

SECTION **DLK**
DOOR & LOCK

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

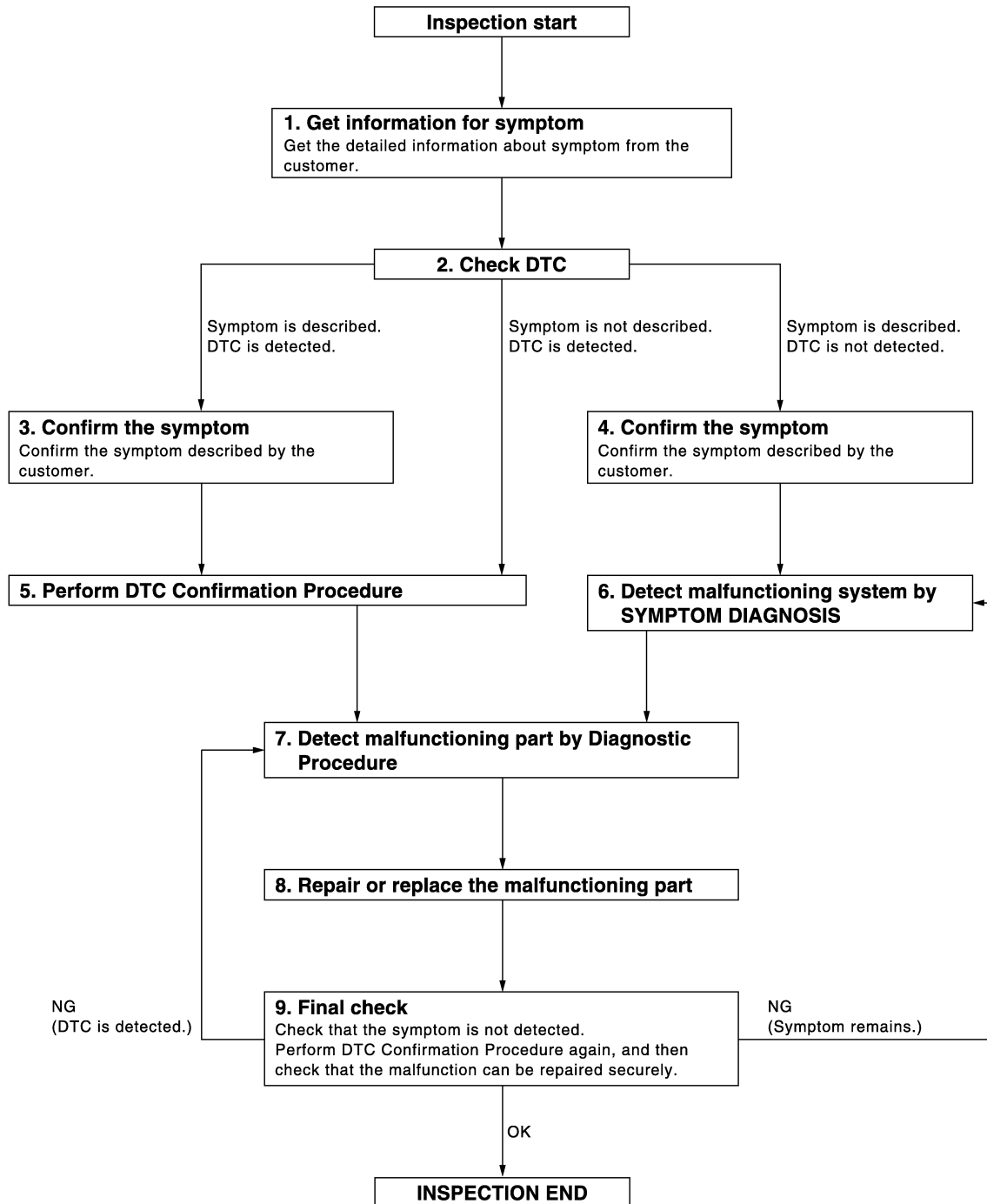
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

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OVERALL SEQUENCE



DETAILED FLOW

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

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

Is any symptom described and any DTC detected?

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

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

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

3.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT-III to the vehicle in "DATA MONITOR" mode and check real time diagnosis results. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT-III to the vehicle in "DATA MONITOR" mode and check real time diagnosis results. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again. At this time, always connect CONSULT-III to the vehicle, and check diagnostic results in real time.

If two or more DTCs are detected, refer to [DLK-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.

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

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

Is malfunctioning part detected?

Yes >> GO TO 8.

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

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

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

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

Does the symptom reappear?

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

YES (Symptom remains)>>GO TO 6.

NO >> Inspection End.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

A

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

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B

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

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C

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

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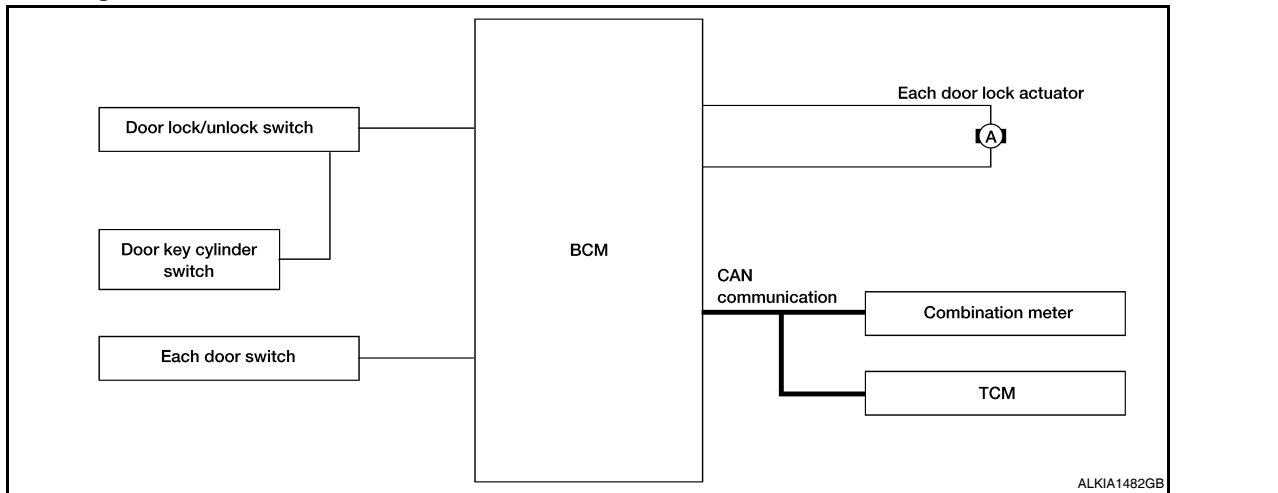
AUTOMATIC DOOR LOCKS

< FUNCTION DIAGNOSIS >

FUNCTION DIAGNOSIS

AUTOMATIC DOOR LOCKS

System Diagram



System Description

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| 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 | Automatic door lock/unlock function | |
| | Vehicle speed signal | | |
| 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.

AUTOMATIC DOOR LOCKS

< FUNCTION DIAGNOSIS >

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

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AUTOMATIC DOOR LOCKS

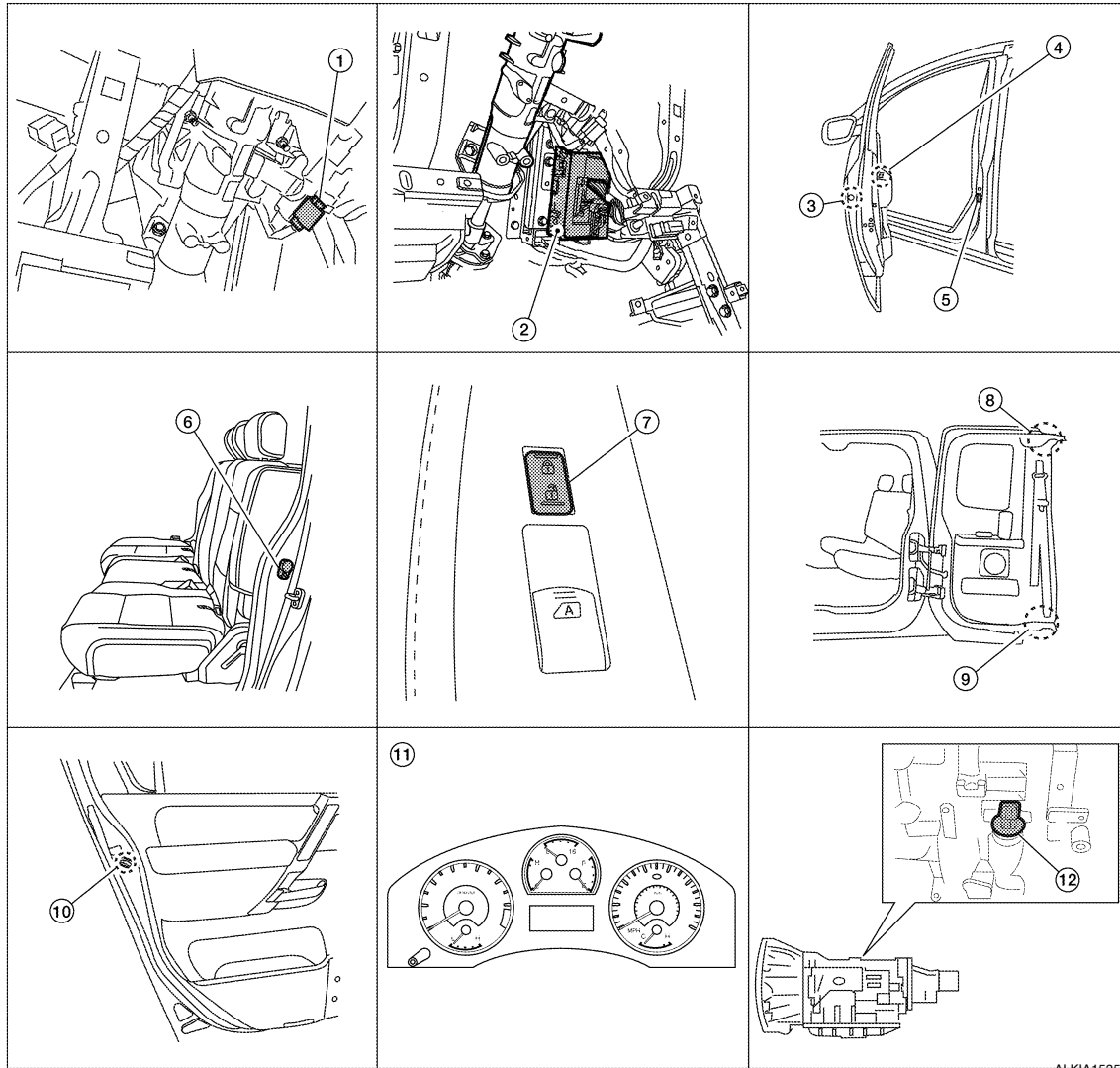
< FUNCTION DIAGNOSIS >

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

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

Component Parts Location

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

AUTOMATIC DOOR LOCKS

< FUNCTION DIAGNOSIS >

Component Description

INFOID:000000004195939

| Item | Function |
|-----------------------------|---|
| BCM | Controls the door lock function and room lamp function. |
| Door lock and unlock switch | Input lock or unlock signal to BCM. |
| Door lock actuator | Output lock/unlock signal from BCM and locks/unlocks each door. |
| Door switch | Input door open/close condition to BCM. |
| Door key cylinder switch | <ul style="list-style-type: none">• 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 | <ul style="list-style-type: none">• 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. |

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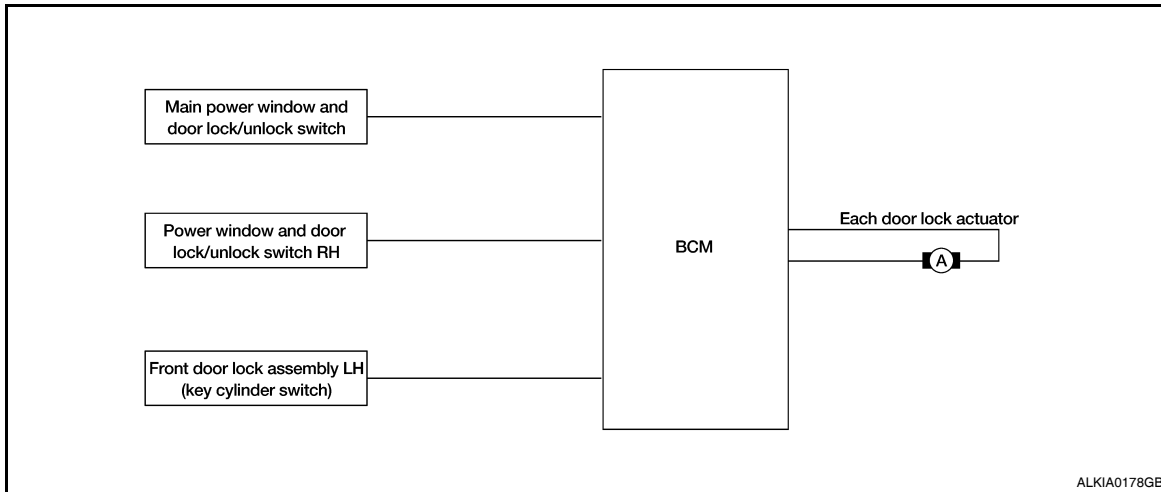
DOOR LOCK FUNCTION

< FUNCTION DIAGNOSIS >

DOOR LOCK FUNCTION DOOR LOCK AND UNLOCK SWITCH

DOOR LOCK AND UNLOCK SWITCH : System Diagram

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DOOR LOCK AND UNLOCK SWITCH : System Description

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| 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

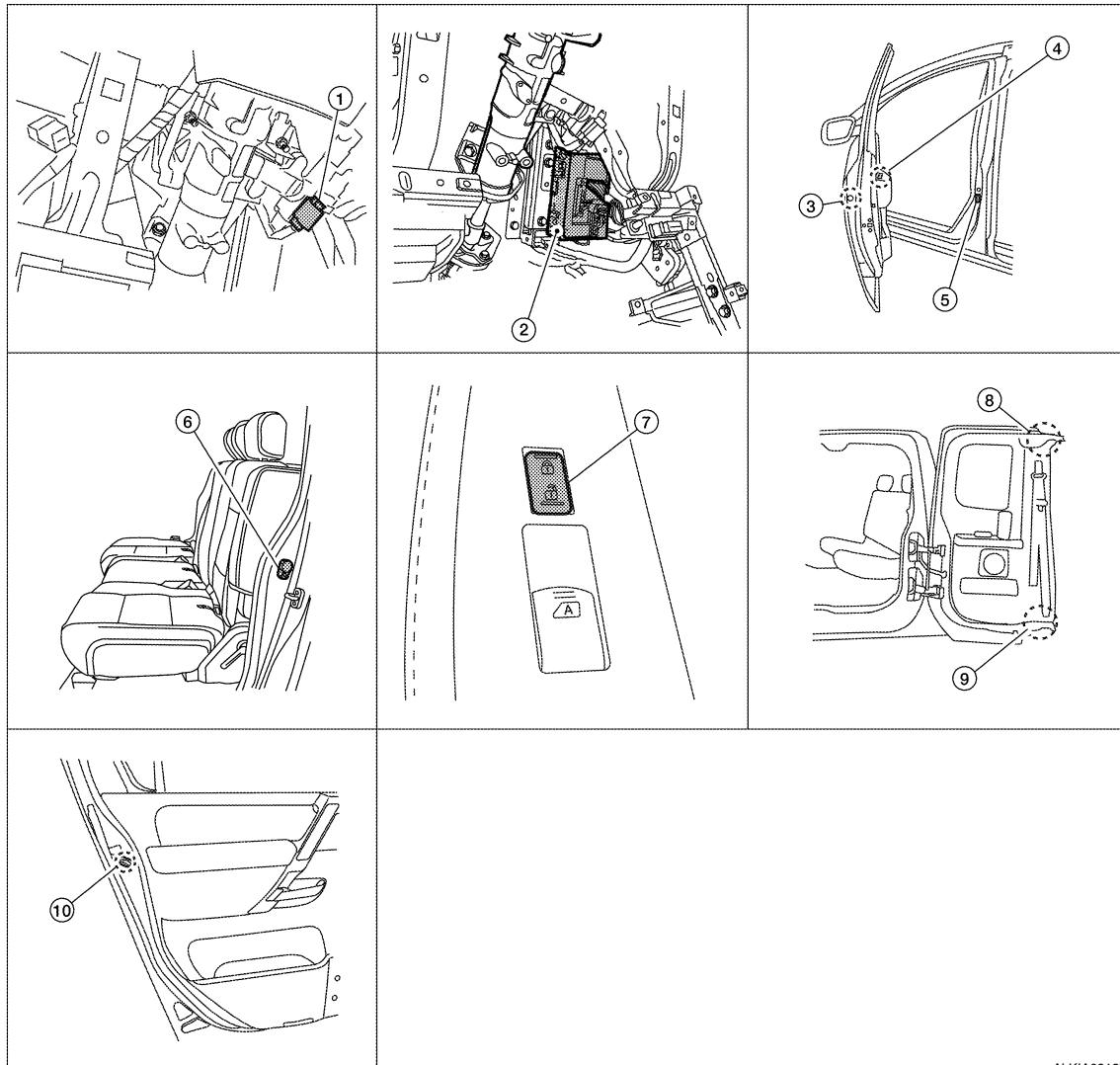
Refer to [DLK-19, "COMMON ITEM : CONSULT-III Function \(BCM - COMMON ITEM\)"](#).

DOOR LOCK FUNCTION

< FUNCTION DIAGNOSIS >

DOOR LOCK AND UNLOCK SWITCH : Component Parts Location

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|---|---|--|
| 1. Key switch and key lock solenoid (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 | | |

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DOOR LOCK AND UNLOCK SWITCH : Component Description

INFOID:000000003789094

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

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DOOR LOCK FUNCTION

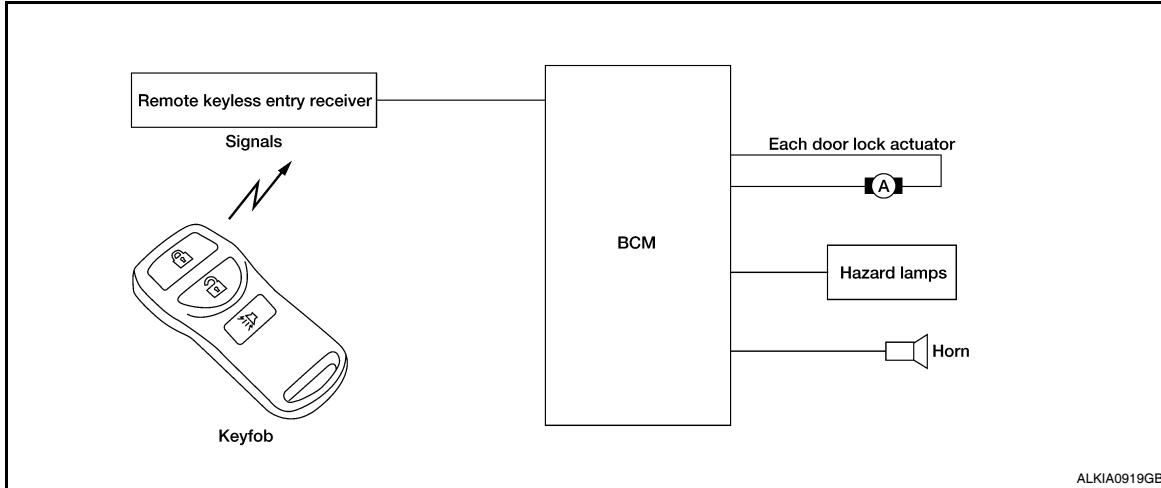
< FUNCTION DIAGNOSIS >

| 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

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REMOTE KEYLESS ENTRY : System Description

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OPERATED PROCEDURE

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

REMOTE CONTROL ENTRY FUNCTIONS

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

REMOTE CONTROL ENTRY OPERATION CONDITIONS

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

DOOR LOCK FUNCTION

< FUNCTION DIAGNOSIS >

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 | |
|---------------------------|--------|--------|--------|--------|
| | Lock | Unlock | Lock | Unlock |
| 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.

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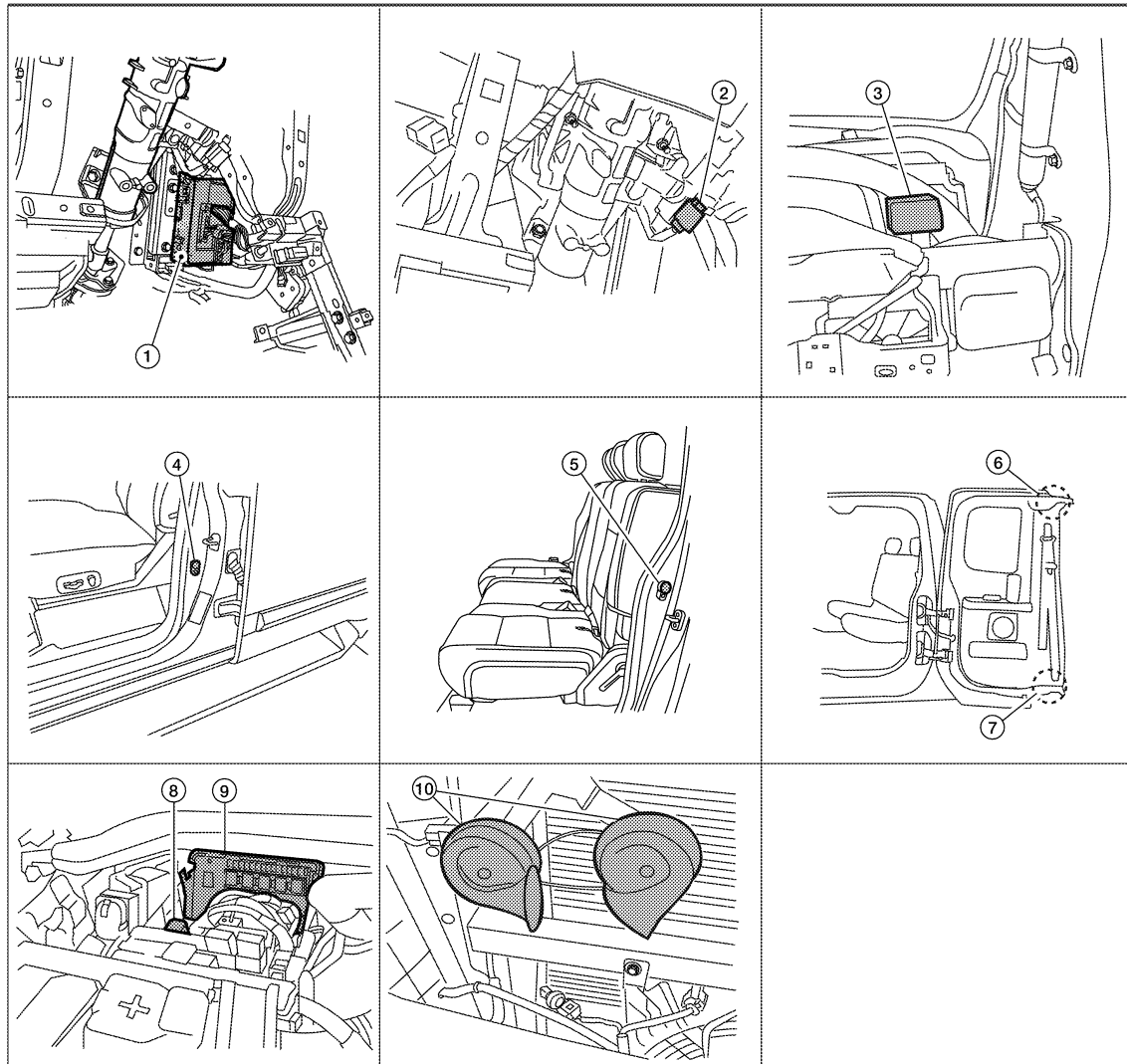
DLK

DOOR LOCK FUNCTION

< FUNCTION DIAGNOSIS >

REMOTE KEYLESS ENTRY : Component Parts Location

INFOID:000000003789097



ALKIA0920ZZ

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

REMOTE KEYLESS ENTRY : Component Description

INFOID:000000003789098

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

DOOR LOCK FUNCTION

< FUNCTION DIAGNOSIS >

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

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HOMELINK UNIVERSAL TRANSCEIVER

< FUNCTION DIAGNOSIS >

HOMELINK UNIVERSAL TRANSCEIVER

Component Description

INFOID:000000003789099

| 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)

< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:000000004199492

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-DIAG RESULTS | 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 | <ul style="list-style-type: none"> 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 | PANIC ALARM | | | × |

DOOR LOCK

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

INFOID:000000004199493

WORK SUPPORT

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

| Work Item | Description |
|------------------------------|---|
| DOOR LOCK-UNLOCK SET | <ul style="list-style-type: none">• ON• OFF |
| ANTI-LOCK OUT SET | <ul style="list-style-type: none">• ON• OFF |
| AUTOMATIC DOOR LOCK SELECT | <ul style="list-style-type: none">• SHIFT OUT OF P• VH SPD |
| AUTOMATIC DOOR UNLOCK SELECT | <ul style="list-style-type: none">• MODE1• MODE2• MODE3• MODE4• MODE5• MODE6 |
| AUTOMATIC LOCK/UNLOCK SELECT | <ul style="list-style-type: none">• 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 LOCK/ALL UNLOCK/DR UNLOCK/OTHER UNLOCK]. |

MULTIREMOTE ENT

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

INFOID:000000004199494

WORK SUPPORT

| Test Item | Description |
|---------------------|---|
| 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. |
| HORN CHIRP SET | Horn chirp function mode can be changed in this mode. The function mode will be changed when "CHANG SETT" on CONSULT-III screen is touched. |

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

| Test Item | Description |
|-----------------------|---|
| HAZARD LAMP SET | Hazard lamp function mode can be changed in this mode. The function mode will be changed when "CHANG SETT" on CONSULT-III screen is touched. |
| MULTI ANSWER BACK SET | Hazard and horn reminder mode can be changed in this mode. The reminder mode will be changed when "CHANG SETT" on CONSULT-III screen is touched. |
| AUTO LOCK SET | Auto locking function mode can be changed in this mode. The function mode will be changed when "CHANG SETT" on CONSULT-III screen is touched. |
| PANIC ALRM SET | Panic alarm operation mode can be changed in this mode. The operation mode will be changed when "CHANG SETT" on CONSULT-III screen is touched. |
| PW DOWN SET | Keyless power window down (open) operation mode can be changed in this mode. The operation mode will be changed when "CHANG SETT" on CONSULT-III screen is touched. |

Hazard and horn reminder mode

| | MODE 1 (C mode) | | MODE 2 (S mode) | | MODE 3 | | MODE 4 | | MODE 5 | | MODE 6 | |
|---------------------------|--------------------|--------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Lock | Unlock | Lock | Unlock | Lock | Unlock | Lock | Unlock | Lock | Unlock | Lock | Unlock |
| Keyfob operation | | | | | | | | | | | | |
| Hazard warning lamp flash | Twice | Once | Twice | — | — | — | Twice | Once | Twice | — | — | Once |
| Horn sound | Once | — | — | — | — | — | — | — | Once | — | Once | — |

Auto locking function mode

| | MODE 1 | MODE 2 | MODE 3 |
|-----------------------|-----------|---------|----------|
| Auto locking function | 5 minutes | Nothing | 1 minute |

Panic alarm operation mode

| | MODE 1 | MODE 2 | MODE 3 |
|------------------|-------------|---------|-------------|
| Keyfob operation | 0.5 seconds | Nothing | 1.5 seconds |

Keyless power window down operation mode

| | MODE 1 | MODE 2 | MODE 3 |
|------------------|-----------|---------|-----------|
| Keyfob operation | 3 seconds | Nothing | 5 seconds |

DATA MONITOR

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

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

| Monitored Item | Description |
|----------------|--|
| RKE LCK-UNLCK | Indicates [ON/OFF] condition of lock/unlock signal at the same time from keyfob. |
| RKE KEEP UNLK | Indicates [ON/OFF] condition of unlock signal from keyfob. |

ACTIVE TEST

| 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. |
| POWER WINDOW DOWN | This test is able to check power window down operation. The windows are lowered when "ON" 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. |
| 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. |

U1000 CAN COMM CIRCUIT

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:000000003789103

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-59, "CAN Communication Signal Chart"](#).

