

SECTION **BL**

BODY, LOCK & SECURITY SYSTEM

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# PRECAUTIONS

## PRECAUTIONS

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### Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

EIS006W5

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 SRS 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 SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

#### Precautions for work

EIS0050C

- 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.

#### Wiring Diagnosis and Trouble Diagnosis

EIS0050D

When you read wiring diagrams, refer to the following:

- [GI-17, "How to Read Wiring Diagrams"](#)
- [PG-4, "POWER SUPPLY ROUTING CIRCUIT"](#)

When you perform trouble diagnosis, refer to the following:

- [GI-13, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"](#)
- [GI-29, "How to Perform Efficient Diagnosis for an Electrical Incident"](#)  
Check for any Service bulletins before servicing the vehicle.



# PREPARATION

## PREPARATION

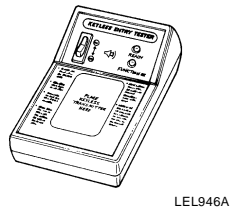
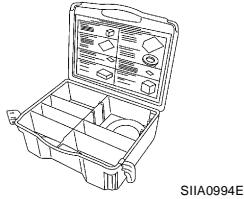
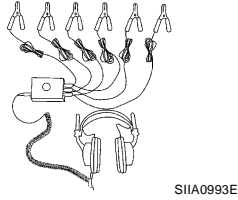
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### Special service tool

EIS0050E

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

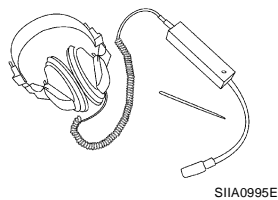
Tool number (Kent-Moore No.) Tool name	Description
— (J-39570) Chassis ear	Locating the noise
— (J-43980) NISSAN Squeak and Rattle Kit	Repairing the cause of noise
— (J-43241) Remote Keyless Entry Tester	Testing keyfobs



## Commercial Service Tool

EIS0050F

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



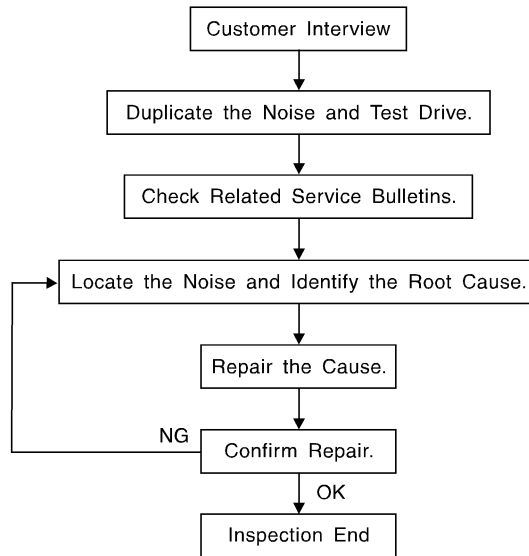
# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## SQUEAK AND RATTLE TROUBLE DIAGNOSES

PF0:0000

### Work Flow

EIS0050G



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 [BL-10, "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.

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## DUPLICATE THE NOISE AND TEST DRIVE

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

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

- 1) Close a door.
  - 2) Tap or push/pull around the area where the noise appears to be coming from.
  - 3) Rev the engine.
  - 4) Use a floor jack to recreate vehicle "twist".
  - 5) At idle, apply engine load (electrical load, half-clutch on M/T model, drive position on 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 [BL-8, "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)**

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

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

## **FELT CLOTH TAPE**

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

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

## **UHMW (TEFLON) TAPE**

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

## **SILICONE GREASE**

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

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

## **SILICONE SPRAY**

Use when grease cannot be applied.

## **DUCT TAPE**

Use to eliminate movement.

## **CONFIRM THE REPAIR**

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

## **Generic Squeak and Rattle Troubleshooting**

EIS0050H

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.

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## TRUNK

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

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

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

## SUNROOF/HEADLINING

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

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

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

## OVERHEAD CONSOLE (FRONT AND REAR)

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

In addition look for:

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

## SEATS

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

Cause of seat noise include:

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

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

## UNDERHOOD

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

Causes of transmitted underhood noise include:

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

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

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# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## Diagnostic Worksheet

E/IS00501



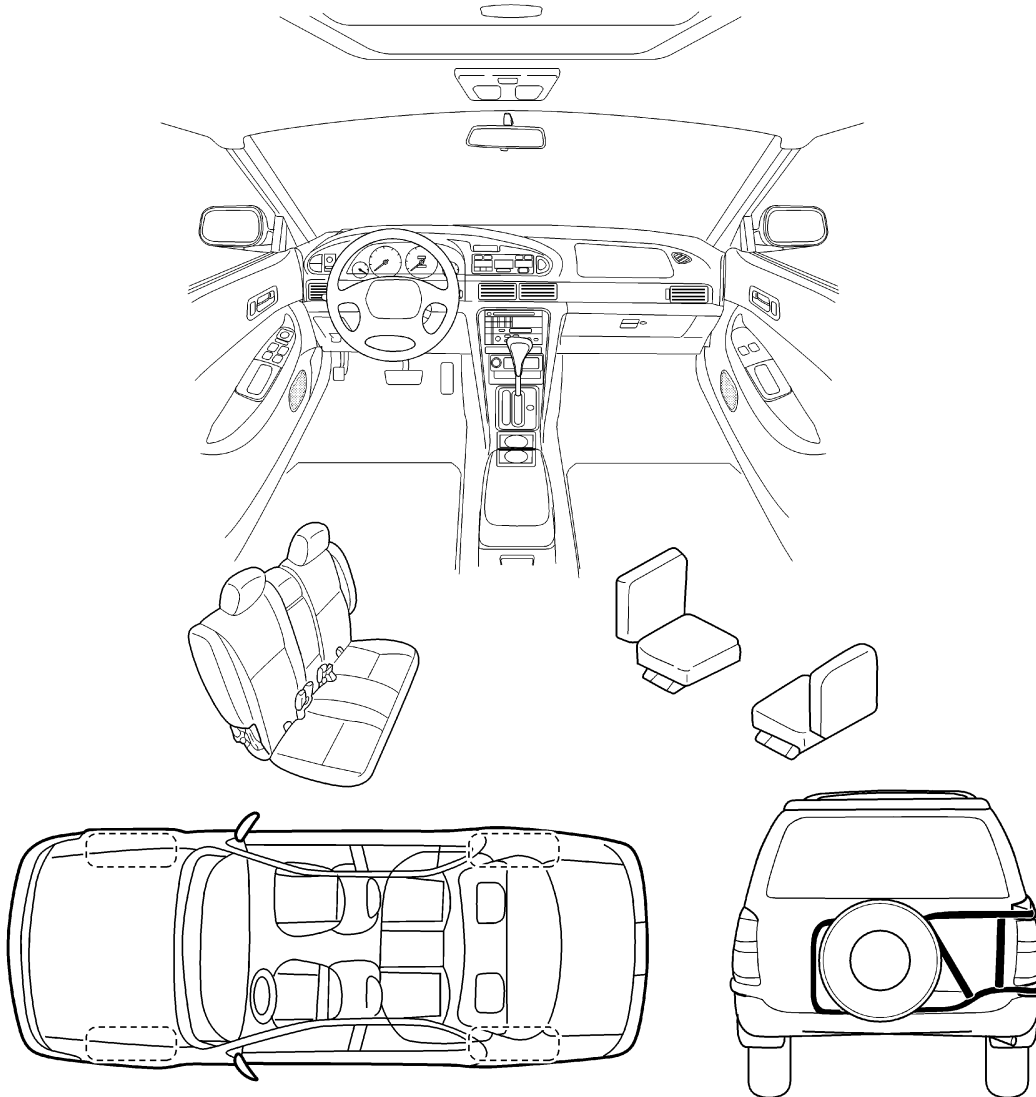
### SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

Dear Nissan Customer:

We are concerned about your satisfaction with your Nissan vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your Nissan 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.

#### 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 the back 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.

LIWA0276E

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## SQUEAK & RATTLE DIAGNOSTIC WORKSHEET- page 2

Briefly describe the location where the noise occurs:

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

- |  |   |
|--|---|
| <input type="checkbox"/> anytime                             | <input type="checkbox"/> after sitting out in the sun |
| <input type="checkbox"/> 1 <sup>st</sup> 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 at 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 on a 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:

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	<u>YES</u>	<u>NO</u>	Initials of person <u>performing</u>
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: \_\_\_\_\_

SBT844

**This form must be attached to Work Order**

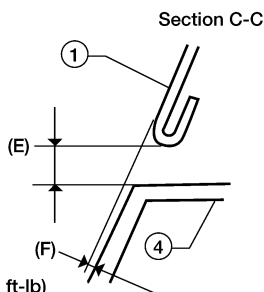
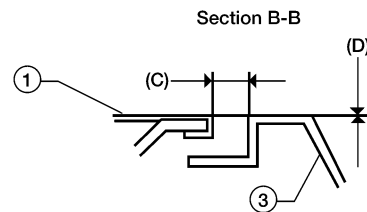
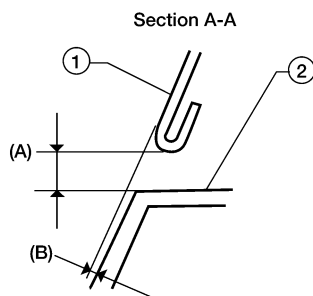
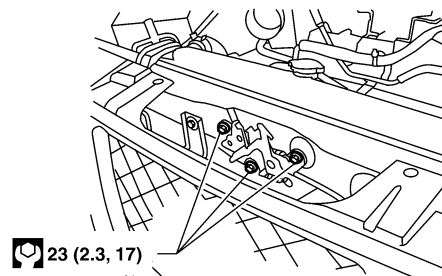
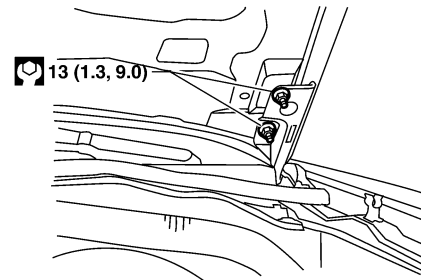
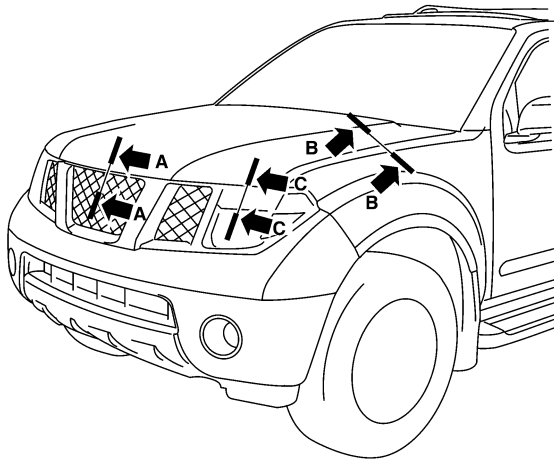
# HOOD

PF5:F5100

EIS0050J

## HOOD

### Fitting Adjustment



: N-m (kg-m, ft-lb)  
Unit: mm (in)

Clearance	A	6.0 (0.24)
	C	4.5 (0.18)
	E	6.0 (0.24)
Surface height	B	0.7 (0.03)
	D	0.0 (0.0)
	F	0.7 (0.03)

1. Hood
2. Front grille
3. Front fender
4. Headlamp assembly

LIA1695E

### CLEARANCE AND SURFACE HEIGHT ADJUSTMENT

1. Loosen the hood lock assembly and adjust the height by rotating the rubber bumpers until the surface height of the hood becomes 1 mm (0.04 in) lower than the fender.
2. Engage the hood striker and temporarily tighten.
3. Check the lock and striker for looseness.
4. Tighten the bolts to specification.
5. Adjust the surface height of the hood according to the fitting standard dimension by rotating right and left rubber bumpers.



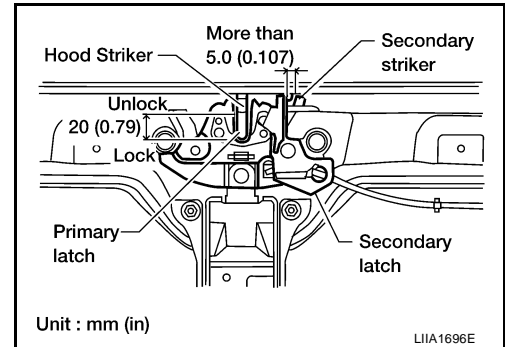
# HOOD

## HOOD LOCK ADJUSTMENT

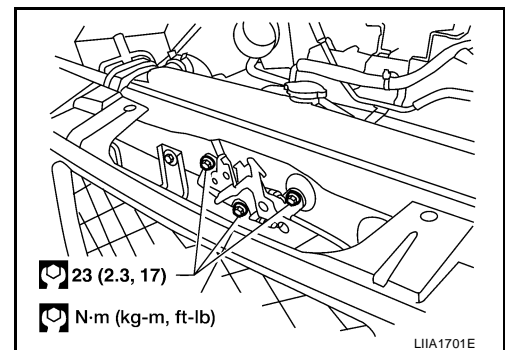
1. Move the hood lock to the left or right so that striker center is vertically aligned with hood lock center (when viewed from vehicle front).
2. Make sure the secondary latch is properly engaged with the secondary striker with hood's own weight by dropping it from approx. 200 mm (7.87 in) height or 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.**



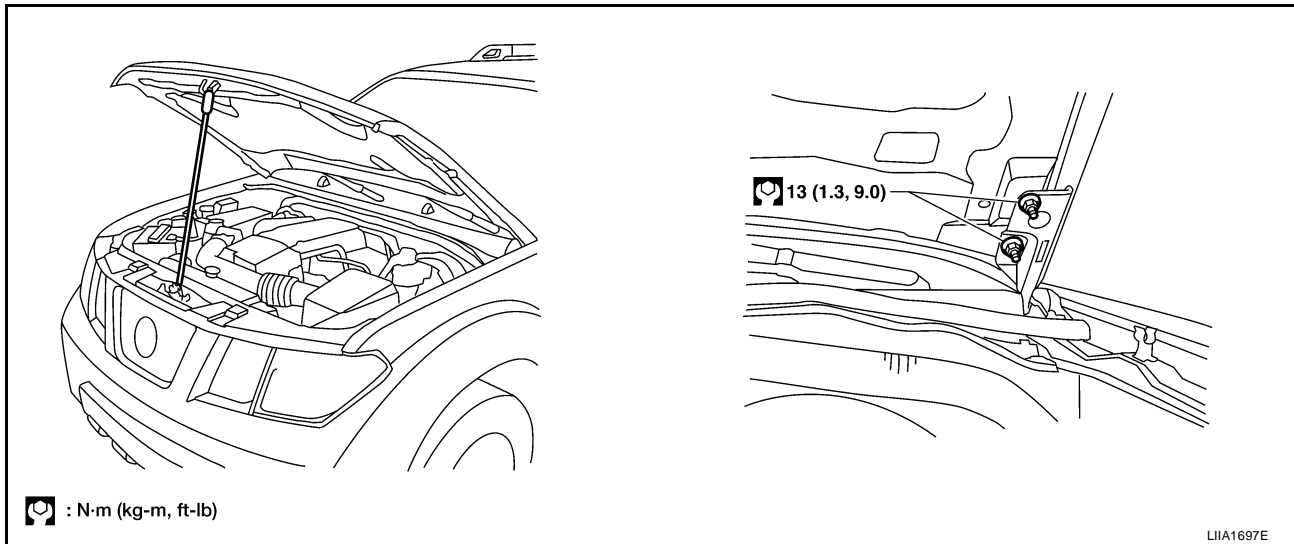
3. After adjusting hood lock, tighten the lock bolts to the specified torque.



## Removal and Installation of Hood Assembly REMOVAL

EIS0050K

BL



1. Support the hood striker with a proper material to prevent it from falling.
2. Remove the hinge nuts from the hood to remove the hood assembly.

**CAUTION:**

**Operate with two workers, because of its heavy weight.**

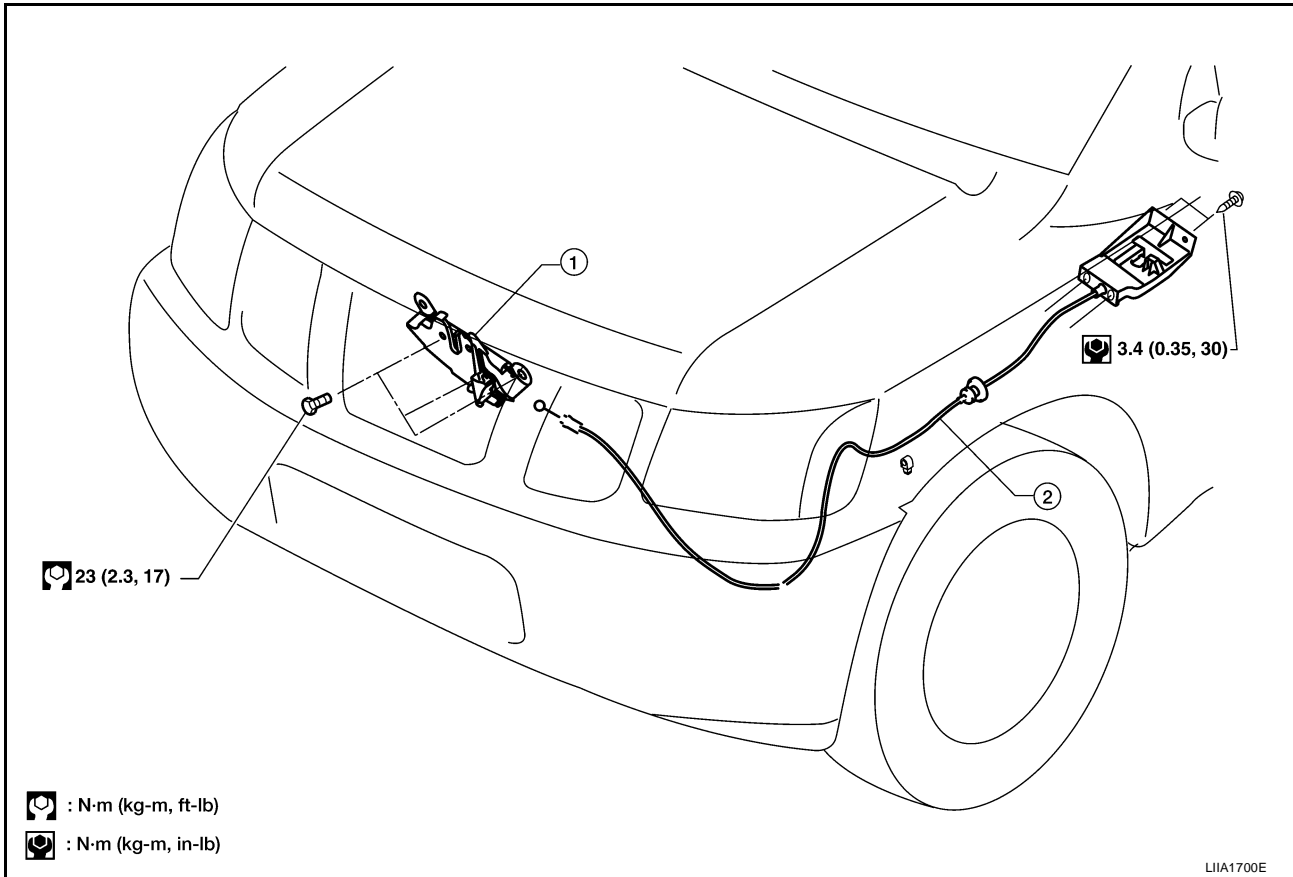
## INSTALLATION

Installation is in the reverse order of removal.

# HOOD

## Removal and Installation of Hood Lock Control

EIS0050L



1. Hood lock assembly

2. Hood lock cable

### REMOVAL

1. Remove the front grill. Refer to [EI-19, "FRONT GRILLE"](#).
2. Remove the front fender protector (LH). Refer to [EI-22, "FENDER PROTECTOR"](#).
3. Disconnect the hood lock cable from the hood lock, and unclip it from the radiator core support upper and hood ledge.
4. Remove the bolts, and the hood release handle.
5. Separate the grommet from the lower dash panel. Pull the hood lock cable out through the passenger compartment.

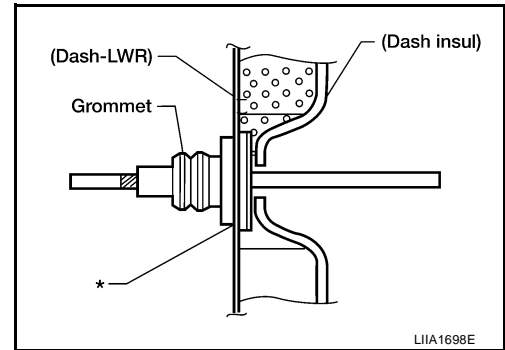
### CAUTION:

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

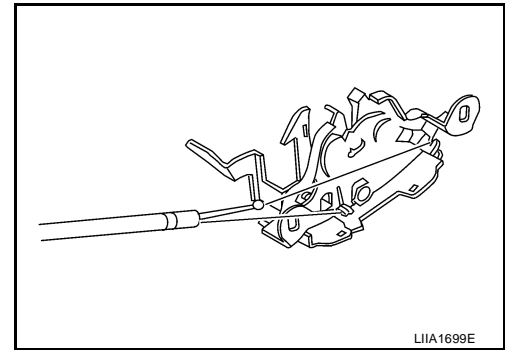
# HOOD

## INSTALLATION

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



4. Install the cable securely to the lock.
5. Adjust the hood lock. Refer to [BL-13, "HOOD LOCK ADJUSTMENT"](#).

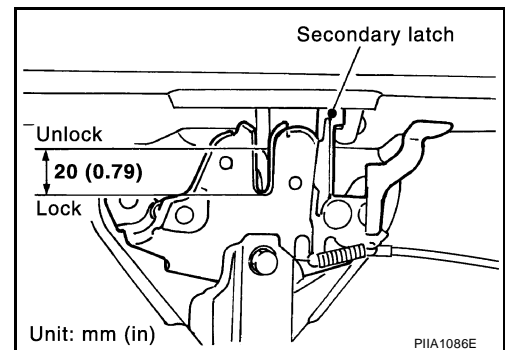


## Hood Lock Control Inspection

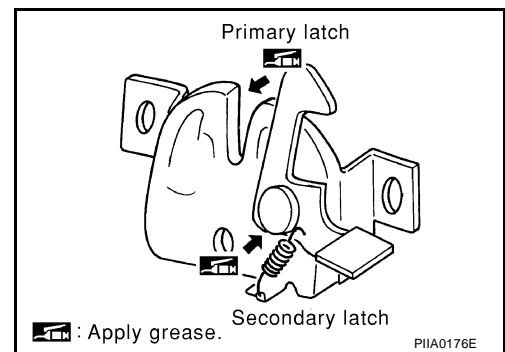
### CAUTION:

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.



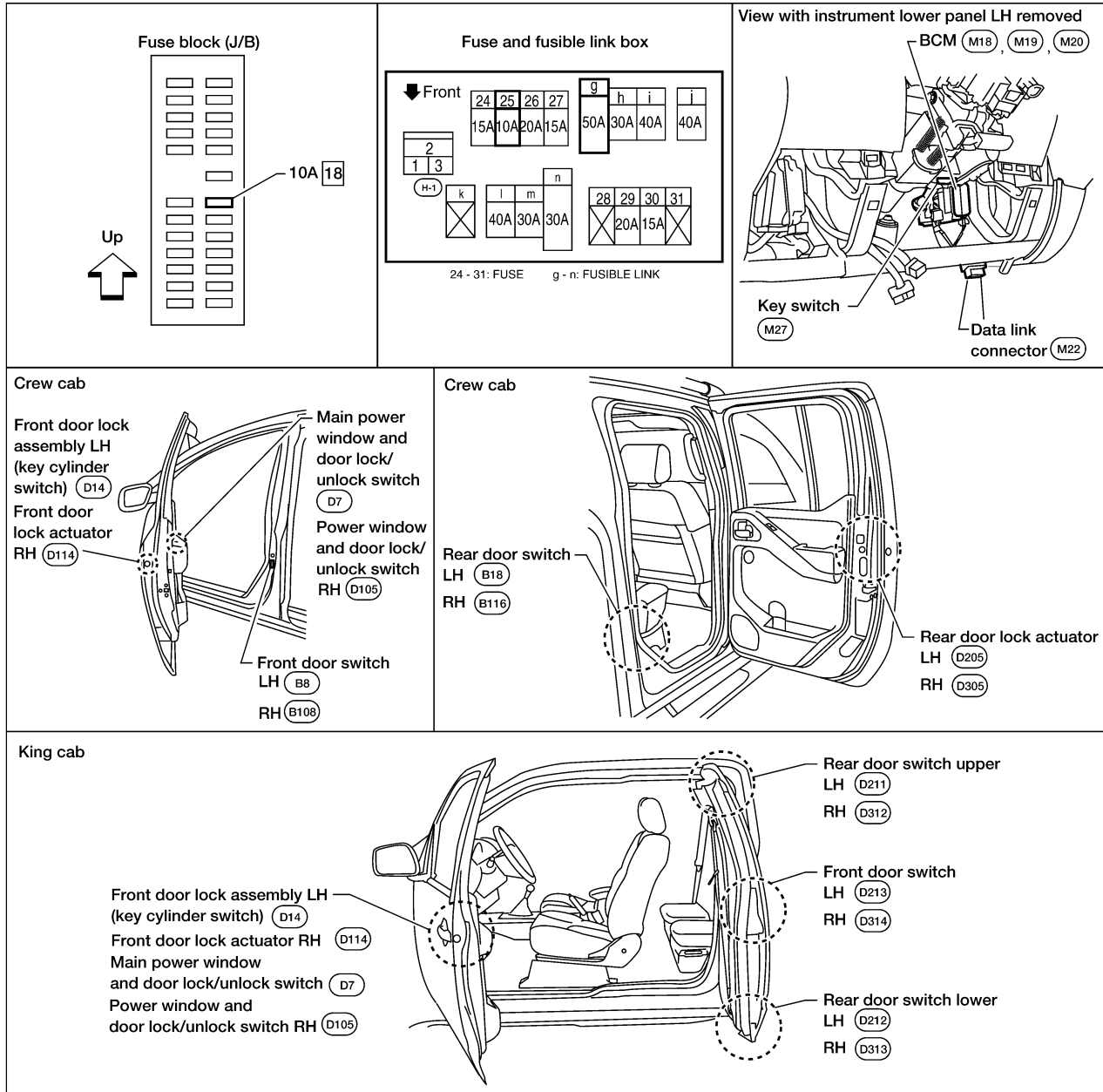
# POWER DOOR LOCK SYSTEM

## POWER DOOR LOCK SYSTEM

PF P:24814

### Component Parts and Harness Connector Location

EIS005TX



W11A0711E

# POWER DOOR LOCK SYSTEM

EIS005TY

## System Description

Power is supplied at all times

- through 50A fusible link (letter **g**, located in the fuse and fusible link box)
- to BCM (body control module) terminal 70 and
- through 10A fuse (No. 25, located in the fuse and fusible link box)
- to key switch terminal 2
- through 10A fuse [No. 18, located in the fuse block (J/B)]
- to BCM terminal 57.

Ground is supplied to terminal 67 of BCM through body grounds M57, M61 and M79.

## INPUT

With the key in the ignition key cylinder, power is supplied

- through key switch terminal 1
- to BCM terminal 37.

With the key inserted in the key cylinder LH and turned to LOCK, ground is supplied

- to BCM terminal 8
- through front door lock assembly LH (key cylinder switch) terminal 5
- through front door lock assembly LH (key cylinder switch) terminal 4
- through body grounds M57, M61 and M79.

With the key inserted in the key cylinder LH and turned to UNLOCK, ground is supplied

- to BCM terminal 7
- through front door lock assembly LH (key cylinder switch) terminal 3
- through front door key cylinder switch LH terminal 4
- through body grounds M57, M61 and M79.

With the main power window and door lock/unlock switch pressed to LOCK, ground is supplied

- to BCM terminal 45
- through main power window and door lock/unlock switch terminal 10
- through main power window and door lock/unlock switch terminal 14
- through body grounds M57, M61 and M79.

With the power window and door lock/unlock switch RH pressed to LOCK, ground is supplied

- to BCM terminal 45
- through power window and door lock/unlock switch RH terminal 1
- through power window and door lock/unlock switch RH terminal 3
- through body grounds M57, M61 and M79.

With the main power window and door lock/unlock switch pressed to UNLOCK, ground is supplied

- to BCM terminal 46
- through main power window and door lock/unlock switch terminal 11
- through main power window and door lock/unlock switch terminal 14
- through body grounds M57, M61 and M79.

With the power window and door lock/unlock switch RH pressed to UNLOCK, ground is supplied

- to BCM terminal 46
- through power window and door lock/unlock switch RH terminal 2
- through power window and door lock/unlock switch RH terminal 3
- through body grounds M57, M61 and M79.

## Crew Cab

With front door LH open, ground is supplied

- to BCM terminal 47
- through front door switch LH terminal 2
- through front door switch LH case ground.

