SECTION DLK
DOOR & LOCK

CONTENTS

BASIC INSPECTION 4

DIAGNOSIS AND REPAIR WORKFLOW 4
Work Flow 4

INSPECTION AND ADJUSTMENT 7

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT 7
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description 7
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement 7

FUNCTION DIAGNOSIS 8

AUTOMATIC DOOR LOCKS 8
System Diagram 8
System Description 8
Component Parts Location 10
Component Description 11

DOOR LOCK FUNCTION 12

DOOR LOCK AND UNLOCK SWITCH 12
DOOR LOCK AND UNLOCK SWITCH : System Diagram 12
DOOR LOCK AND UNLOCK SWITCH : System Description 12
DOOR LOCK AND UNLOCK SWITCH : Component Parts Location 13
DOOR LOCK AND UNLOCK SWITCH : Component Description 13

REMOTE KEYLESS ENTRY 14
REMOTE KEYLESS ENTRY : System Diagram 14
REMOTE KEYLESS ENTRY : System Description 14
REMOTE KEYLESS ENTRY : Component Parts Location 16
REMOTE KEYLESS ENTRY : Component Description 16

HOMELINK UNIVERSAL TRANSCEIVER 18
Component Description 18

DIAGNOSIS SYSTEM (BCM) 19

COMMON ITEM 19
COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM) 19

DOOR LOCK 19
DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK) 19

MULTIREMOTE ENT 20
MULTIREMOTE ENT : CONSULT-III Function (BCM - MULTIREMOTE ENT) 20

COMPONENT DIAGNOSIS 23

U1000 CAN COMM CIRCUIT 23
Description 23
DTC Logic 23
Diagnosis Procedure 23

U1010 CONTROL UNIT (CAN) 24
DTC Logic 24
Diagnosis Procedure 24
Special Repair Requirement 24

POWER SUPPLY AND GROUND CIRCUIT 25

BCM (BODY CONTROL MODULE) 25
BCM (BODY CONTROL MODULE) : Diagnosis Procedure 25

DOOR SWITCH 26

KING CAB 26
KING CAB : Description 26
KING CAB : Component Function Check 26
KING CAB : Diagnosis Procedure 26

CREW CAB 27
CREW CAB : Description 27

CREW CAB : Component Function Check 27
CREW CAB : Diagnosis Procedure 28

DOOR LOCK AND UNLOCK SWITCH 30

KING CAB 30
KING CAB : Description 30
KING CAB : Component Function Check 30
KING CAB : Diagnosis Procedure 30

CREW CAB 32
CREW CAB : Description 32
CREW CAB : Component Function Check 32
CREW CAB : Diagnosis Procedure 33

FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) 36

KING CAB 36
KING CAB : Description 36
KING CAB : Component Function Check 36
KING CAB : Diagnosis Procedure 36

CREW CAB 38
CREW CAB : Description 38
CREW CAB : Component Function Check 38
CREW CAB : Diagnosis Procedure 38

KEY SWITCH (BCM INPUT) 41

COLUMN SHIFT 41
COLUMN SHIFT : Diagnosis Procedure 41

FLOOR SHIFT 42
FLOOR SHIFT : Diagnosis Procedure 42

DOOR LOCK ACTUATOR 44

FRONT LH 44
FRONT LH : Description 44
FRONT LH : Component Function Check 44
FRONT LH : Diagnosis Procedure 44

FRONT RH 45
FRONT RH : Description 45
FRONT RH : Component Function Check 45
FRONT RH : Diagnosis Procedure 45

REAR RH/LH 46
REAR RH/LH : Description 46
REAR RH/LH : Component Function Check 46
REAR RH/LH : Diagnosis Procedure 46

REMOTE KEYLESS ENTRY RECEIVER 48
Description 48
Component Function Check 48
Diagnosis Procedure 48

KEYFOB BATTERY AND FUNCTION 50
Description 50
Component Function Check 50
Diagnosis Procedure 50
Component Inspection 50
Special Repair Requirement 51

HORN FUNCTION 52
Description 52
Component Function Check 52
Diagnosis Procedure 52

WARNING CHIME FUNCTION 54
Description 54
Component Function Check 54
Diagnosis Procedure 54

HAZARD FUNCTION 55
Description 55
Component Function Check 55
Diagnosis Procedure 55

HEADLAMP FUNCTION 56
Diagnosis Procedure 56

MAP LAMP AND IGNITION KEYHOLE ILLUMINATION FUNCTION 57
Diagnosis Procedure 57

KEYFOB ID SET UP WITH CONSULT-III 58
ID Code Entry Procedure 58

KEYFOB ID SET UP WITHOUT CONSULT-III.. 59
ID Code Entry Procedure 59

HOMELINK UNIVERSAL TRANSCEIVER 61
Wiring Diagram 61
Description 62
Component Function Check 63
Diagnosis Procedure 63

ECU DIAGNOSIS 65

BCM (BODY CONTROL MODULE) 65
Reference Value 65
Terminal Layout 67
Physical Values 67
Wiring Diagram—POWER DOOR LOCK SYSTEM (KING CAB)— 73
Wiring Diagram—POWER DOOR LOCK SYSTEM (CREW CAB)— 80
Wiring Diagram — REMOTE KEYLESS ENTRY SYSTEM — 90
Fail Safe 98
DTC Inspection Priority Chart 99
DTC Index 99

SYMPTOM DIAGNOSIS 101

DOOR LOCK 101
Symptom Table 101

REMOTE KEYLESS ENTRY SYSTEM 102
Symptom Table 102

HOMELINK UNIVERSAL TRANSCEIVER 104
Symptom Table 104

SQUEAK AND RATTLE TROUBLE DIAGNOSES 105
Work Flow 105
Generic Squeak and Rattle Troubleshooting 107
Diagnostic Worksheet 109

PRECAUTION 111

PRECAUTIONS 111
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 111
Precaution for work 111

PREPARATION 112

PREPARATION 112
Special Service Tool 112
Commercial Service Tool 113

ON-VEHICLE REPAIR 114

HOOD 114
Fitting Adjustment 114
Removal and Installation of Hood Assembly 115
Removal and Installation of Hood Lock Control 116
Hood Lock Control Inspection 117
Hood Stay Disposal 117

DOOR 119
Fitting Adjustment 119
Removal and Installation 121

FRONT DOOR LOCK 124
Component Structure 124
Removal and Installation 124
Disassembly and Assembly 126

REAR DOOR LOCK 127
Component Structure 127
Removal and Installation 128

TAIL GATE 131
Removal and Installation 131
Tail Gate Gas Stay Disposal 132

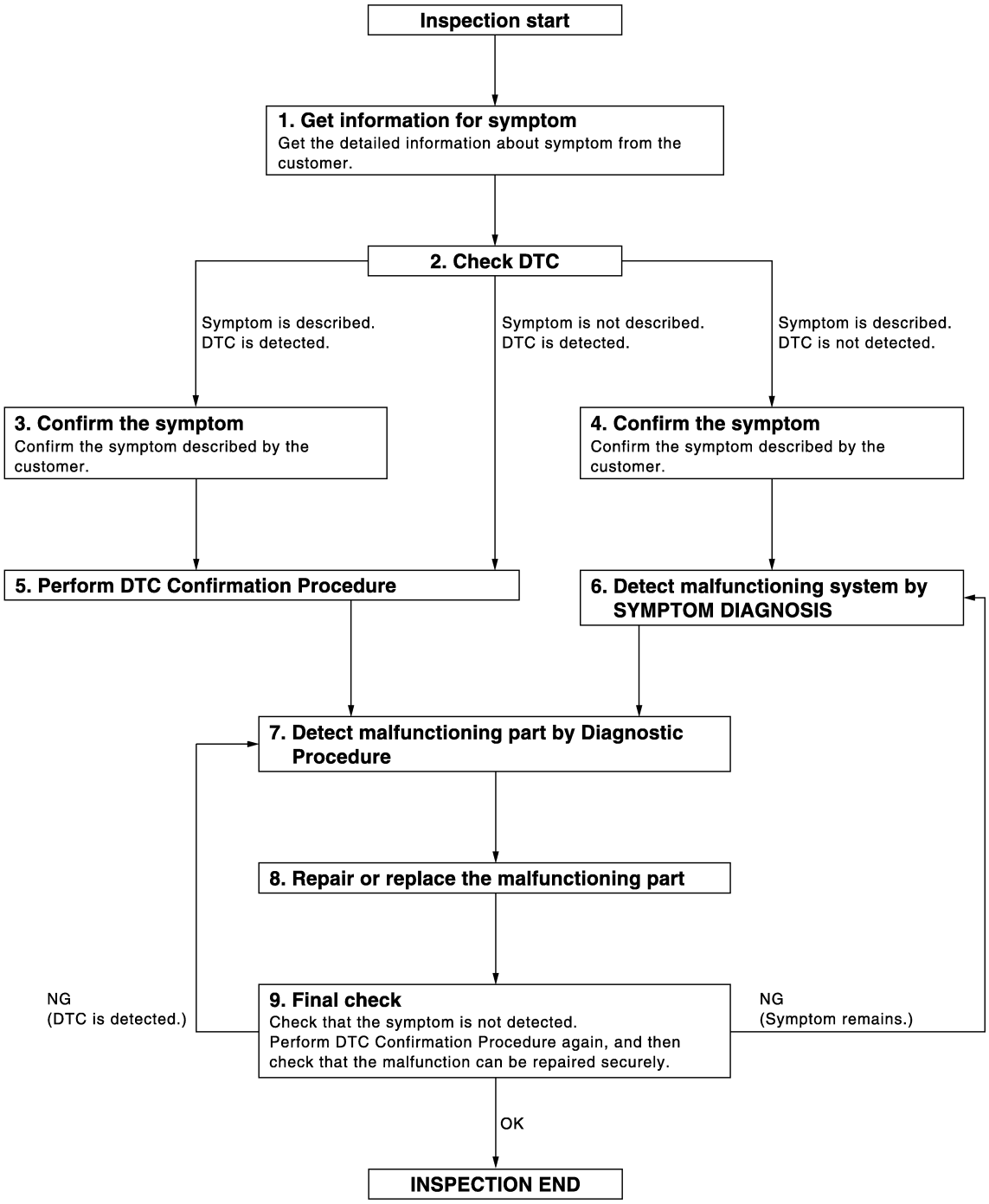
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000005387394

OVERALL SEQUENCE



JMKIA2270GB

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-III.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
3. Check related service bulletins for information.

Is any symptom described and any DTC detected?

Symptom is described, DTC is displayed>>GO TO 3.
Symptom is described, DTC is not displayed>>GO TO 4.
Symptom is not described, DTC is displayed>>GO TO 5.

3.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT-III to the vehicle in “DATA MONITOR” mode and check real time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT-III to the vehicle in “DATA MONITOR ” mode and check real time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again.
At this time, always connect CONSULT-III to the vehicle, and check diagnostic results in real time.
If two or more DTCs are detected, refer to DLK-99, "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-38, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

>> GO TO 7.

7.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.
NOTE:

< BASIC INSPECTION >

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

Is malfunctioning part detected?

Yes >> GO TO 8.
No >> Check voltage of related BCM terminals using CONSULT-III.

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction have been repaired securely.
When symptom was described from the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Does the symptom reappear?

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

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:0000000005387395

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:0000000005387396

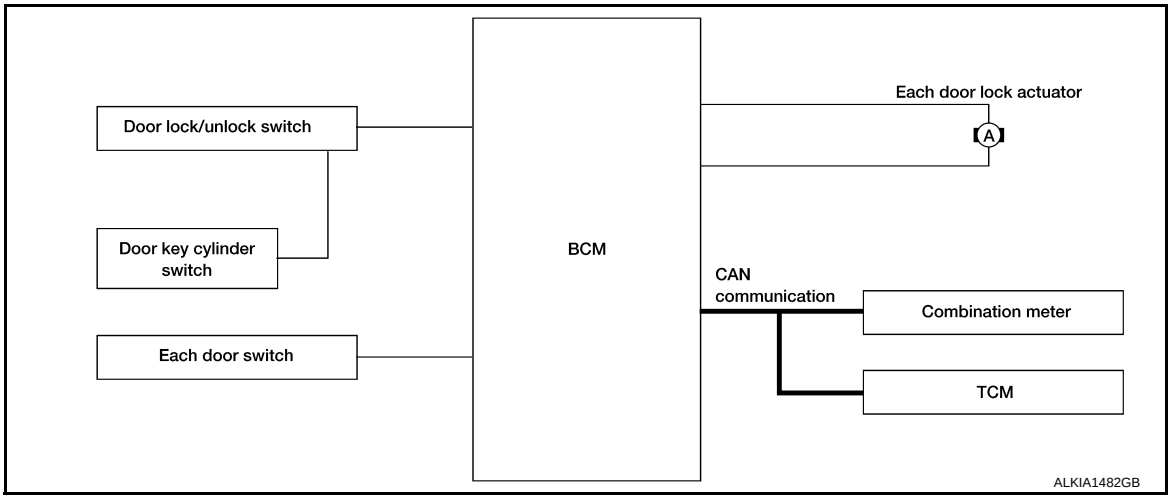
Refer to the CONSULT-III operation manual for the initialization procedure.

FUNCTION DIAGNOSIS

AUTOMATIC DOOR LOCKS

System Diagram

INFOID:0000000005387397



System Description

INFOID:0000000005387398

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

Door Key Cylinder

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

Selective unlock operation mode can be changed using “DOOR LOCK-UNLOCK SET” mode in “WORK SUPPORT”. Refer to DLK-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

AUTOMATIC DOOR LOCKS (LOCK OPERATION)

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

Vehicle Speed Sensing Auto Door Lock*1

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

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

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

P Range Interlock Door Lock

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

Setting change of Automatic Door Locks (LOCK) Function

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

With CONSULT-III

The ON/OFF switching of the automatic door locks (LOCK) function and the type selection of the automatic door locks (LOCK) function can be performed at the WORK SUPPORT setting of CONSULT-III. Refer to DLK-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

Without CONSULT- III

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

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

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

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

AUTOMATIC DOOR LOCKS (UNLOCK OPERATION)

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

IGN OFF Interlock Door Unlock*1

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

P Range Interlock Door Unlock

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

Setting change of Automatic Door Locks (UNLOCK) Function

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

With CONSULT-III

The ON/OFF switching of the automatic door locks (UNLOCK) function and the type selection of the automatic door locks (UNLOCK) function can be performed at the WORK SUPPORT setting of CONSULT-III. Refer to DLK-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

Without CONSULT- III

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

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

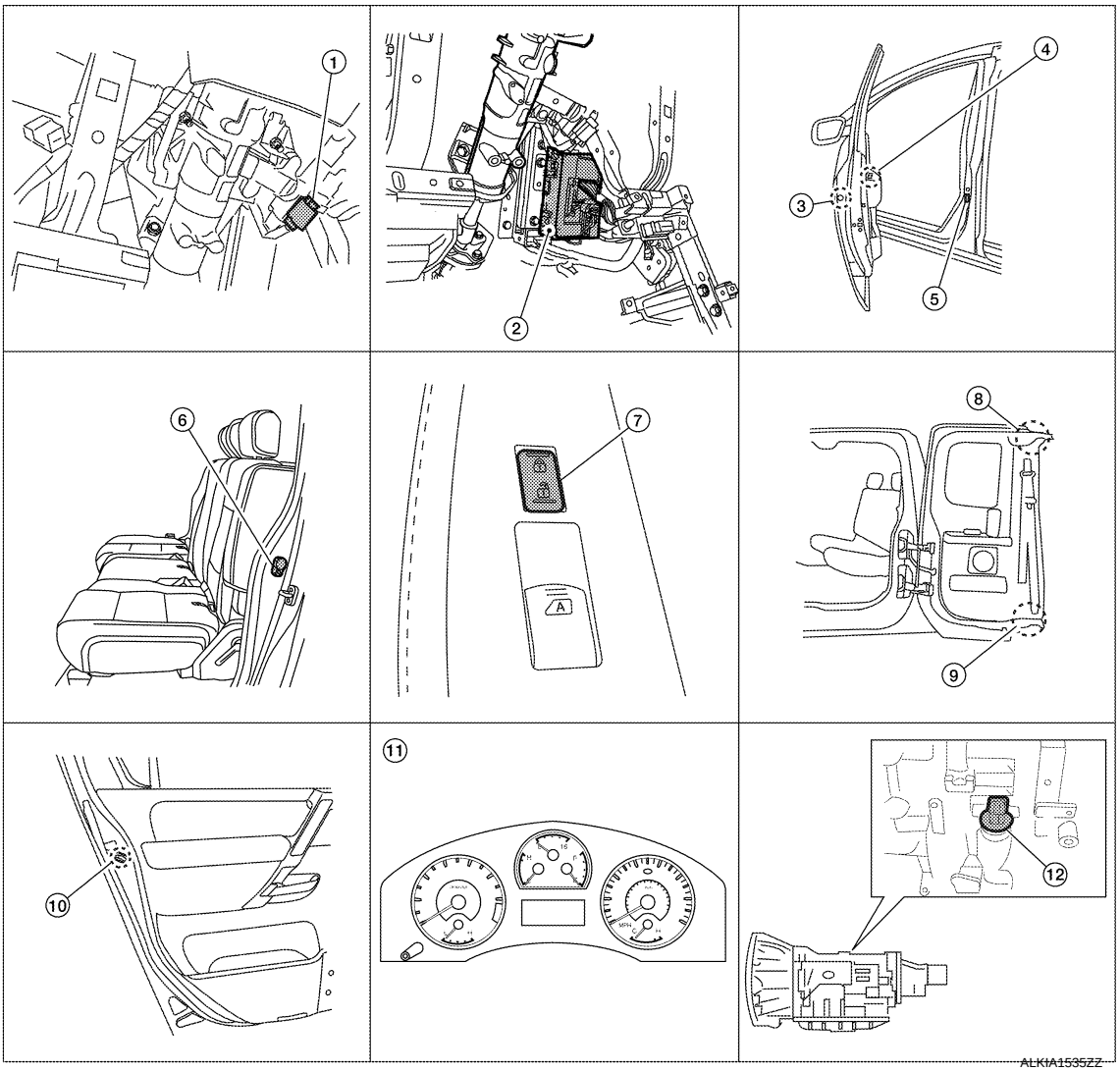
OFF → ON	: 2 blinks
ON → OFF	: 1 blink

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

INFOID:0000000005387399



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

Component Description

INFOID:0000000005387400

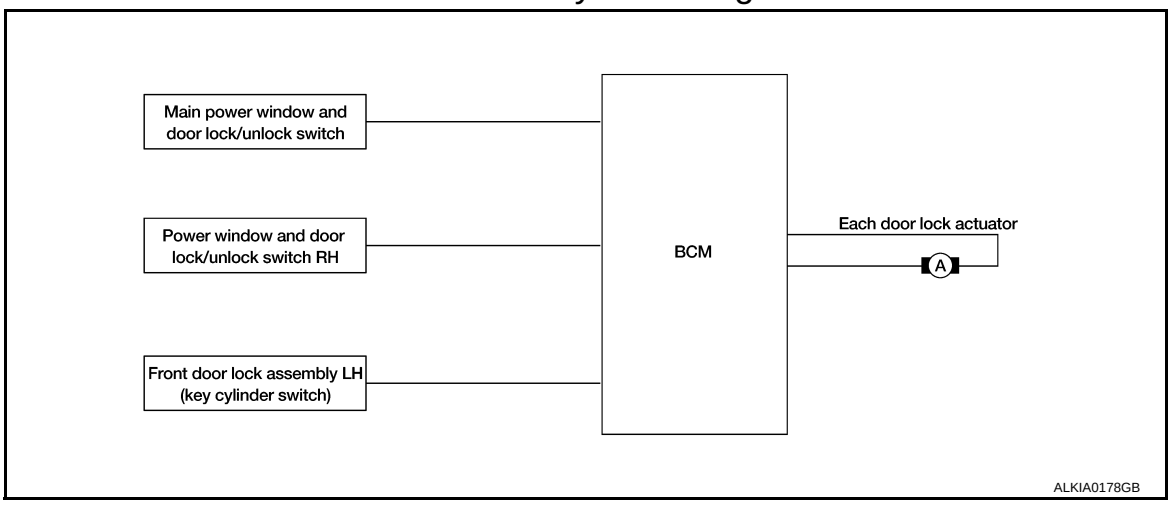
Item	Function
BCM	Controls the door lock function and room lamp function.
Door lock and unlock switch	Input lock or unlock signal to BCM.
Door lock actuator	Output lock/unlock signal from BCM and locks/unlocks each door.
Door switch	Input door open/close condition to BCM.
Door key cylinder switch	• Input 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 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:0000000005387401



DOOR LOCK AND UNLOCK SWITCH : System Description

INFOID:0000000005387402

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			
Door key cylinder switch			

DOOR LOCK FUNCTION

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

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

Functions Available by Operating the Key Cylinder Switch on Driver Door

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

Selective Unlock Operation

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

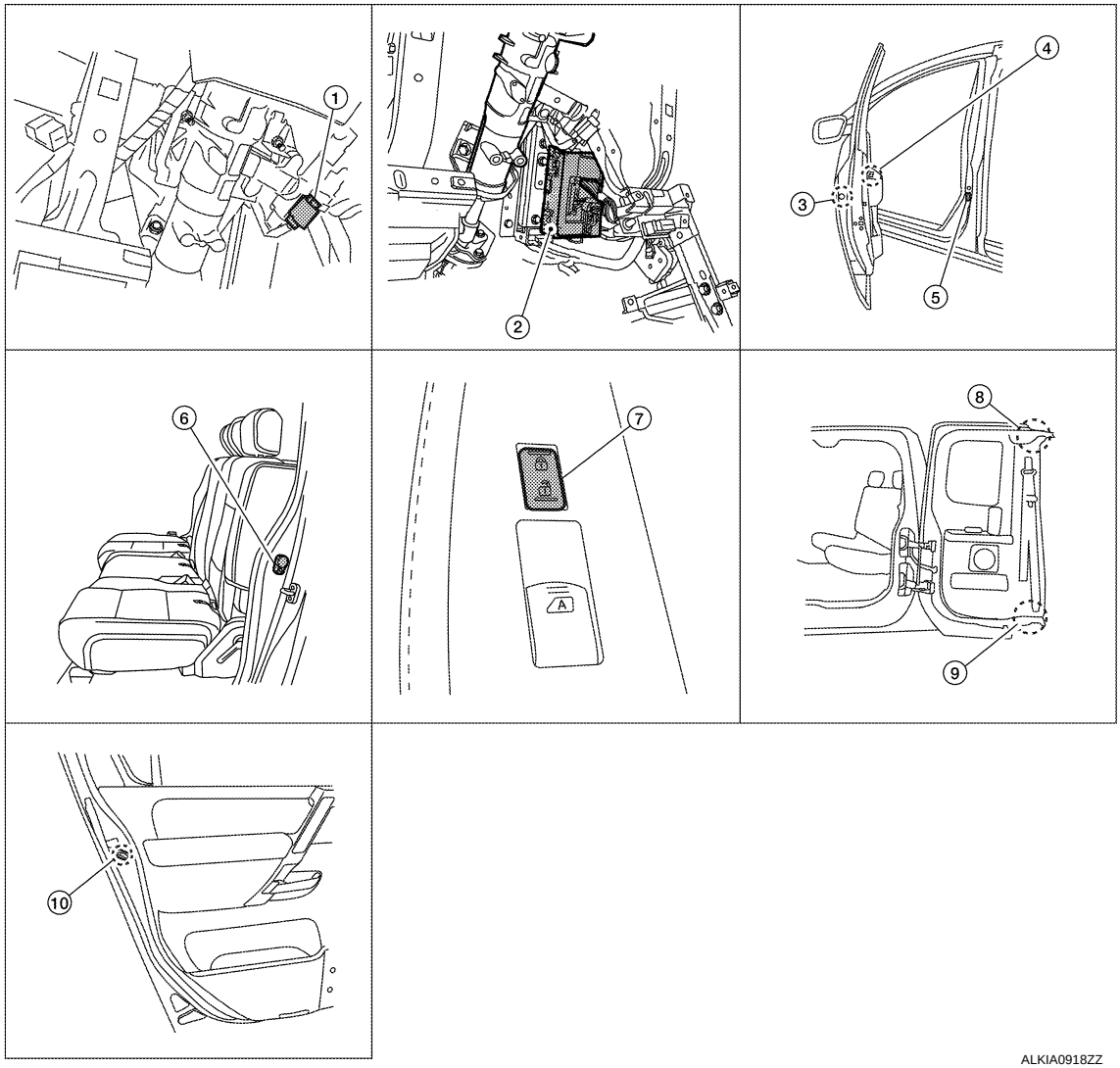
Select unlock operation mode can be changed using DOOR LOCK-UNLOCK SET mode in “WORK SUPPORT”. Refer to DLK-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

Key Reminder System

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

DOOR LOCK AND UNLOCK SWITCH : Component Parts Location

INFOID:0000000005387403



ALKIA0918ZZ

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

DOOR LOCK AND UNLOCK SWITCH : Component Description

INFOID:0000000005387404

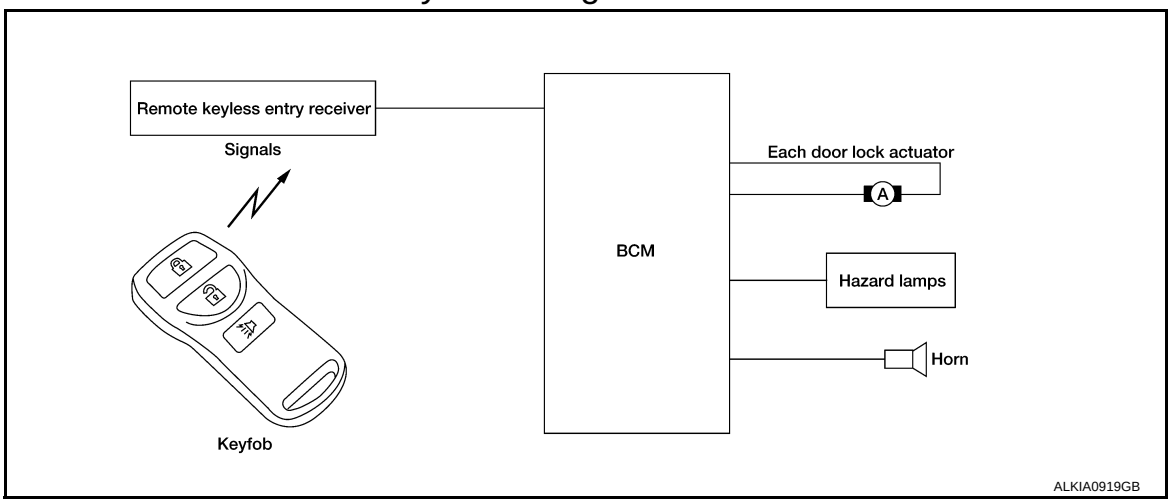
Item	Function
BCM	Controls the door lock function and room lamp function.
Door lock and unlock switch	Transmits lock or unlock signal to BCM.

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

REMOTE KEYLESS ENTRY

REMOTE KEYLESS ENTRY : System Diagram

INFOID:0000000005387405



REMOTE KEYLESS ENTRY : System Description

INFOID:0000000005387406

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

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

HAZARD AND HORN REMINDER

BCM output to IPDM E/R for horn reminder signal as DATA LINE (CAN-H line and CAN-L line).
The hazard and horn reminder has C mode (horn chirp mode) and S mode (non-horn chirp mode).

How to change hazard and horn reminder mode

With CONSULT-III

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

Without CONSULT-III

Refer to Owner's Manual for instructions.

