each door lock actuator.
2. 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 BCM. Refer to BCS-56, "Removal and Installation".
NO >> Repair or replace harness.

REAR RH

REAR RH : Description

INFOID:0000000012563936

Locks/unlocks the door with the signal from BCM.

REAR RH : Component Function Check

INFOID:0000000012563937

1.CHECK FUNCTION

1. Use CONSULT 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 : Diagnosis Procedure".

REAR RH : Diagnosis Procedure

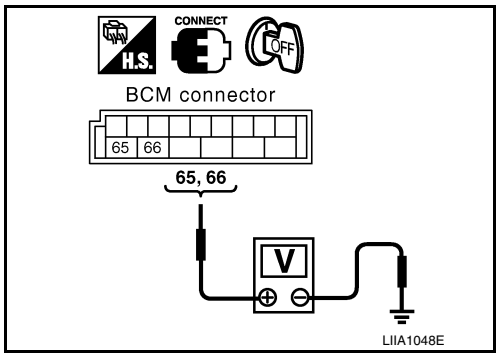
INFOID:0000000012563938

Regarding Wiring Diagram information, refer to DLK-87, "Wiring Diagram - Crew Cab".

1.CHECK DOOR LOCK ACTUATOR SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between BCM connector M20 terminals 65, 66 and ground.

Connector	Terminals (+)	Terminals (-)	Condition	Voltage (V) (Approx.)
M20	65	Ground	Door lock/unlock switch is turned to LOCK	0 → Battery voltage for 300 ms
	66		Door lock/unlock switch is turned to UNLOCK	



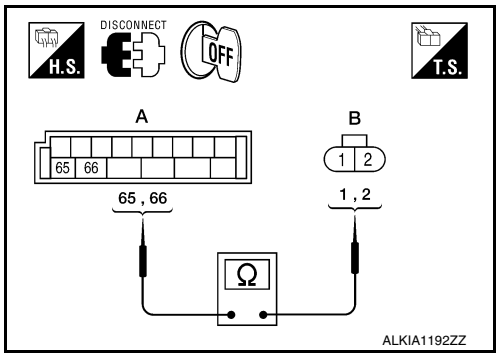
Is the inspection result normal?

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

2.CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and rear door lock actuator RH.
2. Check continuity between BCM connector (A) M20 terminals 65, 66 and rear door lock actuator RH connector (B) D305 terminals 1, 2.

Terminals		Continuity
65	2	Yes
66	1	



Is the inspection result normal?

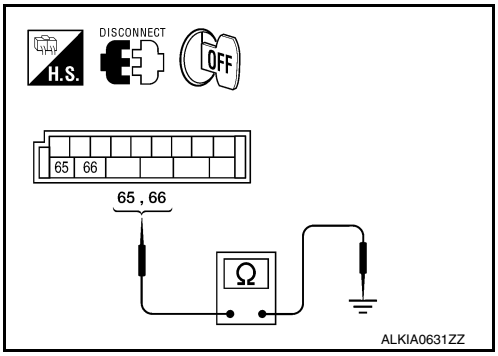
YES >> Replace rear door lock actuator RH.
NO >> Repair or replace harness.

3.CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and rear door lock actuator RH.

2. Check continuity between BCM connector (A) M20 terminals 65, 66 and ground.

Terminals		Continuity
65	Ground	No
66		



Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-56, "Removal and Installation".
NO >> Repair or replace harness.

REMOTE KEYLESS ENTRY RECEIVER

Description

INFOID:0000000012563939

Receives keyfob operation and transmits to BCM.

Component Function Check

INFOID:0000000012563940

1.CHECK FUNCTION

With CONSULT

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

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".

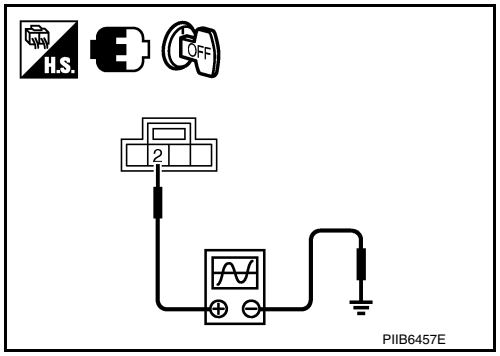
Diagnosis Procedure

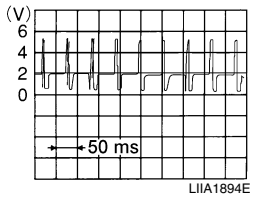
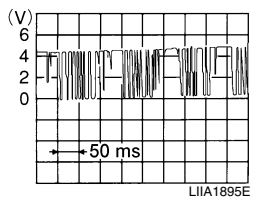
INFOID:0000000012563941

Regarding Wiring Diagram information, refer to DLK-98, "Wiring Diagram - King Cab" or DLK-107, "Wiring Diagram - Crew Cab".

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			
M120	2	Ground	No function	
			Any button is pressed	

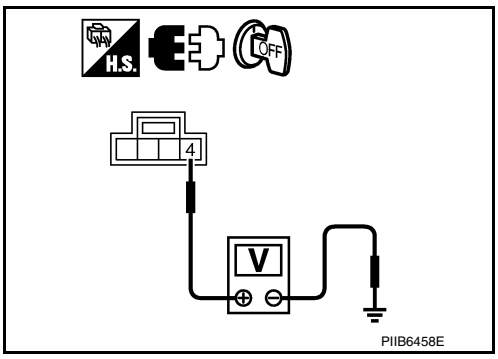
Is the inspection result normal?

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.



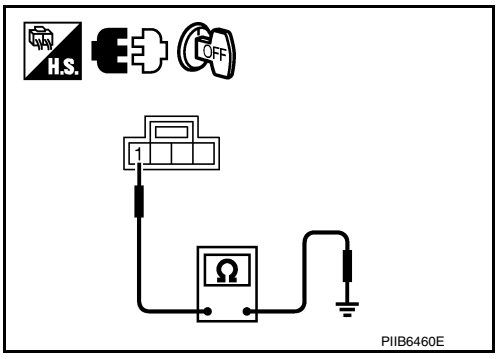
Is the inspection result normal?

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

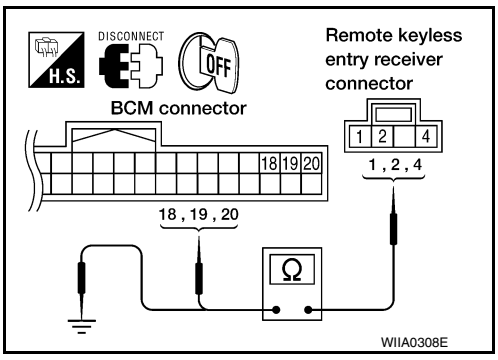
4. HARNESS INSPECTION BETWEEN BCM AND RKE RECEIVER

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

Description

INFOID:0000000012563942

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:0000000012563943

NOTE:
The Signal Tech II [- (J-50190)] can be used to test the remote keyless entry keyfob relative signal strength. Refer to the Signal Tech II User Guide for additional information.

1.CHECK FUNCTION

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

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".

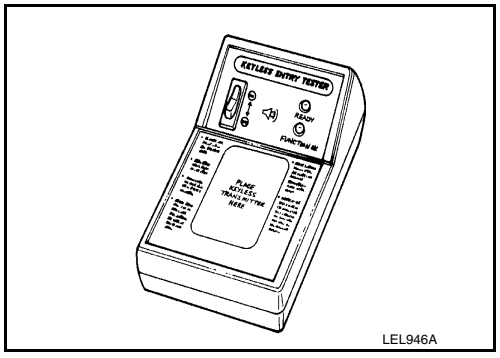
Diagnosis Procedure

INFOID:0000000012563944

NOTE:
The Signal Tech II [- (J-50190)] can be used to test the remote keyless entry keyfob relative signal strength. Refer to the Signal Tech II User Guide for additional information.

1.CHECK KEYFOB FUNCTION

Check keyfob function using Signal Tech II Tool [- (J-50190)] or Remote Keyless Entry Tester [- (J-43241)] (shown).



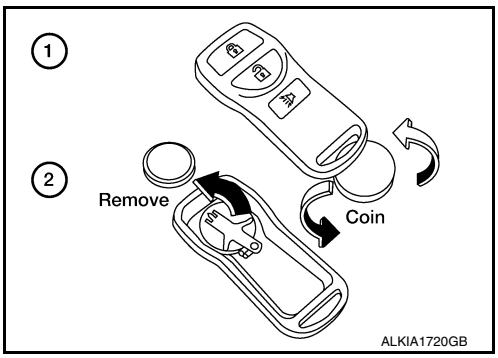
LEL946A

Does the test pass?

YES >> Keyfob is OK.
NO >> GO TO 2

2. CHECK KEYFOB COMPONENTS

1. Open the lid using a coin.
   CAUTION:
   - **Do not touch the circuit board or battery terminal.**
   - **The keyfob is water-resistant. However, if it does get wet, immediately wipe it dry.**
2. Remove the keyfob battery.
   CAUTION:
   - **Keep dirt, grease, and other foreign materials off the electrode contact area.**
3. Visually inspect keyfob internal components.



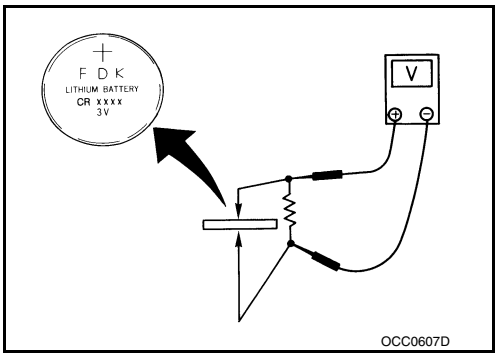
Is the inspection result normal?

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

3. CHECK KEYFOB BATTERY

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

Standard : Approx. 2.5 - 3.0V

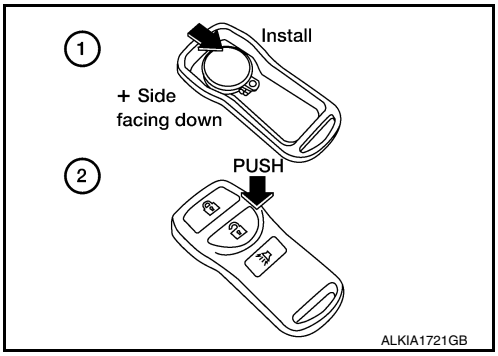


Is the measurement value within specification?

YES >> Keyfob battery is OK. Check remote keyless entry receiver. Refer to DLK-49, "Component Function Check".
NO >> GO TO 4.

4. REPLACE KEYFOB BATTERY

1. Replace the keyfob battery, positive side down.
2. Align the tips of the upper and lower parts, and then push them together until it is securely closed.
   CAUTION:
   - **When replacing battery, keep dirt, grease, and other foreign materials off the electrode contact area.**
3. After replacing the battery, check that all keyfob functions work properly.



Is the inspection result normal?

YES >> Keyfob is OK.
NO >> Check remote keyless entry receiver. Refer to DLK-49, "Component Function Check".

HORN FUNCTION

Description

INFOID:0000000012563945

Perform answer-back for each operation with horn.

Component Function Check

INFOID:0000000012563946

1.CHECK FUNCTION

1. Use CONSULT to perform Active Test "MULTIREMOTE ENT".
2. Touch "HORN" to check that it works normally.

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

Is the operation normal?

YES >> Inspection End.
NO >> Refer to DLK-53, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012563947

Regarding Wiring Diagram information, refer to DLK-98, "Wiring Diagram - King Cab" or DLK-107, "Wiring Diagram - Crew Cab".

1.CHECK HORN FUNCTION

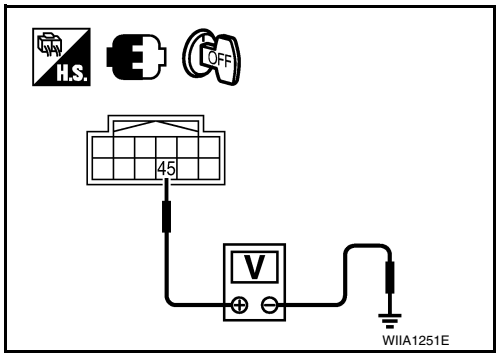
Check horn function with horn switch

Do the horns sound?

YES >> GO TO 2
NO >> Refer to HRN-3, "Wiring Diagram".

2.CHECK HORN RELAY POWER SUPPLY

1. Turn ignition switch ON.
2. Perform "HORN" in Active Test mode for "MULTIREMOTE ENT" with CONSULT.
3. Using an oscilloscope or analog voltmeter, check voltage between IPDM E/R connector E122 terminal 45 and ground.



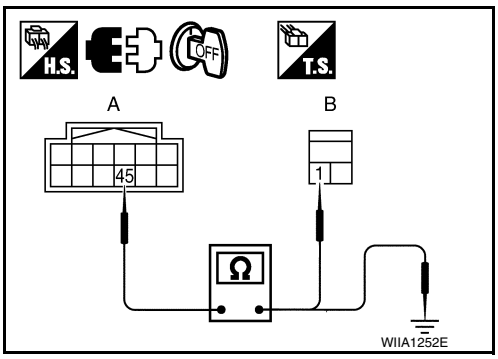
IPDM E/R		Ground	Test item		Voltage (V) (Approx.)
Connector	Terminal				
E122	45	Ground	HORN	OFF → ON → OFF	Battery voltage → 0 → Battery voltage
				Other than above	Battery voltage

Is the inspection result normal?

YES >> Refer to GI-43, "Intermittent Incident".
NO >> GO TO 3

3.CHECK HORN RELAY CIRCUIT

1. Turn ignition switch OFF.
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	
A: E122	45	B: H-1	1	Yes

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 >> GO TO 4
NO >> Repair or replace harness.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-43, "Intermittent Incident".

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 the malfunctioning part.

WARNING CHIME FUNCTION

Description

INFOID:0000000012563948

Performs operation method guide and warning with buzzer.

Component Function Check

INFOID:0000000012563949

1.CHECK FUNCTION

1. Use CONSULT to perform Active Test "BUZZER".
2. Touch "IGN KEY WARN ALM" to check that it works normally.

Is the inspection result normal?

Yes >> Warning buzzer in combination meter is OK.
No >> Refer to DLK-55, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012563950

1.CHECK METER BUZZER CIRCUIT

The inoperative warning chime is contained inside the combination meter. Refer to MWI-4, "Work Flow".

>> Inspection End.

HAZARD FUNCTION

Description

INFOID:0000000012563951

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

Component Function Check

INFOID:0000000012563952

1.CHECK FUNCTION

1. Use CONSULT to perform Active Test "FLASHER".
2. Touch "RH" and "LH" to check that it works normally.

Is the inspection result normal?

YES >> Hazard warning lamp circuit is OK.
NO >> Refer to DLK-56, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012563953

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-56, "Removal and Installation".
NO >> Repair or replace hazard warning switch circuit. Refer to EXL-98, "Wiring Diagram".

HEADLAMP FUNCTION

Diagnosis Procedure

INFOID:0000000012563954

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-75, "Wiring Diagram".

MAP LAMP AND IGNITION KEYHOLE ILLUMINATION FUNCTION

Diagnosis Procedure

INFOID:0000000012563955

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-24, "Description".

KEYFOB ID SET UP WITH CONSULT

ID Code Entry Procedure

INFOID:0000000012563956

KEYFOB ID SET UP WITH CONSULT

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. 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.**

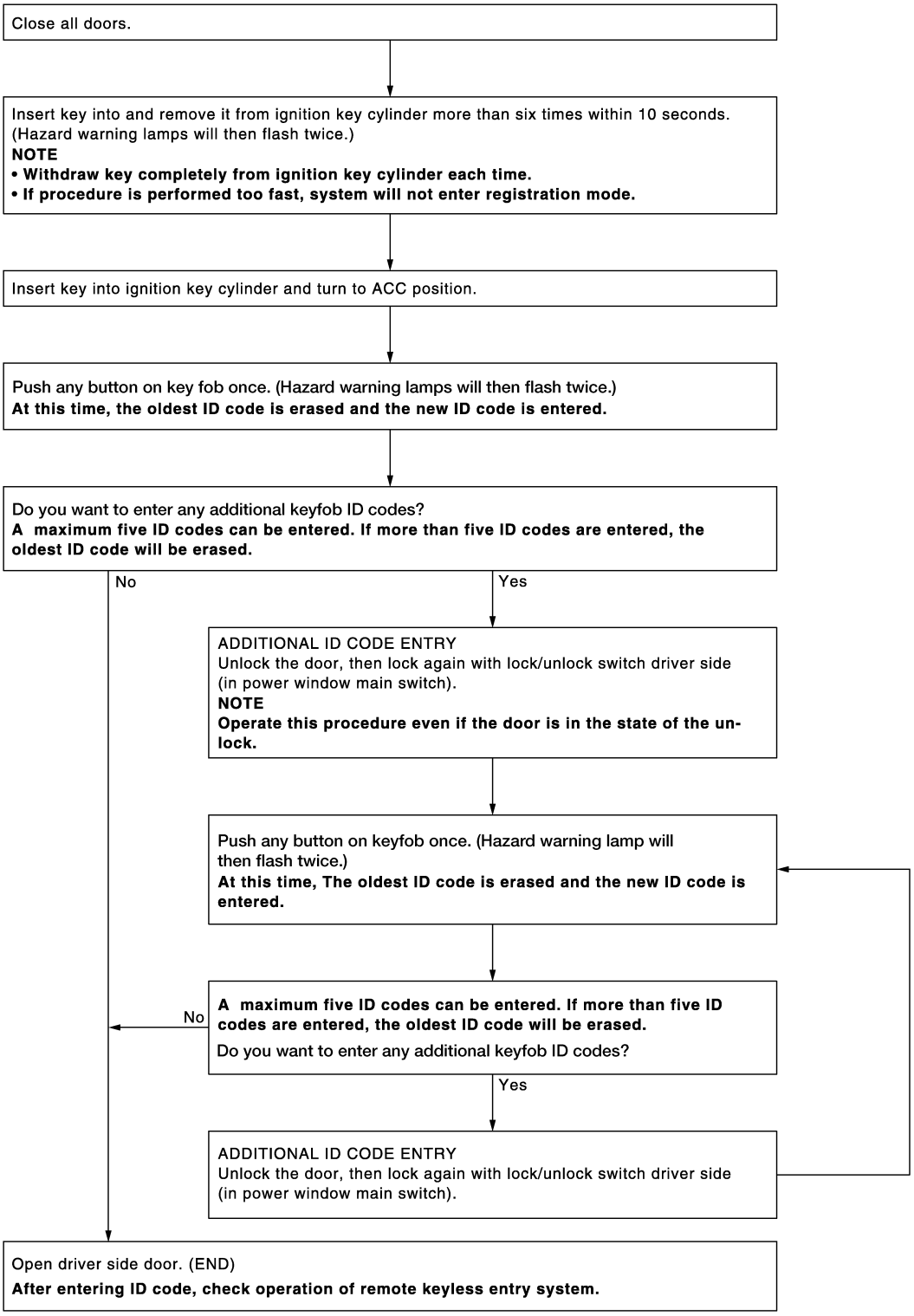
1. Turn ignition switch ON.
2. Select “BCM”.
3. Select “MULTIREMOTE ENT”.
4. Select “WORK SUPPORT”.
5. You can register, erase or confirm a keyfob ID code. To register a new code, select the following option and follow CONSULT instructions:
   - “REMO CONT ID REGIST”
     Use this item to register a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

KEYFOB ID SET UP WITHOUT CONSULT

ID Code Entry Procedure

INFOID:0000000012563957

KEYFOB ID SET UP WITHOUT CONSULT



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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. 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.
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.

HOMELINK UNIVERSAL TRANSCEIVER

Description

INFOID:0000000012563958

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:0000000012563959

1.CHECK FUNCTION

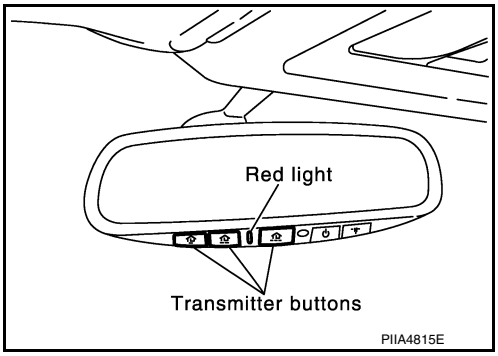
Check that system receiver (garage door opener, etc.) operates with original hand-held transmitter.

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".

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).

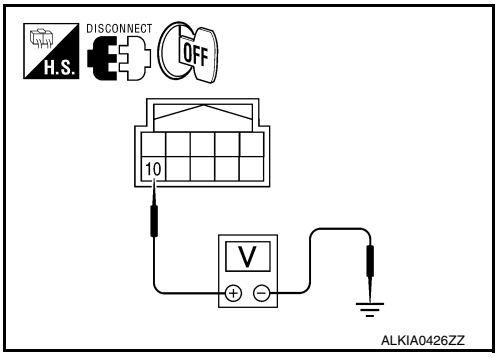
Diagnosis Procedure

INFOID:0000000012563960

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.



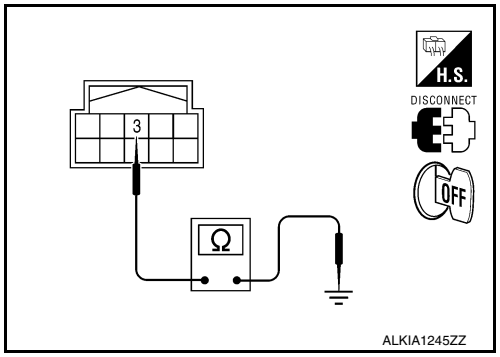
Auto anti-dazzling inside mirror (Homelink® universal transceiver) connector	Terminal		Condition	Voltage (V) (Approx.)
R7	10	Ground	Ignition switch position: LOCK	Battery voltage

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	3		Yes

Is the inspection result normal?

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

3.CHECK INTERMITTENT INCIDENT

Refer to GI-43, "Intermittent Incident".

>> Inspection End.

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000012848079

NOTE:
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs
- Test remote keyless entry keyfob relative signal strength

VALUES ON THE DIAGNOSIS TOOL

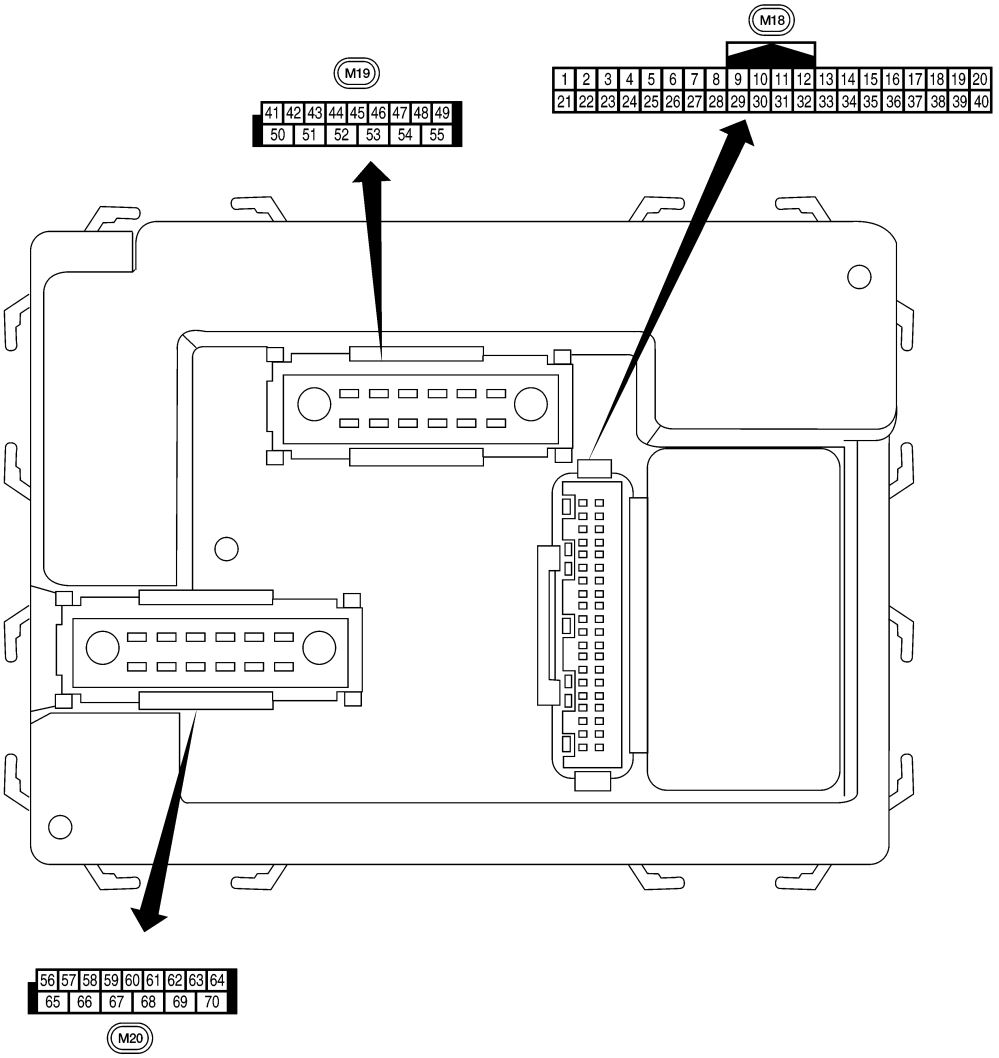
Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF or ON	Off
	Ignition switch ACC	On
AIR COND SW	A/C switch OFF	Off
	A/C switch ON	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS RR	Rear right tire air pressure value	kPa, kg/cm^2, psi
AUTO LIGHT SW	Lighting switch OFF	Off
	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