DTC Logic

INFOID:000000003789104

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. <ul style="list-style-type: none">• Transmission• Receiving (ECM)• Receiving (VDC/TCS/ABS)• Receiving (METER/M&A)• Receiving (TCM)• Receiving (IPDM E/R) |

Diagnosis Procedure

INFOID:000000003789105

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 [DLK-23, "Diagnosis Procedure"](#).
NO >> Refer to [GI-38, "Intermittent Incident"](#).

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U1010 CONTROL UNIT (CAN)

< COMPONENT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:000000003789106

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:000000003789107

1.REPLACE BCM

When DTC [U1010] is detected, replace BCM.

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

Special Repair Requirement

INFOID:000000003789108

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

< COMPONENT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:000000004199507

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?

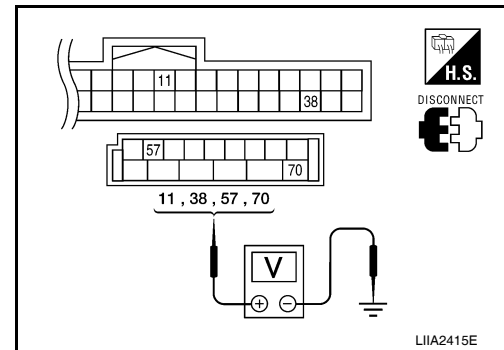
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- Disconnect BCM.
- Check voltage between BCM harness connector and ground.

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



Is the measurement value normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

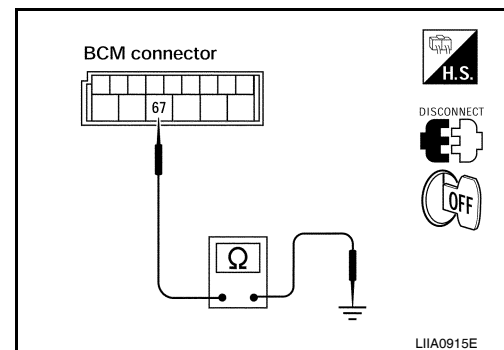
Check continuity between BCM harness connector and ground.

| BCM | | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal | | |
| M20 | 67 | | Yes |

Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.



DOOR SWITCH

< COMPONENT DIAGNOSIS >

DOOR SWITCH

KING CAB

KING CAB : Description

INFOID:000000003789110

Detects door open/close condition.

KING CAB : Component Function Check

INFOID:000000003789111

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:000000003789112

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

Is the inspection result normal?

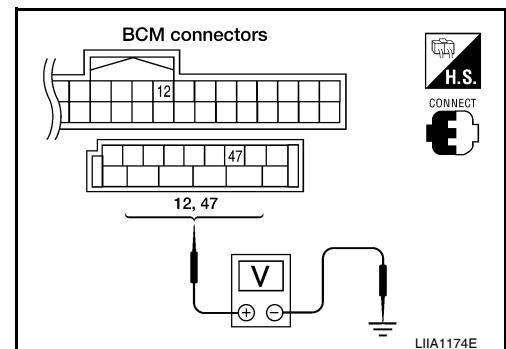
YES >> Door switch circuit is OK.

NO >> GO TO 2

2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect door switch and BCM.



DOOR SWITCH

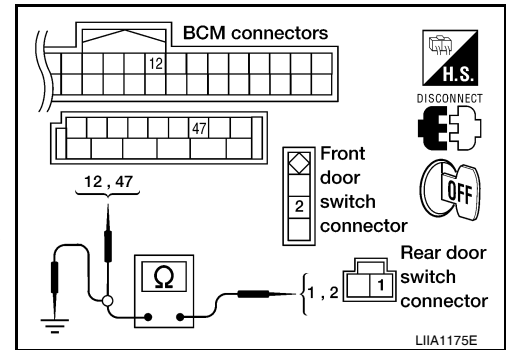
< COMPONENT DIAGNOSIS >

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

Detects door open/close condition.

CREW CAB : Component Function Check

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"](#).

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INFOID:000000003789114

DOOR SWITCH

< COMPONENT DIAGNOSIS >

CREW CAB : Diagnosis Procedure

INFOID:000000003789115

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

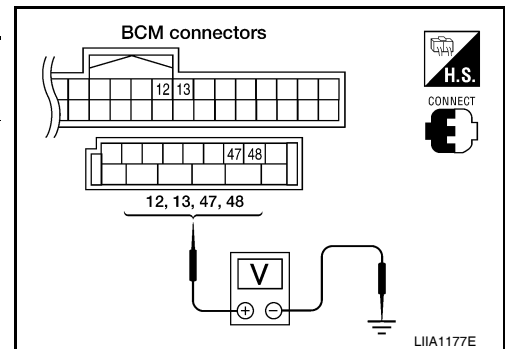
• When doors are closed:

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 | | 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

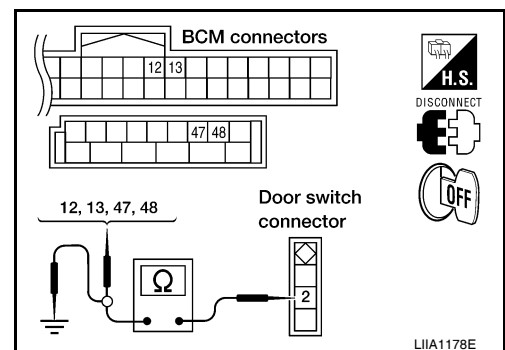
2. CHECK DOOR SWITCH CIRCUIT

- Turn ignition switch OFF.
- Disconnect door switch and BCM.
- 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

- 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



DOOR SWITCH

< COMPONENT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3.CHECK DOOR SWITCHES

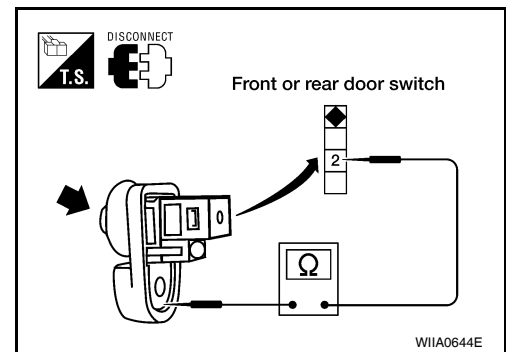
Check continuity between door switch terminal 2 and exposed metal of switch while pressing and releasing switch.

| | 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.



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DOOR LOCK AND UNLOCK SWITCH

< COMPONENT DIAGNOSIS >

DOOR LOCK AND UNLOCK SWITCH

KING CAB

KING CAB : Description

INFOID:000000003789116

Transmits door lock/unlock operation to BCM.

KING CAB : Component Function Check

INFOID:000000003789117

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:000000003789118

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:

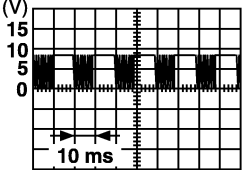
CDL LOCK SW : ON

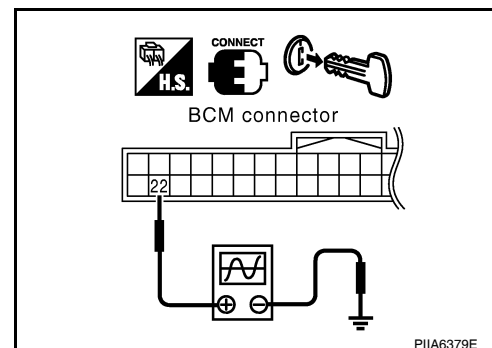
• When door lock/unlock switch is turned to UNLOCK:

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 | | Signal (Reference value) |
|-----------|-----------|--------|--|
| | (+) | (-) | |
| M18 | 22 | Ground |  <p>PIIA1297E</p> |



Is the inspection result normal?

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

DOOR LOCK AND UNLOCK SWITCH

< COMPONENT DIAGNOSIS >

NO >> GO TO 2

2. CHECK BCM OUTPUT SIGNAL

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

The front windows should be lowered?

Is the inspection result normal?

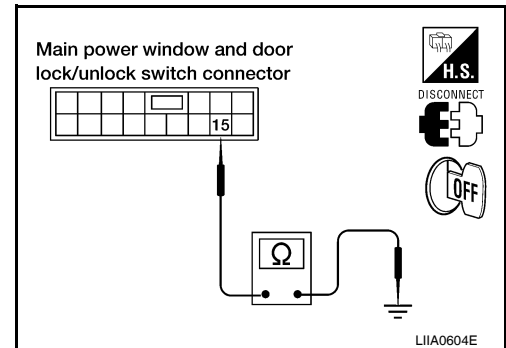
YES >> GO TO 3

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

3. CHECK DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

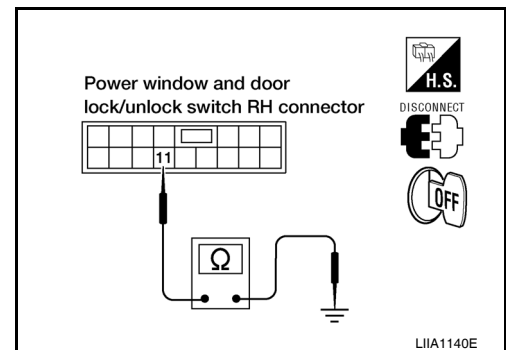
1. Disconnect main power window and door lock/unlock switch or power window and door lock/unlock switch RH.
2. Check continuity between main power window and door lock/unlock switch connector D15 terminal 15 and ground.

15 - Ground : Continuity should exist



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

11 - Ground : Continuity should exist



Is the inspection result normal?

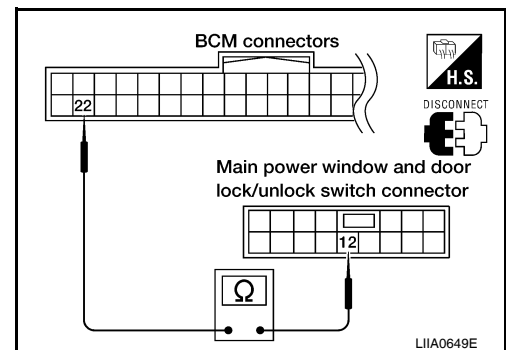
YES >> GO TO 4

NO >> Repair or replace harness.

4. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Disconnect BCM.
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

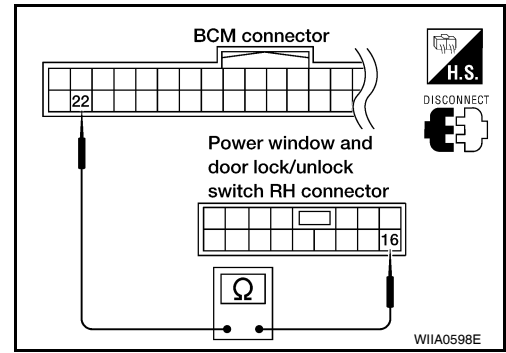


DOOR LOCK AND UNLOCK SWITCH

< COMPONENT DIAGNOSIS >

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

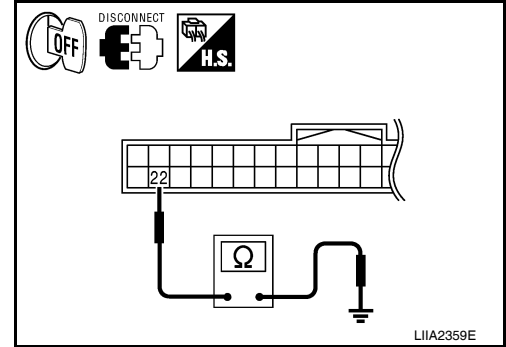


4. Check continuity between BCM connector M18 terminal 22 and ground.

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:000000003789119

Transmits door lock/unlock operation to BCM.

CREW CAB : Component Function Check

INFOID:000000003789120

1. CHECK FUNCTION

④ 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-32. "CREW CAB : Diagnosis Procedure"](#).

CREW CAB : Diagnosis Procedure

INFOID:000000003789121

1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

④ 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

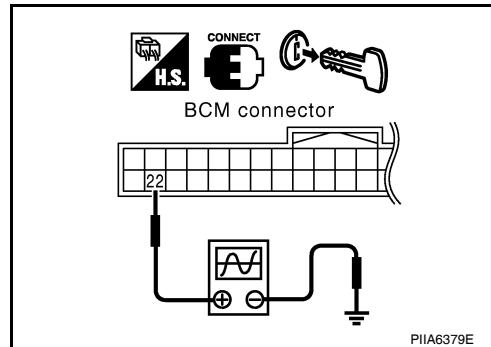
DOOR LOCK AND UNLOCK SWITCH

< COMPONENT DIAGNOSIS >

⊗ Without CONSULT-III

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

| Connector | Terminals | | Signal (Reference value) |
|-----------|-----------|--------|-----------------------------|
| | (+) | (-) | |
| M18 | 22 | Ground | <p>PIIA1297E</p> |



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?

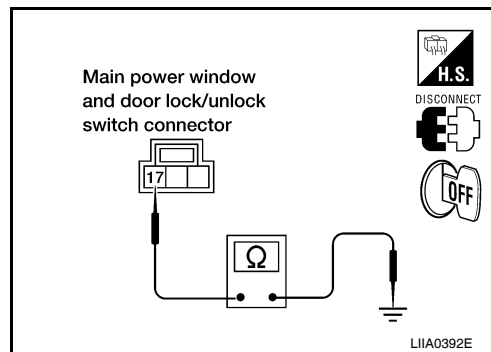
YES >> GO TO 3

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

3. CHECK DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

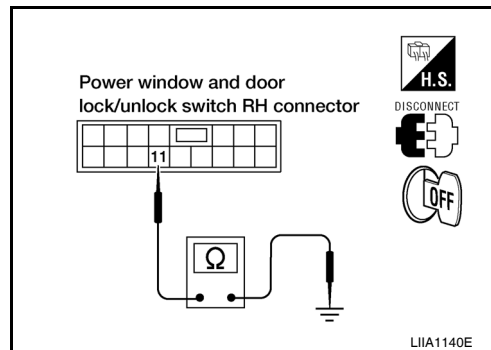
1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch or power window and door lock/unlock switch RH.
3. Check continuity between main power window and door lock/unlock switch connector D8 terminal 17 and ground.

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.

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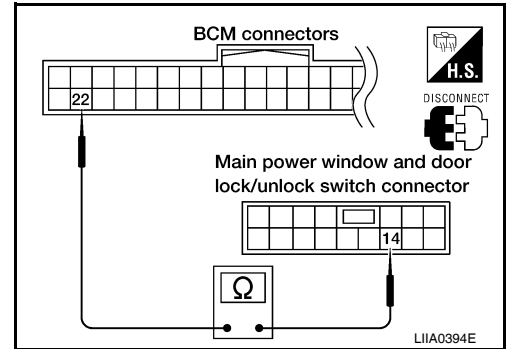
DOOR LOCK AND UNLOCK SWITCH

< COMPONENT DIAGNOSIS >

4. CHECK POWER WINDOW SERIAL LINK CIRCUIT

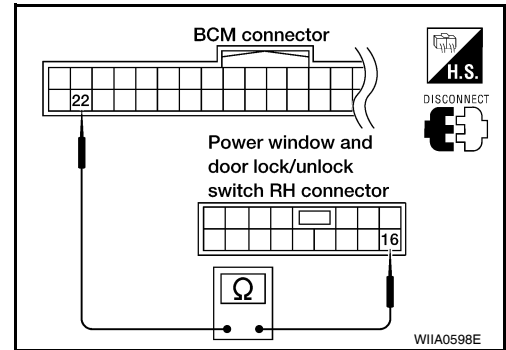
1. Disconnect BCM.
2. Check continuity between BCM connector M18 terminal 22 and main power window and door lock/unlock switch connector D7 terminal 14.

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

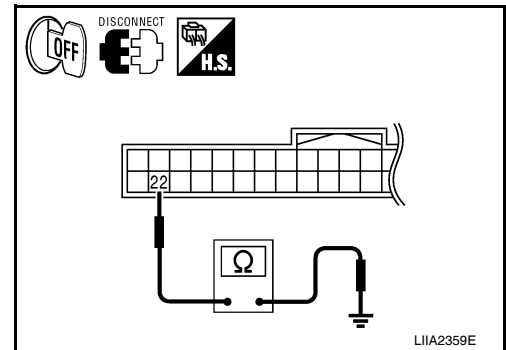


4. Check continuity between BCM connector M18 terminal 22 and ground.

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)

< COMPONENT DIAGNOSIS >

FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)

KING CAB

KING CAB : Description

INFOID:000000003789122

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:000000003789123

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-35. "KING CAB : Diagnosis Procedure"](#).

KING CAB : Diagnosis Procedure

INFOID:000000003789124

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

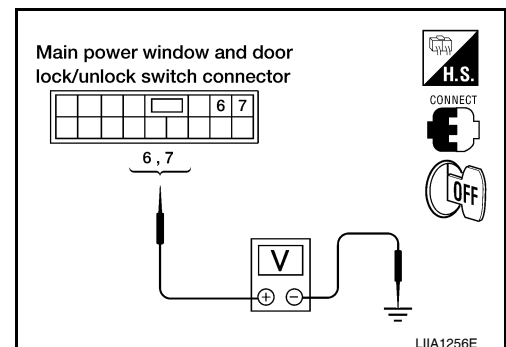
- When key inserted in front key cylinder is turned to UNLOCK:

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 | | 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.

FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)

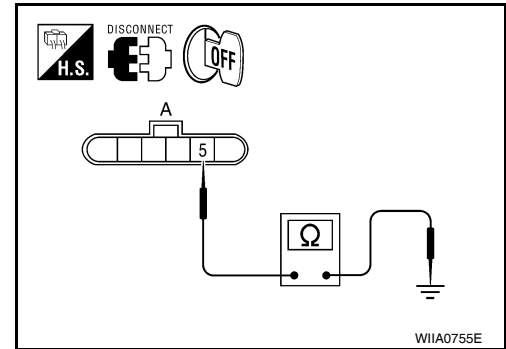
< COMPONENT DIAGNOSIS >

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?

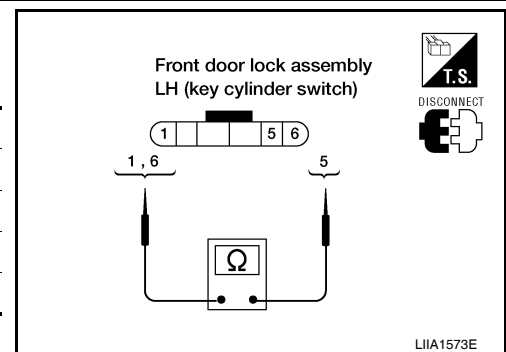
YES >> GO TO 3

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?

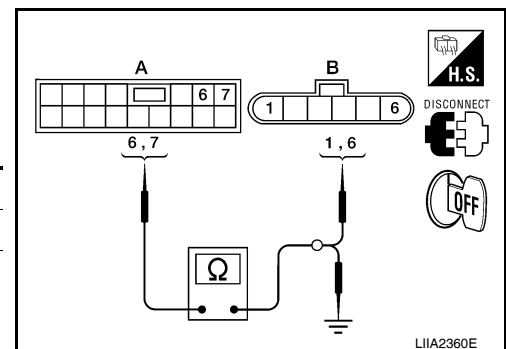
YES >> GO TO 4

NO >> Replace front door lock assembly LH (key cylinder switch). Refer to [DLK-123, "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

FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)

< COMPONENT DIAGNOSIS >

CREW CAB : Description

INFOID:000000003789125

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:000000003789126

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

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

Is the inspection result normal?

YES >> Key cylinder switch is OK.

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

CREW CAB : Diagnosis Procedure

INFOID:000000003789127

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

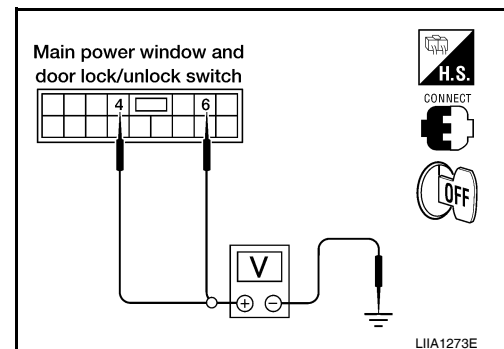
• When key inserted in front key cylinder is turned to UNLOCK:

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 | | 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

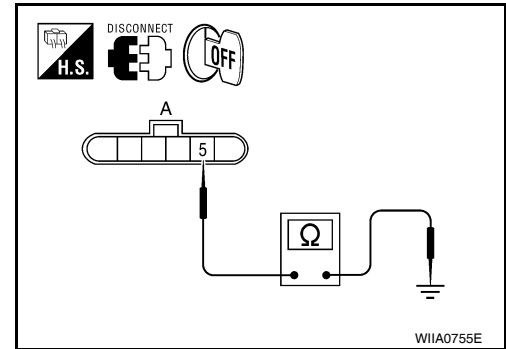
1. Turn ignition switch OFF.

FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)

< COMPONENT DIAGNOSIS >

- Disconnect front door lock assembly LH (key cylinder switch).
- 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 |



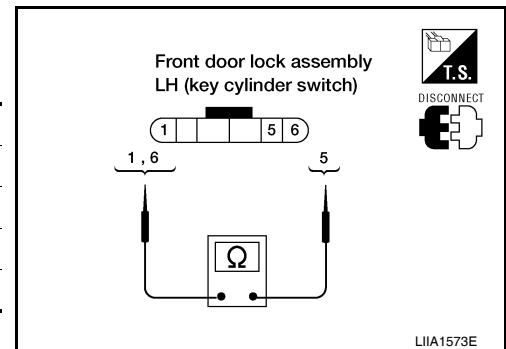
Is the inspection result normal?

- 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 |



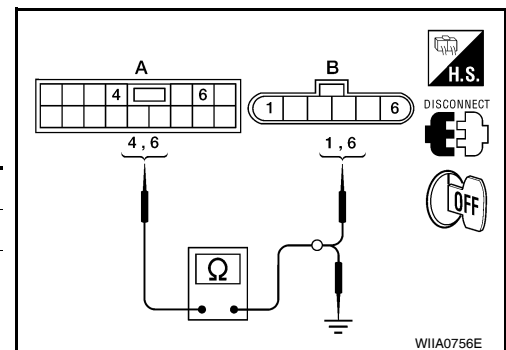
Is the inspection result normal?