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

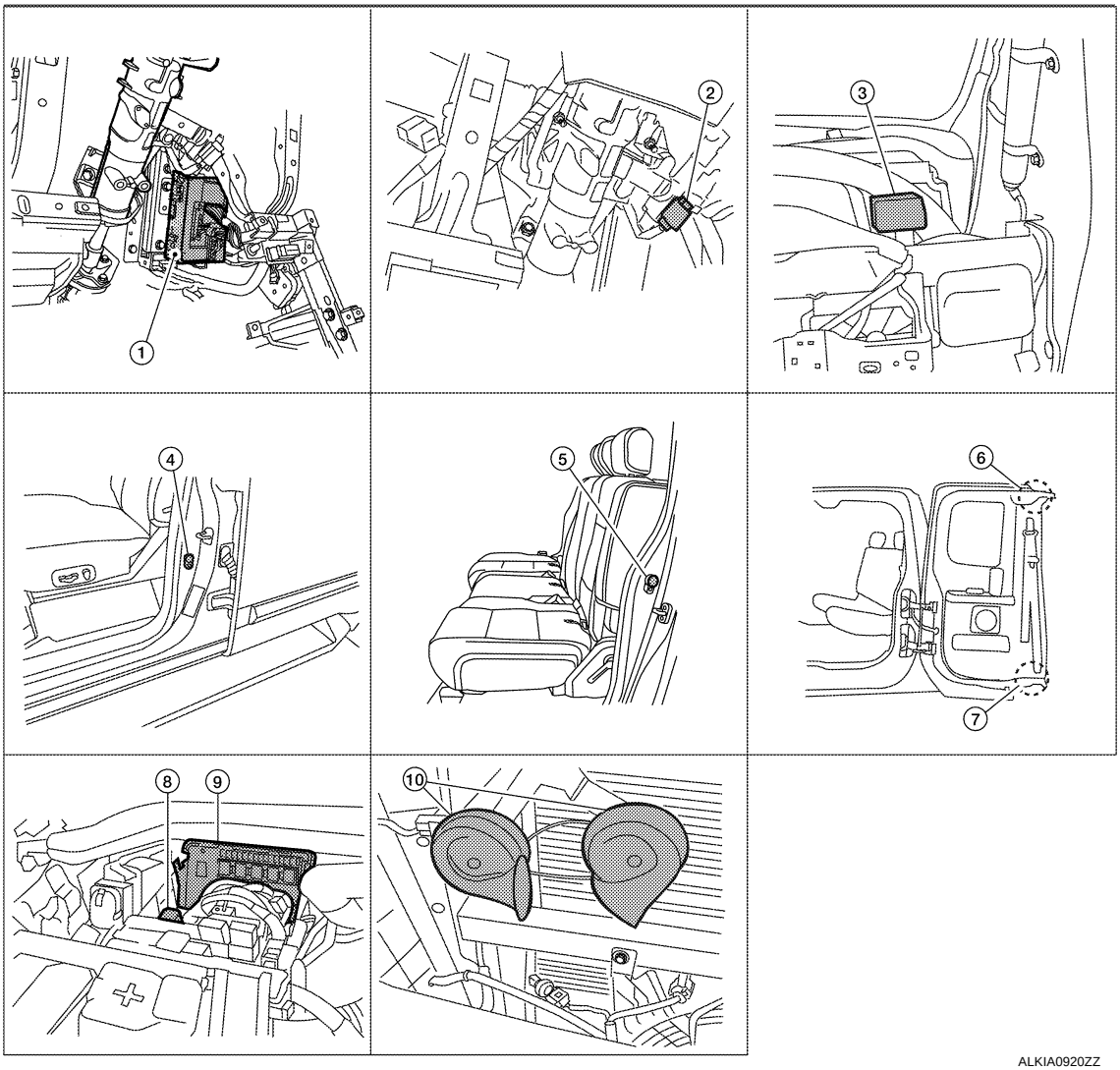
When key switch is OFF (when ignition key is not inserted in key cylinder), remote keyless entry system turns on and off horn and headlamp intermittently with input of PANIC ALARM signal from keyfob.
The alarm automatically turns off after 25 seconds or when BCM receives any signal from keyfob.

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

INFOID:0000000005387407



ALKIA0920ZZ

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

REMOTE KEYLESS ENTRY : Component Description

INFOID:0000000005387408

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

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

HOMELINK UNIVERSAL TRANSCEIVER

Component Description

INFOID:0000000005387409

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-III Function (BCM - COMMON ITEM)

INFOID:0000000005701166

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

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
SELF DIAGNOSTIC RESULT	Displays the diagnosis results judged by BCM. Refer to BCS-49, "DTC Index".
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	• Enables to read and save the vehicle specification. • Enables to write the vehicle specification when replacing BCM.

SYSTEM APPLICATION
BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

System	Sub system selection item	Diagnosis mode		
		WORK SUPPORT	DATA MONITOR	ACTIVE TEST
BCM	BCM	×		
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 CONDITONER		×	
Combination switch	COMB SW		×	
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
RAP (retained accessory power)	RETAINED PWR	×	×	×
Signal buffer system	SIGNAL BUFFER		×	×
TPMS (tire pressure monitoring system)	AIR PRESSURE MONITOR	×	×	×
Vehicle security system	THEFT ALM	×	×	×

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

INFOID:0000000005701167

WORK SUPPORT

Work Item	Description
DOOR LOCK-UNLOCK SET	• ON • OFF
ANTI-LOCK OUT SET	• ON • OFF
AUTOMATIC DOOR LOCK SELECT	• SHIFT OUT OF P • VH SPD
AUTOMATIC DOOR UNLOCK SELECT	• MODE1: Unlock all door when IGN OFF • MODE2: Unlock all door when out of P range • MODE3: Unlock all door when key out • MODE4: Unlock driver door only when IGN OFF • MODE5: Unlock driver door only when out of P range • MODE6: Unlock driver door only when key out
AUTOMATIC LOCK/UNLOCK SELECT	• ON • OFF

DATA MONITOR

Monitor Item [Unit}	Description
IGN ON SW [ON/OFF]	Indicates condition of ignition switch in ON position
KEY ON SW [ON/OFF]	Indicates condition of key switch
CDL LOCK SW [ON/OFF]	Indicates condition of door lock and unlock switch
CDL UNLOCK SW [ON/OFF]	Indicates condition of 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 [ALL LCK/ALL ULK/DR UNLK/OTR ULK].

MULTIREMOTE ENT

MULTIREMOTE ENT : CONSULT-III Function (BCM - MULTIREMOTE ENT)

INFOID:0000000005701168

WORK SUPPORT

Work Item	Description
HORN CHIRP SET	Horn chirp function mode can be changed in this mode. The function mode will be changed when "ON" or "OFF" on CONSULT-III screen is touched.
HAZARD LAMP SET	• MODE1: Nothing • MODE2: Unlock only • MODE3: Lock only • MODE4: Lock and unlock
MULTI ANSWER BACK SET	Hazard and horn reminder mode can be changed in this mode. See table below for details.

Work Item	Description
AUTO LOCK SET	• MODE1: 5 minutes • MODE2: Nothing • MODE3: 1 minute
PANIC ALARM SET	• MODE1: 0.5 seconds • MODE2: Nothing • MODE3: 1.5 seconds
PW DOWN SET	• MODE1: 2 seconds • MODE2: Nothing • MODE3: 5 seconds
REMO CONT ID REGIST	Keyfob ID code can be registered.
REMO CONT ID ERASUR	Keyfob ID code can be erased.
REMO CONT ID CONFIR	It can be checked whether keyfob ID code is registered or not in this mode.

Hazard and horn reminder mode

	MODE 1 (C mode)		MODE 2 (S mode)	
Keyfob operation	Lock	Unlock	Lock	Unlock
Hazard warning lamp flash	Twice	Once	Twice	—
Horn sound	Once	—	—	—

DATA MONITOR

Monitor Item [Unit}	Condition
IGN ON SW [ON/OFF]	Indicates condition of ignition switch in ON position
KEY ON SW [ON/OFF]	Indicates condition of key switch
ACC ON SW [ON/OFF]	Indicates condition of ignition switch in 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 (crew cab)
DOOR SW-RL [ON/OFF]	Indicates condition of rear door switch LH (crew cab)
CDL LOCK SW [ON/OFF]	Indicates condition of door lock and unlock switch
CDL UNLOCK SW [ON/OFF]	Indicates condition of door lock and unlock switch
KEY CYL LK-SW [ON/OFF]	Indicates condition of lock signal from door key cylinder switch
RKE LCK-UNLCK [ON/OFF]	Indicates condition of lock/unlock signal at the same time from keyfob
RKE KEEP UNLK [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. The doors lock and unlock based on the item on CONSULT-III screen touched.
PW REMOTO DOWN SET	This test is able to check power window down operation. The windows are lowered when “ON” on CONSULT-III screen is touched.

Test Item	Description
FLASHER	This test is able to check right and left hazard reminder operation. The right hazard lamp turns on when “RH” on CONSULT-III screen is touched and the left hazard lamp turns on when "LH" on CONSULT-III screen is touched.
HORN	This test is able to check panic alarm and horn reminder operations. The alarm activate for 0.5 seconds after “ON” on CONSULT-III screen is touched.

COMPONENT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000005387413

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H-line, CAN L-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-51, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000005387414

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000005387415

1.PERFORM SELF DIAGNOSTIC

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

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to LAN-14, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-38, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000005387416

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000005387417

1.REPLACE BCM

When DTC [U1010] is detected, replace BCM.

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

Special Repair Requirement

INFOID:0000000005387418

1.REQUIRED WORK WHEN REPLACING BCM

The BCM must be initialized when replaced. Refer to BCS-3, "CONFIGURATION : Description" for BCM configuration.
Initialize NVIS by CONSULT-III. For the details of initialization refer to CONSULT-III operation manual NATS-IVIS/NVIS.

>> Work end.

POWER SUPPLY AND GROUND CIRCUIT
BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:0000000005701169

1. CHECK FUSES AND FUSIBLE LINK

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

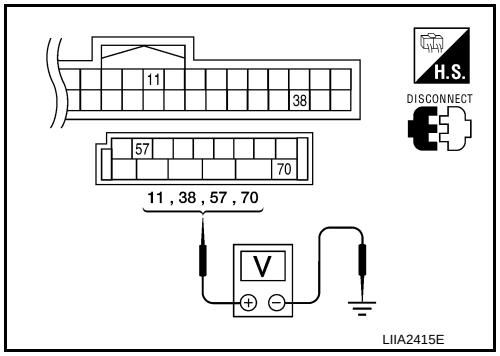
Terminal No.	Signal name	Fuses and fusible link No.
57	Battery power supply	22 (15A)
70		F (50A)
11	Ignition ACC or ON	4 (10A)
38	Ignition ON or START	59 (10A)

Is the fuse blown?

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

2. CHECK POWER SUPPLY CIRCUIT

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



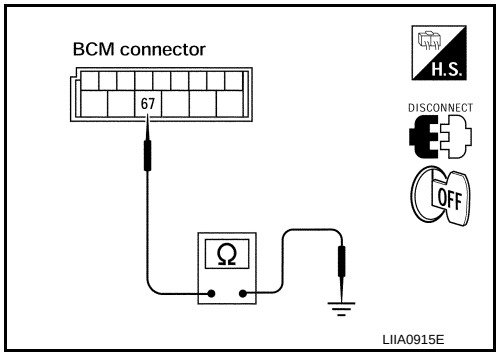
Connector	Terminals (+)	Terminals (-)	Power source	Condition	Voltage (V) (Approx.)
M18	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage
	38	Ground	Ignition power supply	Ignition switch ON or START	Battery voltage
M20	57	Ground	Battery power supply	Ignition switch OFF	Battery voltage
	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:0000000005387420

Detects door open/close condition.

KING CAB : Component Function Check

INFOID:0000000005387421

1.CHECK FUNCTION

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

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-26, "KING CAB : Diagnosis Procedure".

KING CAB : Diagnosis Procedure

INFOID:0000000005387422

Regarding Wiring Diagram information, refer to DLK-73, "Wiring Diagram—POWER DOOR LOCK SYSTEM (KING CAB)—".

1.CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-III
Check door switches ("DOOR SW-DR", "DOOR SW-AS") in DATA MONITOR mode with CONSULT–III. Refer to DLK-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

- When doors are open:

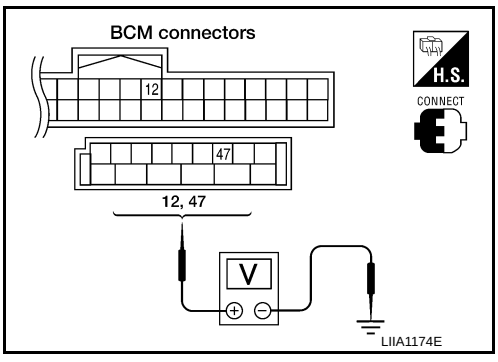
DOOR SW-DR :ON
DOOR SW-AS :ON

- When doors are closed:

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

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

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



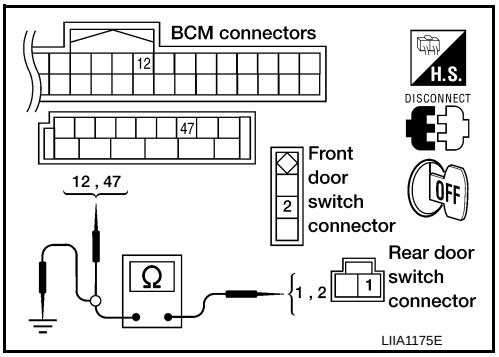
Is the inspection result normal?

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

2.CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH), B108 (Front RH) terminal 2, B73 (Rear upper LH), B156 (Rear upper RH), B74 (Rear lower LH), B157 (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



4. Check continuity between door switch connector B8 (Front LH), B108 (Front RH) terminal 2, B73 (Rear upper LH), B156 (Rear upper RH), B74 (Rear lower LH), B157 (Rear lower RH) terminal 1 and ground.

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

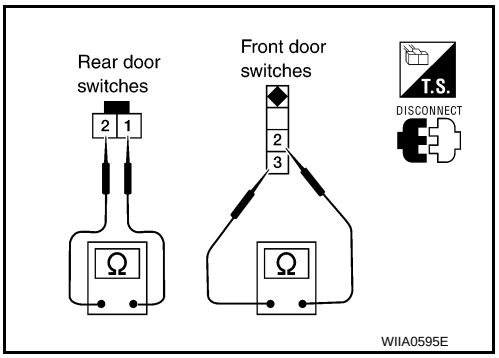
Is the inspection result normal?

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

3.CHECK DOOR SWITCHES

Check continuity between door switch terminals.

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



Is the inspection result normal?

YES >> Repair or replace harness.
NO >> Replace door switch.

CREW CAB

CREW CAB : Description

INFOID:0000000005387423

Detects door open/close condition.

CREW CAB : Component Function Check

INFOID:0000000005387424

1.CHECK FUNCTION

With CONSULT-III

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

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-28, "CREW CAB : Diagnosis Procedure".

CREW CAB : Diagnosis Procedure

INFOID:0000000005387425

Regarding Wiring Diagram information, refer to DLK-80, "Wiring Diagram—POWER DOOR LOCK SYSTEM (CREW CAB)—".

1.CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-III

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR") in DATA MONITOR mode with CONSULT–III. Refer to DLK-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

- When doors are open:

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

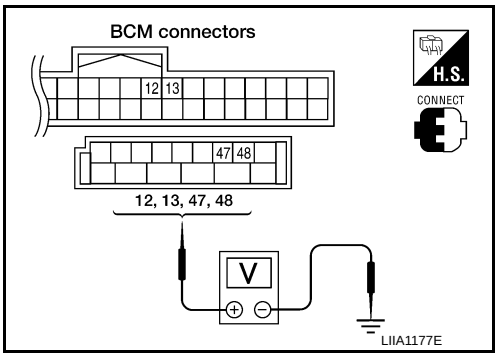
- When doors are closed:

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

Without CONSULT-III

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

Connector	Item	Terminals (+)	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			



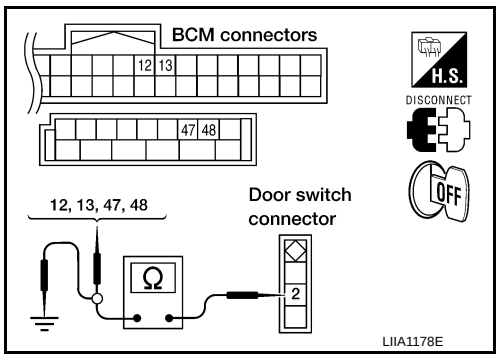
Is the inspection result normal?

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

2.CHECK DOOR SWITCH CIRCUIT

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

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



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

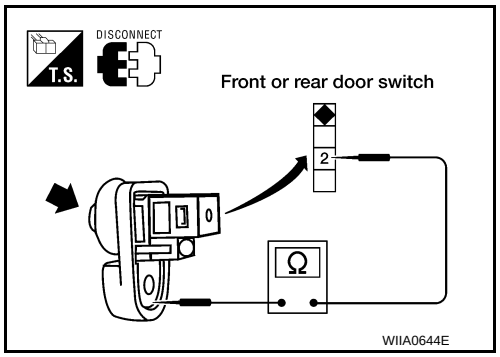
2 - Ground **:Continuity should not exist**

Is the inspection result normal?

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

3.CHECK DOOR SWITCHES

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



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

Is the inspection result normal?

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

DOOR LOCK AND UNLOCK SWITCH

KING CAB

KING CAB : Description

INFOID:0000000005387426

Transmits door lock/unlock operation to BCM.

KING CAB : Component Function Check

INFOID:0000000005387427

1.CHECK FUNCTION

With CONSULT-III

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

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

Is the inspection result normal?

YES >> Door lock and unlock switch is OK.
NO >> refer to DLK-30, "KING CAB : Diagnosis Procedure".

KING CAB : Diagnosis Procedure

INFOID:0000000005387428

Regarding Wiring Diagram information, refer to DLK-73, "Wiring Diagram—POWER DOOR LOCK SYSTEM (KING CAB)—".

1.CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT-III

Check door lock/unlock switch ("CDL LOCK SW", "CDL UNLOCK SW") in DATA MONITOR mode in CONSULT–III. Refer to DLK-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

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

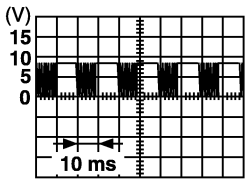
CDL LOCK SW :ON

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

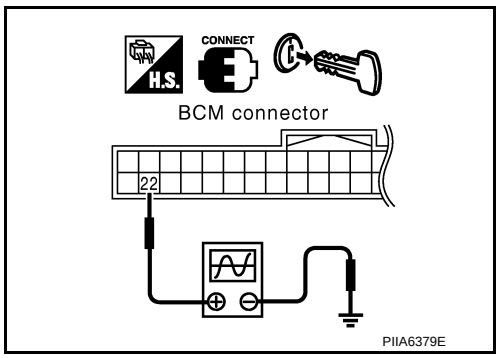
CDL UNLOCK SW :ON

Without CONSULT-III

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

Connector	Terminals (+)	Terminals (–)	Signal (Reference value)
M18	22	Ground	

PIIA1297E



PIIA6379E

Is the inspection result normal?

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

2. CHECK BCM OUTPUT SIGNAL

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

The front windows should be lowered?

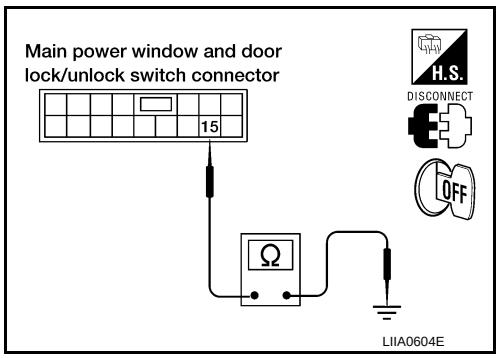
Is the inspection result normal?

YES >> GO TO 3
NO >> Replace BCM. Refer to BCS-53, "Removal and Installation".

3. CHECK DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

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

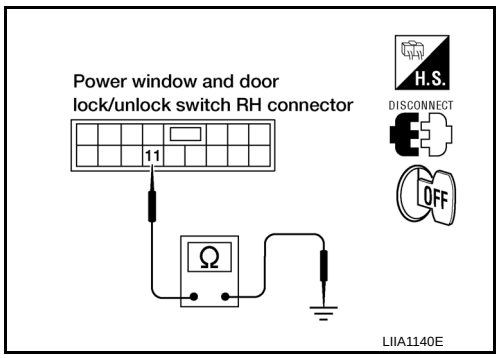
15 - Ground : Continuity should exist



LIIA0604E

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

11 - Ground : Continuity should exist



LIIA1140E

Is the inspection result normal?

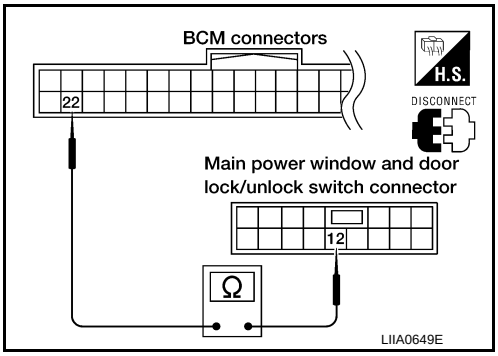
YES >> GO TO 4
NO >> Repair or replace harness.

4. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Disconnect BCM.

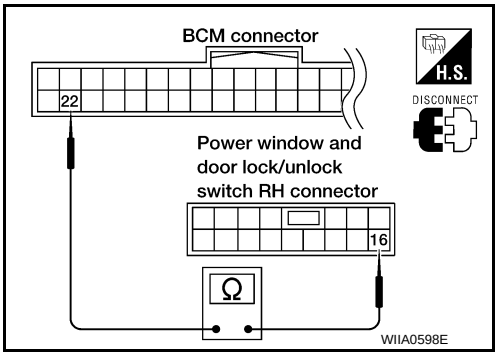
2. Check continuity between BCM connector M18 terminal 22 and main power window and door lock/unlock switch connector D15 terminal 12.

22 - 12 : Continuity should exist



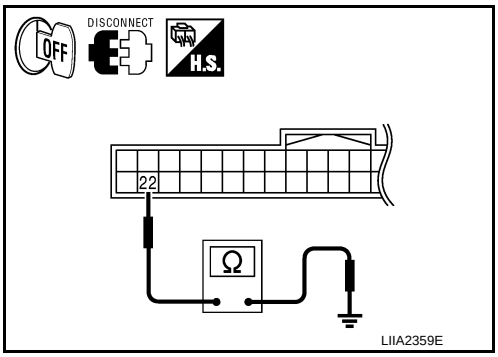
3. Check continuity between BCM connector M18 terminal 22 and power window and door lock/unlock switch RH connector D105 terminal 16.

22 - 16 : Continuity should exist



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

22 - Ground : Continuity should not exist



Is the inspection result normal?

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

CREW CAB

CREW CAB : Description

INFOID:0000000005387429

Transmits door lock/unlock operation to BCM.

CREW CAB : Component Function Check

INFOID:0000000005387430

1.CHECK FUNCTION

With CONSULT-III

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

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

Is the inspection result normal?

YES >> Door lock and unlock switch is OK.
NO >> Refer to DLK-33, "CREW CAB : Diagnosis Procedure".

CREW CAB : Diagnosis Procedure

INFOID:0000000005387431

Regarding Wiring Diagram information, refer to DLK-80, "Wiring Diagram—POWER DOOR LOCK SYSTEM (CREW CAB)—".

1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT-III

Check door lock/unlock switch ("CDL LOCK SW", "CDL UNLOCK SW") in DATA MONITOR mode in CONSULT–III. Refer to DLK-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

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

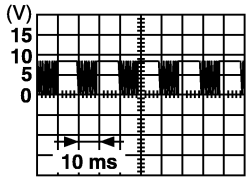
CDL LOCK SW :ON

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

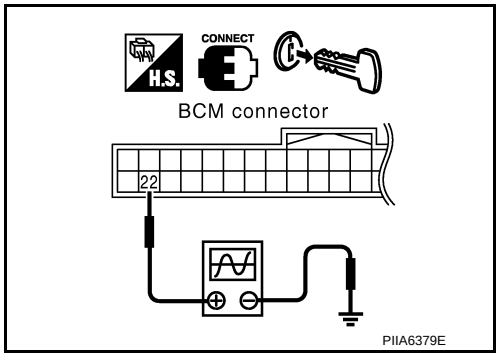
CDL UNLOCK SW :ON

Without CONSULT-III

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

Connector	Terminals (+)	Terminals (–)	Signal (Reference value)
M18	22	Ground	

PIIA1297E



PIIA6379E

Is the inspection result normal?

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

2. CHECK BCM OUTPUT SIGNAL

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

The front windows should be lowered?

Is the inspection result normal?

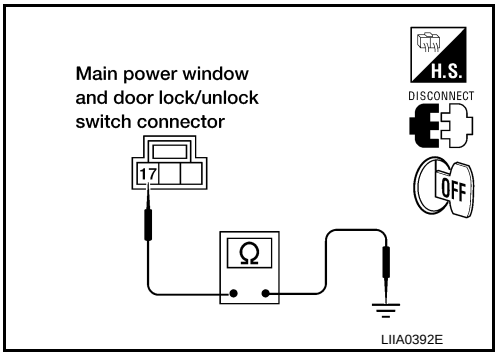
YES >> GO TO 3
NO >> Replace BCM. Refer to BCS-53, "Removal and Installation".

3. CHECK DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

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

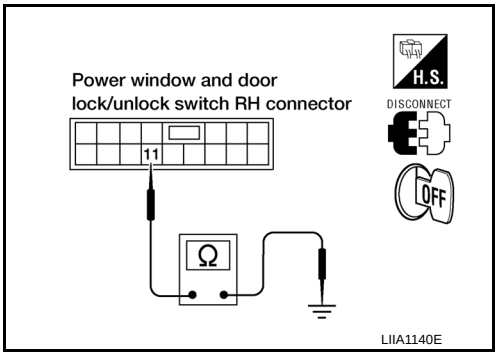
3. Check continuity between main power window and door lock/unlock switch connector D8 terminal 17 and ground.

17 - Ground : Continuity should exist



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

11 - Ground : Continuity should exist



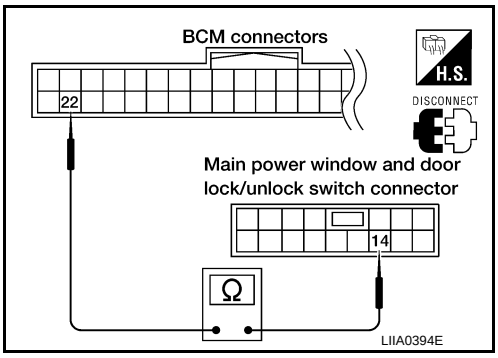
Is the inspection result normal?

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

4. CHECK POWER WINDOW SERIAL LINK CIRCUIT

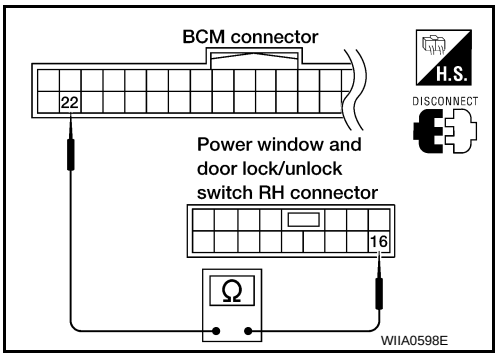
1. Disconnect BCM.
2. Check continuity between BCM connector M18 terminal 22 and main power window and door lock/unlock switch connector D7 terminal 14.