A  
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BL  
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# POWER DOOR LOCK SYSTEM

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With front door RH open, ground is supplied

- to BCM terminal 12
- through front door switch RH terminal 2
- through front door switch RH case ground.

With rear door LH open, ground is supplied

- to BCM terminal 48
- through rear door switch LH terminal 2
- through rear door switch LH case ground.

With rear door RH open, ground is supplied

- to BCM terminal 13
- through rear door switch RH terminal 2
- through rear door switch RH case ground.

## King Cab

When the front door switch LH is ON (door is open), ground is supplied

- to BCM terminal 47
- through front door switch LH terminals 2 and 3
- through grounds B7 and B19.

When the rear door switch upper LH is ON (door is open), ground is supplied

- to BCM terminal 47
- through rear door switch upper LH terminals 1 and 2
- through grounds B7 and B19.

When the rear door switch lower LH is ON (door is open), ground is supplied

- to BCM terminal 47
- through rear door switch lower LH terminals 1 and 2
- through grounds B7 and B19.

When the front door switch RH is ON (door is open), ground is supplied

- to BCM terminal 12
- through front door switch RH terminals 2 and 3
- through grounds B117 and B132.

When the rear door switch upper RH is ON (door is open), ground is supplied

- to BCM terminal 12
- through rear door switch upper RH terminals 1 and 2
- through grounds B117 and B132.

When the rear door switch lower RH is ON (door is open), ground is supplied

- to BCM terminal 12
- through rear door switch lower RH terminals 1 and 2
- through grounds B117 and B132.

## OUTPUT

### Unlock

Ground is supplied

- to front door lock assembly LH (actuator) terminal 1, front door lock actuator RH terminal 2 and rear door lock actuator LH and RH terminal 2 (Crew cab)
- through BCM terminal 65.

### FRONT DOOR LH

Power is supplied

- to front door lock assembly LH (actuator) terminal 2
- through BCM terminal 59.

### FRONT DOOR RH

Power is supplied

# POWER DOOR LOCK SYSTEM

- to front door lock actuator RH terminal 1
- through BCM terminal 66.

## REAR DOOR LH AND RH (CREW CAB)

Power is supplied

- to rear door lock actuator LH and RH terminal 1
- through BCM terminal 66.

With power and ground applied as described, the doors are unlocked.

## Lock

Ground is supplied

- to front door lock assembly LH (actuator) terminal 2
- through BCM terminal 59 and
- to front door lock actuator RH terminal 1 and rear door lock actuator LH and RH terminal 1 (Crew cab)
- through BCM terminal 66.

Power is supplied

- to front door lock assembly LH (actuator) terminal 1
- front door lock actuator RH terminal 2
- rear door lock actuator LH and RH terminal 2 (Crew cab)
- through BCM terminal 65.

With power and ground applied as described, the doors are locked.

## OPERATION

- The main power window and door lock/unlock switch on front door LH trim and door lock/unlock switch RH on front door RH trim can lock and unlock all doors.
- With the key inserted in the front door key cylinder LH, turning it to LOCK locks all doors; turning it to UNLOCK once unlocks the front door LH; turning it to UNLOCK again within 5 seconds of the first unlock operation unlocks all other doors [signal from door key cylinder switch (part of front door lock assembly LH)].

## Key Reminder

When performing a door locking operation using either the main power window and door lock/unlock switch or the power window and door lock/unlock switch RH, all the doors will lock and then will immediately unlock if

- the key switch is in INSERTED position (key is in ignition key cylinder) and
- the ignition switch is in the OFF position and
- any door is open.

A

B

C

D

E

F

G

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BL

J

K

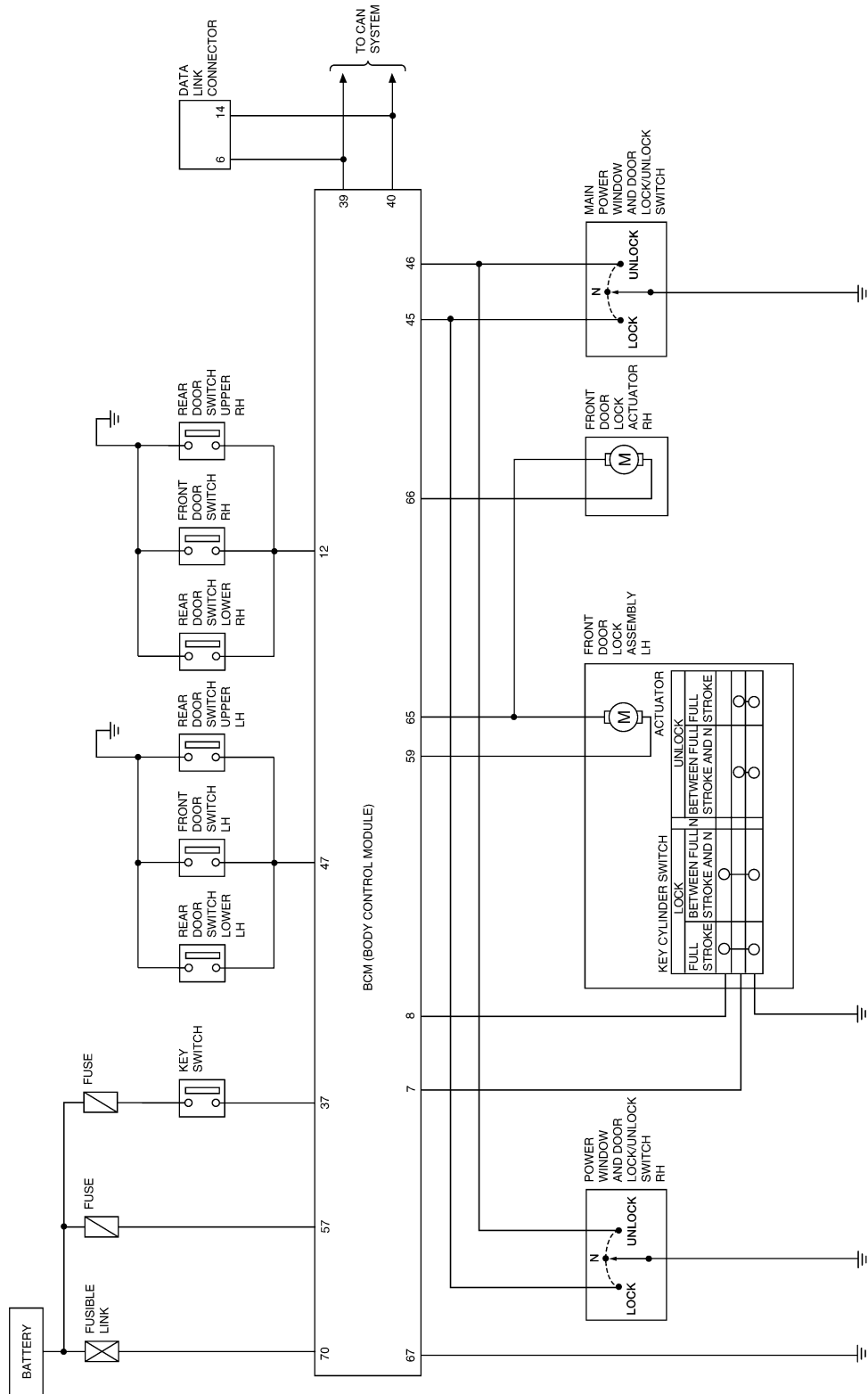
L

M

# POWER DOOR LOCK SYSTEM

## Schematic (King Cab)

EIS005TZ



WIWA0913E

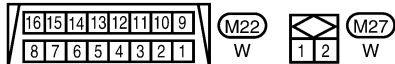
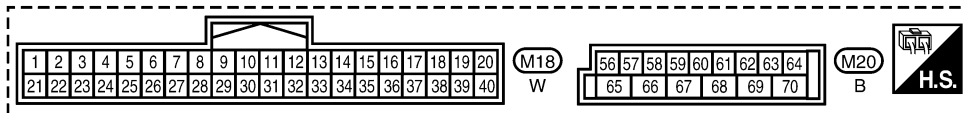
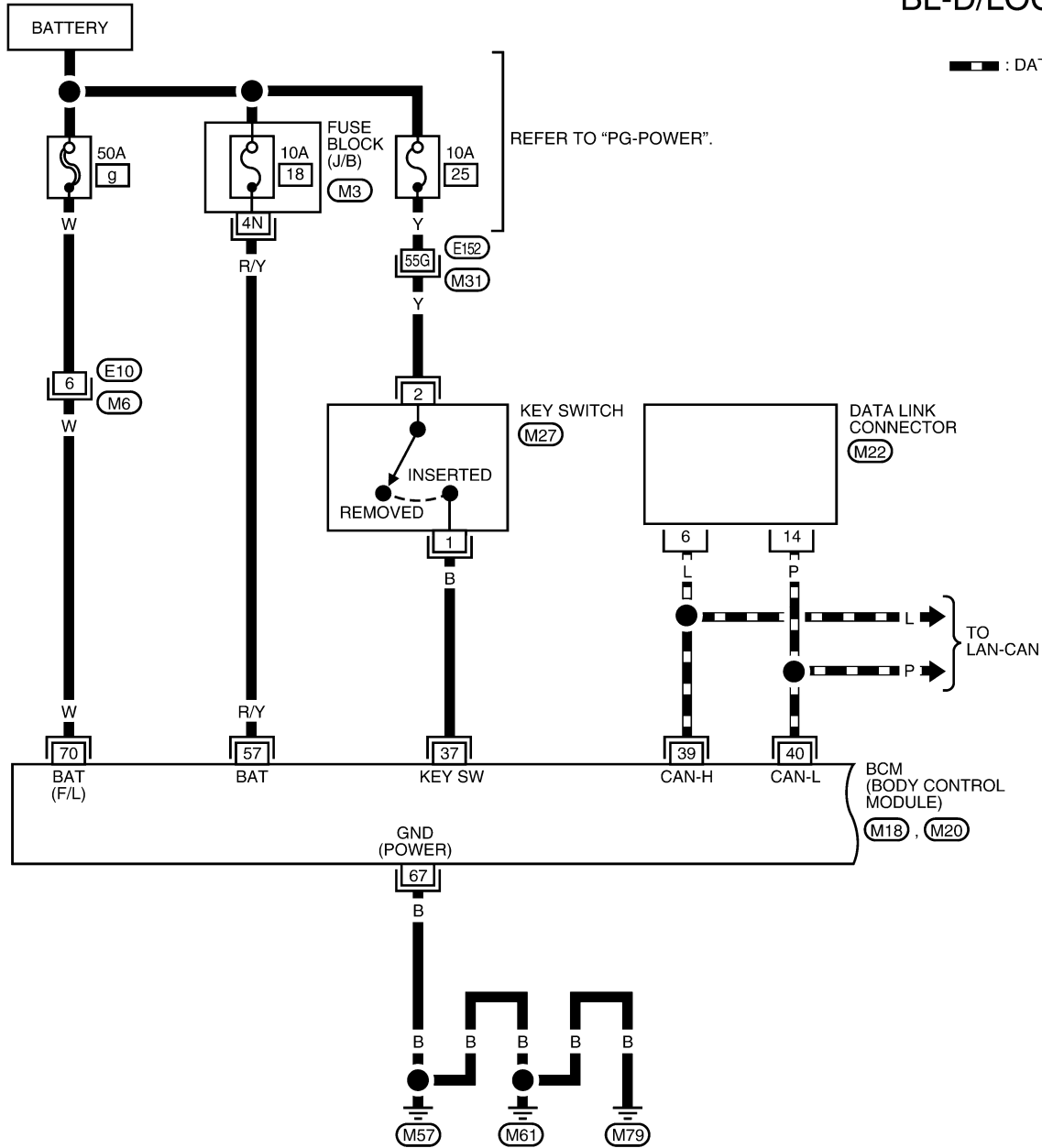


# POWER DOOR LOCK SYSTEM

## Wiring Diagram — D/LOCK — (King Cab)

EIS005U0

BL-D/LOCK-01



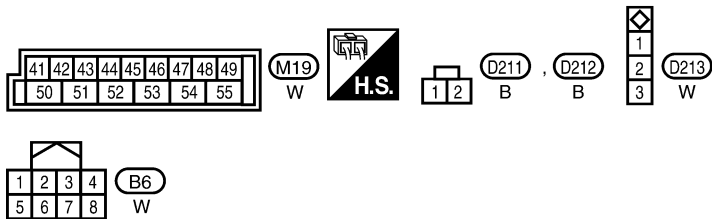
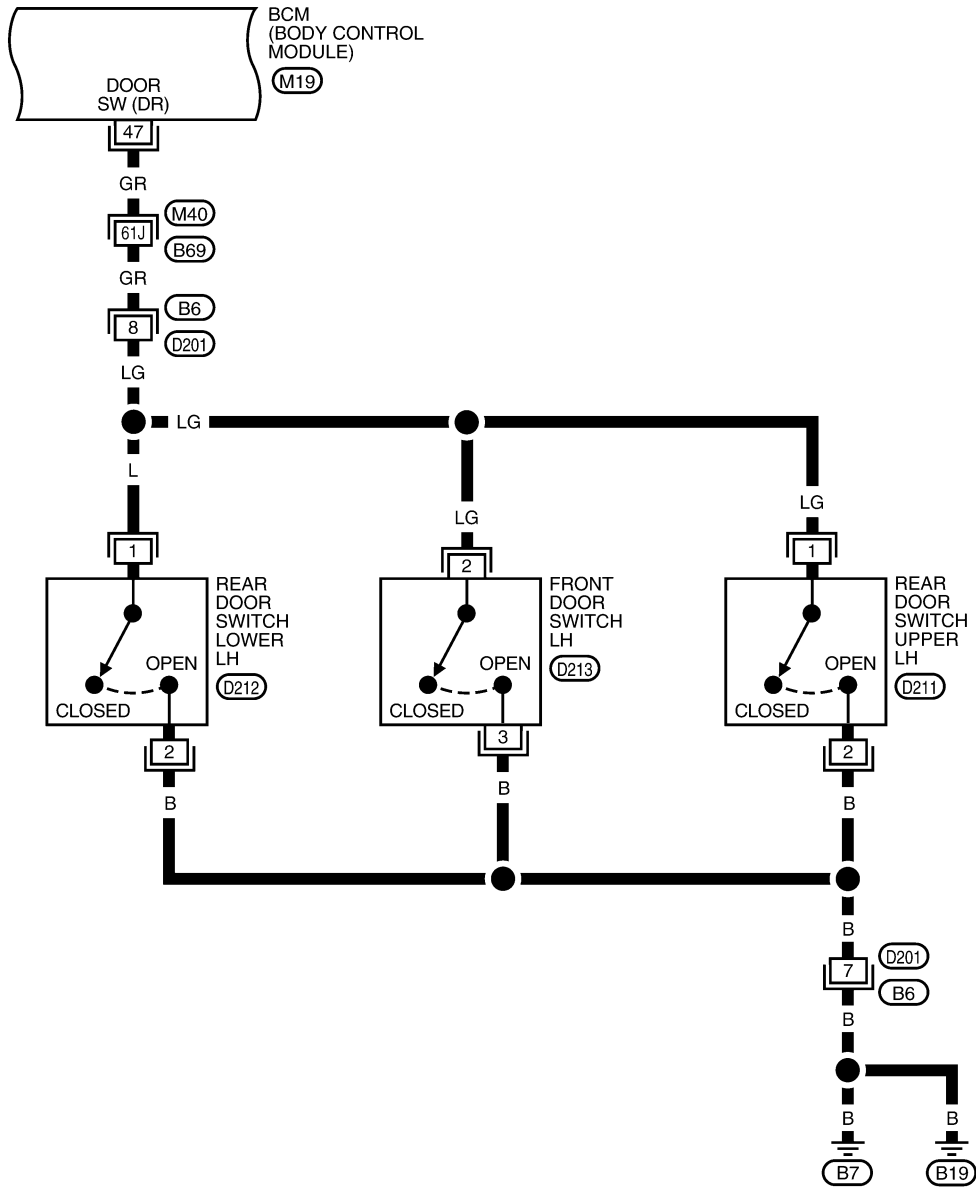
REFER TO THE FOLLOWING.

(M31) - SUPER MULTIPLE JUNCTION (SMJ)

WIWA0643E

# POWER DOOR LOCK SYSTEM

BL-D/LOCK-02



REFER TO THE FOLLOWING.

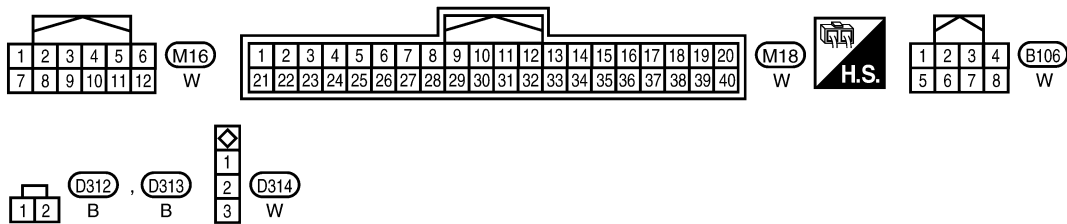
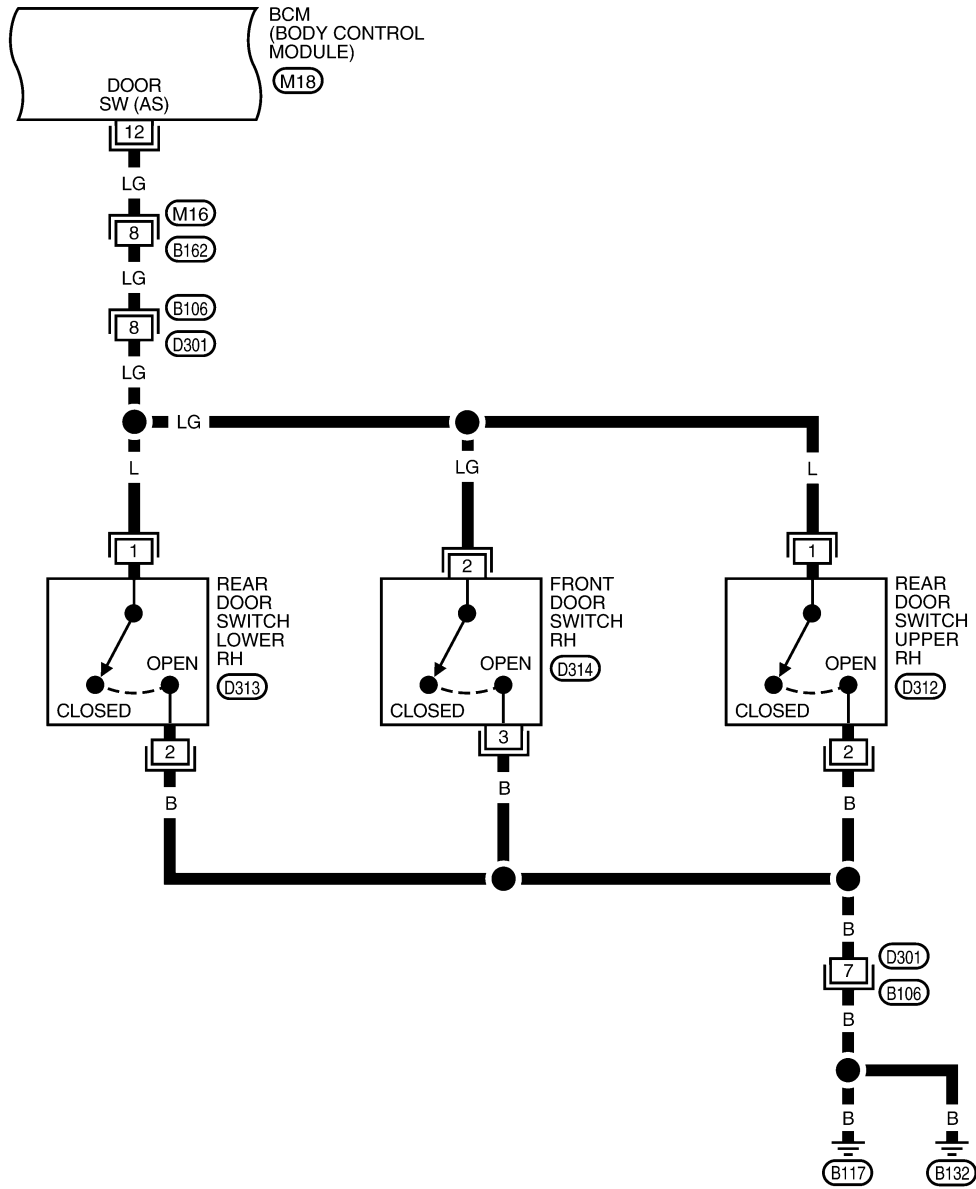
(M40) - SUPER MULTIPLE JUNCTION (SMJ)

WIWA0644E

# POWER DOOR LOCK SYSTEM

BL-D/LOCK-03

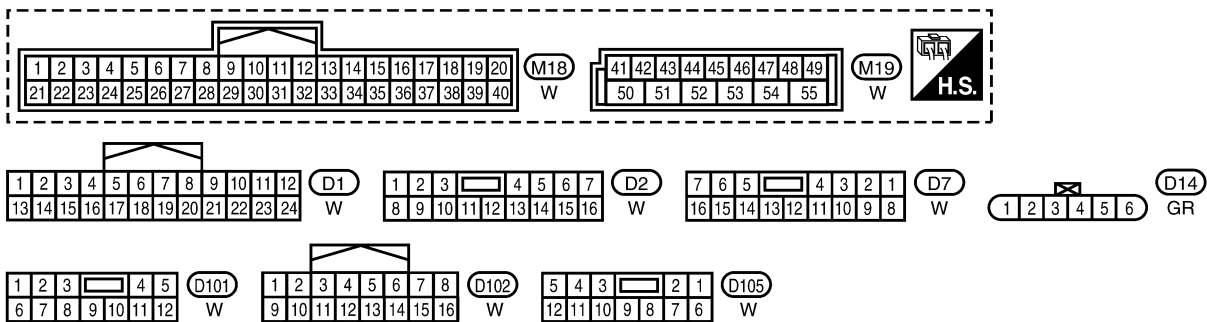
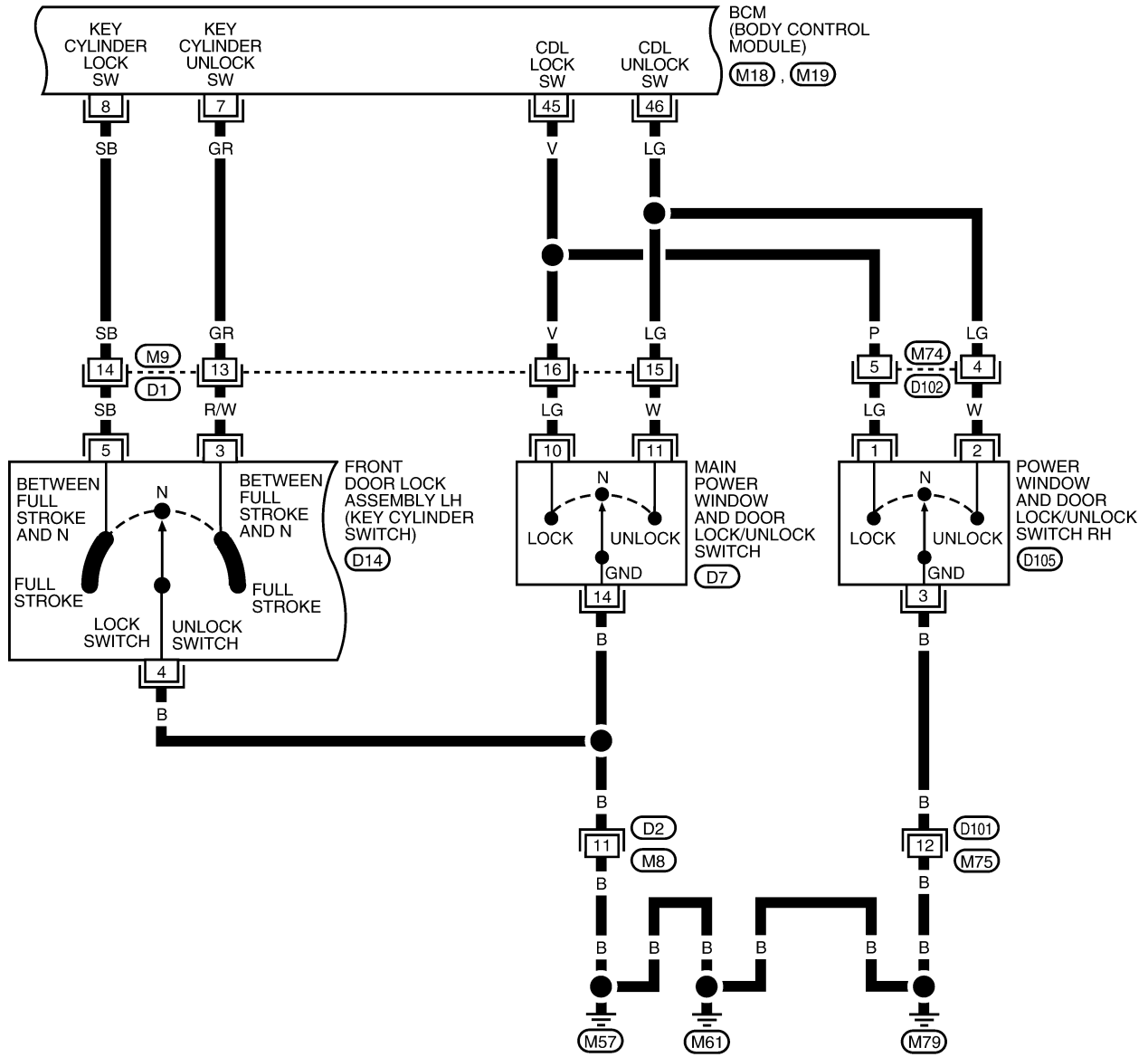
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WIWA0645E