Monitor Item	Condition	Value/Status
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
FR WIPER LOW	Front wiper switch OFF	Off
	Front wiper switch LO	On
FR WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On
FR WIPER INT	Front wiper switch OFF	Off
	Front wiper switch INT	On
FR WIPER STOP	Any position other than front wiper stop position	Off
	Front wiper stop position	On
HAZARD SW	When hazard switch is not pressed	Off
	When hazard switch is pressed	On
HEAD LAMP SW 1	Headlamp switch OFF	Off
	Headlamp switch 1st	On
HEAD LAMP SW 2	Headlamp switch OFF	Off
	Headlamp switch 1st	On
HI BEAM SW	High beam switch OFF	Off
	High beam switch HI	On
ID REGST FL1	ID registration of front left tire incomplete	YET
	ID registration of front left tire complete	DONE
ID REGST FR1	ID registration of front right tire incomplete	YET
	ID registration of front right tire complete	DONE
ID REGST RL1	ID registration of rear left tire incomplete	YET
	ID registration of rear left tire complete	DONE
ID REGST RR1	ID registration of rear right tire incomplete	YET
	ID registration of rear right tire complete	DONE
IGN ON SW	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
IGN SW CAN	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
KEY CYL LK-SW	Door key cylinder LOCK position	Off
	Door key cylinder other than LOCK position	On
KEY CYL UN-SW	Door key cylinder UNLOCK position	Off
	Door key cylinder other than UNLOCK position	On
KEY ON SW	Mechanical key is removed from key cylinder	Off
	Mechanical key is inserted to key cylinder	On
KEYLESS LOCK	LOCK button of key fob is not pressed	Off
	LOCK button of key fob is pressed	On

Monitor Item	Condition	Value/Status
KEYLESS PANIC	PANIC button of key fob is not pressed	Off
	PANIC button of key fob is pressed	On
KEYLESS UNLOCK	UNLOCK button of key fob is not pressed	Off
	UNLOCK button of key fob is pressed	On
LIGHT SW 1ST	Lighting switch OFF	Off
	Lighting switch 1st	On
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

Terminal Layout

INFOID:0000000012848080



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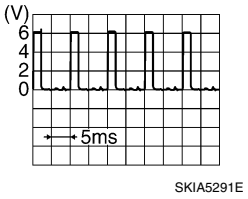
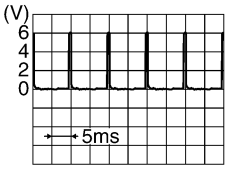
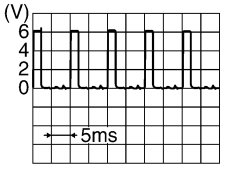
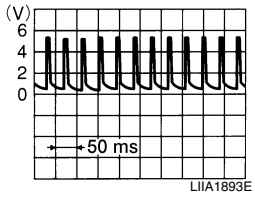
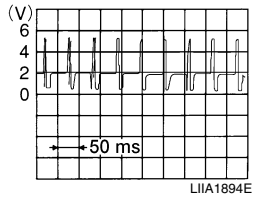
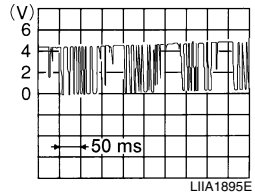
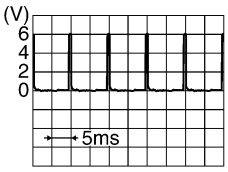
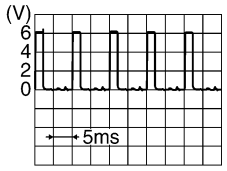
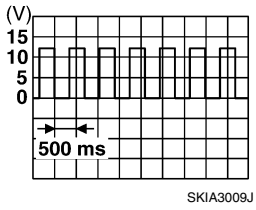
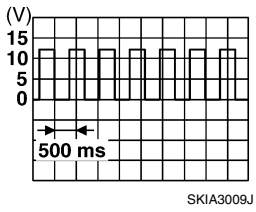
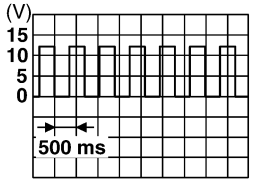
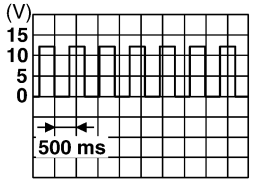
Physical Values

INFOID:0000000012848081

Terminal	Wire color	Item	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
1	BR	Ignition keyhole illumination	Output	OFF	Door is locked (SW OFF)	Battery voltage
					Door is unlocked (SW ON)	0V
2	P	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	SB	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	V	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	L	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	R	Combination switch input 1				
7	GR	Front door lock assembly LH (key cylinder switch) unlock	Input	OFF	ON (open, 2nd turn)	Momentary 1.5V
					OFF (closed)	0V
8	SB	Front door lock assembly LH (key cylinder switch) lock	Input		On (open)	Momentary 1.5V
					OFF (closed)	0V
9	LG	Brake sw	Input	OFF	OFF (brake pedal is not depressed)	0V
					ON (brake pedal is depressed)	Battery voltage
11	G/B	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	LG	Front door switch RH (All)	Input	OFF	ON (open)	0V
		Rear door switch upper RH (King Cab)			OFF (closed)	Battery voltage
		Rear door switch lower RH (King Cab)				

Terminal	Wire color	Item	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
13	L	Rear door switch RH (Crew Cab)	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
15	W	Tire pressure warning check connector	Input	OFF	—	5V
18	BR	Remote keyless entry receiver and optical sensor (Ground)	Output	OFF	—	0V
19	V	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	
20	G	Remote keyless entry receiver signal (Signal)	Input	OFF	Stand-by (keyfob buttons released)	
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	
21	GR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move.
23	G	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.
27	W	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
28	R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	G	Hazard switch	Input	OFF	ON	0V
					OFF	5V
31	GR	Cargo lamp switch	Input	OFF	ON	0V
					OFF	Battery voltage

Terminal	Wire color	Item	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
32	BG	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	GR	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	G	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
35	BR	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	LG	Combination switch output 1				
37	B	Key switch	Input	OFF	Key inserted	Battery voltage
					Key removed	0V
38	W/R	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN high	—	—	—	—
40	P	CAN low	—	—	—	—
41	Y	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
45	V	Lock switch	Input	OFF	ON (lock)	0V
					OFF	Battery voltage
46	LG	Unlock switch	Input	OFF	ON (unlock)	0V
					OFF	Battery voltage
47	GR	Front door switch LH (All)	Input	OFF	ON (open)	0V
		Rear door switch upper LH (King Cab)			OFF (closed)	Battery voltage
		Rear door switch lower LH (King Cab)				

Terminal	Wire color	Item	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
48	P	Rear door switch LH (Crew Cab)	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
50	P	Cargo lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage
51	BG	Trailer turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
52	LG	Trailer turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
56	R/Y	Battery saver output	Output	OFF	10 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	R/Y	Battery power supply	Input	—	—	Battery voltage
58	W	Optical sensor	Input	ON	When optical sensor is illuminated	3.1V or more
					When optical sensor is not illuminated	0.6V or less
59	GR	Front door lock assembly LH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	LG	Turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
61	G	Turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
63	BR	Interior room/map lamp	Output	OFF	Any door switch: ON (open)	0V
					Any door switch: OFF (closed)	Battery voltage
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage

Terminal	Wire color	Item	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
66	L	Front door lock actuator RH, rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
67	B	Ground	Input	ON	—	0V
68[1]	O	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
68[2]	SB	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	P	Power window power supply (BAT)	Output	OFF	—	Battery voltage
70	W	Battery power supply	Input	OFF	—	Battery voltage

1: King cab

2: Crew cab

Fail Safe

INFOID:0000000012848082

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:0000000012848083

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

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

DTC Index

INFOID:0000000012848084

NOTE:

Details of time display

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

CONSULT display	Fail-safe	Low tire pressure warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—
U1000: CAN COMM CIRCUIT	—	—	BCS-31
B2190: NATS ANTTENA AMP	—	—	SEC-18
B2191: DIFFERENCE OF KEY	—	—	SEC-21
B2192: ID DISCORD BCM-ECM	—	—	SEC-22
B2193: CHAIN OF BCM-ECM	—	—	SEC-24
C1708: [NO DATA] FL	—	X	WT-15
C1709: [NO DATA] FR	—	X	WT-15
C1710: [NO DATA] RR	—	X	WT-15
C1711: [NO DATA] RL	—	X	WT-15
C1712: [CHECKSUM ERR] FL	—	X	WT-17
C1713: [CHECKSUM ERR] FR	—	X	WT-17
C1714: [CHECKSUM ERR] RR	—	X	WT-17
C1715: [CHECKSUM ERR] RL	—	X	WT-17

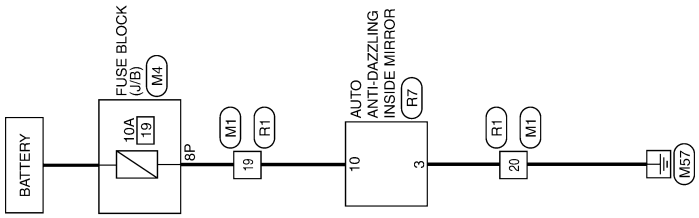
CONSULT display	Fail-safe	Low tire pressure warning lamp ON	Reference page
C1716: [PRESSDATA ERR] FL	—	X	WT-19
C1717: [PRESSDATA ERR] FR	—	X	WT-19
C1718: [PRESSDATA ERR] RR	—	X	WT-19
C1719: [PRESSDATA ERR] RL	—	X	WT-19
C1720: [CODE ERR] FL	—	X	WT-17
C1721: [CODE ERR] FR	—	X	WT-17
C1722: [CODE ERR] RR	—	X	WT-17
C1723: [CODE ERR] RL	—	X	WT-17
C1724: [BATT VOLT LOW] FL	—	X	WT-17
C1725: [BATT VOLT LOW] FR	—	X	WT-17
C1726: [BATT VOLT LOW] RR	—	X	WT-17
C1727: [BATT VOLT LOW] RL	—	X	WT-17
C1729: VHCL SPEED SIG ERR	—	X	WT-21
C1735: IGNITION SIGNAL	—	X	WT-22

WIRING DIAGRAM

INTEGRATED HOMELINK TRANSMITTER

Wiring Diagram

INFOID:0000000012563967



INTEGRATED HOMELINK TRANSMITTER

AWKWA0054GB

INTEGRATED HOMELINK TRANSMITTER CONNECTORS

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
19	R/Y	–
20	B	–

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

H.S.

7P	6P	5P	4P		3P	2P	1P
16P	15P	14P	13P	12P	11P	10P	9P	8P

Terminal No.	Color of Wire	Signal Name
8P	R/Y	–

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

Terminal No.	Color of Wire	Signal Name
19	R/Y	–
20	B	–

Connector No.	R7
Connector Name	AUTO ANTI-DAZZLING INSIDE MIRROR (WITH HOMELINK UNIVERSAL TRANSCEIVER)
Connector Color	BLACK

H.S.

5	4	3	2	1
10	9	8	7	6

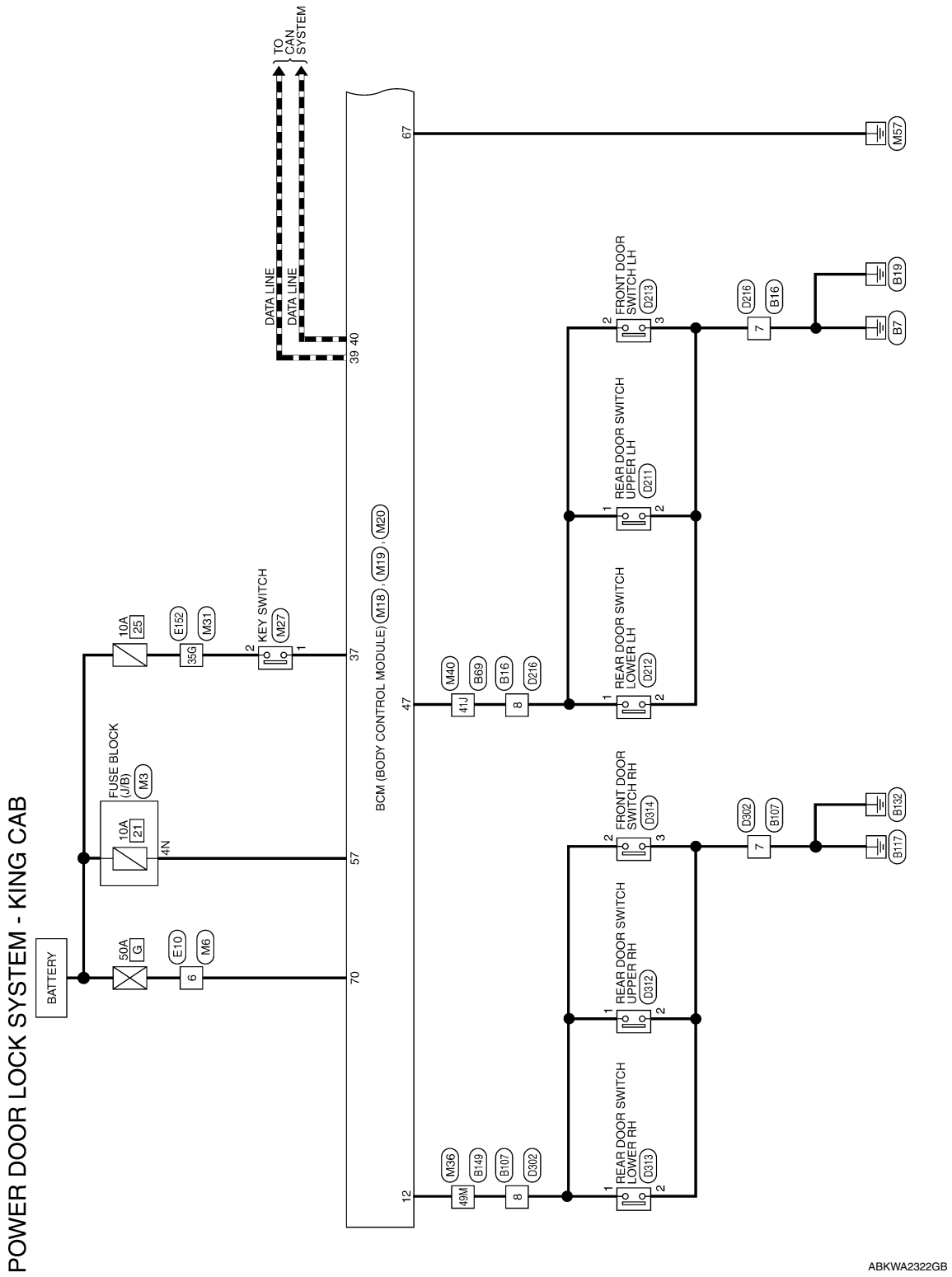
Terminal No.	Color of Wire	Signal Name
3	B	–
10	R/Y	–

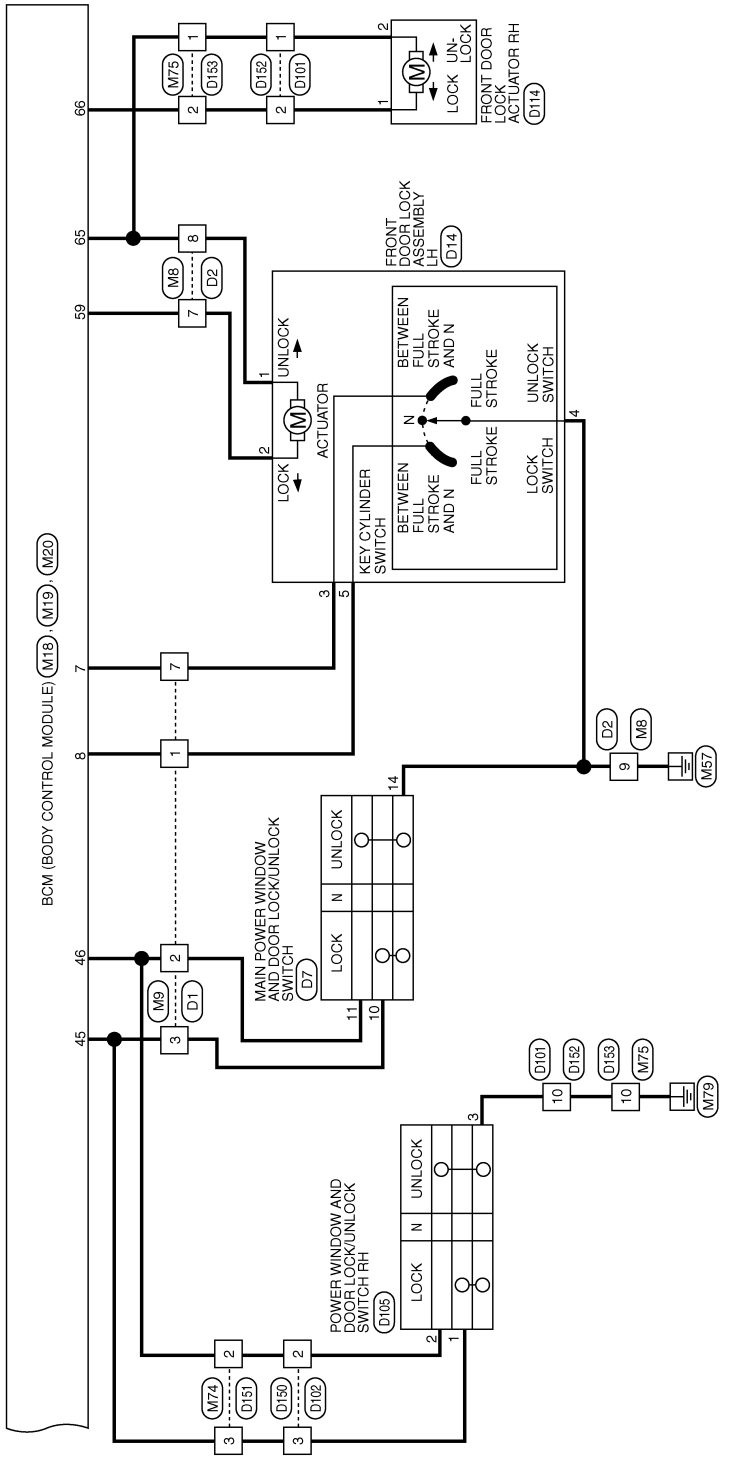
ABKIA4346GB

POWER DOOR LOCK SYSTEM

Wiring Diagram - King Cab

INFOID:0000000012563968





ABKWA2687GB

POWER DOOR LOCK SYSTEM CONNECTORS - KING CAB

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

H.S.

3N		2N	1N
6N	7N	6N	5N	4N

Terminal No.	Color of Wire	Signal Name
4N	R/Y	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

3	2	1
6	5	4

Terminal No.	Color of Wire	Signal Name
6	W	–

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

H.S.

5	4		3	2	1
12	11	10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
7	GR	–
8	V	–
9	B	–

Connector No.	M9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

6	5	4	3	2	1
12	11	10	9	8	7

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	LG	–
3	V	–
7	GR	–

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	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
7	GR	KEY CYLINDER UNLOCK SW
8	SB	KEY CYLINDER LOCK SW
12	LG	DOOR SW (AS)
37	B	KEY SW
39	L	CAN-H
40	P	CAN-L

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

H.S.

41	42	43	44	45	46	47	48	49
50	51	52	53	54	55

Terminal No.	Color of Wire	Signal Name
45	V	CDL LOCK SW
46	LG	CDL UNLOCK SW
47	GR	DOOR SW (DR)

ABKIA6153GB

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

H.S.

56	57	58	59	60	61	62	63	64
65	66	67	68	69	70			

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

Connector No.	M27
Connector Name	KEY SWITCH
Connector Color	WHITE

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	B	–
2	Y	–

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

H.S.

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	33G	34G	35G	36G	37G	38G	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	81G
82G	83G	84G	85G	86G	87G	88G	89G	90G		
91G	92G	93G	94G	95G						
96G	97G	98G	99G	100G						

Terminal No.	Color of Wire	Signal Name
35G	Y	–

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

H.S.

1M	2M	3M	4M	5M
6M	7M	8M	9M	10M

11M	12M	13M	14M	15M	16M	17M	18M	19M	20M	21M
22M	23M	24M	25M	26M	27M	28M	29M	30M		
31M	32M	33M	34M	35M	36M	37M	38M	39M	40M	41M
42M	43M	44M	45M	46M	47M	48M	49M	50M		
51M	52M	53M	54M	55M	56M	57M	58M	59M	60M	61M
62M	63M	64M	65M	66M	67M	68M	69M	70M		
71M	72M	73M	74M	75M	76M	77M	78M	79M	80M	81M
82M	83M	84M	85M	86M	87M	88M	89M	90M		
91M	92M	93M	94M	95M						
96M	97M	98M	99M	100M						

Terminal No.	Color of Wire	Signal Name
49M	LG	–

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

H.S.

1J	2J	3J	4J	5J
6J	7J	8J	9J	10J

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		
71J	72J	73J	74J	75J	76J	77J	78J	79J	80J	81J
82J	83J	84J	85J	86J	87J	88J	89J	90J		
91J	92J	93J	94J	95J						
96J	97J	98J	99J	100J						

Terminal No.	Color of Wire	Signal Name
41J	GR	–

ABKIA6154GB

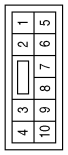
Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
6	W	–

Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE

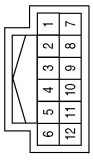
H.S.



Terminal No.	Color of Wire	Signal Name
1	V	–
2	L	–
10	B	–

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE

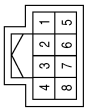
H.S.



Terminal No.	Color of Wire	Signal Name
2	LG	–
3	P	–

Connector No.	B16
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

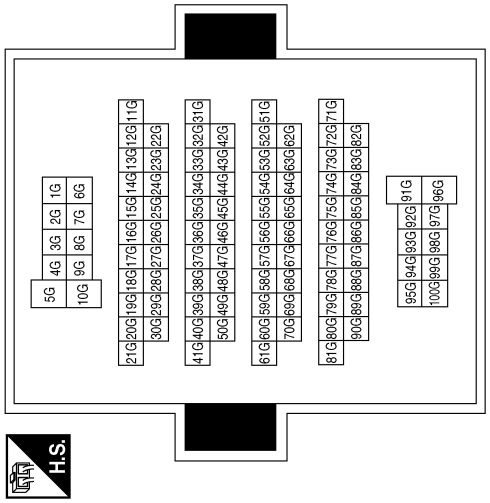


Terminal No.	Color of Wire	Signal Name
7	B	–
8	GR	–

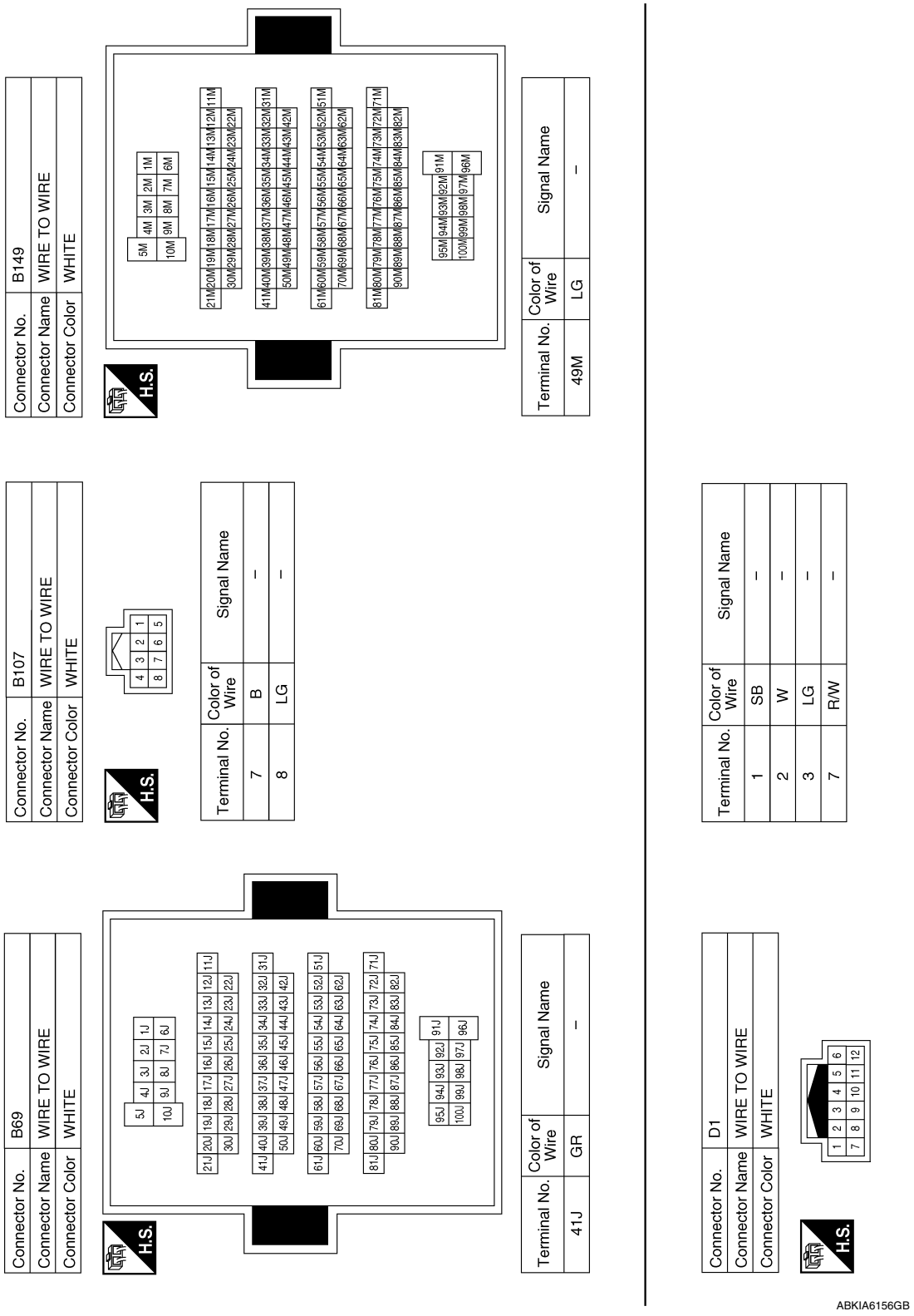
Terminal No.	Color of Wire	Signal Name
35G	Y	–

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

H.S.