22 - 14 : Continuity should exist

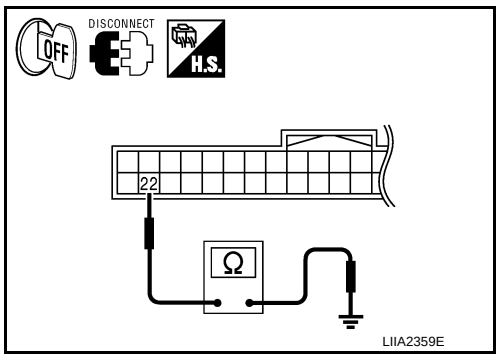


3. Check continuity between BCM connector M18 terminal 22 and power window and door lock/unlock switch RH connector D105 terminal 16.

22 - 16 : Continuity should exist



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



22 - Ground : Continuity should not exist

Is the inspection result normal?

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

NO >> Repair or replace harness.

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

KING CAB : Description

INFOID:0000000005387432

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

KING CAB : Component Function Check

INFOID:0000000005387433

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

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

Is the inspection result normal?

YES >> Key cylinder switch is OK.
NO >> Refer to DLK-36, "KING CAB : Diagnosis Procedure".

KING CAB : Diagnosis Procedure

INFOID:0000000005387434

Regarding Wiring Diagram information, refer to DLK-73, "Wiring Diagram—POWER DOOR LOCK SYSTEM (KING CAB)—".

1.CHECK DOOR KEY CYLINDER SWITCH LH

With CONSULT-III
Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW) in DATA MONITOR mode with CONSULT–III. Refer to DLK-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

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

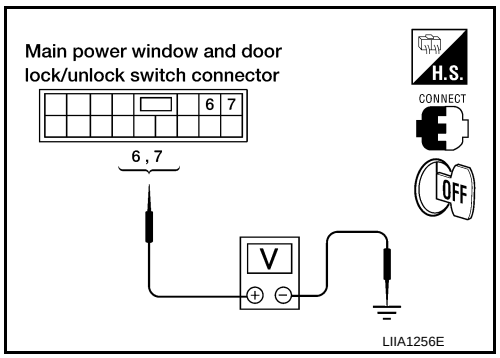
KEY CYL LK-SW : ON

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

KEY CYL UN-SW : ON

Without CONSULT-III
Check voltage between main power window and door lock/unlock switch connector D15 terminals 6, 7 and ground.

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



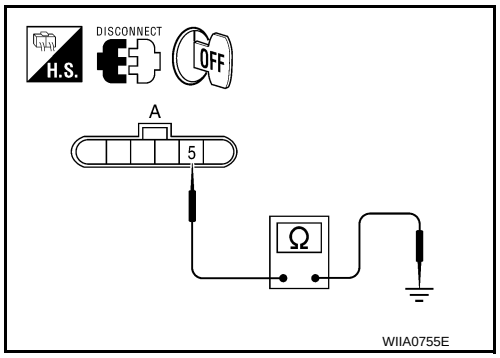
Is the inspection result normal?

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

2.CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

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

Connector	Terminals	Continuity
D14	5 – Ground	Yes



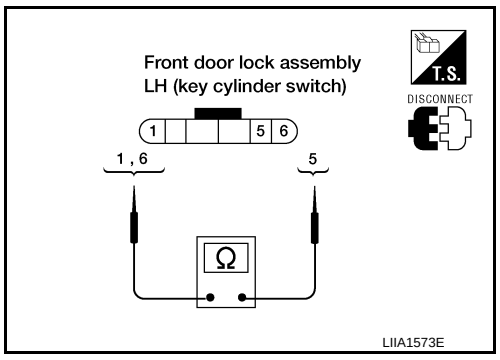
Is the inspection result normal?

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

3.CHECK DOOR KEY CYLINDER SWITCH LH

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

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



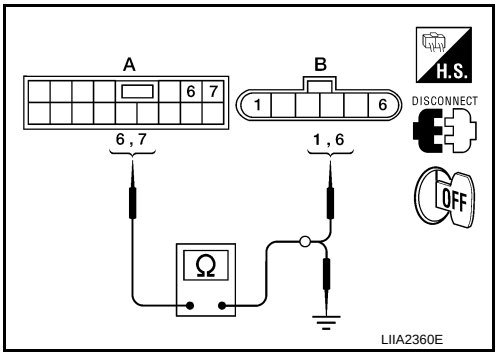
Is the inspection result normal?

YES >> GO TO 4
NO >> Replace front door lock assembly LH (key cylinder switch). Refer to DLK-124, "Removal and Installation".

4.CHECK DOOR KEY CYLINDER HARNESS

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

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



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

Is the inspection result normal?

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

CREW CAB

CREW CAB : Description

INFOID:0000000005387435

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

CREW CAB : Component Function Check

INFOID:0000000005387436

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

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

Is the inspection result normal?

YES >> Key cylinder switch is OK.
NO >> Refer to DLK-38, "CREW CAB : Diagnosis Procedure".

CREW CAB : Diagnosis Procedure

INFOID:0000000005387437

Regarding Wiring Diagram information, refer to DLK-80, "Wiring Diagram—POWER DOOR LOCK SYSTEM (CREW CAB)—".

1.CHECK DOOR KEY CYLINDER SWITCH LH

With CONSULT-III
Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW) in DATA MONITOR mode with CONSULT–III. Refer to DLK-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

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

KEY CYL LK-SW : ON

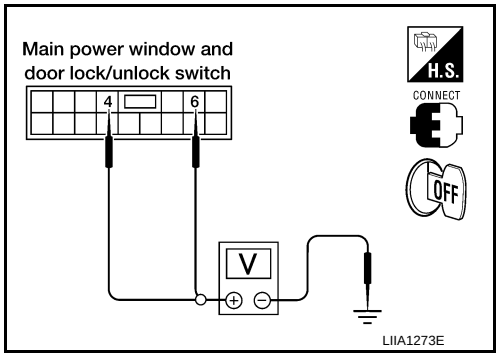
• When key inserted in front key cylinder is turned to UNLOCK:

KEY CYL UN-SW : ON

Without CONSULT-III

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

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



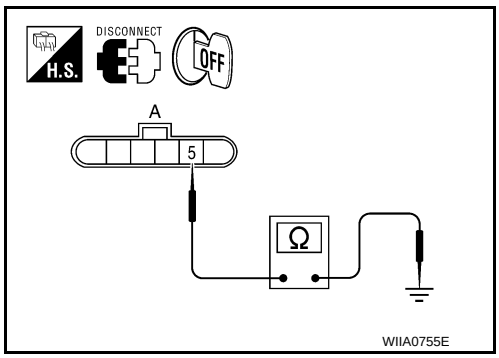
Is the inspection result normal?

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

2. CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

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

Connector	Terminals	Continuity
D14	5 – Ground	Yes



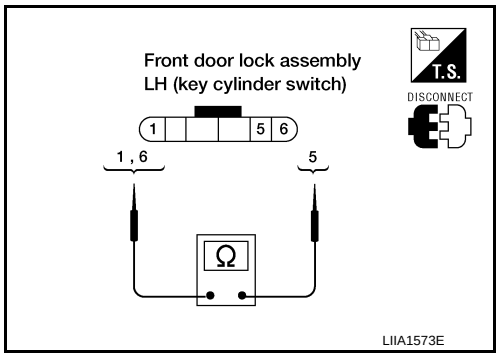
Is the inspection result normal?

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

3. CHECK DOOR KEY CYLINDER SWITCH LH

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

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

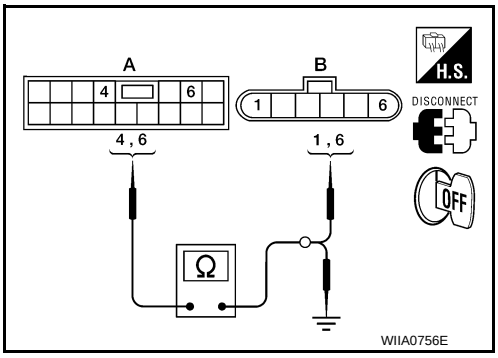


Is the inspection result normal?

YES >> GO TO 4
NO >> Replace front door lock assembly LH (key cylinder switch). Refer to DLK-124, "Removal and Installation".

4. CHECK DOOR KEY CYLINDER HARNESS

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



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

Is the inspection result normal?

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

KEY SWITCH (BCM INPUT)
COLUMN SHIFT
COLUMN SHIFT : Diagnosis Procedure

INFOID:0000000005387438

Regarding Wiring Diagram information, refer to DLK-73, "Wiring Diagram—POWER DOOR LOCK SYSTEM (KING CAB)—" or DLK-80, "Wiring Diagram—POWER DOOR LOCK SYSTEM (CREW CAB)—".

1.CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-III

Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT–III. Refer to DLK-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

- When key is inserted to ignition key cylinder:

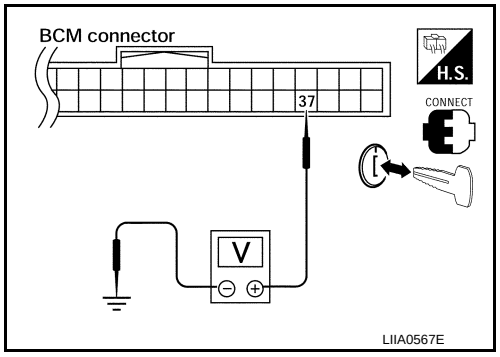
KEY ON SW :ON

- When key is removed from ignition key cylinder:

KEY ON SW :OFF

Without CONSULT-III

Check voltage between BCM connector M18 terminal 37 and ground.



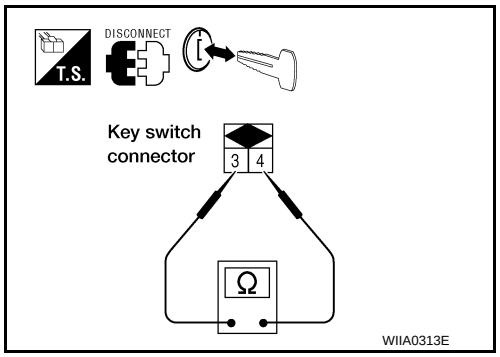
Connector	Terminals		Condition	Voltage (V)
	(+)	(–)		
M18	37	Ground	Key is inserted.	Battery voltage
			Key is removed.	0

Is the inspection result normal?

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

2.CHECK KEY SWITCH

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



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

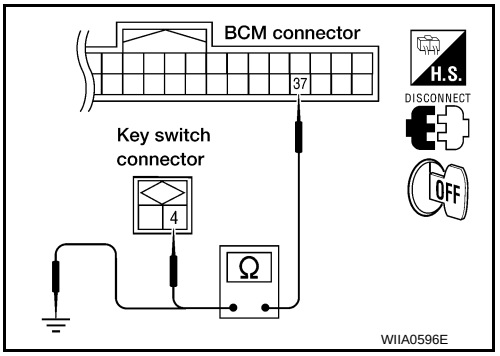
Is the inspection result normal?

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

3.CHECK KEY SWITCH CIRCUIT

1. Disconnect BCM connector.

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



37 - 4 : Continuity should exist

37 - Ground : Continuity should not exist

Is the inspection result normal?

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

NO >> Repair or replace harness.

FLOOR SHIFT

FLOOR SHIFT : Diagnosis Procedure

INFOID:0000000005387439

Regarding Wiring Diagram information, refer to DLK-73, "Wiring Diagram—POWER DOOR LOCK SYSTEM (KING CAB)—" or DLK-80, "Wiring Diagram—POWER DOOR LOCK SYSTEM (CREW CAB)—".

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

With CONSULT-III

Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT–III. Refer to DLK-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

- When key is inserted to ignition key cylinder:

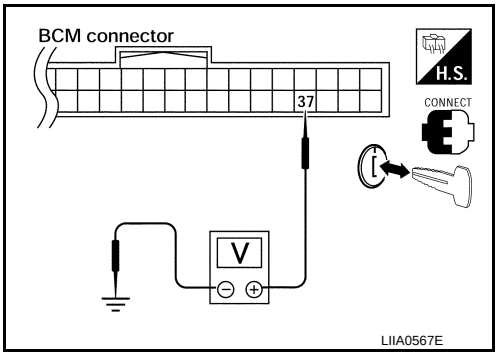
KEY ON SW :ON

- When key is removed from ignition key cylinder:

KEY ON SW :OFF

Without CONSULT-III

Check voltage between BCM connector M18 terminal 37 and ground.



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

Is the inspection result normal?

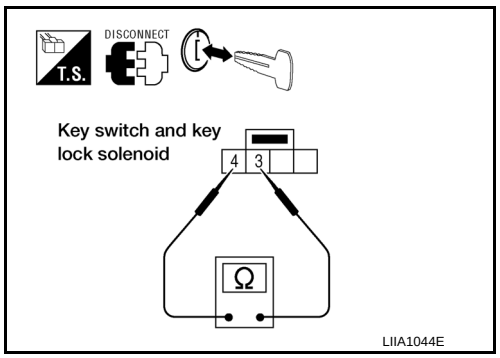
YES >> Key switch and key lock solenoid (key switch) circuit is OK.

NO >> GO TO 2

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

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

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



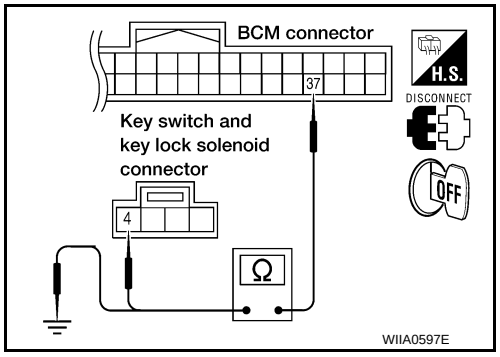
Is the inspection result normal?

YES >> GO TO 3
NO >> Replace key switch and key lock solenoid (key switch).

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

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

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



Is the inspection result normal?

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

NO >> Repair or replace harness.

DOOR LOCK ACTUATOR
FRONT LH

FRONT LH : Description

INFOID:0000000005387440

Locks/unlocks the door with the signal from BCM.

FRONT LH : Component Function Check

INFOID:0000000005387441

1.CHECK FUNCTION

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

Is the inspection result normal?

YES >> Door lock actuator is OK.
NO >> Refer to DLK-44, "FRONT LH : Diagnosis Procedure".

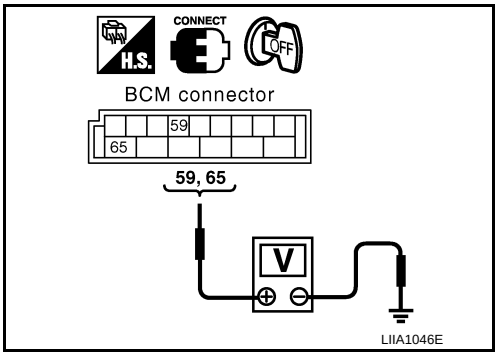
FRONT LH : Diagnosis Procedure

INFOID:0000000005387442

Regarding Wiring Diagram information, refer to DLK-73, "Wiring Diagram—POWER DOOR LOCK SYSTEM (KING CAB)—" or DLK-80, "Wiring Diagram—POWER DOOR LOCK SYSTEM (CREW CAB)—".

1.CHECK DOOR LOCK ACTUATOR SIGNAL

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



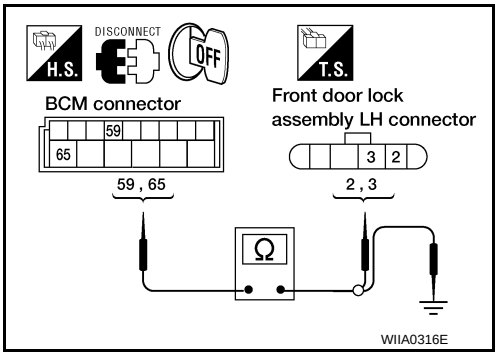
Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M20	59	Ground	Driver door lock/unlock switch is turned to UNLOCK	0 → Battery voltage
	65		Driver door lock/unlock switch is turned to LOCK	0 → Battery voltage

Is the inspection result normal?

YES >> GO TO 2
NO >> Replace BCM. Refer to BCS-53, "Removal and Installation".

2.CHECK DOOR LOCK ACTUATOR HARNESS

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



Connector	Terminals		Continuity
M20	59	D14	2	Yes
	65		3	Yes

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

Connector	Terminals		Continuity
M20	59	Ground	No
	65		No

Is the inspection result normal?

YES >> Replace front door lock assembly LH. Refer to DLK-124, "Removal and Installation".
NO >> Repair or replace harness.

FRONT RH

FRONT RH : Description

INFOID:0000000005387443

Locks/unlocks the door with the signal from BCM.

FRONT RH : Component Function Check

INFOID:0000000005387444

1.CHECK FUNCTION

1. Use CONSULT-III to perform Active Test DOOR LOCK.
2. Touch “ALL LOCK” or “ALL UNLOCK” to check that it works normally.

Is the inspection result normal?

YES >> Door lock actuator is OK.
NO >> Refer to DLK-45, "FRONT RH : Diagnosis Procedure".

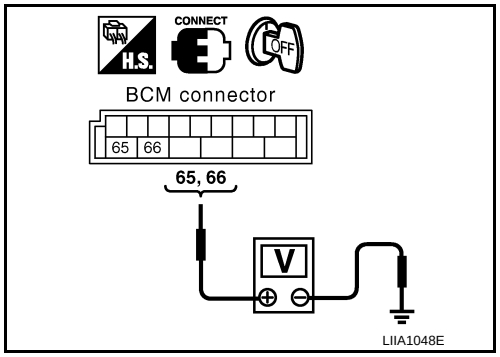
FRONT RH : Diagnosis Procedure

INFOID:0000000005387445

Regarding Wiring Diagram information, refer to DLK-73, "Wiring Diagram—POWER DOOR LOCK SYSTEM (KING CAB)—" or DLK-80, "Wiring Diagram—POWER DOOR LOCK SYSTEM (CREW CAB)—".

1.CHECK DOOR LOCK ACTUATOR SIGNAL

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



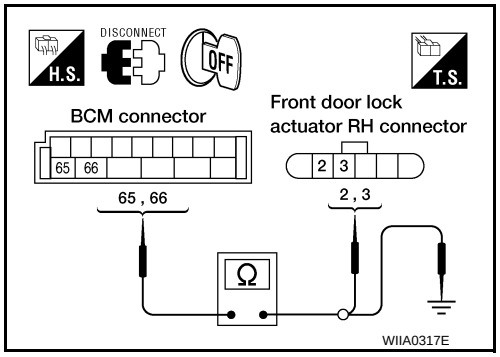
Connector	Terminals (+)	Terminals (-)	Condition	Voltage (V) (Approx.)
M20	65	Ground	Door lock/unlock switch is turned to LOCK	0 → Battery voltage
	66		Door lock/unlock switch is turned to UNLOCK	0 → Battery voltage

Is the inspection result normal?

YES >> GO TO 2
NO >> Replace BCM. Refer to BCS-53, "Removal and Installation".

2.CHECK DOOR LOCK ACTUATOR HARNESS

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



Terminals		Continuity
65	3	Yes
66	2	Yes

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

Terminals		Continuity
65	Ground	No
66		No

Is the inspection result normal?

YES >> Replace front door lock actuator RH. Refer to DLK-124, "Removal and Installation".
NO >> Repair or replace harness.

REAR RH/LH

REAR RH/LH : Description

INFOID:0000000005387446

Locks/unlocks the door with the signal from BCM.

REAR RH/LH : Component Function Check

INFOID:0000000005387447

1.CHECK FUNCTION

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

Is the inspection result normal?

YES >> Door lock actuator is OK.
NO >> Refer to DLK-46, "REAR RH/LH : Diagnosis Procedure".

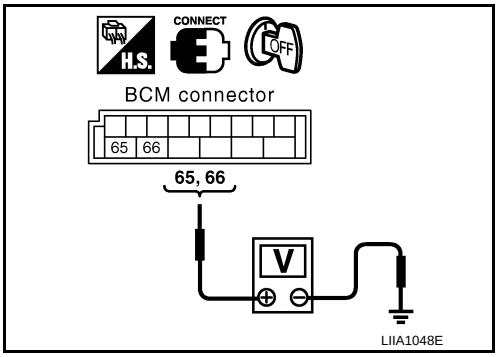
REAR RH/LH : Diagnosis Procedure

INFOID:0000000005387448

Regarding Wiring Diagram information, refer to DLK-80, "Wiring Diagram—POWER DOOR LOCK SYSTEM (CREW CAB)—".

1.CHECK DOOR LOCK ACTUATOR SIGNAL

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



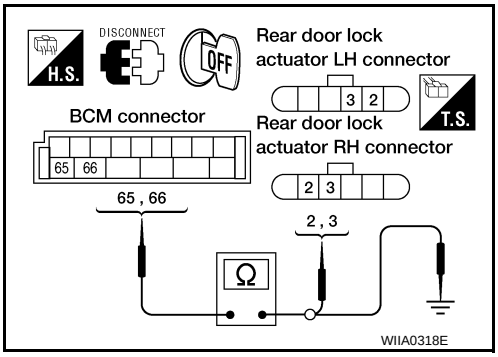
Connector	Terminals (+)	Terminals (-)	Condition	Voltage (V) (Approx.)
M20	65	Ground	Door lock/unlock switch is turned to LOCK	0 → Battery voltage
	66		Door lock/unlock switch is turned to UNLOCK	0 → Battery voltage

Is the inspection result normal?

YES >> GO TO 2
NO >> Replace BCM. Refer to BCS-53, "Removal and Installation".

2.CHECK DOOR LOCK ACTUATOR HARNESS

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



Terminals		Continuity
65	3	Yes
66	2	Yes

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

Terminals		Continuity
65	Ground	No
66		No

Is the inspection result normal?

YES >> Replace door lock actuator. Refer to DLK-128, "Removal and Installation".
NO >> Repair or replace harness.

REMOTE KEYLESS ENTRY RECEIVER

Description

INFOID:0000000005387449

Receives keyfob operation and transmits to BCM.

Component Function Check

INFOID:0000000005387450

1.CHECK FUNCTION

With CONSULT-III

Check remote keyless entry receiver "RKE OPE COUN1" in Data Monitor mode with CONSULT-III.

Monitor item	Condition
RKE OPE COUN1	Checks whether value changes when operating the keyfob.

Is the inspection result normal?

YES >> Remote keyless entry receiver is OK.
NO >> Refer to DLK-48, "Diagnosis Procedure".

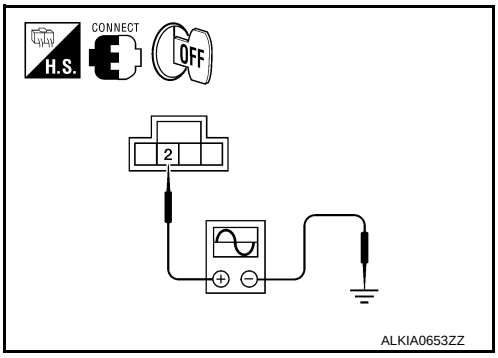
Diagnosis Procedure

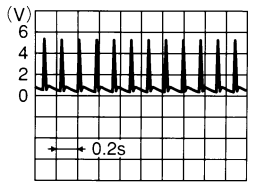
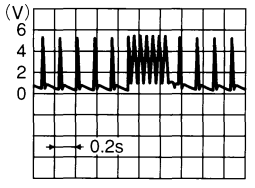
INFOID:0000000005387451

Regarding Wiring Diagram information, refer to DLK-90, "Wiring Diagram — REMOTE KEYLESS ENTRY SYSTEM —".

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	 OCC3879D
			Any button is pressed	 OCC3880D

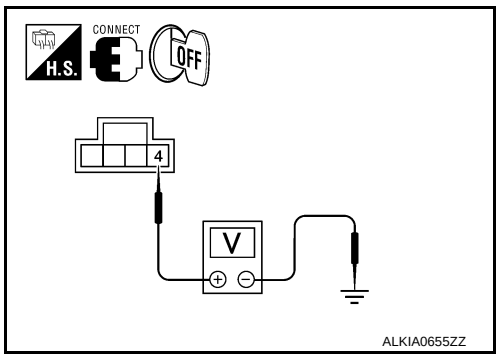
Is the inspection result normal?

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.



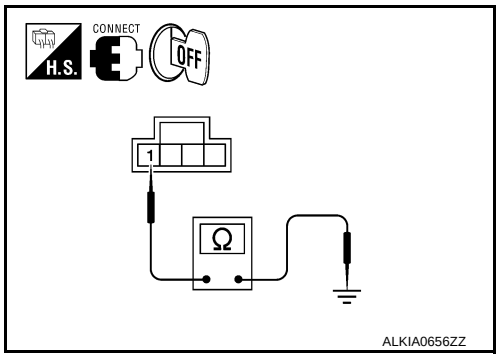
Is the inspection result normal?

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

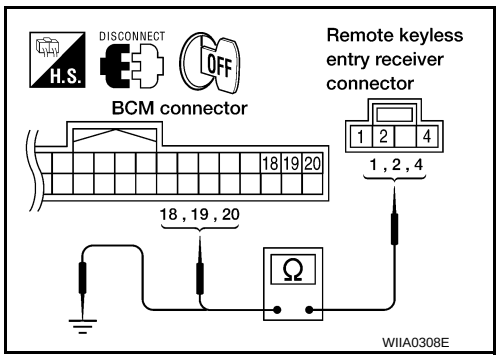
4. HARNESS INSPECTION BETWEEN BCM AND RKE RECEIVER

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:0000000005387452

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:0000000005387453

1.CHECK FUNCTION

With CONSULT-III

Check remote keyless entry receiver "RKE OPE COUN1" in Data Monitor mode with CONSULT-III.

Monitor item	Condition
RKE OPE COUN1	Check that the numerical value is changing while operating the keyfob.

Is the inspection result normal?

YES >> Keyfob is OK.
NO >> Refer to DLK-50, "Diagnosis Procedure".

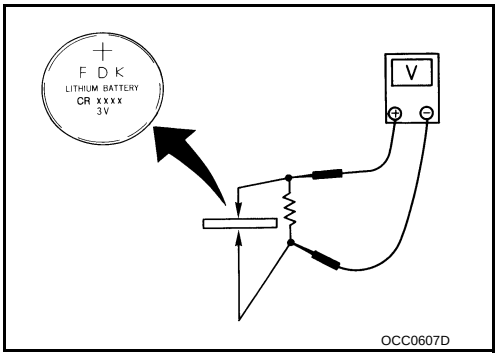
Diagnosis Procedure

INFOID:0000000005387454

1.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

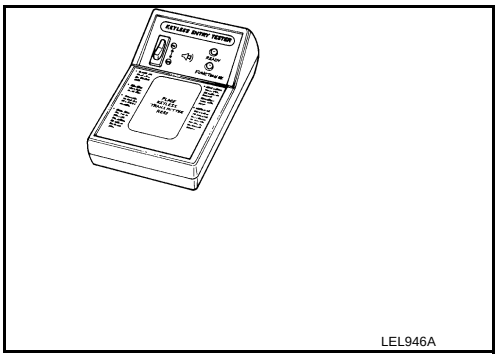


Is the measurement value within specification?

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

2.CHECK KEYFOB FUNCTION

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



Does the test pass?

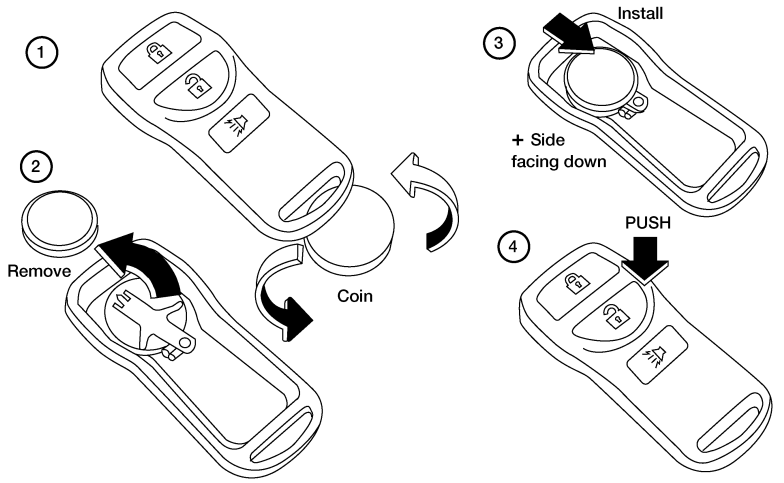
YES >> Keyfob is OK.
NO >> Replace keyfob. Refer to CONSULT-III Operation Manual.