# POWER DOOR LOCK SYSTEM

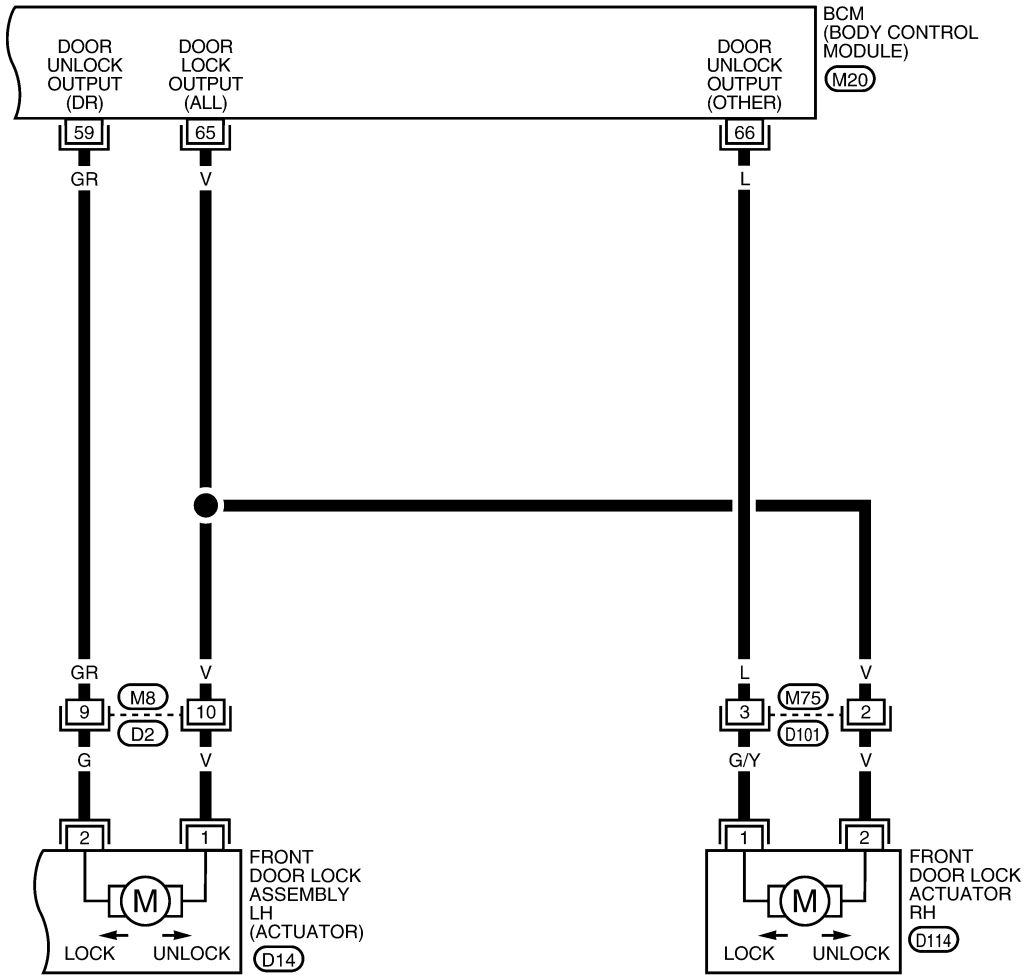
BL-D/LOCK-04



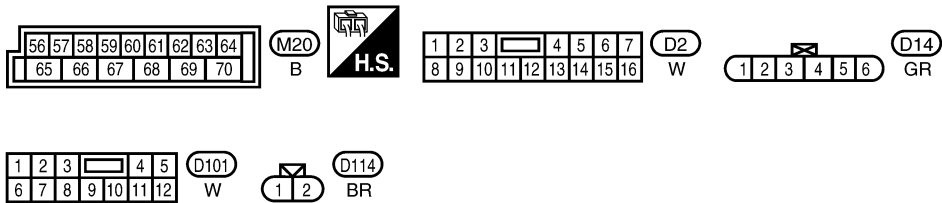
WIWA0914E

# POWER DOOR LOCK SYSTEM

BL-D/LOCK-05



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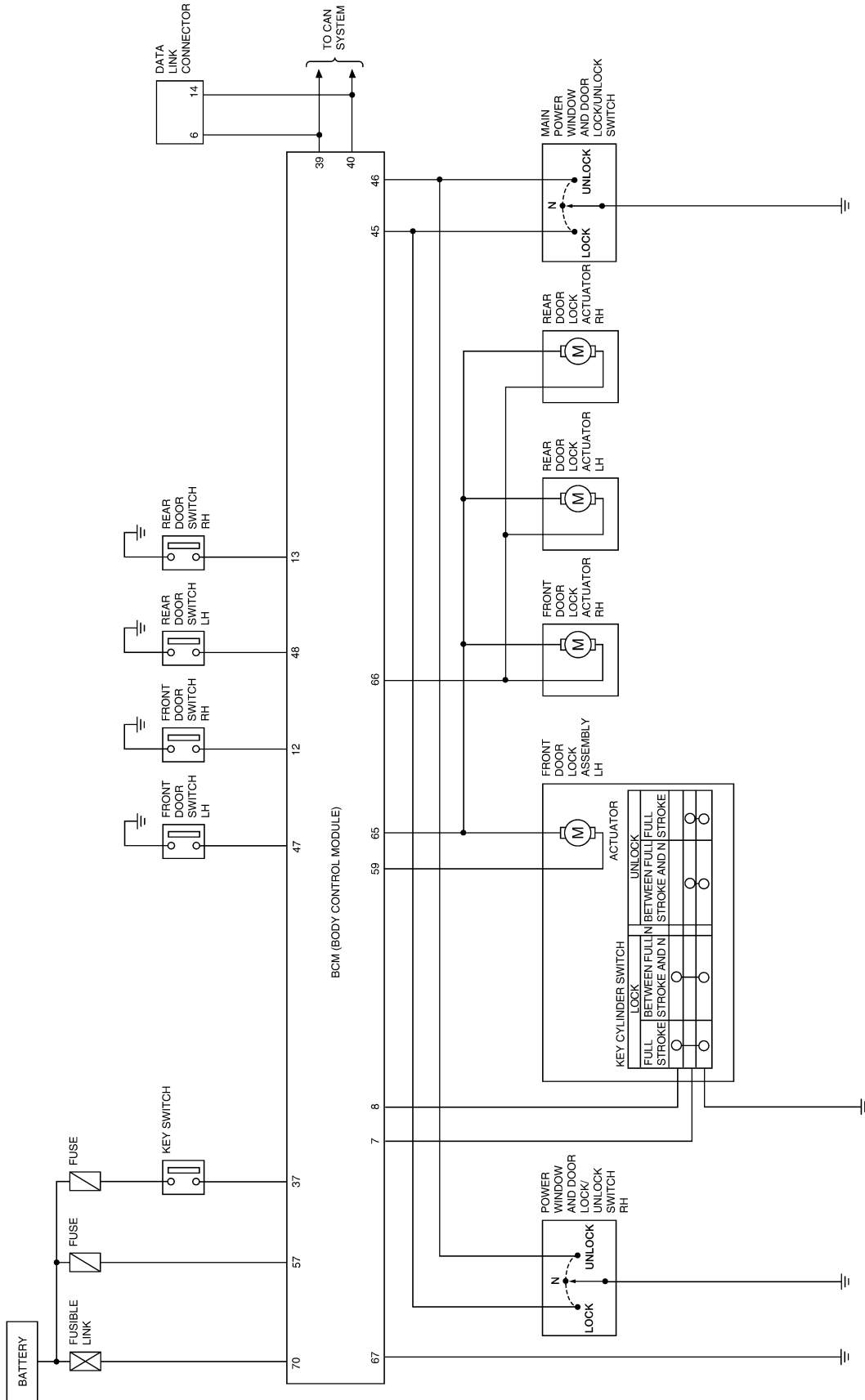


WIWA0647E

# POWER DOOR LOCK SYSTEM

## Schematic (Crew Cab)

EIS005WU

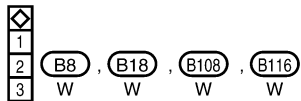
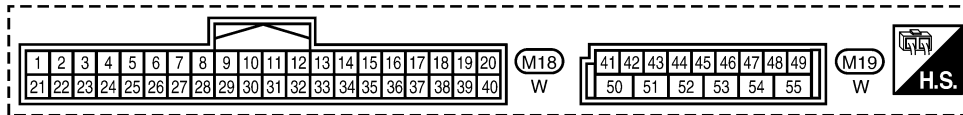
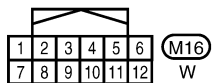
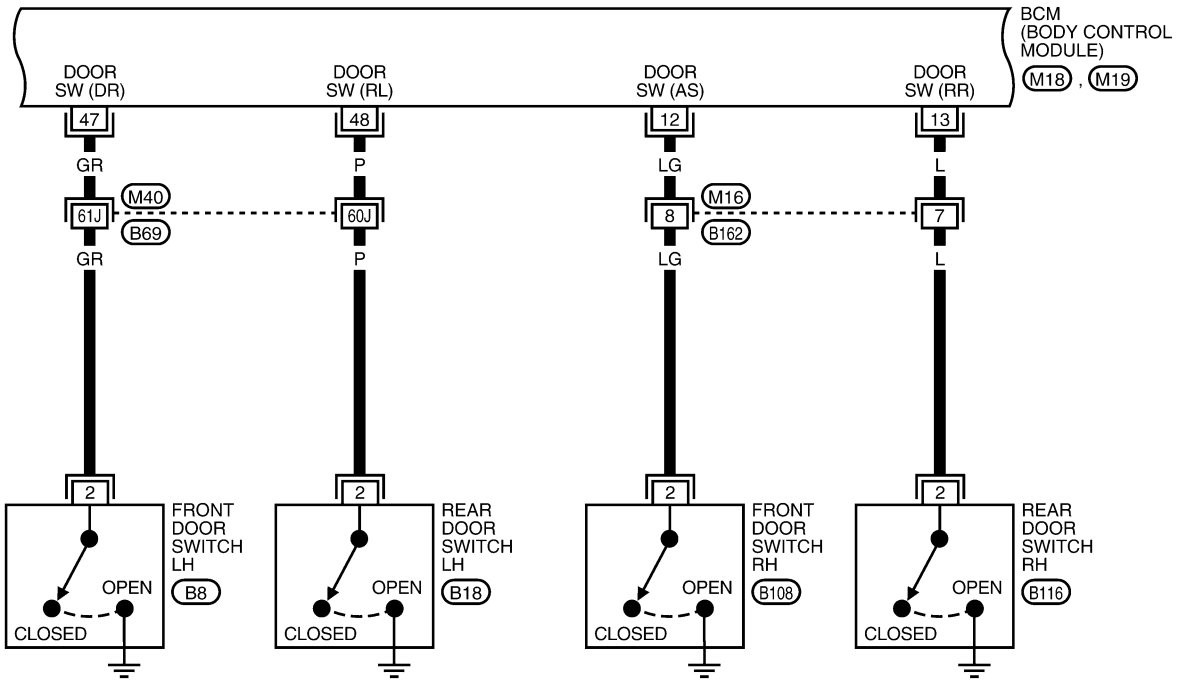


WIWA0915E



# POWER DOOR LOCK SYSTEM

BL-D/LOCK-07



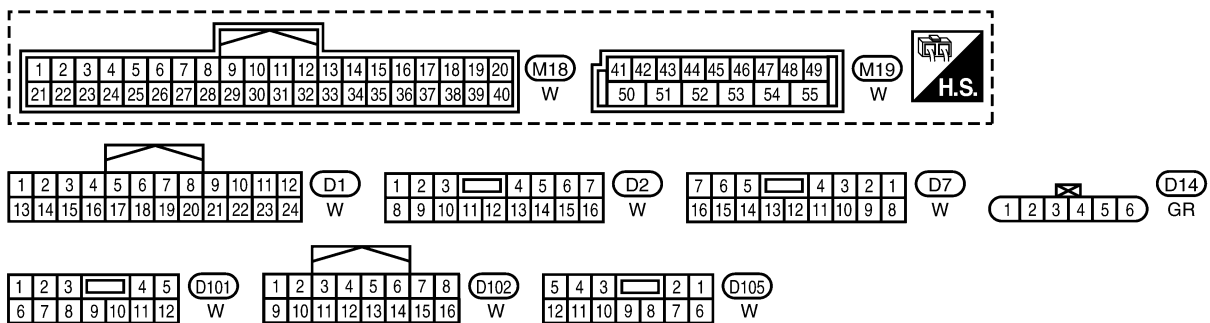
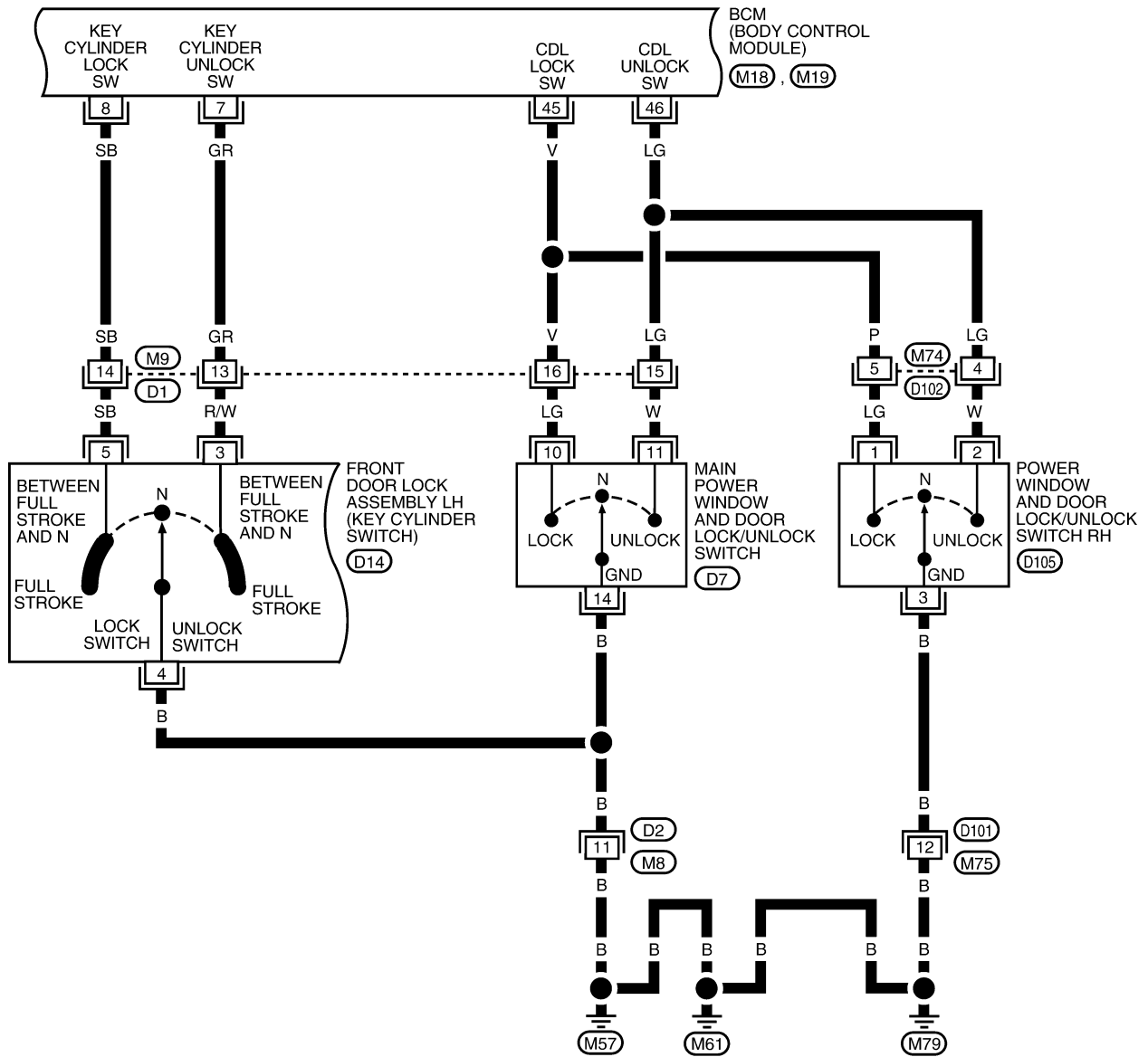
REFER TO THE FOLLOWING.  
 M40 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA0650E



# POWER DOOR LOCK SYSTEM

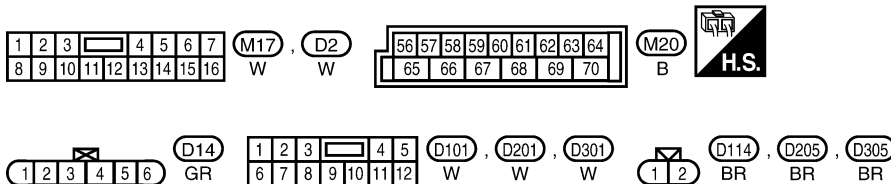
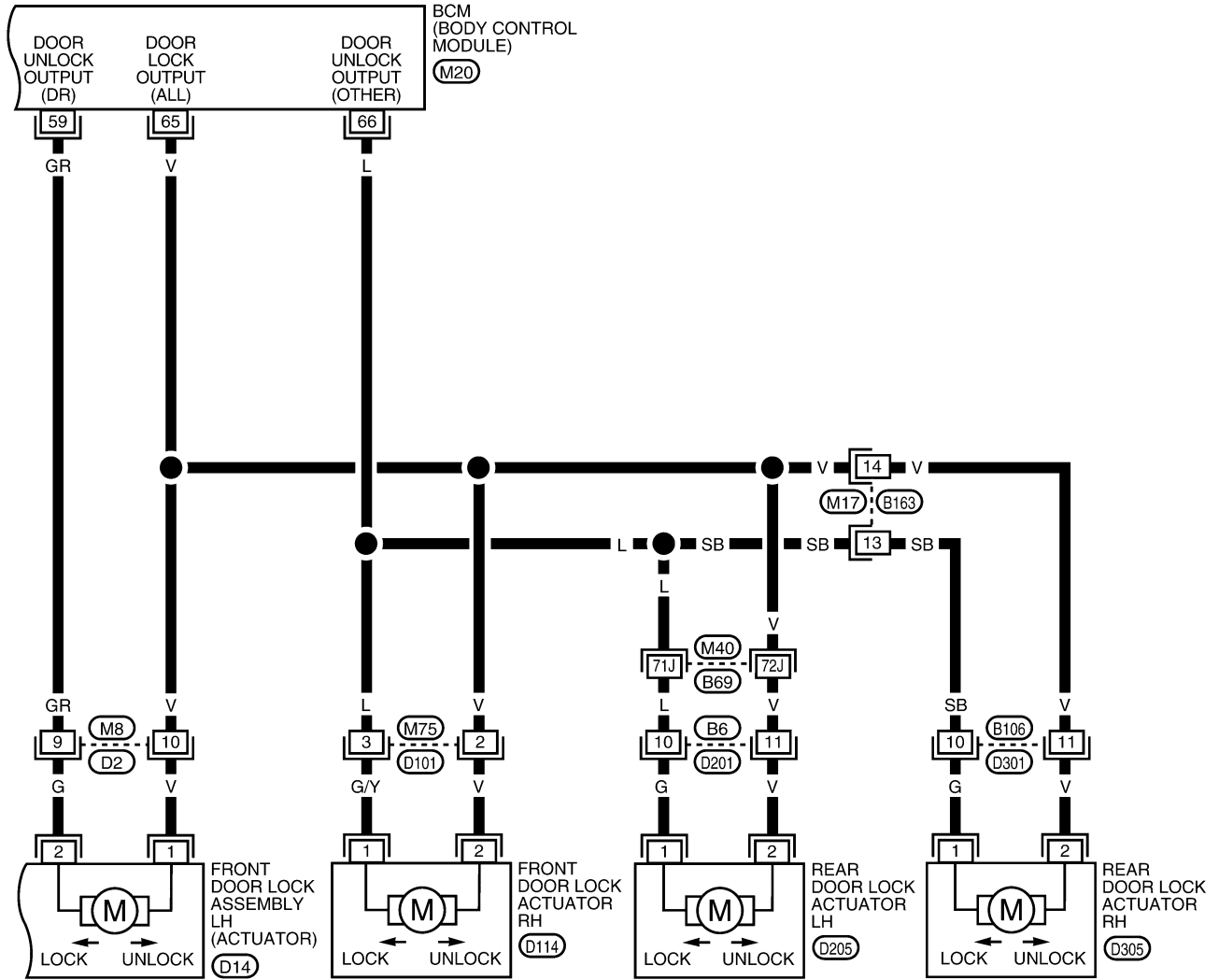
BL-D/LOCK-08



WIWA0917E

# POWER DOOR LOCK SYSTEM

BL-D/LOCK-09



REFER TO THE FOLLOWING.  
 (M40) - SUPER MULTIPLE JUNCTION (SMJ)

WIWA0921E

# POWER DOOR LOCK SYSTEM

## Terminals and Reference Value for BCM

EIS005WP

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
7	GR	Front door lock assembly LH (key cylinder switch) (unlock)	OFF (neutral) → ON (unlocked)	5 → 0
8	SB	Front door lock assembly LH (key cylinder switch) (lock)	OFF (neutral) → ON (locked)	5 → 0
12	LG	Front door switch RH (All)	Door open (ON) → Door close (OFF)	0 → Battery voltage
		Rear door switch lower RH (King Cab)		
		Rear door switch upper RH (King Cab)		
13	L	Rear door switch RH (Crew cab)	Door close (OFF) → Door open (ON)	Battery voltage → 0
37	B	Key switch (insert)	Key inserted in IGN key cylinder (ON) → Key removed from IGN key cylinder (OFF)	Battery voltage → 0
39	L	CAN-H	—	—
40	P	CAN-L	—	—
45	V	Lock switch signal	Door lock and unlock switch (neutral) → Door lock and unlock switch (locked)	Battery voltage → 0
46	LG	Unlock switch signal	Door lock and unlock switch (neutral) → Door lock and unlock switch (unlocked)	Battery voltage → 0
47	GR	Front door switch LH (All)	Door open (ON) → Door close (OFF)	0 → Battery voltage
		Rear door switch lower LH (King Cab)		
		Rear door switch upper LH (King Cab)		
48	P	Rear door switch LH (Crew cab)	Door close (OFF) → Door open (ON)	Battery voltage → 0
57	R/Y	Power source (BAT)	—	Battery voltage
59	GR	Front door lock assembly LH (unlock)	Door lock and unlock switch (neutral → unlocked)	0 → Battery voltage
65	V	All door lock actuators (lock)	Door lock and unlock switch (neutral → lock)	0 → Battery voltage
66	L	Front door lock actuator RH and rear door lock actuators LH/RH (unlock)	Door lock and unlock switch (neutral → unlocked)	0 → Battery voltage
67	B	Ground	—	0
70	W	Power source (BAT)	—	Battery voltage

## Work Flow

EIS005U2

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to [BL-17, "System Description"](#) .
3. According to the trouble diagnosis chart, repair or replace the cause of the malfunction. Refer to [BL-34, "Trouble Diagnoses Symptom Chart"](#) .
4. Does power door lock system operate normally? OK: GO TO 5, NG: GO TO 3.
5. Inspection End.

# POWER DOOR LOCK SYSTEM

EIS005U3

## CONSULT-II Function (BCM)

CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

BCM diagnostic test item	Diagnostic mode	Description
Inspection by part	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
	DATA MONITOR	Displays BCM input/output data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
	SELF-DIAG RESULTS	Displays BCM self-diagnosis results.
	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
	ECU PART NUMBER	BCM part number can be read.
	CONFIGURATION	Performs BCM configuration read/write functions.

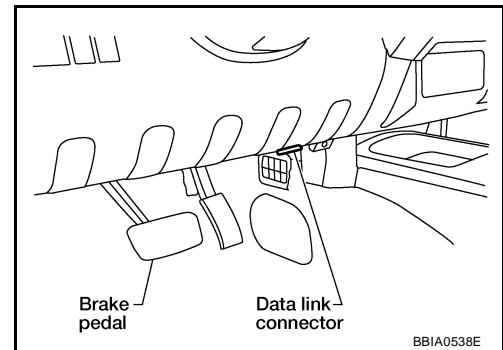
## CONSULT-II INSPECTION PROCEDURE

### "DOOR LOCK"

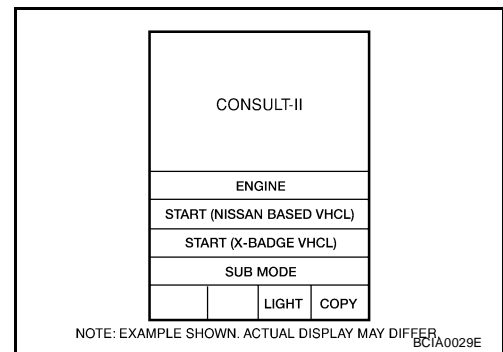
#### CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carries out CAN communication.

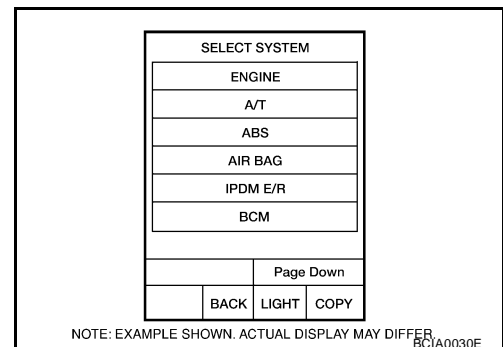
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.



3. Turn ignition switch ON.
4. Touch "START (NISSAN BASED VHCL)".

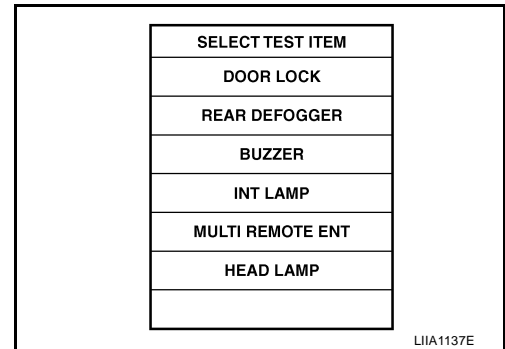


5. Touch "BCM".  
If "BCM" is not indicated, refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).

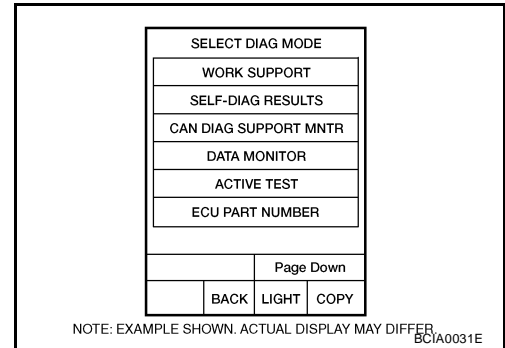


# POWER DOOR LOCK SYSTEM

6. Touch "DOOR LOCK".



7. Select diagnosis mode. "WORK SUPPORT", "DATA MONITOR" and "ACTIVE TEST" are available.



## WORK SUPPORT

Work item	Content
DOOR LOCK-UNLOCK SET	Select unlock mode can be changed in this mode. Selects ON-OFF of select unlock mode.
ANTI-LOCK OUT SET	Key reminder door mode can be changed in this mode. Selects ON-OFF of key reminder door mode.

## DATA MONITOR

Monitor item "OPERATION"	Content
KEY ON SW	"ON/OFF" Indicates [ON/OFF] condition of key switch.
CDL LOCK SW	"ON/OFF" Indicates [ON/OFF] condition of lock signal from lock/unlock switch LH and RH.
CDL UNLOCK SW	"ON/OFF" Indicates [ON/OFF] condition of unlock signal from lock/unlock switch LH and RH.
KEY CYL LK-SW	"ON/OFF" Indicates [ON/OFF] condition of lock signal from key cylinder.
KEY CYL UN-SW	"ON/OFF" Indicates [ON/OFF] condition of unlock signal from key cylinder.
IGN ON SW	"ON/OFF" Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	"ON/OFF" Indicates [ON/OFF] condition of front door switch (all) and rear door switch upper and lower (King cab) LH.
DOOR SW-AS	"ON/OFF" Indicates [ON/OFF] condition of front door switch (all) and rear door switch upper and lower (King cab) RH.
DOOR SW-RR	"ON/OFF" Indicates [ON/OFF] condition of rear door switch RH (Crew cab).
DOOR SW-RL	"ON/OFF" Indicates [ON/OFF] condition of rear door switch LH (Crew cab).

## ACTIVE TEST

Test item	Content
DOOR LOCK	ALL LOCK/UNLOCK This test is able to check all door lock actuators lock operation. These actuators lock when "ON" on CONSULT-II screen is touched.
	DR UNLOCK This test is able to check front door lock assembly LH unlock operation. These actuators lock when "ON" on CONSULT-II screen is touched.
	OTHER UNLOCK This test is able to check door lock actuators (except front door lock assembly LH) unlock operation. These actuators unlock when "ON" on CONSULT-II screen is touched.

# POWER DOOR LOCK SYSTEM

## Trouble Diagnoses Symptom Chart

EIS005U4

Symptom	Repair order	Refer to page
Key reminder door function does not operate properly.	1. Door switch check	<a href="#">BL-35</a> (King cab) or <a href="#">BL-37</a> (Crew cab)
	2. Key switch (Insert) check	<a href="#">BL-39</a>
	3. Replace BCM.	<a href="#">BCS-19</a>
Power door lock does not operate with door lock and unlock switch on main power window and door lock/unlock switch or power window and door lock/unlock switch RH.	1. Door lock/unlock switch check	<a href="#">BL-40</a>
	2. Replace BCM.	<a href="#">BCS-19</a>
Front door lock assembly LH does not operate.	1. Front door lock assembly LH (actuator) check	<a href="#">BL-43</a>
Specific door lock actuator does not operate.	1. Front door lock assembly RH (actuator) check	<a href="#">BL-44</a>
	2. Rear door lock actuator LH/RH check	<a href="#">BL-45</a>
Power door lock does not operate with front door key cylinder LH operation.	1. Front door lock assembly LH (key cylinder switch) check	<a href="#">BL-46</a>
	2. Replace BCM.	<a href="#">BCS-19</a>
Power door lock does not operate.	1. BCM power supply and ground circuit check	<a href="#">BL-34</a>
	2. Door lock/unlock switch check	<a href="#">BL-40</a>

## BCM Power Supply and Ground Circuit Check

EIS005U5

### 1. CHECK FUSE

Check the following BCM fuse and fusible link.

Component Parts	Terminal No. (SIGNAL)	Ampere	No.	Location
BCM	57 (BAT power supply)	10A	18	Fuse block (J/B)
	70 (BAT power supply)	50A	g	Fuse and fusible link box

#### NOTE:

Refer to [BL-16](#), "Component Parts and Harness Connector Location".

#### OK or NG

OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of problem before installing new fuse, refer to [PG-4](#), "POWER SUPPLY ROUTING CIRCUIT".

### 2. CHECK POWER SUPPLY CIRCUIT

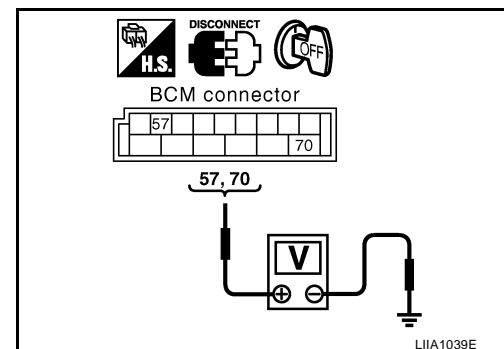
- Turn ignition switch OFF.
- Disconnect BCM.
- Check voltage between BCM connector M20 terminals 57, 70 and ground.

Connector	Terminals		Voltage (V) (Approx.)
	(+)	(-)	
M20	57	Ground	Battery voltage
	70		

#### OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.



# POWER DOOR LOCK SYSTEM

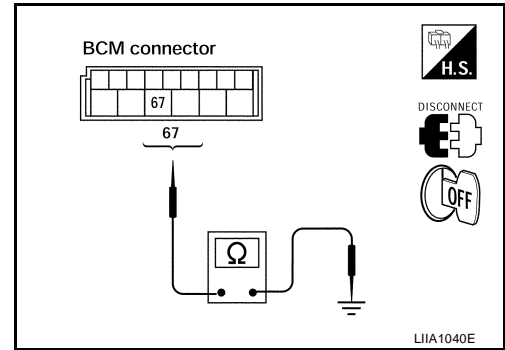
## 3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 terminal 67 and ground.