ABKIA6155GB



ABKIA6156GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	V	–
2	G	–
3	R/W	–
4	B	–
5	SB	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	LG	–
2	W	–
3	B	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
10	LG	–
11	W	–
14	B	–

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	W	–
3	LG	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
7	G	–
8	V	–
9	B	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	V	–
2	G/Y	–
10	B	–

ABKIA6157GB

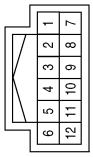
Connector No.	D114
Connector Name	FRONT DOOR LOCK ACTUATOR RH
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	G/Y	–
2	V	–

Connector No.	D150
Connector Name	WIRE TO WIRE
Connector Color	WHITE

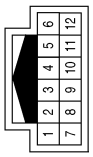
H.S.



Terminal No.	Color of Wire	Signal Name
2	LG	– (WITH KING CAB)
3	P	– (WITH KING CAB)

Connector No.	D151
Connector Name	WIRE TO WIRE
Connector Color	WHITE

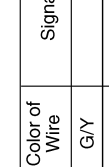
H.S.



Terminal No.	Color of Wire	Signal Name
2	LG	– (WITH KING CAB)
3	P	– (WITH KING CAB)

Connector No.	D152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

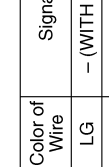
H.S.



Terminal No.	Color of Wire	Signal Name
1	V	–
2	L	–
10	B	–

Connector No.	D153
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	V	–
2	L	–
10	B	–

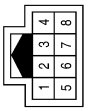
Connector No.	D211
Connector Name	REAR DOOR SWITCH UPPER LH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	B	–

ABKIA6158GB

Connector No.	D216
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	B	–
8	LG	–

Connector No.	D213
Connector Name	FRONT DOOR SWITCH LH (KING CAB)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
2	LG	–
3	B	–

Connector No.	D212
Connector Name	REAR DOOR SWITCH LOWER LH
Connector Color	BLACK

Terminal No.	Color of Wire	Signal Name
1	L	–
2	B	–

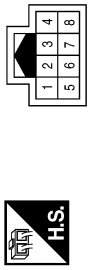
Connector No.	D313
Connector Name	REAR DOOR SWITCH LOWER RH
Connector Color	BLACK

Terminal No.	Color of Wire	Signal Name
1	L	–
2	B	–

Connector No.	D312
Connector Name	REAR DOOR SWITCH UPPER RH
Connector Color	BLACK

Terminal No.	Color of Wire	Signal Name
1	L	–
2	B	–

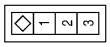
Connector No.	D302
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	B	–
8	LG	–

ABKIA5168GB

Connector No.	D314
Connector Name	FRONT DOOR SWITCH RH (KING CAB)
Connector Color	WHITE

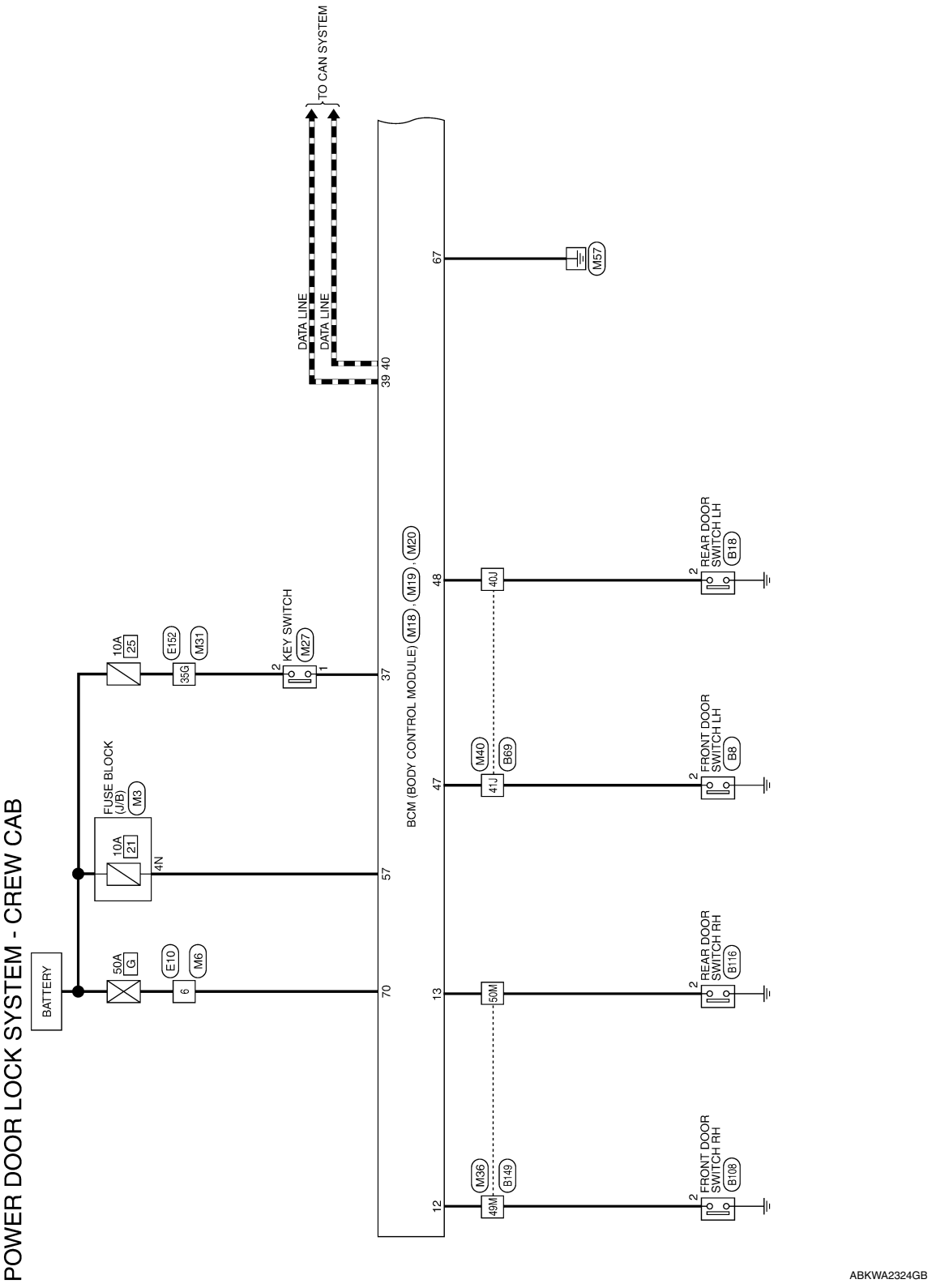


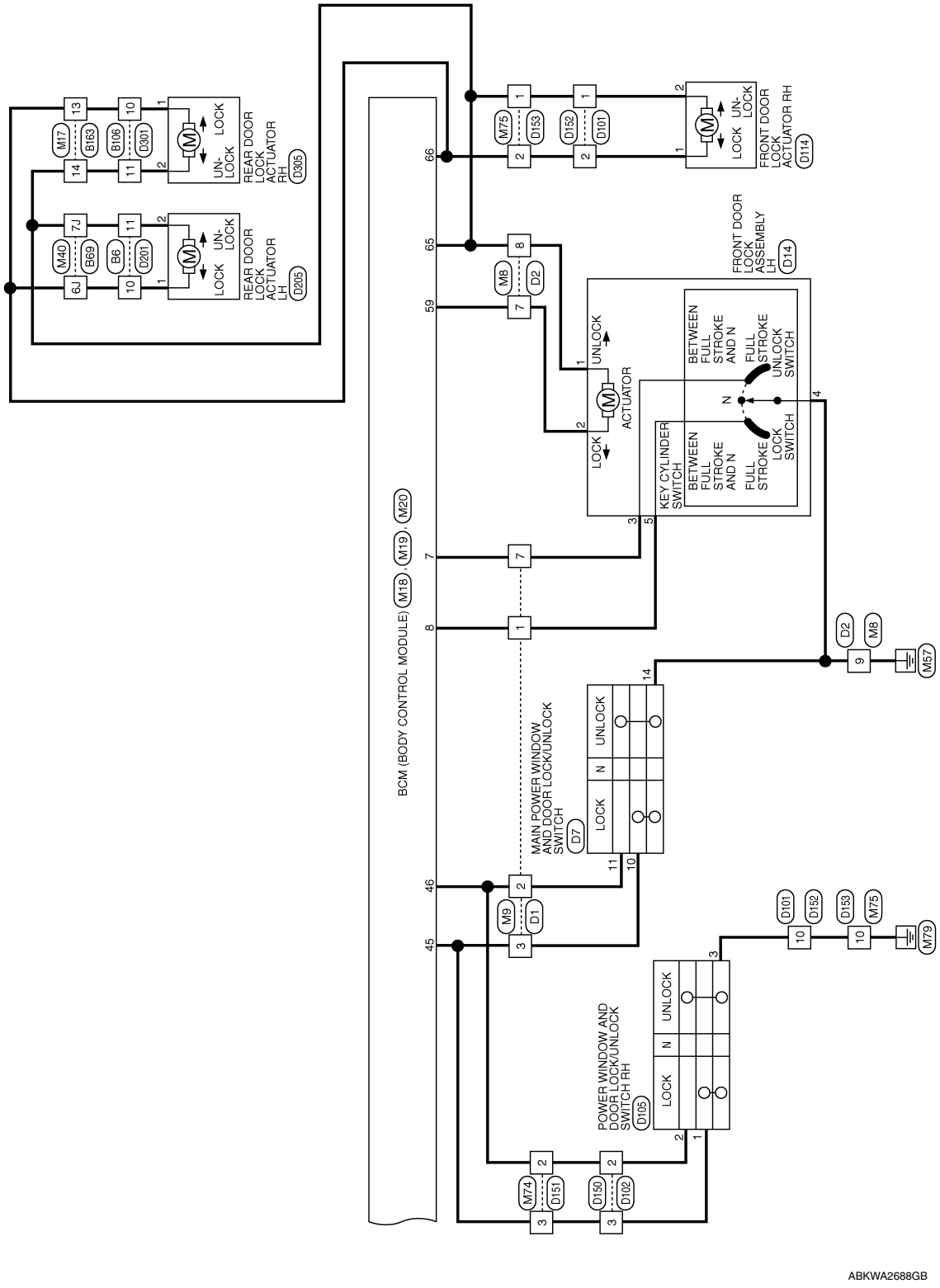
Terminal No.	Color of Wire	Signal Name
2	LG	–
3	B	–

ABKIA5169GB

Wiring Diagram - Crew Cab

INFOID:0000000012563969




BCM (BODY CONTROL MODULE) M18, M19, M20
REAR DOOR LOCK ACTUATOR RH D305
REAR DOOR LOCK ACTUATOR LH D205
FRONT DOOR LOCK ACTUATOR RH D114
FRONT DOOR LOCK ASSEMBLY LH D14
KEY CYLINDER SWITCH
BETWEEN FULL STROKE AND N
FULL STROKE UNLOCK SWITCH
FULL STROKE LOCK SWITCH
ACTUATOR
MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH D7
POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH D105
UNLOCK
N
LOCK
M57
M79
ABKWA2688GB

POWER DOOR LOCK SYSTEM CONNECTORS - CREW CAB

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

H.S.

3N	2N	1N
8N	7N	6N	5N	4N

Terminal No.	Color of Wire	Signal Name
4N	R/Y	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

3	2	1
6	5	4

Terminal No.	Color of Wire	Signal Name
6	W	–

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

H.S.

5	4	3	2	1
12	11	10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
7	GR	–
8	V	–
9	B	–

Connector No.	M9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

6	5	4	3	2	1
12	11	10	9	8	7

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	LG	–
3	V	–
7	GR	–

Connector No.	M17
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

7	6	5	4	3	2	1
16	15	14	13	12	11	10	9	8

Terminal No.	Color of Wire	Signal Name
13	SB	–
14	V	–

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	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
7	GR	KEY CYLINDER UNLOCK SW
8	SB	KEY CYLINDER LOCK SW
12	LG	DOOR SW (AS)
13	L	DOOR SW (RR)
37	B	KEY SW
39	L	CAN-H
40	P	CAN-L

ABKIA6159GB

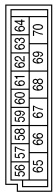
Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
45	V	CDL LOCK SW
46	LG	CDL UNLOCK SW
47	GR	DOOR SW (DR)
48	P	DOOR SW (RL)

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

H.S.



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

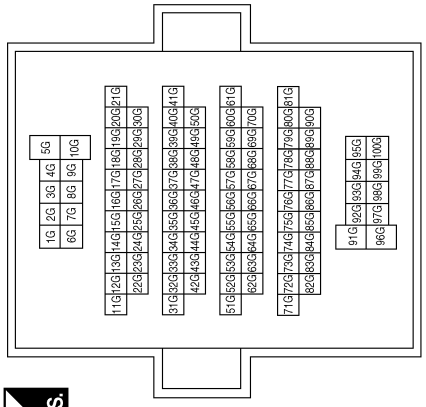
Connector No.	M27
Connector Name	KEY SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	Y	–

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

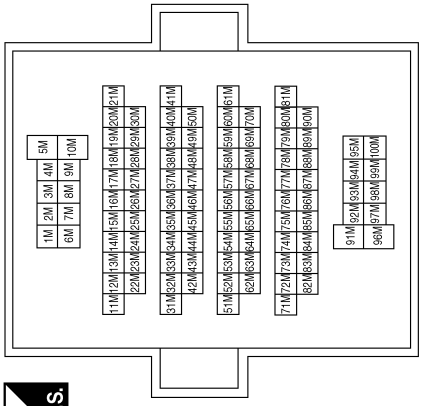
H.S.



Terminal No.	Color of Wire	Signal Name
35G	Y	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
49M	LG	–
50M	L	–

ABKIA6160GB

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

6	5	4	3	2	1
12	11	10	9	8	7

Terminal No.	Color of Wire	Signal Name
2	LG	–
3	P	–

Terminal No.	Color of Wire	Signal Name
6J	L	–
7J	V	–
40J	P	–
41J	GR	–

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6

Terminal No.	Color of Wire	Signal Name
6	W	–

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

H.S.

1J	2J	3J	4J	5J
6J	7J	8J	9J	10J

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	
71J	72J	73J	74J	75J	76J	77J	78J	79J	80J	81J
	82J	83J	84J	85J	86J	87J	88J	89J	90J	
91J	92J	93J	94J	95J						
	96J	97J	98J	99J	100J					

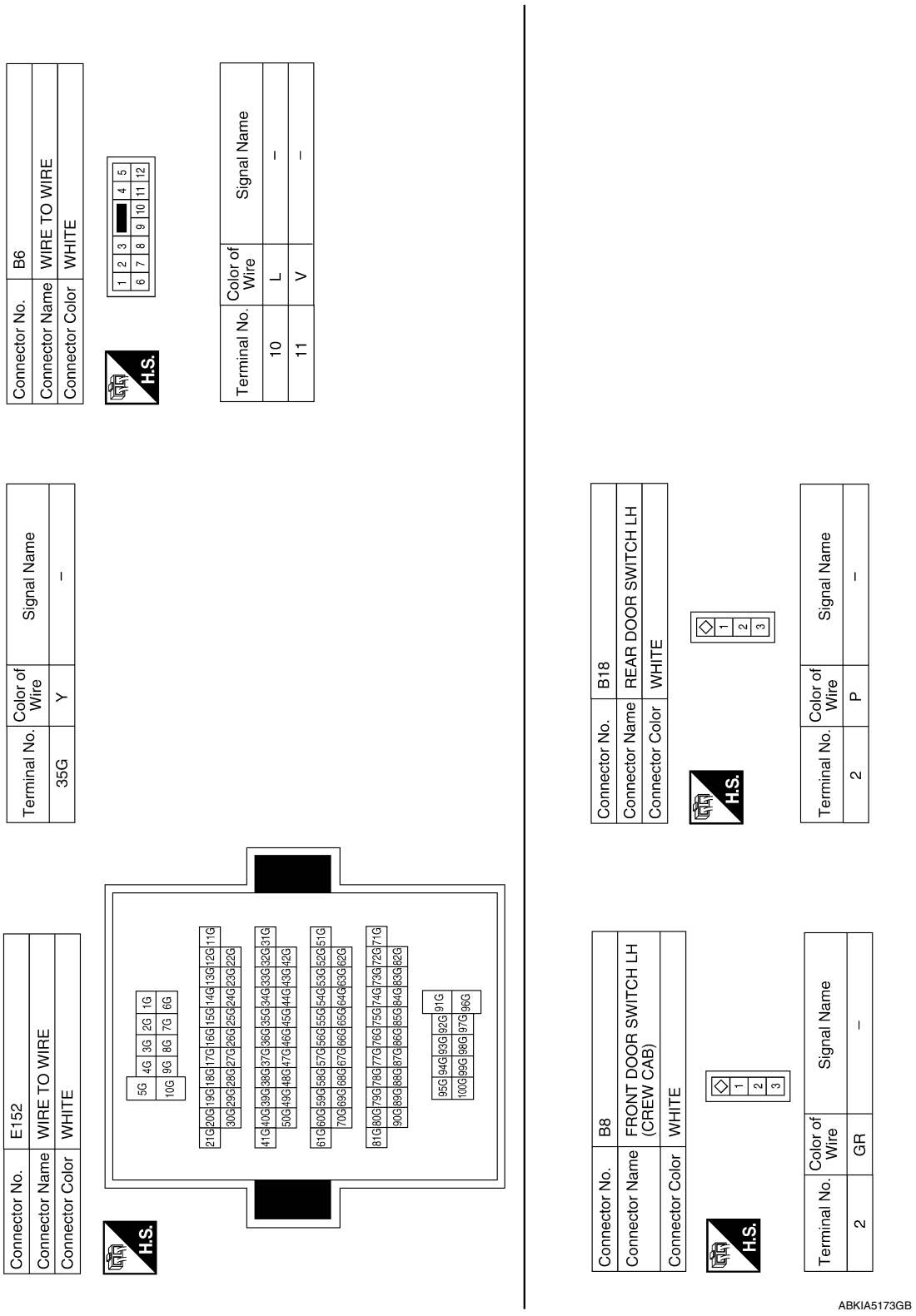
Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE

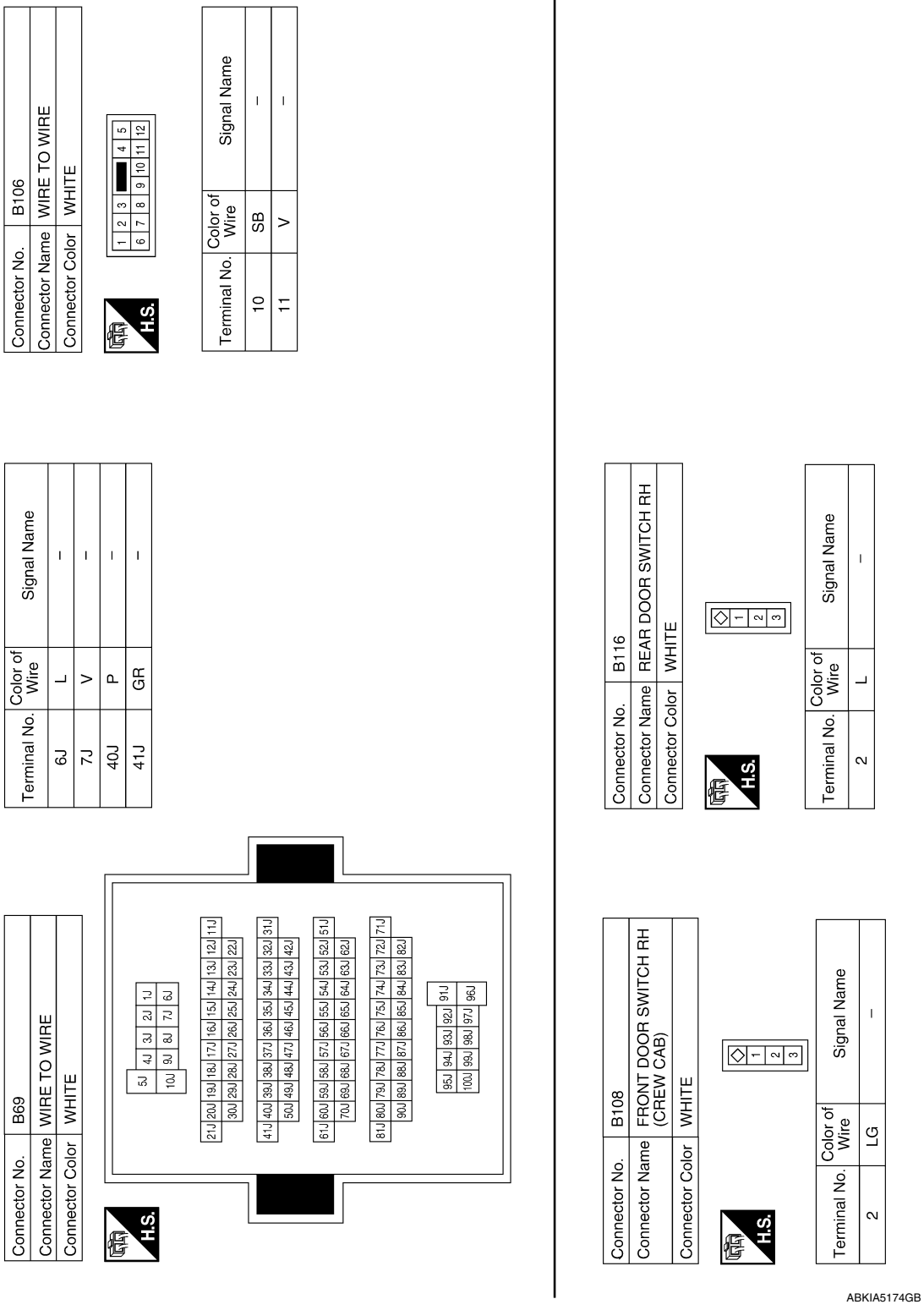
H.S.

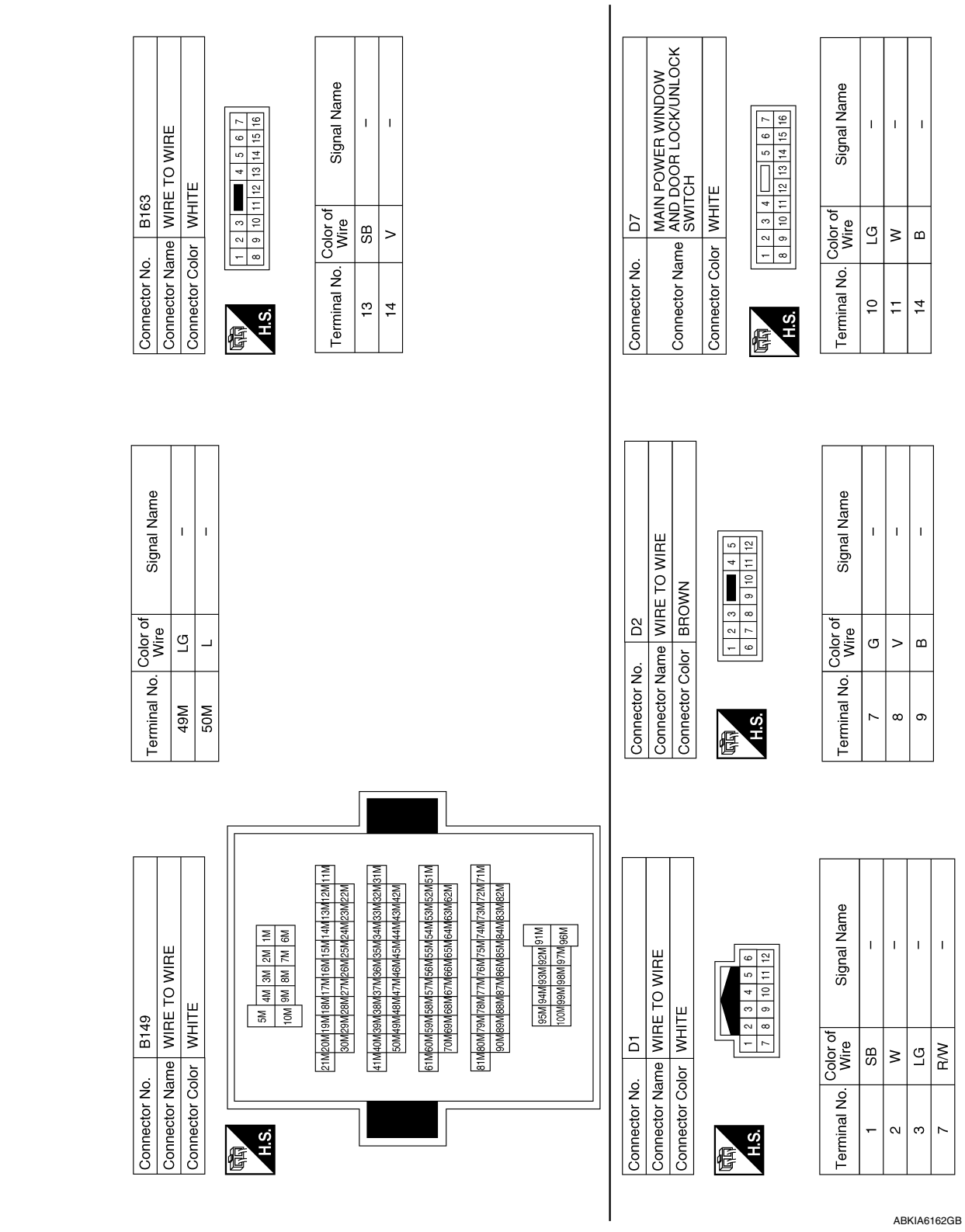
4	3		2	1
10	9	8	7	6	5

Terminal No.	Color of Wire	Signal Name
1	V	–
2	L	–
10	B	–

ABKIA6161GB


Connector No. B6
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1 2 3 4 5
6 7 8 9 10 11 12
Terminal No. Color of Wire Signal Name
10 L –
11 V –
Terminal No. Color of Wire Signal Name
35G Y –
Connector No. E152
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
5G 4G 3G 2G 1G
10G 9G 8G 7G 6G
21G 20G 19G 18G 17G 16G 15G 14G 13G 12G 11G
30G 29G 28G 27G 26G 25G 24G 23G 22G
41G 40G 39G 38G 37G 36G 35G 34G 33G 32G 31G
50G 49G 48G 47G 46G 45G 44G 43G 42G
61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G
70G 69G 68G 67G 66G 65G 64G 63G 62G
81G 80G 79G 78G 77G 76G 75G 74G 73G 72G 71G
90G 89G 88G 87G 86G 85G 84G 83G 82G
95G 94G 93G 92G 91G
100G 99G 98G 97G 96G
Connector No. B18
Connector Name REAR DOOR SWITCH LH
Connector Color WHITE
H.S.
1 2 3
Terminal No. Color of Wire Signal Name
2 P –
Connector No. B8
Connector Name FRONT DOOR SWITCH LH (CREW CAB)
Connector Color WHITE
H.S.
1 2 3
Terminal No. Color of Wire Signal Name
2 GR –
ABKIA5173GB


Connector No. B69
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
6J L –
7J V –
40J P –
41J GR –
Connector No. B106
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
10 SB –
11 V –
Connector No. B116
Connector Name REAR DOOR SWITCH RH
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 L –
Connector No. B108
Connector Name FRONT DOOR SWITCH RH (CREW CAB)
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 LG –
ABKIA5174GB


Connector No. B149
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
5M 4M 3M 2M 1M
10M 9M 8M 7M 6M
21M 20M 19M 18M 17M 16M 15M 14M 13M 12M 11M
30M 29M 28M 27M 26M 25M 24M 23M 22M
41M 40M 39M 38M 37M 36M 35M 34M 33M 32M 31M
50M 49M 48M 47M 46M 45M 44M 43M 42M
61M 60M 59M 58M 57M 56M 55M 54M 53M 52M 51M
70M 69M 68M 67M 66M 65M 64M 63M 62M
81M 80M 79M 78M 77M 76M 75M 74M 73M 72M 71M
90M 89M 88M 87M 86M 85M 84M 83M 82M
95M 94M 93M 92M 91M
100M 99M 98M 97M 96M
Terminal No. Color of Wire Signal Name
49M LG –
50M L –
Connector No. B163
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1 2 3 4 5 6 7
8 9 10 11 12 13 14 15 16
Terminal No. Color of Wire Signal Name
13 SB –
14 V –
Connector No. D1
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1 2 3 4 5 6
7 8 9 10 11 12
Terminal No. Color of Wire Signal Name
1 SB –
2 W –
3 LG –
7 R/W –
Connector No. D2
Connector Name WIRE TO WIRE
Connector Color BROWN
H.S.
1 2 3 4 5
6 7 8 9 10 11 12
Terminal No. Color of Wire Signal Name
7 G –
8 V –
9 B –
Connector No. D7
Connector Name MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
Connector Color WHITE
H.S.
1 2 3 4 5 6 7
8 9 10 11 12 13 14 15 16
Terminal No. Color of Wire Signal Name
10 LG –
11 W –
14 B –
ABKIA6162GB

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

H.S.