Component Inspection

INFOID:0000000005387455

1. REPLACE KEYFOB BATTERY

NOTE:
• Be careful not to touch the circuit board or battery terminal.
• The keyfob is water-resistant. However, if it does get wet, immediately wipe it dry.
1. Open the lid using a coin.
2. Remove the battery.
3. Install the new battery, positive side down.
4. Close the lid securely. Push the keyfob buttons two or three times to check operation.



LIIA1514E

Check keyfob operation after replacing the battery.

Is the inspection result normal?

YES >> Keyfob is OK.
NO >> Check remote keyless entry receiver. Refer to DLK-48, "Component Function Check".

Special Repair Requirement

INFOID:0000000005387456

Refer to CONSULT-III Operation Manual.

HORN FUNCTION

Description

INFOID:0000000005387457

Perform answer-back for each operation with horn.

Component Function Check

INFOID:0000000005387458

1.CHECK FUNCTION

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

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

Is the operation normal?

YES >> INSPECTION END.
NO >> Go to DLK-52, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000005387459

Regarding Wiring Diagram information, refer to DLK-90, "Wiring Diagram — REMOTE KEYLESS ENTRY SYSTEM —".

1.CHECK HORN FUNCTION

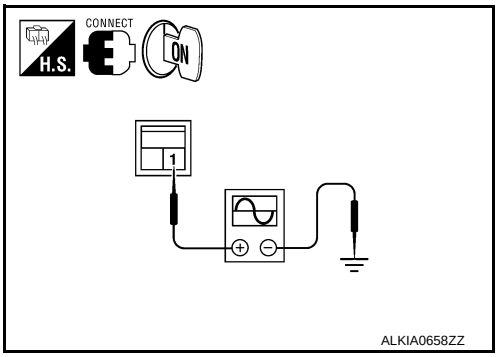
Check horn function with horn switch

Do the horns sound?

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

2.CHECK HORN RELAY POWER SUPPLY

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



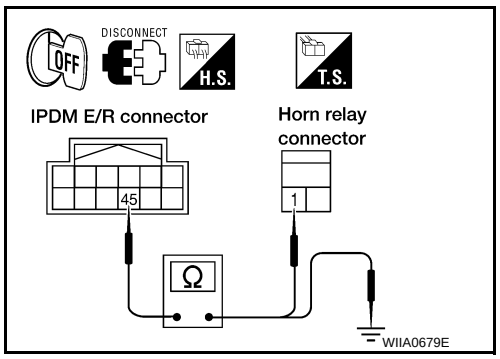
Horn relay		Ground	Test item		Voltage (V) (Approx.)
Connector	Terminal				
H-1	1	Ground	HORN	ON	Battery voltage → 0 → Battery voltage
				Other than above	Battery voltage

Is the inspection result normal?

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

3.CHECK HORN RELAY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R and horn relay connector.
3. Check continuity between IPDM E/R harness connector and horn relay harness connector.



IPDM E/R		Horn relay		Continuity
Connector	Terminal	Connector	Terminal	
E122	45	H-1	1	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-38, "Intermittent Incident".

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation of IPDM E/R".
NO >> Repair or replace the malfunctioning part.

WARNING CHIME FUNCTION

Description

INFOID:0000000005387460

Performs operation method guide and warning with buzzer.

Component Function Check

INFOID:0000000005387461

1.CHECK FUNCTION

With CONSULT-III

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

Does the inside chime operate normally?

YES >> Warning buzzer into combination meter is OK.
NO >> Refer to DLK-54, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000005387462

1.CHECK METER BUZZER CIRCUIT

The inoperative warning chime is contained inside the combination meter. Replace combination meter. Refer to MWI-101, "Removal and Installation".

>> Inspection end.

HAZARD FUNCTION

Description

INFOID:0000000005387463

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

Component Function Check

INFOID:0000000005387464

1.CHECK FUNCTION

Check hazard warning lamp "FLASHER" in ACTIVE TEST.

Is the inspection result normal?

YES >> Hazard warning lamp circuit is OK.
NO >> Refer to DLK-55, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000005387465

1.CHECK HAZARD SWITCH CIRCUIT

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

Do the lights operate normally?

YES >> Replace the BCM. Refer to BCS-53, "Removal and Installation".
NO >> Repair or replace hazard warning switch circuit. Refer to EXL-4, "Work Flow".

HEADLAMP FUNCTION

Diagnosis Procedure

INFOID:0000000005387466

1.CHECK HEADLAMP OPERATION

Do headlamps operate with headlamp switch?

YES or NO

YES >> Headlamp circuit is OK.
NO >> Check headlamp circuit. Refer to EXL-4, "Work Flow".

MAP LAMP AND IGNITION KEYHOLE ILLUMINATION FUNCTION

Diagnosis Procedure

INFOID:0000000005387467

1.CHECK MAP LAMP OPERATION

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

Is the inspection result normal?

YES >> Map lamp circuit is OK.
NO >> Check map lamp circuit. Refer to INL-3, "Work Flow".

KEYFOB ID SET UP WITH CONSULT-III

ID Code Entry Procedure

INFOID:0000000005387468

KEYFOB ID SET UP WITH CONSULT-III

NOTE:

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

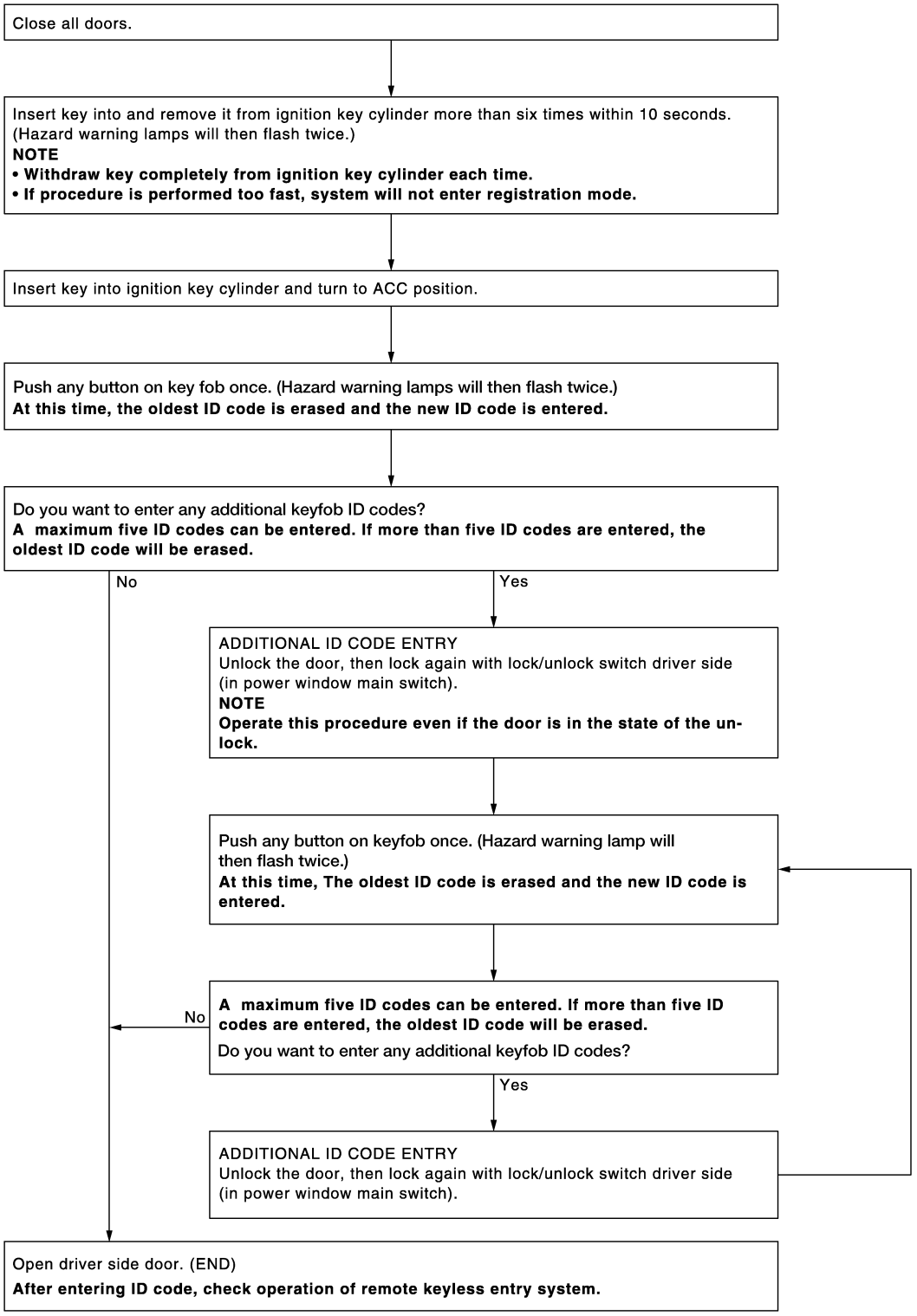
1. Turn ignition switch ON.
2. Select “BCM”.
3. Select “MULTI REMOTE ENT”.
4. Select “WORK SUPPORT”.
5. You can register, erase or confirm a keyfob ID code. To register a new code, select the following option and follow CONSULT-III instructions:
   - “REMO CONT ID REGIST”
     Use this mode to register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

KEYFOB ID SET UP WITHOUT CONSULT-III

ID Code Entry Procedure

INFOID:0000000005387469

KEYFOB ID SET UP WITHOUT CONSULT-III



LIIA1670E

NOTE:

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

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

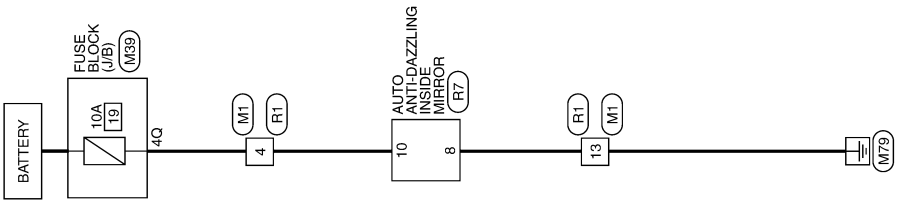
To erase all ID codes in memory, register one ID code (keyfob) five times. After all ID codes are erased, the ID codes of all remaining and/or new keyfobs must be re-registered.

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

HOMELINK UNIVERSAL TRANSCEIVER

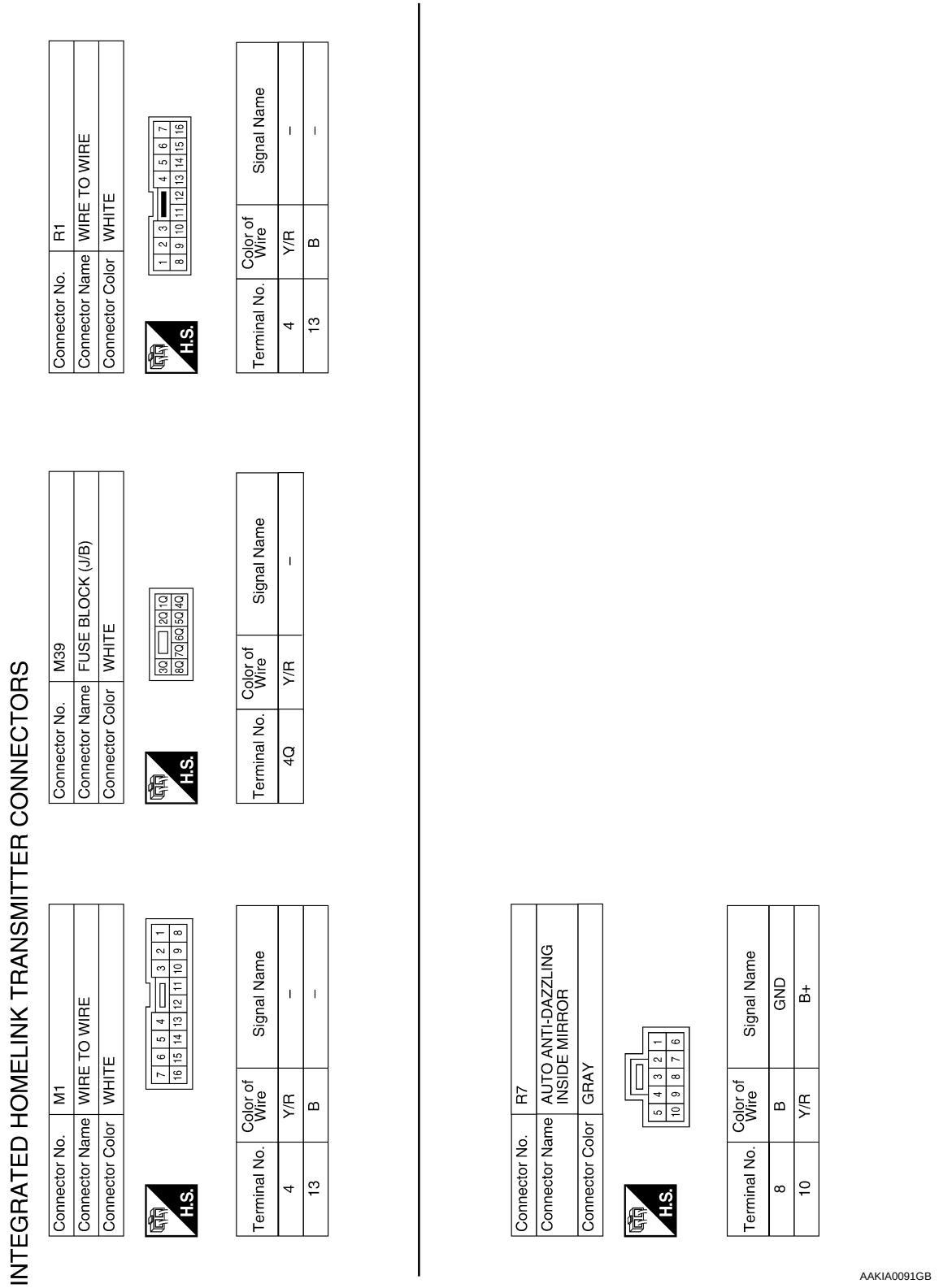
Wiring Diagram

INFOID:0000000005387470



INTEGRATED HOMELINK TRANSMITTER

ALKWA0163GB



Description

INFOID:0000000005387471

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:0000000005387472

1.CHECK FUNCTION

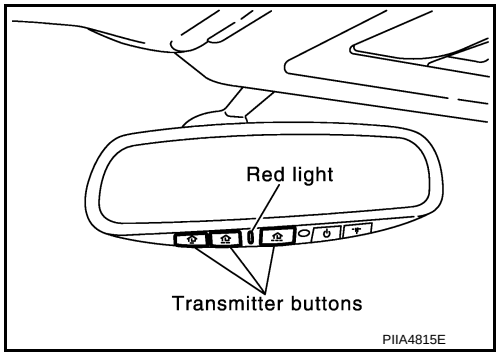
Check that system receiver (garage door opener, etc.) operates with original hand-held transmitter.

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-63, "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).

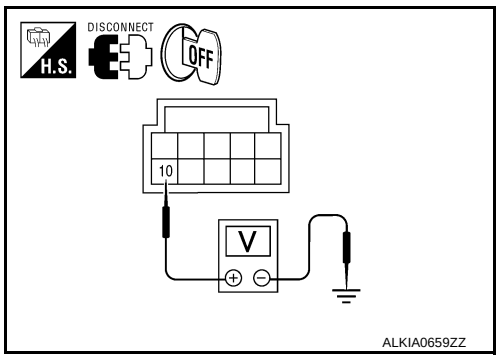
Diagnosis Procedure

INFOID:0000000005387473

Regarding Wiring Diagram information, refer to DLK-61, "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

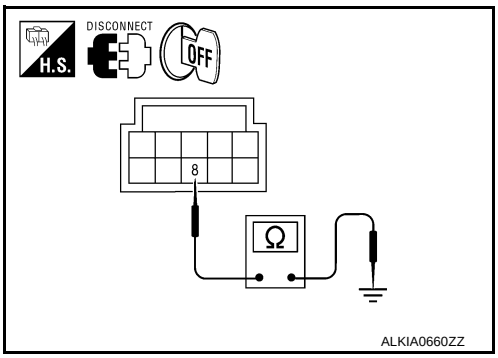
Is the inspection result normal?

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	8		Yes

Is the inspection result normal?

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

3.CHECK INTERMITTENT INCIDENT

Refer to GI-38, "Intermittent Incident".

>> INSPECTION END.

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000005701170

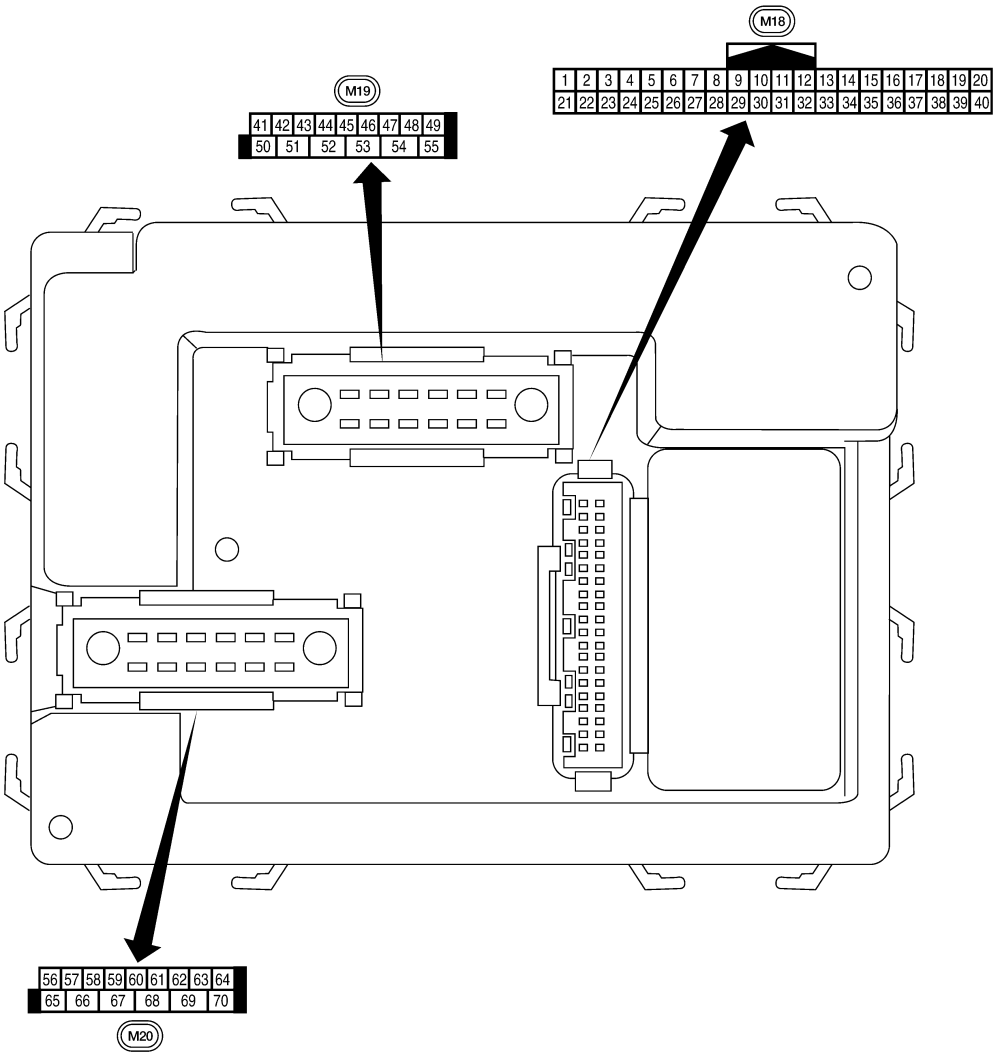
VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
AIR COND SW	A/C switch OFF	OFF
	A/C switch ON	ON
AUT LIGHT SYS	Outside of the room is dark	OFF
	Outside of the room is bright	ON
AUTO LIGHT SW	Lighting switch OFF	OFF
	Lighting switch AUTO	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
ENGINE RUN	Engine stopped	OFF
	Engine running	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
LIGHT SW 1ST	Lighting switch OFF	OFF
	Lighting switch 1st	ON
HEAD LAMP SW 1	Headlamp switch OFF	OFF
	Headlamp switch 1st	ON

Monitor Item	Condition	Value/Status
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
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 ON SW	Key is removed from key cylinder	OFF
	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
KEYLESS UNLOCK	UNLOCK button of key fob is not pressed	OFF
	UNLOCK button of key fob is pressed	ON
OIL PRESS SW	• Ignition switch OFF or ACC • Engine running	OFF
	Ignition switch ON	ON
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
TAIL LAMP SW	Lighting switch OFF	OFF
	Lighting switch 1ST	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

Terminal Layout

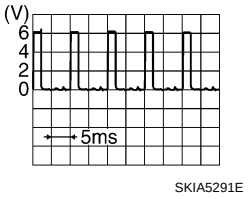
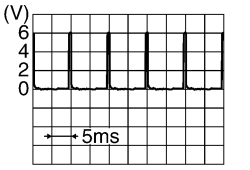
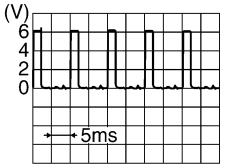
INFOID:0000000005701171

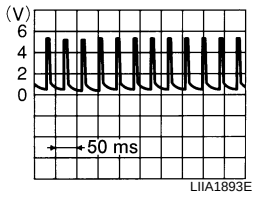
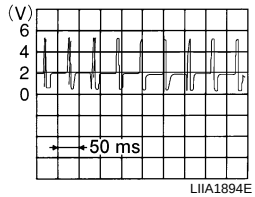
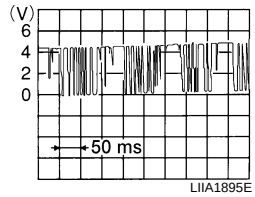
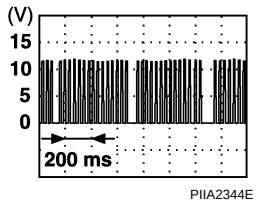


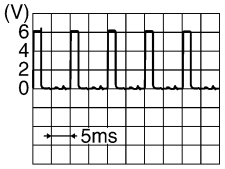
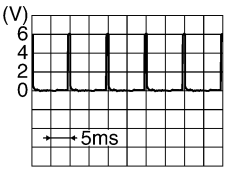
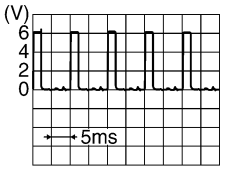
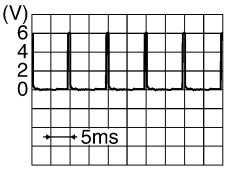
LIIA2443E

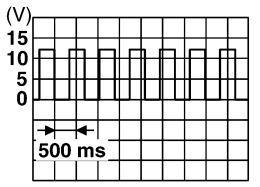
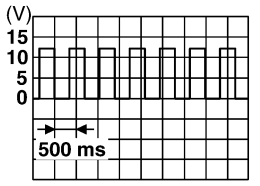
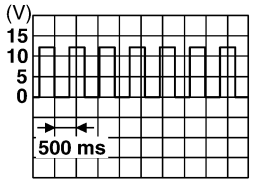
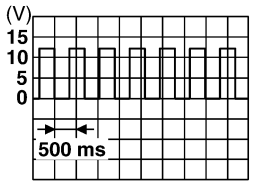
Physical Values

INFOID:0000000005701172

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

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

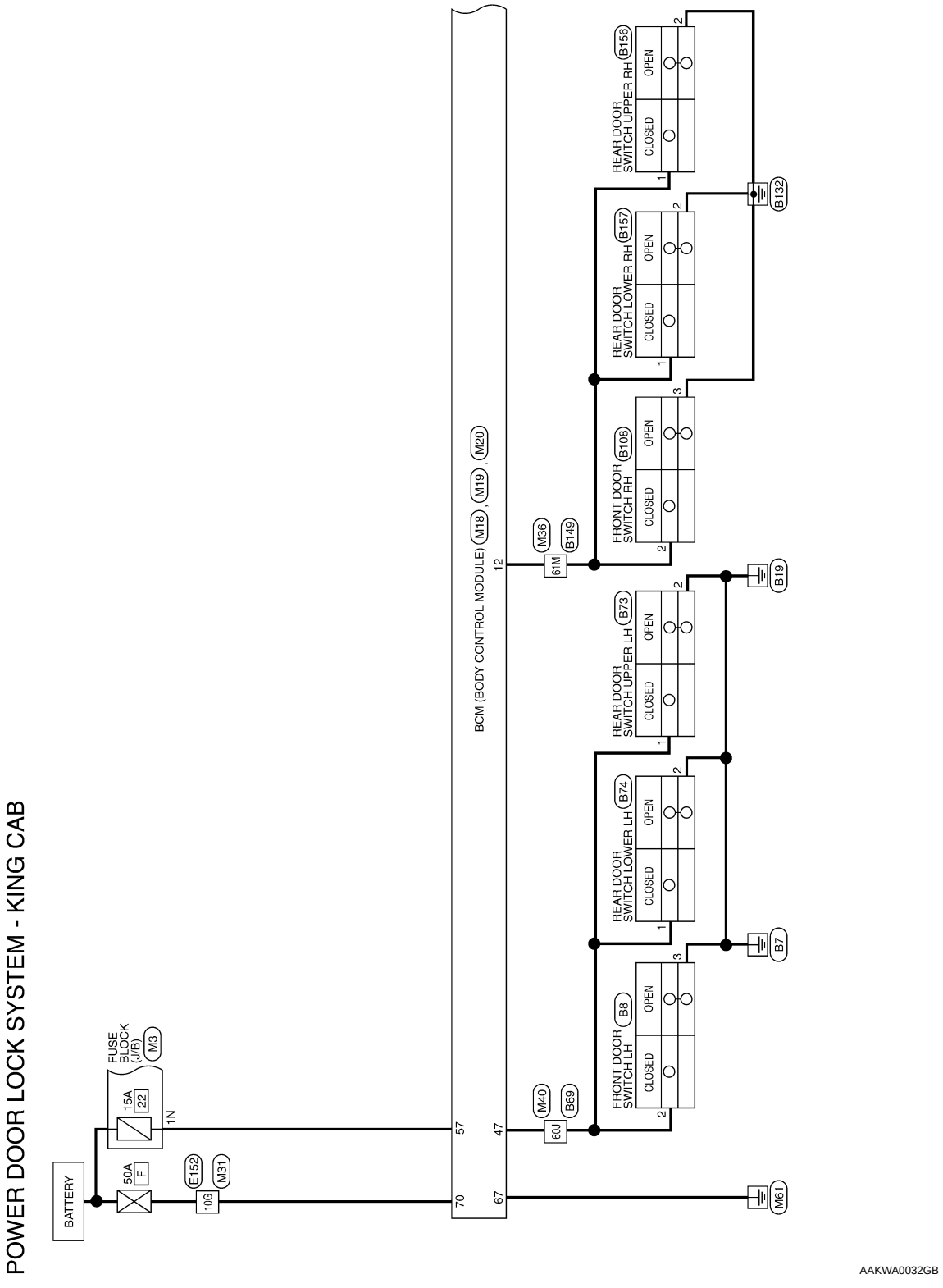
Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
32	R/G	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	R/Y	Combination switch output 4	Output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