- YES >> GO TO 4
 NO >> Replace front door lock assembly LH (key cylinder switch). Refer to [DLK-123, "Removal and Installation"](#).

4. CHECK DOOR KEY CYLINDER HARNESS

- Disconnect main power window and door lock/unlock switch.
- 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)

< COMPONENT DIAGNOSIS >

KEY SWITCH (BCM INPUT) COLUMN SHIFT

COLUMN SHIFT : Diagnosis Procedure

INFOID:000000003789128

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

2. CHECK KEY SWITCH (INSERT)

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

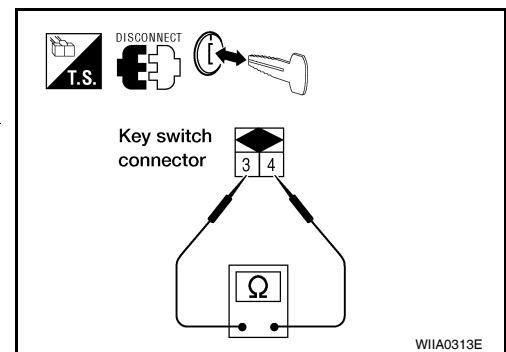
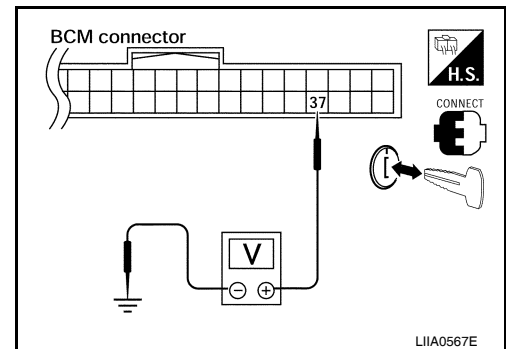
| Terminals | Condition | Continuity |
|-----------|------------------|------------|
| 3 - 4 | Key is inserted. | Yes |
| | Key is removed. | No |

Is the inspection result normal?

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

3. CHECK KEY SWITCH CIRCUIT

1. Disconnect BCM connector.



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KEY SWITCH (BCM INPUT)

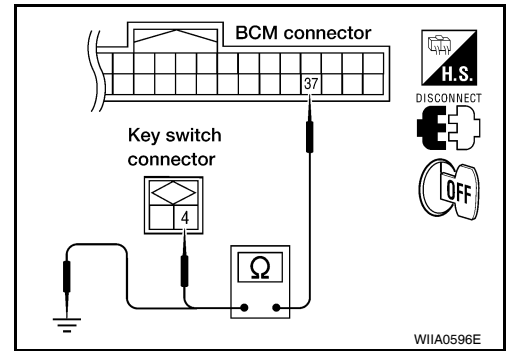
< COMPONENT DIAGNOSIS >

- Check continuity between the BCM harness connector M18 terminal 37 and key switch harness connector M80 terminal 4.
- 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:000000003789129

1.CHECK KEY SWITCH AND KEY LOCK SOLENOID 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

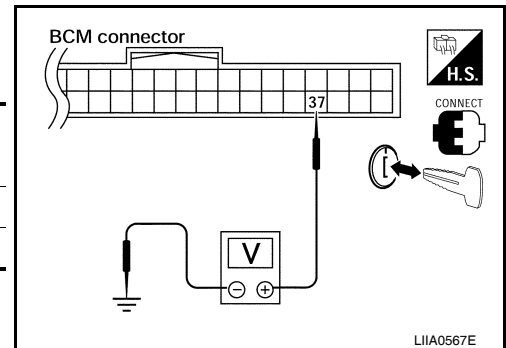
Without CONSULT-III

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



2.CHECK KEY SWITCH (INSERT)

- Turn ignition switch OFF.
- Disconnect key switch and key lock solenoid connector.
- Check continuity between key switch and key lock solenoid terminals 3 and 4.

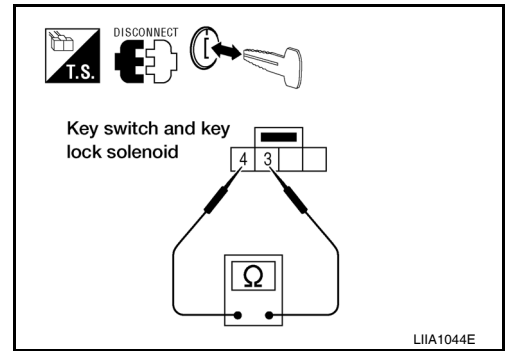
KEY SWITCH (BCM INPUT)

< COMPONENT DIAGNOSIS >

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

Is the inspection result normal?

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



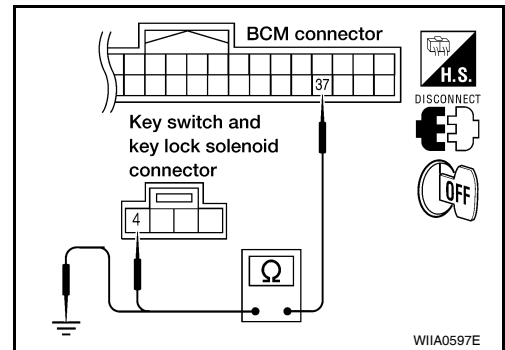
3. CHECK KEY SWITCH AND KEY LOCK SOLENOID CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between the BCM harness connector M18 terminal 37 and key switch and key lock solenoid 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 and fuse
- NO >> Repair or replace harness.



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DOOR LOCK ACTUATOR

< COMPONENT DIAGNOSIS >

DOOR LOCK ACTUATOR FRONT LH

FRONT LH : Description

INFOID:000000003789130

Locks/unlocks the door with the signal from BCM.

FRONT LH : Component Function Check

INFOID:000000003789131

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-42, "FRONT LH : Diagnosis Procedure"](#).

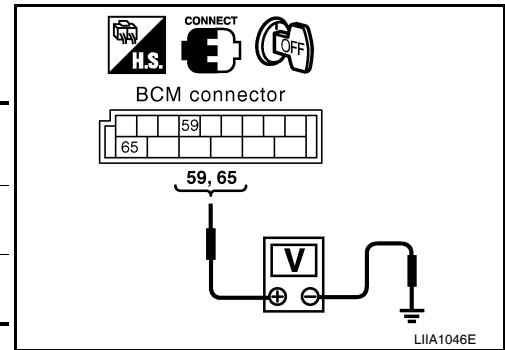
FRONT LH : Diagnosis Procedure

INFOID:000000003789132

1.CHECK DOOR LOCK ACTUATOR SIGNAL

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

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



Is the inspection result normal?

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

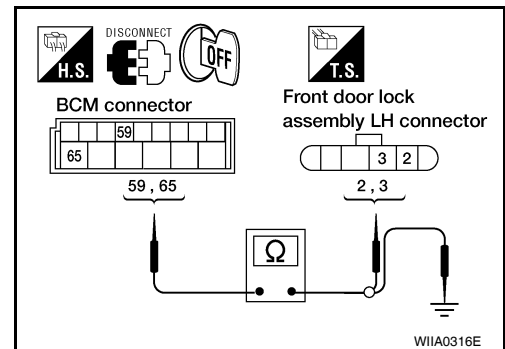
2.CHECK DOOR LOCK ACTUATOR HARNESS

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

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

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

| Connector | Terminals | Continuity |
|-----------|-----------|------------|
| M20 | 59 | No |
| | 65 | No |



Is the inspection result normal?

- YES >> Replace front door lock assembly LH. Refer to [DLK-123, "Removal and Installation"](#).
NO >> Repair or replace harness.

FRONT RH

DOOR LOCK ACTUATOR

< COMPONENT DIAGNOSIS >

FRONT RH : Description

INFOID:000000003789133

Locks/unlocks the door with the signal from BCM.

FRONT RH : Component Function Check

INFOID:000000003789134

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-43. "FRONT RH : Diagnosis Procedure"](#).

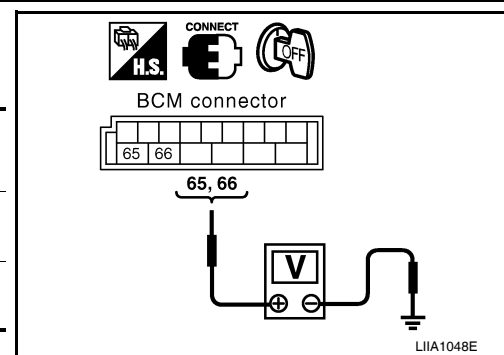
FRONT RH : Diagnosis Procedure

INFOID:000000003789135

1.CHECK DOOR LOCK ACTUATOR SIGNAL

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

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



Is the inspection result normal?

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

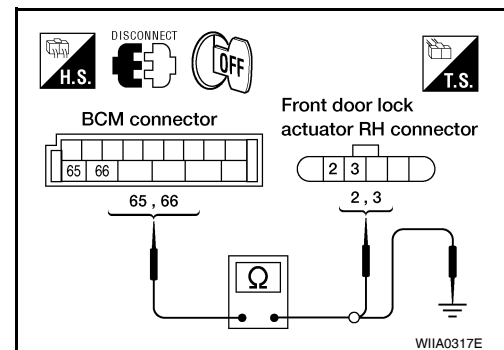
2.CHECK DOOR LOCK ACTUATOR HARNESS

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

| Terminals | Continuity |
|-----------|------------|
| 65 3 | Yes |
| 66 2 | Yes |

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

| Terminals | Continuity |
|----------------|------------|
| 65 Ground | No |
| 66 Ground | No |



Is the inspection result normal?

- YES >> Replace front door lock actuator RH. Refer to [DLK-123. "Removal and Installation"](#).
 NO >> Repair or replace harness.

REAR RH/LH

REAR RH/LH : Description

INFOID:000000003789136

Locks/unlocks the door with the signal from BCM.

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DOOR LOCK ACTUATOR

< COMPONENT DIAGNOSIS >

REAR RH/LH : Component Function Check

INFOID:000000003789137

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, "REAR RH/LH : Diagnosis Procedure"](#).

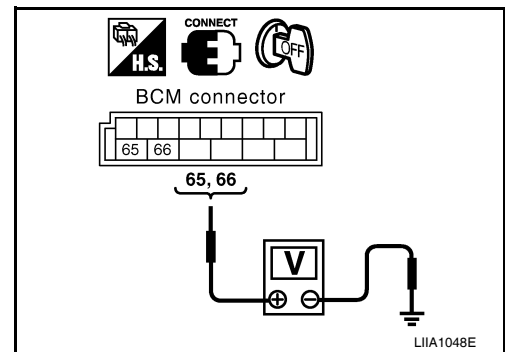
REAR RH/LH : Diagnosis Procedure

INFOID:000000003789138

1.CHECK DOOR LOCK ACTUATOR SIGNAL

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

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



Is the inspection result normal?

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

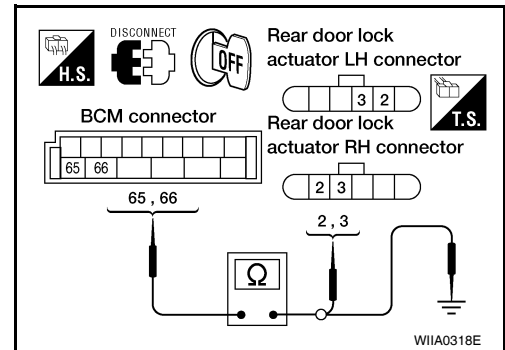
2.CHECK DOOR LOCK ACTUATOR HARNESS

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

| Terminals | Continuity |
|-----------|------------|
| 65 3 | Yes |
| 66 2 | Yes |

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

| Terminals | Continuity |
|----------------|------------|
| 65 Ground | No |
| 66 Ground | No |



Is the inspection result normal?

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

REMOTE KEYLESS ENTRY RECEIVER

< COMPONENT DIAGNOSIS >

REMOTE KEYLESS ENTRY RECEIVER

Description

INFOID:000000003789139

Receives keyfob operation and transmits to BCM.

Component Function Check

INFOID:000000003789140

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?

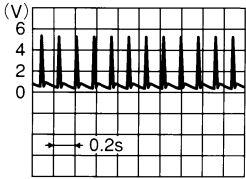

- YES >> Remote keyless entry receiver is OK.
- NO >> Refer to [DLK-45, "Diagnosis Procedure"](#).

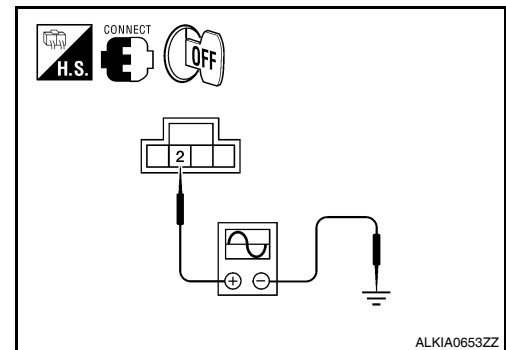
Diagnosis Procedure

INFOID:000000003789141

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 | No function |  <p>OCC3879D</p> |
| | | Any button is pressed |  <p>OCC3880D</p> |



Is the inspection result normal?

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

2.REMOTE KEYLESS ENTRY RECEIVER 5-VOLT CIRCUIT INSPECTION

REMOTE KEYLESS ENTRY RECEIVER

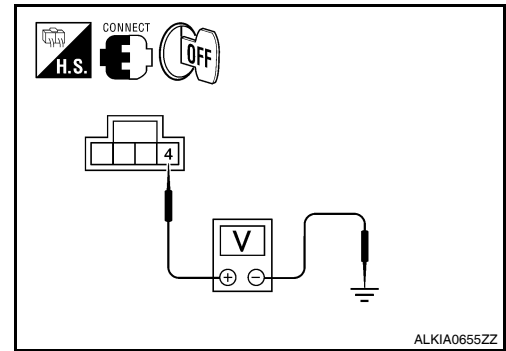
< COMPONENT DIAGNOSIS >

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



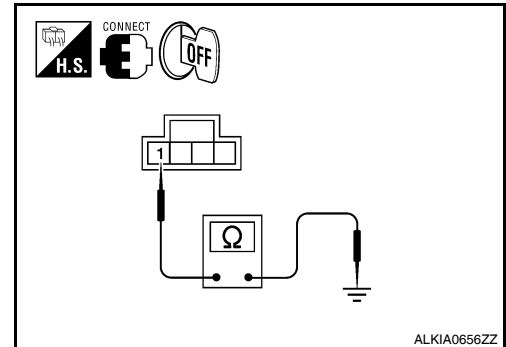
3. REMOTE KEYLESS ENTRY RECEIVER GROUND CIRCUIT INSPECTION

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



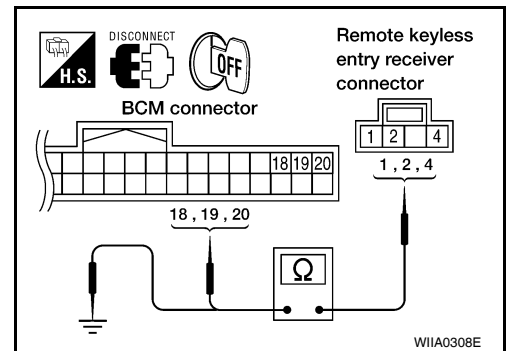
4. HARNESS INSPECTION BETWEEN BCM AND RKE RECEIVER

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

< COMPONENT DIAGNOSIS >

KEYFOB BATTERY AND FUNCTION

Description

INFOID:000000003789142

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:000000003789143

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-47, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000003789144

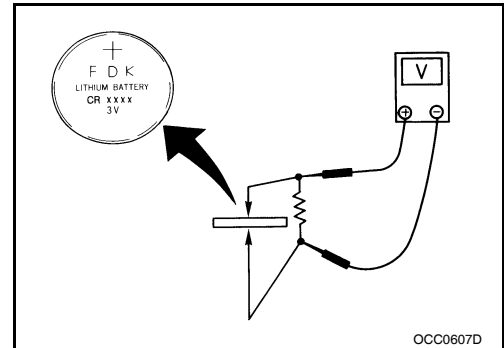
1. CHECK KEYFOB BATTERY

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.

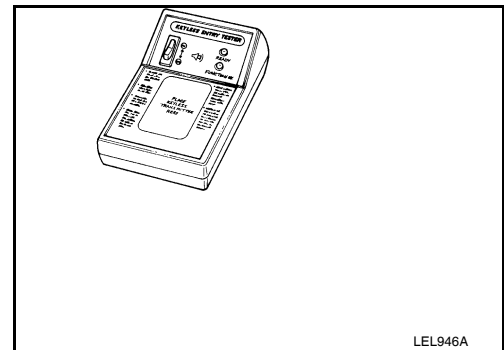


2. CHECK KEYFOB FUNCTION

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:000000003789145

1. REPLACE KEYFOB BATTERY

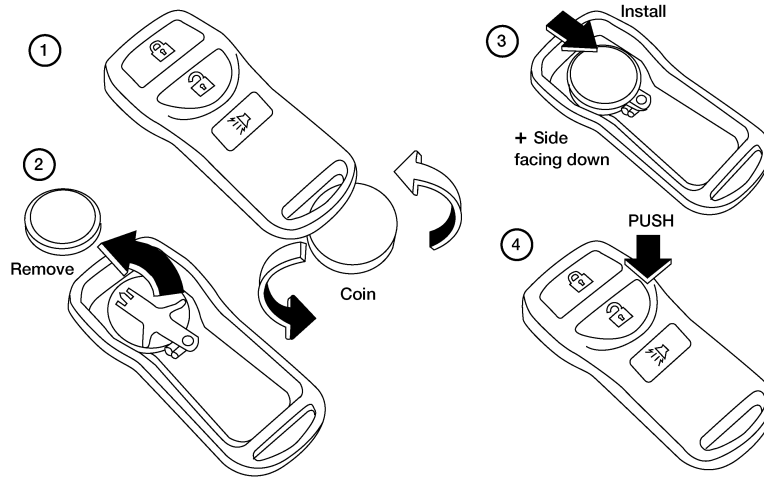
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KEYFOB BATTERY AND FUNCTION

< COMPONENT DIAGNOSIS >

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.



LIA1514E

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-45. "Component Function Check"](#).

Special Repair Requirement

INFOID:000000003789146

Refer to CONSULT-III Operation Manual.

HORN FUNCTION

< COMPONENT DIAGNOSIS >

HORN FUNCTION

Description

INFOID:000000003789147

Perform answer-back for each operation with horn.

Component Function Check

INFOID:000000003789148

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-49, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000003789149

1.CHECK HORN FUNCTION

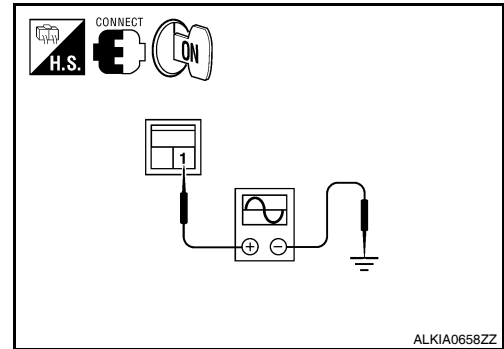
Check horn function with horn switch

Do the horns sound?

- YES >> GO TO 2
 NO >> Go to [HRN-3, "Wiring Diagram"](#).

2.CHECK HORN RELAY POWER SUPPLY

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



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

Is the inspection result normal?

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

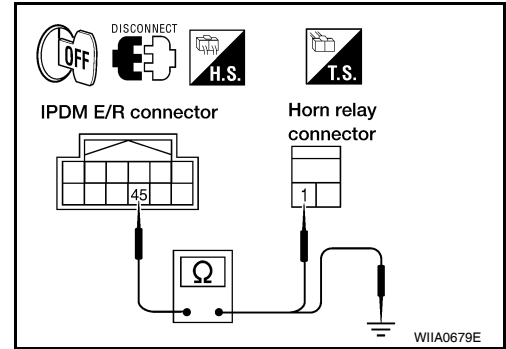
3.CHECK HORN RELAY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R and horn relay connector.

HORN FUNCTION

< COMPONENT DIAGNOSIS >

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

< COMPONENT DIAGNOSIS >

WARNING CHIME FUNCTION

Description

INFOID:000000003789150

Performs operation method guide and warning with buzzer.

Component Function Check

INFOID:000000003789151

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-51, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000003789152

1.CHECK METER BUZZER CIRCUIT

The inoperative warning chime is contained inside the combination meter. Replace combination meter. Refer to [MWI-103, "Removal and Installation"](#).

>> Inspection end.

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HAZARD FUNCTION

< COMPONENT DIAGNOSIS >

HAZARD FUNCTION

Description

INFOID:000000003789153

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

Component Function Check

INFOID:000000003789154

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-52, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000003789155

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

< COMPONENT DIAGNOSIS >

HEADLAMP FUNCTION

Diagnosis Procedure

INFOID:000000003789156

1. CHECK HEADLAMP OPERATION

Do headlamps operate with headlamp switch?

YES or NO

YES >> Headlamp circuit is OK.

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

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MAP LAMP AND IGNITION KEYHOLE ILLUMINATION FUNCTION

< COMPONENT DIAGNOSIS >

MAP LAMP AND IGNITION KEYHOLE ILLUMINATION FUNCTION

Diagnosis Procedure

INFOID:000000003789157

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

< COMPONENT DIAGNOSIS >

KEYFOB ID SET UP WITH CONSULT-III

ID Code Entry Procedure

INFOID:000000003789158

KEYFOB ID SET UP WITH CONSULT-III

NOTE:

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

1. Turn ignition switch ON.
2. Select "BCM".
3. Select "MULTI REMOTE ENT".
4. Select "WORK SUPPORT".
5. You can register, erase or confirm a keyfob ID code. To register a new code, select the following option and follow CONSULT-III instructions:
 - "REMO CONT ID REGIST"
Use this mode to register a keyfob ID code.

NOTE:

Register the ID code when keyfob or BCM is replaced, or when additional keyfob is required.

- "REMO CONT ID ERASUR"
Use this mode to erase a keyfob ID code.
- "REMO CONT ID CONFIR"
Use this mode to confirm if a keyfob ID code is registered or not.

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KEYFOB ID SET UP WITHOUT CONSULT-III

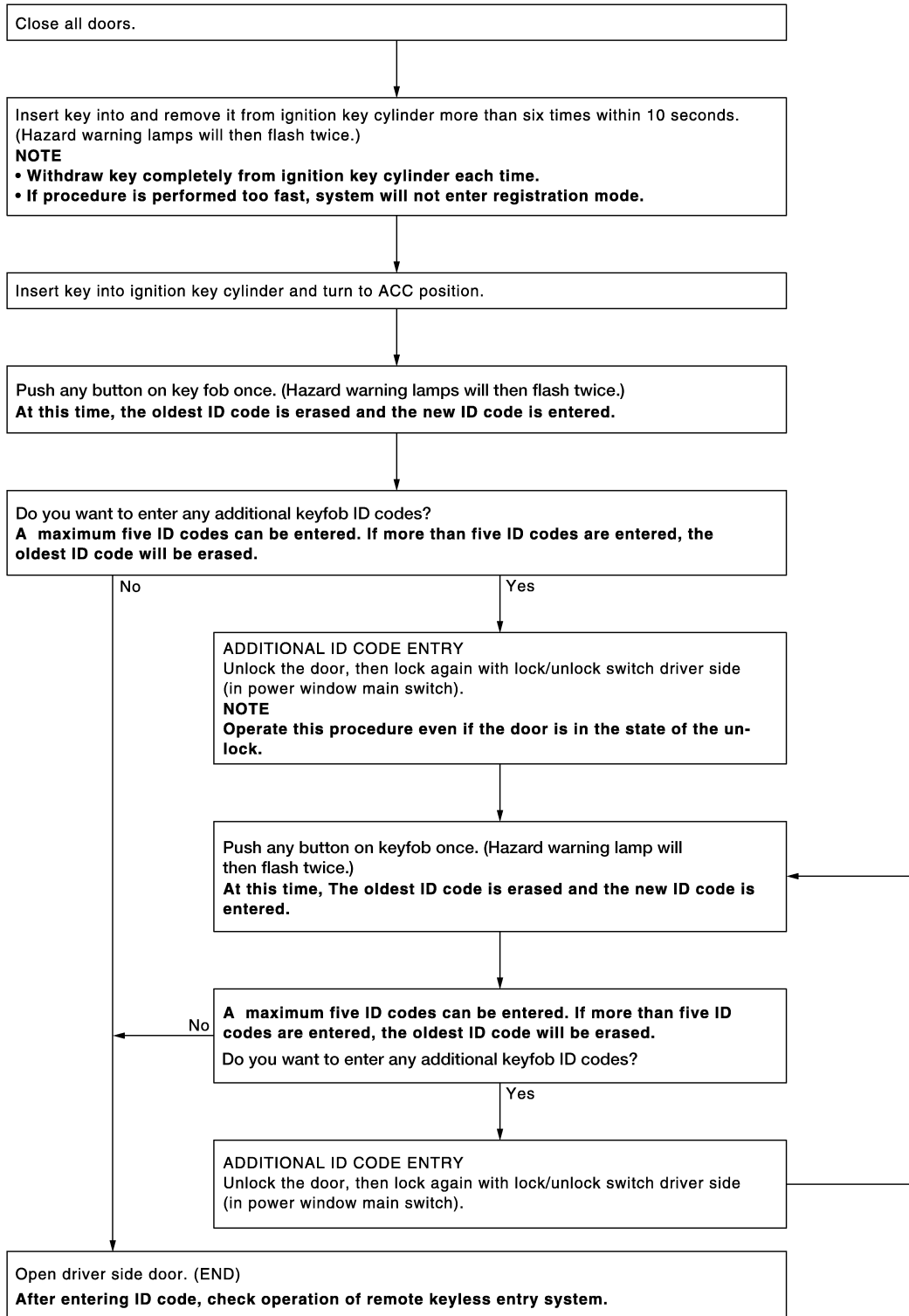
< COMPONENT DIAGNOSIS >

KEYFOB ID SET UP WITHOUT CONSULT-III

ID Code Entry Procedure

INFOID:000000003789159

KEYFOB ID SET UP WITHOUT CONSULT-III



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NOTE:

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

KEYFOB ID SET UP WITHOUT CONSULT-III

< COMPONENT DIAGNOSIS >

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

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

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

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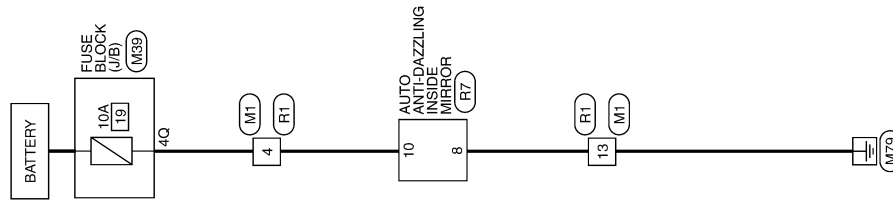
HOMELINK UNIVERSAL TRANSCEIVER

< COMPONENT DIAGNOSIS >

HOMELINK UNIVERSAL TRANSCEIVER

Wiring Diagram

INFOID:000000003789160



INTEGRATED HOMELINK TRANSMITTER

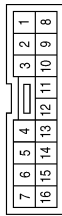
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HOMELINK UNIVERSAL TRANSCEIVER

< COMPONENT DIAGNOSIS >

INTEGRATED HOMELINK TRANSMITTER CONNECTORS

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



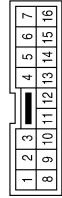
| Terminal No. | Color of Wire | Signal Name |
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| 4 | Y/R | - |
| 13 | B | - |

| | |
|-----------------|------------------|
| Connector No. | M39 |
| Connector Name | FUSE BLOCK (J/B) |
| Connector Color | WHITE |



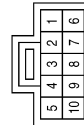
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4Q | Y/R | - |

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



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

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



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

Description

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.