6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	V	–
2	G	–
3	R/W	–
4	B	–
5	SB	–

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

H.S.

1	2	3	4
5	6	7	8	9	10
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Terminal No.	Color of Wire	Signal Name
1	V	–
2	G/Y	–
10	B	–

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6
7	8	9	10	11	12

Terminal No.	Color of Wire	Signal Name
2	W	–
3	LG	–

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

H.S.

1	2	3	4	5
6	7	8	9	10	11	12
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Terminal No.	Color of Wire	Signal Name
1	LG	–
2	W	–
3	B	–

Connector No.	D114
Connector Name	FRONT DOOR LOCK ACTUATOR RH
Connector Color	GRAY

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	G/Y	–
2	V	–

Connector No.	D150
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

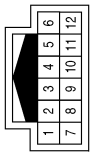
6	5	4	3	2	1
12	11	10	9	8	7

Terminal No.	Color of Wire	Signal Name
2	P	– (WITH CREW CAB)
3	W	– (WITH CREW CAB)

ABKIA6163GB

Connector No.	D151
Connector Name	WIRE TO WIRE
Connector Color	WHITE

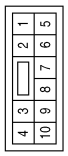
H.S.



Terminal No.	Color of Wire	Signal Name
2	P	– (WITH CREW CAB)
3	W	– (WITH CREW CAB)

Connector No.	D152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

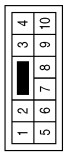
H.S.



Terminal No.	Color of Wire	Signal Name
1	V	–
2	L	–
10	B	–

Connector No.	D153
Connector Name	WIRE TO WIRE
Connector Color	WHITE

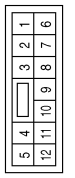
H.S.



Terminal No.	Color of Wire	Signal Name
1	V	–
2	L	–
10	B	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
10	G	–
11	V	–

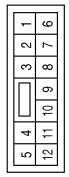
Connector No.	D205
Connector Name	REAR DOOR LOCK ACTUATOR LH
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	V	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
10	G	–
11	V	–

ABKIA6164GB

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

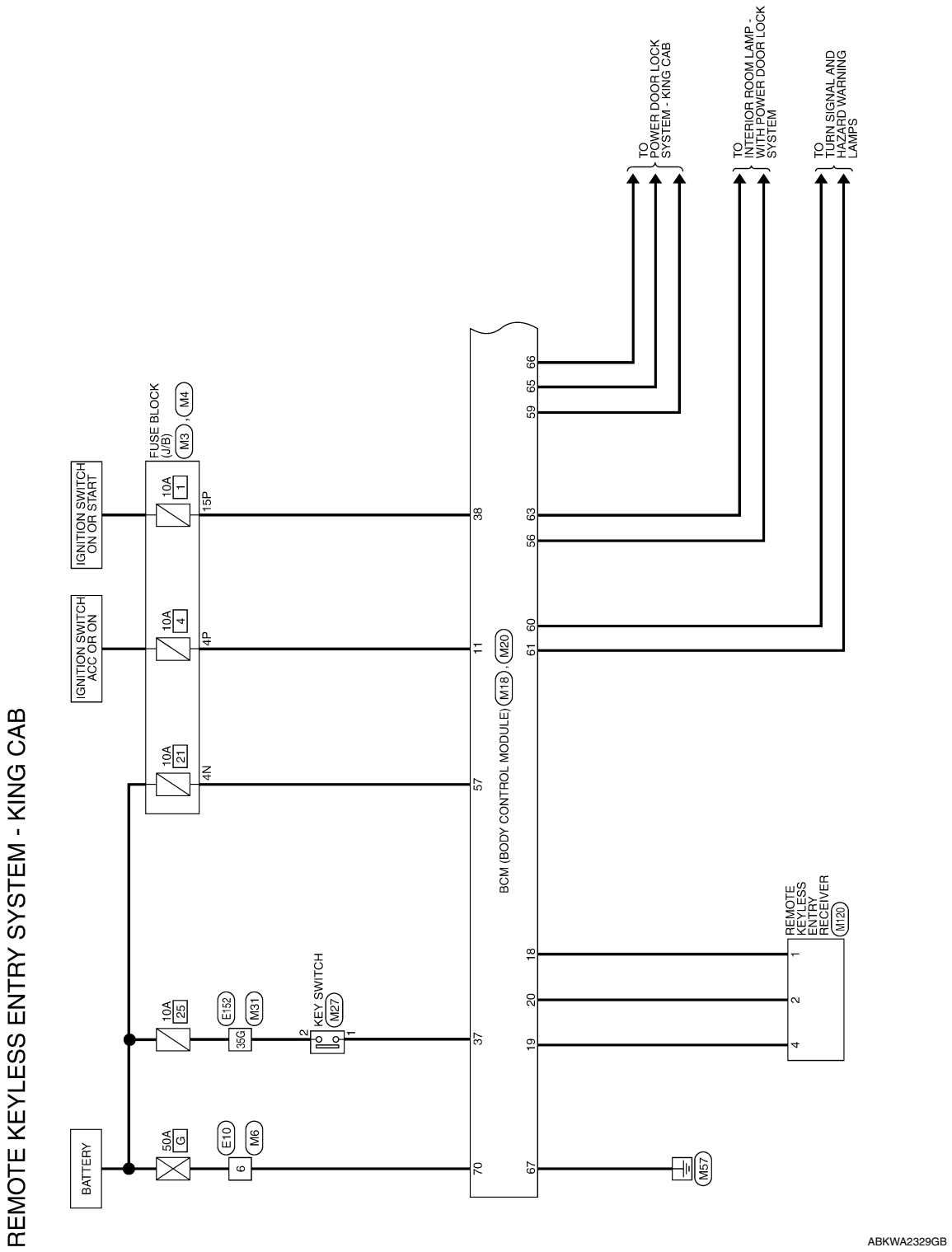
Terminal No.	Color of Wire	Signal Name
1	G	–
2	V	–

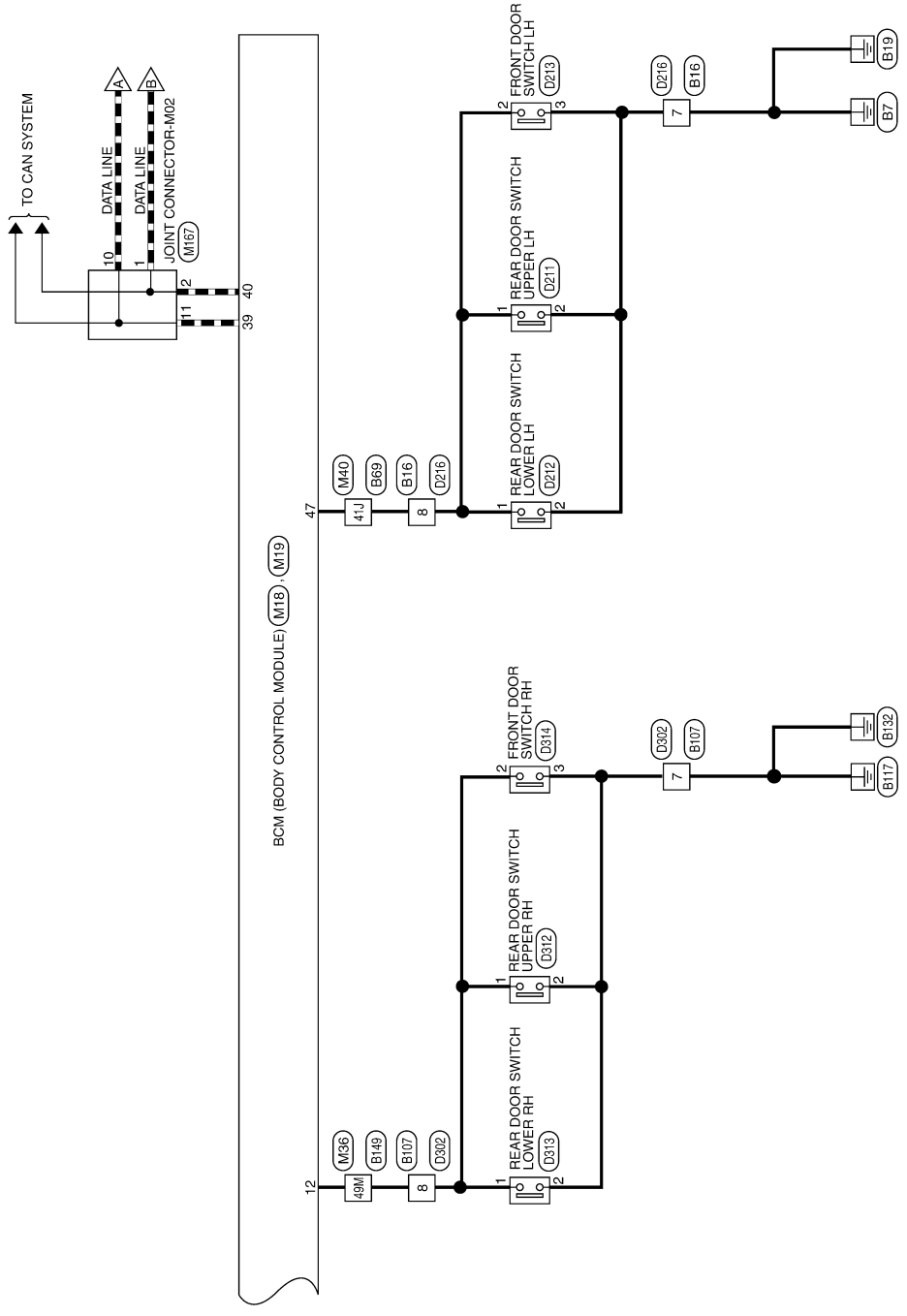
ABKIA6200GB

REMOTE KEYLESS ENTRY SYSTEM

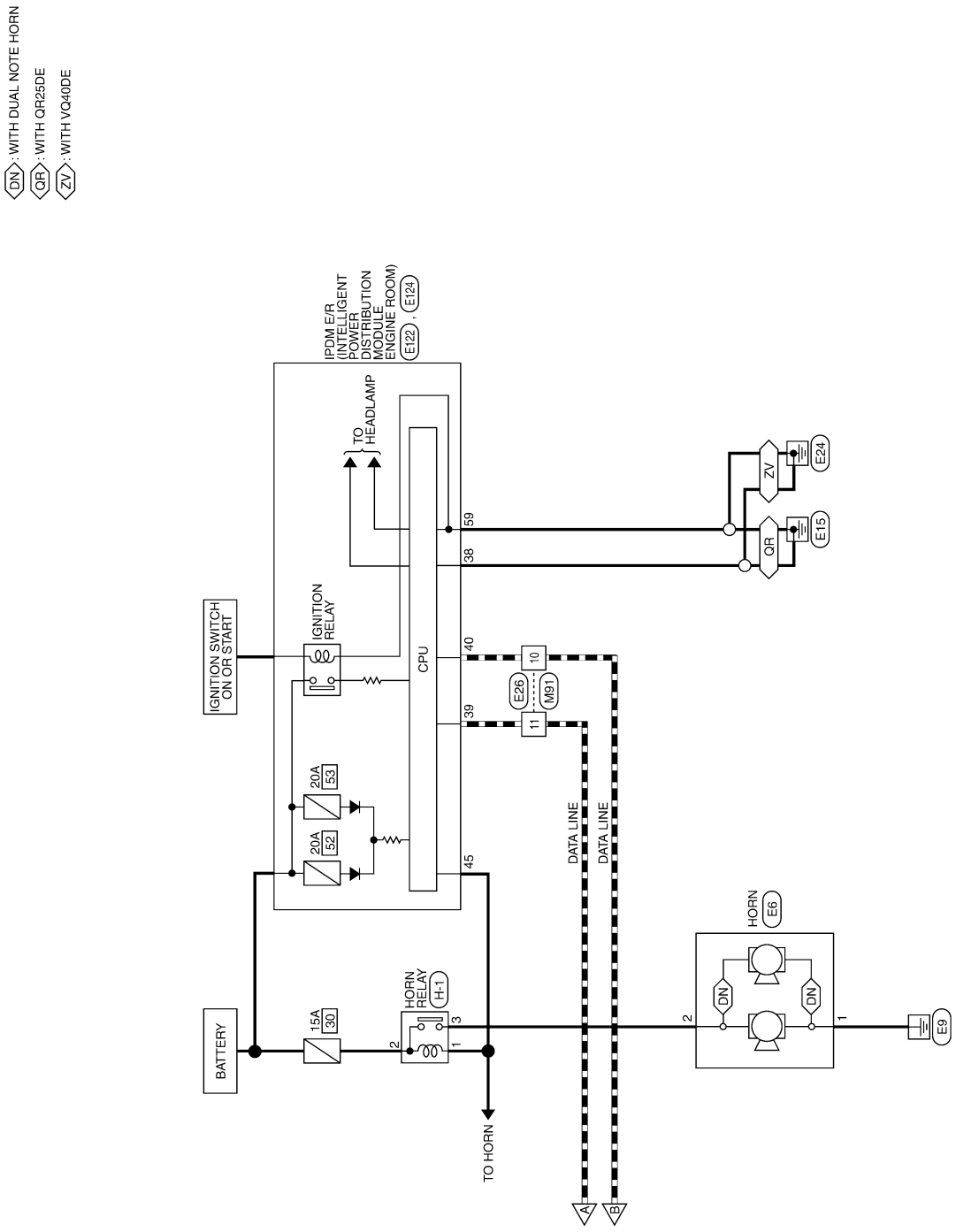
Wiring Diagram - King Cab

INFOID:0000000012563970





ABKWA2330GB



ABKWA1996GB

REMOTE KEYLESS ENTRY SYSTEM CONNECTORS - KING CAB

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

H.S.

3N		2N	1N
8N	7N	6N	5N	4N

Terminal No.	Color of Wire	Signal Name
4N	R/Y	–

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

H.S.

7P	6P	5P	4P		3P	2P	1P
16P	15P	14P	13P	12P	11P	10P	9P	8P

Terminal No.	Color of Wire	Signal Name
4P	G/B	–
15P	W/R	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

3	2	1
6	5	4

Terminal No.	Color of Wire	Signal Name
6	W	–

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	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
11	G/B	ACC SW
12	LG	DOOR SW (AS)
18	BR	KEYLESS & AUTO LIGHT SENSOR GND
19	V	KEYLESS TUNER POWER SUPPLY OUTPUT
20	G	KEYLESS TUNER SIGNAL
37	B	KEY SW
38	W/R	IGN SW
39	L	CAN-H
40	P	CAN-L

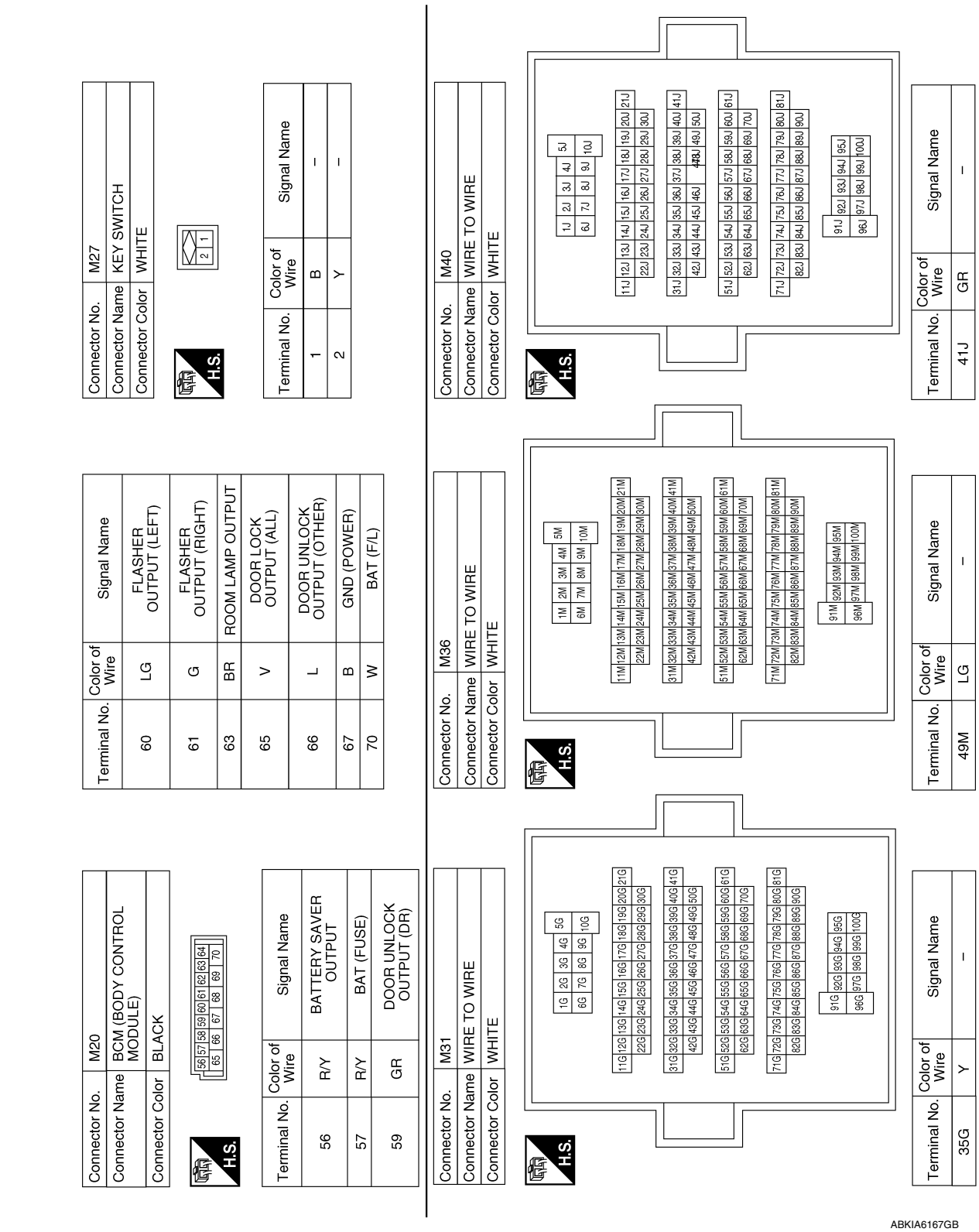
Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

41	42	43	44	45	46	47	48	49
50	51	52	53	54	55			

Terminal No.	Color of Wire	Signal Name
47	GR	DOOR SW (DR)

ABKIA6166GB


Connector No. M20
Connector Name BCM (BODY CONTROL MODULE)
Connector Color BLACK
H.S.
56 57 58 59 60 61 62 63 64
65 66 67 68 69 70
Terminal No. Color of Wire Signal Name
56 R/Y BATTERY SAVER OUTPUT
57 R/Y BAT (FUSE)
59 GR DOOR UNLOCK OUTPUT (DR)
60 LG FLASHER OUTPUT (LEFT)
61 G FLASHER OUTPUT (RIGHT)
63 BR ROOM LAMP OUTPUT
65 V DOOR LOCK OUTPUT (ALL)
66 L DOOR UNLOCK OUTPUT (OTHER)
67 B GND (POWER)
70 W BAT (F/L)
Connector No. M27
Connector Name KEY SWITCH
Connector Color WHITE
H.S.
2 1
Terminal No. Color of Wire Signal Name
1 B –
2 Y –
Connector No. M31
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
35G Y –
Connector No. M36
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
49M LG –
Connector No. M40
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
41J GR –
ABKIA6167GB

Connector No.	M167
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE

H.S.

9	8	7	6	5	4	3	2	1
20	19	18	17	16	15	14	13	12	11	10

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

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

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	BR	–
2	G	–
4	V	–

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

7	6	5	4	3	2	1
16	15	14	13	12	11	10	9	8

Terminal No.	Color of Wire	Signal Name
10	P	–
11	L	–

Connector No.	E26
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
10	P	–
11	L	–

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6

Terminal No.	Color of Wire	Signal Name
6	W	–

Connector No.	E6
Connector Name	HORN
Connector Color	BLACK

H.S.

1
2

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

ABKIA5188GB

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

H.S.

42	41	40	39	38	37
48	47	46	45	44	43

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

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

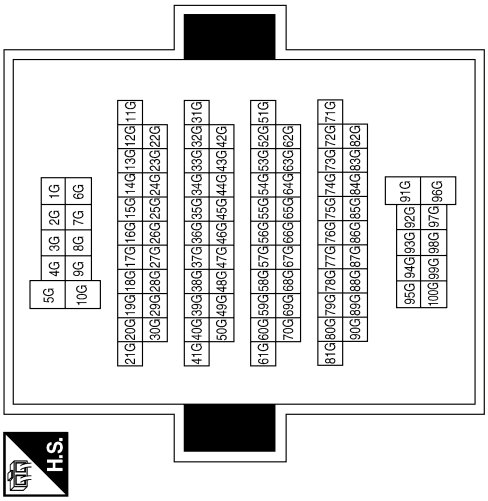
H.S.

59	58	57
62	61	60

Terminal No.	Color of Wire	Signal Name
59	B	GND (POWER)

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

H.S.



Terminal No.	Color of Wire	Signal Name
35G	Y	–

Connector No.	B16
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
7	B	–
8	GR	–

ABKIA5189GB

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

H.S.

5J	4J	3J	2J	1J
10J	9J	8J	7J	6J

21J	20J	19J	18J	17J	16J	15J	14J	13J	12J	11J
30J	29J	28J	27J	26J	25J	24J	23J	22J		

41J	40J	39J	38J	37J	36J	35J	34J	33J	32J	31J
50J	49J	48J	47J	46J	45J	44J	43J	42J		

61J	60J	59J	58J	57J	56J	55J	54J	53J	52J	51J
70J	69J	68J	67J	66J	65J	64J	63J	62J		

81J	80J	79J	78J	77J	76J	75J	74J	73J	72J	71J
90J	89J	88J	87J	86J	85J	84J	83J	82J		

95J	94J	93J	92J	91J
100J	99J	98J	97J	96J

Terminal No.	Color of Wire	Signal Name
41J	GR	–

Connector No.	D211
Connector Name	REAR DOOR SWITCH UPPER LH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	B	–

Connector No.	B107
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
7	B	–
8	LG	–

Connector No.	D212
Connector Name	REAR DOOR SWITCH LOWER LH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	B	–

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

H.S.