**67 - Ground : Continuity should exist.**

OK or NG

- OK >> Power supply and ground circuit is OK.
- NG >> Repair or replace harness.



## Door Switch Check (King Cab)

### 1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS") in DATA MONITOR mode with CONSULT-II. Refer to [BL-33, "DATA MONITOR"](#).

- When any doors are open:

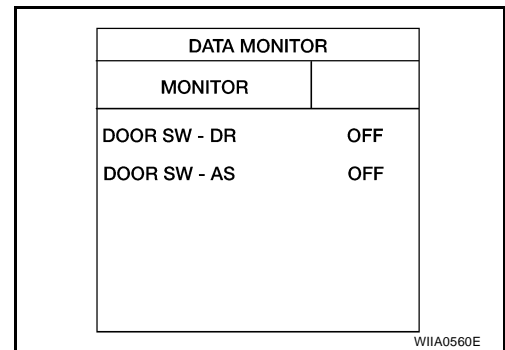
**DOOR SW-DR :ON**

**DOOR SW-AS :ON**

- When any doors are closed:

**DOOR SW-DR :OFF**

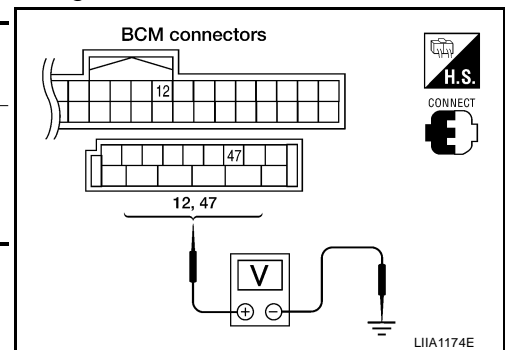
**DOOR SW-AS :OFF**



Without CONSULT-II

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 ↓ Closed	0 ↓ Battery voltage
M18	Door switches RH	12			



OK or NG

- OK >> Door switch circuit is OK.
- NG >> GO TO 2.

# POWER DOOR LOCK SYSTEM

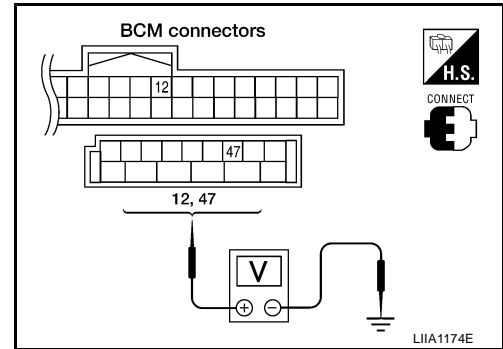
## 2. CHECK BCM OUTPUT VOLTAGE

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

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

### OK or NG

- OK >> GO TO 3.  
NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#).



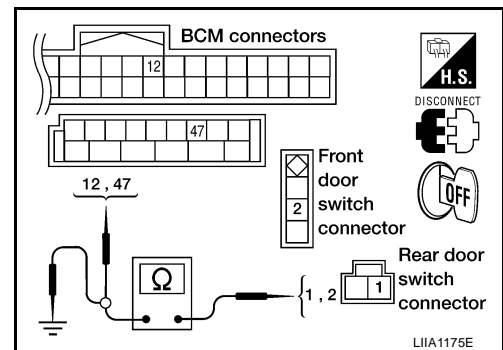
## 3. CHECK DOOR SWITCH CIRCUIT

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

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

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

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



### OK or NG

- OK >> GO TO 4.  
NG >> Repair or replace harness.

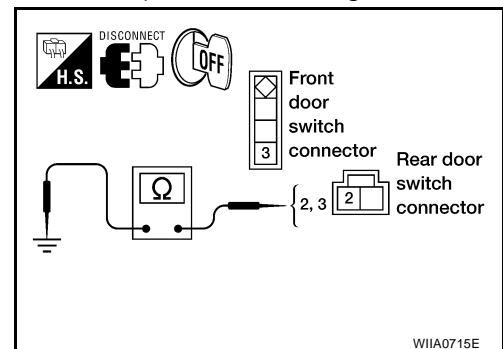
## 4. CHECK DOOR SWITCHES GROUND CIRCUIT

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

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

### OK or NG

- OK >> GO TO 5.  
NG >> Repair or replace harness.





# POWER DOOR LOCK SYSTEM

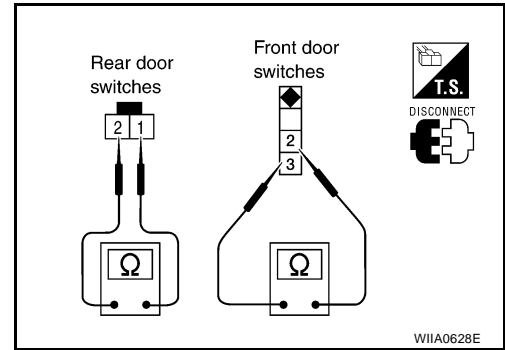
## 5. CHECK DOOR SWITCHES

Check continuity between door switch terminals.

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

OK or NG

- OK >> Check condition of harness and connector.
- NG >> Replace door switch.



EIS005U6

### Door Switch Check (Crew Cab)

#### 1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

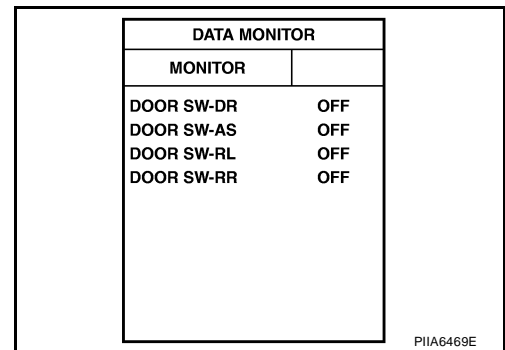
Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR") in DATA MONITOR mode with CONSULT-II. Refer to [BL-33, "DATA MONITOR"](#).

- When any doors are open:

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

- When any doors are closed:

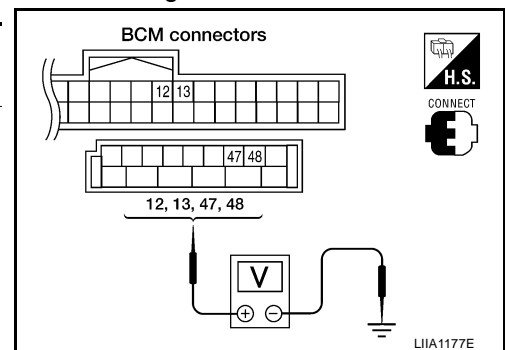
**DOOR SW-DR : OFF**  
**DOOR SW-AS : OFF**  
**DOOR SW-RL : OFF**  
**DOOR SW-RR : OFF**



Without CONSULT-II

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			



OK or NG

- OK >> Door switch circuit is OK.
- NG >> GO TO 2.

# POWER DOOR LOCK SYSTEM

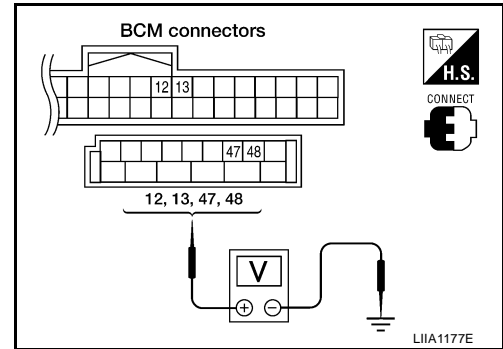
## 2. CHECK BCM OUTPUT VOLTAGE

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

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

OK or NG

- OK >> GO TO 3.  
 NG >> Replace BCM. Refer to [BCS-19. "Removal and Installation of BCM"](#).



## 3. CHECK DOOR SWITCH CIRCUIT

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

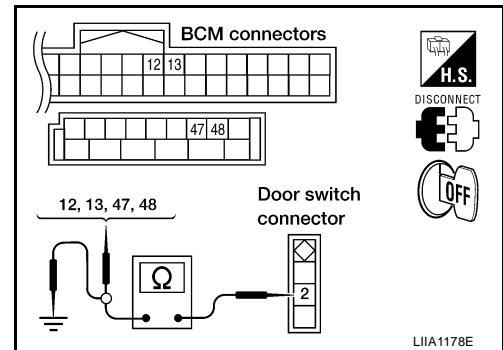
**2 - 47 : Continuity should exist.**  
**2 - 12 : Continuity should exist.**  
**2 - 48 : Continuity should exist.**  
**2 - 13 : Continuity should exist.**

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

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

OK or NG

- OK >> GO TO 4.  
 NG >> Repair or replace harness.



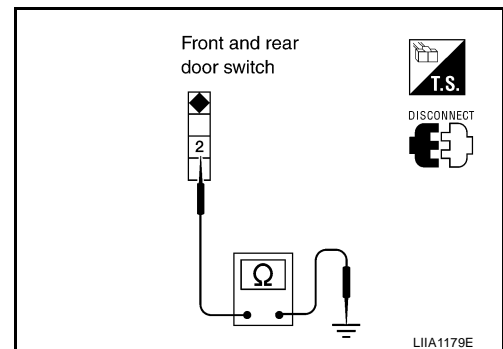
## 4. CHECK DOOR SWITCHES

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

	Terminal	Condition	Continuity
Door switch (front and rear)	2 - Ground	Open	Yes
		Closed	No

OK or NG

- OK >> Check switch case ground condition (front and rear door).  
 NG >> Replace door switch.



# POWER DOOR LOCK SYSTEM

EIS005U7

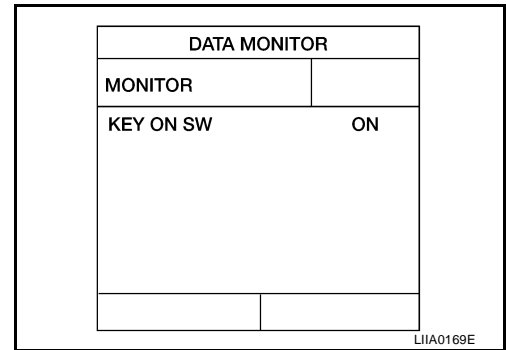
## Key Switch (Insert) Check

### 1. CHECK KEY SWITCH INPUT SIGNAL

 With CONSULT-II

Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT-II. Refer to [BL-33, "DATA MONITOR"](#).

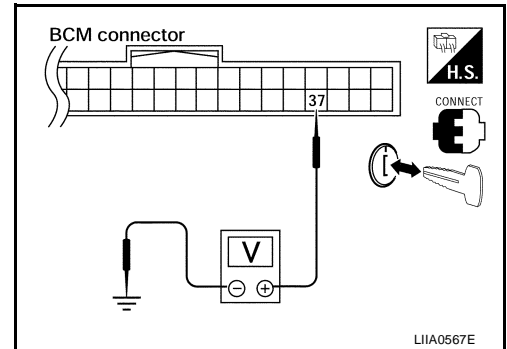
- When key is inserted to ignition key cylinder:  
**KEY ON SW : ON**
- When key is removed from ignition key cylinder:  
**KEY ON SW : OFF**



 Without CONSULT-II

Check voltage between BCM connector M18 terminal 37 and ground.

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



OK or NG

- OK >> Key switch circuit is OK.
- NG >> GO TO 2.

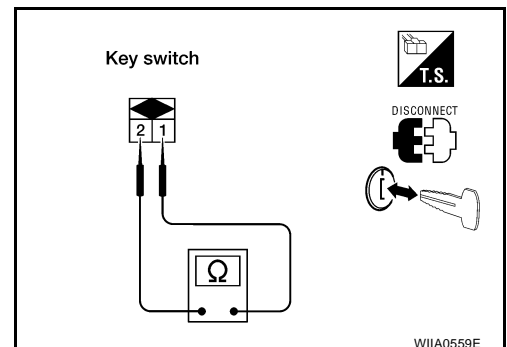
### 2. CHECK KEY SWITCH (INSERT)

- Turn ignition switch OFF.
- Disconnect key switch connector.
- Check continuity between key switch terminals.

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

OK or NG

- OK >> Repair or replace harness or fuse.
- NG >> Replace key switch.



# POWER DOOR LOCK SYSTEM

EIS005U8

## Door Lock/Unlock Switch Check

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

 With CONSULT-II

Check door lock/unlock switch ("CDL LOCK SW", "CDL UNLOCK SW") in DATA MONITOR mode in CONSULT-II. Refer to [BL-33, "DATA MONITOR"](#).

- 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**

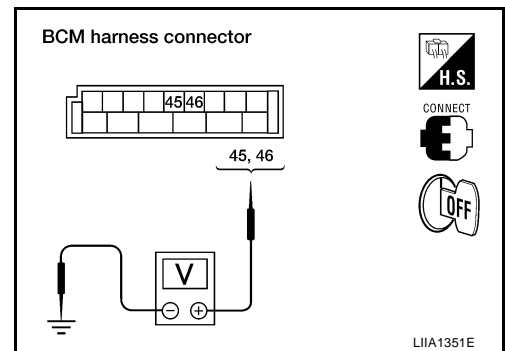
DATA MONITOR	
MONITOR	
CDL LOCK SW	OFF
CDL UNLOCK SW	OFF

PIA6538E

 Without CONSULT-II

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

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



#### OK or NG

- OK >> Door lock/unlock switch circuit is OK.
- NG >> GO TO 2.

# POWER DOOR LOCK SYSTEM

## 2. CHECK DOOR LOCK/UNLOCK SWITCH

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

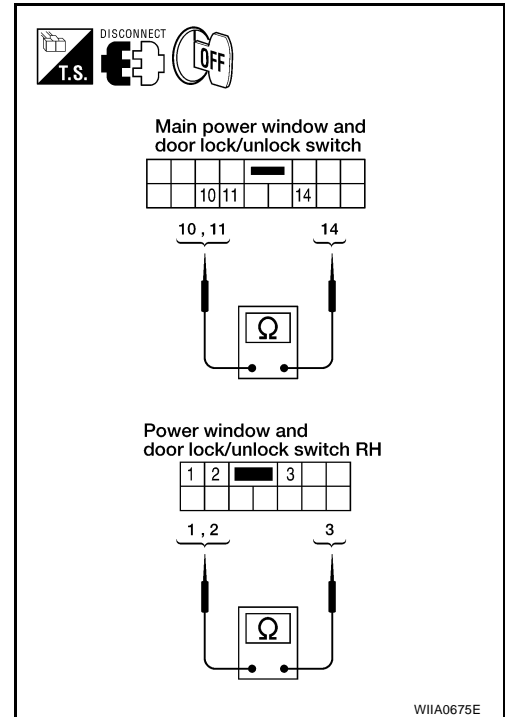
Terminal	Condition	Continuity
10	Lock	Yes
	Unlock/Neutral	No
11	Unlock	Yes
	Lock/Neutral	No

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

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

OK or NG

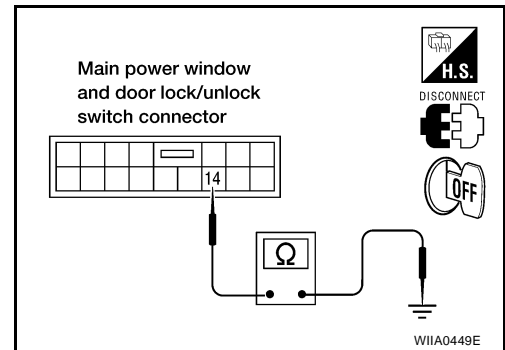
- OK >> GO TO 3.  
 NG >> Replace door lock/unlock switch.



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

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

**14 - Ground : Continuity should exist.**

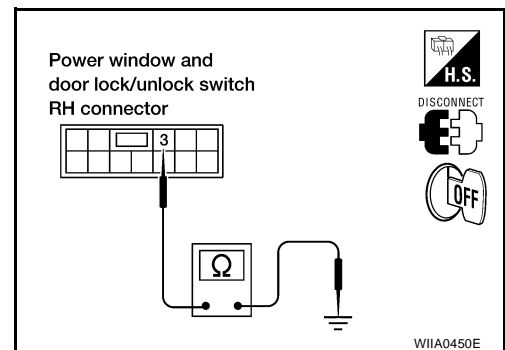


3. Check continuity between power window and door lock/unlock switch RH connector D105 terminal 3 and ground

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

OK or NG

- OK >> GO TO 4.  
 NG >> Repair or replace harness.



# POWER DOOR LOCK SYSTEM

## 4. CHECK DOOR LOCK SWITCH CIRCUIT

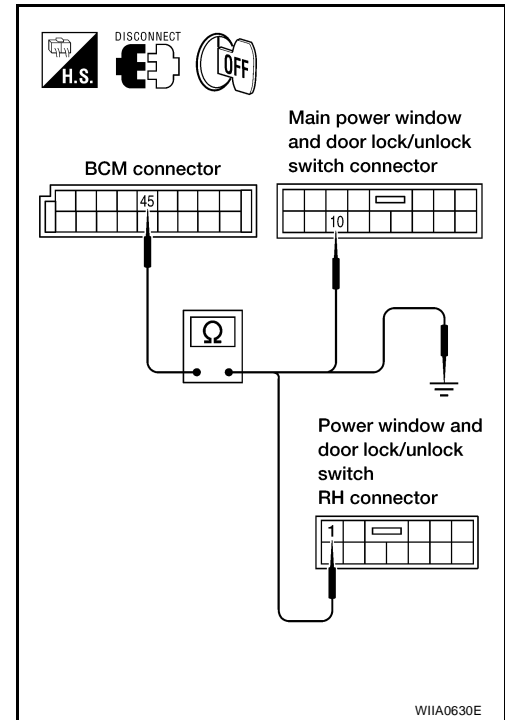
1. Disconnect BCM.
2. Check continuity between BCM connector M19 terminal 45 and main power window and door lock/unlock switch connector D7 terminal 10 or power window and door lock/unlock switch RH connector D105 terminal 1.

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

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

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

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



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

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

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

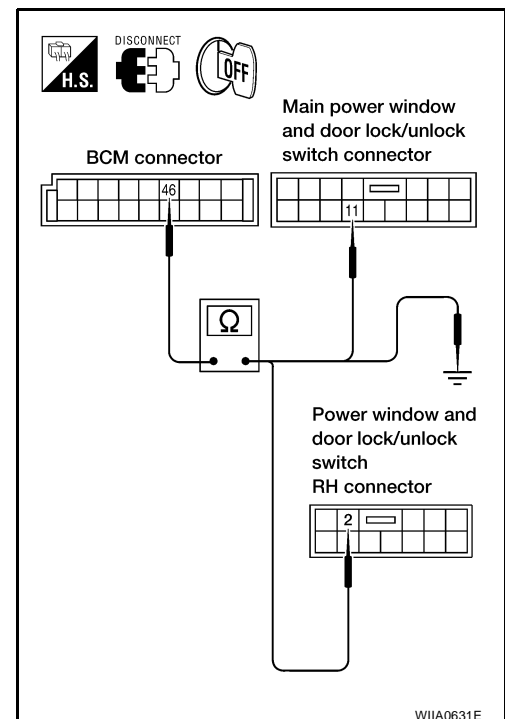
5. Check continuity between BCM connector M19 terminal 46 and ground.

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

OK or NG

OK >> GO TO 5.

NG >> Repair or replace harness.



# POWER DOOR LOCK SYSTEM

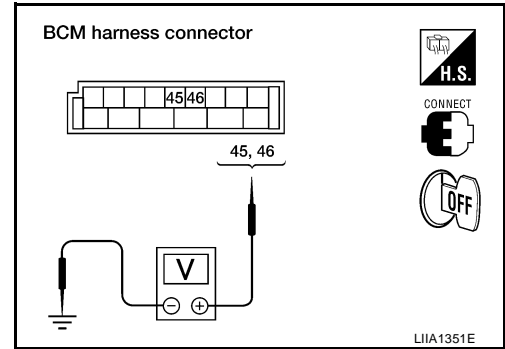
## 5. CHECK BCM OUTPUT VOLTAGE

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

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

OK or NG

- OK >> Check condition of the harness and connector.  
 NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#) .



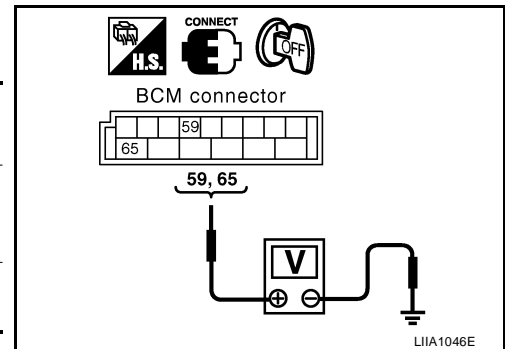
EIS005U9

## Front Door Lock Assembly LH (Actuator) Check

### 1. CHECK DOOR LOCK ACTUATOR SIGNAL

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

Connector	Terminals		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



OK or NG

- OK >> GO TO 2.  
 NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#) .

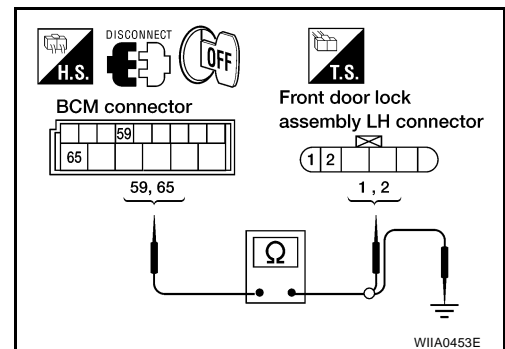
### 2. CHECK DOOR LOCK ACTUATOR HARNESS

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

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

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

Connector	Terminals	Continuity
M20	59	No
	65	No



OK or NG

- OK >> Replace front door lock assembly LH (actuator). Refer to [BL-117, "Removal and Installation"](#) .  
 NG >> Repair or replace harness.

# POWER DOOR LOCK SYSTEM

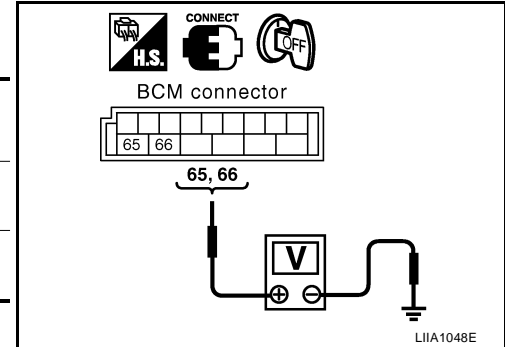
EIS005UA

## Front Door Lock Actuator RH Check

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

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

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



#### OK or NG

OK >> GO TO 2.

NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#).

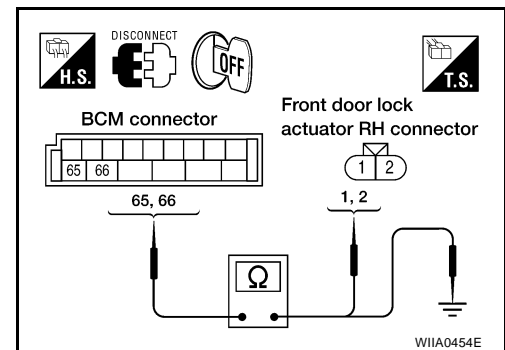
### 2. CHECK DOOR LOCK ACTUATOR HARNESS

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

Terminals		Continuity
65	2	Yes
66	1	Yes

3. Check continuity between BCM connector M19 terminals 65, 66 and ground.

Terminals		Continuity
65	Ground	No
66		No



#### OK or NG

OK >> Replace front door lock actuator RH. Refer to [BL-117, "Removal and Installation"](#).

NG >> Repair or replace harness.



# POWER DOOR LOCK SYSTEM

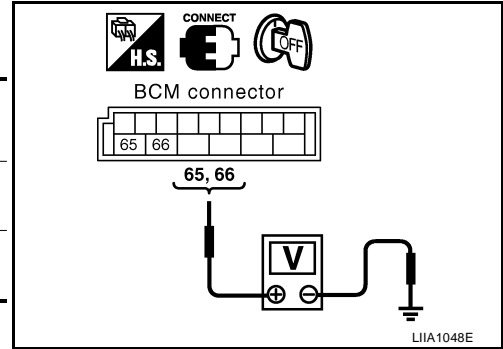
## Rear Door Lock Actuator RH/LH Check (Crew Cab)

EIS005UB

### 1. CHECK DOOR LOCK ACTUATOR SIGNAL

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

Connector	Terminals		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



OK or NG

OK >> GO TO 2.

NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#) .

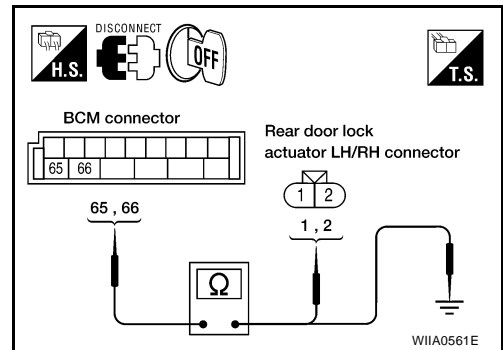
### 2. CHECK DOOR LOCK ACTUATOR HARNESS

1. Disconnect BCM and each door lock actuator.
2. Check continuity between BCM connector M20 terminals 65, 66 and rear door lock actuator RH/LH connectors D305, D205 terminals 1, 2.

Terminals		Continuity
65	2	Yes
66	1	Yes

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

Terminals		Continuity
65	Ground	No



OK or NG

OK >> Replace door lock actuator. Refer to [BL-121, "Removal and Installation"](#) .

NG >> Repair or replace harness.

# POWER DOOR LOCK SYSTEM

## Front Door Lock Assembly LH (Key Cylinder Switch) Check

EIS005UD

### 1. CHECK DOOR KEY CYLINDER SWITCH LH

☑ With CONSULT-II

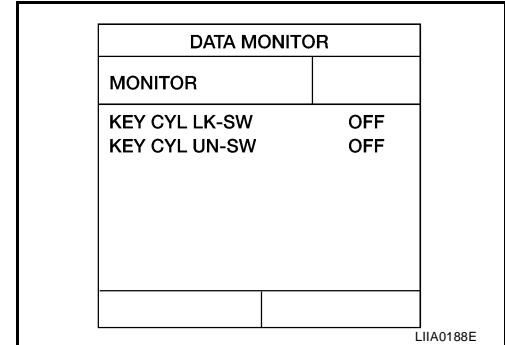
Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW") in DATA MONITOR mode in CONSULT-II. Refer to [BL-33, "DATA MONITOR"](#).

- 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:

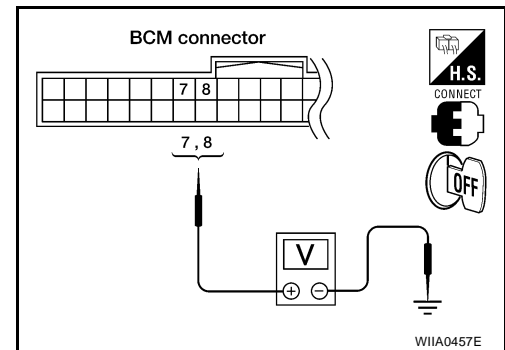
**KEY CYL UN-SW : ON**



☒ Without CONSULT-II

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

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M18	7	Ground	Neutral/Lock	5
			Unlock	0
	8		Neutral/Unlock	5
			Lock	0



OK or NG

- OK >> Front door lock assembly LH (key cylinder switch) signal is OK.
- NG >> GO TO 2.

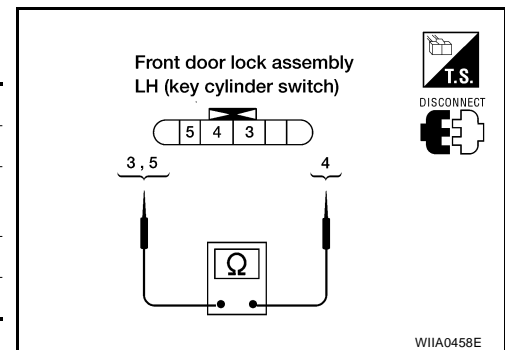
### 2. CHECK FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)

- Turn ignition switch OFF.
- Disconnect front door lock assembly LH (key cylinder switch).
- Check continuity between front door lock assembly LH (key cylinder switch) connector terminals 3, 4 and 5.

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

OK or NG

- OK >> GO TO 3.
- NG >> Replace front door lock assembly LH (key cylinder switch). Refer to [BL-117, "Removal and Installation"](#).



# POWER DOOR LOCK SYSTEM

## 3. CHECK FRONT DOOR LOCK ASSEMBLY LH HARNESS

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

**7 - 3 : Continuity should exist.**

**8 - 5 : Continuity should exist.**

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

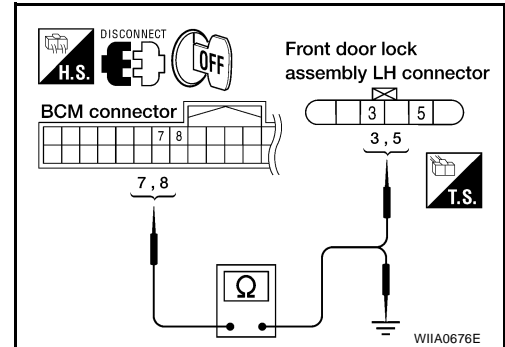
**7 - Ground : Continuity should not exist.**

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

OK or NG

OK >> GO TO 4.