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INFOID:000000003789161

HOMELINK UNIVERSAL TRANSCEIVER

< COMPONENT DIAGNOSIS >

Component Function Check

INFOID:000000003789162

1.CHECK FUNCTION

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

Is the inspection result normal?

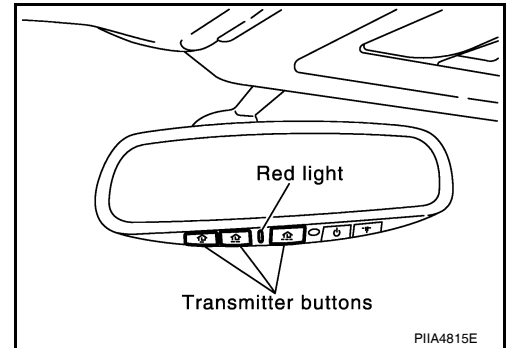
- YES >> GO TO 2
 NO >> Receiver or hand-held transmitter is malfunctioning.

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-60, "Diagnosis Procedure"](#).



3.CHECK TRANSMITTER

Check transmitter with Tool*.

*:For details, refer to Technical Service Bulletin.

Is the inspection result normal?

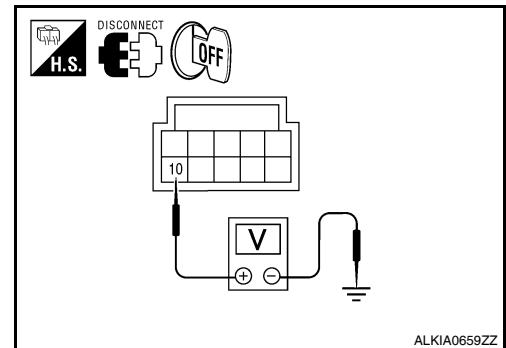
- YES >> Receiver or hand-held transmitter malfunction, not vehicle related.
 NO >> Replace auto anti-dazzling inside mirror (homelink universal transceiver).

Diagnosis Procedure

INFOID:000000003789163

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?

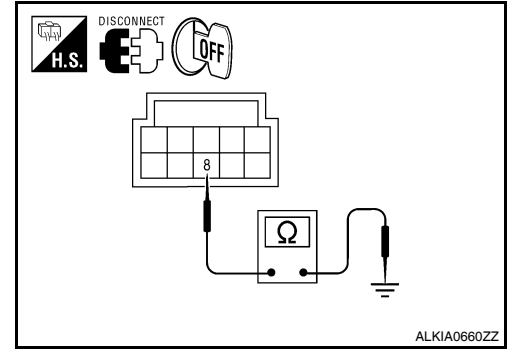
- YES >> GO TO 2
 NO >> Check the following.
- 10A fuse [No. 19 located in the fuse block (J/B)]
 - Harness for open or short between fuse and auto anti-dazzling inside mirror (homelink universal transceiver).

HOMELINK UNIVERSAL TRANSCEIVER

< COMPONENT DIAGNOSIS >

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.

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000004260336

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 |
| HEADLAMP SW1 | Headlamp switch OFF | OFF |
| | Headlamp switch 1st | ON |

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

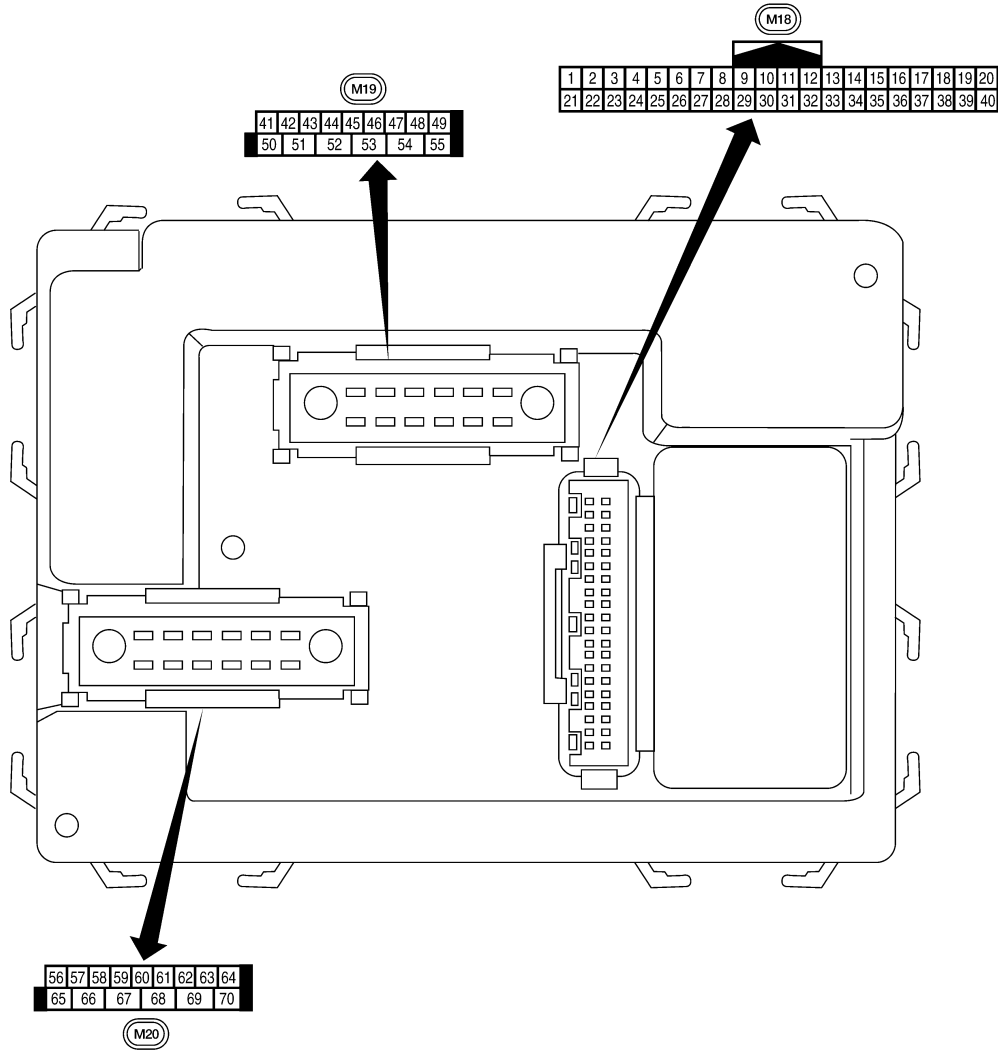
| Monitor Item | Condition | Value/Status | |
|----------------------|--|-----------------------------------|-----|
| HEADLAMP SW2 | Headlamp switch OFF | OFF | A |
| | Headlamp switch 1st | ON | |
| HI BEAM SW | High beam switch OFF | OFF | B |
| | High beam switch HI | ON | |
| H/L WASH SW | NOTE: The item is indicated, but not monitored | OFF | C |
| IGN ON SW | Ignition switch OFF or ACC | OFF | |
| | Ignition switch ON | ON | D |
| IGN SW CAN | Ignition switch OFF or ACC | OFF | |
| | Ignition switch ON | ON | E |
| INT VOLUME | Wiper intermittent dial is in a dial position 1 - 7 | 1 - 7 | |
| KEY ON SW | Key is removed from key cylinder | OFF | F |
| | Key is inserted to key cylinder | ON | |
| KEYLESS LOCK | LOCK button of key fob is not pressed | OFF | G |
| | LOCK button of key fob is pressed | ON | |
| KEYLESS UNLOCK | UNLOCK button of key fob is not pressed | OFF | H |
| | UNLOCK button of key fob is pressed | ON | |
| OIL PRESS SW | <ul style="list-style-type: none"> • Ignition switch OFF or ACC • Engine running | OFF | I |
| | Ignition switch ON | ON | |
| PASSING SW | Other than lighting switch PASS | OFF | J |
| | Lighting switch PASS | ON | |
| REAR DEF SW | Rear window defogger switch OFF | OFF | |
| | Rear window defogger switch ON | ON | |
| RKE LOCK AND UN-LOCK | NOTE: The item is indicated, but not monitored | OFF | |
| TAIL LAMP SW | Lighting switch OFF | OFF | DLK |
| | Lighting switch 1ST | ON | |
| TURN SIGNAL L | Turn signal switch OFF | OFF | L |
| | Turn signal switch LH | ON | |
| TURN SIGNAL R | Turn signal switch OFF | OFF | M |
| | Turn signal switch RH | ON | |
| VEHICLE SPEED | While driving | Equivalent to speedometer reading | N |

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal Layout

INFOID:000000004260337




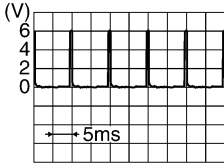

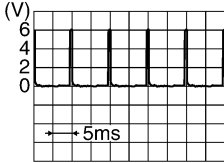
Physical Values

LIA2443E

INFOID:000000004260338

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

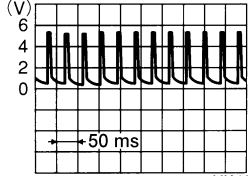
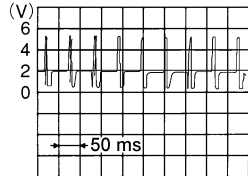
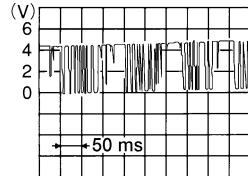
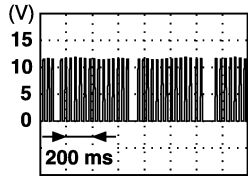
| Terminal | Wire color | Signal name | Signal input/output | Measuring condition | | Reference value or waveform (Approx.) |
|----------|------------|--|---------------------|---------------------|--|---|
| | | | | Ignition switch | Operation or condition | |
| 1 | BR/W | Ignition keyhole illumination | 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 |  <p style="text-align: right; font-size: small;">SKIA5291E</p> |
| 3 | G/Y | Combination switch input 4 | Input | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  <p style="text-align: right; font-size: small;">SKIA5292E</p> |
| 4 | Y | Combination switch input 3 | Input | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  <p style="text-align: right; font-size: small;">SKIA5291E</p> |
| 5 | G/B | Combination switch input 2 | Input | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  <p style="text-align: right; font-size: small;">SKIA5292E</p> |
| 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) | | | OFF (closed) | Battery voltage |
| | | Rear door switch upper RH (King Cab) | | | | |
| 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 |

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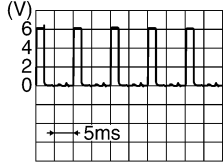

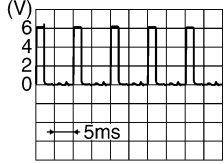
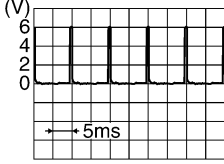
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

| 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 |  LIA1893E |
| 20 | G/W | Remote keyless entry receiver (signal) | Input | OFF | Stand-by (keyfob buttons released) |  LIA1894E |
| | | | | | When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed) |  LIA1895E |
| 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 |  PIA2344E |
| 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 |

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

| 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 |  <p style="text-align: right; font-size: small;">SKIA5291E</p> |
| 33 | R/Y | Combination switch output 4 | Output | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  <p style="text-align: right; font-size: small;">SKIA5292E</p> |
| 34 | L | Combination switch output 3 | Output | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  <p style="text-align: right; font-size: small;">SKIA5291E</p> |
| 35 | O/B | Combination switch output 2 | Output | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  <p style="text-align: right; font-size: small;">SKIA5292E</p> |
| 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) | | | 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 |

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

| 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 | <p style="text-align: right; font-size: small;">SKIA3009J</p> |
| 52 | G/B | Trailer turn signal (left) | Output | ON | Turn left ON | <p style="text-align: right; font-size: small;">SKIA3009J</p> |
| 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 | <p style="text-align: right; font-size: small;">SKIA3009J</p> |
| 61 | G/Y | Turn signal (right) | Output | ON | Turn right ON | <p style="text-align: right; font-size: small;">SKIA3009J</p> |
| 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 |
| | | | | | 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 |

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

| 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 |

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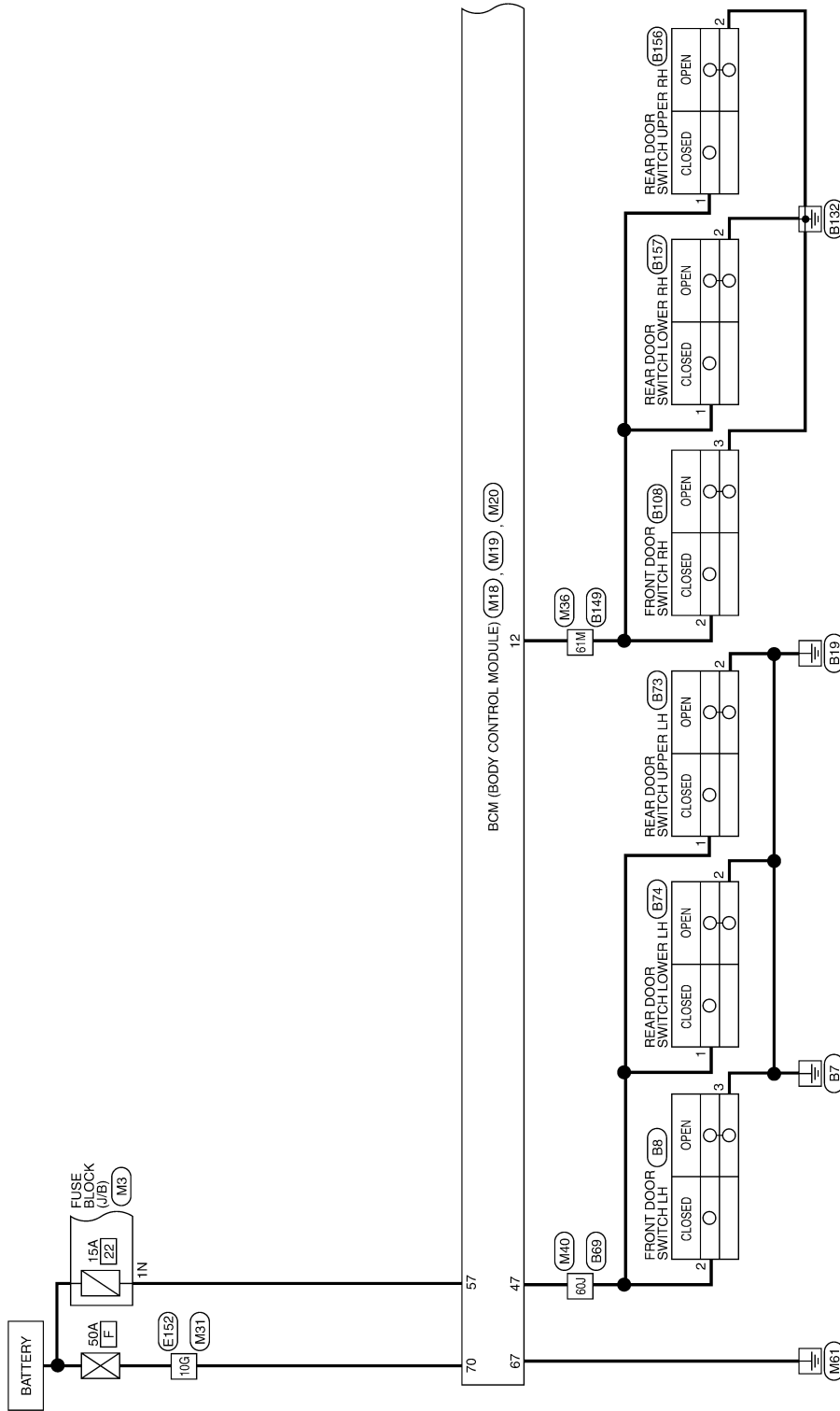
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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

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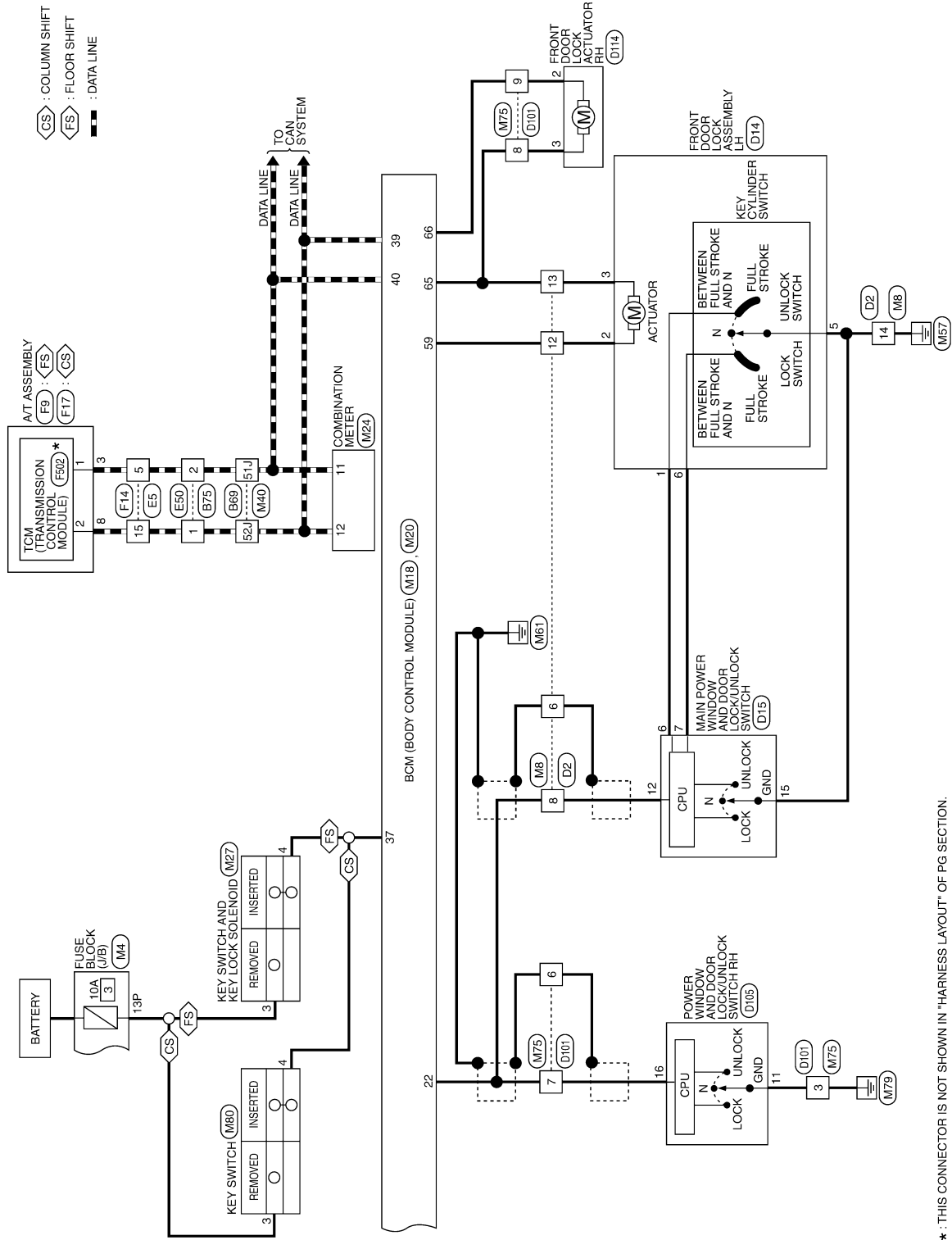
POWER DOOR LOCK SYSTEM - KING CAB



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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >



* : THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

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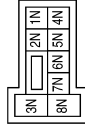
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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

POWER DOOR LOCK SYSTEM CONNECTORS - KING CAB

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



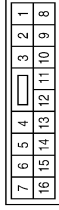
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1N | Y/R | - |

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



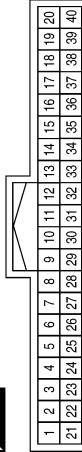
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13P | P | - |

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



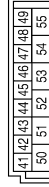
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6 | SHIELD | - |
| 8 | G | - |
| 12 | G | - |
| 13 | V | - |
| 14 | B | - |

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



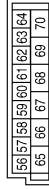
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|---------------------------------|
| 12 | R/L | DOOR SW (AS) |
| 22 | G | ANTI-PINCH SERIAL LINK (RX, TX) |
| 37 | B/R | KEY SW |
| 39 | L | CAN-H |
| 40 | P | CAN-L |

| | |
|-----------------|---------------------------|
| 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 | BATT (F/L) |

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BCM (BODY CONTROL MODULE)

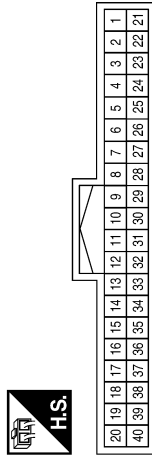
< ECU DIAGNOSIS >

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



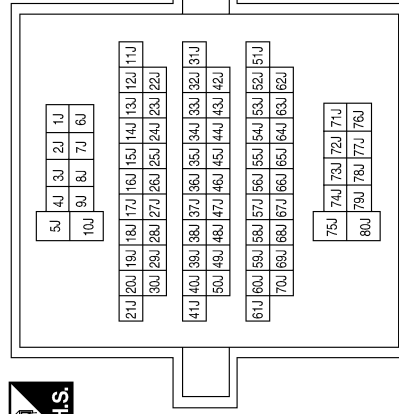
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | Y/R | -(TYPE A*) |
| 3 | P | -(TYPE B*) |
| 4 | B/R | - |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11 | L | CAN-H |
| 12 | P | CAN-L |



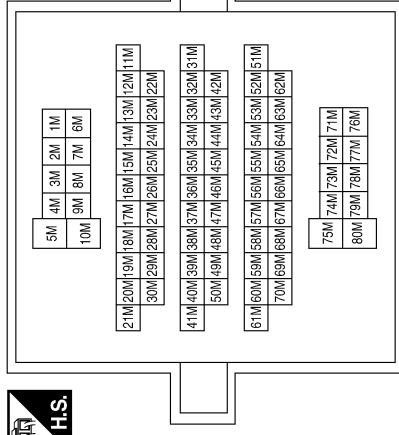
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| Connector No. | M24 |
| Connector Name | COMBINATION |
| Connector Color | WHITE |

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



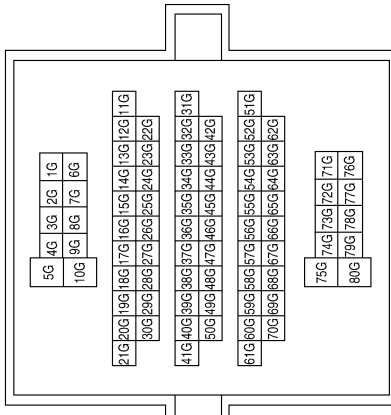
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 51J | L | - |
| 52J | P | - |
| 60J | SB | - |

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



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

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



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

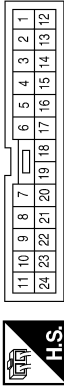
*: REFER TO HARNESS LAYOUT OF PG SECTION FOR DEFINITION OF TYPE A AND TYPE B.