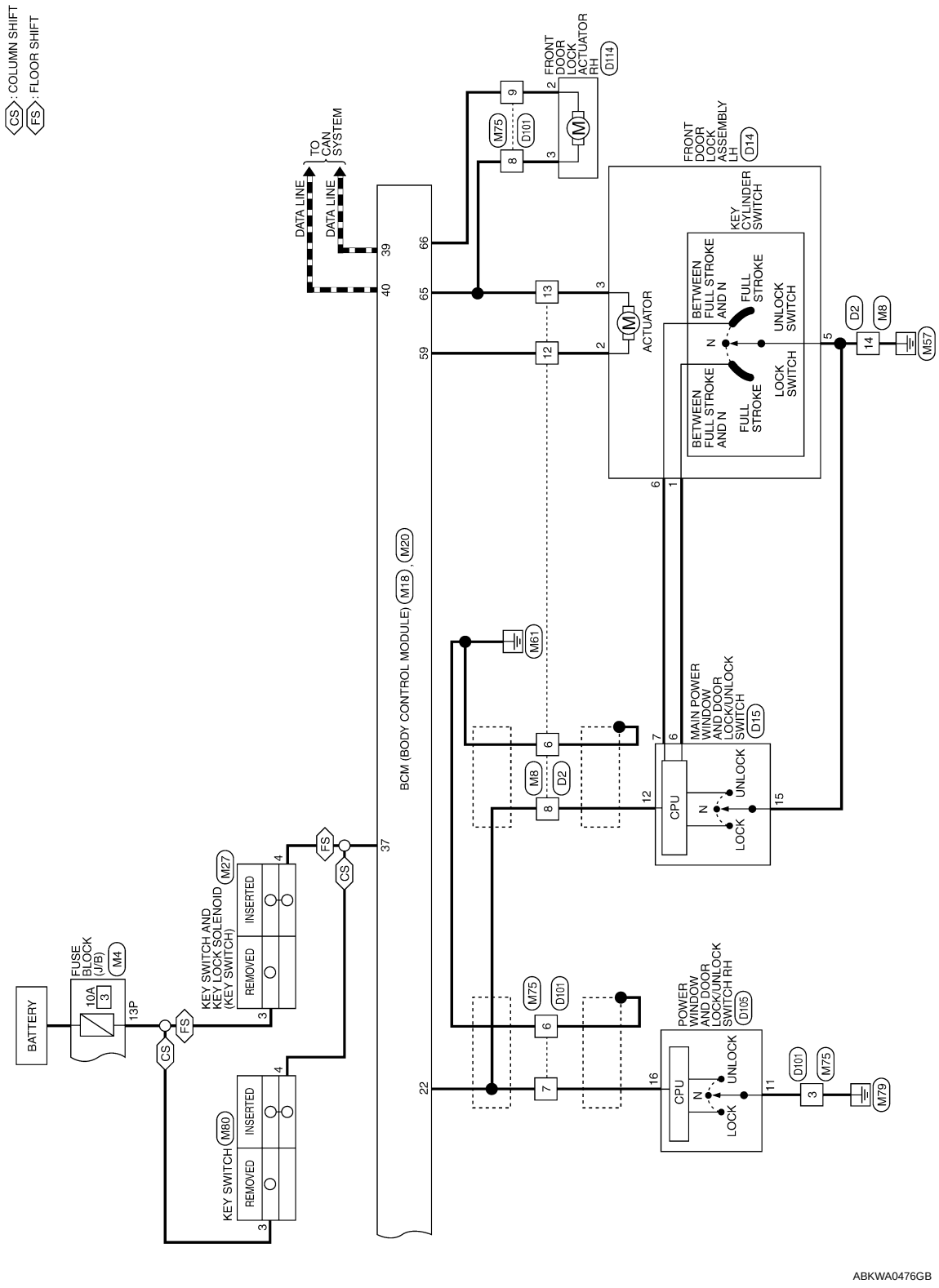
Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
51	G/Y	Trailer turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
56	R/G	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	Y/R	Battery power supply	Input	OFF	—	Battery voltage
58	W/R	Optical sensor	Input	ON	When optical sensor is illuminated	3.1V or more
					When optical sensor is not illuminated	0.6V or less
59	G	Front door lock assembly LH actuator (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	G/B	Turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
61	G/Y	Turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
62	R/W	Step lamp LH and RH	Output	OFF	ON (any door open)	0V
					OFF (all doors closed)	Battery voltage
63	L	Interior room/map lamp	Output	OFF	Any door switch: ON (open)	0V
					Any door switch: OFF (closed)	Battery voltage
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66	G/Y	Front door lock actuator RH and rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage

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

Wiring Diagram—POWER DOOR LOCK SYSTEM (KING CAB)—

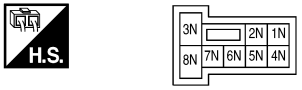
INFOID:0000000005387477




CS : COLUMN SHIFT
FS : FLOOR SHIFT
BATTERY
FUSE BLOCK (J/B) M4
10A 3
13P
KEY SWITCH AND KEY LOCK SOLENOID (KEY SWITCH) M27
REMOVED
INSERTED
KEY SWITCH M80
REMOVED
INSERTED
CS
FS
BCM (BODY CONTROL MODULE) M18, M20
DATA LINE
DATA LINE
TO CAN SYSTEM
FRONT DOOR LOCK ACTUATOR RH D114
FRONT DOOR LOCK ASSEMBLY LH D14
KEY CYLINDER SWITCH
BETWEEN FULL STROKE AND N
FULL STROKE
UNLOCK SWITCH
LOCK SWITCH
ACTUATOR
MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH D15
POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH D106
CPU
UNLOCK
LOCK
M61
M57
M79
D2
M8
M75
D101
ABKWA0476GB

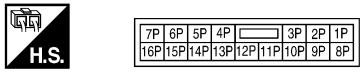
POWER DOOR LOCK SYSTEM CONNECTORS - KING CAB

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



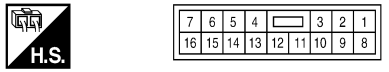
Terminal No.	Color of Wire	Signal Name
1N	Y/R	–

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



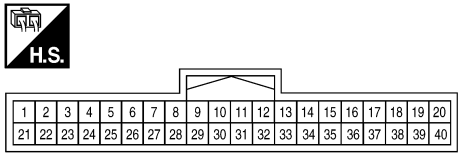
Terminal No.	Color of Wire	Signal Name
13P	P	–

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



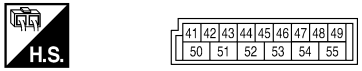
Terminal No.	Color of Wire	Signal Name
6	SHIELD	–
8	G	–
12	G	–
13	V	–
14	B	–

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



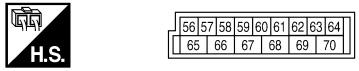
Terminal No.	Color of Wire	Signal Name
12	R/L	DOOR SW (AS)
22	G	ANTI-PINCH SERIAL LINK (RX, TX)
37	B/R	KEY SW
39	L	CAN-H
40	P	CAN-L

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



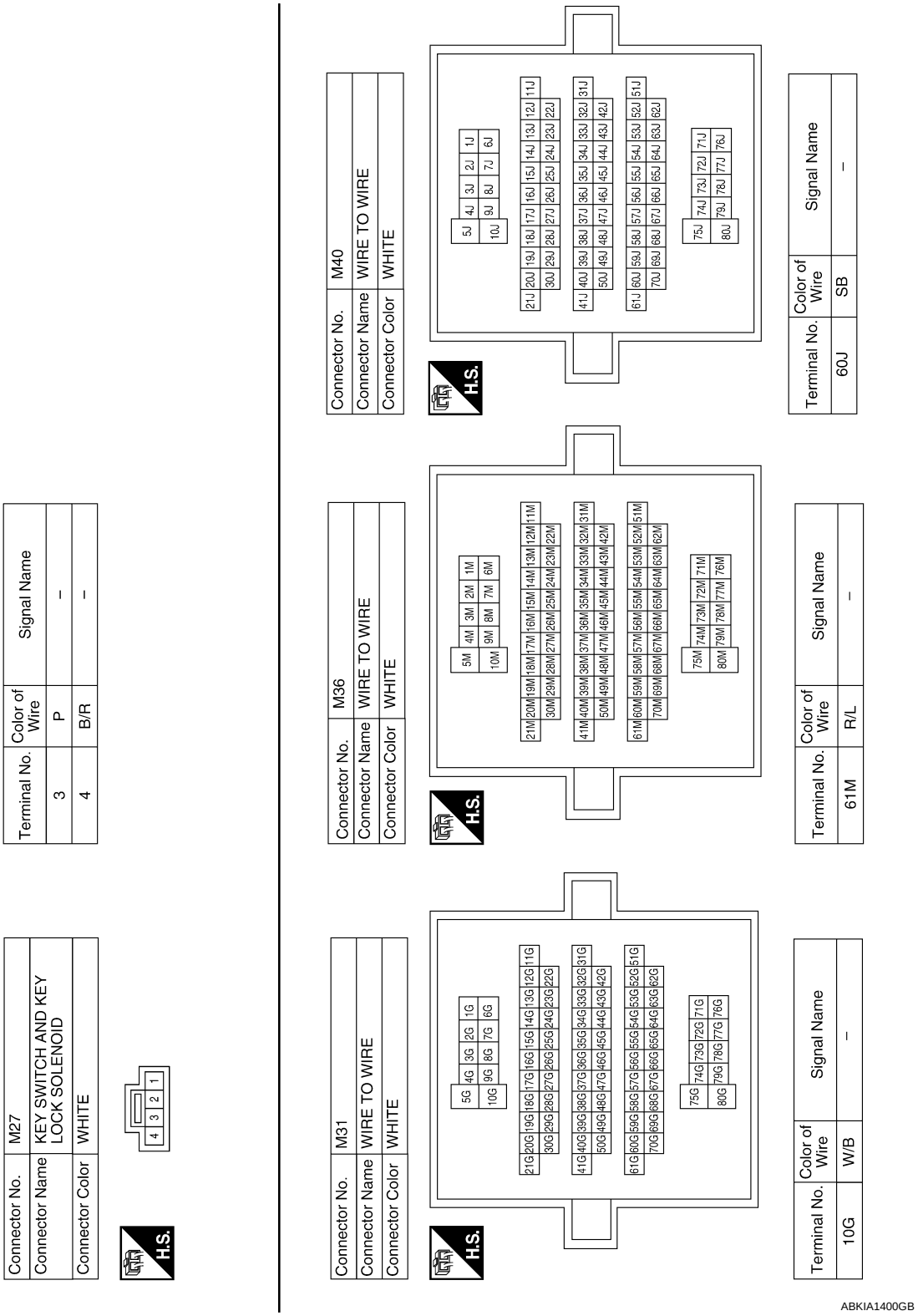
Terminal No.	Color of Wire	Signal Name
47	SB	DOOR SW (DR)

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



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

ABKIA1399GB


Connector No. M27
Connector Name KEY SWITCH AND KEY LOCK SOLENOID
Connector Color WHITE
H.S.
4 3 2 1
Terminal No. Color of Wire Signal Name
3 P –
4 B/R –
Connector No. M31
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
10G W/B –
Connector No. M36
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
61M R/L –
Connector No. M40
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
60J SB –
ABKIA1400GB

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
3	B	–
6	SHIELD	–
7	G	–
8	V	–
9	G/Y	–

Connector No.	M80
Connector Name	KEY SWITCH
Connector Color	WHITE

H.S.

3	4

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

Connector No.	E152
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

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

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

H.S.

1	2
3	

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

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

H.S.

				5J
1J	2J	3J	4J	
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

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

ABKIA1401GB

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

H.S.

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

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

H.S.

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

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

H.S.

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

Connector No.	B149
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

Terminal No.	Color of Wire	Signal Name
61M	R/L	–

Connector No.	B156
Connector Name	REAR DOOR SWITCH UPPER RH
Connector Color	BLACK

H.S.

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

Connector No.	B157
Connector Name	REAR DOOR SWITCH LOWER RH
Connector Color	BLACK

H.S.

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

ABKIA1402GB

Connector No.	D2
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
6	SHIELD	–
8	LG/W	–
12	G	–
13	V	–
14	B	–

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

H.S.

1	2	3	4	5	6

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

Connector No.	D15
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (KING CAB)
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
6	L	LOCK
7	R	UNLOCK
12	LG/W	ANTI PINCH SERIAL LINK
15	B	GND

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

H.S.

1	2		3	4
5	6	7	8	9	10

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

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	13	14	15	16

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

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

H.S.

6	5	4	3	2	1

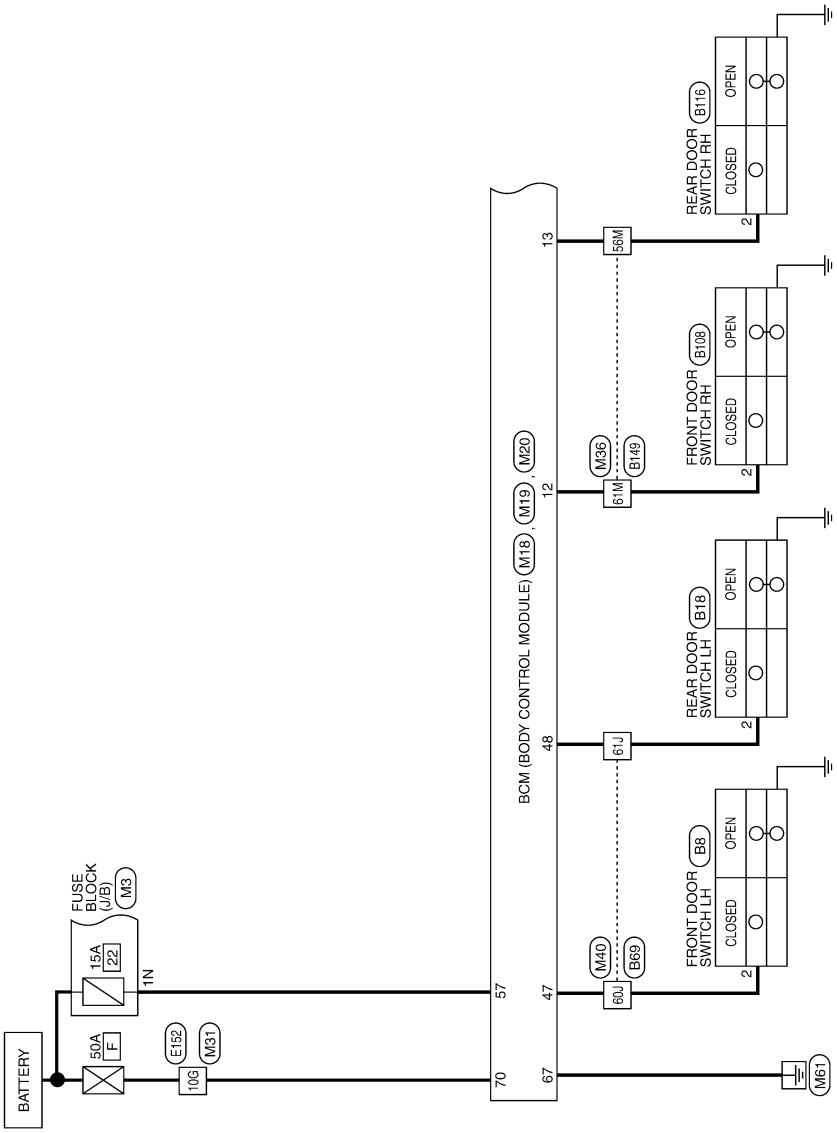
Terminal No.	Color of Wire	Signal Name
2	G/Y	UNLOCK
3	V	LOCK

ABKIA1490GB

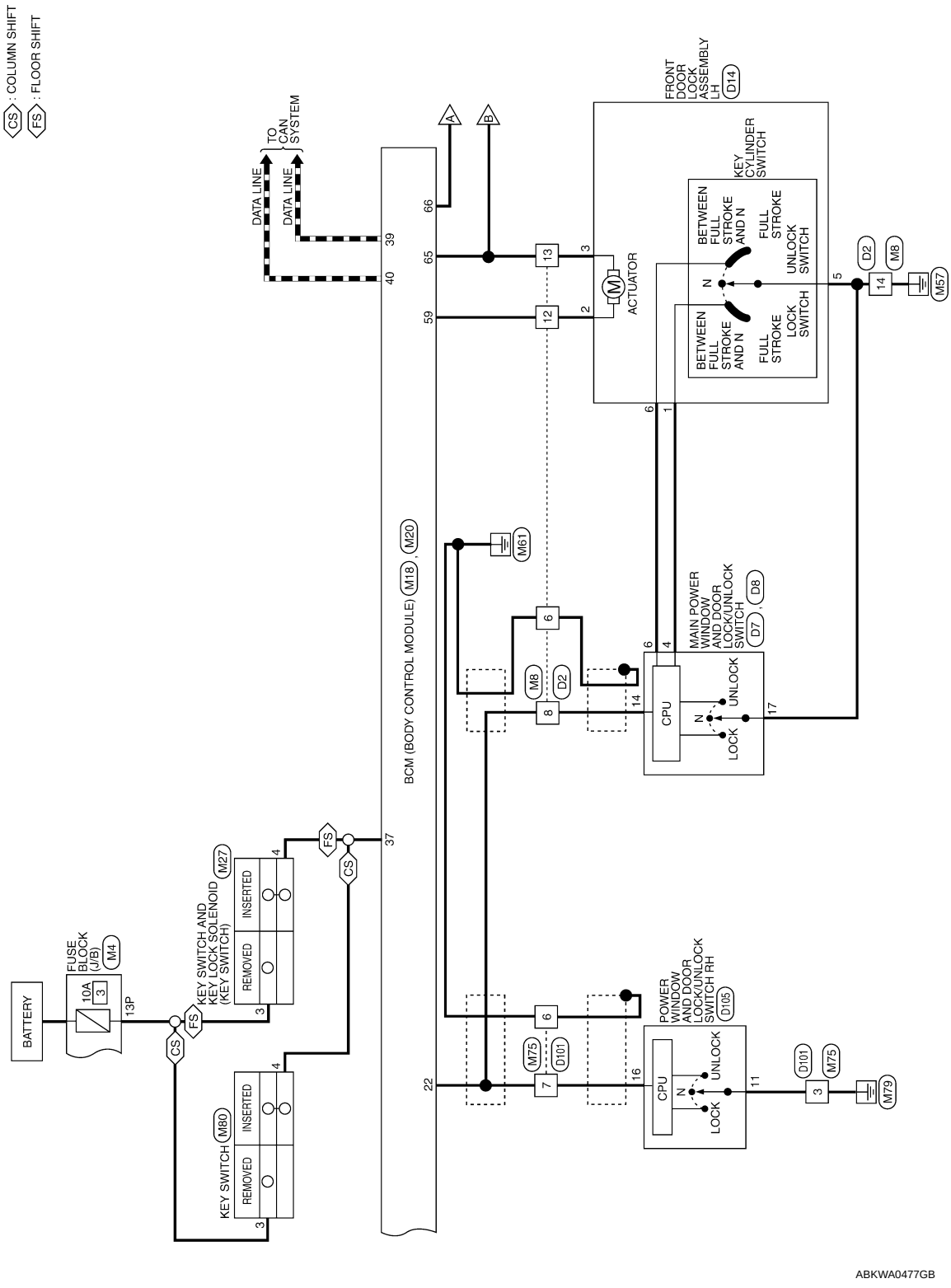
Wiring Diagram—POWER DOOR LOCK SYSTEM (CREW CAB)—

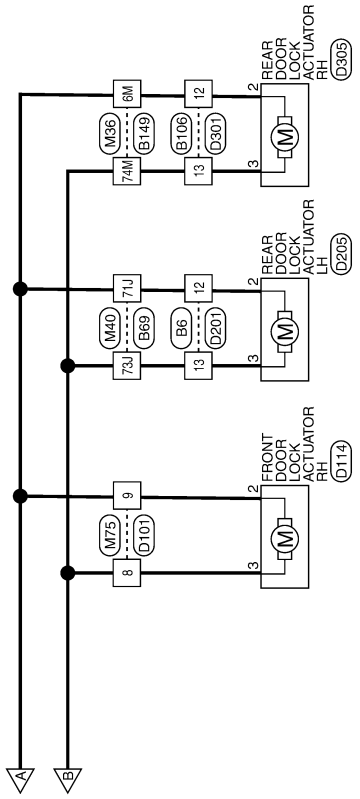
INFOID:0000000005387478

POWER DOOR LOCK SYSTEM - CREW CAB



ABKWA0681GB


CS : COLUMN SHIFT
FS : FLOOR SHIFT
TO CAN SYSTEM
DATA LINE
DATA LINE
BCM (BODY CONTROL MODULE) M18, M20
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, D8
POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH D105
CPU
UNLOCK
LOCK
KEY SWITCH AND KEY LOCK SOLENOID (KEY SWITCH) M27
KEY SWITCH M80
INSERTED
REMOVED
FUSE BLOCK (J/B) M4
10A
BATTERY
13P
M61
M57
M79
D2
M8
D101
M75
ABKWA0477GB

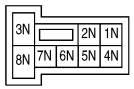


ALKWA0168GB

POWER DOOR LOCK SYSTEM CONNECTORS - CREW CAB

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

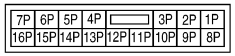
H.S.



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

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

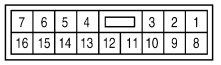
H.S.



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

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

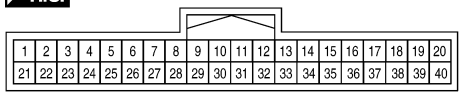
H.S.



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

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

H.S.

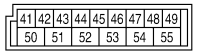


Terminal No.	Color of Wire	Signal Name
12	R/L	DOOR SW (AS)
13	GR	DOOR SW (RR)
22	G	ANTI-PINCH SERIAL LINK (RX, TX)
37	B/R	KEY SW
39	L	CAN-H
40	P	CAN-L

ABKIA1404GB

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

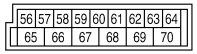
H.S.



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

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

H.S.



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

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

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

H.S.

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

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	

75G	74G	73G	72G	71G
	80G	79G	78G	77G	76G

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

H.S.

4	3	2	1

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

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

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

H.S.

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

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	

75M	74M	73M	72M	71M
	80M	79M	78M	77M	76M

ABKIA1405GB

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
3	B	–
6	SHIELD	–
7	G	–
8	V	–
9	G/Y	–

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

Connector No.	E152
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

Connector No.	M40
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	

75J	74J	73J	72J	71J
	80J	79J	78J	77J	76J

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

Connector No.	M80
Connector Name	KEY SWITCH
Connector Color	WHITE

H.S.

3	4

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

ABKIA1483GB

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

H.S.

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

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

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

H.S.

1
2
3

Terminal No.	Color of Wire	Signal Name
2	SB	–

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	R/Y	–

Connector No.	B69
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		

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

Connector No.	B106
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

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

ABKIA1406GB

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

H.S.

1	2	3

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

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

H.S.

1	2	3

Terminal No.	Color of Wire	Signal Name
2	GR	–

Connector No.	B149
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

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

Connector No.	D2
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
6	SHIELD	–
8	LG/W	–
12	G	–
13	V	–
14	B	–

ABKIA1484GB

Connector No.	D7
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (CREW CAB)
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
4	L	LOCK
6	R	UNLOCK
14	LG/W	ANTI PINCH SERIAL LINK

Connector No.	D8
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (CREW CAB)
Connector Color	WHITE

H.S.

17	18	19

Terminal No.	Color of Wire	Signal Name
17	B	GND

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

H.S.

1	2	3	4	5	6

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

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

H.S.

1	2		3	4
5	6	7	8	9	10

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

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	13	14	15	16

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

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

H.S.