5M	4M	3M	2M	1M
10M	9M	8M	7M	6M

21M	20M	19M	18M	17M	16M	15M	14M	13M	12M	11M
30M	29M	28M	27M	26M	25M	24M	23M	22M		

41M	40M	39M	38M	37M	36M	35M	34M	33M	32M	31M
50M	49M	48M	47M	46M	45M	44M	43M	42M		

61M	60M	59M	58M	57M	56M	55M	54M	53M	52M	51M
70M	69M	68M	67M	66M	65M	64M	63M	62M		

81M	80M	79M	78M	77M	76M	75M	74M	73M	72M	71M
90M	89M	88M	87M	86M	85M	84M	83M	82M		

95M	94M	93M	92M	91M
100M	99M	98M	97M	96M

Terminal No.	Color of Wire	Signal Name
49M	LG	–

Connector No.	D213
Connector Name	FRONT DOOR SWITCH LH (KING CAB)
Connector Color	WHITE

H.S.

1
2
3

Terminal No.	Color of Wire	Signal Name
2	LG	–
3	B	–

ABKIA5190GB

Connector No.	D216
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
7	B	–
8	LG	–

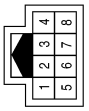
Connector No.	D313
Connector Name	REAR DOOR SWITCH LOWER RH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	B	–

Connector No.	D302
Connector Name	WIRE TO WIRE
Connector Color	WHITE

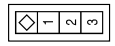
H.S.



Terminal No.	Color of Wire	Signal Name
7	B	–
8	LG	–

Connector No.	D314
Connector Name	FRONT DOOR SWITCH RH (KING CAB)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2	LG	–
3	B	–

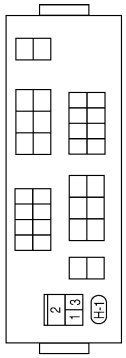
Connector No.	D312
Connector Name	REAR DOOR SWITCH UPPER RH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	B	–

Connector No.	H-1
Connector Name	FUSE AND FUSIBLE LINK BOX (HORN RELAY)
Connector Color	–

T.S.

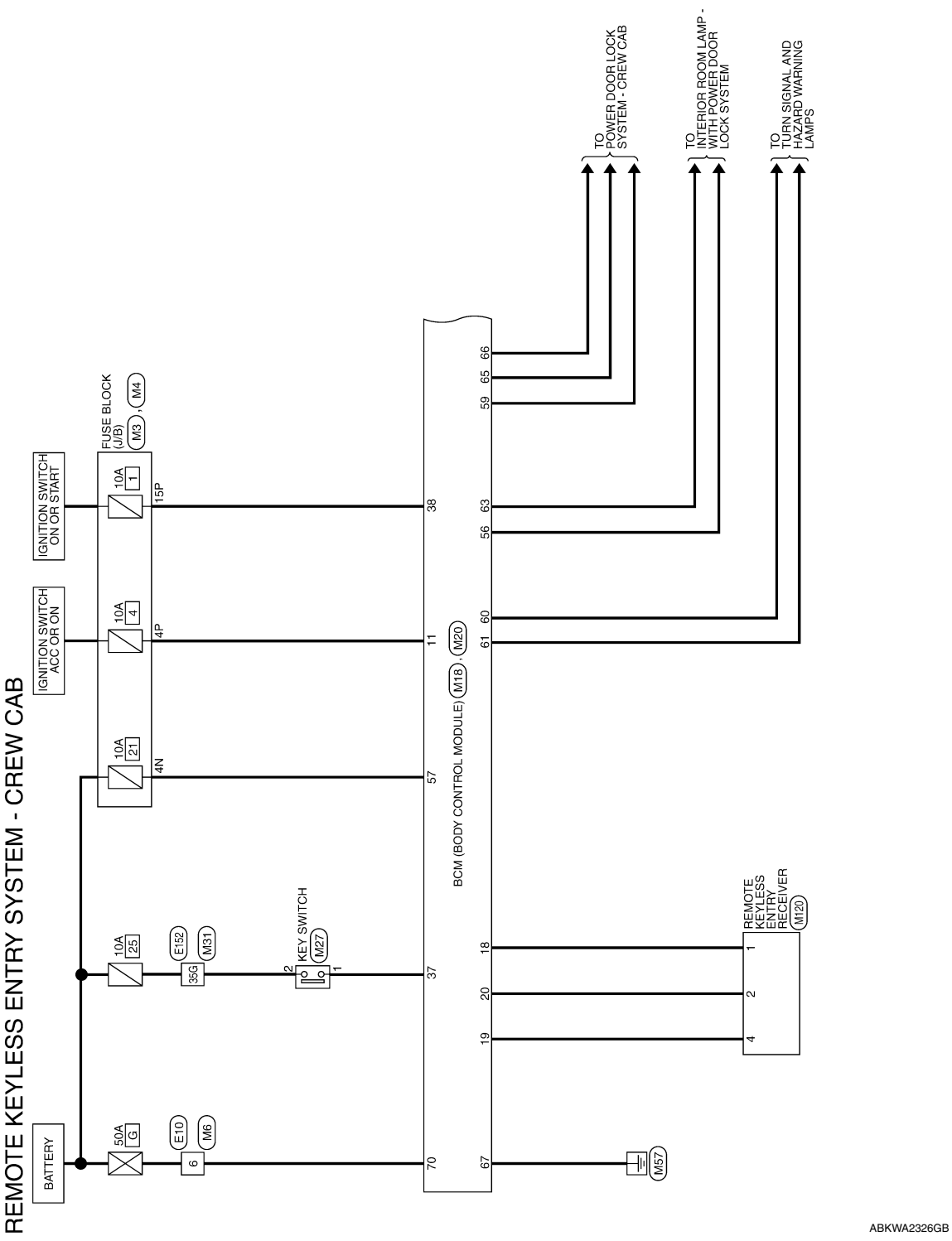


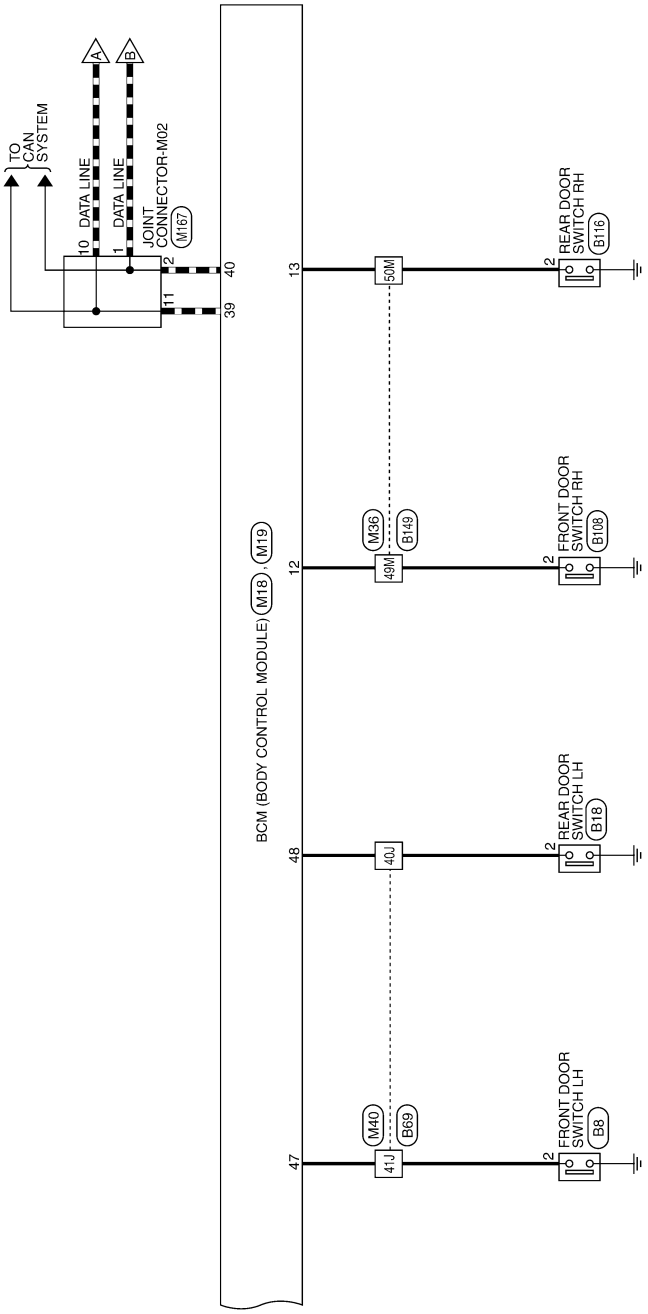
Terminal No.	Color of Wire	Signal Name
1	R	–
2	BG	–
3	G	–

ABKIA5191GB

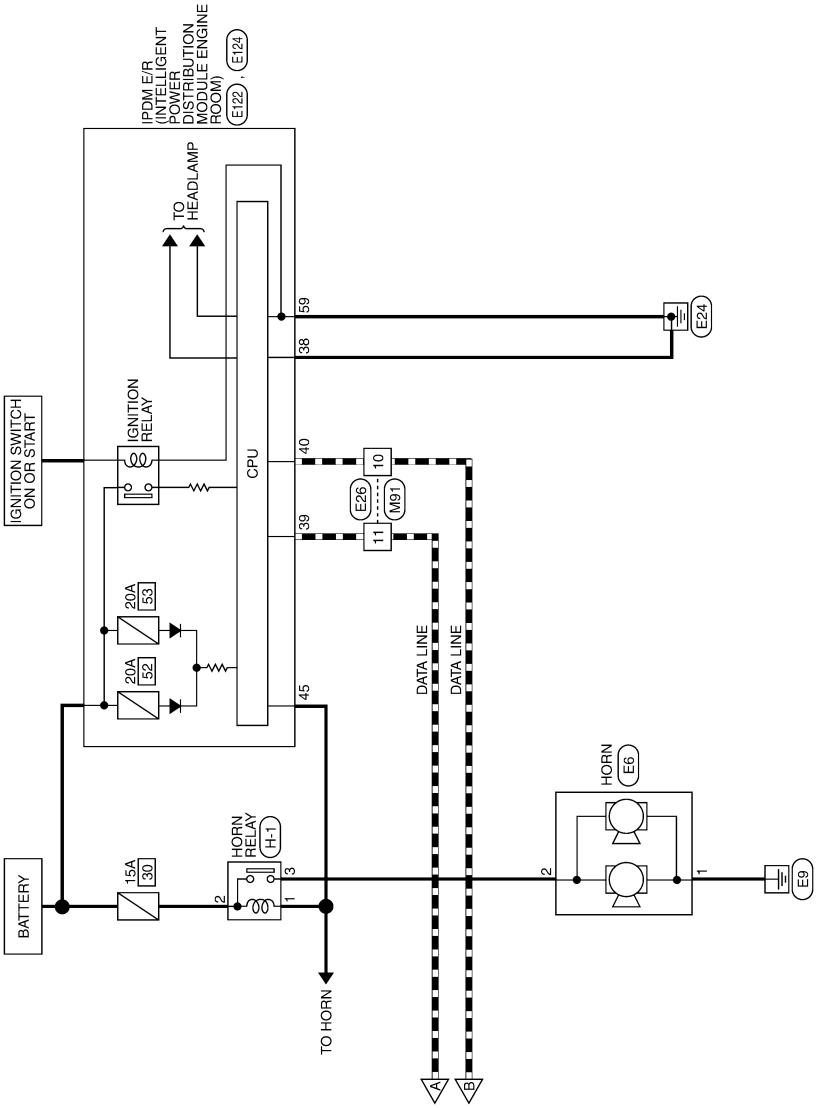
Wiring Diagram - Crew Cab

INFOID:0000000012563971





ABKWA2327GB

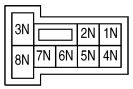


ABKWA1995GB

REMOTE KEYLESS ENTRY SYSTEM CONNECTORS - CREW CAB

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

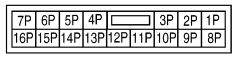
H.S.



Terminal No.	Color of Wire	Signal Name
4N	R/Y	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
4P	G/B	–
15P	W/R	–

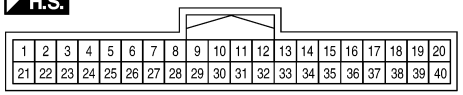
Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
6	W	–

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

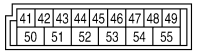
H.S.



Terminal No.	Color of Wire	Signal Name
11	G/B	ACC SW
12	LG	DOOR SW (AS)
13	L	DOOR SW (RR)
18	BR	KEYLESS & AUTO LIGHT SENSOR GND
19	V	KEYLESS TUNER POWER SUPPLY OUTPUT
20	G	KEYLESS TUNER SIGNAL
37	B	KEY SW
38	W/R	IGN SW
39	L	CAN-H
40	P	CAN-L

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

H.S.



Terminal No.	Color of Wire	Signal Name
47	GR	DOOR SW (DR)
48	P	DOOR SW (RL)

ABKIA5178GB

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

H.S.

56	57	58	59	60	61	62	63	64
65	66	67	68	69	70			

Terminal No.	Color of Wire	Signal Name
56	R/Y	BATTERY SAVER OUTPUT
57	R/Y	BAT (FUSE)
59	GR	DOOR UNLOCK OUTPUT (DR)

Terminal No.	Color of Wire	Signal Name
60	LG	FLASHER OUTPUT (LEFT)
61	G	FLASHER OUTPUT (RIGHT)
63	BR	ROOM LAMP OUTPUT
65	V	DOOR LOCK OUTPUT (ALL)
66	L	DOOR UNLOCK OUTPUT (OTHER)
67	B	GND (POWER)
70	W	BAT (F/L)

Connector No.	M27
Connector Name	KEY SWITCH
Connector Color	WHITE

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	B	–
2	Y	–

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

H.S.

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	33G	34G	35G	36G	37G	38G	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	81G
82G	83G	84G	85G	86G	87G	88G	89G	90G		

91G	92G	93G	94G	95G
96G	97G	98G	99G	100G

Terminal No.	Color of Wire	Signal Name
35G	Y	–

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

H.S.

1M	2M	3M	4M	5M
6M	7M	8M	9M	10M

11M	12M	13M	14M	15M	16M	17M	18M	19M	20M	21M
22M	23M	24M	25M	26M	27M	28M	29M	30M		

31M	32M	33M	34M	35M	36M	37M	38M	39M	40M	41M
42M	43M	44M	45M	46M	47M	48M	49M	50M		

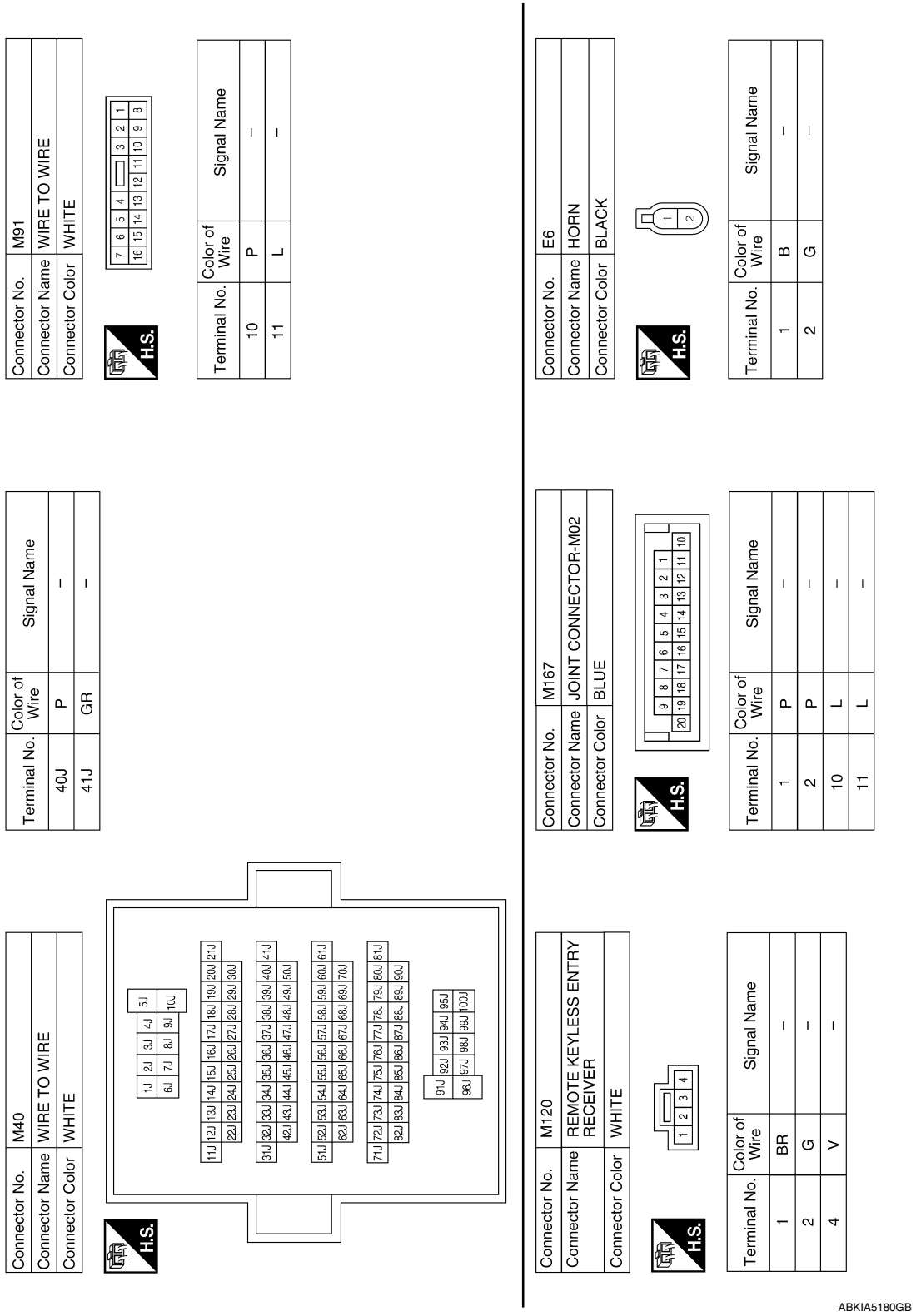
51M	52M	53M	54M	55M	56M	57M	58M	59M	60M	61M
62M	63M	64M	65M	66M	67M	68M	69M	70M		

71M	72M	73M	74M	75M	76M	77M	78M	79M	80M	81M
82M	83M	84M	85M	86M	87M	88M	89M	90M		

91M	92M	93M	94M	95M
96M	97M	98M	99M	100M

Terminal No.	Color of Wire	Signal Name
49M	LG	–
50M	L	–

ABKIA6165GB


Connector No. M91
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
7 6 5 4 3 2 1
16 15 14 13 12 11 10 9 8
Terminal No. Color of Wire Signal Name
10 P –
11 L –
Connector No. E6
Connector Name HORN
Connector Color BLACK
H.S.
1 2
Terminal No. Color of Wire Signal Name
1 B –
2 G –
Connector No. M40
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1J 2J 3J 4J 5J
6J 7J 8J 9J 10J
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
71J 72J 73J 74J 75J 76J 77J 78J 79J 80J 81J
82J 83J 84J 85J 86J 87J 88J 89J 90J
91J 92J 93J 94J 95J
96J 97J 98J 99J 100J
Terminal No. Color of Wire Signal Name
40J P –
41J GR –
Connector No. M167
Connector Name JOINT CONNECTOR-M02
Connector Color BLUE
H.S.
9 8 7 6 5 4 3 2 1
20 19 18 17 16 15 14 13 12 11 10
Terminal No. Color of Wire Signal Name
1 P –
2 P –
10 L –
11 L –
Connector No. M120
Connector Name REMOTE KEYLESS ENTRY RECEIVER
Connector Color WHITE
H.S.
1 2 3 4
Terminal No. Color of Wire Signal Name
1 BR –
2 G –
4 V –
ABKIA5180GB

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6

Terminal No.	Color of Wire	Signal Name
6	W	–

Connector No.	E26
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
10	P	–
11	L	–

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

H.S.

42	41	40	39	38	37
48	47	46	45	44	43

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

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

59	58	57
62	61	60

Terminal No.	Color of Wire	Signal Name
59	B	GND (POWER)

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

H.S.

5G	4G	3G	2G	1G
10G	9G	8G	7G	6G

21G	20G	19G	18G	17G	16G	15G	14G	13G	12G	11G
30G	29G	28G	27G	26G	25G	24G	23G	22G		

41G	40G	39G	38G	37G	36G	35G	34G	33G	32G	31G
50G	49G	48G	47G	46G	45G	44G	43G	42G		

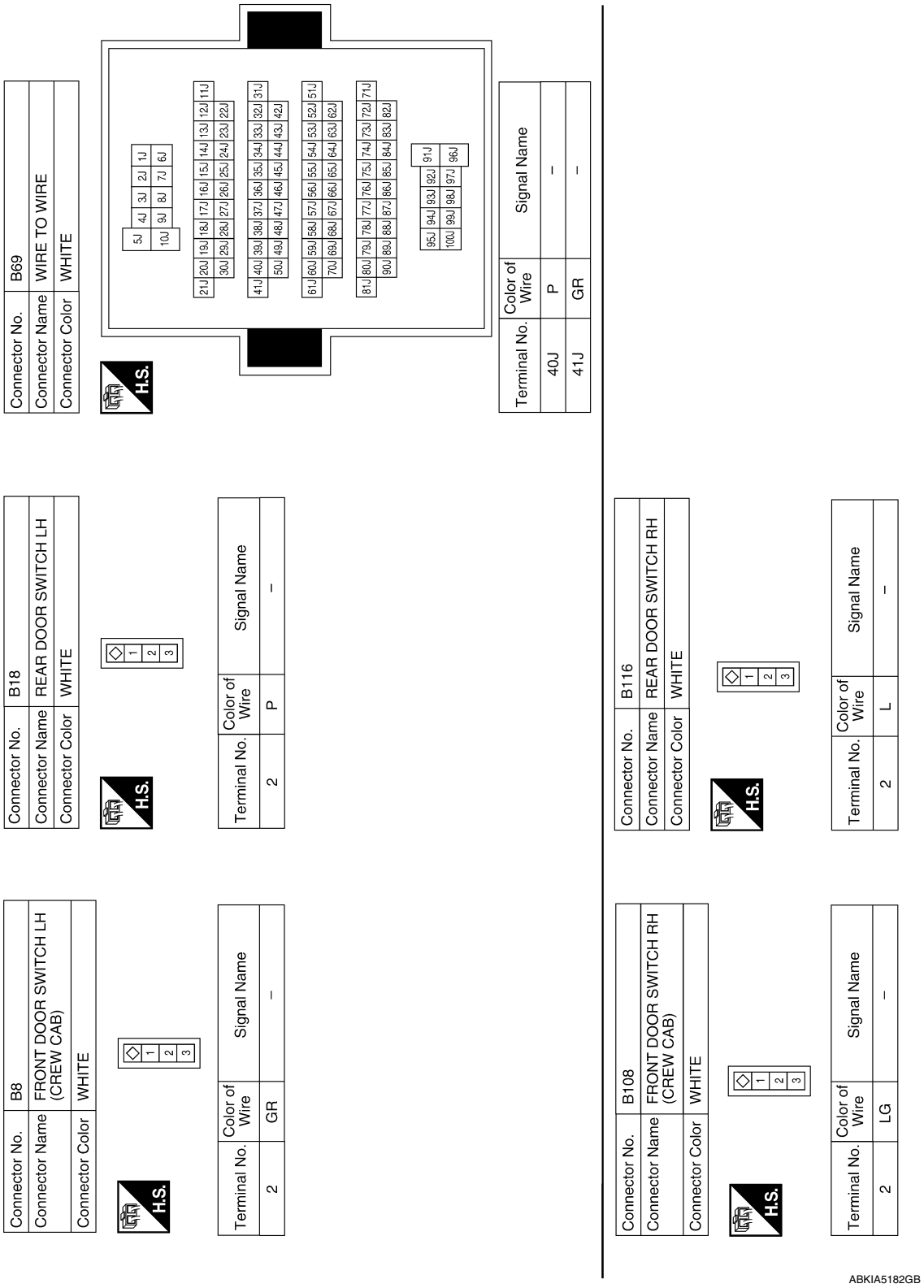
61G	60G	59G	58G	57G	56G	55G	54G	53G	52G	51G
70G	69G	68G	67G	66G	65G	64G	63G	62G		

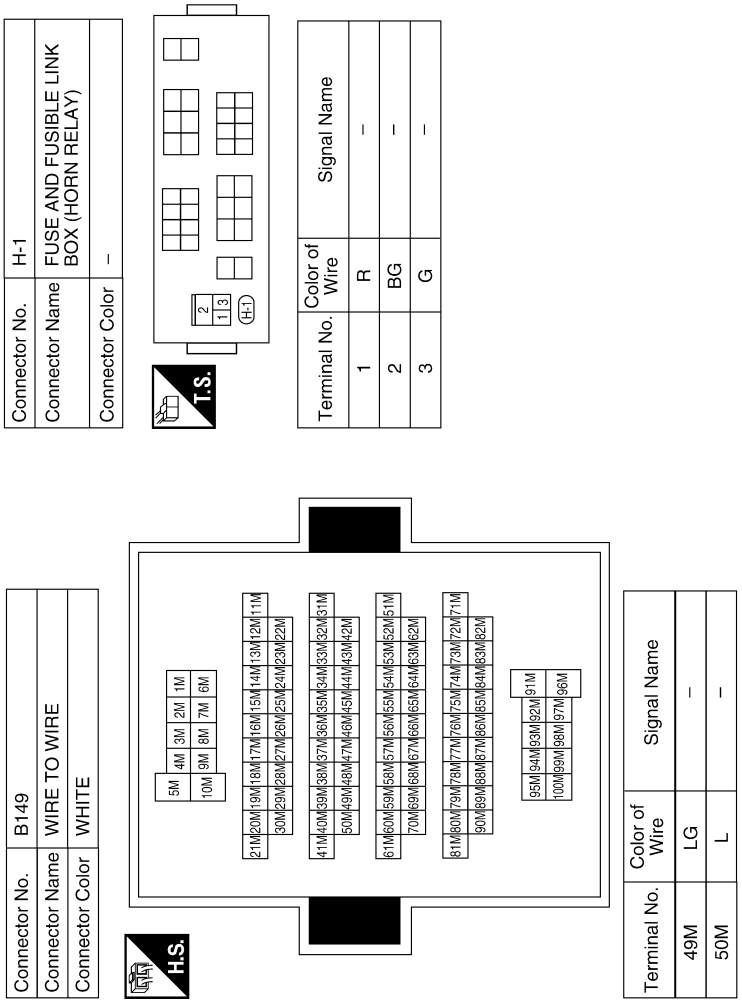
81G	80G	79G	78G	77G	76G	75G	74G	73G	72G	71G
90G	89G	88G	87G	86G	85G	84G	83G	82G		