NG >> Repair or replace harness



## 4. CHECK FRONT DOOR LOCK ASSEMBLY LH GROUND

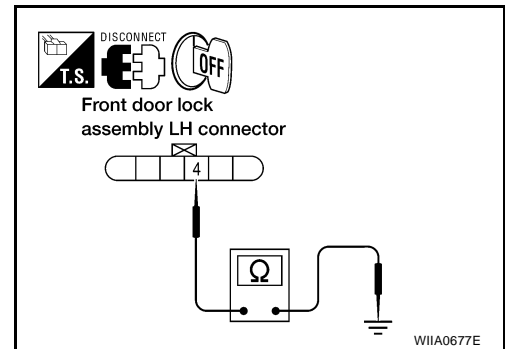
Check continuity between front door lock assembly LH connector D14 terminal 4 and ground.

**4 - Ground : Continuity should exist.**

OK or NG

OK >> GO TO 5.

NG >> Repair or replace harness



## 5. CHECK BCM OUTPUT VOLTAGE

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

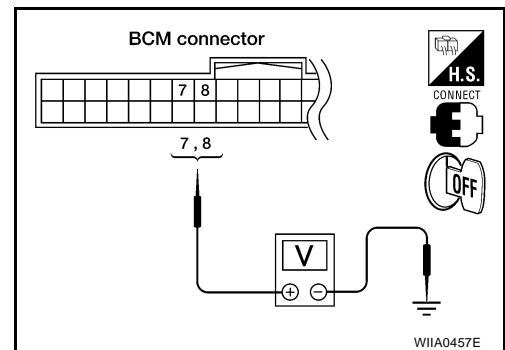
**7 - Ground : Approx. 5V**

**8 - Ground : Approx. 5V**

OK or NG

OK >> Check condition of the harness and connector.

NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#).



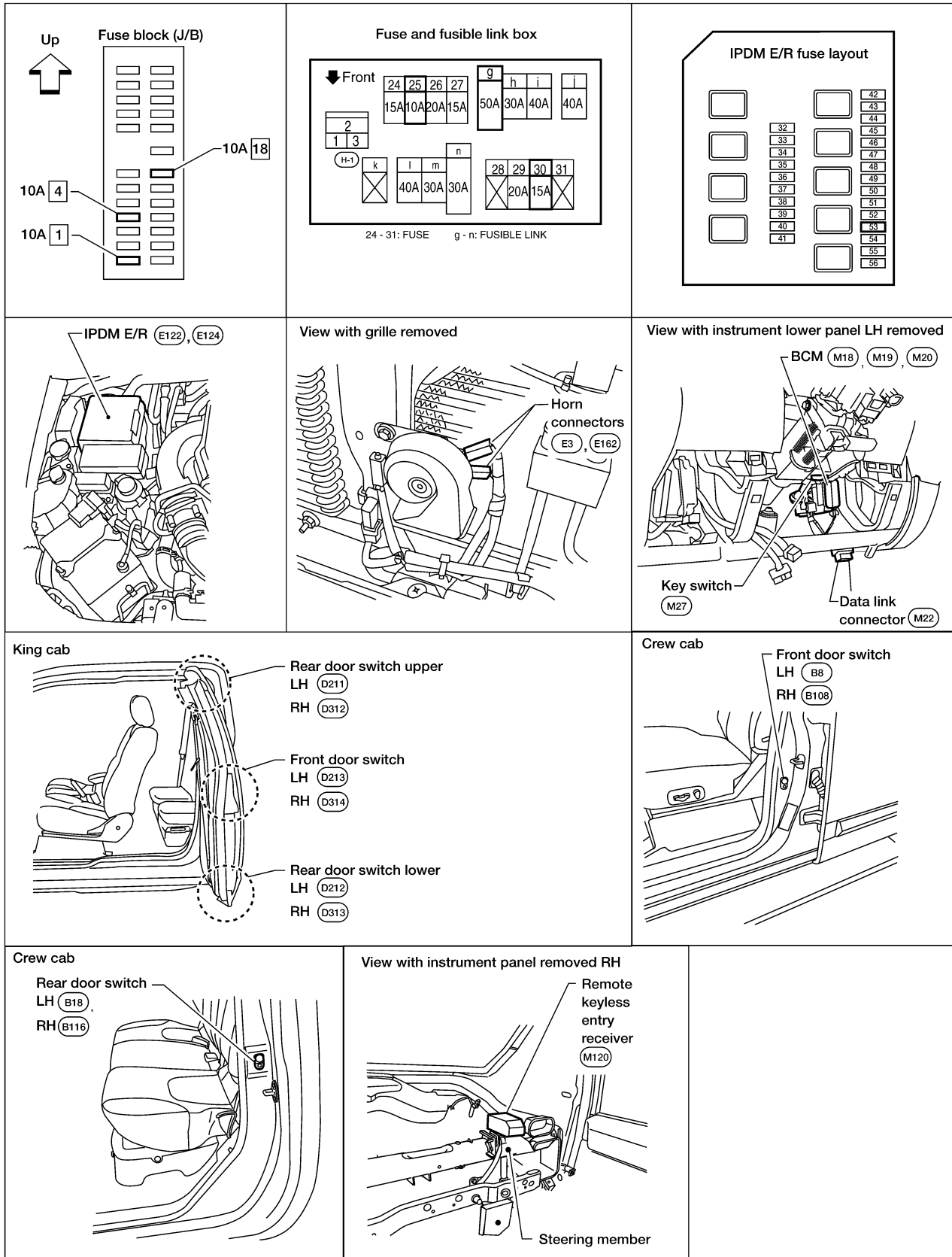
# REMOTE KEYLESS ENTRY SYSTEM

PF2:28596

EIS005UE

## REMOTE KEYLESS ENTRY SYSTEM

### Component Parts and Harness Connector Location



W11A0712E

# REMOTE KEYLESS ENTRY SYSTEM

EIS005UF

## System Description

### INPUTS

Power is supplied at all times

- to BCM (body control module) terminal 70
- through 50A fusible link (letter **g** , located in the fuse and fusible link box).
- to BCM terminal 57
- through 10A fuse [No. 18, located in the fuse block (J/B)].

When the key is inserted in key switch, power is supplied

- to BCM terminal 37
- through key switch terminals 1 and 2
- through 10A fuse (No. 25, located in the fuse and fusible link box).

When the ignition switch is ACC or ON, power is supplied

- to BCM terminal 11
- through 10A fuse [No. 4, located in the fuse block (J/B)].

When the ignition switch is ON or START, power is supplied

- to BCM terminal 38
- through 10A fuse [No. 1, located in the fuse block (J/B)].

Keyfob signal is inputted to BCM from the remote keyless entry receiver.

The remote keyless entry system controls operation of the

- power door lock
- interior lamp and ignition keyhole illumination
- panic alarm
- hazard and horn reminder
- auto door lock operation

### King Cab

When the front door switch LH is ON (door is open), ground is supplied

- to BCM terminal 47
- through front door switch LH terminals 2 and 3
- through grounds B7 and B19.

When the rear door switch upper LH is ON (door is open), ground is supplied

- to BCM terminal 47
- through rear door switch upper LH terminals 1 and 2
- through grounds B7 and B19.

When the rear door switch lower LH is ON (door is open), ground is supplied

- to BCM terminal 47
- through rear door switch lower LH terminals 1 and 2
- through grounds B7 and B19.

When the front door switch RH is ON (door is open), ground is supplied

- to BCM terminal 12
- through front door switch RH terminals 2 and 3
- through grounds B117 and B132.

When the rear door switch upper RH is ON (door is open), ground is supplied

- to BCM terminal 12
- through rear door switch upper RH terminals 1 and 2
- through grounds B117 and B132.

When the rear door switch lower RH is ON (door is open), ground is supplied

- to BCM terminal 12
- through rear door switch lower RH terminals 1 and 2
- through grounds B117 and B132.

A

B

C

D

E

F

G

H

BL

J

K

L

M

# REMOTE KEYLESS ENTRY SYSTEM

## Crew Cab

With front door LH open, ground is supplied

- to BCM terminal 47
- through front door switch LH terminal 2
- through front door switch LH case ground.

With front door RH open, ground is supplied

- to BCM terminal 12
- through front door switch RH terminal 2
- through front door switch RH case ground.

With rear door LH open, ground is supplied

- to BCM terminal 48
- through rear door switch LH terminal 2
- through rear door switch LH case ground.

With rear door RH open, ground is supplied

- to BCM terminal 13
- through rear door switch RH terminal 2
- through rear door switch RH case ground.

## 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

Operation Description

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

Remote control entry operation conditions

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

## Auto Lock Function

Operation Description

# REMOTE KEYLESS ENTRY SYSTEM

- 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

Keyfob operation	C mode		S mode	
	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-II

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

Without CONSULT-II

Refer to Owner's Manual for instructions.

## Interior Lamp and Ignition Keyhole Illumination 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.

For detailed description, refer to [LT-132, "Room Lamp Timer Operation"](#).

## 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.

## CAN Communication System Description

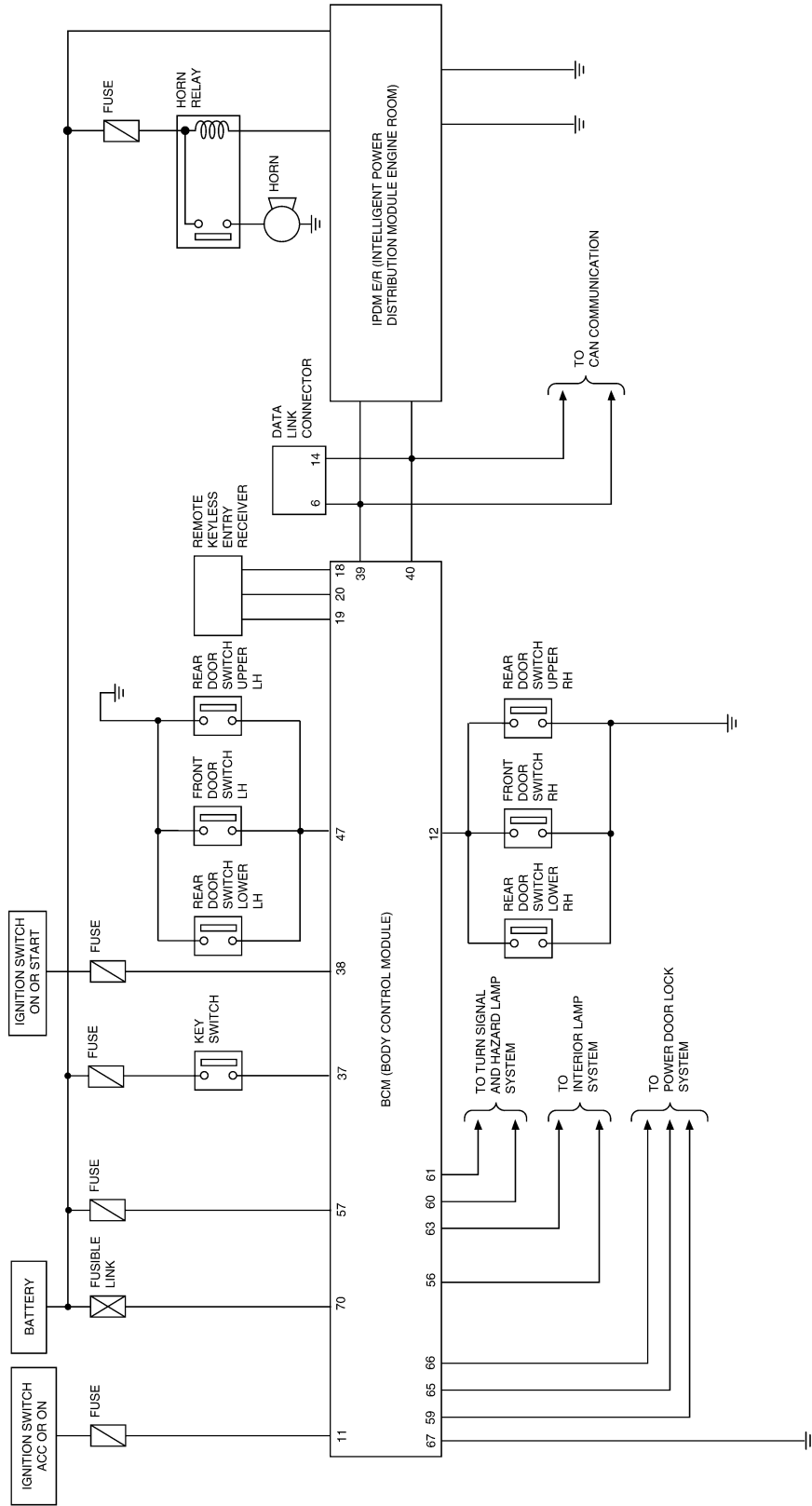
EIS005UG

Refer to [LAN-22, "CAN COMMUNICATION"](#).

# REMOTE KEYLESS ENTRY SYSTEM

## Schematic (King Cab)

EIS005UH



WIWA0653E

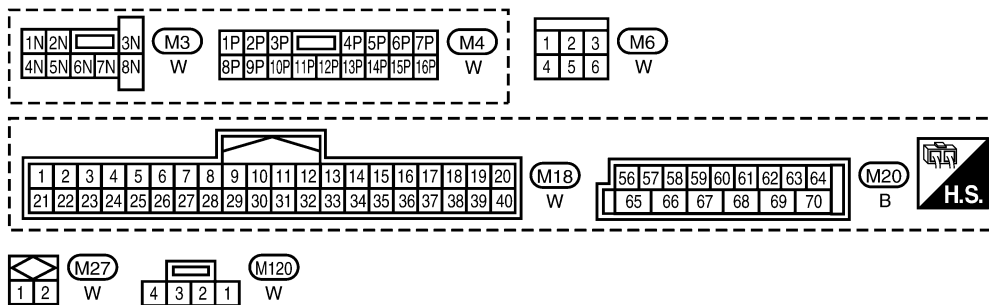
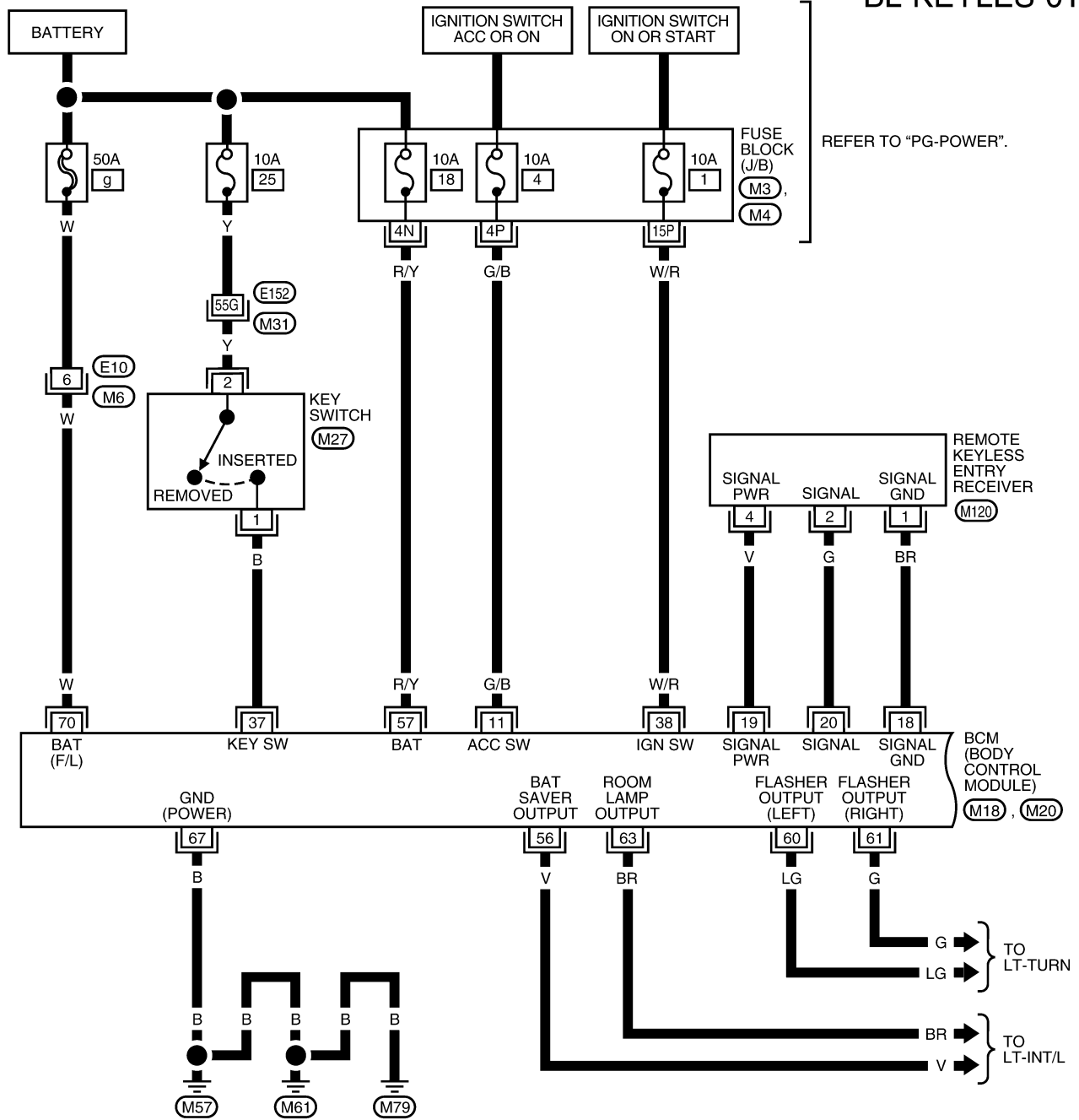


# REMOTE KEYLESS ENTRY SYSTEM

## Wiring Diagram — KEYLES — (King Cab)

E/S005UI

BL-KEYLES-01



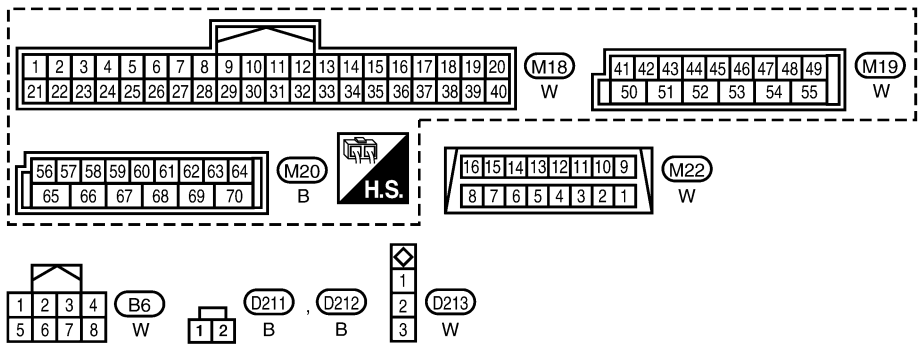
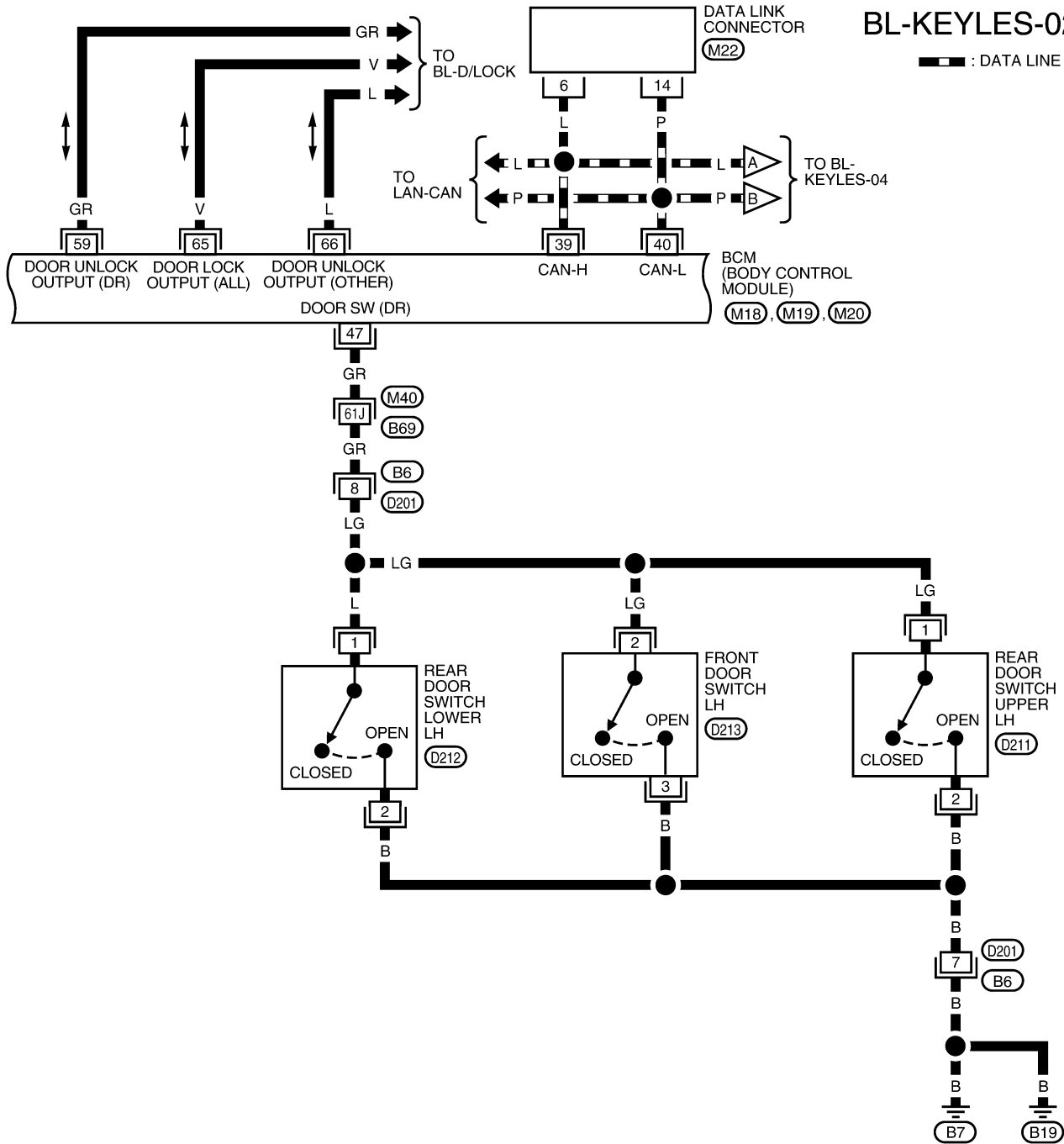
REFER TO THE FOLLOWING.  
 (M31) - SUPER MULTIPLE JUNCTION (SMJ)

WIWA0918E

# REMOTE KEYLESS ENTRY SYSTEM

## BL-KEYLES-02

— : DATA LINE



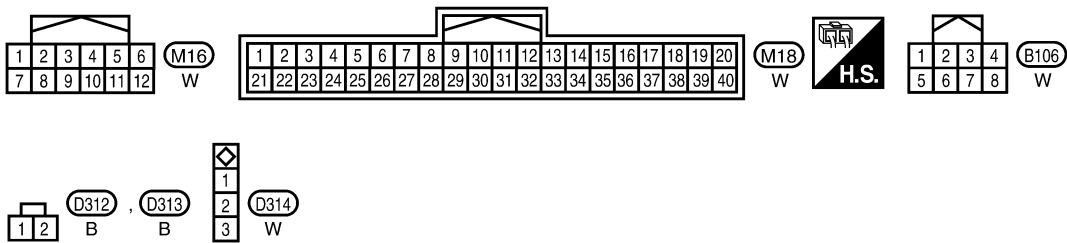
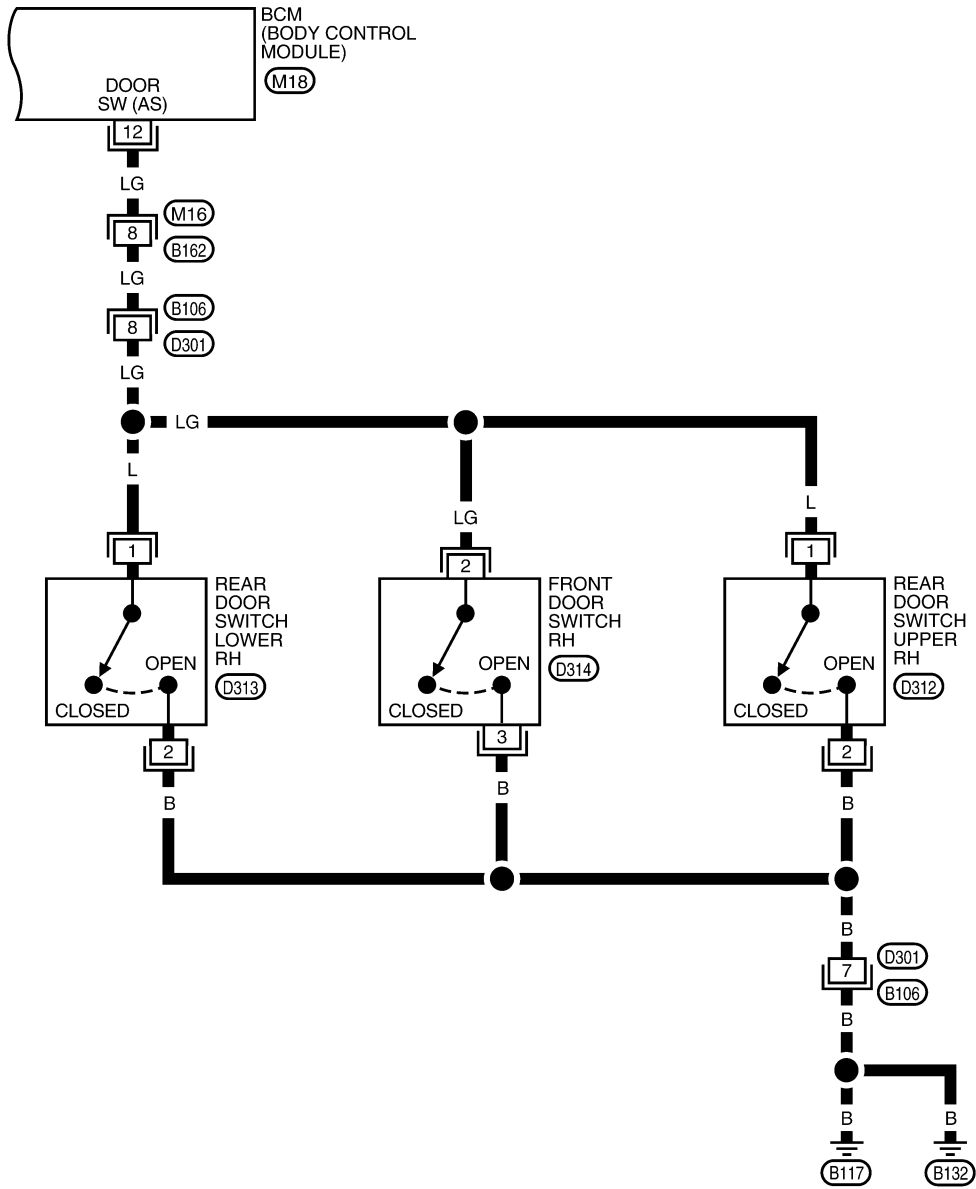
REFER TO THE FOLLOWING.  
 (M40) - SUPER MULTIPLE JUNCTION (SMJ)