6	5	4	3	2	1

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

ABKIA1485GB

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

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

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

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

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

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

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

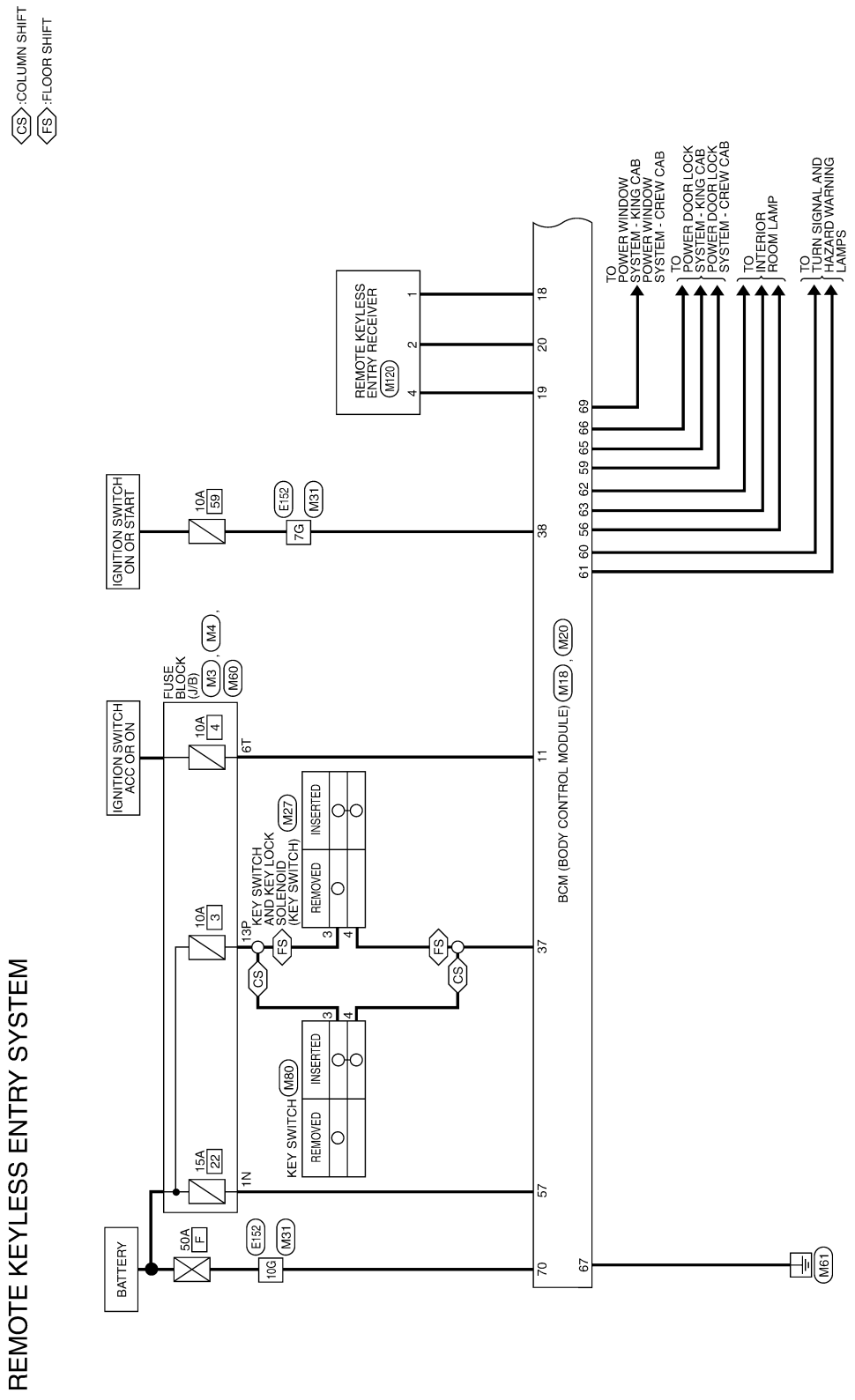
Terminal No.	Color of Wire	Signal Name
2	G/Y	UNLOCK
3	V	LOCK

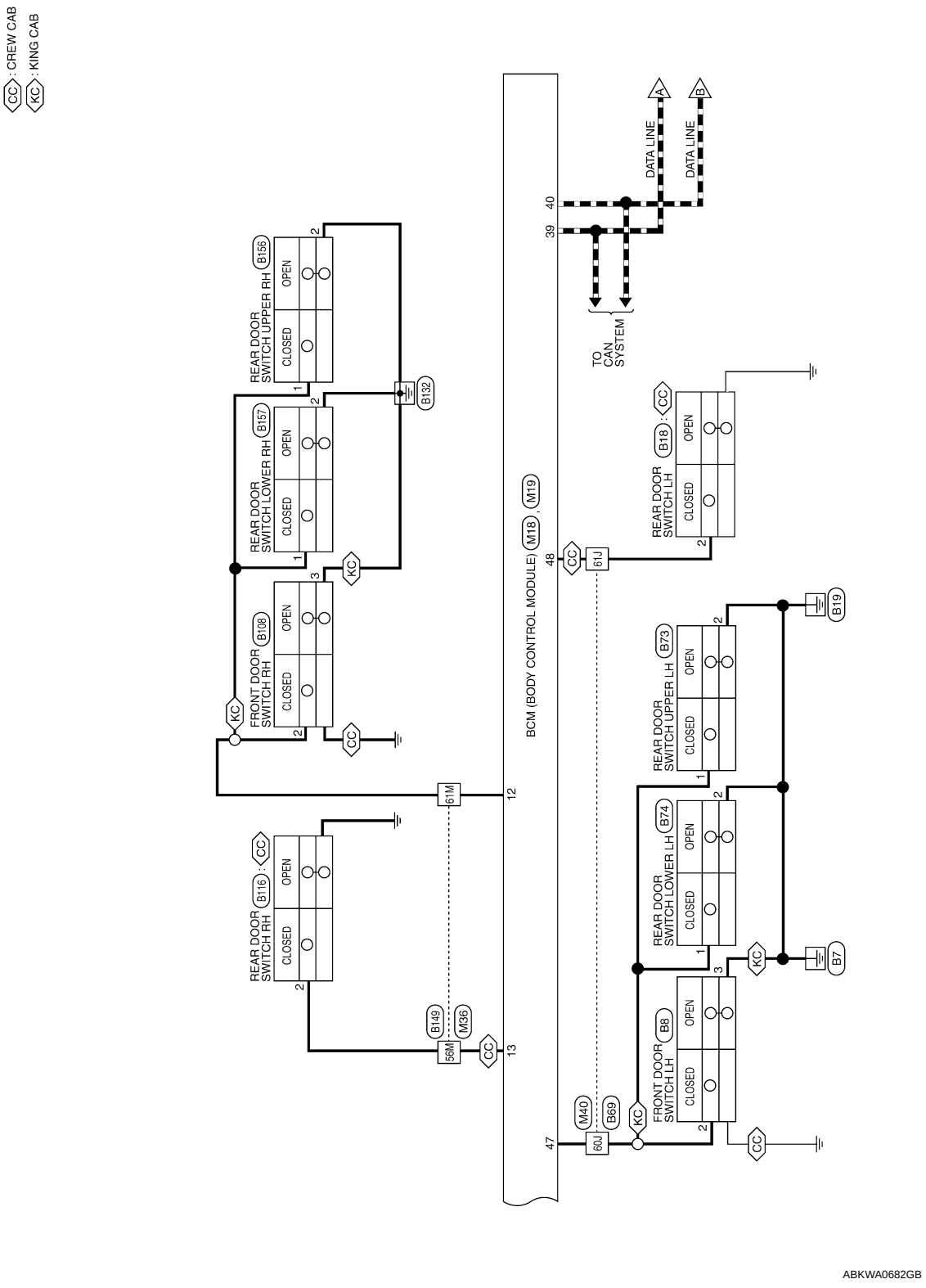
ABKIA1407GB

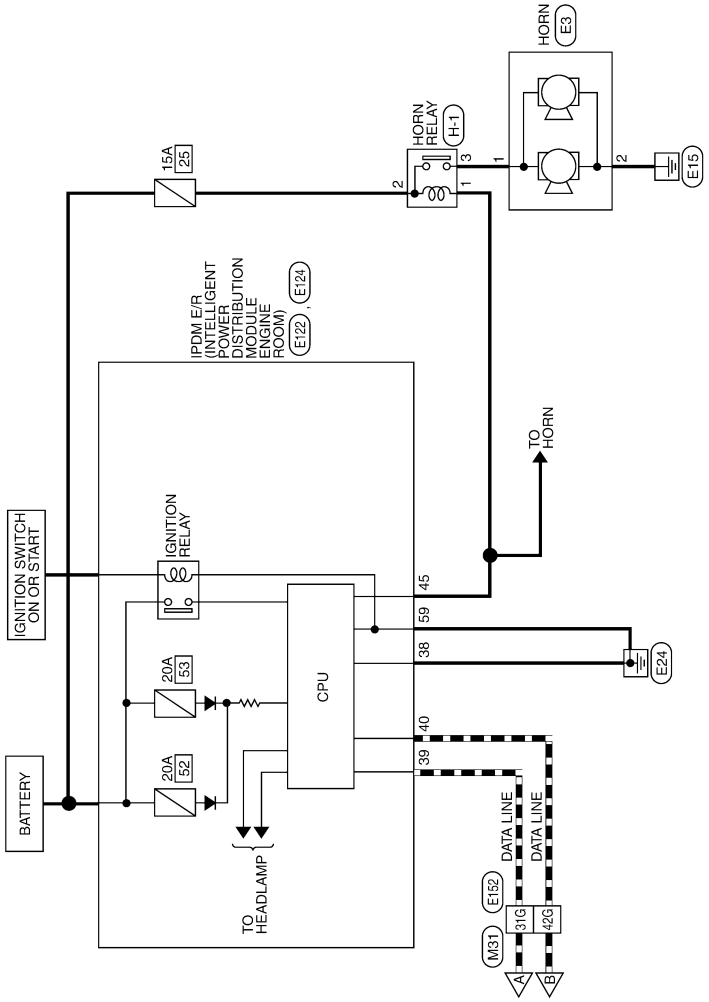
Wiring Diagram — REMOTE KEYLESS ENTRY SYSTEM —

INFOID:0000000005387479

REMOTE KEYLESS ENTRY SYSTEM



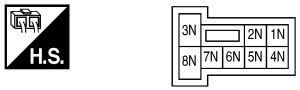

CC : CREW CAB
KC : KING CAB
BCM (BODY CONTROL MODULE) (M18), (M19)
DATA LINE
DATA LINE
TO CAN SYSTEM
REAR DOOR SWITCH UPPER RH B156
REAR DOOR SWITCH LOWER RH B157
FRONT DOOR SWITCH RH B108
REAR DOOR SWITCH RH B116 : CC
REAR DOOR SWITCH LH B18 : CC
REAR DOOR SWITCH UPPER LH B73
REAR DOOR SWITCH LOWER LH B74
FRONT DOOR SWITCH LH B8
CLOSED
OPEN
B132
61M
56M
61J
60J
B149
M36
M40
B69
B19
B7
ABKWA0682GB



ABKWA0479GB

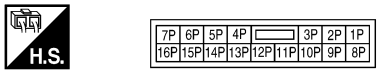
REMOTE KEYLESS ENTRY SYSTEM CONNECTORS

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



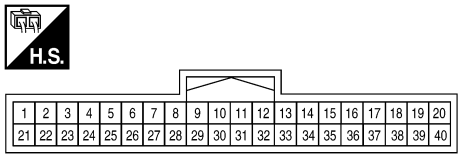
Terminal No.	Color of Wire	Signal Name
1N	Y/R	–

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



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

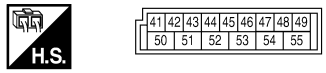
Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



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

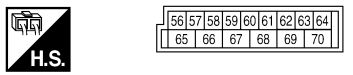
ABKIA1408GB

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



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

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



Terminal No.	Color of Wire	Signal Name
56	R/G	BATTERY SAVER OUTPUT
57	Y/R	BAT (FUSE)
59	G	DOOR UNLOCK OUTPUT (DR)
60	G/B	FLASHER OUTPUT (LEFT)
61	G/Y	FLASHER OUTPUT (RIGHT)
62	R/W	STEP LAMP OUTPUT
63	L	ROOM LAMP OUTPUT
65	V	DOOR LOCK OUTPUT (ALL)
66	G/Y	DOOR UNLOCK OUTPUT(OTHER)
67	B	GND (POWER)
69	W/R	POWER WINDOW POWER SUPPLY (BAT)
70	W/B	BAT (F/L)

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

H.S.

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

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

H.S.

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

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

H.S.

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

ABKIA1409GB

Connector No.	M60
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

2T		1T
6T	5T	4T	3T

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

Connector No.	E3
Connector Name	HORN
Connector Color	BLACK

H.S.

2	1

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

Terminal No.	Color of Wire	Signal Name
60J	SB	–
61J	R/Y	–

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	P	GND
2	G/W	SIGNAL
4	V/W	POWER

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

H.S.

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

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	

75J	74J	73J	72J	71J
	80J	79J	78J	77J	76J

Connector No.	M80
Connector Name	KEY SWITCH
Connector Color	WHITE

H.S.

3	4

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

AAKIA0092GB

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	G/W	ANTI 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
7G	L/W	–
10G	W/B	–
31G	L	–
42G	P	–

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

H.S.

1
2
3

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

ABKIA1410GB

Terminal No.	Color of Wire	Signal Name
60J	SB	–
61J	R/Y	–

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

H.S.

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

H.S.

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

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

H.S.

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

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

H.S.

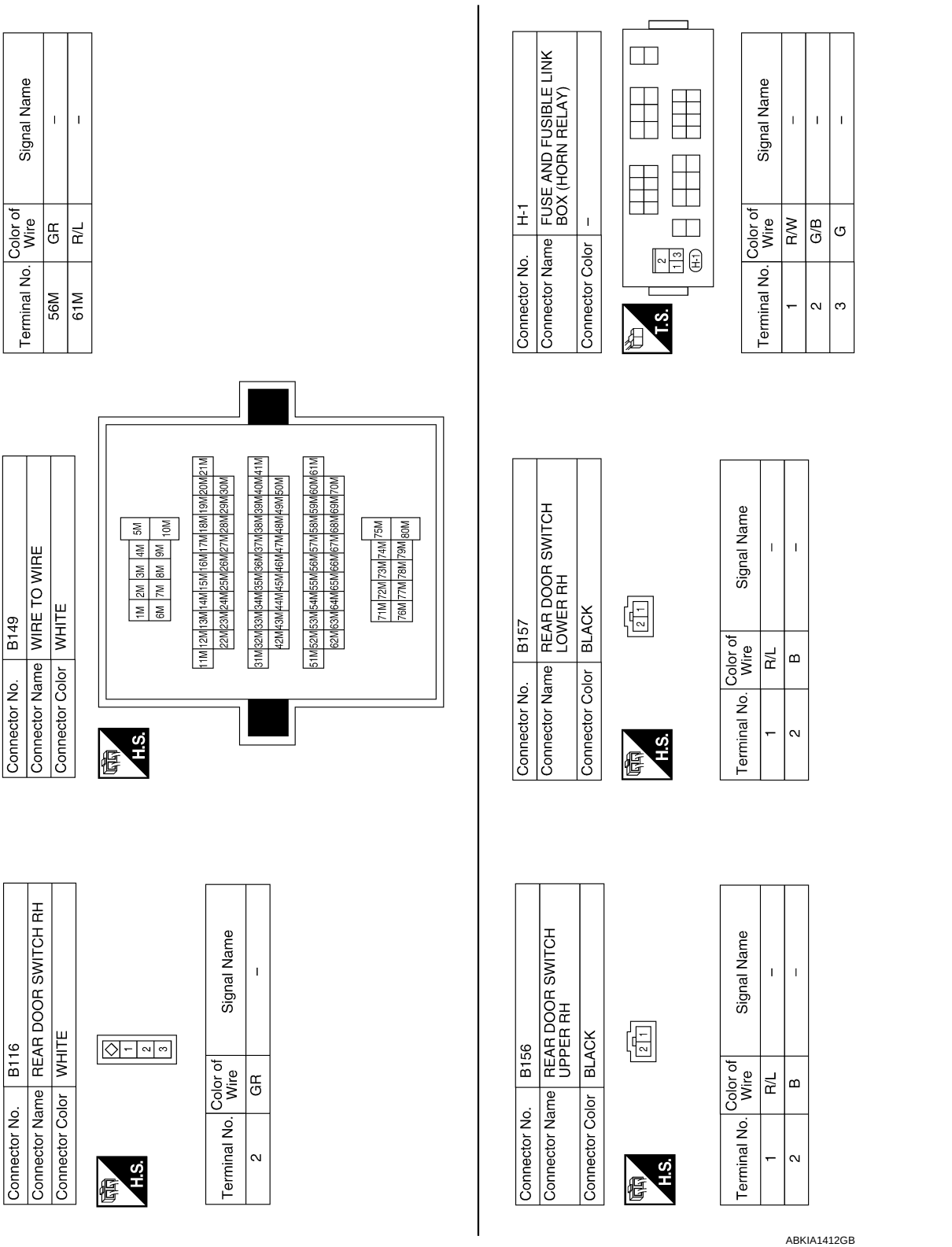
Terminal No.	Color of Wire	Signal Name
1	SB	–
2	B	–

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

H.S.

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

ABKIA1411GB



ABKIA1412GB

Fail Safe

INFOID:0000000005701173

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:0000000005701174

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
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:0000000005701175

NOTE:

Details of time display

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

CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—
U1000: CAN COMM CIRCUIT	—	—	BCS-29

CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
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	—	—	WT-14
C1709: [NO DATA] FR	—	—	WT-14
C1710: [NO DATA] RR	—	—	WT-14
C1711: [NO DATA] RL	—	—	WT-14
C1712: [CHECKSUM ERR] FL	—	—	WT-16
C1713: [CHECKSUM ERR] FR	—	—	WT-16
C1714: [CHECKSUM ERR] RR	—	—	WT-16
C1715: [CHECKSUM ERR] RL	—	—	WT-16
C1716: [PRESSDATA ERR] FL	—	—	WT-18
C1717: [PRESSDATA ERR] FR	—	—	WT-18
C1718: [PRESSDATA ERR] RR	—	—	WT-18
C1719: [PRESSDATA ERR] RL	—	—	WT-18
C1720: [CODE ERR] FL	—	—	WT-16
C1721: [CODE ERR] FR	—	—	WT-16
C1722: [CODE ERR] RR	—	—	WT-16
C1723: [CODE ERR] RL	—	—	WT-16
C1724: [BATT VOLT LOW] FL	—	—	WT-16
C1725: [BATT VOLT LOW] FR	—	—	WT-16
C1726: [BATT VOLT LOW] RR	—	—	WT-16
C1727: [BATT VOLT LOW] RL	—	—	WT-16
C1729: VHCL SPEED SIG ERR	—	—	WT-19
C1735: IGNITION SIGNAL	—	—	WT-20

SYMPTOM DIAGNOSIS

DOOR LOCK

Symptom Table

INFOID:0000000005387483

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-26
	1b. Door switch check (crew cab)	DLK-27
	2a. Key switch check (column shift)	DLK-41
	2b. Key switch and key lock solenoid (key switch) check (floor shift)	DLK-42
	3. Replace BCM.	BCS-53
Power door lock does not operate with door lock and unlock switch on main power window and door lock/unlock switch or power window and door lock/unlock switch RH.	1. Door lock/unlock switch check (driver side)	DLK-30
	2. Door lock/unlock switch check (passenger side)	DLK-32
Specific door lock actuator does not operate.	1. Door lock actuator check (Front LH)	DLK-44
	2. Door lock actuator check (Front RH)	DLK-45
	3. Door lock actuator check (Rear LH)	DLK-46
	4. Door lock actuator check (Rear RH)	DLK-46
Power door lock does not operate with front door key cylinder LH operation.	1. Front door lock assembly LH (key cylinder switch) check	DLK-36
	2. Replace BCM.	BCS-53
Power door lock does not operate.	1. BCM power supply and ground circuit check	DLK-25
	2. Door lock/unlock switch check	DLK-30

REMOTE KEYLESS ENTRY SYSTEM

Symptom Table

INFOID:0000000005387484

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) **NOTE:** If the result of keyfob function check is OK, keyfob is not malfunctioning.	DLK-50
	2. Check BCM and remote keyless entry receiver.	DLK-48
The new ID of keyfob cannot be entered.	1. Keyfob battery and function check (use Remote Keyless Entry Tester J-43241) **NOTE:** If the result of keyfob function check is OK, keyfob is not malfunctioning.	DLK-50
	2a. Key switch check (column shift)	DLK-41
	2b. Key switch and key lock solenoid (key switch) check (floor shift)	DLK-42
	3a. Door switch check (king cab)	DLK-26
	3b. Door switch check (crew cab)	DLK-27
	4. ACC power check	BCS-30
	5. Replace BCM.	BCS-53
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) **NOTE:** If the result of keyfob function check is OK, keyfob is not malfunctioning.	DLK-14
	2. Replace BCM.	BCS-53
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-III **NOTE:** Hazard and horn reminder mode can be changed. First check the hazard and horn reminder mode setting.	DLK-14
	2a. Door switch check (king cab)	DLK-26
	2b. Door switch check (crew cab)	DLK-27
	3. Replace BCM.	BCS-53
Hazard reminder does not activate properly when pressing lock or unlock button of keyfob. (Horn reminder OK)	1. Check hazard reminder mode with CONSULT-III **NOTE:** Hazard reminder mode can be changed. First check the hazard reminder mode setting.	DLK-14
	2. Check hazard function with hazard switch	—
	3. Replace BCM.	BCS-53
Horn reminder does not activate properly when pressing lock or unlock button of keyfob. (Hazard reminder OK)	1. Check horn reminder mode with CONSULT-III **NOTE:** Horn reminder mode can be changed. First check the horn reminder mode setting.	DLK-14
	2. Check horn function with horn switch	—
	3. IPDM E/R operation check	DLK-52
	4. Replace BCM.	BCS-53
Room lamp, ignition keyhole illumination and step lamp operation do not activate properly.	1. Room lamp operation check	—

Symptom	Diagnoses/service procedure	Reference page
	2. Ignition keyhole illumination operation check	—
	3. Step lamp operation check	—
	4a. Door switch check (king cab)	DLK-26
	4b. Door switch check (crew cab)	DLK-27
	5. Replace BCM.	BCS-53
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) **NOTE:** If the result of keyfob function check is OK, keyfob is not malfunctioning.	DLK-50
	2a. Key switch check (column shift)	DLK-41
	2b. Key switch and key lock solenoid (key switch) check (floor shift)	DLK-42
	3. Replace BCM.	BCS-53
Auto door lock operation does not activate properly. (All other remote keyless entry functions OK.)	1. Check auto door lock operation mode with CONSULT-III **NOTE:** Auto door lock operation mode can be changed. First check the auto door lock operation mode setting.	DLK-12
	2. Replace BCM.	BCS-53
Keyless power window down (open) operation does not activate properly. (All other remote keyless entry functions OK.)	1. Check power window down operation mode with CONSULT-III **NOTE:** Power window down operation mode can be changed. First check the power window down operation mode setting.	—
	2. Check power window function with switch	—
	3. Replace BCM.	BCS-53

HOMELINK UNIVERSAL TRANSCEIVER

Symptom Table

INFOID:0000000005387485

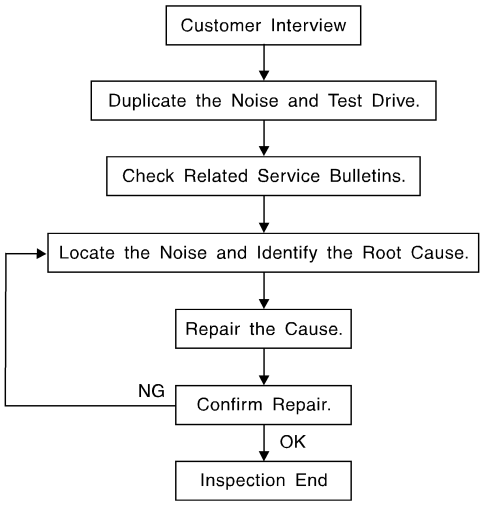
HOMELINK UNIVERSAL TRANSCEIVER MALFUNCTION

Symptom	Diagnosis/service procedure	Reference page
Homelink universal transceiver does not operate properly.	1. Check homelink universal transceiver function.	DLK-63
	2. Check Intermittent Incident.	GI-38

SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow

INFOID:0000000005387486



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-109, "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, drive position on A/T model).
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-107, "Generic Squeak and Rattle Troubleshooting".

REPAIR THE CAUSE

- If the cause is a loose component, tighten the component securely.
- If the cause is insufficient clearance between components:

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

CAUTION:
Do not use excessive force as many components are constructed of plastic and may be damaged.
Always check with the Parts Department for the latest parts information.
The following materials are contained in the NISSAN Squeak and Rattle Kit (J-43980). Each item can be ordered separately as needed.
URETHANE PADS [1.5 mm (0.059 in) thick]
Insulates connectors, harness, etc.
76268-9E005: 100×135 mm (3.94×5.31 in)/76884-71L01: 60×85 mm (2.36×3.35 in)/76884-71L02: 15×25 mm (0.59×0.98 in)
INSULATOR (Foam blocks)
Insulates components from contact. Can be used to fill space behind a panel.
73982-9E000: 45 mm (1.77 in) thick, 50×50 mm (1.97×1.97 in)/73982-50Y00: 10 mm (0.39 in) thick, 50×50 mm (1.97×1.97 in)
INSULATOR (Light foam block)
80845-71L00: 30 mm (1.18 in) thick, 30×50 mm (1.18×1.97 in)
FELT CLOTH TAPE
Used to insulate where movement does not occur. Ideal for instrument panel applications.
68370-4B000: 15×25 mm (0.59×0.98 in) pad/68239-13E00: 5 mm (0.20 in) wide tape roll. The following materials not found in the kit can also be used to repair squeaks and rattles.
UHMW (TEFLON) TAPE
Insulates where slight movement is present. Ideal for instrument panel applications.

SILICONE GREASE
Used instead of UHMW tape that will be visible or not fit.
Note: Will only last a few months.
SILICONE SPRAY
Use when grease cannot be applied.
DUCT TAPE
Use to eliminate movement.

CONFIRM THE REPAIR

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

Generic Squeak and Rattle Troubleshooting

INFOID:0000000005387487

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

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

1. The cluster lid A and instrument panel
2. Acrylic lens and combination meter housing
3. Instrument panel to front pillar garnish
4. Instrument panel to windshield
5. Instrument panel mounting 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. Shifter assembly cover to finisher
2. A/C control unit and cluster lid C
3. Wiring harnesses behind audio and A/C control unit

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

DOORS

Pay attention to the:

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

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

TRUNK

Trunk noises are often caused by a loose jack or loose items put into the trunk by the owner.
In addition look for:

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

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

SUNROOF/HEADLINING

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

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

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

OVERHEAD CONSOLE (FRONT AND REAR)

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

1. Loose harness or harness connectors.
2. Front console map/reading lamp lense 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 mounted to the engine wall
2. Components that pass through the engine wall
3. Engine wall mounts and connectors
4. Loose radiator mounting 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.

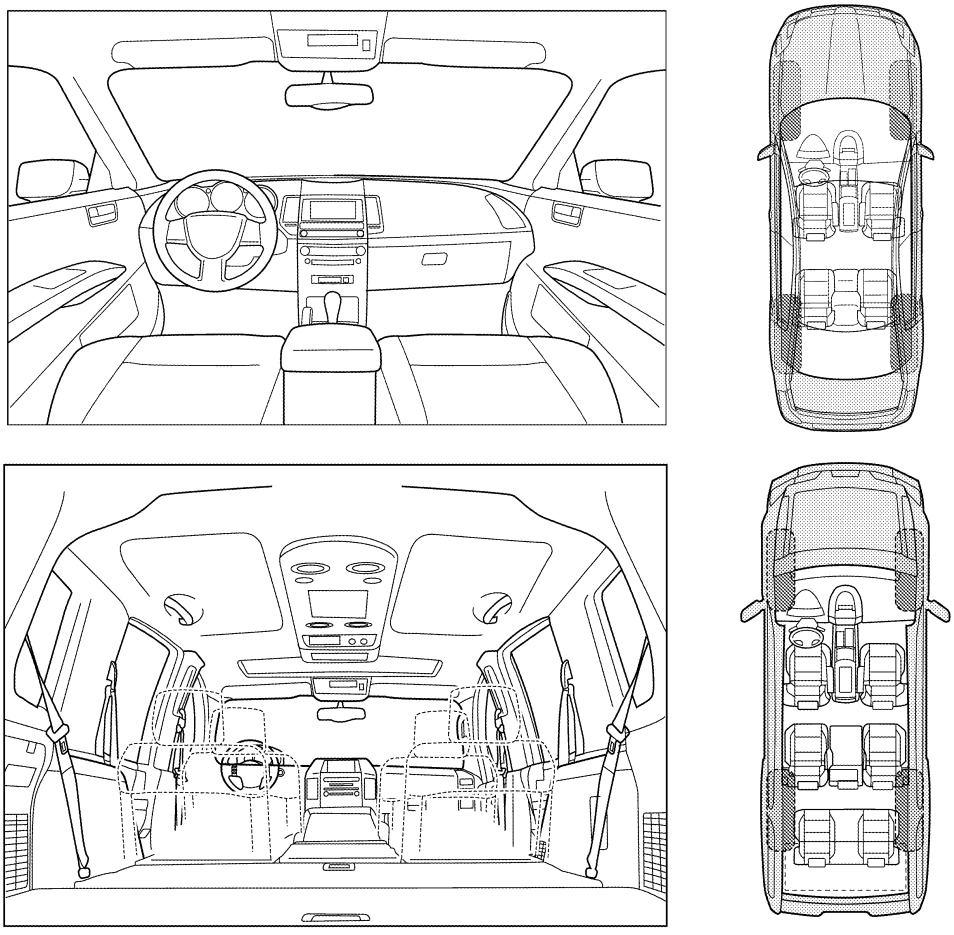
Diagnostic Worksheet

INFOID:0000000005387488

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.