95G	94G	93G	92G	91G
100G	99G	98G	97G	96G

Terminal No.	Color of Wire	Signal Name
35G	Y	–

ABKIA5181GB


Connector No. B69
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
40J P –
41J GR –
Connector No. B18
Connector Name REAR DOOR SWITCH LH
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 P –
Connector No. B8
Connector Name FRONT DOOR SWITCH LH (CREW CAB)
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 GR –
Connector No. B116
Connector Name REAR DOOR SWITCH RH
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 L –
Connector No. B108
Connector Name FRONT DOOR SWITCH RH (CREW CAB)
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 LG –
ABKIA5182GB



ABKIA5217GB

SYMPTOM DIAGNOSIS

DOOR LOCK

Symptom Table

INFOID:0000000012563972

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)	DLK-27
	1b. Door switch check (crew cab)	DLK-29
	2. Key switch (Insert) check	DLK-42
	3. Replace BCM.	BCS-56
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.	1a. Door lock/unlock switch check (driver side) (king cab)	DLK-32
	1b. Door lock/unlock switch check (driver side) (crew cab)	DLK-35
	2a. Door lock/unlock switch check (passenger side) (king cab)	DLK-32
	2b. Door lock/unlock switch check (passenger side) (crew cab)	DLK-35
Specific door lock actuator does not operate.	1. Door lock actuator check (driver side)	DLK-43
	2. Door lock actuator check (passenger side)	DLK-44
	3. Door lock actuator check (Rear LH) (crew cab)	DLK-45
	4. Door lock actuator check (Rear RH) (crew cab)	DLK-47
Power door lock does not operate with front door key cylinder LH.	1. Front door lock assembly LH (key cylinder switch) check	DLK-39
	2. Replace BCM.	BCS-56
Power door lock does not operate.	1. BCM power supply and ground circuit check	BCS-33
	2a. Door lock/unlock switch check (driver) (king cab)	DLK-32
	2b. Door lock/unlock switch check (driver) (crew cab)	DLK-35
	3a. Door lock/unlock switch check (passenger) (king cab)	DLK-32
	3b. Door lock/unlock switch check (passenger) (crew cab)	DLK-35
Vehicle speed sensing auto LOCK operation does not operate.	1. Ensure automatic door lock/unlock function (lock operation) is enabled.	BCS-20
	2. Check combination meter vehicle speed signal.	MWI-30
	3. Check intermittent incident.	GI-43
Ignition OFF interlock door UNLOCK function does not operate.	1. Ensure automatic door lock/unlock function (unlock operation) is enabled.	BCS-20
	2. Check BCM for DTCs.	BCS-46
	3. Check intermittent incident.	GI-43

REMOTE KEYLESS ENTRY SYSTEM

Symptom Table

INFOID:0000000012563973

REMOTE KEYLESS ENTRY SYSTEM

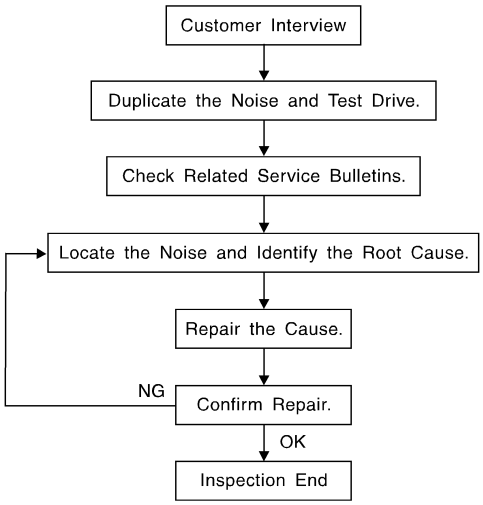
Symptom	Diagnoses/service procedure	Reference page
All functions of remote keyless entry system do not operate.	1. Keyfob battery and function check use Remote Keyless Entry Tester [- (J-43241)] or Signal Tech II Tool [- (J-50190)] **NOTE:** If the result of keyfob function check is OK, keyfob is not malfunctioning.	DLK-51
	2. Check BCM and remote keyless entry receiver.	DLK-49
The new ID of keyfob cannot be entered.	1. Keyfob battery and function check use Remote Keyless Entry Tester [- (J-43241)] or Signal Tech II Tool [- (J-50190)] **NOTE:** If the result of keyfob function check is OK, keyfob is not malfunctioning.	DLK-51
	2. Key switch (insert) check	DLK-42
	3a. Door switch check (king cab)	DLK-27
	3b. Door switch check (crew cab)	DLK-29
	4. ACC power check	BCS-33
	5. Replace BCM.	BCS-56
Door lock or unlock does not function. (If the power door lock system does not operate manually, check power door lock system)	1. Keyfob battery and function check use Remote Keyless Entry Tester [- (J-43241)] or Signal Tech II Tool [- (J-50190)] **NOTE:** If the result of keyfob function check is OK, keyfob is not malfunctioning.	DLK-51
	2. Replace BCM.	BCS-56
Hazard and horn reminder does not activate properly when pressing lock or unlock button of keyfob.	1. Check hazard and horn reminder mode with CONSULT **NOTE:** Hazard and horn reminder mode can be changed. First check the hazard and horn reminder mode setting.	DLK-15
	2a. Door switch check (king cab)	DLK-27
	2b. Door switch check (crew cab)	DLK-29
	3. Replace BCM.	BCS-56
Hazard reminder does not activate properly when pressing lock or unlock button of keyfob. (Horn reminder OK)	1. Check hazard reminder mode with CONSULT **NOTE:** Hazard reminder mode can be changed. First check the hazard reminder mode setting.	DLK-15
	2. Check hazard function with hazard switch	—
	3. Replace BCM.	BCS-56
Horn reminder does not activate properly when pressing lock or unlock button of keyfob. (Hazard reminder OK)	1. Check horn reminder mode with CONSULT **NOTE:** Horn reminder mode can be changed. First check the horn reminder mode setting.	DLK-15
	2. Check horn function with horn switch	—
	3. IPDM E/R operation check	DLK-53
	4. Replace BCM.	BCS-56

Symptom	Diagnoses/service procedure	Reference page
Room lamp and ignition keyhole illumination do not operate properly.	1. Room lamp operation check	DLK-58
	2. Ignition keyhole illumination operation check	DLK-58
	3a. Door switch check (king cab)	DLK-27
	3b. Door switch check (crew cab)	DLK-29
	4. Replace BCM.	BCS-56
Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed.	1. Keyfob battery and function check use Remote Keyless Entry Tester [- (J-43241)] or Signal Tech II Tool [- (J-50190)] **NOTE:** If the result of keyfob function check is OK, keyfob is not malfunctioning.	DLK-51
	2. Key switch (insert) check	DLK-42
	3. Replace BCM.	BCS-56
Automatic door lock operation does not activate properly. (All other remote keyless entry functions OK.)	1. Check automatic door lock operation mode with CONSULT **NOTE:** Automatic door lock operation mode can be changed. First check the automatic door lock operation mode setting.	DLK-8
	2. Replace BCM.	BCS-56

SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow

INFOID:0000000012563974



SBT842

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-123, "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.

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 CVT and 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-120, "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-50397) 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.
NOTE:

- Always check with the Parts Department for the latest parts information.
- The materials contained in the NISSAN Squeak and Rattle Kit (J-50397) are listed on the inside cover of the kit; and can each be ordered seperately as needed.
- The following materials not found in the kit can also be used to repair squeaks and rattles.

- SILICONE GREASE: Use instead of UHMW tape that will be visible or does not fit. The silicone grease 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:0000000012563975

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

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

1. Cluster lid A and the instrument panel
2. Acrylic lens and combination meter housing
3. Instrument panel to front pillar finisher
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-50397) 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

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 headlining 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.

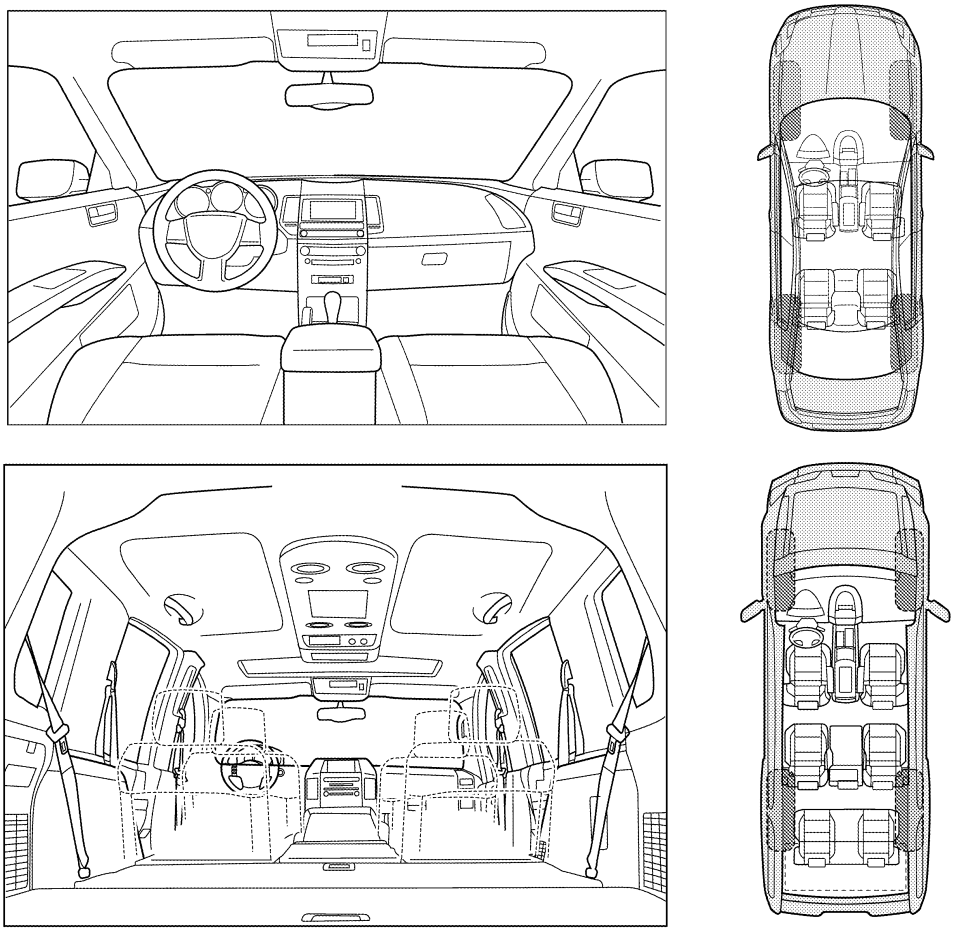
Diagnostic Worksheet

INFOID:0000000012563976

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.

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SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

_____

_____

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

- ☐ Anytime
- ☐ 1st time in the morning
- ☐ Only when it is cold outside
- ☐ Only when it is hot outside
- ☐ After sitting out in the rain
- ☐ When it is raining or wet
- ☐ Dry or dusty conditions
- ☐ Other:

III. WHEN DRIVING:

- ☐ Through driveways
- ☐ Over rough roads
- ☐ Over speed bumps
- ☐ Only about ____ mph
- ☐ On acceleration
- ☐ Coming to a stop
- ☐ On turns: left, right or either (circle)
- ☐ With passengers or cargo
- ☐ Other: _____
- ☐ After driving _____ miles or _____ minutes

IV. WHAT TYPE OF NOISE

- ☐ Squeak (like tennis shoes on a clean floor)
- ☐ Creak (like walking on an old wooden floor)
- ☐ Rattle (like shaking a baby rattle)
- ☐ Knock (like a knock at the door)
- ☐ Tick (like a clock second hand)
- ☐ Thump (heavy muffled knock noise)
- ☐ Buzz (like a bumble bee)

TO BE COMPLETED BY DEALERSHIP PERSONNEL

Test Drive Notes:

_____

_____

_____

	YES	NO	Initials of person performing
Vehicle test driven with customer	☐	☐	_____
- Noise verified on test drive	☐	☐	_____
- Noise source located and repaired	☐	☐	_____
- Follow up test drive performed to confirm repair	☐	☐	_____

VIN: _____ Customer Name _____

W.O.# _____ Date: _____

This form must be attached to Work Order

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PRECAUTION

PRECAUTIONS

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

INFOID:0000000012563977

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 three minutes before performing any service.**

Precaution for Work Door and Lock

INFOID:0000000012563978

WARNING:

Radio waves could adversely affect electric medical equipment. Those who use a pacemaker should contact the electric medical equipment manufacturer for the possible influences before use.

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:

- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:

- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

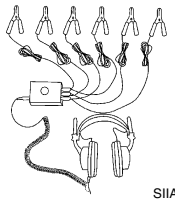
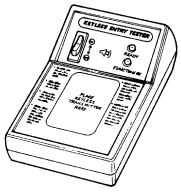
PREPARATION

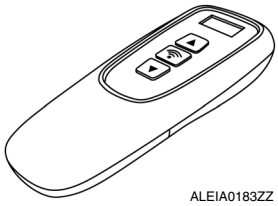
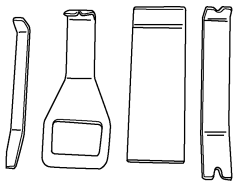
PREPARATION

Special Service Tool

INFOID:0000000012563979

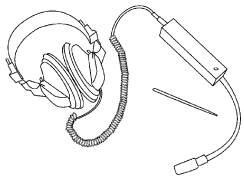
The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name		Description
— (J-39570) Chassis Ear	 SIIA0993E	Locating the noise
— (J-50397) NISSAN Squeak and Rattle Kit	 ALJIA1232ZZ	Repairing the cause of noise
— (J-43241) Remote Keyless Entry Tester	 LEL946A	Used to test key fobs
— (J-50190) Signal Tech II	 ALEIA0131ZZ	• Activate and display TPMS transmitter IDs • Display tire pressure reported by the TPMS transmitter • Read TPMS DTCs • Register TPMS transmitter IDs • Test remote keyless entry keyfob relative signal strength • Check Intelligent Key relative signal strength • Confirm vehicle Intelligent Key antenna signal strength • Compatible with future sensors • Equipped with a display

Tool number (TechMate No.) Tool name	Description
KV48105501 (J-45295-A) Transmitter activation tool  ALEIA0183ZZ	• Activate TPMS transmitter IDs • Compatible with future sensors • Equipped with a display (KV48105501 only)
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

Commercial Service Tool

INFOID:0000000012563980

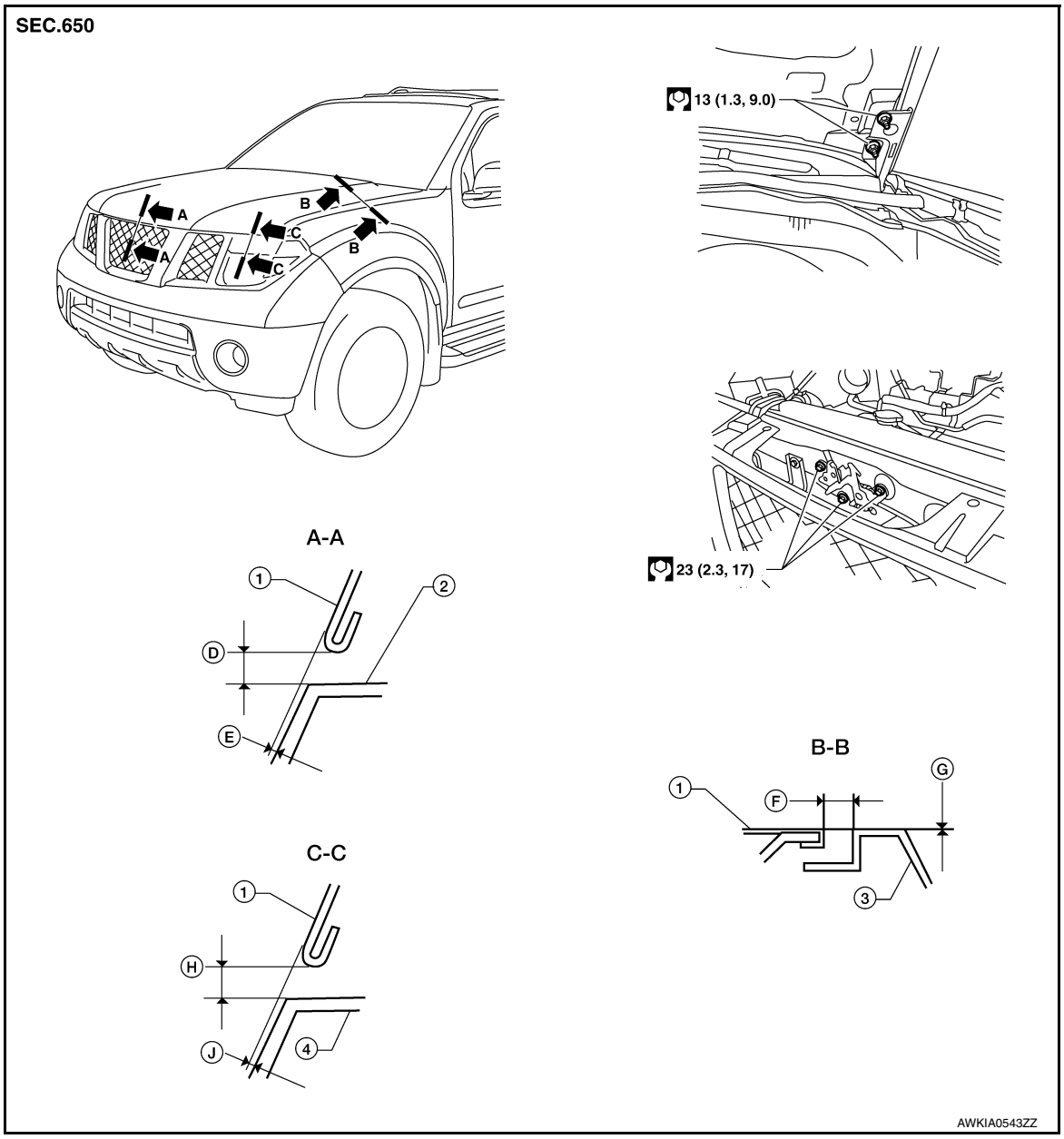
(TechMate No.) Tool name	Description
(J-39565) Engine Ear  SIIA0995E	Locating the noise

REMOVAL AND INSTALLATION

HOOD

Fitting Adjustment

INFOID:0000000012563981



1. Hood
2. Front grille
3. Front fender
4. Headlamp assembly
D. 6.0 mm (0.24 in)
E. 0.7 mm (0.03 in)
F. 4.6 mm (0.18 in)
G. 0.0 mm (0.0 in)
H. 6.0 mm (0.24 in)
J. 0.7 mm (0.03 in)

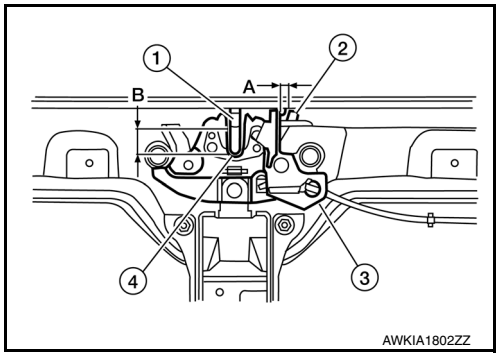
CLEARANCE AND SURFACE HEIGHT ADJUSTMENT

1. Remove the front grille. Refer to EXT-23, "Removal and Installation".
2. Loosen the hood lock assembly and adjust the rubber bumpers until the surface height of the hood becomes 1 mm (0.04 in) lower than the fender.
3. Engage the hood striker and temporarily tighten.
4. Check the lock and striker for looseness.

5. Tighten the bolts to specification.
6. Adjust the surface height of the hood according to the fitting standard dimension by rotating right and left rubber bumpers.
7. Install the front grille. Refer to EXT-23, "Removal and Installation".

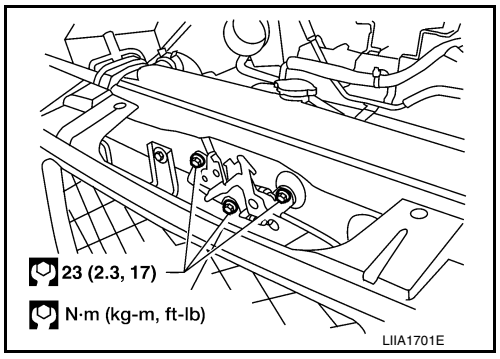
HOOD LOCK ADJUSTMENT

1. Remove the front grille. Refer to EXT-23, "Removal and Installation".
2. Move the hood lock to the left or right so that striker (1) center is vertically aligned with primary latch (4) center (when viewed from vehicle front).



A : More than 5.0 mm (0.197 in)
B : 20 mm (0.79 in)

3. Make sure the secondary latch (3) is properly engaged with the secondary striker (2) with hood's own weight by dropping it from approximately 200 mm (7.87 in) height or by pressing it lightly approximately 3 kg (29 N, 7 lb).
CAUTION:
Do not drop the hood from 300 mm (11.81 in) height or higher.
4. After adjusting hood lock, tighten the lock bolts to the specified torque.

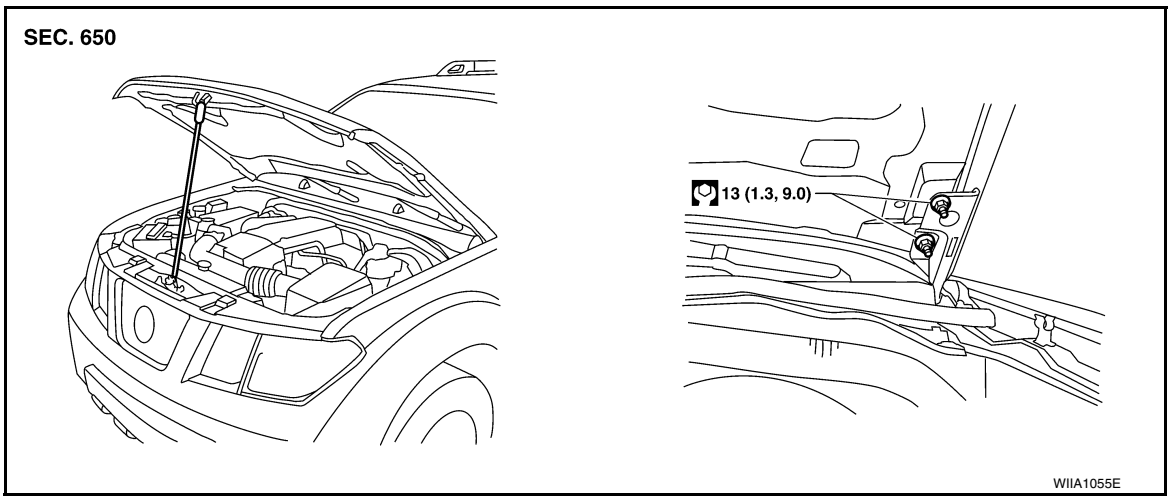


5. Install the front grille. Refer to EXT-23, "Removal and Installation".

Removal and Installation of Hood Assembly

INFOID:0000000012563982

REMOVAL



1. Support the hood striker with suitable tool to prevent it from falling.
2. Remove the hinge nuts from the hood to remove the hood assembly.

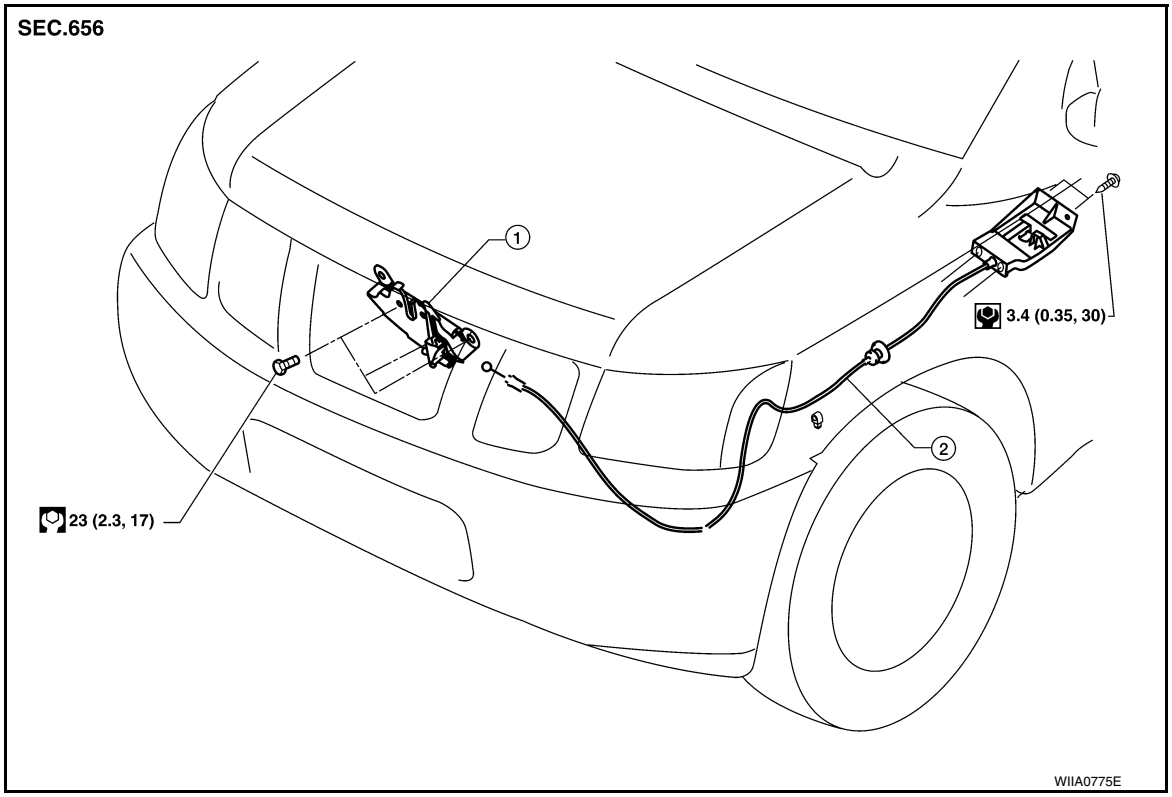
CAUTION:
Operate with two workers, because of its heavy weight.