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

| | |
|-----------------|--------------|
| Connector No. | F14 |
| Connector Name | WIRE TO WIRE |
| Connector Color | GREEN |



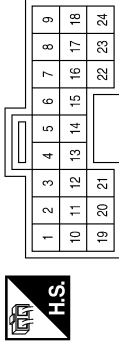
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5 | L | - |
| 15 | P | - |

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| Connector No. | F17 |
| Connector Name | A/T ASSEMBLY (COLUMN SHIFT) |
| Connector Color | GREEN |



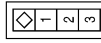
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | L | - |
| 8 | P | - |

| | |
|-----------------|-----------------------------------|
| Connector No. | F502 |
| Connector Name | TCM (TRANSMISSION CONTROL MODULE) |
| Connector Color | GRAY |



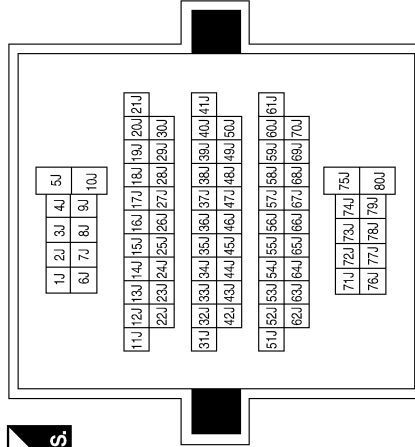
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | BR | CAN-H |
| 2 | LY | CAN-L |

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



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

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



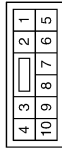
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 51J | L | - |
| 52J | P | - |
| 60J | SB | - |

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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



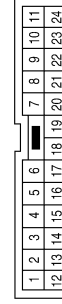
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | B | - |
| 6 | SHIELD | - |
| 7 | G | - |
| 8 | V | - |
| 9 | G/Y | - |

| | |
|-----------------|------------|
| Connector No. | M80 |
| Connector Name | KEY SWITCH |
| Connector Color | WHITE |



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

| | |
|-----------------|--------------|
| Connector No. | E5 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



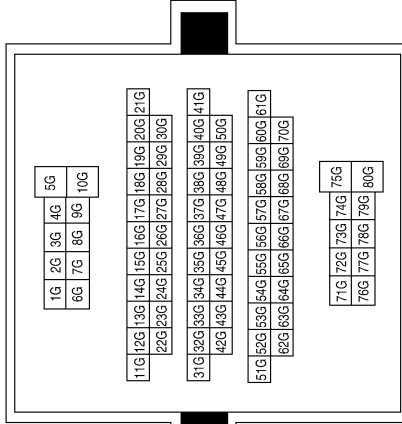
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5 | L | - |
| 15 | P | - |

| | |
|-----------------|--------------|
| Connector No. | E50 |
| Connector Name | WIRE TO WIRE |
| Connector Color | BROWN |



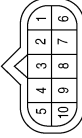
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | P | - |
| 2 | L | - |

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



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

| | |
|-----------------|----------------------------|
| Connector No. | F9 |
| Connector Name | A/T ASSEMBLY (FLOOR SHIFT) |
| Connector Color | GREEN |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | L | - |
| 8 | P | - |

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A B C D E F G H I J L M N O P

DLK

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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



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

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



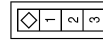
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | SB | - |
| 2 | B | - |

| | |
|-----------------|--------------|
| Connector No. | B75 |
| Connector Name | WIRE TO WIRE |
| Connector Color | BROWN |



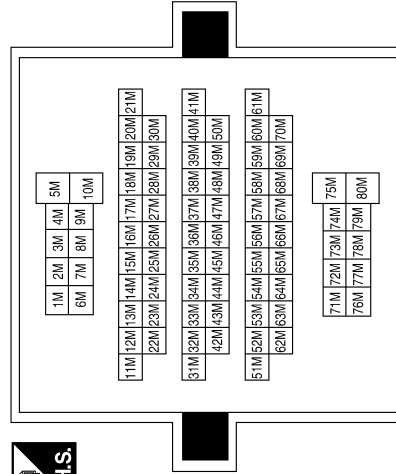
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | SB | - |
| 2 | B | - |

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



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

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



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

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



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

ABKIA0148GB

BCM (BODY CONTROL MODULE)

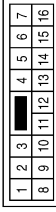
< ECU DIAGNOSIS >

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



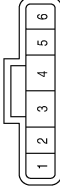
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | R/L | - |
| 2 | B | - |

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



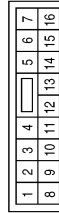
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6 | SHIELD | - |
| 8 | LG/W | - |
| 12 | G | - |
| 13 | V | - |
| 14 | B | - |

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



| 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 (WITH KING CAB) |
| Connector Color | WHITE |



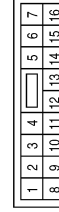
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|------------------------|
| 6 | L | LOCK |
| 7 | R | UNLOCK |
| 12 | LG/W | ANTI PINCH SERIAL LINK |
| 15 | B | GND |

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



| 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 |



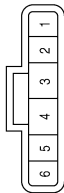
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|------------------------|
| 11 | B | GND |
| 16 | LG/W | ANTI PINCH SERIAL LINK |

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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



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

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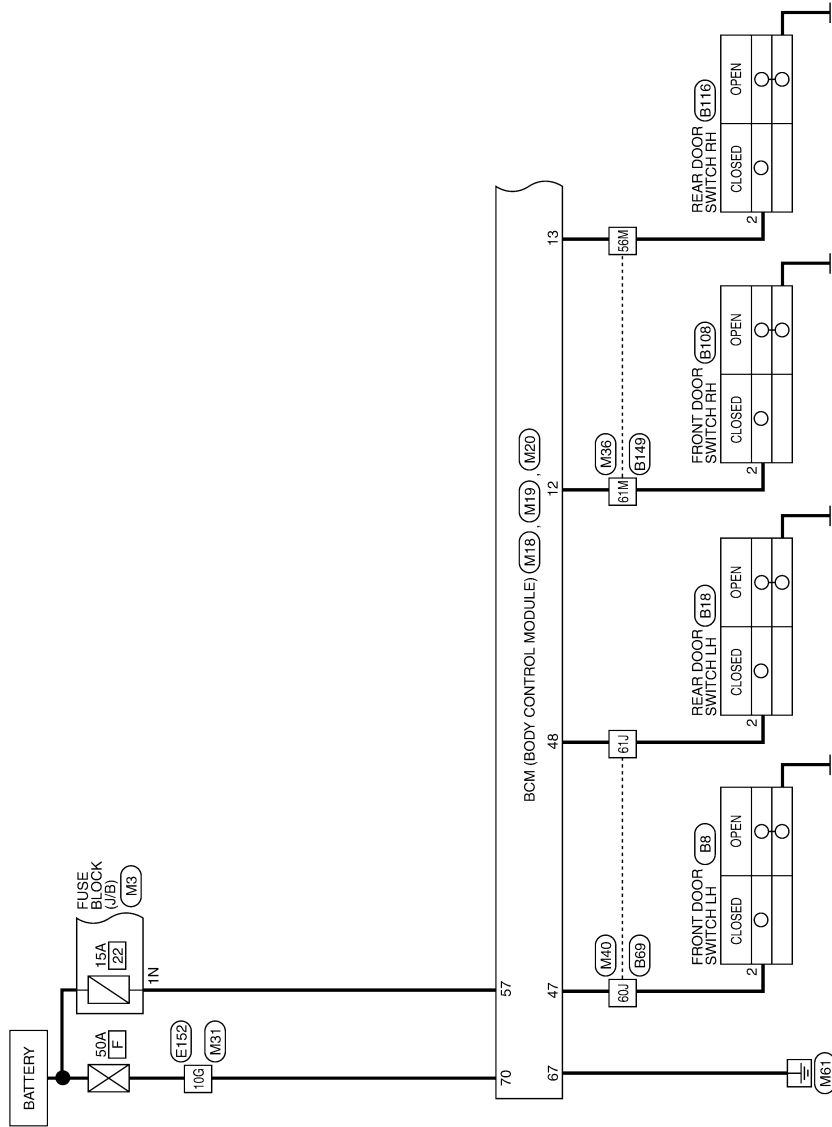
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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

INFOID:000000003789168

POWER DOOR LOCK SYSTEM - CREW CAB

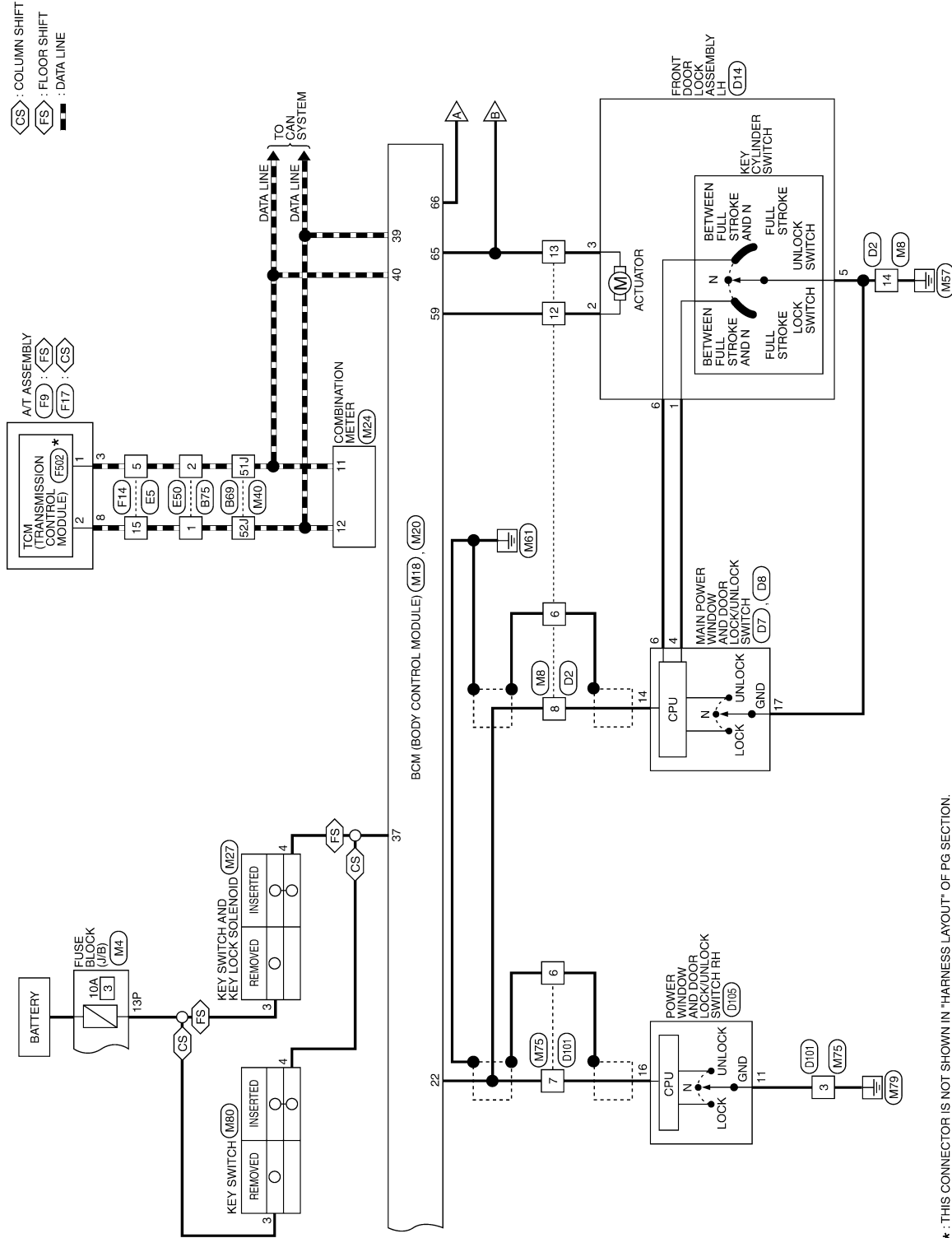


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BCM (BODY CONTROL MODULE)

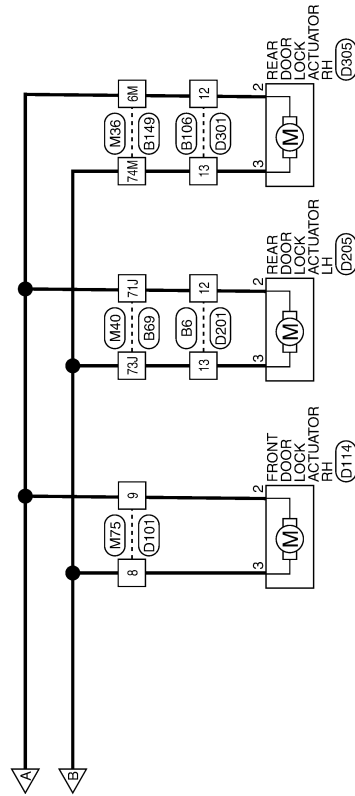
< ECU DIAGNOSIS >



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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >



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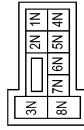
ALKWA0168GE

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

POWER DOOR LOCK SYSTEM CONNECTORS - CREW CAB

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



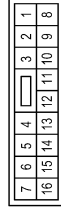
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1N | Y/R | - |

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



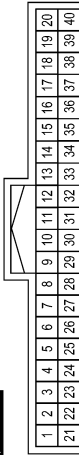
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13P | P | - |

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



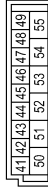
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6 | SHIELD | - |
| 8 | G | - |
| 12 | G | - |
| 13 | V | - |
| 14 | B | - |

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



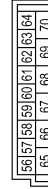
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|---------------------------------|
| 12 | R/L | DOOR SW (AS) |
| 13 | GR | DOOR SW (RR) |
| 22 | G | ANTI-PINCH SERIAL LINK (RX, TX) |
| 37 | B/R | KEY SW |
| 39 | L | CAN-H |
| 40 | P | CAN-L |

| | |
|-----------------|---------------------------|
| 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 |
|--------------|---------------|----------------------------|
| 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 | BATT (F/L) |

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BCM (BODY CONTROL MODULE)

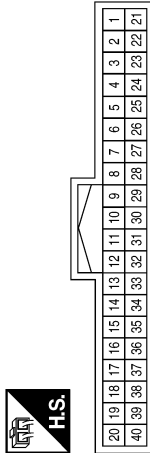
< ECU DIAGNOSIS >

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



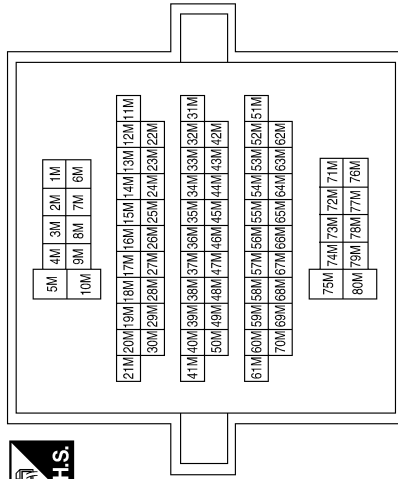
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | Y/R | -(TYPE A*) |
| 3 | P | -(TYPE B*) |
| 4 | B/R | - |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11 | L | CAN-H |
| 12 | P | CAN-L |

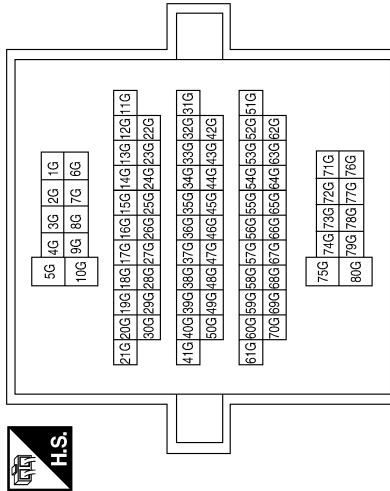


| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6M | G/Y | - |
| 56M | GR | - |
| 61M | R/L | - |
| 74M | V | - |

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



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



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

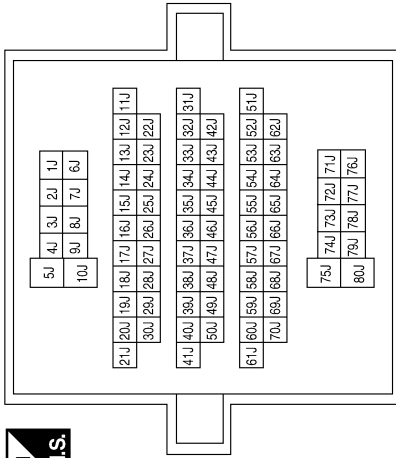
* - REFER TO HARNESS LAYOUT OF PG SECTION FOR DEFINITION OF TYPE A AND TYPE B.

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BCM (BODY CONTROL MODULE)

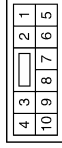
< ECU DIAGNOSIS >

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 51J | L | - |
| 52J | P | - |
| 60J | SB | - |
| 61J | R/Y | - |
| 71J | G/Y | - |
| 73J | V | - |

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



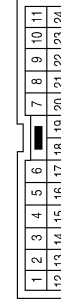
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | B | - |
| 6 | SHIELD | - |
| 7 | G | - |
| 8 | V | - |
| 9 | G/Y | - |

| | |
|-----------------|------------|
| Connector No. | M80 |
| Connector Name | KEY SWITCH |
| Connector Color | WHITE |



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

| | |
|-----------------|--------------|
| Connector No. | E5 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5 | L | - |
| 15 | P | - |

| | |
|-----------------|--------------|
| Connector No. | E50 |
| Connector Name | WIRE TO WIRE |
| Connector Color | BROWN |



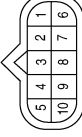
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | P | - |
| 2 | L | - |

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BCM (BODY CONTROL MODULE)

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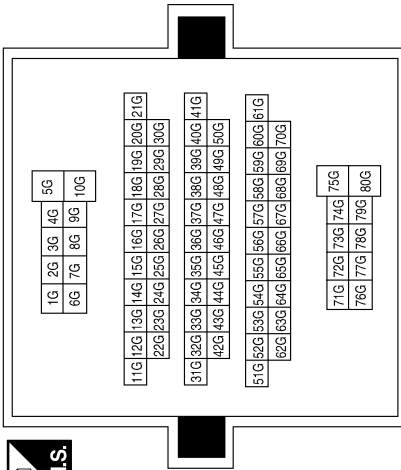
| | |
|-----------------|-------------------------------|
| Connector No. | F9 |
| Connector Name | A/T ASSEMBLY (FLOOR SHIFT) |
| Connector Color | GREEN |



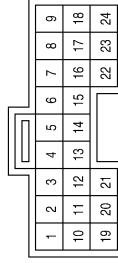
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | L | - |
| 8 | P | - |

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

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

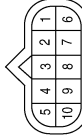


| | |
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| Connector No. | F502 |
| Connector Name | TCM (TRANSMISSION CONTROL MODLE) |
| Connector Color | GRAY |



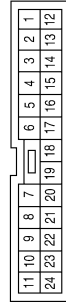
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | BR | CAN-H |
| 2 | L/Y | CAN-L |

| | |
|-----------------|--------------------------------|
| Connector No. | F17 |
| Connector Name | A/T ASSEMBLY (COLUMN SHIFT) |
| Connector Color | GREEN |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | L | - |
| 8 | P | - |

| | |
|-----------------|--------------|
| Connector No. | F14 |
| Connector Name | WIRE TO WIRE |
| Connector Color | GREEN |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5 | L | - |
| 15 | P | - |

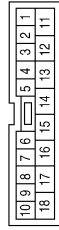
ABKIA0151GB

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BCM (BODY CONTROL MODULE)

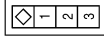
< ECU DIAGNOSIS >

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



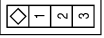
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 12 | G/Y | - |
| 13 | V | - |

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



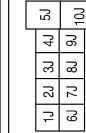
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2 | SB | - |

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



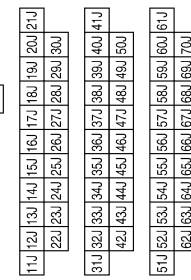
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2 | R/Y | - |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 51J | L | - |
| 52J | P | - |
| 60J | SB | - |
| 61J | R/Y | - |
| 71J | G/Y | - |
| 73J | V | - |

| | |
|-----------------|--------------|
| Connector No. | B75 |
| Connector Name | WIRE TO WIRE |
| Connector Color | BROWN |



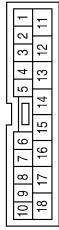
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | P | - |
| 2 | L | - |

ABKIA0152GB

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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



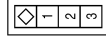
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 12 | G/Y | - |
| 13 | V | - |

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



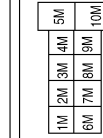
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2 | R/L | - |

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



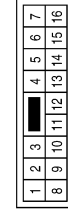
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2 | GR | - |

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

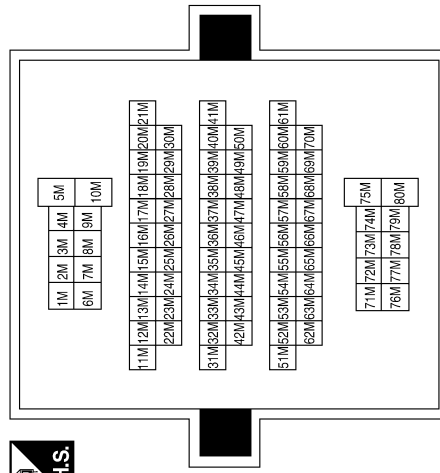


| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6M | G/Y | - |
| 56M | GR | - |
| 61M | R/L | - |
| 74M | V | - |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6 | SHIELD | - |
| 8 | LG/W | - |
| 12 | G | - |
| 13 | V | - |
| 14 | B | - |



ABKIA0153GB

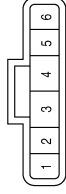
A B C D E F G H I J L M N O P

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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



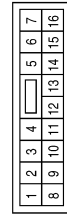
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | L | LOCK |
| 2 | G | UNLOCK |
| 3 | V | LOCK |
| 5 | B | GND |
| 6 | R | UNLOCK |

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



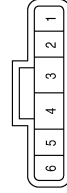
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 17 | B | GND |

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



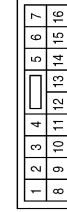
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|------------------------|
| 4 | L | LOCK |
| 6 | R | UNLOCK |
| 14 | LG/W | ANTI PINCH SERIAL LINK |

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



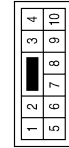
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2 | G/Y | UNLOCK |
| 3 | V | LOCK |

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



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

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



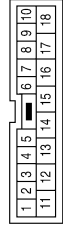
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | B | - |
| 6 | SHIELD | - |
| 7 | LG/W | - |
| 8 | V | - |
| 9 | G/Y | - |

ABKIA0111GB

BCM (BODY CONTROL MODULE)

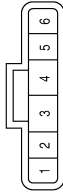
< ECU DIAGNOSIS >

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



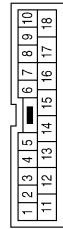
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 12 | G/Y | - |
| 13 | V | - |

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



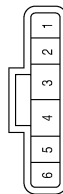
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2 | G/Y | UNLOCK |
| 3 | V | LOCK |

| | |
|-----------------|--------------|
| Connector No. | D201 |
| 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 |

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BCM (BODY CONTROL MODULE)