LAIA0072E

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

LAIA0071E

PRECAUTION

PRECAUTIONS

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

INFOID:0000000005708553

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

WARNING:

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

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

WARNING:

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

Precaution for work

INFOID:0000000005387490

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

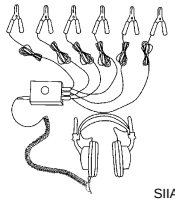
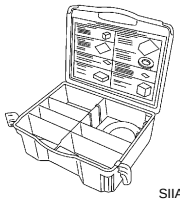
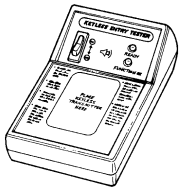
PREPARATION

PREPARATION

Special Service Tool

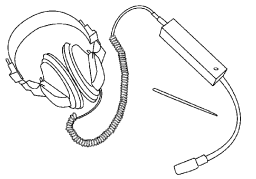
INFOID:0000000005387491

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

Tool number (Kent-Moore No.) Tool name	Description
— (J-39570) Chassis ear  SIIA0993E	Locating the noise
— (J-43980) NISSAN Squeak and Rattle Kit  SIIA0994E	Repairing the cause of noise
— (J-43241) Remote Keyless Entry Tester  LEL946A	Used to test key fobs

Commercial Service Tool

INFOID:0000000005387492

(Kent-Moore No.) Tool name	Description
(J-39565) Engine ear  SIIA0995E	Locating the noise

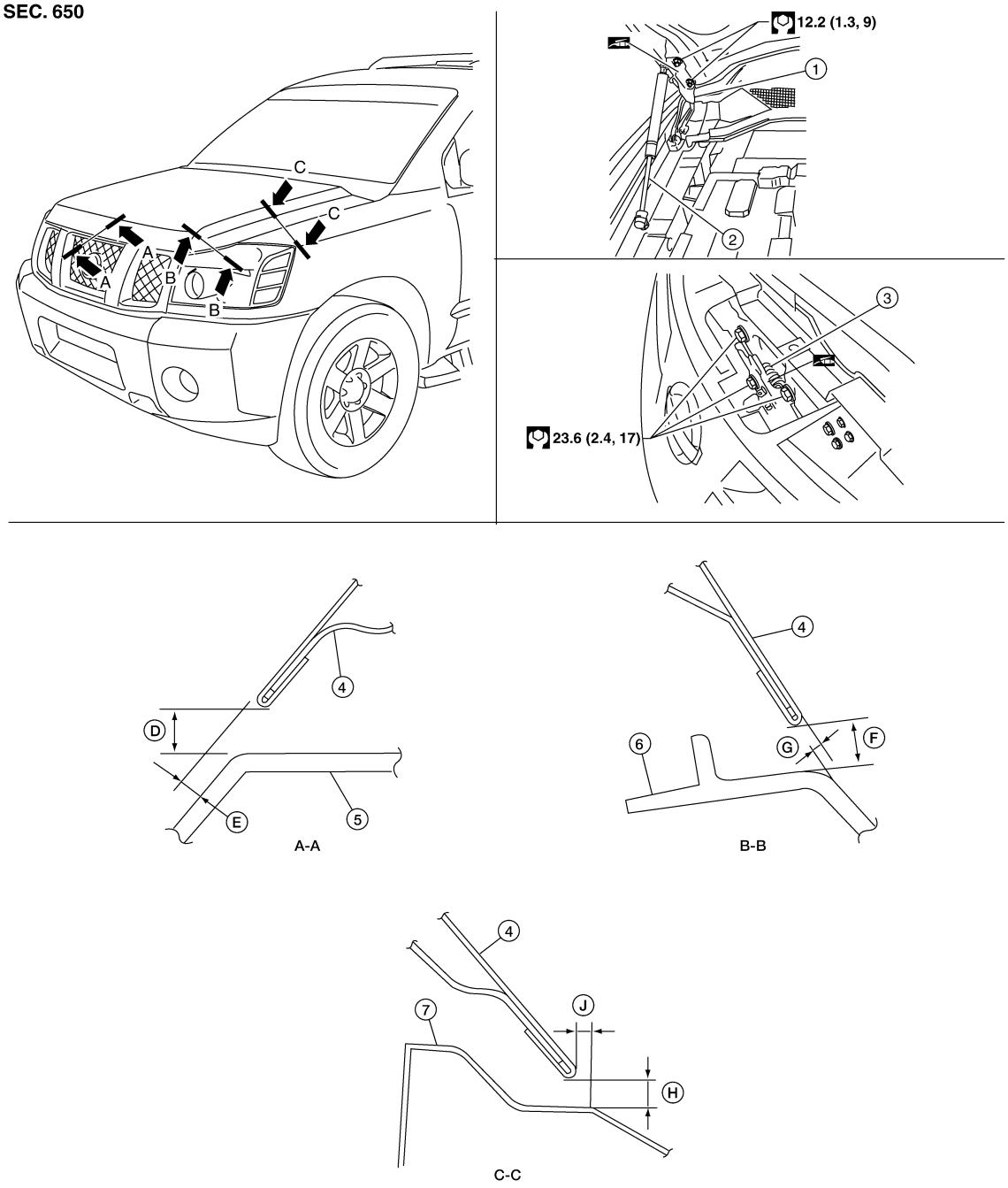
ON-VEHICLE REPAIR

HOOD

Fitting Adjustment

INFOID:0000000005387493

SEC. 650



AWIIA1103GB

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

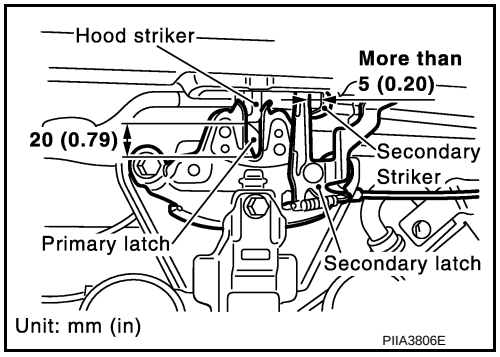
CLEARANCE AND SURFACE HEIGHT ADJUSTMENT

1. Remove the front grille. Refer to EXT-17, "Removal and Installation".
2. Remove the hood lock assembly and adjust the height by rotating the bumper rubber until the hood clearance of hood and fender becomes 1 mm (0.04 in) lower than fitting standard dimension.
3. Temporarily tighten the hood lock, and position it by engaging it with the hood striker. Check the lock and striker for looseness, and tighten the lock bolt to the specified torque.
4. Adjust the clearance and surface height of hood and fender according to the fitting standard dimension by rotating right and left bumper rubbers.
   CAUTION:
   Adjust right/left gap between hood and each part to the following specification.

   Hood and headlamp (B–B) : Less than 8.0 mm
5. Install the front grille. Refer to EXT-17, "Removal and Installation".

HOOD LOCK ADJUSTMENT

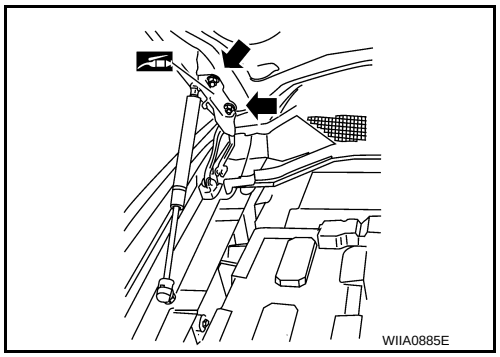
1. Remove the front grille. Refer toEXT-17, "Removal and Installation".
2. Move the hood lock to the left or right so that striker center is vertically aligned with hood lock center (when viewed from vehicle front).
3. Make sure the secondary latch is properly engaged with the secondary striker with hood's own weight by dropping it from approx. 200 mm (7.87 in) height or by pressing it lightly approx. 3 kg (29 N, 7lb).
   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-17, "Removal and Installation".



Removal and Installation of Hood Assembly

INFOID:0000000005387494

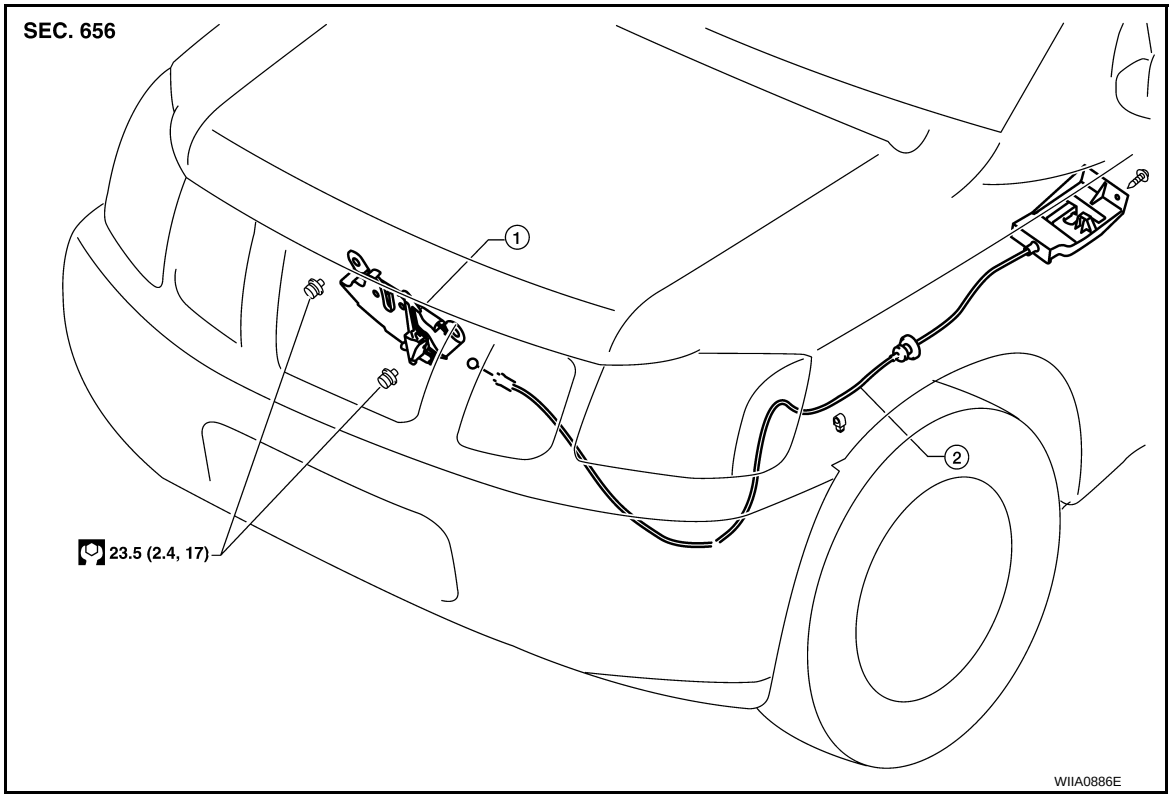
1. Support the hood with a suitable tool.
   WARNING:
   Body injury may occur if no supporting rod is holding the hood open when removing the damper stay.
2. Remove the hinge nuts from the hood to remove the hood assembly.
   CAUTION:
   Operate with two workers, because of its heavy weight.



Installation is in the reverse order of removal.
- Adjust the hood. Refer to DLK-114, "Fitting Adjustment".
- Adjust the hood lock. Refer to DLK-114, "Fitting Adjustment".

Removal and Installation of Hood Lock Control

INFOID:0000000005387495



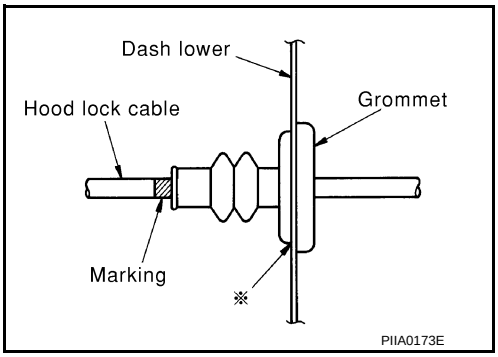
1. Hood lock assembly
2. Hood lock cable

REMOVAL

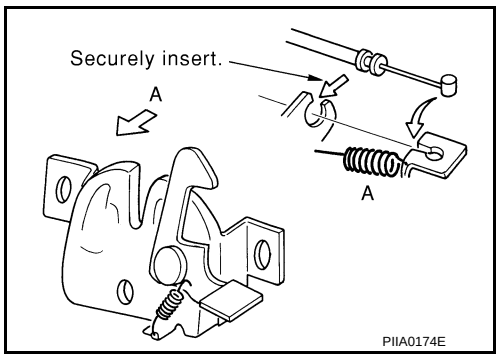
1. Remove the hood lock.
2. Unclip the hood lock cable from the radiator core support upper and the hoodledge.
3. Remove the bolt and the hood opener.
4. Remove the grommet from the dash lower, and pull the hood lock cable toward the passenger room.
   CAUTION:
   While pulling, be careful not to damage the outside of the hood lock cable.

INSTALLATION

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



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

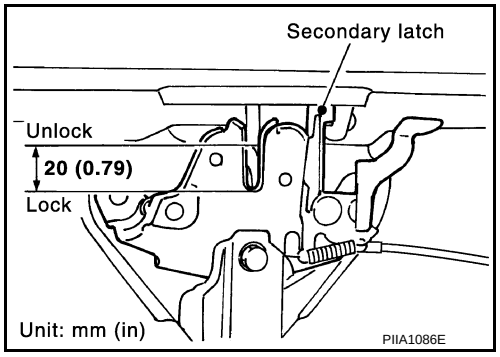


Hood Lock Control Inspection

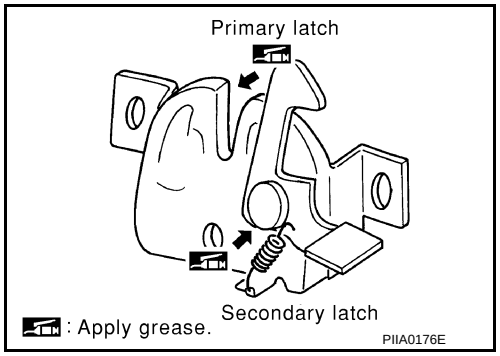
INFOID:0000000005387496

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

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



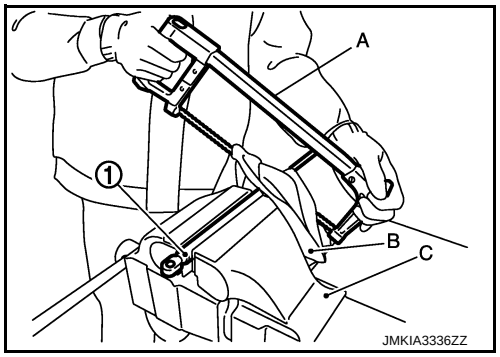
3. Check the hood lock lubrication condition. If necessary, apply “body grease” to the points shown in the figure.



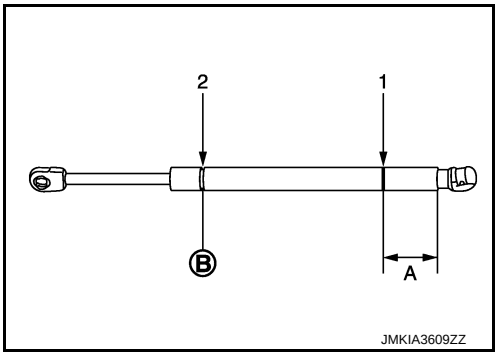
Hood Stay Disposal

INFOID:0000000005708555

1. Fix hood stay (1) using a vise (C).
2. Using hacksaw (A) slowly make 2 holes in the hood stay, in numerical order as shown in the figure.
   CAUTION:
   - **When cutting a hole on hood stay, always cover a hacksaw using a shop cloth (B) to avoid scattering metal fragments or oil.**
   - **Wear eye protection (safety glasses).**
   - **Wear gloves.**



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

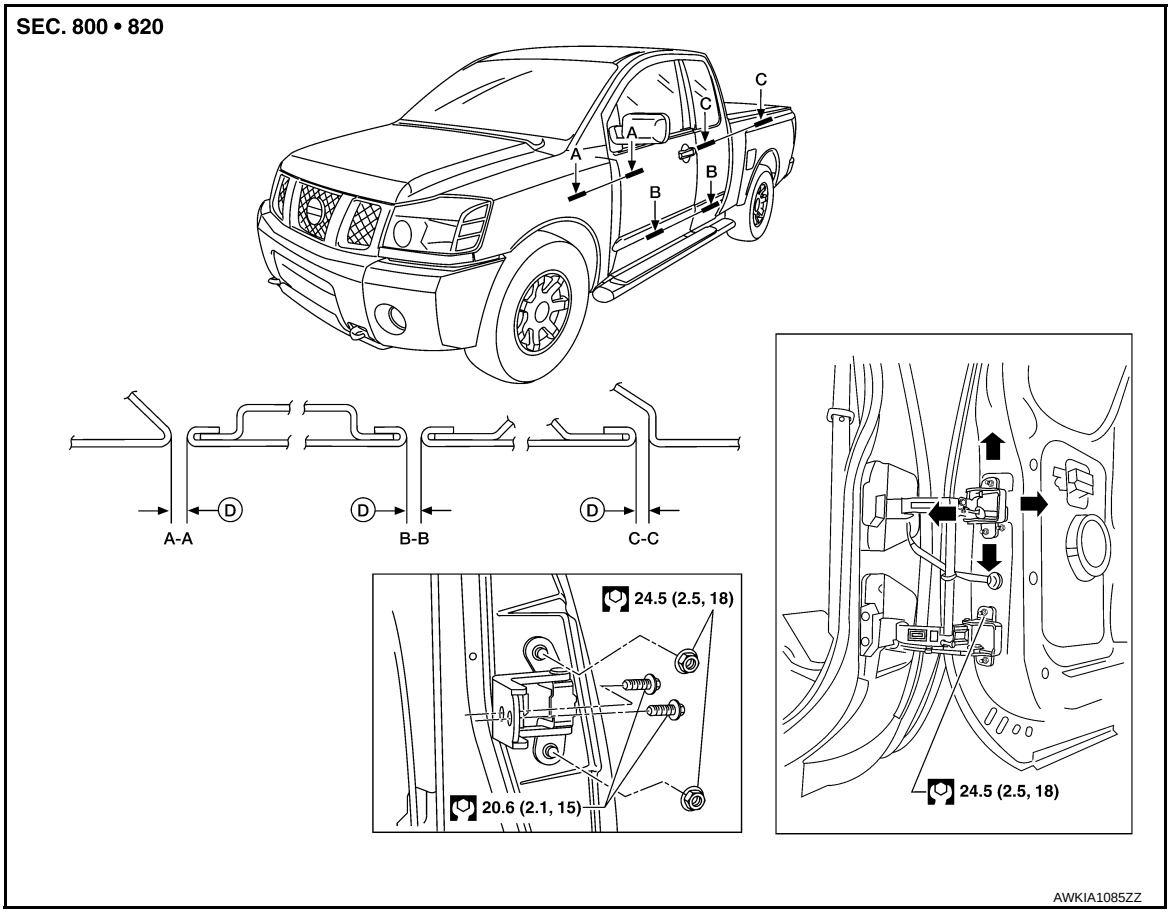


DOOR

Fitting Adjustment

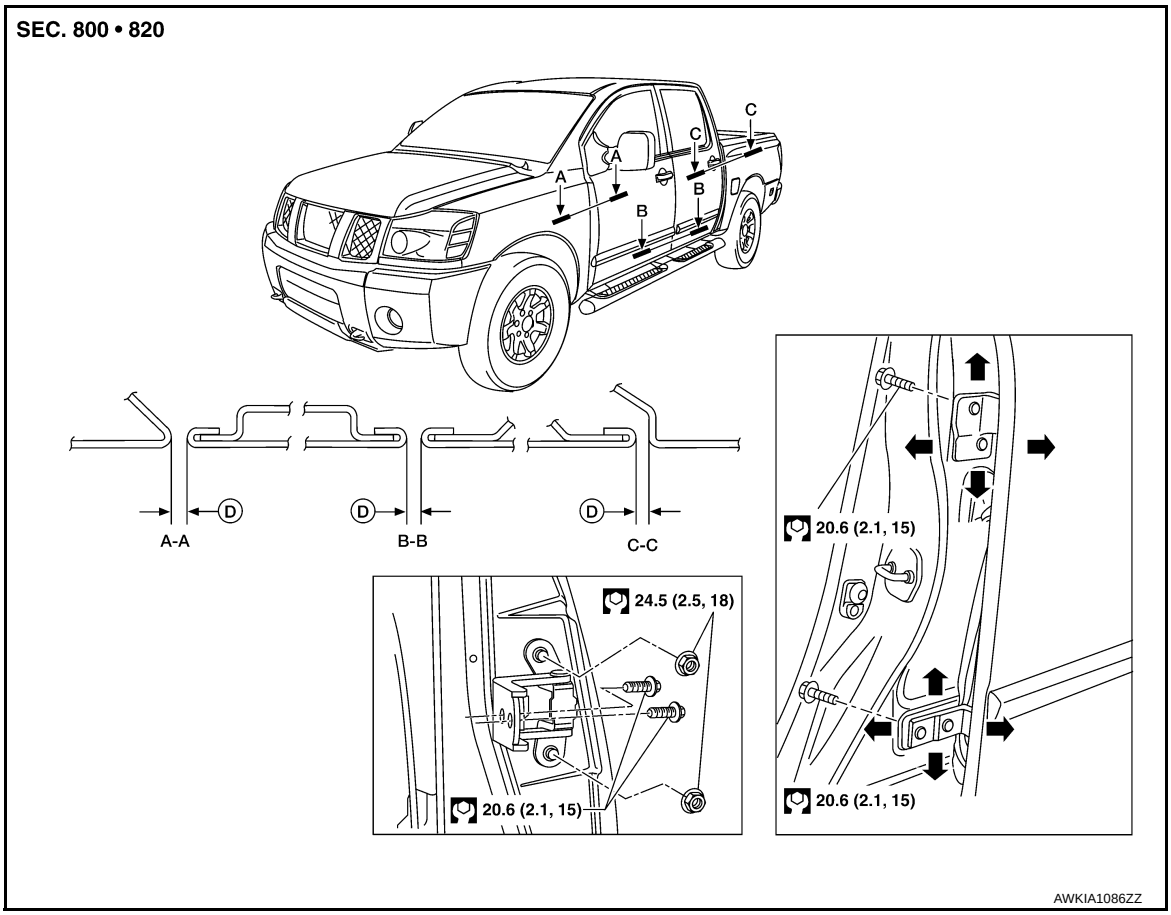
INFOID:0000000005387497

KING CAB



D. 4.5 ± 1.0 mm (0.177 ± 0.039 in)

CREW CAB



D. 4.5 ± 1.0 mm (0.177 ± 0.039 in)

Front Door

Longitudinal clearance and surface height adjustment at front end

1. Remove the front fender. Refer to EXT-20, "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-20, "Removal and Installation".

Rear Door Crew Cab

Longitudinal clearance and surface height adjustment at rear end

1. Remove the center pillar upper garnish. Refer to INT-14, "Removal and Installation".
2. Accessing from inside the vehicle, loosen the nuts. Open the rear door, and raise the rear door at rear end to adjust.
3. Install the center pillar upper garnish. Refer to INT-14, "Removal and Installation".

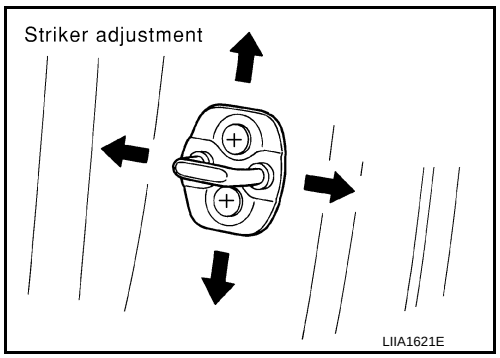
Rear Door King Cab

Longitudinal clearance and surface height adjustment at front end

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

Striker adjustment

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



Removal and Installation

INFOID:0000000005387498

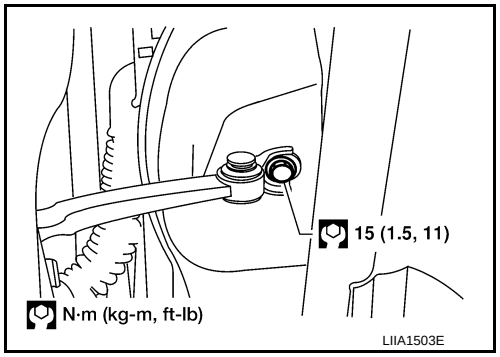
KING CAB

Front Door

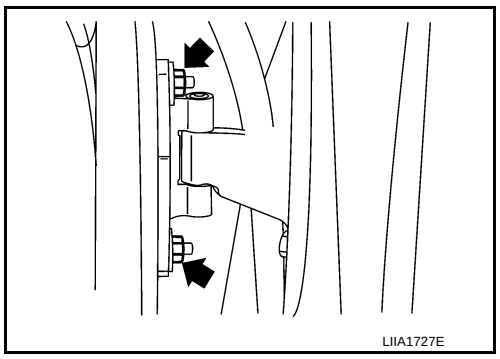
CAUTION:

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

1. Remove the front door lock assembly. Refer to DLK-124, "Removal and Installation".
2. Remove the door harness.
3. Remove the check link cover.
4. Remove the check link bolt from the hinge pillar.



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



Installation is in the reverse order of removal.

- Align the front door. Refer to DLK-119, "Fitting Adjustment".

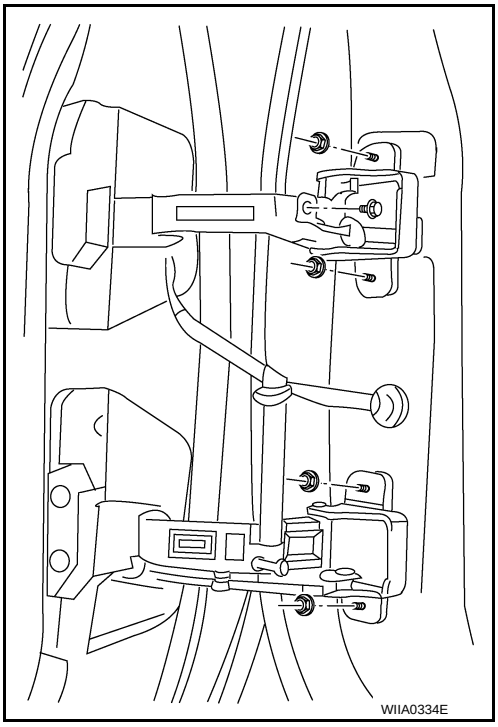
Rear Door

CAUTION:

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

1. Remove the door glass. Refer to GW-23, "Removal".

2. Remove the speaker.
3. Remove the door handles and latch assembly. Refer to DLK-127, "Component Structure".
4. Remove the check link.
5. Remove the wire harness.
6. Remove the door assembly.

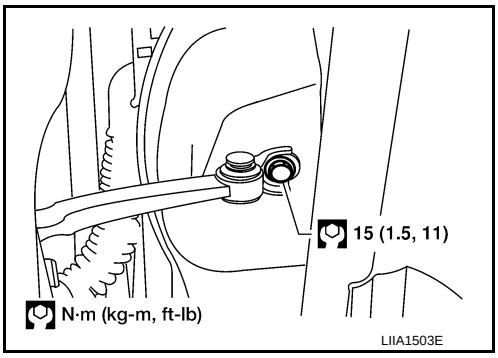

WIIA0334E

Installation is in the reverse order of removal.
- Align the rear door. Refer to DLK-119, "Fitting Adjustment".

CREW CAB

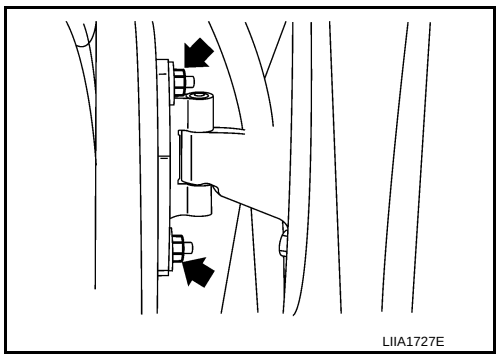
CAUTION:
- **When removing and installing the door assembly, support the door with a jack and shop cloth to protect the door and body.**
- **When removing and installing door assembly, be sure to carry out the fitting adjustment.**
- **Check the hinge rotating part for poor lubrication. If necessary,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

1. Remove the rear door lock assembly. Refer to DLK-128, "Removal and Installation".
2. Remove the door harness.
3. Remove the check link cover.
4. Remove the check link bolt from the hinge pillar.