WIWA0919E

# REMOTE KEYLESS ENTRY SYSTEM

BL-KEYLES-03

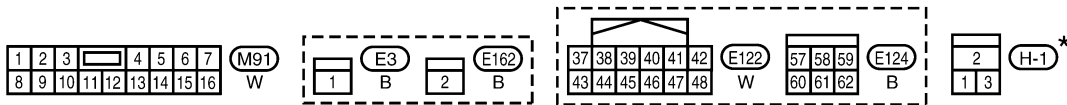
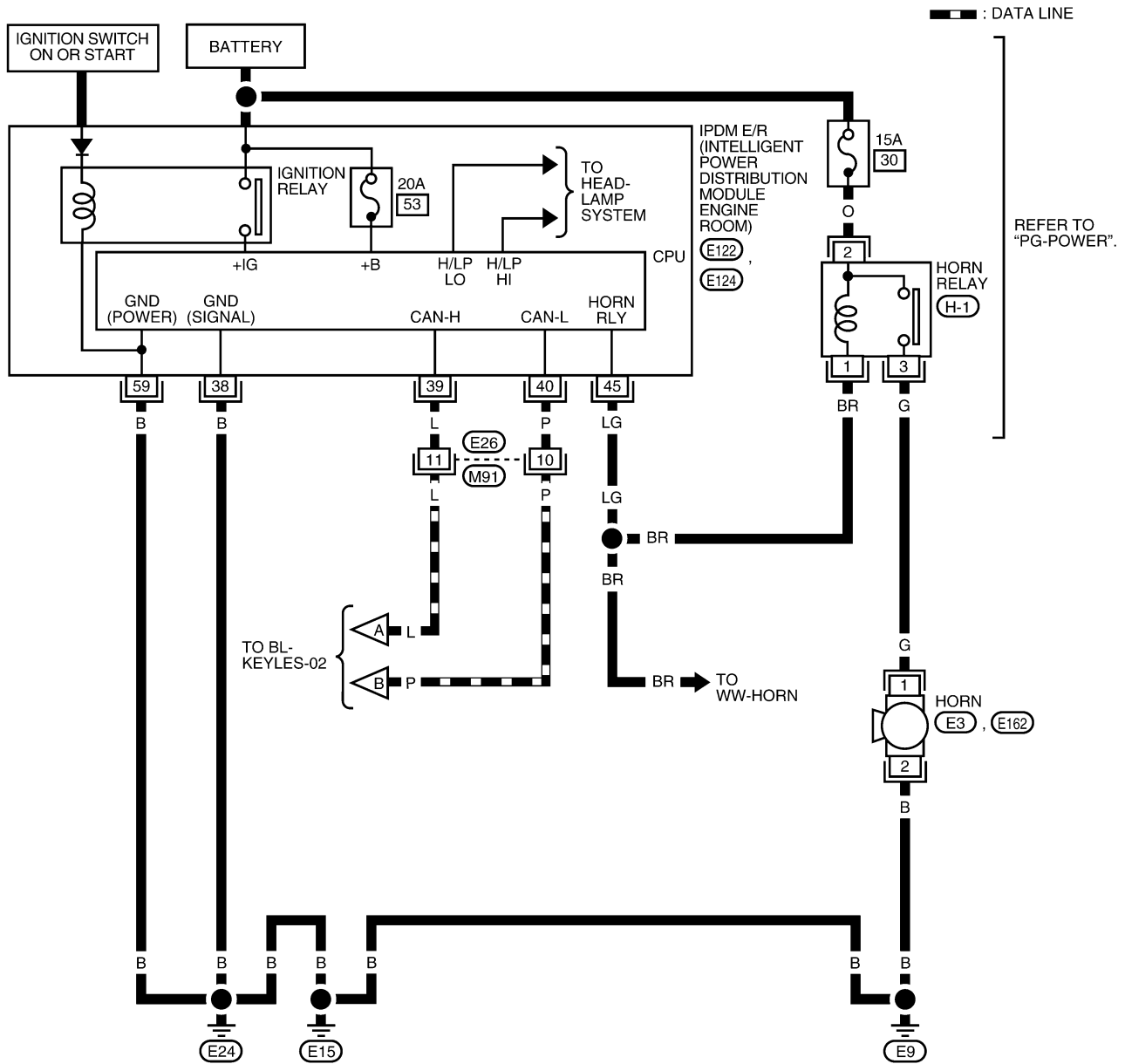
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W1WA0656E

# REMOTE KEYLESS ENTRY SYSTEM

## BL-KEYLES-04



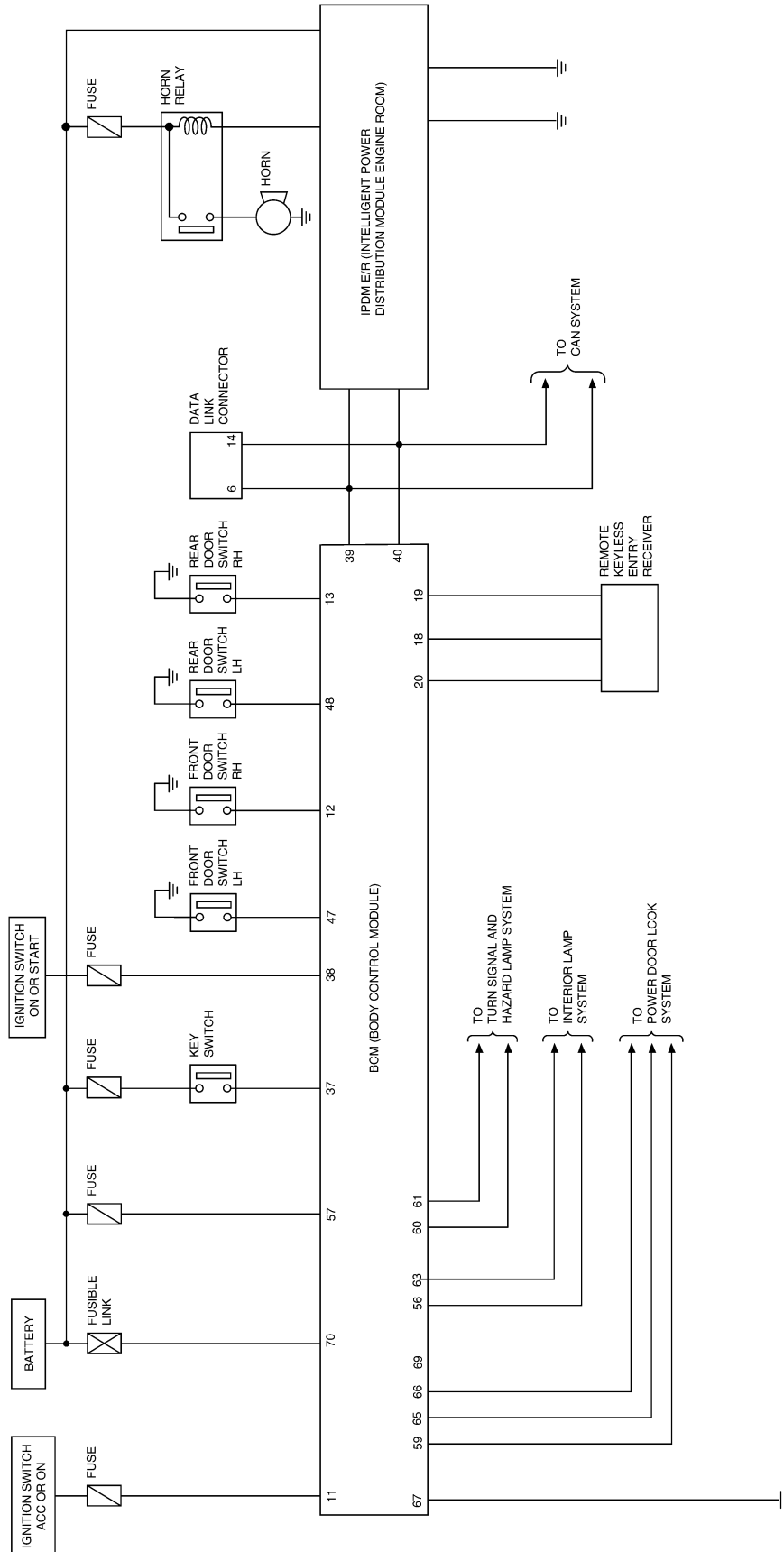
\* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

WIWA0657E

# REMOTE KEYLESS ENTRY SYSTEM

## Schematic (Crew Cab)

EIS005WX



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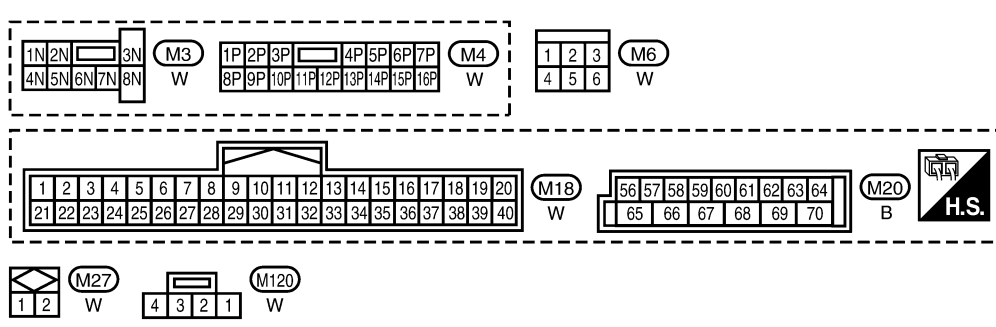
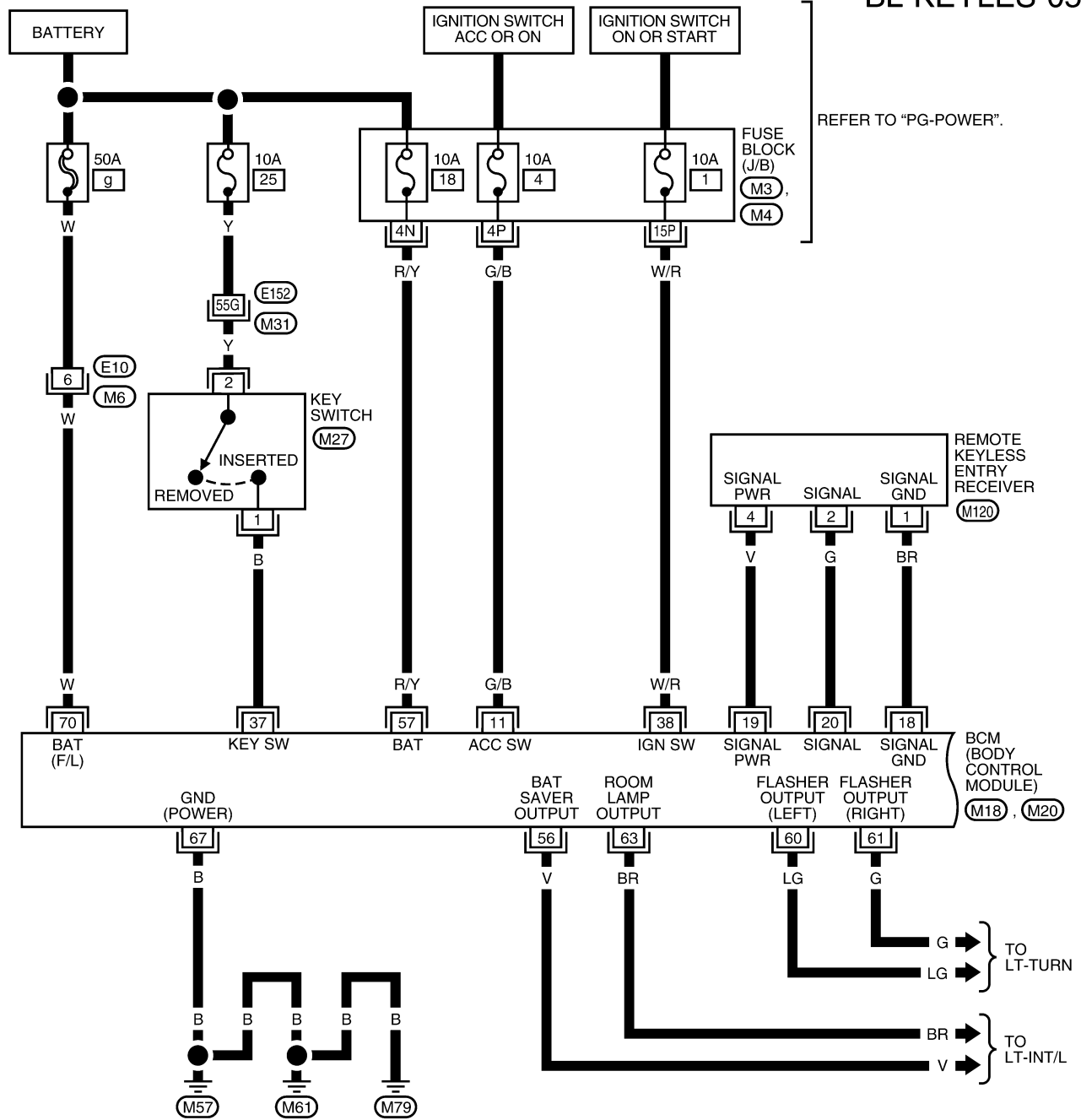
WIWA0658E

# REMOTE KEYLESS ENTRY SYSTEM

## Wiring Diagram — KEYLES — (Crew Cab)

EIS005WY

BL-KEYLES-05

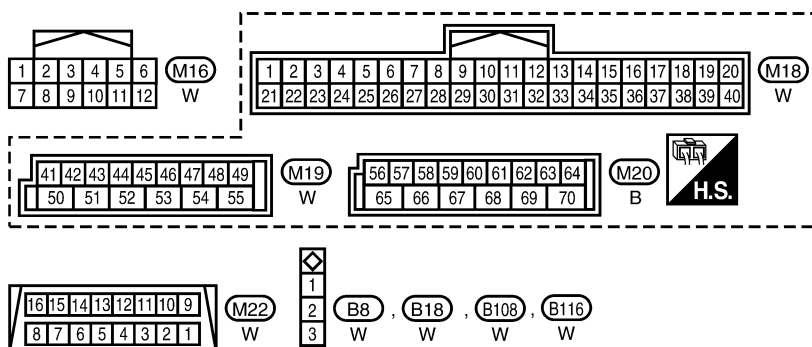
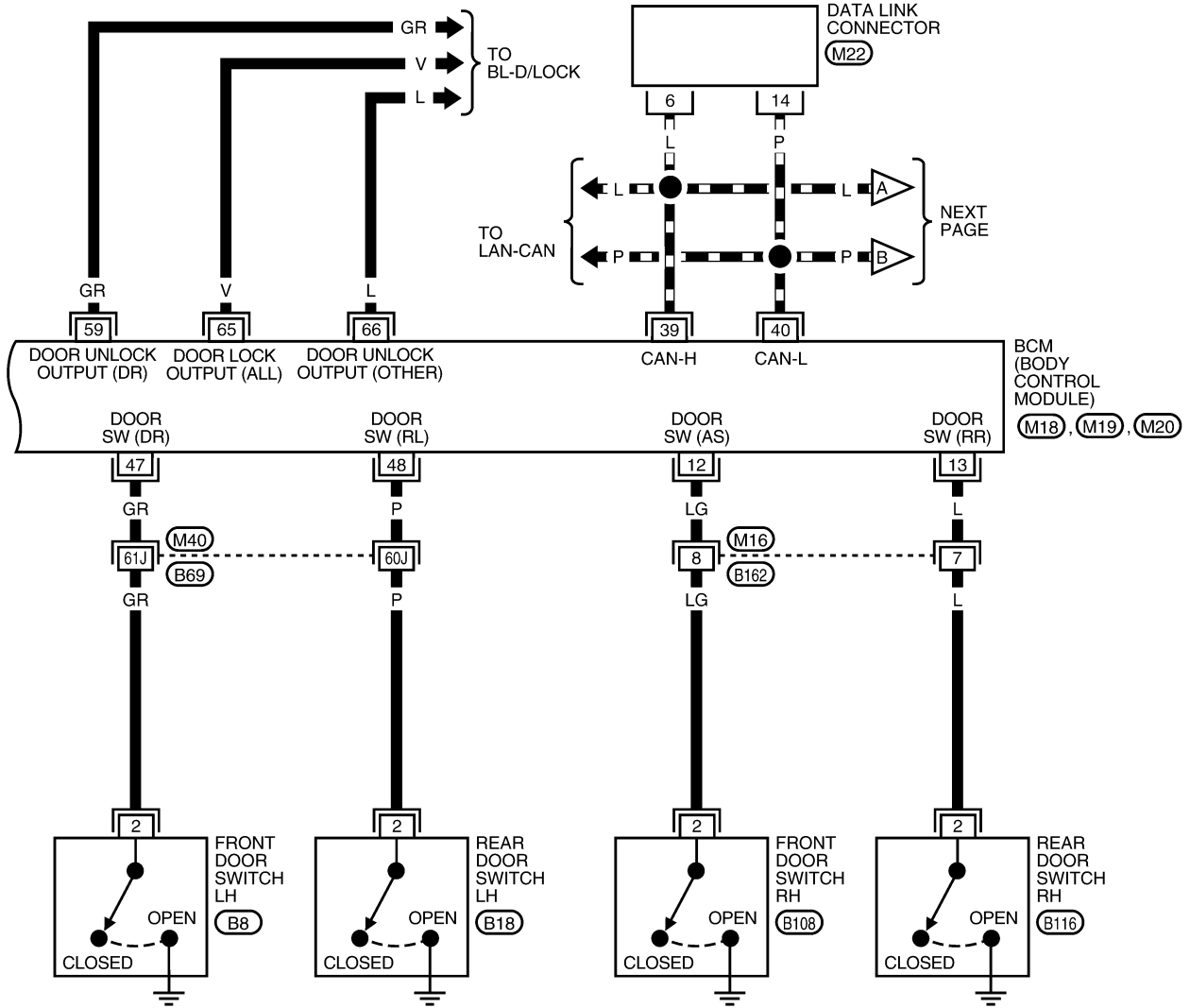


REFER TO THE FOLLOWING.  
 (M31) - SUPER MULTIPLE JUNCTION (SMJ)

# REMOTE KEYLESS ENTRY SYSTEM

BL-KEYLES-06

— : DATA LINE



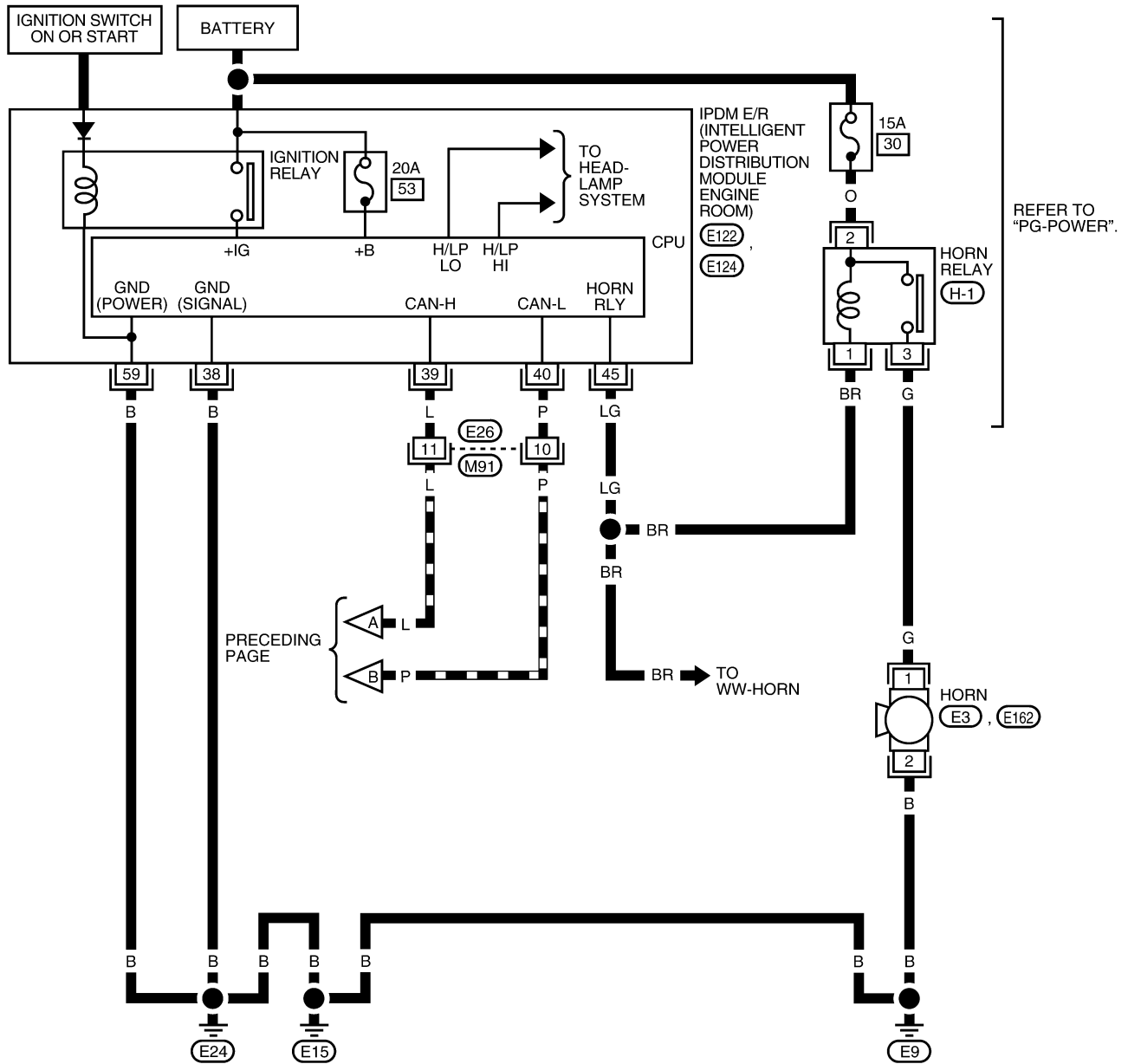
REFER TO THE FOLLOWING.  
 (M40) - SUPER MULTIPLE JUNCTION (SMJ)

W1WA0660E

# REMOTE KEYLESS ENTRY SYSTEM

## BL-KEYLES-07

— : DATA LINE



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

(M91)  
W

1	(E3)	(E162)
B	B	B

37	38	39	40	41	42	(E122)	57	58	59	(E124)
43	44	45	46	47	48	W	60	61	62	B

2	(H-1)*
1	3

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

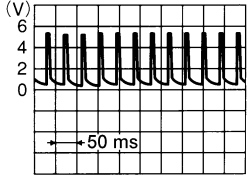
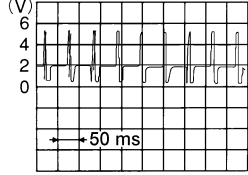
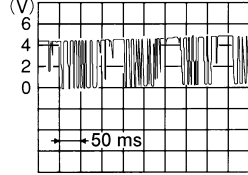
WIWA0661E



# REMOTE KEYLESS ENTRY SYSTEM

## Terminals and Reference Value for BCM

EIS005WQ

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
11	G/B	Ignition switch (ACC)	Ignition switch ACC	Battery voltage
12	LG	Front door switch RH (All)	Door open (ON) → Door close (OFF)	0 → Battery voltage
		Rear door switch lower RH (King Cab)		
		Rear door switch upper RH (King Cab)		
13	L	Rear door switch RH (Crew cab)	Door close (OFF) → Door open (ON)	Battery voltage → 0
18	BR	Remote keyless entry receiver (Ground)	—	0
19	V	Remote keyless entry receiver (Power supply)	Ignition switch OFF	 <p style="text-align: right; font-size: small;">LIIA1893E</p>
20	G	Remote keyless entry receiver signal (Signal)	Stand-by (keyfob buttons released)	 <p style="text-align: right; font-size: small;">LIIA1894E</p>
			When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	 <p style="text-align: right; font-size: small;">LIIA1895E</p>
37	B	Key switch (insert)	Key inserted in IGN key cylinder (ON) → Key removed from IGN key cylinder (OFF)	Battery voltage → 0
38	W/R	Ignition switch (ON)	Ignition switch ON	Battery voltage
39	L	CAN-H	—	—
40	P	CAN-L	—	—
47	GR	Front door switch LH (All)	Door open (ON) → Door close (OFF)	0 → Battery voltage
		Rear door switch lower LH (King Cab)		
		Rear door switch upper LH (King Cab)		
48	P	Rear door switch LH (Crew cab)	Door close (OFF) → Door open (ON)	Battery voltage → 0
56	V	Battery saver (Interior lamp)	Battery saver operated → Battery saver not operated (ON → OFF)	Battery voltage → 0
57	R/Y	Power source (BAT)	—	Battery voltage

A  
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M

BL

# REMOTE KEYLESS ENTRY SYSTEM

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
59	GR	Front door lock assembly LH (unlock)	Door lock & unlock switch (neutral → unlocked)	0 → Battery voltage
60	LG	Turn signal LH	When doors are locked or unlocked using keyfob (OFF → ON) *2	0 → Battery voltage
61	G	Turn signal RH	When doors are locked or unlocked using keyfob (OFF → ON) *2	0 → Battery voltage
63	BR	Room lamp	Room lamp ON *1	Battery voltage
			Room Lamp OFF *1	0
65	V	All door lock actuators (lock)	Door lock & unlock switch (neutral → lock)	0 → Battery voltage
66	L	Front door lock actuator RH, rear door lock actuators LH/ RH and back door lock actuator (unlock)	Door lock & unlock switch (neutral → unlocked)	0 → Battery voltage
67	B	Ground	—	0
70	W	Power source (BAT)	—	Battery voltage

- \*1: when room lamp switch is in "DOOR" position.
- \*2: when hazard reminder is ON.

## Terminals and Reference Value for IPDM E/R

EIS005WR

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
38	B	Ground	—	0
39	L	CAN-H	—	—
40	P	CAN-L	—	—
45	LG	Horn relay	When doors locks are operated using keyfob (OFF → ON) *1	Battery voltage → 0
59	B	Ground	—	0

\*1: when horn reminder is ON.

# REMOTE KEYLESS ENTRY SYSTEM

## CONSULT-II Function (BCM)

EIS005UL

CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

BCM diagnostic test item	Diagnostic mode	Description
Inspection by part	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
	DATA MONITOR	Displays BCM input/output data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
	SELF-DIAG RESULTS	Displays BCM self-diagnosis results.
	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
	ECU PART NUMBER	BCM part number can be read.
	CONFIGURATION	Performs BCM configuration read/write functions.

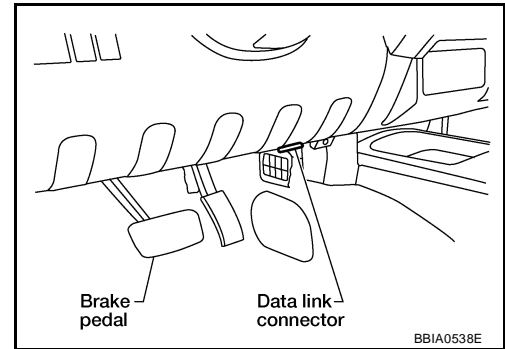
## CONSULT-II Inspection Procedure "MULTI REMOTE ENT"

EIS005UM

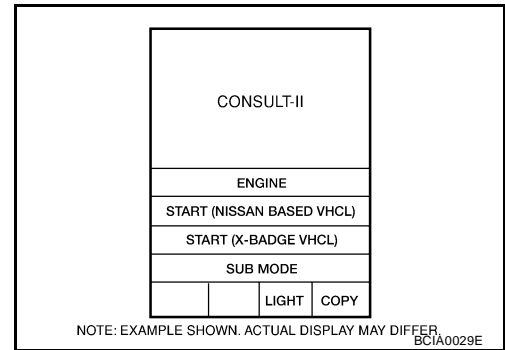
### CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carries out CAN communication.

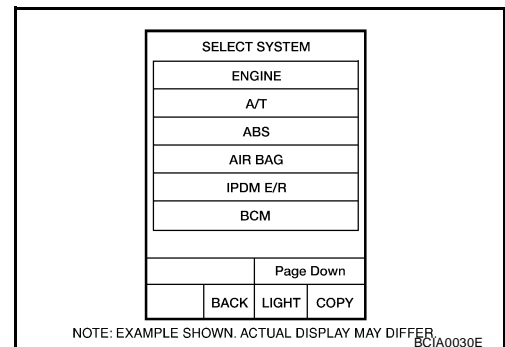
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.



3. Turn ignition switch ON.
4. Touch "START (NISSAN BASED VHCL)".

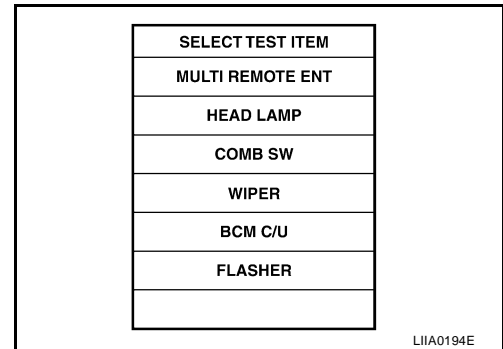


5. Touch "BCM".  
If "BCM" is not indicated, refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).

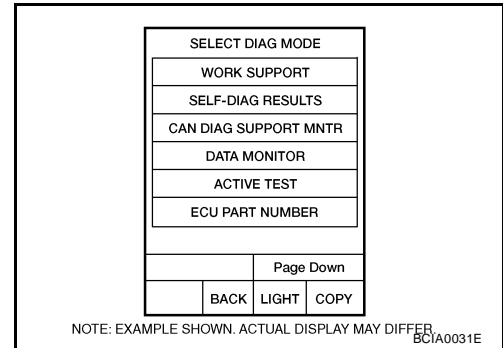


# REMOTE KEYLESS ENTRY SYSTEM

6. Touch "MULTI REMOTE ENT".



7. Select diagnosis mode. "DATA MONITOR", "ACTIVE TEST" and "WORK SUPPORT" are available.



## CONSULT-II Application Items "MULTI REMOTE ENT"

EIS005UN

### Data Monitor

Monitored Item	Description
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (all) and rear door switch upper and lower (King cab) RH.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH (Crew cab).
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH (Crew cab).
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (all) and rear door switch upper and lower (King cab) 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.
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.
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-II screen is touched and the left hazard lamp turns on when "LH" on CONSULT-II screen is touched.