INSTALLATION

Installation is in the reverse order of removal.

Removal and Installation of Hood Lock Control

INFOID:0000000012563983



1. Hood lock assembly
2. Hood lock cable

REMOVAL

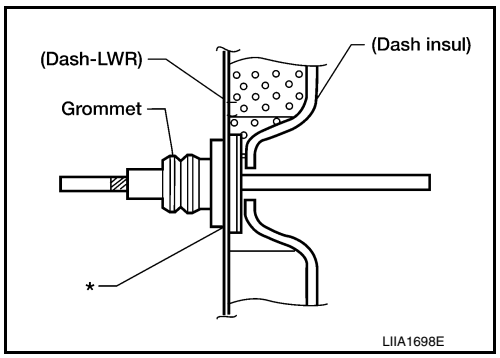
1. Disconnect the hood lock cable from the hood lock, and unclip it from the radiator core support upper and hoodledge.
2. Remove the bolts, and the hood release handle.
3. Separate the grommet from the lower dash panel. Pull the hood lock cable out through the passenger compartment.
   CAUTION:
   While pulling, be careful not to damage the outside of the hood lock cable.

INSTALLATION

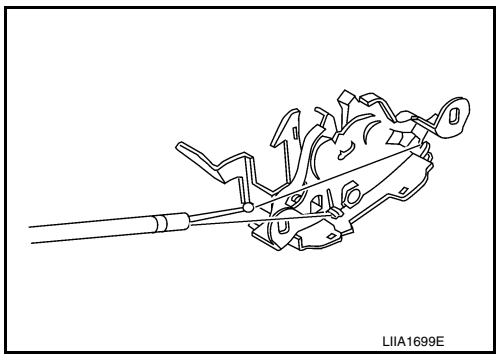
1. Pull the hood lock cable through the lower dash panel hole into the engine room.
   CAUTION:

Be careful not to bend the cable too much, keep the radius 100mm (3.94 in) or more.

2. Make sure the cable is not offset from the grommet, and push the grommet into the lower dash panel hole securely.
3. Apply sealant around the grommet at * mark.



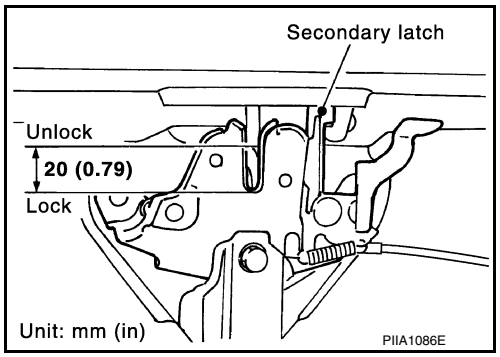
4. Install the cable securely to the lock.
5. Adjust the hood lock. Refer to DLK-128, "Fitting Adjustment".



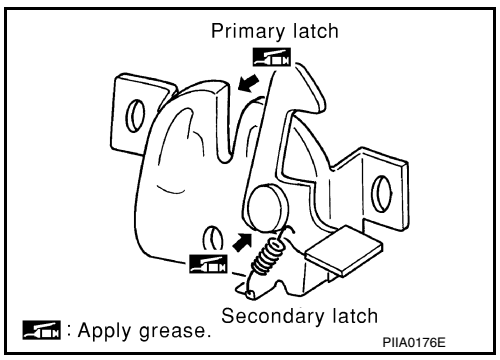
Hood Lock Control Inspection

INFOID:0000000012563984

1. Make sure the hood lock cable is not bent or deformed. If the cable is damaged, replace it.
2. Remove the front grille. Refer to EXT-23.
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.
4. 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.



5. Check the hood lock lubrication condition. If necessary, apply “body grease” to the points shown.



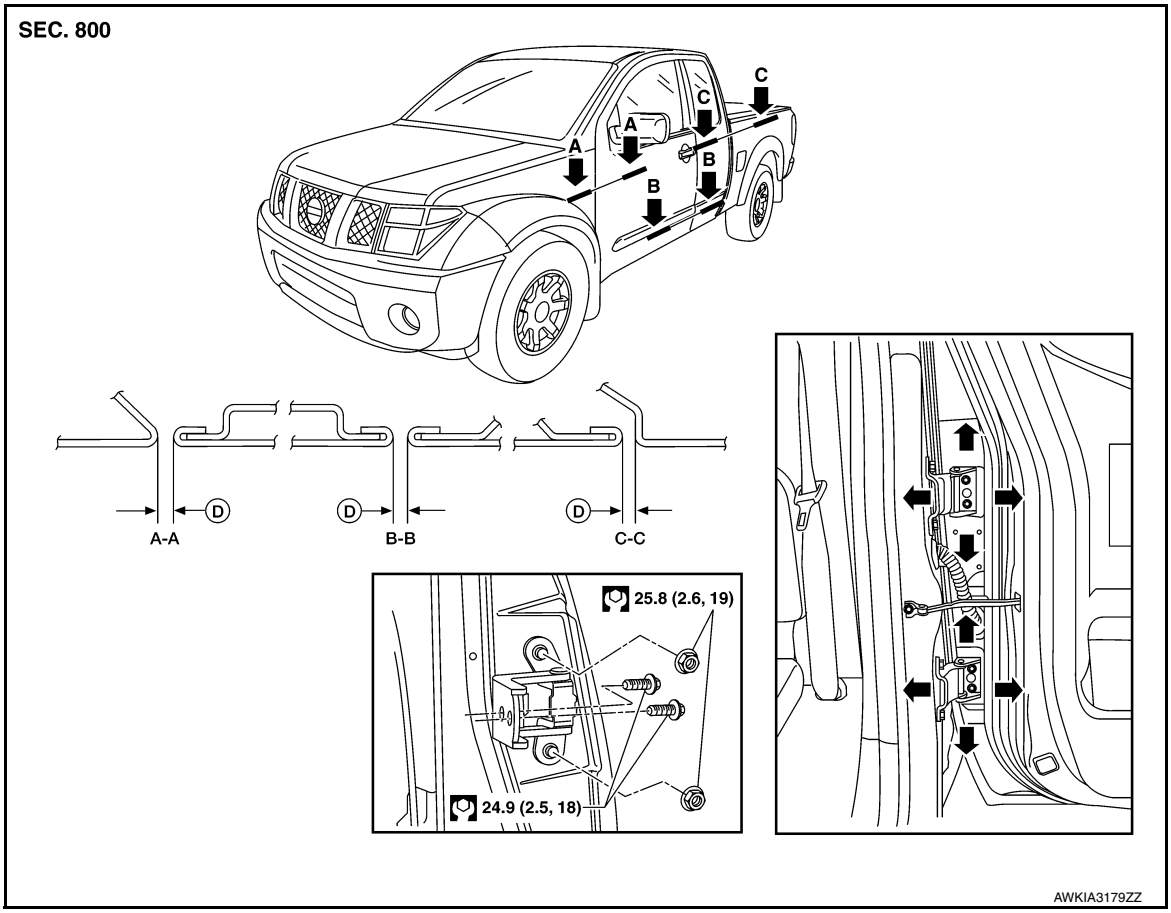
6. Install the front grille. Refer to EXT-23.

DOOR

Fitting Adjustment

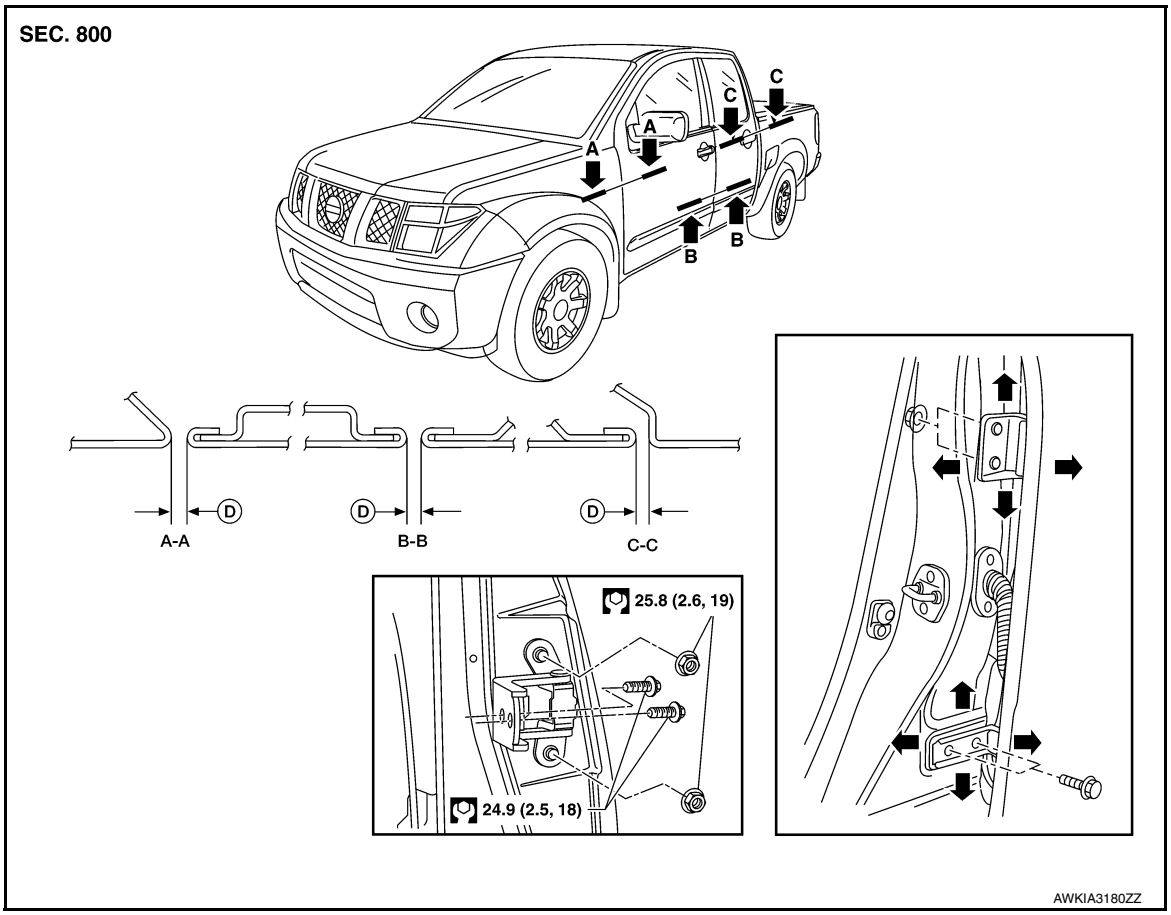
INFOID:0000000012563985

KING CAB



D. 4.5 mm ± 1.0 mm (0.177 in ± 0.039 in)

CREW CAB



D. 4.5 mm ± 1.0 mm (0.177 in ± 0.039 in)

FRONT DOOR

Longitudinal clearance and surface height adjustment at front end

1. Remove the front fender. Refer to EXT-25, "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-25, "Removal and Installation".

REAR DOOR

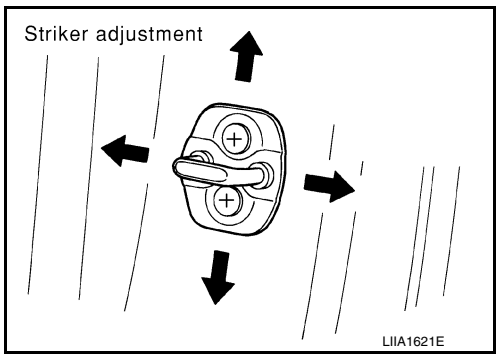
Longitudinal clearance and surface height adjustment at front end

1. Remove the center pillar upper finisher. Refer to INT-18, "Component".
2. Accessing from inside the vehicle, loosen the nuts. Open the rear door, and raise the rear door at rear end to adjust.
3. Install the center pillar lower finisher. Refer to INT-18, "Component".

STRIKER ADJUSTMENT

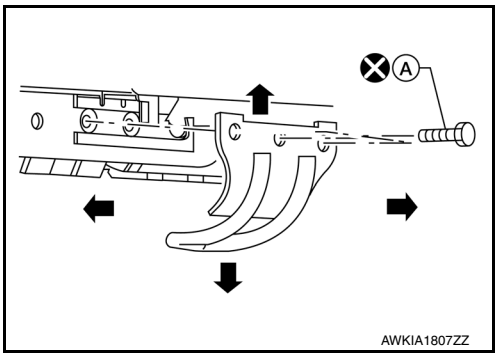
1. Adjust the striker so that it becomes parallel with the lock insertion direction.

Striker bolts **: 16.7 N·m (1.7 kg–m, 12 ft–lb)**



2. Remove the upper striker covers and adjust the striker so that it becomes parallel with the lock insertion direction.
CAUTION:
Do not reuse door striker bolts.

Striker bolts : 16.7 N·m (1.7 kg–m, 12 ft–lb)



Removal and Installation

INFOID:0000000012563986

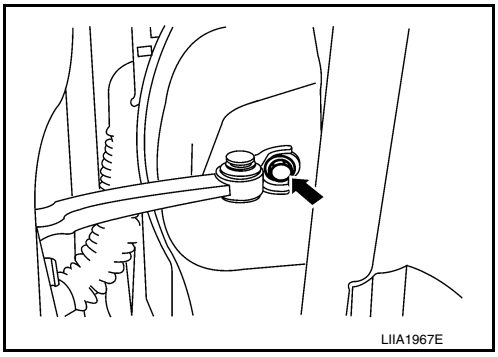
KING CAB

Front Door

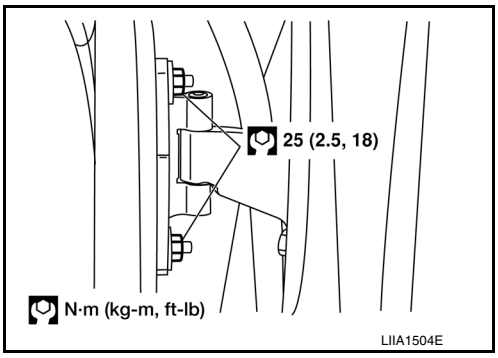
REMOVAL
CAUTION:
- **When removing and installing the door assembly, support the door with a jack and shop cloth to protect the door and body.**
- **Use two people when removing or installing the front door assembly due to its heavy weight.**
- **Do not use air tools or electric tools for servicing.**
- **Before servicing, turn ignition OFF, disconnect both battery terminals and wait at least three minutes.**
- **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. Disconnect the battery negative and positive terminals and wait at least three minutes. Refer to PG-89, "Removal and Installation".
2. Remove the front door glass and regulator assembly. Refer to GW-16, "Front Door Glass Regulator".
3. Remove the door harness.
4. Remove the check link cover.
5. Remove the check link bolt from the hinge pillar.

Check link bolt to hinge pillar : 14.7 N·m (1.5 kg-m, 11 ft-lb)



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



INSTALLATION

Installation is in the reverse order of removal.

Rear Door

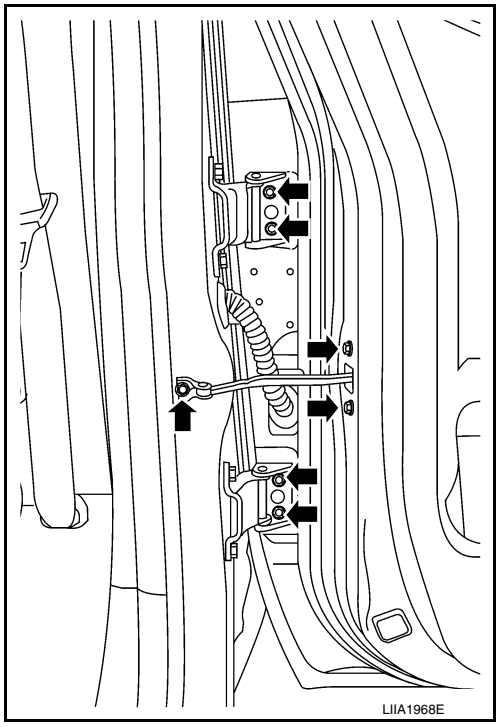
REMOVAL

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 door glass. Refer to GW-20, "Rear Door Glass".
2. Remove the speaker.
3. Remove the door handles and latch assembly. Refer to DLK-140, "Component Structure".
4. Remove the check link.
5. Remove the harness.
6. Remove the door assembly.

Door hinge nuts : 25.8 N·m (2.6 kg–m, 19 ft–lb)
Check link bolt to door : 6.1 N·m (0.62 kg–m, 54 in–lb)



INSTALLATION

Installation is in the reverse order of removal.

CREW CAB

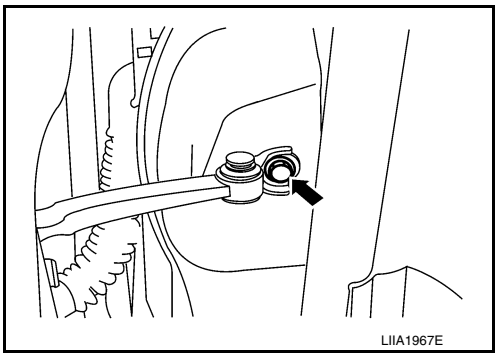
REMOVAL

CAUTION:

- **When removing and installing the door assembly, support the door with a jack and shop cloth to protect the door and body.**
- **Use two people when removing or installing the front door assembly due to its heavy weight.**
- **Do not use air tools or electric tools for servicing.**
- **Before servicing, turn ignition OFF, disconnect both battery terminals and wait at least three minutes.**
- **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. Disconnect the battery negative and positive terminals and wait at least three minutes. Refer to PG-89, "Removal and Installation".
2. Remove the inner seal.
3. Remove the door glass and regulator assembly. Refer to GW-16, "Front Door Glass".
4. Remove the door harness.

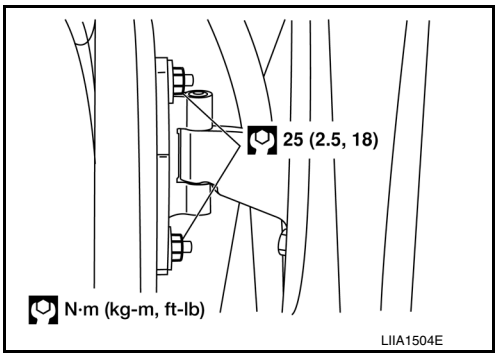
5. Remove the check link cover.
6. Remove the check link bolt from the hinge pillar.



Front door check link bolt to hinge pillar : **14.7 N·m (1.5 kg–m, 11 ft - lb)**

Rear door check link bolt to hinge pillar : **14.7 N·m (1.5 kg–m, 11 ft - lb)**

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

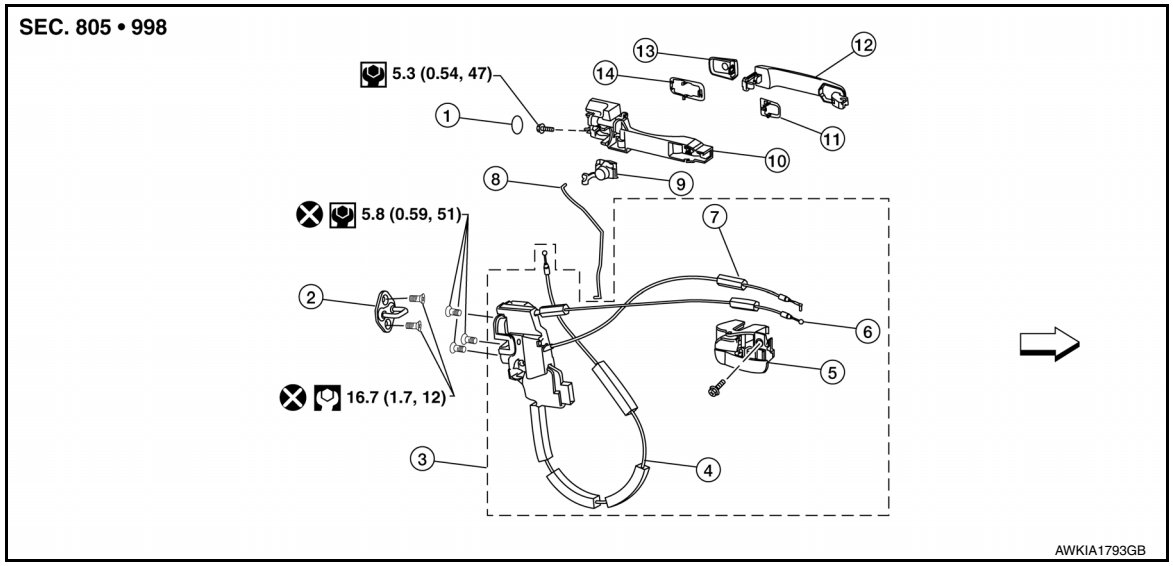


INSTALLATION
Installation is in the reverse order of removal.

FRONT DOOR LOCK

Component Structure

INFOID:0000000012563987



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

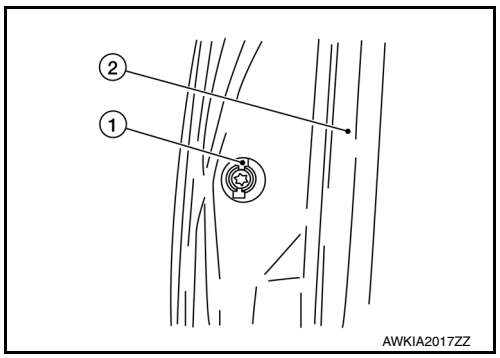
Removal and Installation

INFOID:0000000012563988

REMOVAL

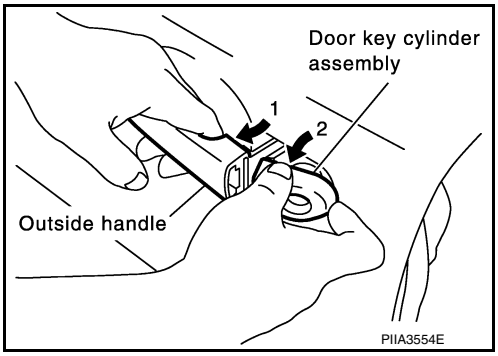
1. Remove the front door window regulator. Refer to GW-16, "Front Door Glass Regulator".
2. Remove door side grommet, and remove door key cylinder assembly (driver side) or outside handle escutcheon (passenger side) bolts (1) from grommet hole.
   (2): Weatherstrip
   CAUTION:
   Do not forcibly remove the bolts (T30).

   Bolt **5.3 N·m (0.54 kg-m, 47 in-lb)**

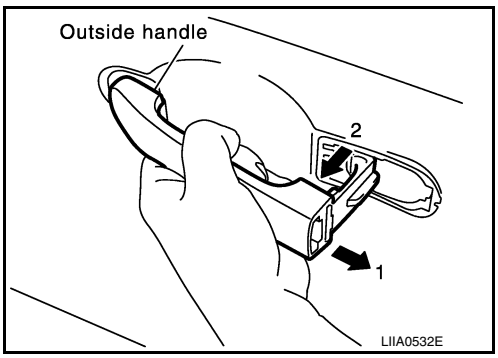


3. Separate the key cylinder rod from the key cylinder assembly.

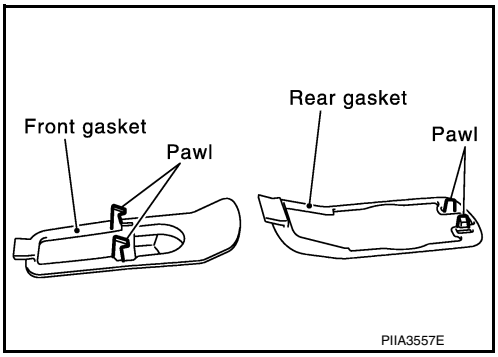
4. While pulling the outside handle (1), remove door key cylinder assembly or escutcheon (2).



5. While pulling outside handle (2), slide toward rear of vehicle to remove outside handle (1).



6. Remove the front gasket and rear gasket.

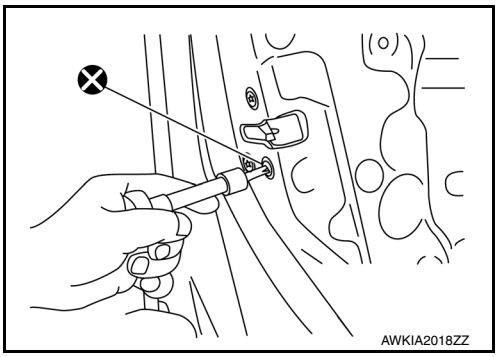


7. Remove the door lock assembly bolts (T30), remove the door lock assembly.

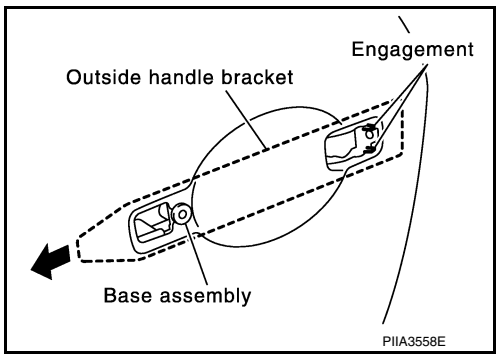
CAUTION:

Do not reuse door lock assembly bolts.