LIIA1503E

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



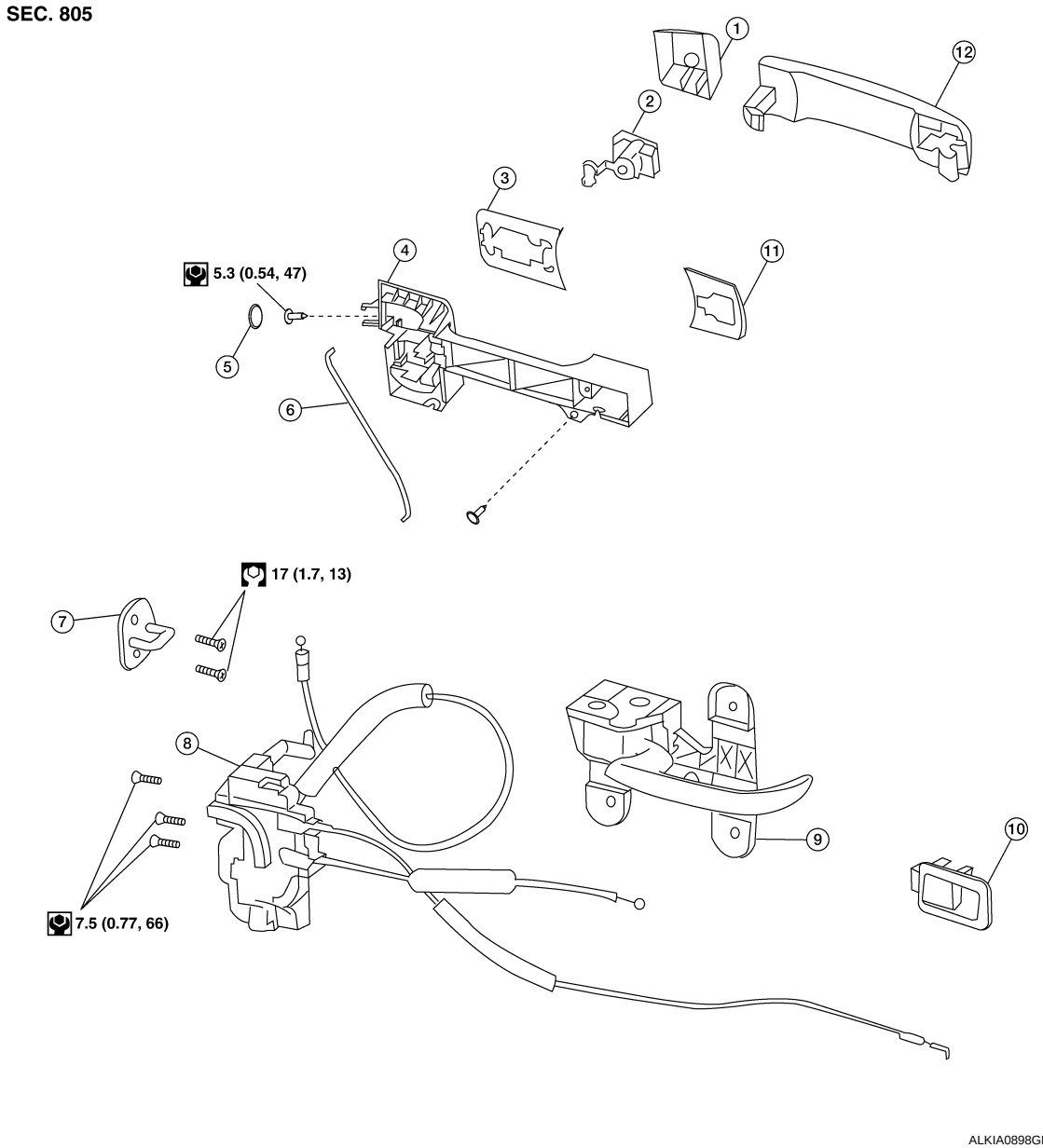
Installation is in the reverse order of removal.

- Align the front door. Refer to DLK-119, "Fitting Adjustment".

FRONT DOOR LOCK

Component Structure

INFOID:0000000005387499



ALKIA0898GB

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

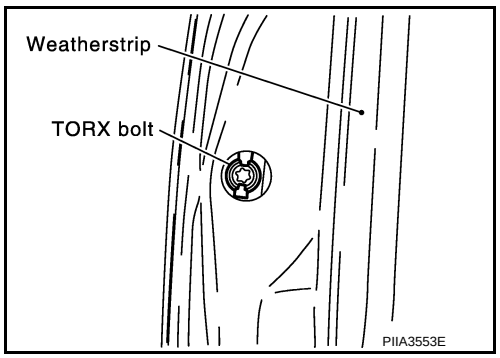
Removal and Installation

INFOID:0000000005387500

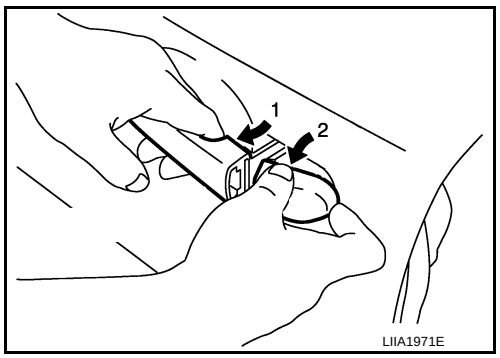
REMOVAL

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

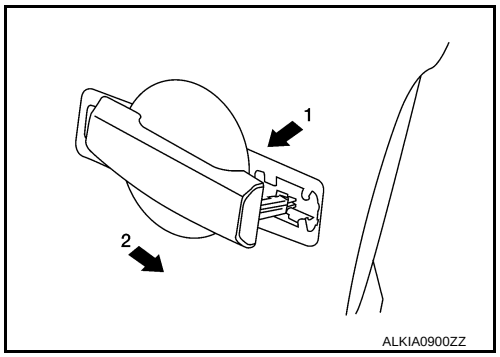
3. Remove the door side grommet, and the bolt (TORX T30) from the grommet hole.



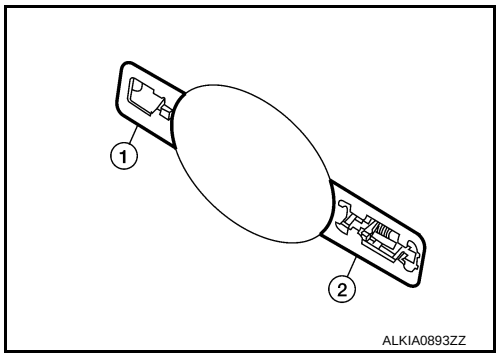
4. While pulling the outside handle, remove the door key cylinder assembly or outside handle escutcheon.



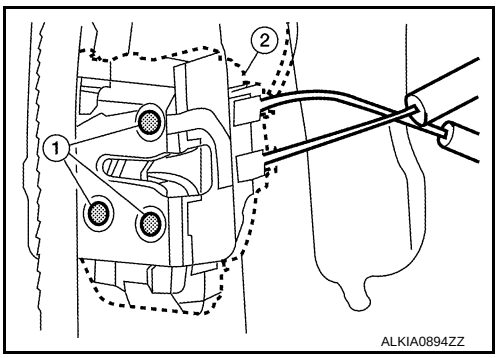
5. Separate the key cylinder rod from the door key cylinder assembly (if equipped).
6. While pulling the outside handle, slide it toward rear of vehicle to remove.



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

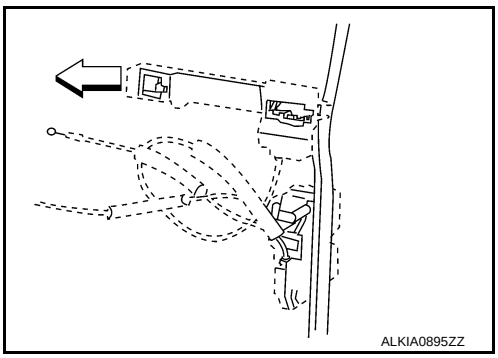


8. Remove the TORX bolts (T30) (1), and separate the door lock assembly (2) from the door.

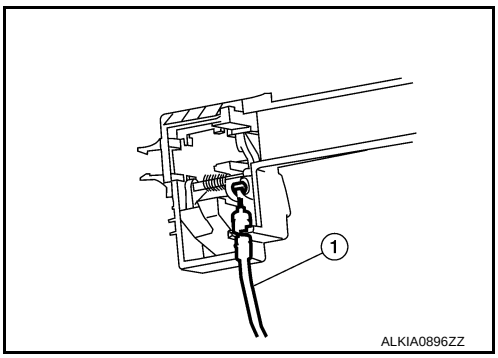


9. While pulling the outside handle bracket, slide it toward the front of the vehicle to remove it and the door lock assembly as shown.

⇦ : Front



10. Disconnect the door lock actuator electrical connector.
11. Separate the outside handle cable connection (1) from the outside handle bracket.



INSTALLATION

Installation is in the reverse order of removal.

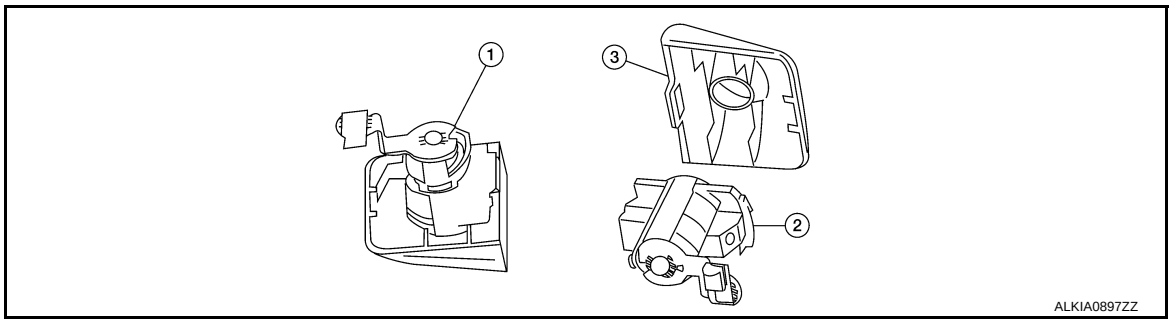
CAUTION:

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

Disassembly and Assembly

INFOID:0000000005387501

DOOR KEY CYLINDER ASSEMBLY



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

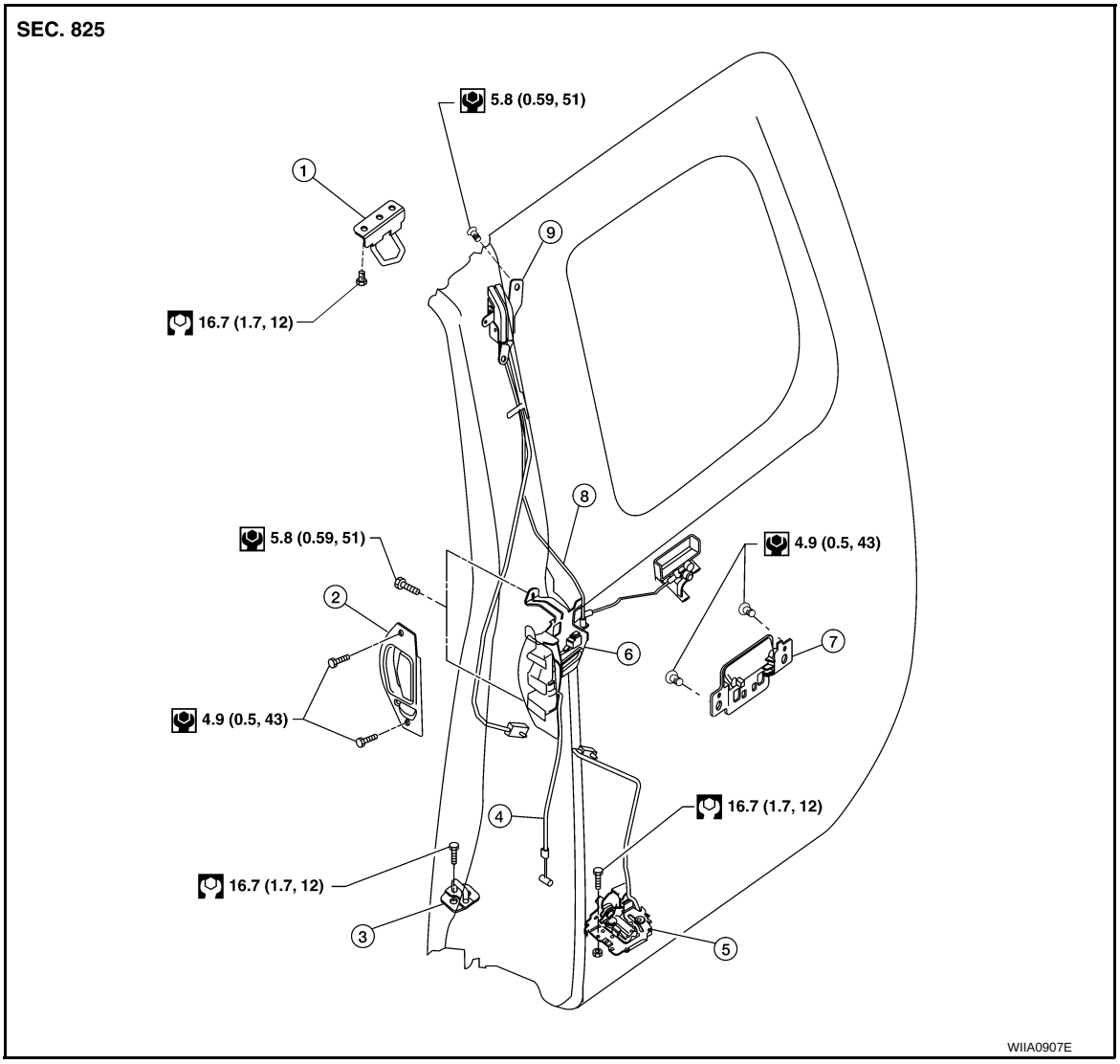
Release the door key cylinder escutcheon pawls to remove the door key cylinder.

REAR DOOR LOCK

Component Structure

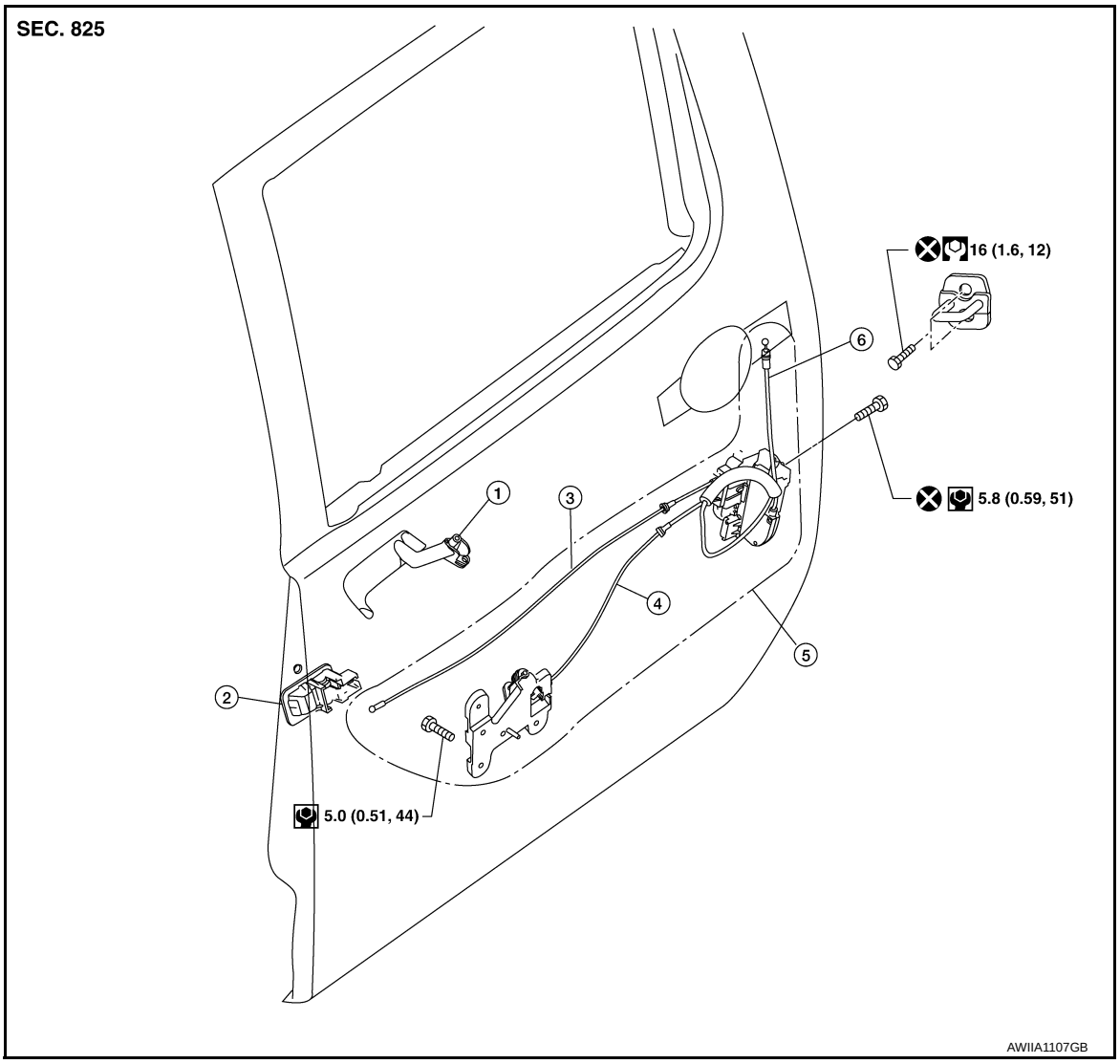
INFOID:0000000005387502

KING CAB



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

CREW CAB



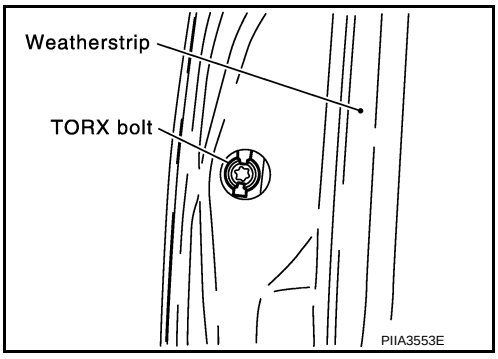
1. Rear inside door handle
2. Rear door lock knob
3. Lock knob cable
4. Inside handle cable
5. Rear door lock/remote control assembly
6. Outside handle cable

Removal and Installation

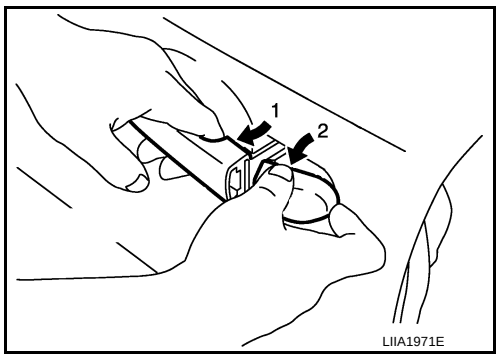
INFOID:0000000005387503

REMOVAL

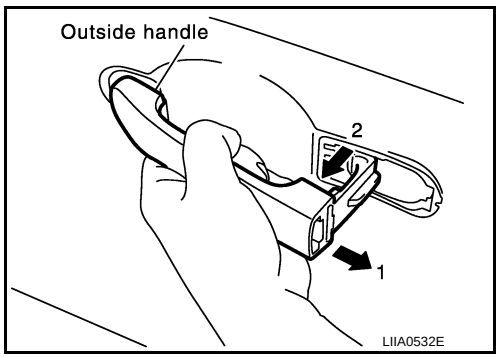
1. Remove the rear door finisher. Refer to INT-10, "Removal and Installation".
2. Remove the vapor sheet.
3. Remove the door side grommet and the bolt (TORX T30) from the grommet hole.



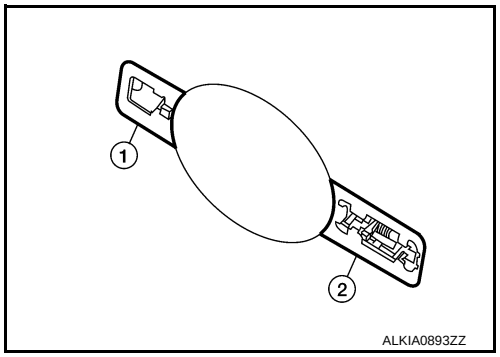
4. While pulling the outside handle, remove the door handle escutcheon.



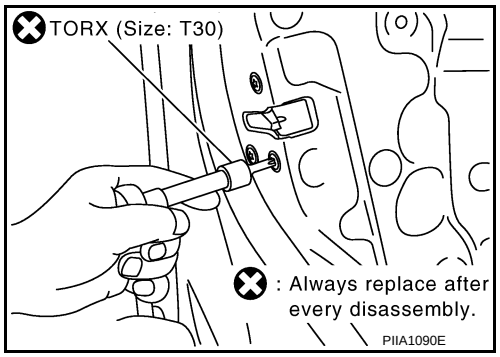
5. While pulling the outside handle, slide it toward the rear of vehicle to remove.



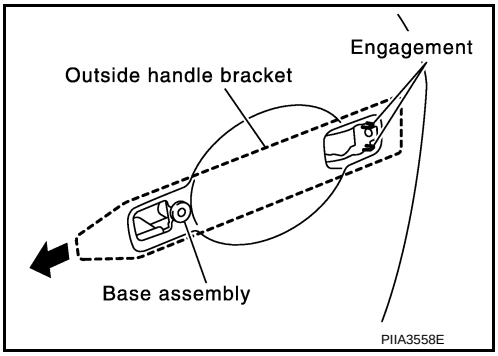
6. Remove the front gasket (1) and rear gaskets (2).



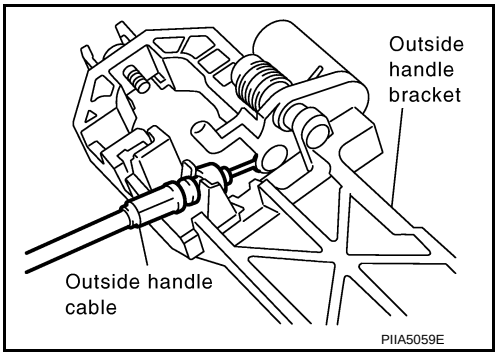
7. Remove the inside handle screws.
8. Remove the TORX bolts (T30), remove the door lock assembly.



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



10. Disconnect the outside handle cable.



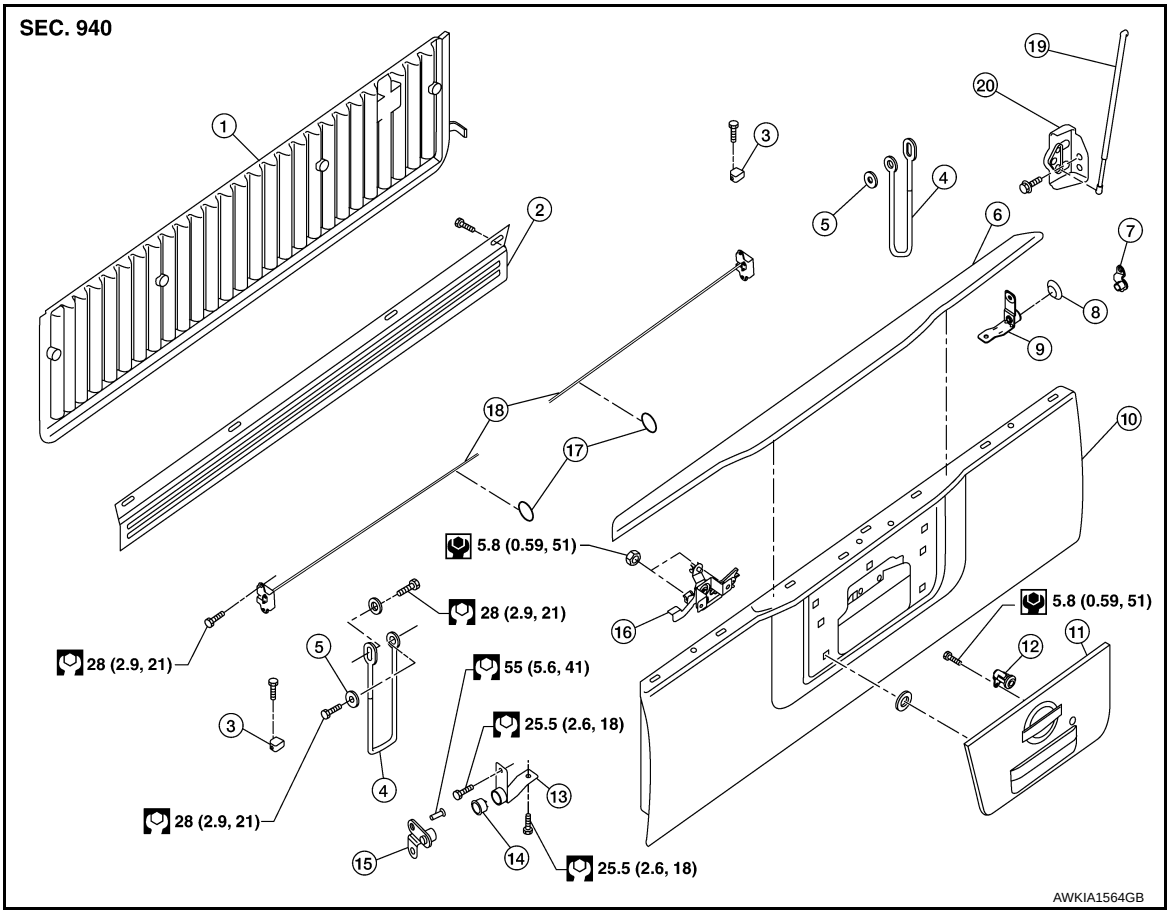
INSTALLATION

Installation is in the reverse order of removal.

TAIL GATE

Removal and Installation

INFOID:0000000005714050



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

GAS STAY

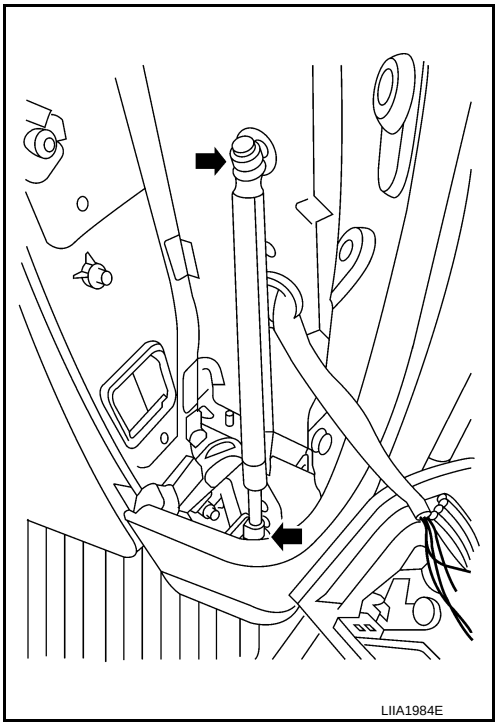
Removal

WARNING:

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

1. Remove the RH rear combination lamp assembly. Refer to EXL-149, "Removal and Installation".

2. Remove the gas stay.

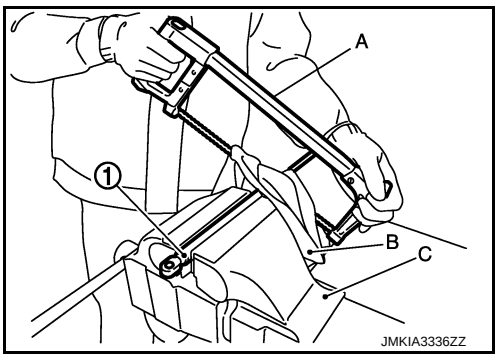


Installation
Installation is in the reverse order of removal.

Tail Gate Gas Stay Disposal

INFOID:0000000005708559

1. Fix tail gate gas stay (1) using a vise (C).
2. Using hacksaw (A) slowly make 2 holes in the tail gate gas stay, in numerical order as shown in the figure.
   CAUTION:
   - **When cutting a hole on tail gate gas stay, always cover a hacksaw using a shop cloth (B) to avoid scattering metal fragments or oil.**
   - **Wear eye protection (safety glasses).**
   - **Wear gloves.**



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