# REMOTE KEYLESS ENTRY SYSTEM

Test Item	Description
HORN	This test is able to check panic alarm and horn reminder operations. The alarm activate for 0.5 seconds after "ON" on CONSULT-II 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-II screen touched.

## 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-II screen is touched.
HAZARD LAMP SET*	Hazard lamp function mode can be changed in this mode. The function mode will be changed when "CHANG SETT" on CONSULT-II 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-II 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-II 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-II screen is touched.

\*: Perform this mode always in the state of C mode. Refer to [BL-51, "Hazard and Horn Reminder"](#) .

### HORN CHIRP SET\*

Horn chirp function	ON	OFF

\*: Perform this mode always in the state of C mode. Refer to [BL-51, "Hazard and Horn Reminder"](#) .

### HAZARD LAMP BACK SET\*

	MODE1	MODE2	MODE3	MODE4
Hazard lamp operation mode	Nothing	Unlock only	Lock only	Lock and Unlock

\*: Perform this mode always in the state of C mode. Refer to [BL-51, "Hazard and Horn Reminder"](#) .

### MULTI ANSWER BACK SET

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

### AUTO LOCK SET

	MODE 1	MODE 2	MODE 3
Auto locking function	1 minutes	Nothing	5 minutes

### PANIC ALARM SET

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

# REMOTE KEYLESS ENTRY SYSTEM

EIS005UO

## Trouble Diagnosis Procedure

1. Check the symptom and customer's requests.
2. Understand outline of system. Refer to [BL-49, "System Description"](#) .
3. Confirm system operation.
  - Check that the power door lock system operates normally. Refer to [BL-16, "POWER DOOR LOCK SYSTEM"](#) .
4. Perform pre-diagnosis inspection. Refer to [BL-66, "Pre-Diagnosis Inspection"](#) .
5. Refer to trouble diagnosis chart by symptom, repair or replace any malfunctioning parts. Refer to [BL-67, "Trouble Diagnoses"](#) .
6. Inspection End.

## Pre-Diagnosis Inspection

EIS005UP

### BCM POWER SUPPLY AND GROUND CIRCUIT INSPECTION

#### 1. FUSE INSPECTION

Check the following fuses and fusible link in the fuse block (J/B) and fuse and fusible link box.

Unit	Terminal No.	Signal name	No.	Location
BCM	57	Battery power supply	18	Fuse block (J/B)
	70	Battery power supply	g	Fuse and fusible link box
	11	ACC power supply	4	Fuse block (J/B)
	38	IGN power supply	1	Fuse block (J/B)

OK or NG

OK >> GO TO 2.

NG >> Replace the fuse or fusible link.

#### 2. POWER SUPPLY CIRCUIT INSPECTION

Disconnect BCM connector, and connect vehicle-side connector terminals shown below to positive probe and body ground to negative probe. Measure voltage.

Unit	Terminal No.	Signal name	Ignition switch	Voltage
BCM	57	Battery power supply	OFF	Battery voltage
	70	Battery power supply	OFF	Battery voltage
	11	ACC power supply	ACC	Battery voltage
	38	IGN power supply	ON	Battery voltage

OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.

#### 3. GROUND CIRCUIT INSPECTION

Check continuity between BCM vehicle-side connector and body ground.

Unit	Terminal No.	Signal name	Ignition switch	Continuity
BCM	67	Ground	OFF	Yes

OK or NG

OK >> Power supply and ground circuits are normal.

NG >> Repair or replace harness.

# REMOTE KEYLESS ENTRY SYSTEM

EIS005UQ

## Trouble Diagnoses SYMPTOM CHART

### NOTE:

- Always check the "Trouble Diagnosis Procedure" before troubleshooting. Refer to [BL-66, "Trouble Diagnosis Procedure"](#).
- Always check keyfob battery before replacing keyfob. Refer to [BL-73, "Keyfob Battery and Function Check"](#).
- The panic alarm operation of remote keyless entry system does not activate with the ignition key inserted in the ignition key cylinder.
- Use Remote Keyless Entry Tester J-43241 (follow instructions on tester) to check operation of keyfob before replacing keyfob.

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) <b>NOTE:</b> If the result of keyfob function check is OK, keyfob is not malfunctioning.	<a href="#">BL-73</a>
	2. Check BCM and remote keyless entry receiver.	<a href="#">BL-74</a>
The new ID of keyfob cannot be entered.	1. Keyfob battery and function check (use Remote Keyless Entry Tester J-43241) <b>NOTE:</b> If the result of keyfob function check is OK, keyfob is not malfunctioning.	<a href="#">BL-73</a>
	2. Key switch (insert) check	<a href="#">BL-69</a>
	3. Door switch check	<a href="#">BL-70</a> (King cab) or <a href="#">BL-72</a> (Crew cab)
	4. ACC power check	<a href="#">BL-76</a>
	5. Replace BCM.	<a href="#">BCS-19</a>
Door lock or unlock does not function. (If the power door lock system does not operate manually, check power door lock system. Refer to <a href="#">BL-16, "POWER DOOR LOCK SYSTEM"</a> .)	1. Keyfob battery and function check (use Remote Keyless Entry Tester J-43241) <b>NOTE:</b> If the result of keyfob function check is OK, keyfob is not malfunctioning.	<a href="#">BL-73</a>
	2. Replace BCM.	<a href="#">BCS-19</a>
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-II. <b>NOTE:</b> Hazard and horn reminder mode can be changed. First check the hazard and horn reminder mode setting.	<a href="#">BL-64</a>
	2. Door switch check	<a href="#">BL-70</a> (King cab) or <a href="#">BL-72</a> (Crew cab)
	3. Replace BCM.	<a href="#">BCS-19</a>
Hazard reminder does not activate properly when pressing lock or unlock button of keyfob. (Horn reminder OK)	1. Check hazard reminder mode with CONSULT-II. <b>NOTE:</b> Hazard reminder mode can be changed. First check the hazard reminder mode setting.	<a href="#">BL-64</a>
	2. Check hazard function with hazard switch.	—
	3. Replace BCM.	<a href="#">BCS-19</a>

## REMOTE KEYLESS ENTRY SYSTEM

Symptom	Diagnoses/service procedure	Reference page
Horn reminder does not activate properly when pressing lock or unlock button of keyfob. (Hazard reminder OK)	1. Check horn reminder mode with CONSULT-II. <b>NOTE:</b> Horn reminder mode can be changed. First check the horn reminder mode setting.	<a href="#">BL-64</a>
	2. Check horn function with horn switch.	—
	3. IPDM E/R operation check	<a href="#">BL-76</a>
	4. Replace BCM.	<a href="#">BCS-19</a>
Room lamp and ignition keyhole illumination operation do not activate properly.	1. Room lamp operation check	<a href="#">BL-77</a>
	2. Ignition keyhole illumination operation check	<a href="#">BL-77</a>
	3. Door switch check	<a href="#">BL-70</a> (King cab) or <a href="#">BL-72</a> (Crew cab)
	4. Replace BCM.	<a href="#">BCS-19</a>
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) <b>NOTE:</b> If the result of keyfob function check is OK, keyfob is not malfunctioning.	<a href="#">BL-73</a>
	2. Key switch (insert) check	<a href="#">BL-69</a>
	3. Replace BCM.	<a href="#">BCS-19</a>
Auto door lock operation does not activate properly. (All other remote keyless entry functions OK.)	1. Check auto door lock operation mode with CONSULT-II. <b>NOTE:</b> Auto door lock operation mode can be changed. First check the auto door lock operation mode setting.	<a href="#">BL-65</a>
	2. Replace BCM.	<a href="#">BCS-19</a>



# REMOTE KEYLESS ENTRY SYSTEM

EIS005UR

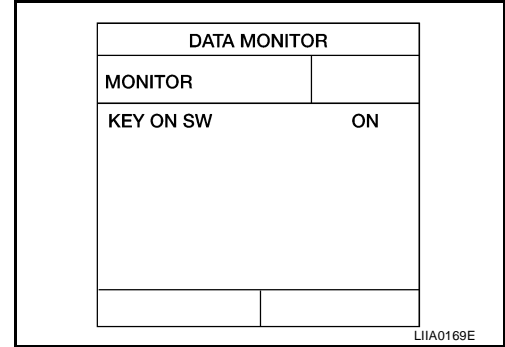
## Key Switch (Insert) Check

### 1. CHECK KEY SWITCH INPUT SIGNAL

 With CONSULT-II

Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT-II. Refer to [BL-64, "Data Monitor"](#).

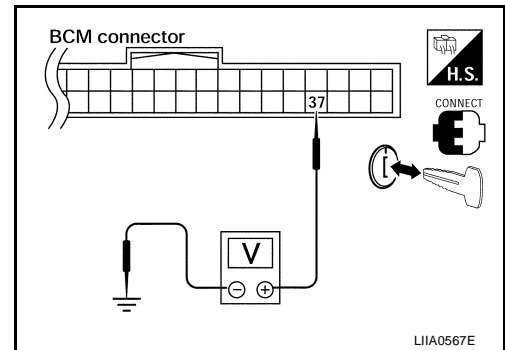
- When key is inserted to ignition key cylinder:  
**KEY ON SW : ON**
- When key is removed from ignition key cylinder:  
**KEY ON SW : OFF**



 Without CONSULT-II

Check voltage between BCM connector M18 terminal 37 and ground.

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



OK or NG

- OK >> Key switch circuit is OK.
- NG >> GO TO 2.

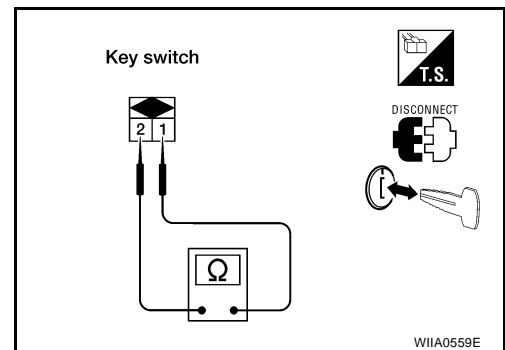
### 2. CHECK KEY SWITCH (INSERT)

- Turn ignition switch OFF.
- Disconnect key switch connector.
- Check continuity between key switch terminals.

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

OK or NG

- OK >> Repair or replace harness.
- NG >> Replace key switch.



# REMOTE KEYLESS ENTRY SYSTEM

EIS005WZ

## Door Switch Check (King Cab)

### 1. CHECK DOOR SWITCHES INPUT SIGNAL

 With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS") in DATA MONITOR mode with CONSULT-II. Refer to [BL-64, "Data Monitor"](#).

- When any doors are open:

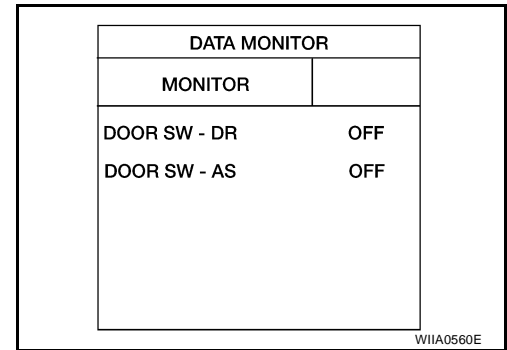
**DOOR SW-DR :ON**

**DOOR SW-AS :ON**

- When any doors are closed:

**DOOR SW-DR :OFF**

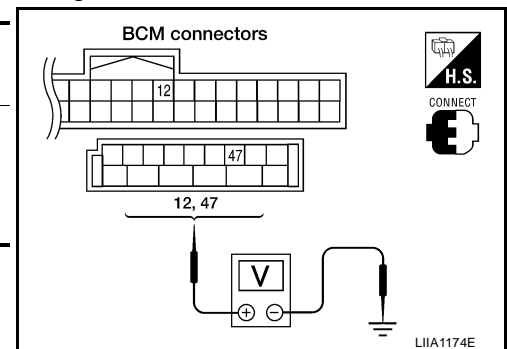
**DOOR SW-AS :OFF**



 Without CONSULT-II

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



OK or NG

- OK >> Door switch circuit is OK.
- NG >> GO TO 2.

### 2. CHECK BCM OUTPUT VOLTAGE

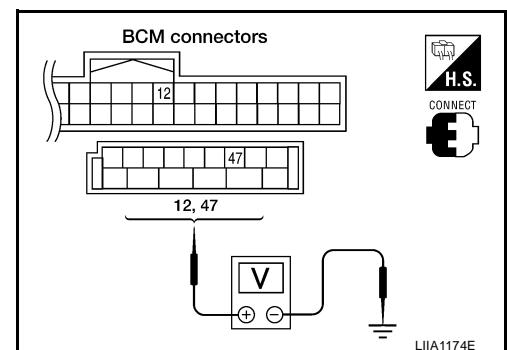
- Turn ignition switch OFF.
- Disconnect door switches.
- Check voltage between BCM connector M18, M19 terminals 12, 47 and ground.

**12 - Ground : Battery voltage**

**47 - Ground : Battery voltage**

OK or NG

- OK >> GO TO 3.
- NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#).



# REMOTE KEYLESS ENTRY SYSTEM

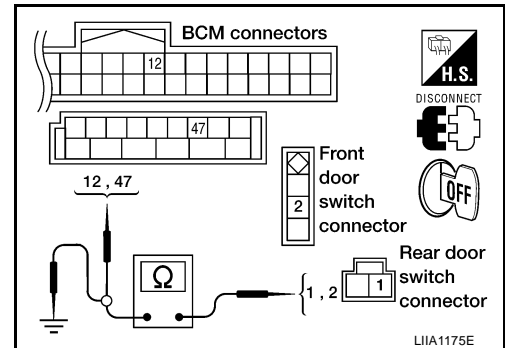
## 3. CHECK DOOR SWITCH CIRCUIT

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

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

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

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



### OK or NG

- OK >> GO TO 4.
- NG >> Repair or replace harness.

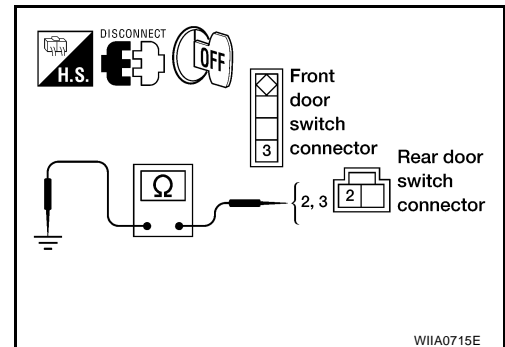
## 4. CHECK DOOR SWITCHES GROUND CIRCUIT

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

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

### OK or NG

- OK >> GO TO 5.
- NG >> Repair or replace harness.



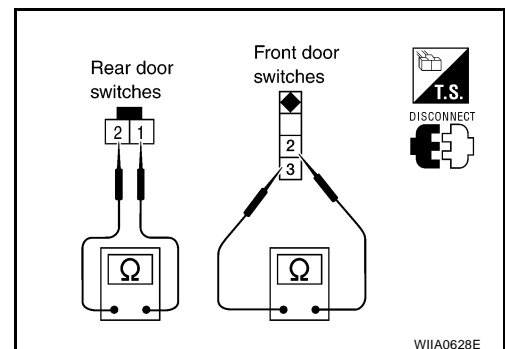
## 5. CHECK DOOR SWITCHES

Check continuity between door switch terminals.

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

### OK or NG

- OK >> Check condition of harness and connector.
- NG >> Replace door switch.



# REMOTE KEYLESS ENTRY SYSTEM

EIS005X0

## Door Switch Check (Crew Cab)

### 1. CHECK DOOR SWITCHES INPUT SIGNAL

 With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR") in DATA MONITOR mode with CONSULT-II. Refer to [BL-64, "Data Monitor"](#).

- When any doors are open:

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

- When any doors are closed:

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

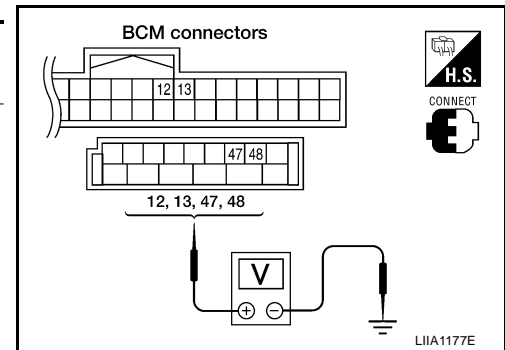
DATA MONITOR	
MONITOR	
DOOR SW-DR	OFF
DOOR SW-AS	OFF
DOOR SW-RL	OFF
DOOR SW-RR	OFF

PIA6469E

 Without CONSULT-II

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			



OK or NG

- OK >> Door switch circuit is OK.  
 NG >> GO TO 2.

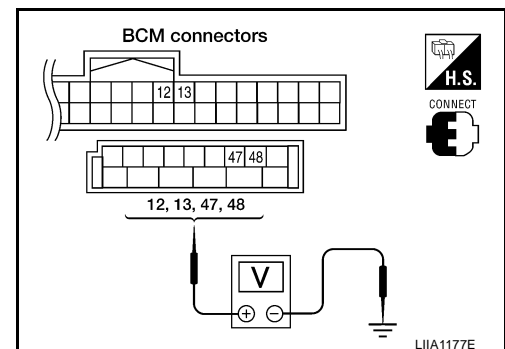
### 2. CHECK BCM OUTPUT VOLTAGE

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

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

OK or NG

- OK >> GO TO 3.  
 NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#).



# REMOTE KEYLESS ENTRY SYSTEM

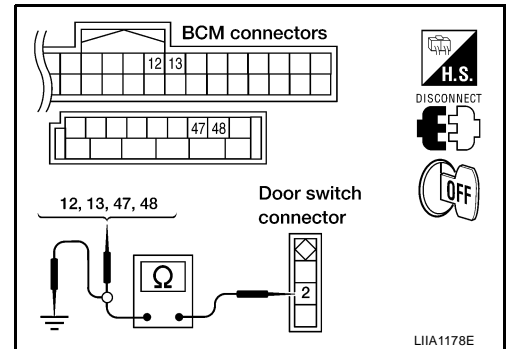
## 3. CHECK DOOR SWITCH CIRCUIT

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

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

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

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



OK or NG

- OK >> GO TO 4.
- NG >> Repair or replace harness.

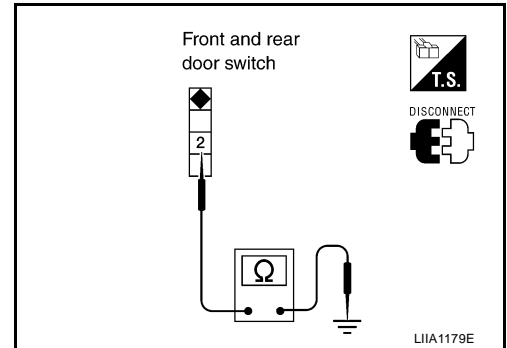
## 4. CHECK DOOR SWITCHES

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

	Terminal	Condition	Continuity
Door switch (front and rear)	2 - Ground	Open	Yes
		Closed	No

OK or NG

- OK >> Check switch case ground condition (front and rear door).
- NG >> Replace door switch.



EIS005UT

## Keyfob Battery and Function Check

### 1. CHECK KEYFOB BATTERY

Remove battery and measure voltage across battery positive and negative terminals, (+) and (-).

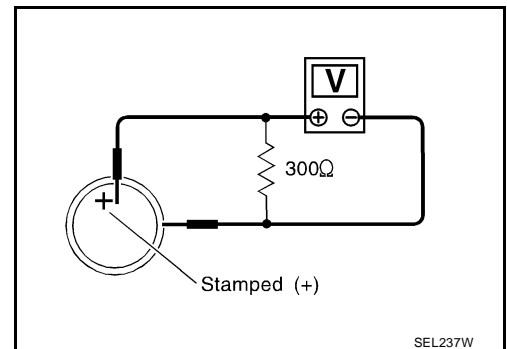
- Voltage : 2.5V - 3.0V**

#### NOTE:

Keyfob does not function if battery is not set correctly.

OK or NG

- OK >> GO TO 2.
- NG >> Replace battery.



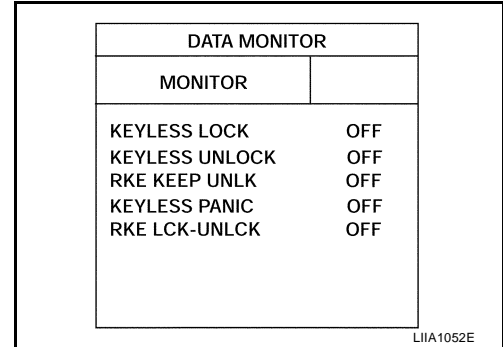
# REMOTE KEYLESS ENTRY SYSTEM

## 2. CHECK KEYFOB FUNCTION

### With CONSULT-II

Check keyfob function in "DATA MONITOR" mode with CONSULT-II. When pushing each button of keyfob, the corresponding monitor item should be turned as follows.

Condition	Monitor item
Pushing LOCK	KEYLESS LOCK : ON
Pushing UNLOCK	KEYLESS UNLOCK : ON
Keep pushing UNLOCK	RKE KEEP UNLK turns to ON 3 seconds after UNLOCK button is pushed.
Pushing PANIC	KEYLESS PANIC : ON
Pushing LOCK and UNLOCK at the same time	RKE LCK-UNLCK : ON



### Without CONSULT-II

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

OK or NG

- OK >> WITH CONSULT-II: Keyfob, remote keyless entry receiver and wiring harness between BCM and remote keyless entry receiver are OK. Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#).
- OK >> WITHOUT CONSULT-II: Keyfob is OK. Further inspection is necessary. Refer to [BL-67, "SYMPTOM CHART"](#).
- NG >> WITH CONSULT-II: Further inspection is necessary. Refer to [BL-67, "SYMPTOM CHART"](#).
- NG >> WITHOUT CONSULT-II: Replace keyfob. Refer to [BL-78, "ID Code Entry Procedure"](#).

## Remote Keyless Entry Receiver System Check

EIS005UU

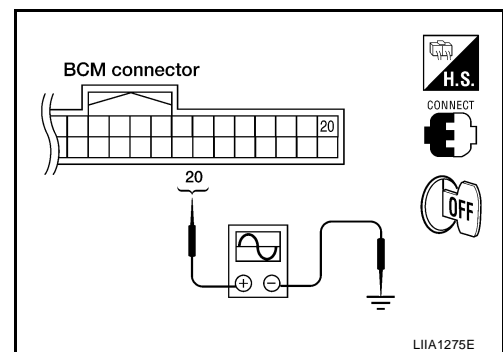
### 1. REMOTE KEYLESS ENTRY RECEIVER SIGNAL

Check signal voltage waveform between BCM connector M18 terminal 20 and ground using an oscilloscope.

**Condition:**

**Keyfob buttons released** : Refer to [BL-61, "Terminals and Reference Value for BCM"](#).

**Keyfob buttons pressed** : Refer to [BL-61, "Terminals and Reference Value for BCM"](#).



OK or NG

- OK >> Remote keyless entry receiver signal power supply, ground and signal circuits are OK. Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#).
- NG >> GO TO 2.

# REMOTE KEYLESS ENTRY SYSTEM

## 2. REMOTE KEYLESS ENTRY RECEIVER POWER SUPPLY INSPECTION

Check signal voltage waveform between BCM connector M18 terminal 19 and ground using an oscilloscope.

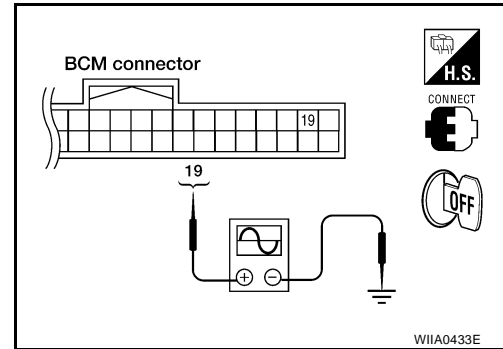
**19 - Ground**

**: Refer to [BL-61](#), "[Terminals and Reference Value for BCM](#)".**

OK or NG

OK >> GO TO 3.

NG >> Replace BCM. Refer to [BCS-19](#), "[Removal and Installation of BCM](#)".



WIIA0433E

## 3. REMOTE KEYLESS ENTRY RECEIVER GROUND CIRCUIT INSPECTION (BCM)

Check continuity between BCM connector M18 terminal 18 and ground.

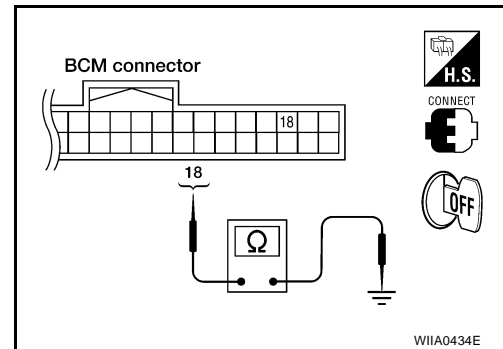
**18 - Ground**

**: Continuity should exist**

OK or NG

OK >> GO TO 4.

NG >> Replace BCM. Refer to [BCS-19](#), "[Removal and Installation of BCM](#)".



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## 4. HARNESS INSPECTION BETWEEN BCM AND REMOTE KEYLESS ENTRY RECEIVER

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

**1 - 18 : Continuity should exist**

**2 - 20 : Continuity should exist**

**4 - 19 : Continuity should exist**

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

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

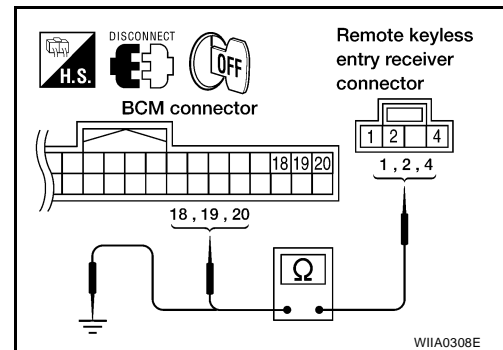
**2 - Ground : Continuity should not exist**

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

OK or NG

OK >> Replace remote keyless entry receiver.

NG >> Repair or replace the harness between the remote keyless entry receiver and BCM.



WIIA0308E

# REMOTE KEYLESS ENTRY SYSTEM

EIS005UV

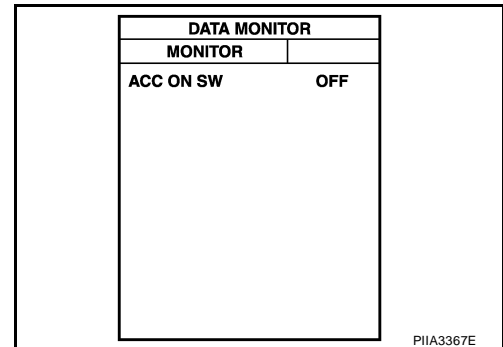
## ACC Power Check

### 1. CHECK ACC POWER

 With CONSULT-II

Check "ACC ON SW" in DATA MONITOR mode with CONSULT-II. Refer to [BL-64, "Data Monitor"](#).

Monitor Item	Condition
ACC ON SW	Ignition switch position is ACC : ON
	Ignition switch position is OFF : OFF

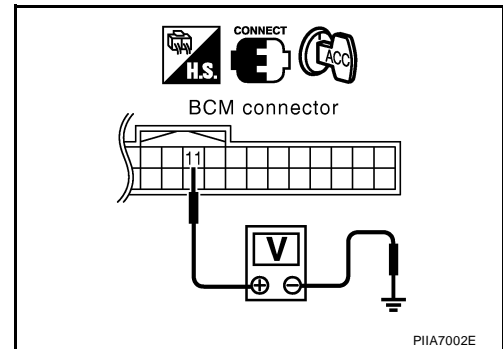


PIIA3367E

 Without CONSULT-II

Check voltage between BCM connector M18 terminal 11 and ground.

Connector	Terminal		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M18	11	Ground	ACC	Battery voltage
			OFF	0



PIIA7002E

OK or NG

OK >> ACC power circuit is OK.

NG >> Check the following.

- 10A fuse [No. 4, located in fuse block (J/B)]
- Harness for open or short.

## IPDM E/R Operation Check

### 1. CHECK IPDM E/R INPUT VOLTAGE

EIS005UW

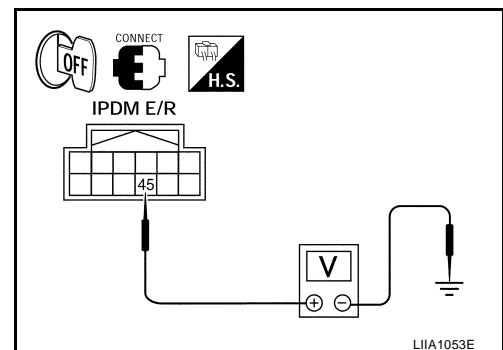
Check voltage between IPDM E/R connector E122 terminal 45 and ground.

Connector	Terminal		Voltage (V) (Approx.)
	(+)	(-)	
E122	45	Ground	Battery voltage

OK or NG

OK >> Replace IPDM E/R. Refer to [PG-29, "Removal and Installation of IPDM E/R"](#).

NG >> GO TO 2.