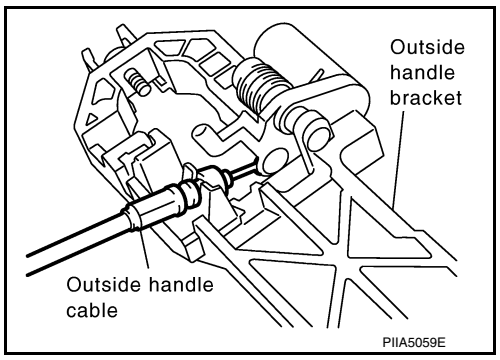
Door lock assembly bolts 5.8 N·m (0.59 kg-m, 51 in-lb)



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



9. Disconnect the door lock actuator connector.
10. Separate the outside handle cable connection from the outside handle bracket.



INSTALLATION

Installation is in the reverse order of removal.

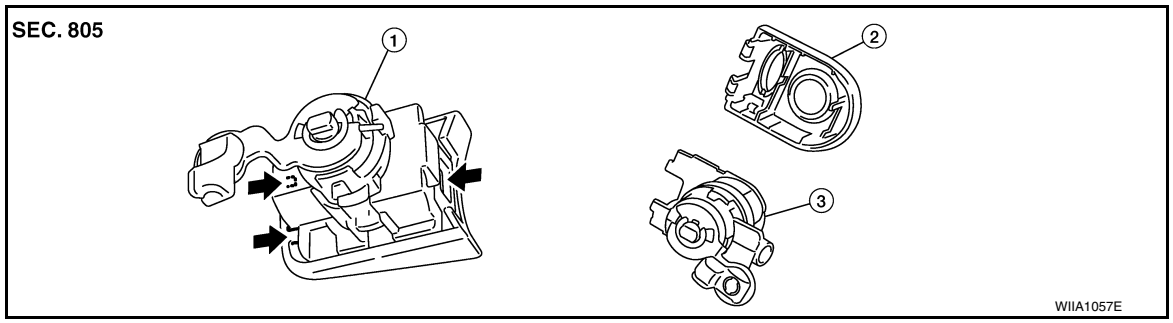
CAUTION:

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

Disassembly and Assembly

INFOID:0000000012563989

DOOR KEY CYLINDER ASSEMBLY



1. Door key cylinder assembly
2. Key cylinder escutcheon
3. Door key cylinder

⬅ Pawl

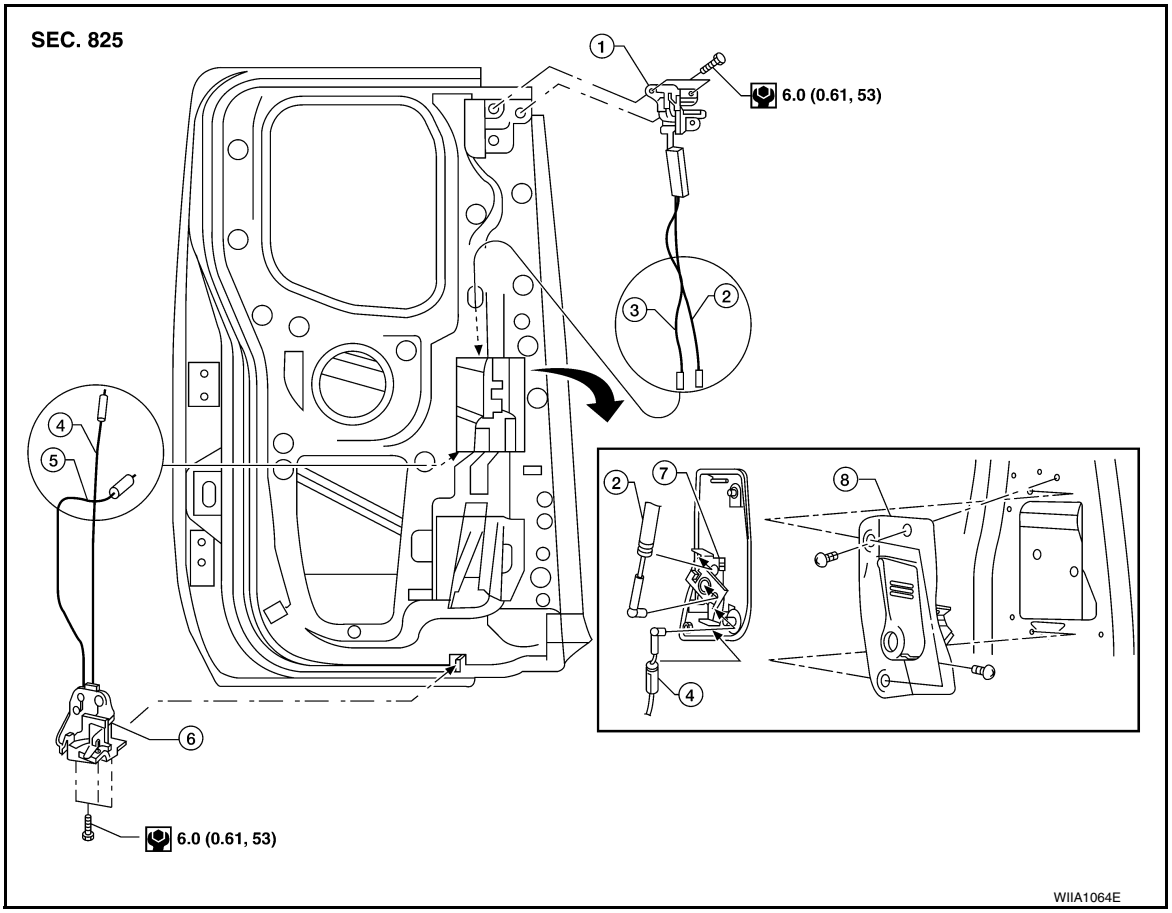
Remove the key cylinder escutcheon pawl and remove the door key cylinder.

REAR DOOR LOCK

Component Structure

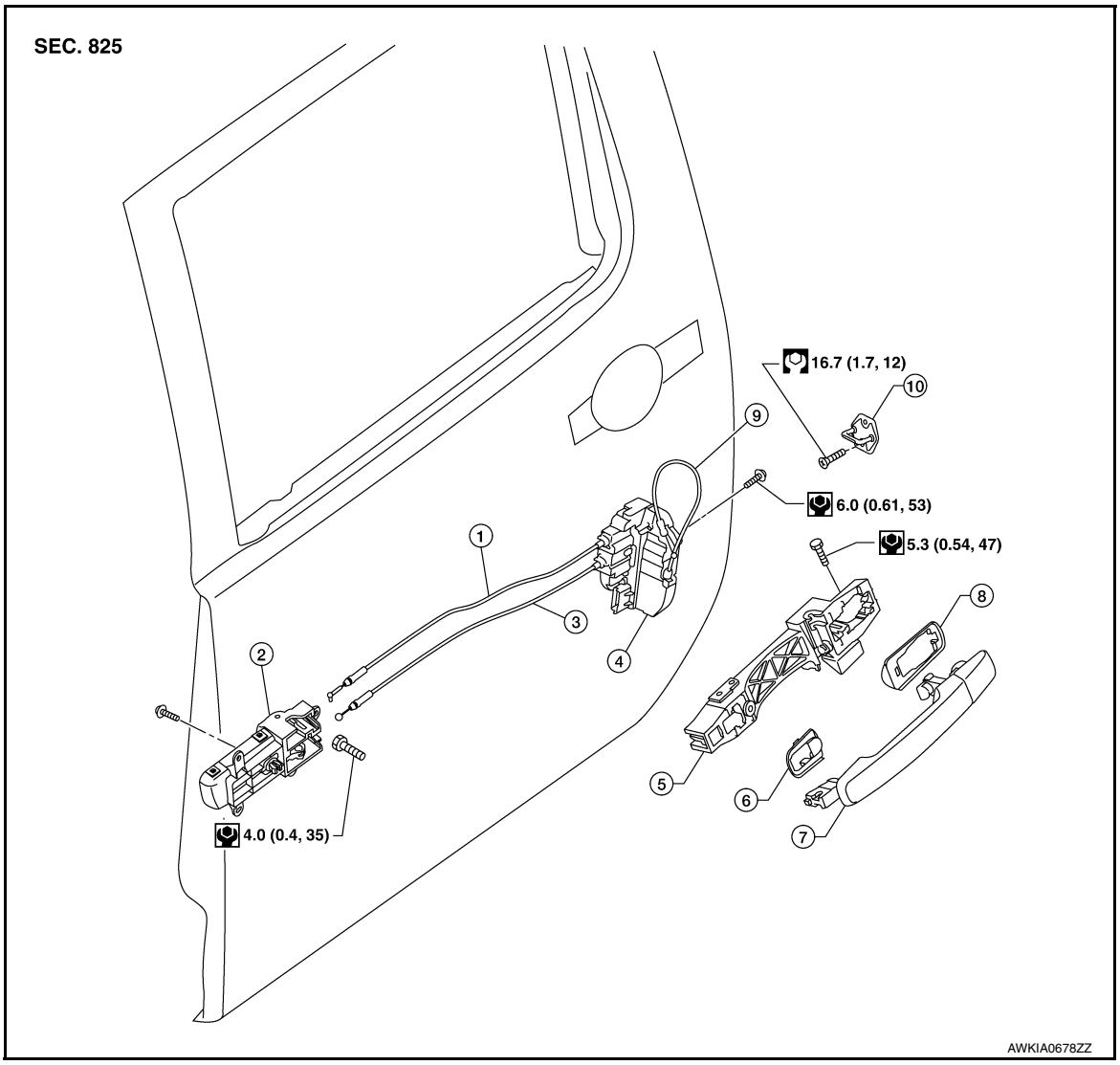
INFOID:0000000012563990

KING CAB



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

CREW CAB



1. Lock knob cable
2. Rear inside door handle assembly
3. Inside handle cable
4. Rear door lock assembly
5. Outside handle bracket
6. Front gasket
7. Outside handle
8. Rear gasket
9. Outside handle cable
10. Rear door striker

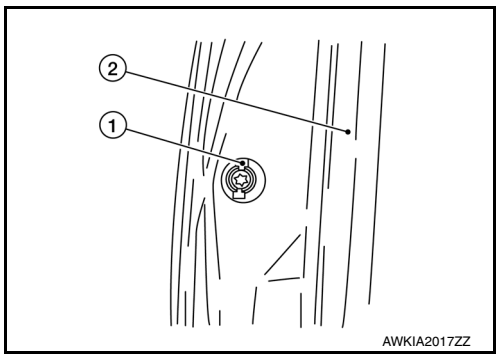
Removal and Installation

INFOID:0000000012563991

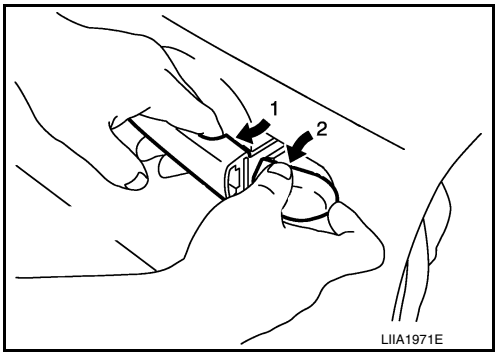
REMOVAL

1. Remove the rear door module assembly. Refer to GW-20, "Rear Door Glass Regulator".
2. Remove the door side grommet and the bolt (1) from the grommet hole.
   (2): Weatherstrip

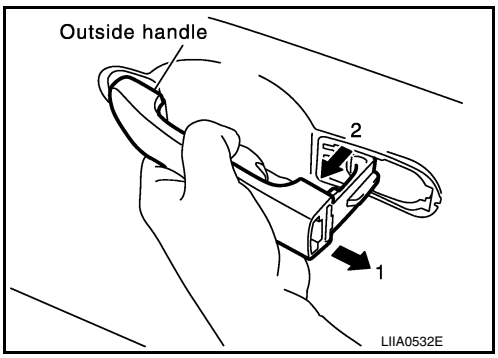
Bolt **: 5.3 N·m (0.54 kg-m, 47 in-lb)**



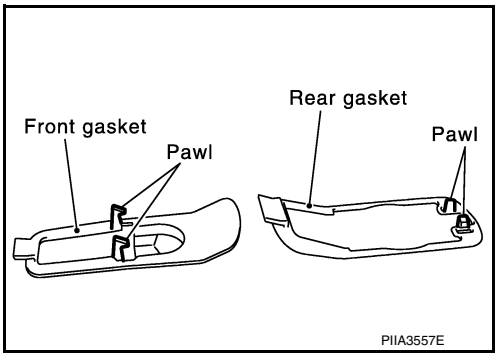
3. While pulling the outside handle (1), remove the door handle escutcheon (2).



4. While pulling the outside handle (2), slide it toward the rear of vehicle to remove (1).



5. Remove the front and rear gaskets.

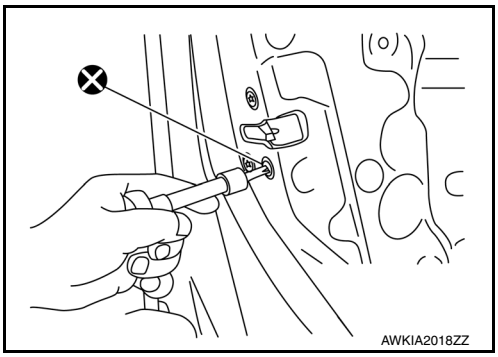


6. Remove the door lock assembly bolts (T30), remove the door lock assembly.

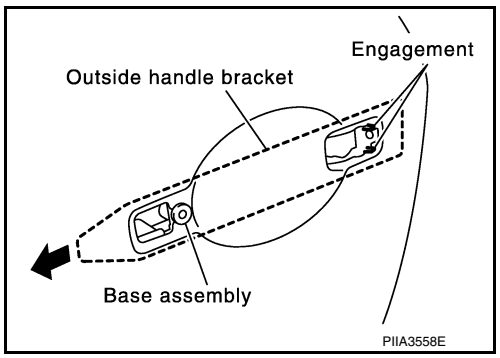
CAUTION:

Do not reuse door lock assembly bolts.

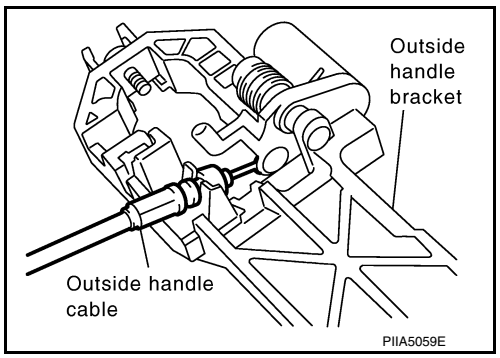
Door lock assembly bolts	**: 5.8 N·m (0.59 kg-m, 51 in-lb)**



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



8. Disconnect the outside handle cable.



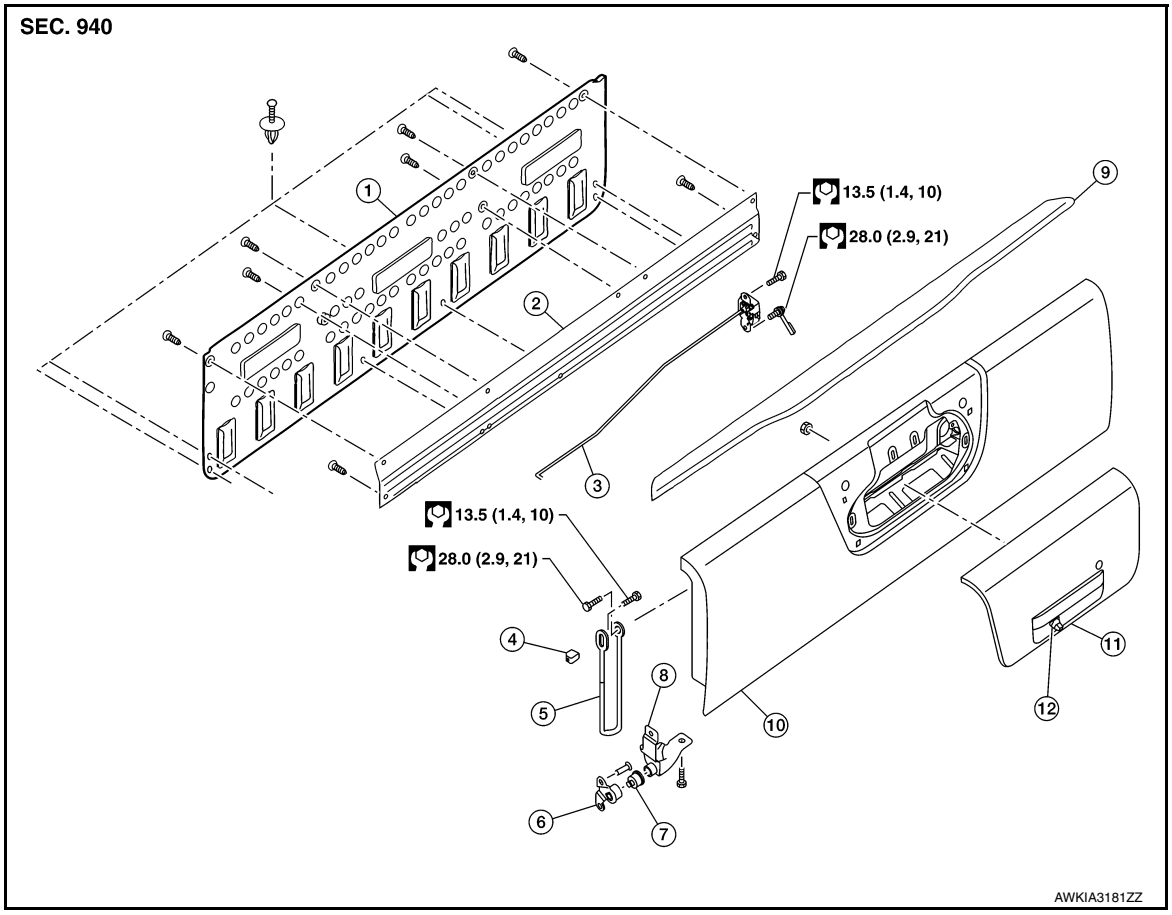
INSTALLATION

Installation is in the reverse order of removal.

TAIL GATE

Removal and Installation

INFOID:0000000012563992

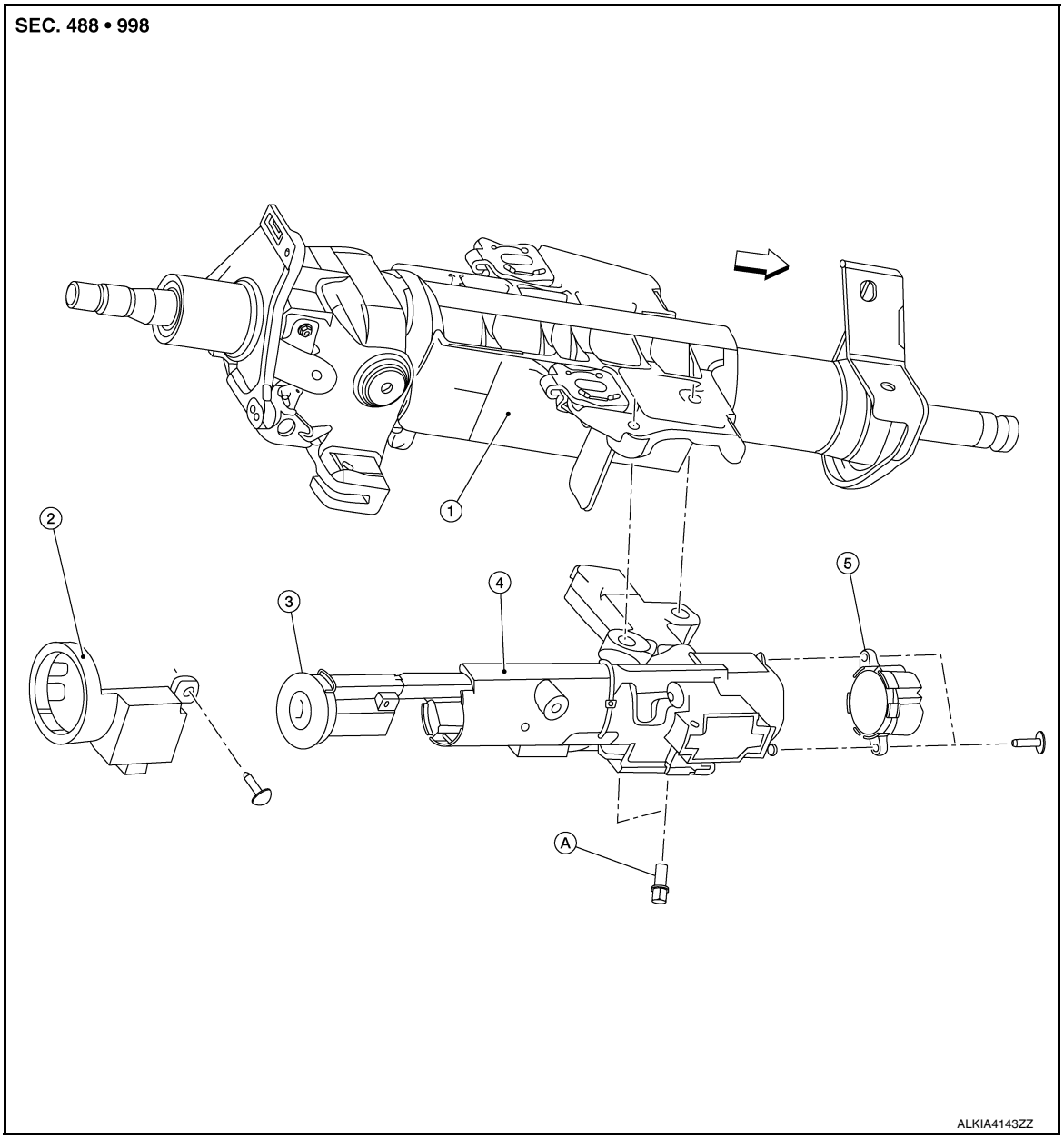


1. Tail gate protector (if equipped)
2. Tail gate cover plate
3. Tail gate latch assembly (LH/RH)
4. Tail gate rubber bumper
5. Tail gate stay assembly
6. Tail gate hinge assembly (LH/RH), body side
7. Tail gate ring (LH)
8. Tail gate hinge assembly (LH/RH), gate side
9. Tail gate spoiler
10. Tail gate
11. Tail gate handle and latch assembly
12. Rear view camera (if equipped)

STEERING LOCK UNIT

Exploded View

INFOID:0000000012858605



1. Steering column
2. NATS antenna amp. (if equipped)
3. Key cylinder
4. Steering lock unit
5. Ignition switch
A. Tamper resistant self-shear type screw

⇦ Front

Removal and Installation - Steering Lock Unit

INFOID:0000000012858606

REMOVAL

1. Disconnect the battery cables and wait at least three minutes. Refer to PG-89, "Removal and Installation".
2. Remove steering column. Refer to ST-12, "Removal and Installation".
3. Using suitable tool, remove steering lock unit tamper resistant self-shear type screws and remove steering lock unit from steering column.
   CAUTION:
   Do not reuse screws. Replace with new tamper resistant self-shear type screws.
4. If necessary, remove NATS antenna amp. (if equipped). Refer to SEC-79, "Removal and Installation".

5. If necessary, remove ignition keyhole illumination (if equipped).
6. If necessary, remove key cylinder. Refer to DLK-146, "Removal and Installation - Key Cylinder".
7. If necessary, remove ignition switch. Refer to DLK-146, "Removal and Installation - Ignition Switch".

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

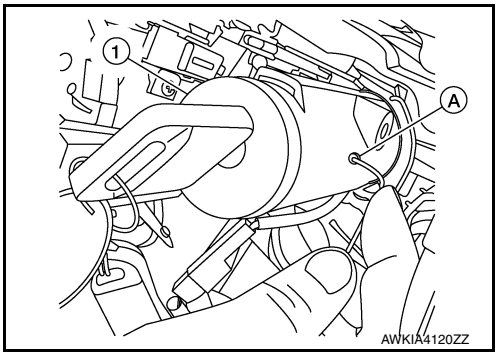
- **Do not reuse screws. Replace with new tamper resistant self-shear type screws.**
- **Tighten tamper resistant self-shear type screws until heads break off.**
- Adjust the neutral position of the steering angle sensor. Refer to BRC-11, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Description" (TYPE 1) or BRC-153, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Description" (TYPE 2).
- For initialization and registration of mechanical keys, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

Removal and Installation - Key Cylinder

INFOID:0000000012858607

REMOVAL

1. Disconnect the battery cables and wait at least three minutes. Refer to PG-89, "Removal and Installation".
2. Remove steering column covers. Refer to IP-16, "Removal and Installation".
3. Remove the NATS antenna amp. (if equipped). Refer to SEC-79, "Removal and Installation".
4. Remove ignition keyhole illumination (if equipped).
5. Turn the key to the "ACC" position.
6. Using suitable tool, depress the key cylinder release button (A).
7. While holding the steering key cylinder release button depressed, remove the key cylinder (1) from the steering lock unit.



INSTALLATION

Installation is in the reverse order of removal.

- Adjust the neutral position of the steering angle sensor. Refer to BRC-11, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Description" (TYPE 1) or BRC-153, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Description" (TYPE 2).
- For initialization and registration of mechanical keys, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

Removal and Installation - Ignition Switch

INFOID:0000000012858042

REMOVAL

1. Remove instrument lower panel LH. Refer to IP-18, "Removal and Installation".
2. Disconnect ignition switch harness connector.
3. Remove ignition switch screws and ignition switch.

INSTALLATION

Installation is in the reverse order of removal.

Adjust the neutral position of the steering angle sensor. Refer to BRC-11, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Description" (TYPE 1) or BRC-153, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Description" (TYPE 2).