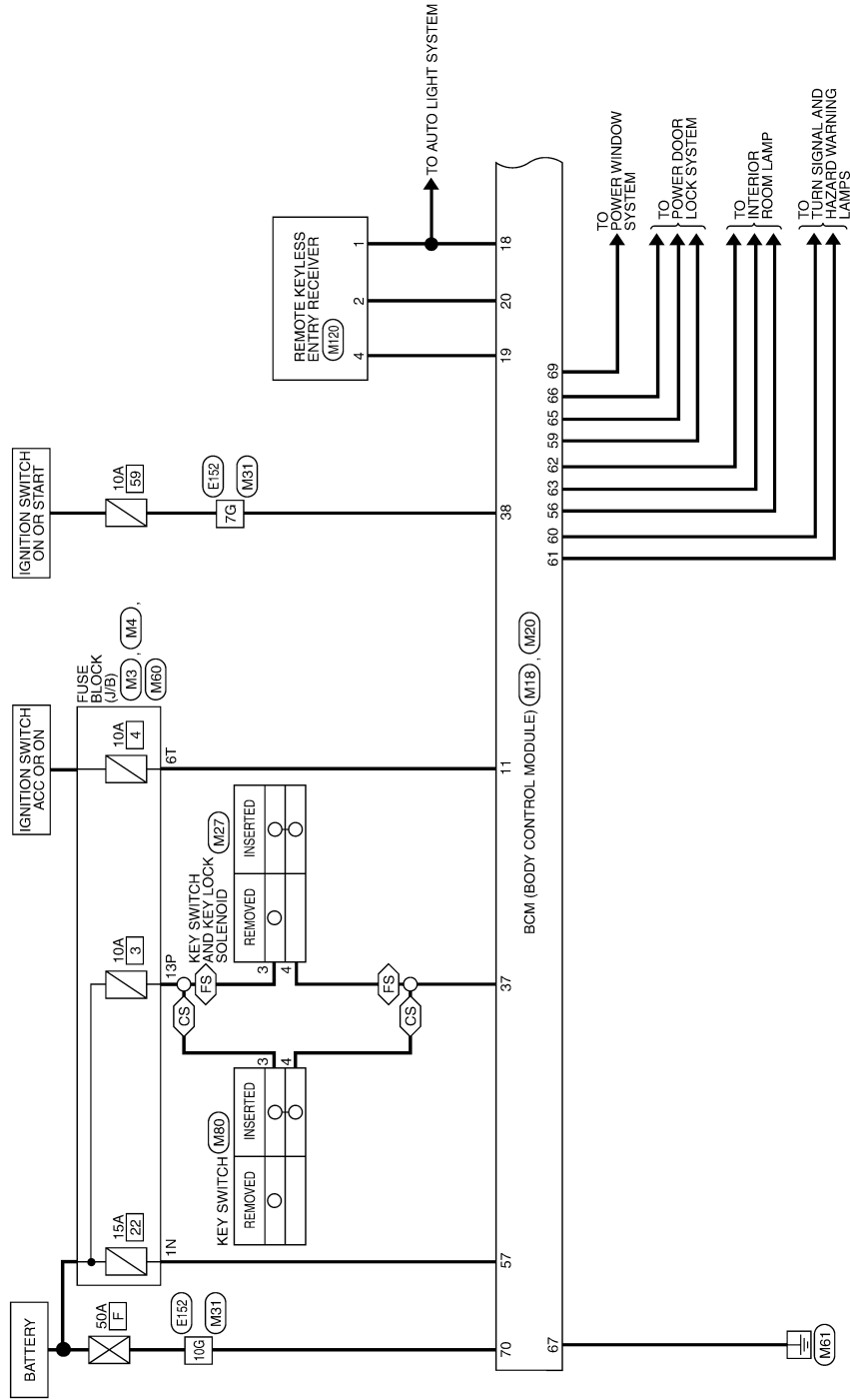
< ECU DIAGNOSIS >

Wiring Diagram — REMOTE KEYLESS ENTRY SYSTEM —

INFOID:000000003789169

CS > COLUMN SHIFT
FS > FLOOR SHIFT

REMOTE KEYLESS ENTRY SYSTEM

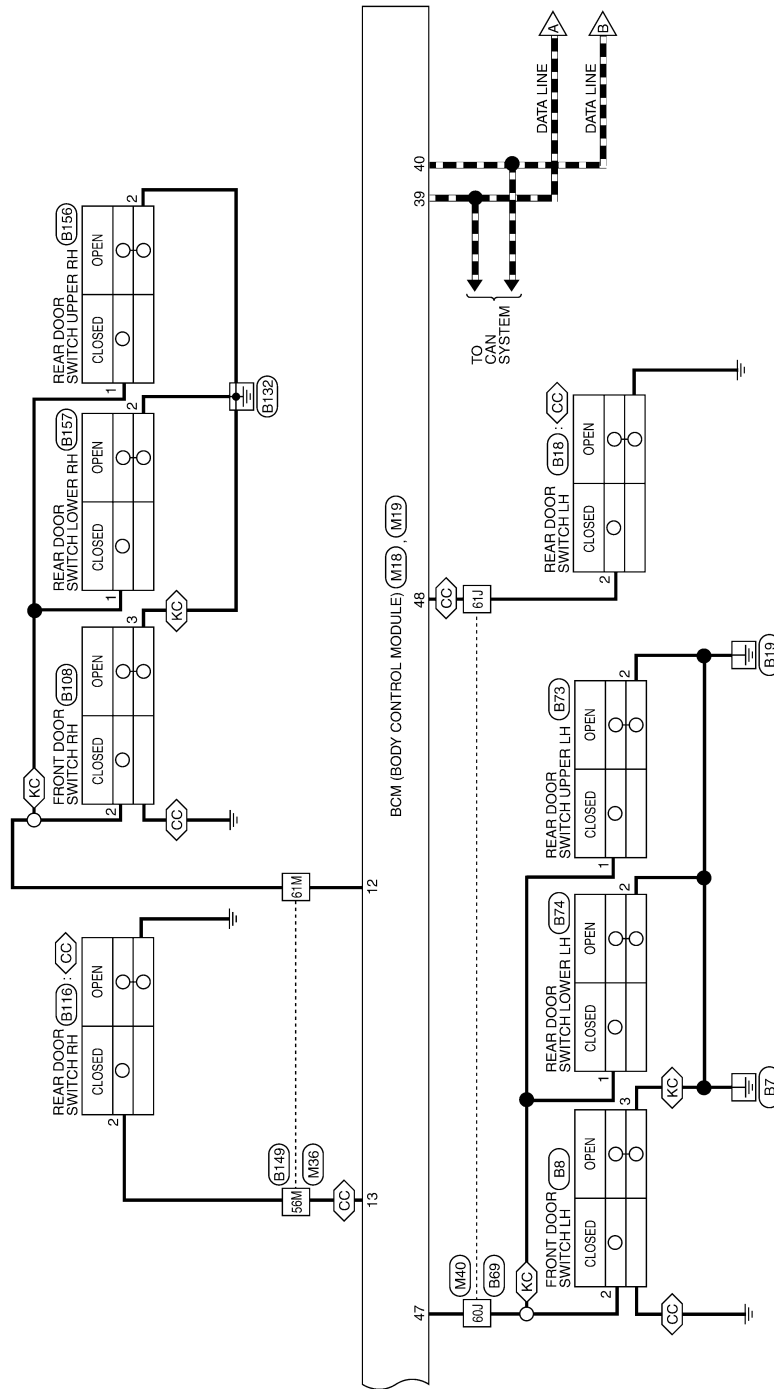


ABKWA0042Gf

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

CC : CREW CAB
KC : KING CAB
 : DATA LINE



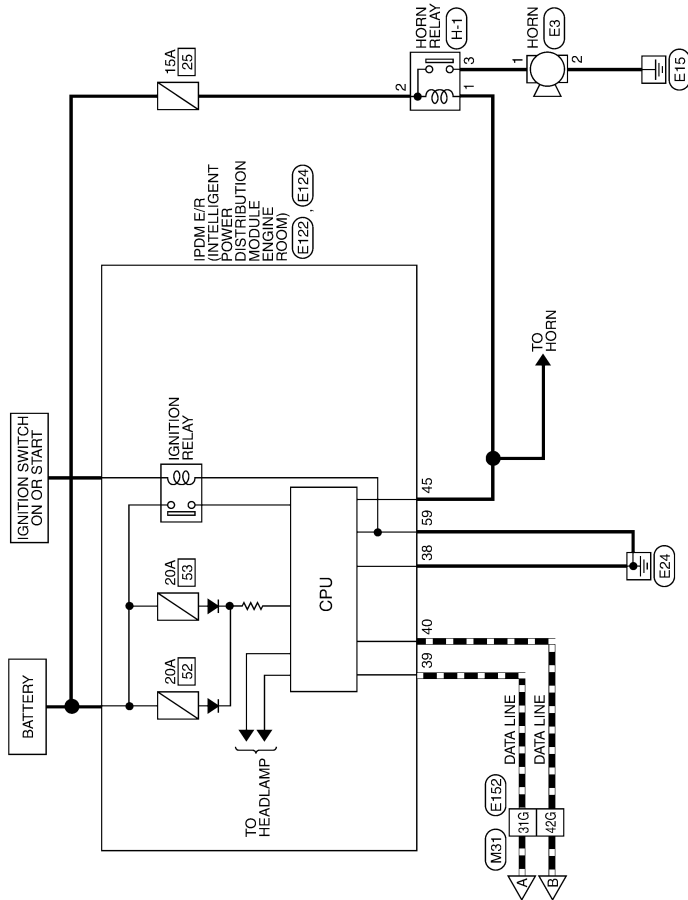
AWKWA0369G

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

— : DATA LINE



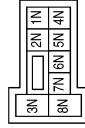
ALKWA0171GE

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

REMOTE KEYLESS ENTRY SYSTEM CONNECTORS

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



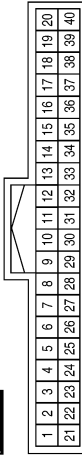
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1N | Y/R | - |

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



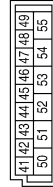
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13P | P | - |

| | |
|-----------------|---------------------------|
| 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 |

| | |
|-----------------|---------------------------|
| 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 |
| 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 | BATT (F/L) |

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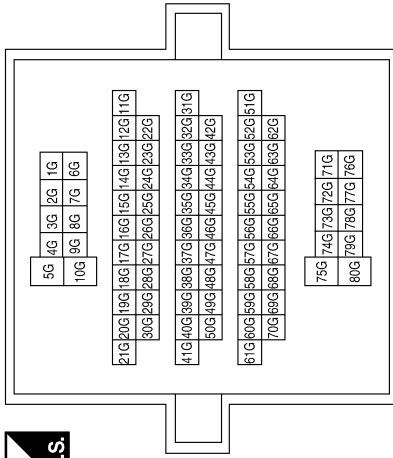
A B C D E F G H I J K L M N O P

BCM (BODY CONTROL MODULE)

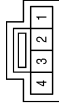
< ECU DIAGNOSIS >

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

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



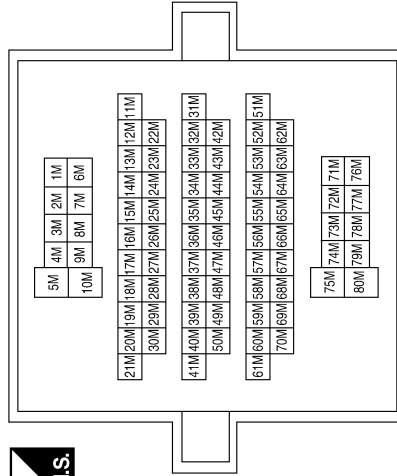
| | |
|-----------------|----------------------------------|
| Connector No. | M27 |
| Connector Name | KEY SWITCH AND KEY LOCK SOLENOID |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | Y/R | -(TYPE A*) |
| 3 | P | -(TYPE B*) |
| 4 | B/R | - |

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

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



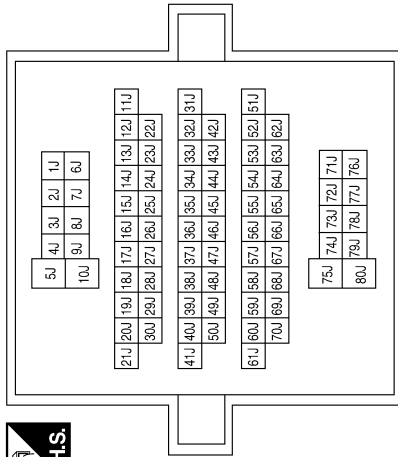
* : REFER TO HARNESS LAYOUT OF PG SECTION FOR DEFINITION OF TYPE A AND TYPE B.

ABKIA0113GB

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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

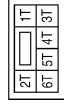


| | |
|-----------------|------------|
| Connector No. | M60 |
| Connector Name | KEY SWITCH |
| Connector Color | WHITE |



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

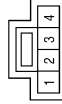
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 60J | SB | - |
| 61J | R/Y | - |



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

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

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | P | GND |
| 2 | G/W | SIGNAL |
| 4 | V/W | POWER |

| | |
|-----------------|-------|
| Connector No. | E3 |
| Connector Name | HORN |
| Connector Color | BLACK |



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

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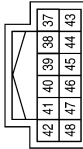
A B C D E F G H I J L M N O P

DLK

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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



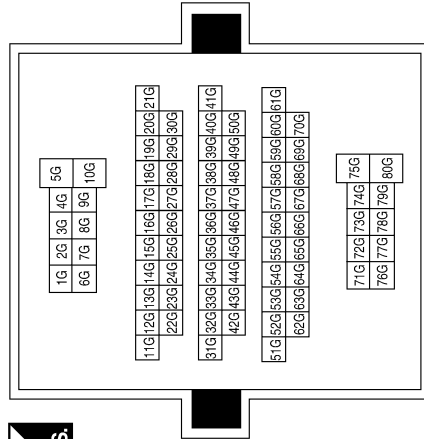
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|----------------|
| 38 | B | GND (SIGNAL) |
| 39 | L | CAN-H |
| 40 | P | CAN-L |
| 45 | G/W | ANT THEFT HORN |

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



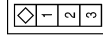
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 59 | B | GND (POWER) |

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



| 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 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------------|
| 2 | SB | - |
| 3 | B | - (WITH KING CAB) |

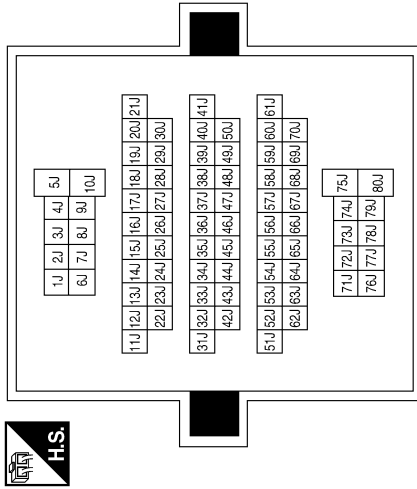
AAKIA0093GB

BCM (BODY CONTROL MODULE)

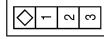
< ECU DIAGNOSIS >

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

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

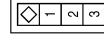


| Connector No. | B18 |
|-----------------|---------------------|
| Connector Name | REAR DOOR SWITCH LH |
| Connector Color | WHITE |



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

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|------------------|
| 2 | R/L | - |
| 3 | B | -(WITH KING CAB) |

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



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

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



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

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A B C D E F G H I J L M N O P

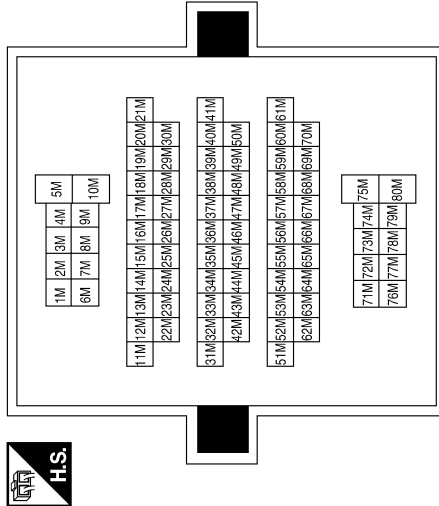
DLK

BCM (BODY CONTROL MODULE)

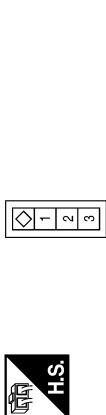
< ECU DIAGNOSIS >

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

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

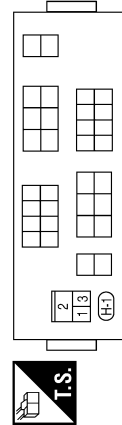


| Connector No. | B116 |
|-----------------|---------------------|
| Connector Name | REAR DOOR SWITCH RH |
| Connector Color | WHITE |



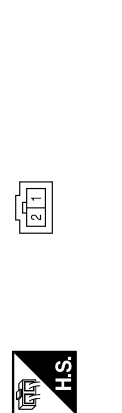
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2 | GR | - |

| Connector No. | H-1 |
|-----------------|---------------------------|
| Connector Name | FUSE AND FUSIBLE LINK BOX |
| Connector Color | - |



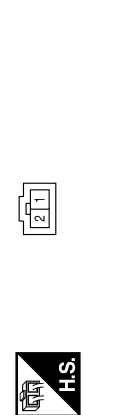
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | R/W | - |
| 2 | G/B | - |
| 3 | G | - |

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



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

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



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

Fail Safe

Fail-safe index

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

ABKIA0114GB

INFOID:000000004260339

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

| Display contents of CONSULT | Fail-safe | Cancellation |
|-----------------------------|-------------------------|---|
| U1000: CAN COMM CIRCUIT | Inhibit engine cranking | When the BCM re-establishes communication with the other modules. |
| U1010: CONTROL UNIT (CAN) | Inhibit engine cranking | When the BCM re-start communicating with the other modules. |

DTC Inspection Priority Chart

INFOID:000000004260340

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

| Priority | DTC |
|----------|--|
| 1 | <ul style="list-style-type: none"> • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN) |
| 2 | <ul style="list-style-type: none"> • B2190: NATS ANTENNA AMP • B2191: DIFFERENCE OF KEY • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM |
| 3 | <ul style="list-style-type: none"> • C1729: VHCL SPEED SIG ERR • C1735: IGNITION SIGNAL |
| 4 | <ul style="list-style-type: none"> • 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 |

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DTC Index

INFOID:000000004260341

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.

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

| 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-28 |
| U1010: CONTROL UNIT (CAN) | — | — | BCS-29 |
| B2190: NATS ANTENA AMP | — | — | SEC-17 |
| B2191: DIFFERENCE OF KEY | — | — | SEC-20 |
| B2192: ID DISCORD BCM-ECM | — | — | SEC-21 |
| B2193: CHAIN OF BCM-ECM | — | — | SEC-23 |
| 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 |

DOOR LOCK

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

DOOR LOCK

Symptom Table

INFOID:000000003789172

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 (Insert) check (column shift) | DLK-39 |
| | 2b. Key switch (Insert) check (floor shift) | DLK-40 |
| | 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-42 |
| | 2. Door lock actuator check (Front RH) | DLK-43 |
| | 3. Door lock actuator check (Rear LH) | DLK-44 |
| | 4. Door lock actuator check (Rear RH) | DLK-44 |
| Power door lock does not operate with front door key cylinder LH operation. | 1. Front door lock assembly LH (key cylinder switch) check | DLK-35 |
| | 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 |

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DLK

REMOTE KEYLESS ENTRY SYSTEM

< SYMPTOM DIAGNOSIS >

REMOTE KEYLESS ENTRY SYSTEM

Symptom Table

INFOID:000000003789173

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-47 |
| | 2. Check BCM and remote keyless entry receiver. | DLK-45 |
| 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-47 |
| | 2a. Key switch (insert) check (column shift) | DLK-39 |
| | 2b. Key switch (insert) check (floor shift) | DLK-40 |
| | 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-49 |
| | 4. Replace BCM. | BCS-53 |
| Room lamp, ignition keyhole illumination and step lamp operation do not activate properly. | 1. Room lamp operation check | — |

REMOTE KEYLESS ENTRY SYSTEM

< SYMPTOM DIAGNOSIS >

| Symptom | Diagnoses/service procedure | Reference page | |
|---|--|------------------------|---|
| | 2. Ignition keyhole illumination operation check | — | A |
| | 3. Step lamp operation check | — | B |
| | 4a. Door switch check (king cab) | DLK-26 | B |
| | 4b. Door switch check (crew cab) | DLK-27 | |
| | 5. Replace BCM. | BCS-53 | C |
| 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-47 | D |
| | 2a. Key switch (insert) check (column shift) | DLK-39 | E |
| | 2b. Key switch (insert) check (floor shift) | DLK-40 | |
| | 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 | F |
| | 2. Replace BCM. | BCS-53 | G |
| 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. | — | H |
| | 2. Check power window function with switch | — | I |
| | 3. Replace BCM. | BCS-53 | |

DLK

HOMELINK UNIVERSAL TRANSCEIVER

< SYMPTOM DIAGNOSIS >

HOMELINK UNIVERSAL TRANSCEIVER

Symptom Table

INFOID:000000003789174

HOMELINK UNIVERSAL TRANSCEIVER MALFUNCTION

| Symptom | Diagnosis/service procedure | Reference page |
|---|---|------------------------|
| Homelink universal transceiver does not operate properly. | 1. Check homelink universal transceiver function. | DLK-60 |
| | 2. Check Intermittent Incident. | GI-38 |

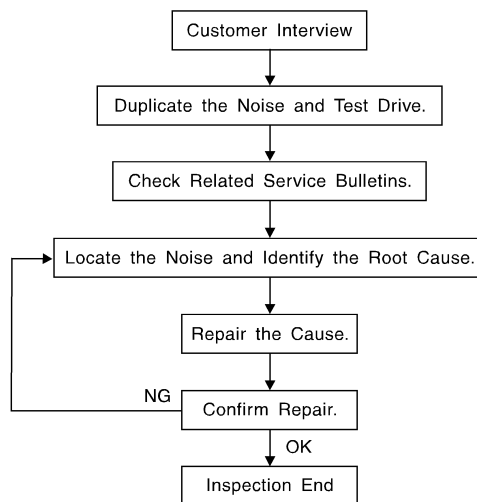
SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow

INFOID:000000003789175



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.

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SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

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

- 1) Close a door.
 - 2) Tap or push/pull around the area where the noise appears to be coming from.
 - 3) Rev the engine.
 - 4) Use a floor jack to recreate vehicle "twist".
 - 5) At idle, apply engine load (electrical load, 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.

SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

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:000000003789176

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

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SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

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

SUNROOF/HEADLINING

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

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

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

OVERHEAD CONSOLE (FRONT AND REAR)

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

In addition look for:

1. Loose harness or harness connectors.
2. Front console map/reading lamp 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.

SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

Diagnostic Worksheet

INFOID:000000003789177

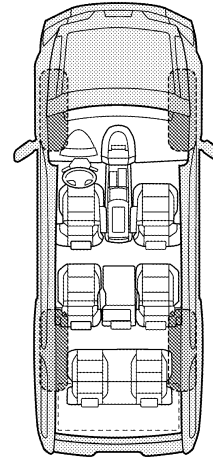
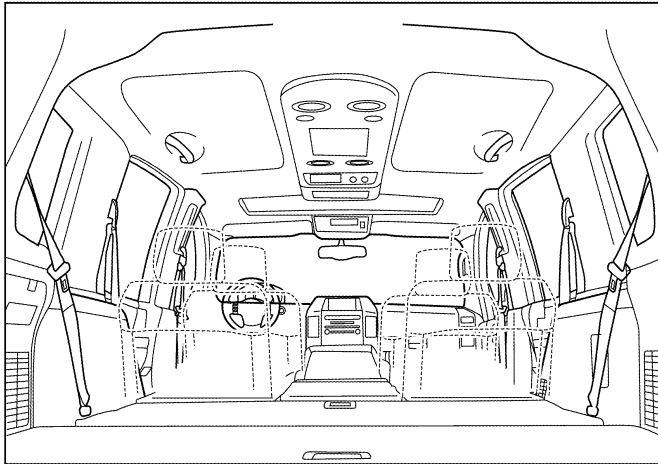
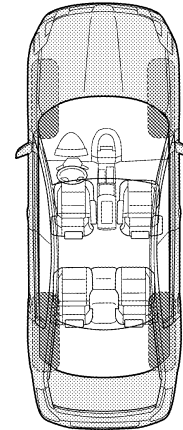
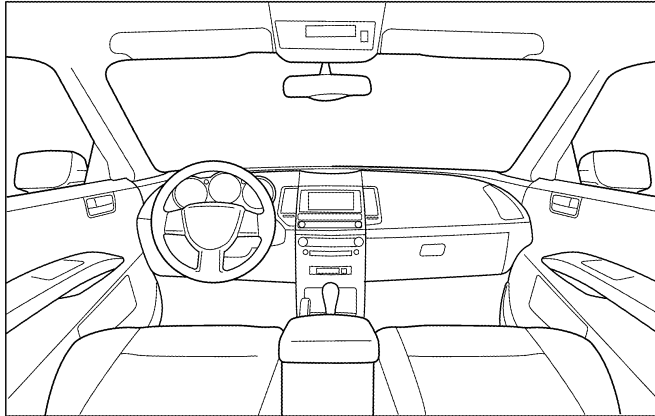
Dear Customer:

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

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

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

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



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

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SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

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)

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

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

VIN: _____ Customer Name _____
W.O.# _____ Date: _____

This form must be attached to Work Order

LAI0071E

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000003789178

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.

Precaution for work

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- 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.

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PREPARATION

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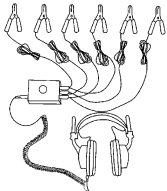
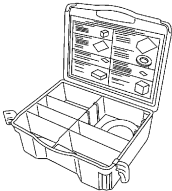
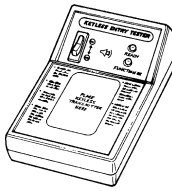
PREPARATION

PREPARATION

Special Service Tool

INFOID:000000003789180

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

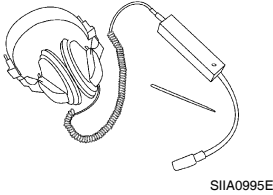
| Tool number (Kent-Moore No.) Tool name | Description |
|--|-------------------------------------|
| <p>— (J-39570) Chassis ear</p>  <p>SIA0993E</p> | <p>Locating the noise</p> |
| <p>— (J-43980) NISSAN Squeak and Rattle Kit</p>  <p>SIA0994E</p> | <p>Repairing the cause of noise</p> |
| <p>— (J-43241) Remote Keyless Entry Tester</p>  <p>LEL946A</p> | <p>Used to test key fobs</p> |

PREPARATION

< PREPARATION >

Commercial Service Tool

INFOID:000000003789181

| (Kent-Moore No.) Tool name | Description |
|---|--------------------|
| <p data-bbox="191 317 293 373">(J-39565) Engine ear</p>  | Locating the noise |

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HOOD

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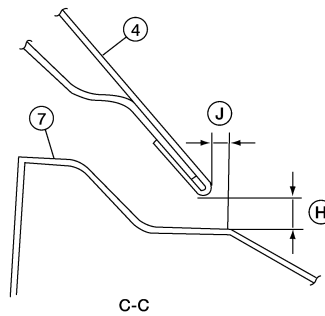
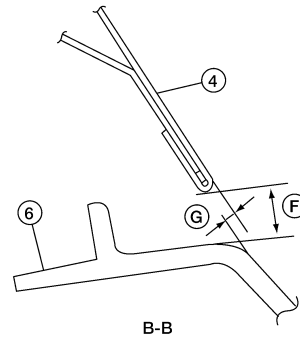
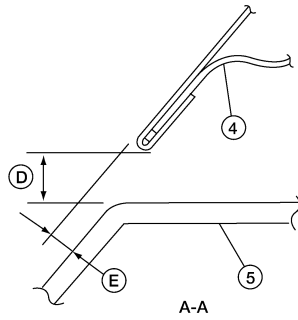
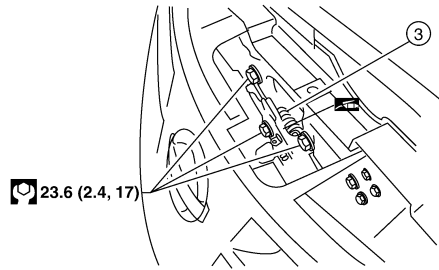
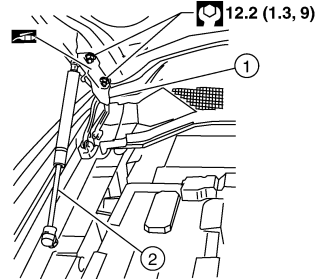
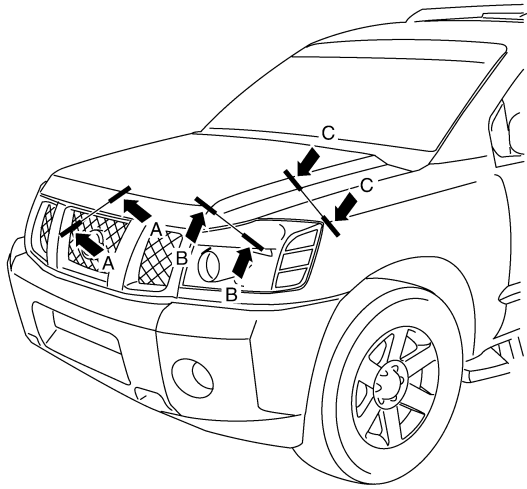
ON-VEHICLE REPAIR

HOOD

Fitting Adjustment

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HOOD

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- | | | |
|---------------------|----------------------|-----------------------|
| 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-18, "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-18, "Removal and Installation"](#).

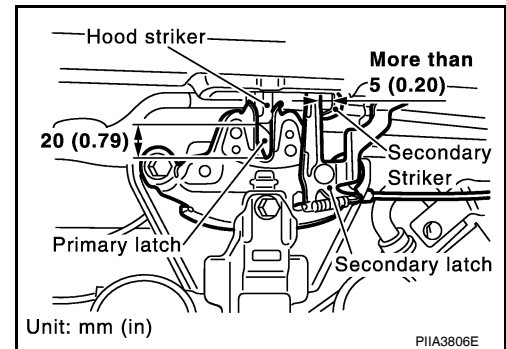
HOOD LOCK ADJUSTMENT

1. Remove the front grille. Refer to [EXT-18, "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-18, "Removal and Installation"](#).



Removal and Installation of Hood Assembly

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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.

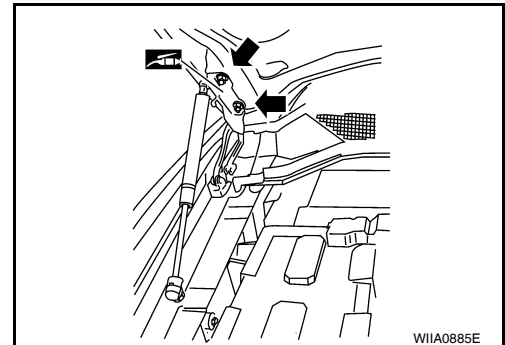
2. Remove the hinge nuts from the hood to remove the hood assembly.

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"](#).

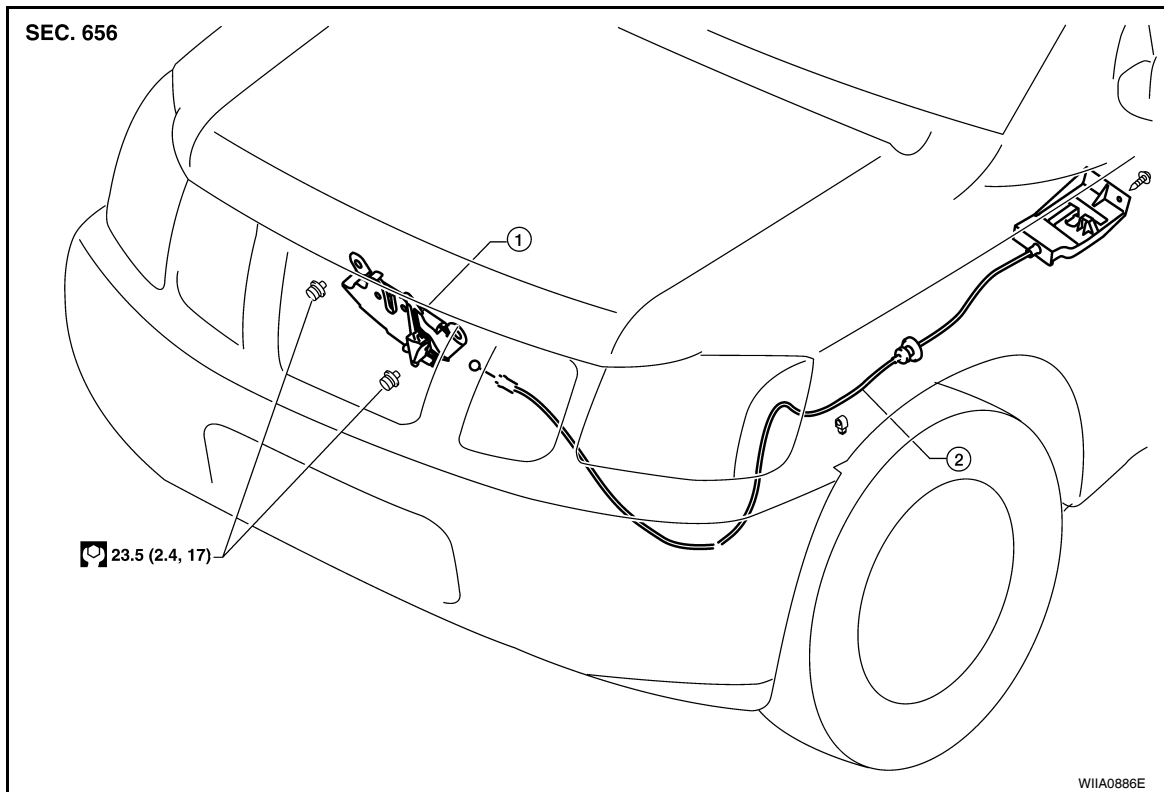


HOOD

< ON-VEHICLE REPAIR >

Removal and Installation of Hood Lock Control

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1. Hood lock assembly
2. Hood lock cable

REMOVAL

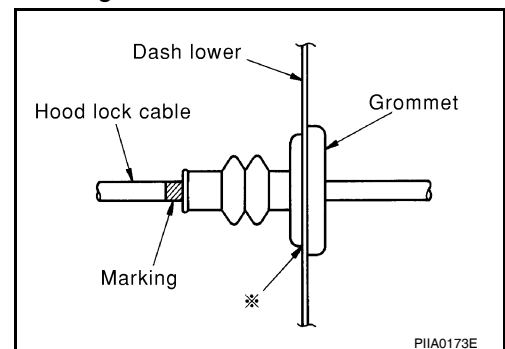
1. Remove the front grill. Refer to [EXT-18, "Removal and Installation"](#).
2. Remove the front fender protector (LH). Refer to [EXT-21, "Removal and Installation"](#).
3. Disconnect the hood lock cable from the hood lock, and unclip it from the radiator core support upper and hoodledge.
4. Remove the bolt and the hood opener.
5. Remove the grommet from the dash lower, and pull the hood lock cable toward the passenger room.

CAUTION:

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

INSTALLATION

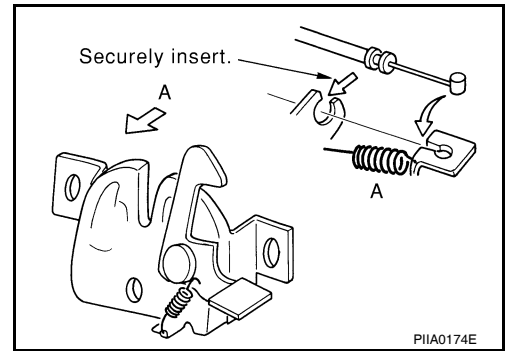
1. Pull the hood lock cable through the hole in dash lower panel into the engine room.
Be careful not to bend the cable too much, keeping the radius 100mm (3.94 in) or more.
2. Make sure the cable is not offset from the positioning grommet, and from inside the vehicle, push the grommet into the dash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



HOOD

< ON-VEHICLE REPAIR >

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



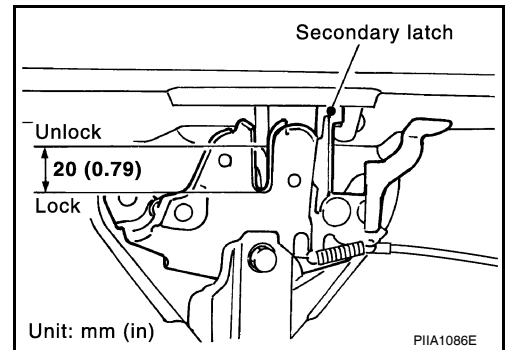
Hood Lock Control Inspection

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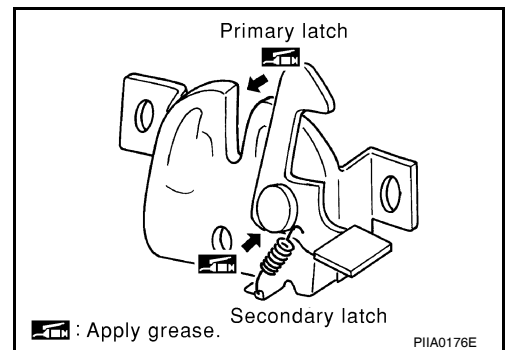
CAUTION:

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.



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DOOR

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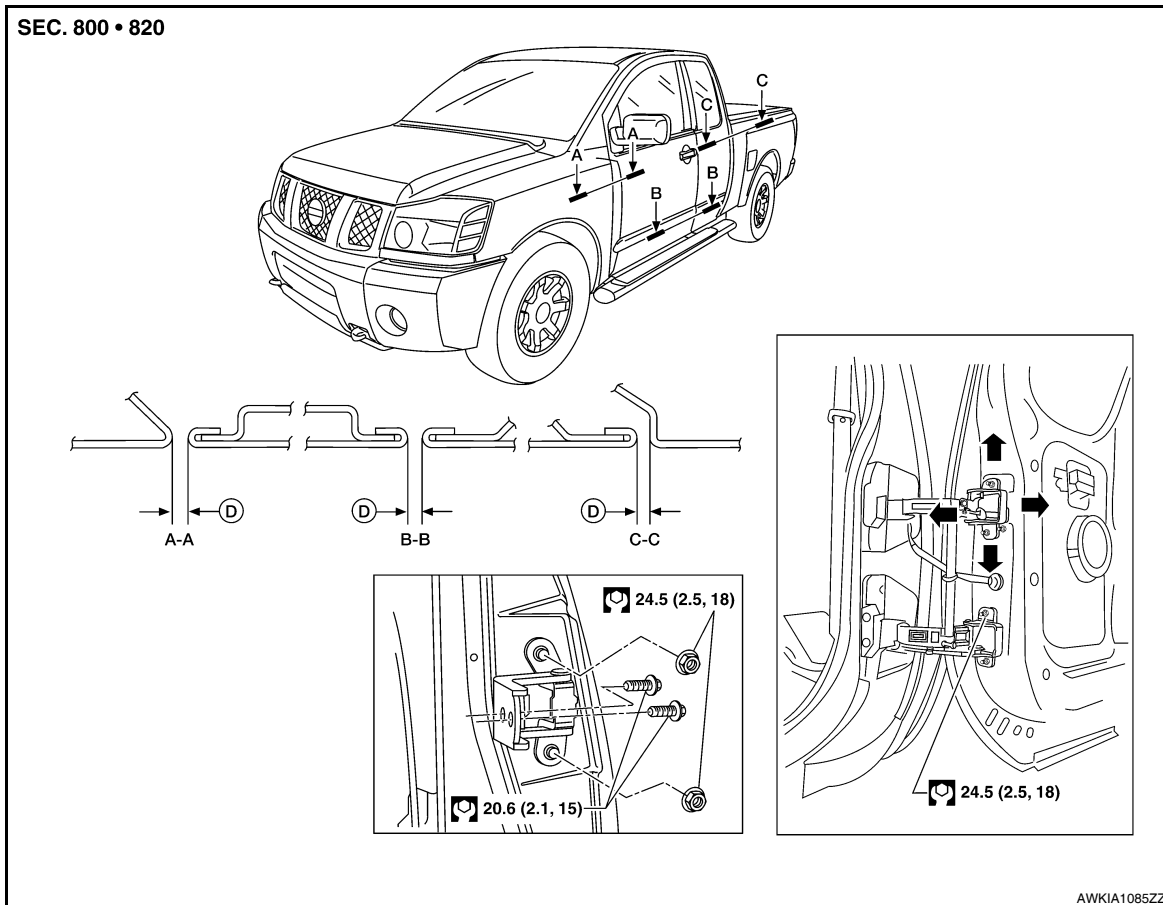
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Fitting Adjustment

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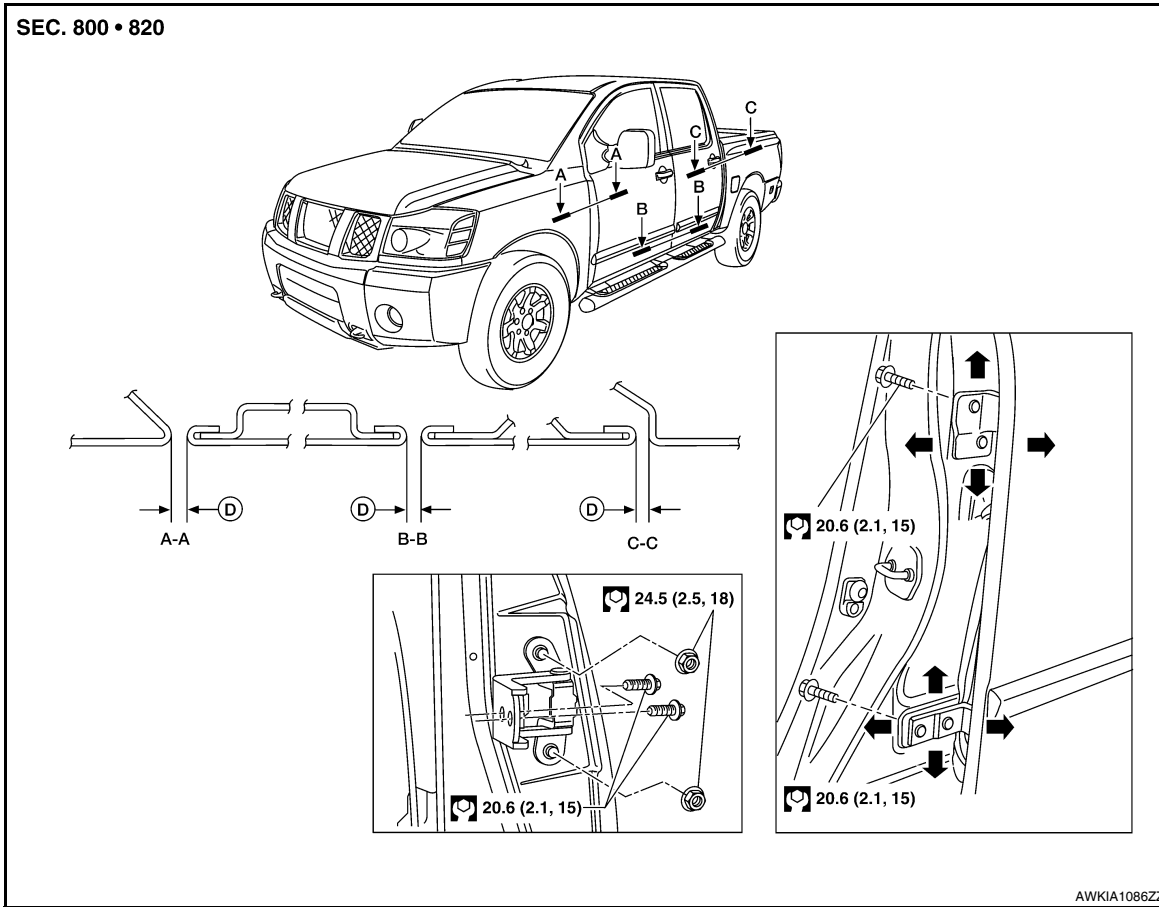


D. $4.5 \pm 1.0 \text{ mm}$ ($0.177 \pm 0.039 \text{ in}$)

DOOR

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CREW CAB



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

Front Door

Longitudinal clearance and surface height adjustment at front end

1. Remove the front fender. Refer to [EXT-21, "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-21, "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

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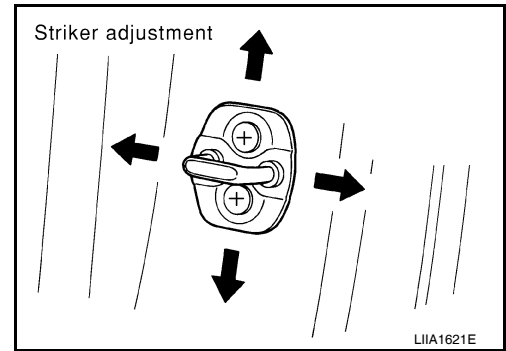
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1. Adjust the striker so that it becomes parallel with the lock insertion direction.



Removal and Installation

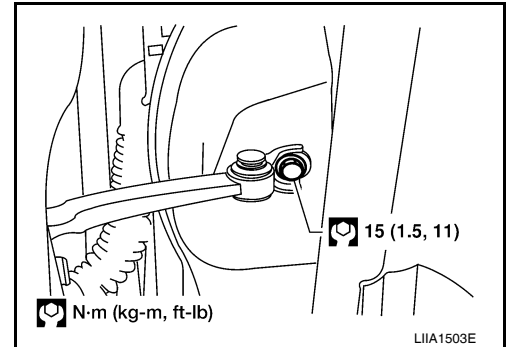
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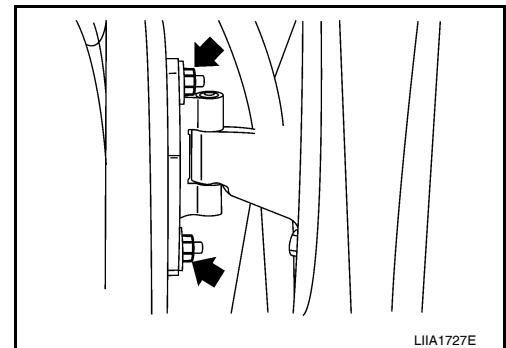
Front Door

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-123, "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-118, "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"](#).

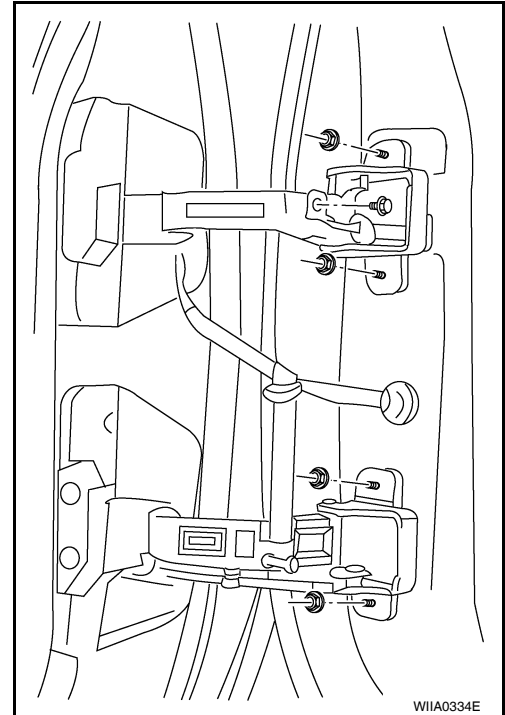
DOOR

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2. Remove the speaker.
3. Remove the door handles and latch assembly. Refer to [DLK-126, "Component Structure"](#).
4. Remove the check link.
5. Remove the wire harness.
6. Remove the door assembly.

Installation is in the reverse order of removal.

- Align the rear door. Refer to [DLK-118, "Fitting Adjustment"](#).

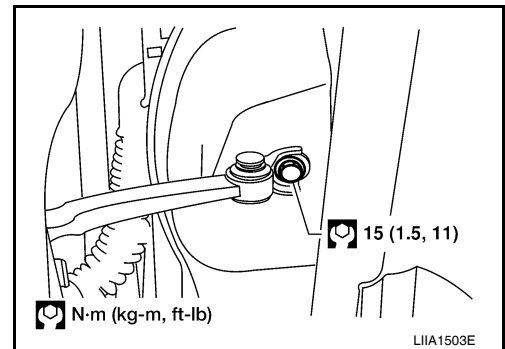


CREW CAB

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-127, "Removal and Installation"](#).
2. Remove the door harness.
3. Remove the check link cover.
4. Remove the check link bolt from the hinge pillar.



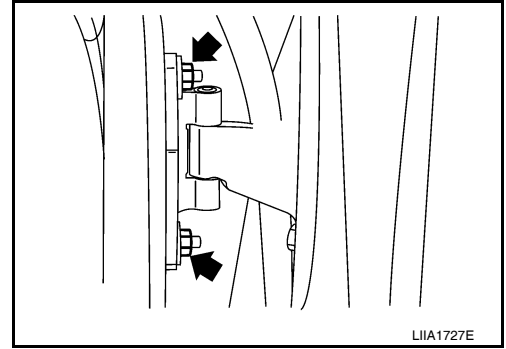
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DOOR

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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-118, "Fitting Adjustment"](#).

FRONT DOOR LOCK

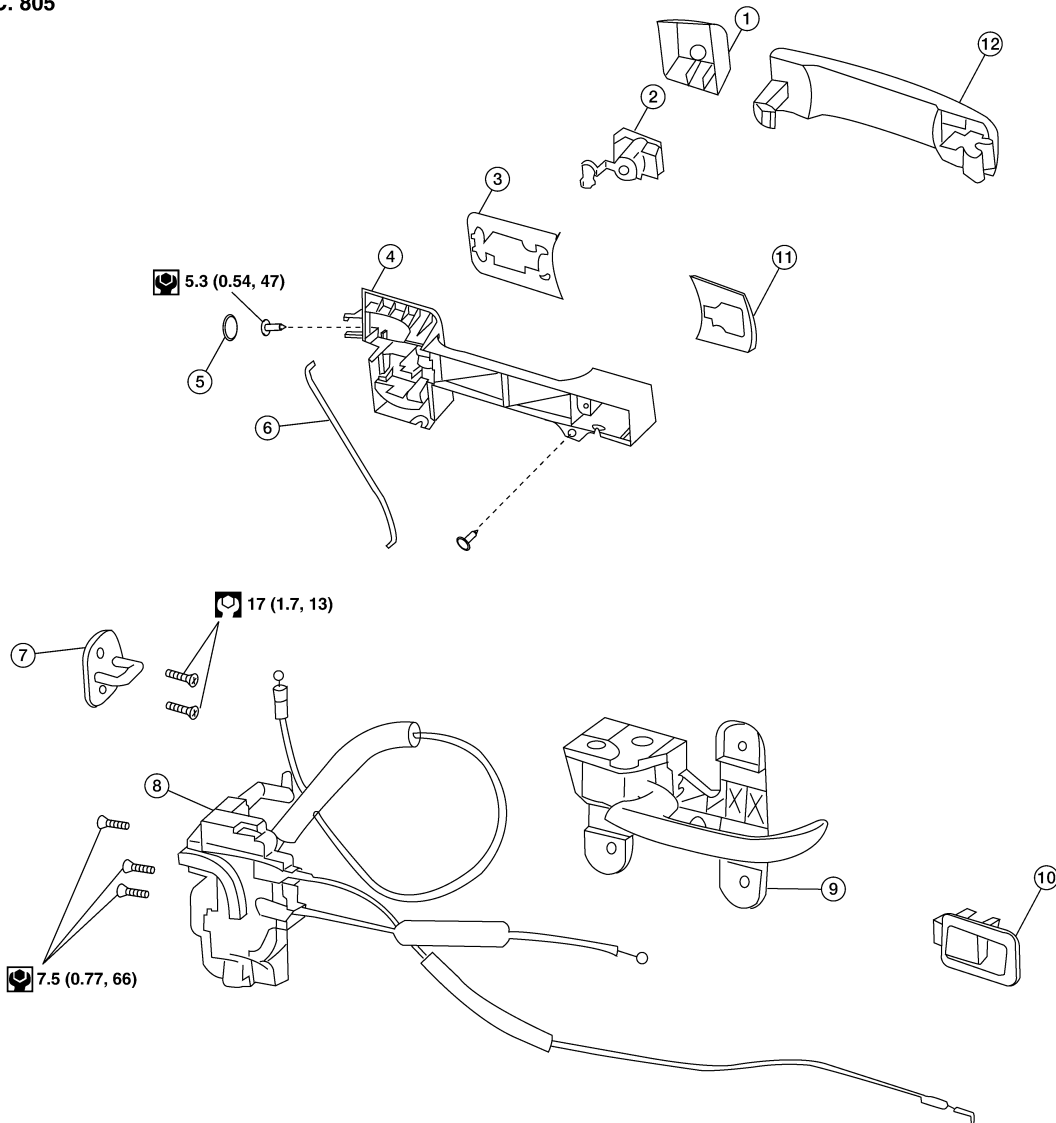
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FRONT DOOR LOCK

Component Structure

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| 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 |

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Removal and Installation

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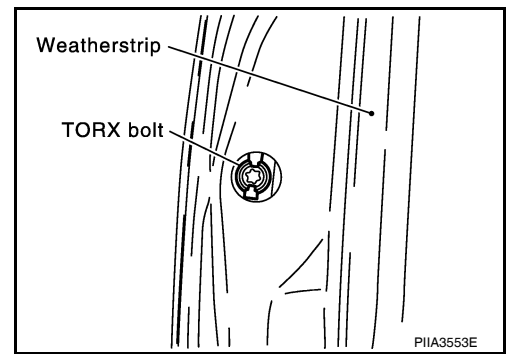
REMOVAL

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

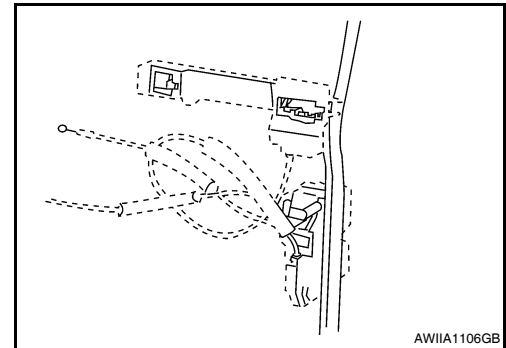
FRONT DOOR LOCK

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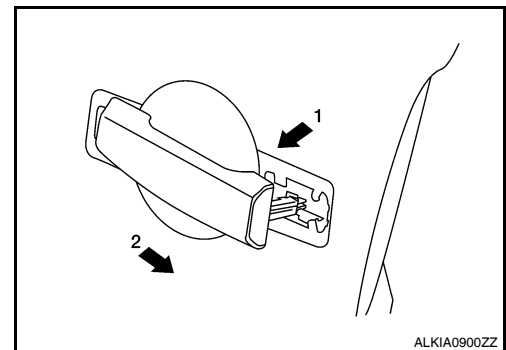
3. Remove the door side grommet, and the bolt (TORX T30) (1) from the grommet hole (2).



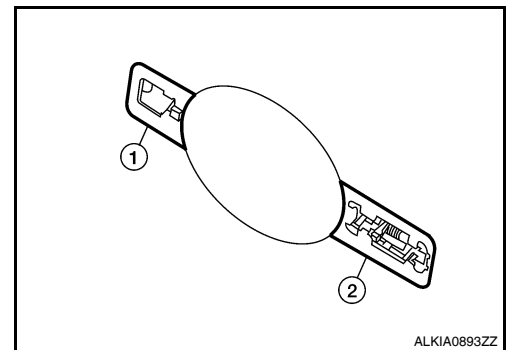
4. While pulling the outside handle (1), remove the door key cylinder assembly or outside handle escutcheon (2).



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 as shown.



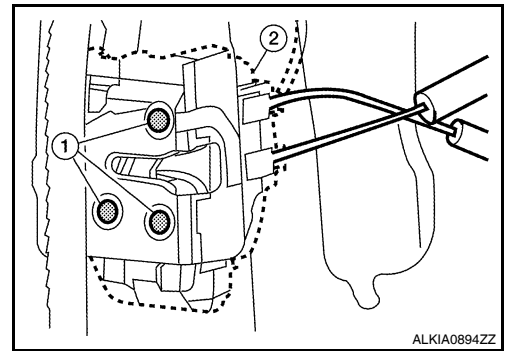
7. Remove the front gasket (1) and rear gasket (2).



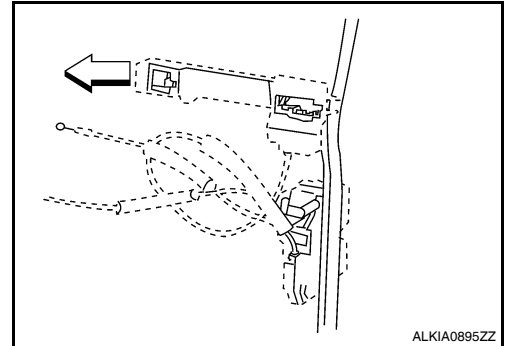
FRONT DOOR LOCK

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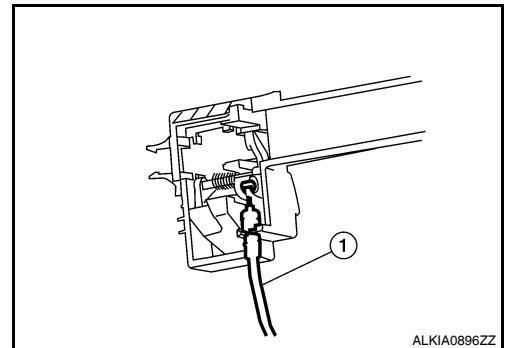
8. Remove the TORX bolts (T30), and separate the door lock assembly from the door.



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.



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.

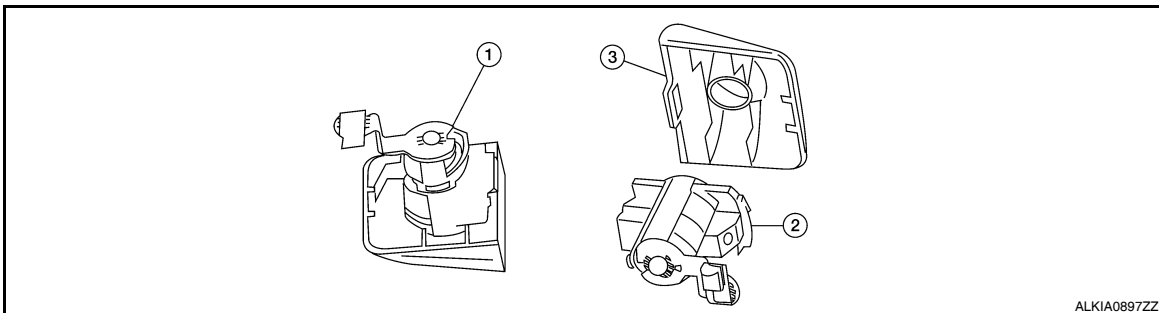
CAUTION:

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

Disassembly and Assembly

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DOOR KEY CYLINDER ASSEMBLY



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

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

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REAR DOOR LOCK

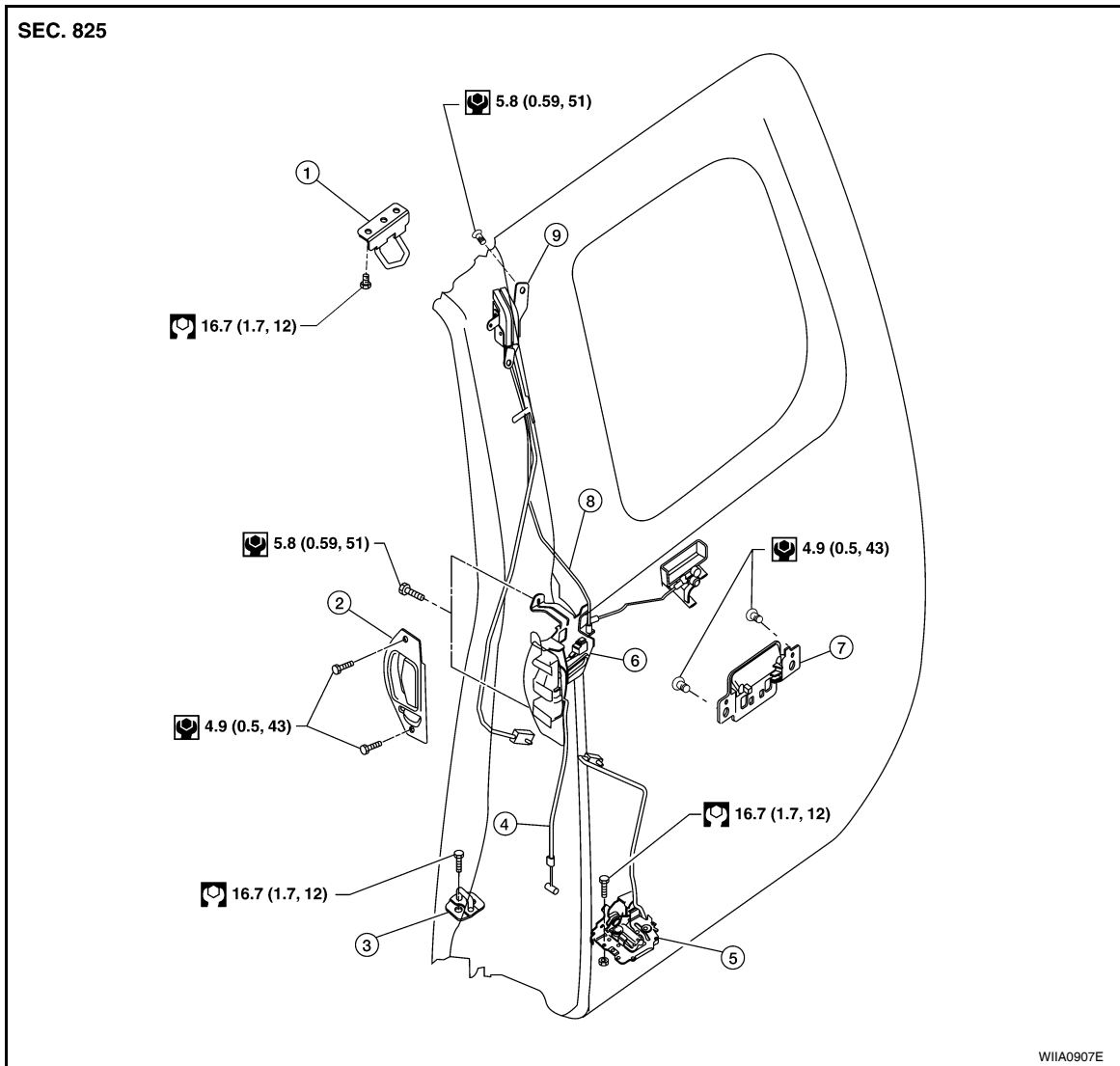
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REAR DOOR LOCK

Component Structure

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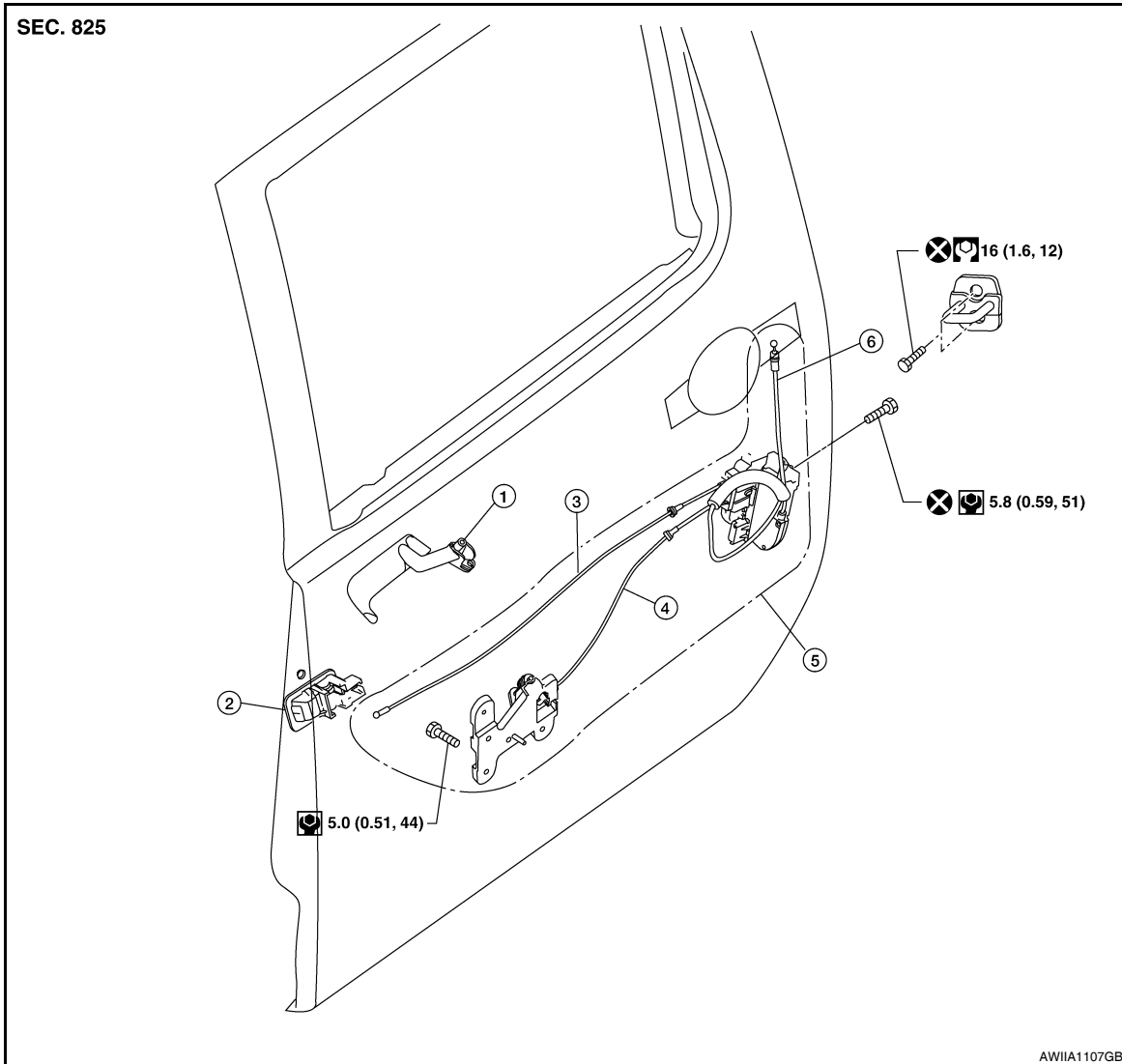


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| 1. Rear upper door lock striker | 2. Rear door handle | 3. Rear lower door lock striker |
| 4. Lower latch cable | 5. Rear lower door latch | 6. Rear door lock assembly |
| 7. Rear inside door handle | 8. Upper latch cable | 9. Rear upper door latch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

REAR DOOR LOCK

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CREW CAB



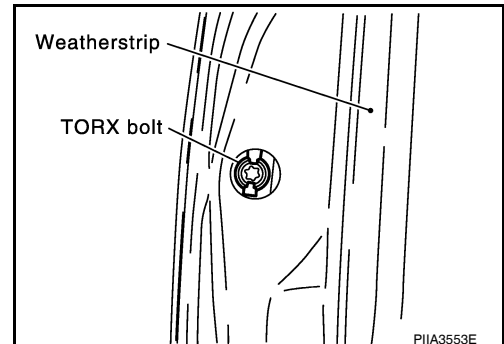
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| 1. Rear inside door handle | 2. Rear door lock knob | 3. Lock knob cable |
| 4. Inside handle cable | 5. Rear door lock/remote control assembly | 6. Outside handle cable |

Removal and Installation

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REMOVAL

1. Remove the rear door window and rear door module assembly. Refer to [GW-21, "Rear Door Glass"](#).
2. Remove the door side grommet and the bolt (TORX T30) from the grommet hole.



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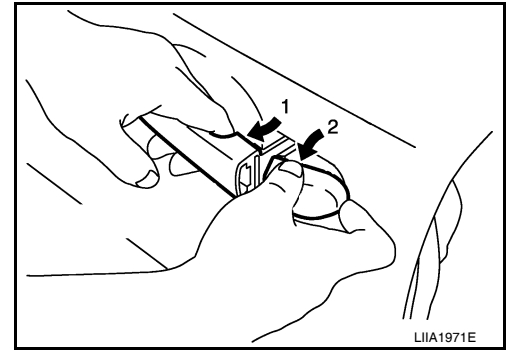
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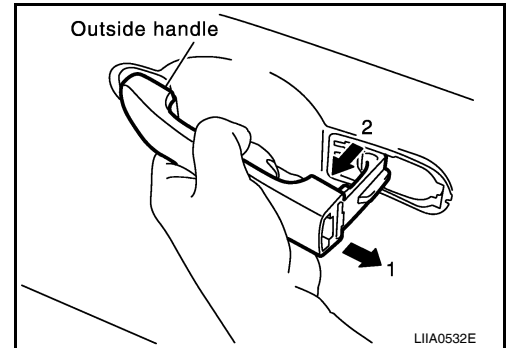
REAR DOOR LOCK

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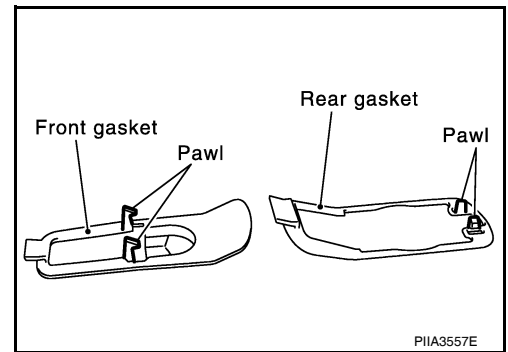
3. While pulling the outside handle, remove the door handle escutcheon.



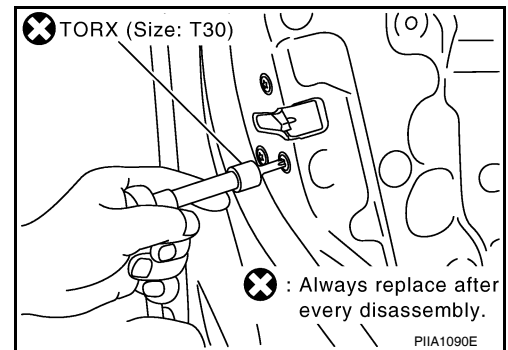
4. While pulling the outside handle, slide it toward the rear of vehicle to remove.



5. Remove the front and rear gaskets.



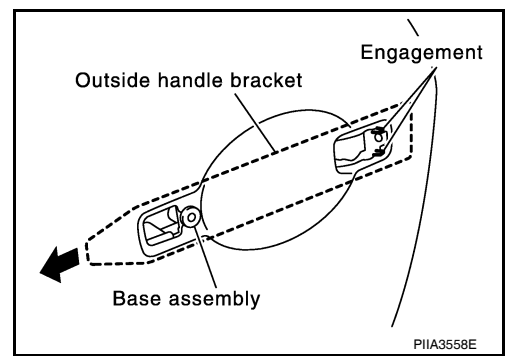
6. Remove the inside handle screws.
7. Remove the TORX bolts (T30), remove the door lock assembly.



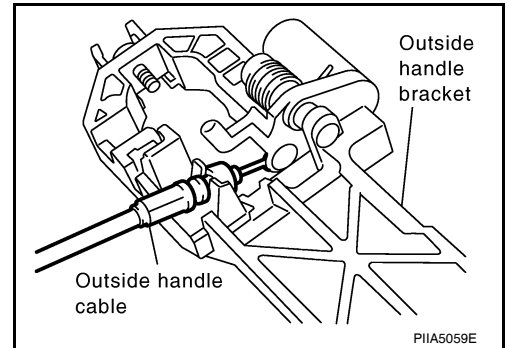
REAR DOOR LOCK

< ON-VEHICLE REPAIR >

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



9. Disconnect the outside handle cable.



INSTALLATION

Installation is in the reverse order of removal.

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C
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DLK

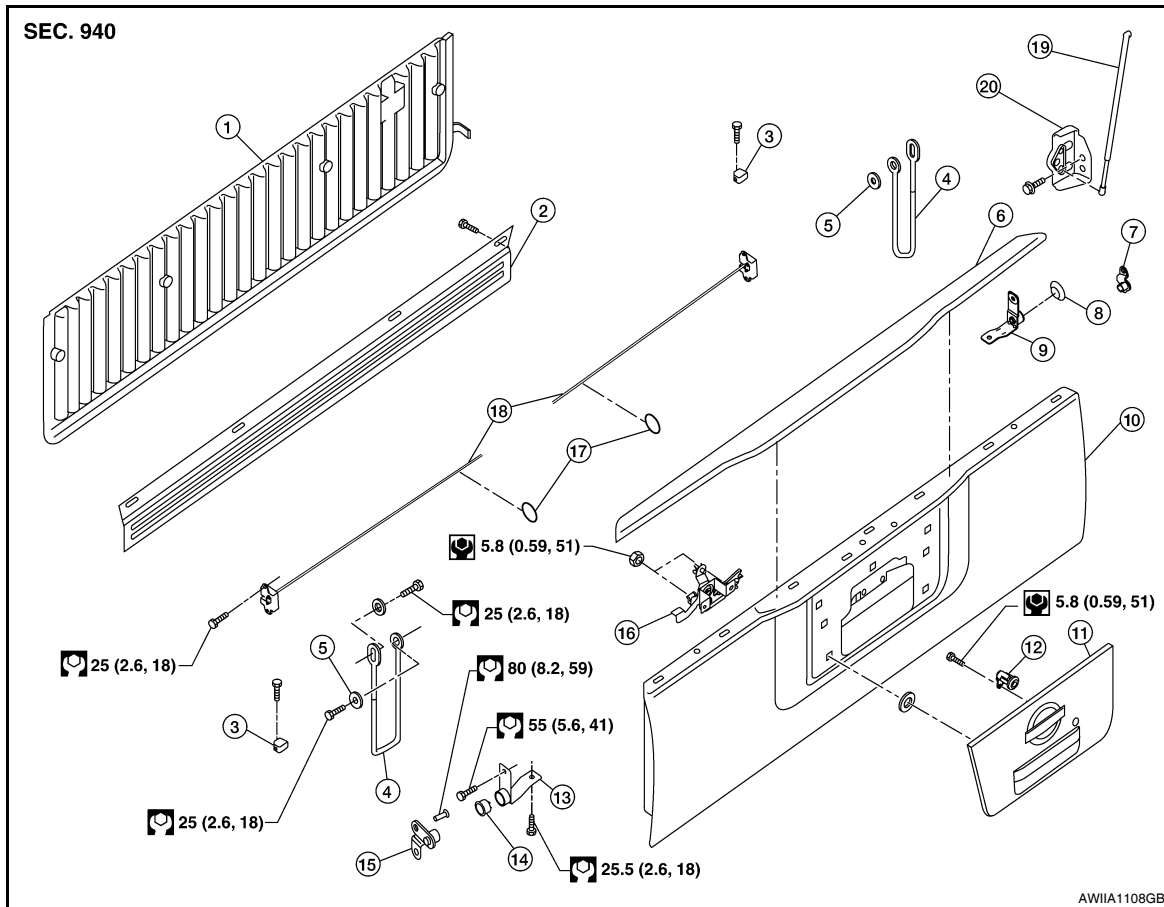
TAIL GATE

< ON-VEHICLE REPAIR >

TAIL GATE

Removal and Installation

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- | | | |
|--|--------------------------|--|
| 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:

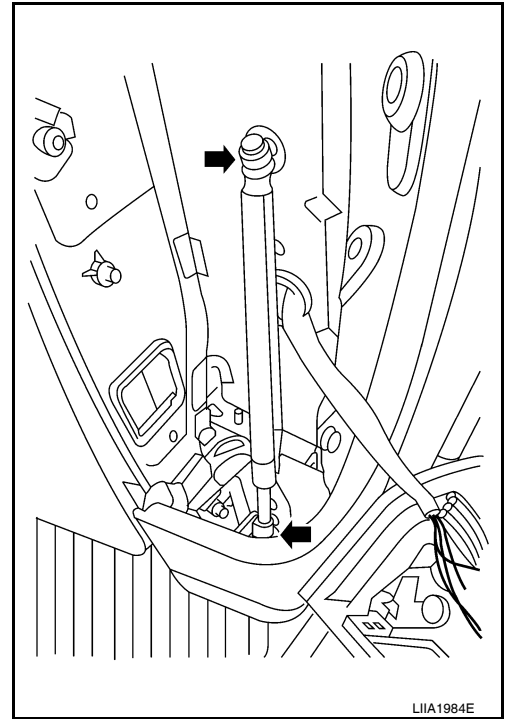
The gas stay is under high pressure. Remove the gas stay only with the tailgate fully closed. Injury may result if the gas stay is removed when the tailgate is open.

1. Remove the RH rear combination lamp assembly. Refer to [EXL-145, "Removal and Installation"](#).

TAIL GATE

< ON-VEHICLE REPAIR >

2. Remove the gas stay.



Installation
Installation is in the reverse order of removal.

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