LIIA1053E



# REMOTE KEYLESS ENTRY SYSTEM

## 2. CHECK IPDM E/R INPUT VOLTAGE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R and horn relay.
3. Check continuity between IPDM E/R connector E122 terminal 45 and horn relay connector H-1 terminal 1.

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

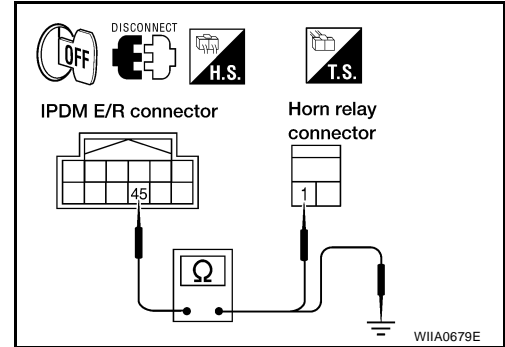
4. Check continuity between IPDM E/R connector E122 terminal 45 and ground.

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

OK or NG

OK >> Further inspection is necessary. Refer to [BL-67, "SYMP-TOM CHART"](#).

NG >> Repair or replace harness.



## Check Hazard Function

EIS005UX

### 1. CHECK HAZARD WARNING LAMP

Does hazard indicator flash with hazard switch?

Yes or No

Yes >> Hazard warning lamp circuit is OK.

No >> Check hazard indicator. Refer to [LT-74, "TURN SIGNAL AND HAZARD WARNING LAMPS"](#).

## Check Horn Function

EIS005UY

First, perform the "SELF-DIAG RESULTS" in "BCM" with CONSULT-II, then perform the trouble diagnosis of malfunction system indicated in "SELF-DIAG RESULTS" of "BCM".

### 1. CHECK HORN FUNCTION

Does horn sound with horn switch?

Yes or No

Yes >> Horn circuit is OK.

No >> Check horn circuit. Refer to [WW-37, "HORN"](#).

## Check Headlamp Function

EIS005UZ

First, perform the "SELF-DIAG RESULTS" in "BCM" with CONSULT-II, then perform the trouble diagnosis of malfunction system indicated in "SELF-DIAG RESULTS" of "BCM".

### 1. CHECK HEADLAMP OPERATION

Does headlamp come on when turning lighting switch ON?

Yes or No

Yes >> Headlamp operation circuit is OK.

No >> Check headlamp circuit. Refer to [LT-5, "HEADLAMP \(FOR USA\)"](#).

## Check Room Lamp Illumination Function

EIS005V0

### 1. CHECK ROOM LAMP ILLUMINATION FUNCTION

When room lamp switch is in DOOR position, open the front door LH or RH.

**Room lamp and ignition keyhole illumination should illuminate.**

OK or NG

OK >> System is OK.

NG >> Check room lamp illumination circuit. Refer to [LT-128, "INTERIOR ROOM LAMP"](#).

# REMOTE KEYLESS ENTRY SYSTEM

EIS005V1

## ID Code Entry Procedure KEYFOB ID SET UP WITH CONSULT-II

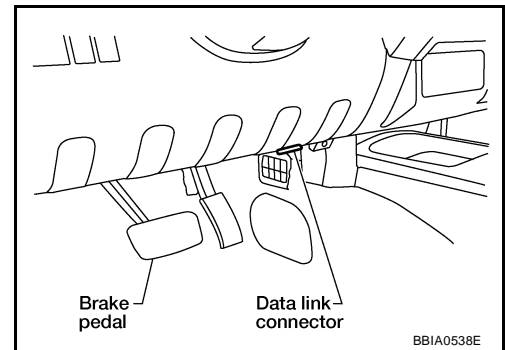
### NOTE:

- 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-II. 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.

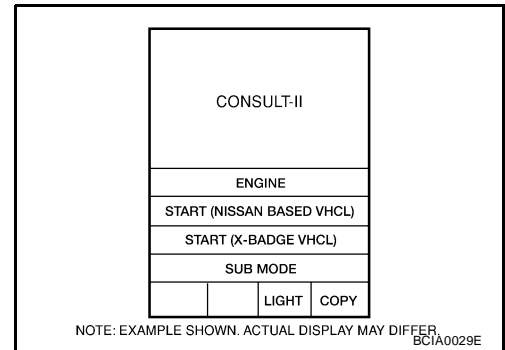
### CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carries out CAN communication.

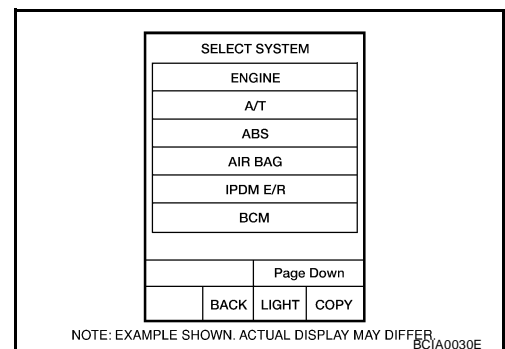
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.



3. Turn ignition switch ON.
4. Touch "START (NISSAN BASED VHCL)".

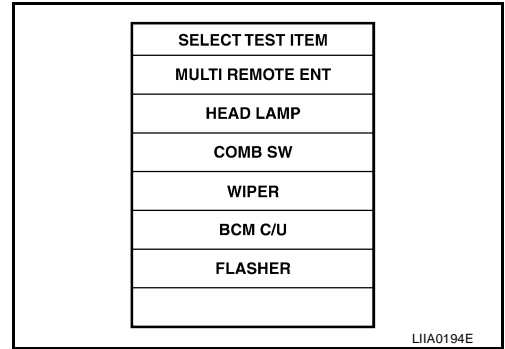


5. Touch "BCM".  
If "BCM" is not indicated, refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



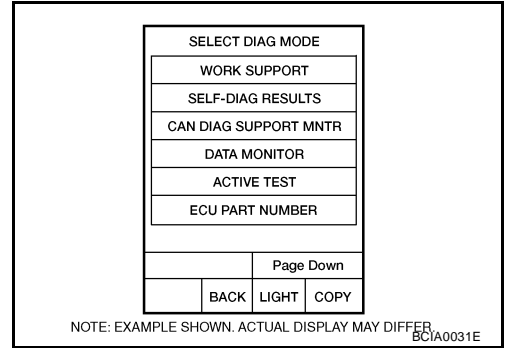
# REMOTE KEYLESS ENTRY SYSTEM

6. Touch "MULTI REMOTE ENT".



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D

7. Touch "WORK SUPPORT".



E  
F  
G

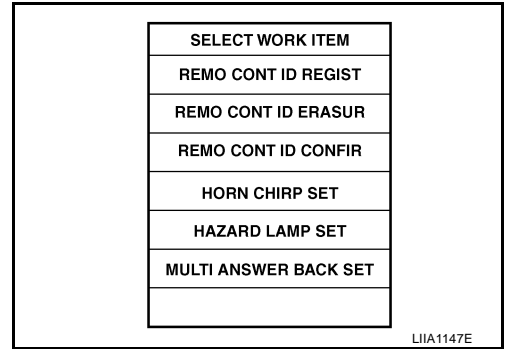
8. The items shown on the figure can be set up.

- "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.**

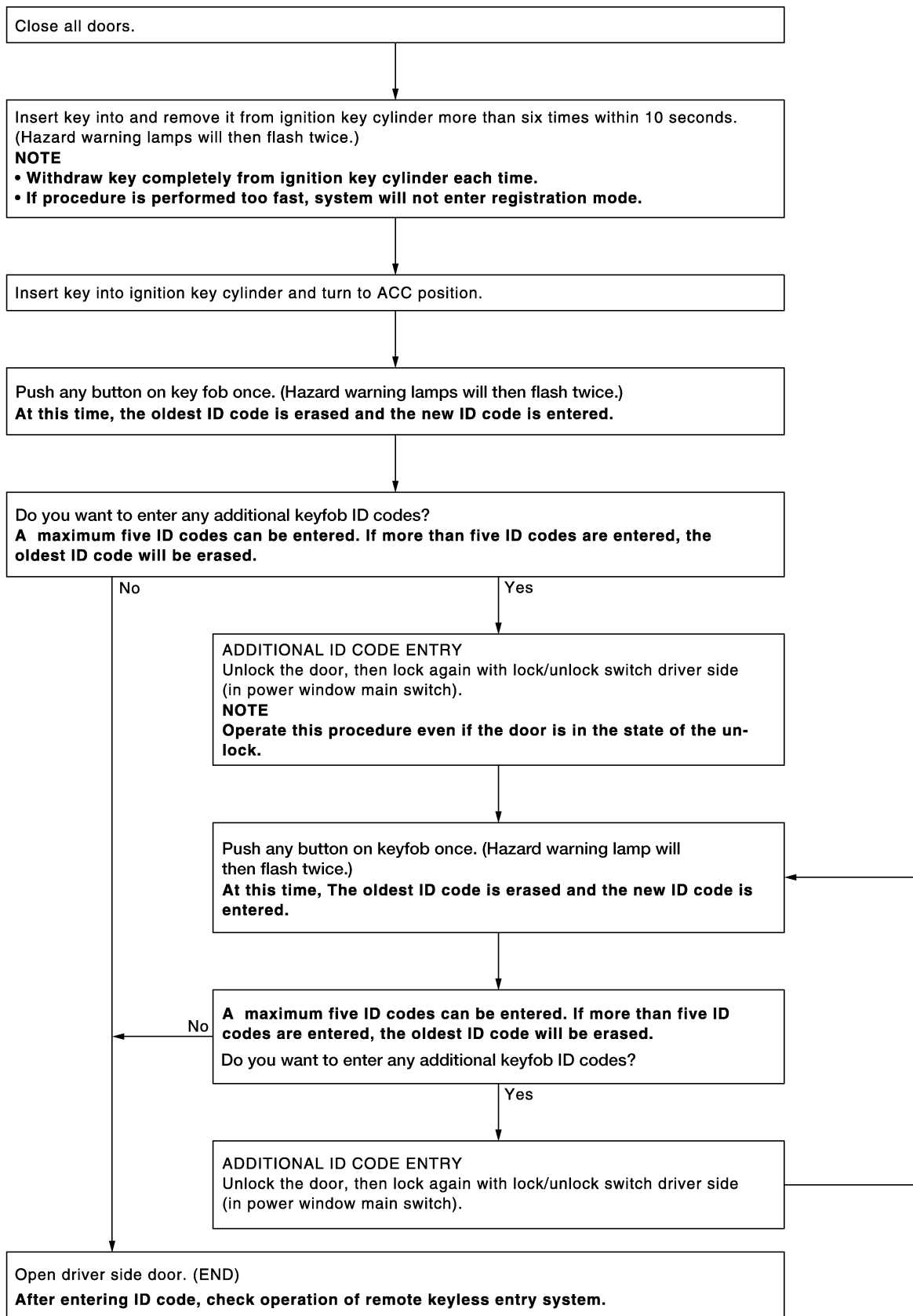
- "REMO CONT ID ERASUR"  
Use this mode to erase a keyfob ID code.
- "REMO CONT ID CONFIR"  
Use this mode to confirm if a keyfob ID code is registered or not.



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K  
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# REMOTE KEYLESS ENTRY SYSTEM

## KEYFOB ID SET UP WITHOUT CONSULT-II



LIA1670E

# REMOTE KEYLESS ENTRY SYSTEM

## NOTE:

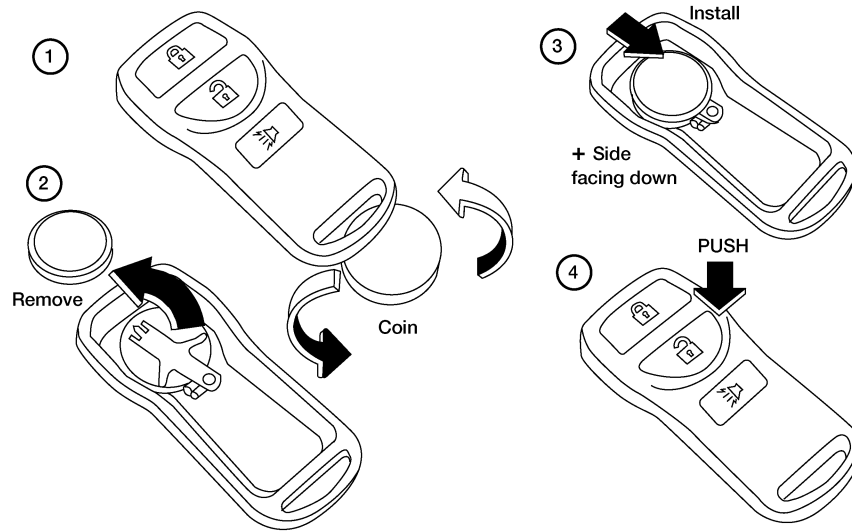
- If a keyfob is lost, the ID code of the lost keyfob must be erased to prevent unauthorized use. A specific ID code can be erased with CONSULT-II. However, when the ID code of a lost keyfob is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new keyfobs must be re-registered.  
To erase all ID codes in memory, register one ID code (keyfob) five times. After all ID codes are erased, the ID codes of all remaining and/or new keyfobs must be re-registered.
- When registering an additional keyfob, the existing ID codes in memory may or may not be erased. If five ID codes are stored in memory, when an additional code is registered, only the oldest code is erased. If less than five ID codes are stored in memory, when an additional ID code is registered, the new ID code is added and no ID codes are erased.
- If you need to activate more than two additional new keyfobs, repeat the procedure “Additional ID code entry” for each new keyfob.
- Entry of maximum five ID codes is allowed. When more than five ID codes are entered, the oldest ID code will be erased.
- Even if same ID code that is already in the memory is input, the same ID code can be entered. The code is counted as an additional code.

## Keyfob Battery Replacement

EIS005V2

### 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

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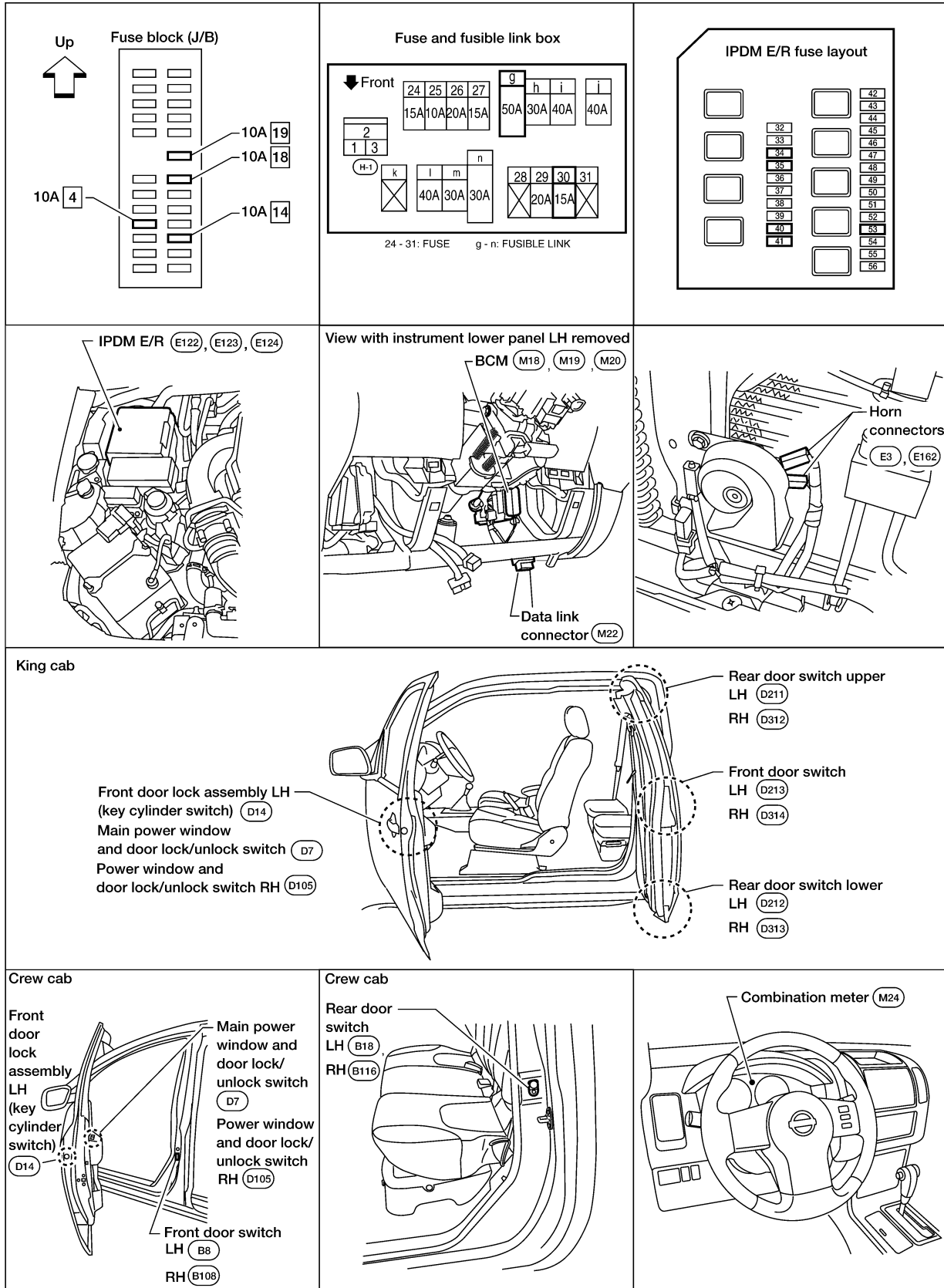
# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## VEHICLE SECURITY (THEFT WARNING) SYSTEM

PFV:28491

### Component Parts and Harness Connector Location

EIS005V3



W1A0713E

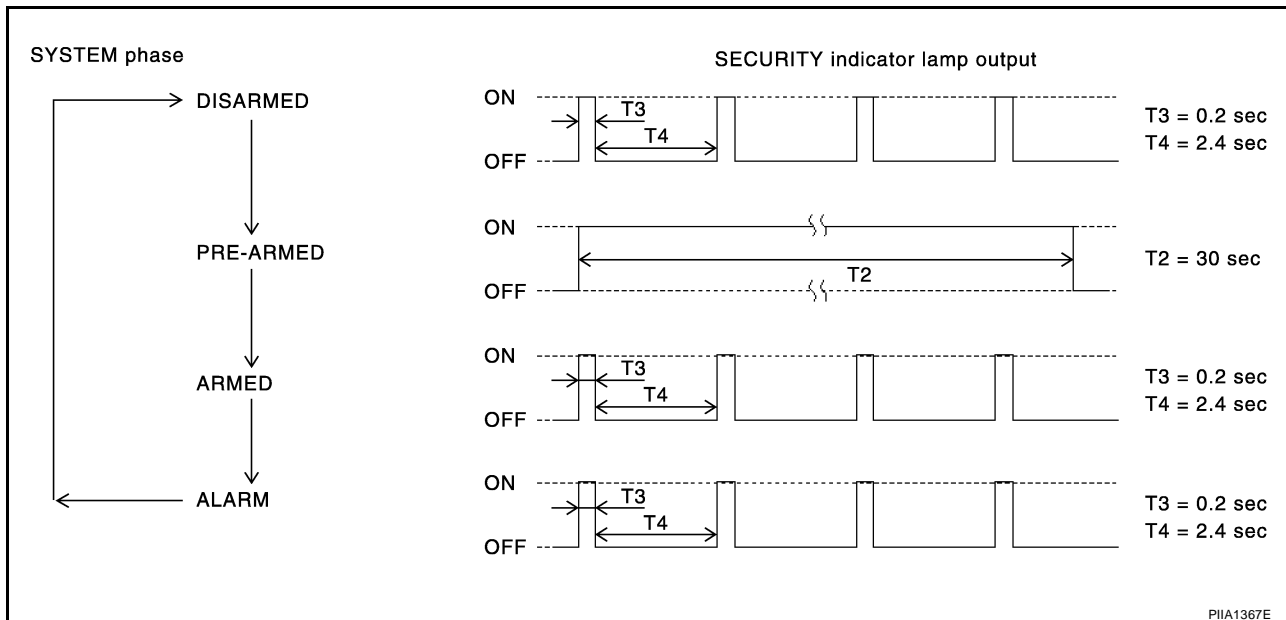
# VEHICLE SECURITY (THEFT WARNING) SYSTEM

EIS005V4

## System Description

### DESCRIPTION

### Operation Flow



## Setting the vehicle security system

### Initial condition

- Ignition switch is in OFF position.

### Disarmed phase

- When the vehicle is being driven or when doors are open, the vehicle security system is set in the disarmed phase on the assumption that the owner is inside or near the vehicle.

### Pre-armed phase and armed phase

- The vehicle security system turns into the "pre-armed" phase when all doors are closed and locked. The security indicator lamp illuminates for 30 seconds. Then, the system automatically shifts into the "armed" phase.

## Canceling the set vehicle security system

When one of the following operations is performed, the armed phase is canceled.

1. Unlock the doors with the key.
2. Unlock the doors with the keyfob.

## Activating the alarm operation of the vehicle security system

Make sure the system is in the armed phase.

When one of the following operations is performed, the system sounds the horns and flashes the headlamps for about 50 seconds.

1. Any door is opened before unlocking door with key or keyfob.
2. Door is unlocked without using key or keyfob.

## POWER SUPPLY AND GROUND CIRCUIT

Power is supplied at all times

- through 10A fuse [No.19, located in the fuse block (J/B)]
- to combination meter (security indicator lamp) terminal 3 and
- through 50A fusible link (letter **g**, located in the fuse and fusible link box)
- to BCM (body control module) terminal 70
- through 10A fuse [No. 18, located in the fuse block (J/B)]
- to BCM terminal 57
- through 15A fuse (No. 30, located in the fuse and fusible link box)

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# VEHICLE SECURITY (THEFT WARNING) SYSTEM

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- to horn relay terminal 2
- through 20A fuse (No. 53, located in the IPDM E/R),
- to IPDM E/R internal CPU.

With the ignition switch in the ACC or ON position, power is supplied

- through 10A fuse [No. 4, located in the fuse block (J/B)]
- to BCM terminal 11.

Ground is supplied

- to BCM terminal 67
- through body grounds M57, M61 and M79 and
- to IPDM E/R terminals 38 and 59
- through body ground E9, E15 and E24.

## INITIAL CONDITION TO ACTIVATE THE SYSTEM

The operation of the vehicle security system is controlled by the doors.

To activate the vehicle security system, BCM must receive signals indicating the doors are closed and locked. When a door is open, BCM terminal 12, 13 (crew cab), 47 or 48 (crew cab) receives a ground signal from each door switch.

When front door LH or RH is unlocked, BCM terminal 46 receives a signal from terminal 11 of main power window and door lock/unlock switch or terminal 2 of power window and door lock/unlock switch RH.

## VEHICLE SECURITY SYSTEM ALARM OPERATION

The vehicle security system is triggered by

- opening a door
- unlocking door without using the key or keyfob.

The vehicle security system will be triggered once the system is in armed phase,

- when BCM receives a ground signal at terminals 12, 13 (crew cab), 47, 48 (crew cab) (door switch).

When the vehicle security system is triggered, ground is supplied intermittently

- from IPDM E/R CPU
- to headlamp high relay and
- from IPDM E/R terminal 45
- to horn relay terminal 1.

The headlamps flash and the horn sounds intermittently.

The alarm automatically turns off after 50 seconds, but will reactivate if the vehicle is tampered with again.

## VEHICLE SECURITY SYSTEM DEACTIVATION

To deactivate the vehicle security system, a door must be unlocked with the key or keyfob.

When the key is used to unlock a door, BCM terminal 7 receives signal

- from terminal 3 of front door lock assembly LH (key cylinder switch).

When the BCM receives either one of these signals or unlock signal from keyfob or key cylinder switch, the vehicle security system is deactivated. (Disarmed phase)

## PANIC ALARM OPERATION

Remote keyless entry system can operate vehicle security system (horn and headlamps) as required.

When the remote keyless entry system is triggered, ground is supplied intermittently

- from IPDM E/R CPU
- to headlamp high relay and
- from IPDM E/R terminal 45
- to horn relay terminal 1.

The headlamp flashes and the horn sounds intermittently.

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

## CAN Communication System Description

Refer to [LAN-22, "CAN COMMUNICATION"](#) .

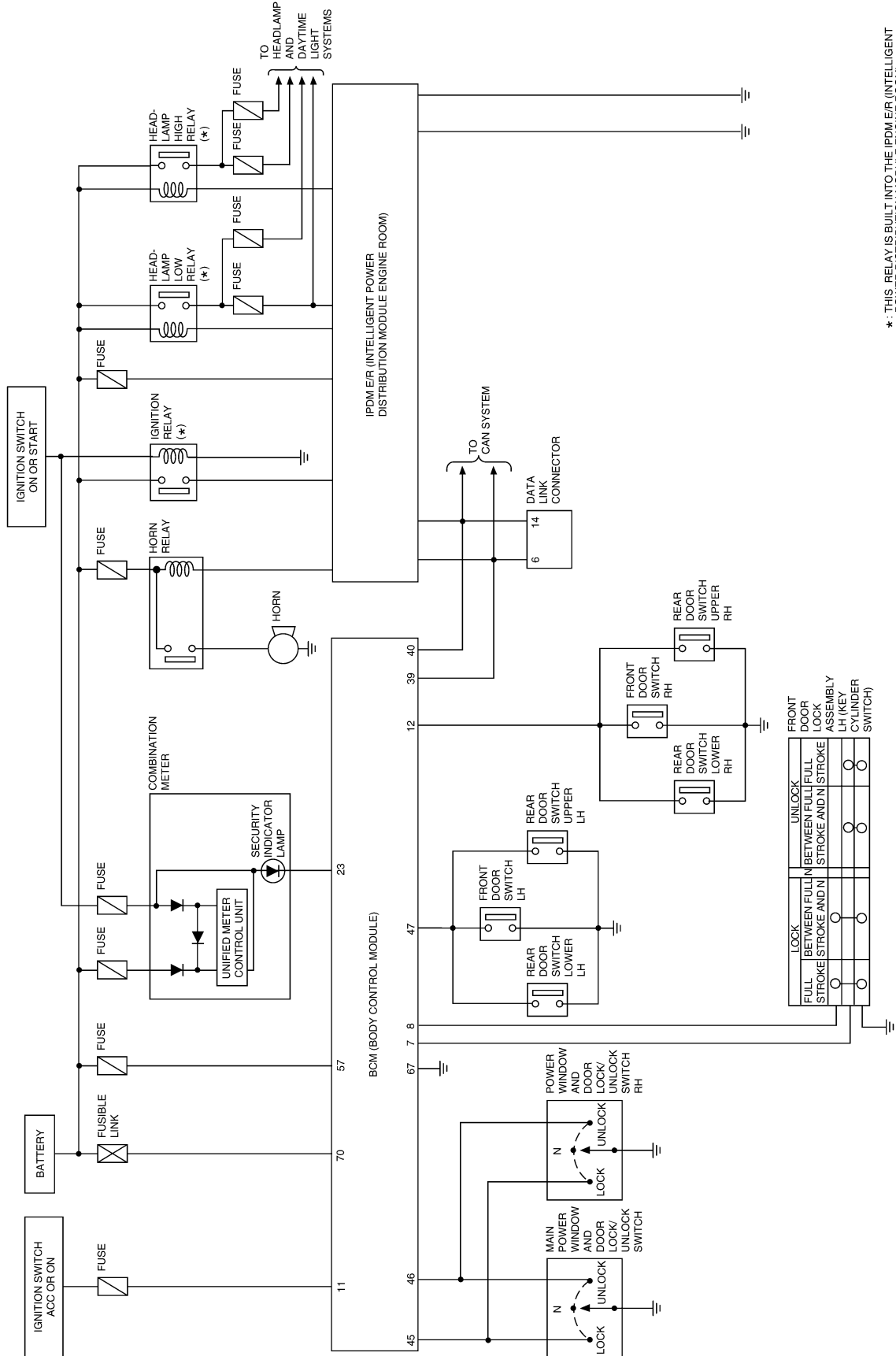
EIS005V5



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Schematic (King Cab)

EIS005V6



WIWA0662E

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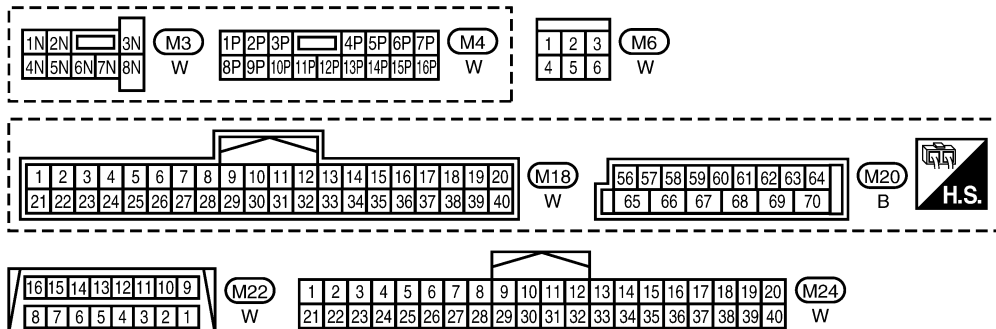
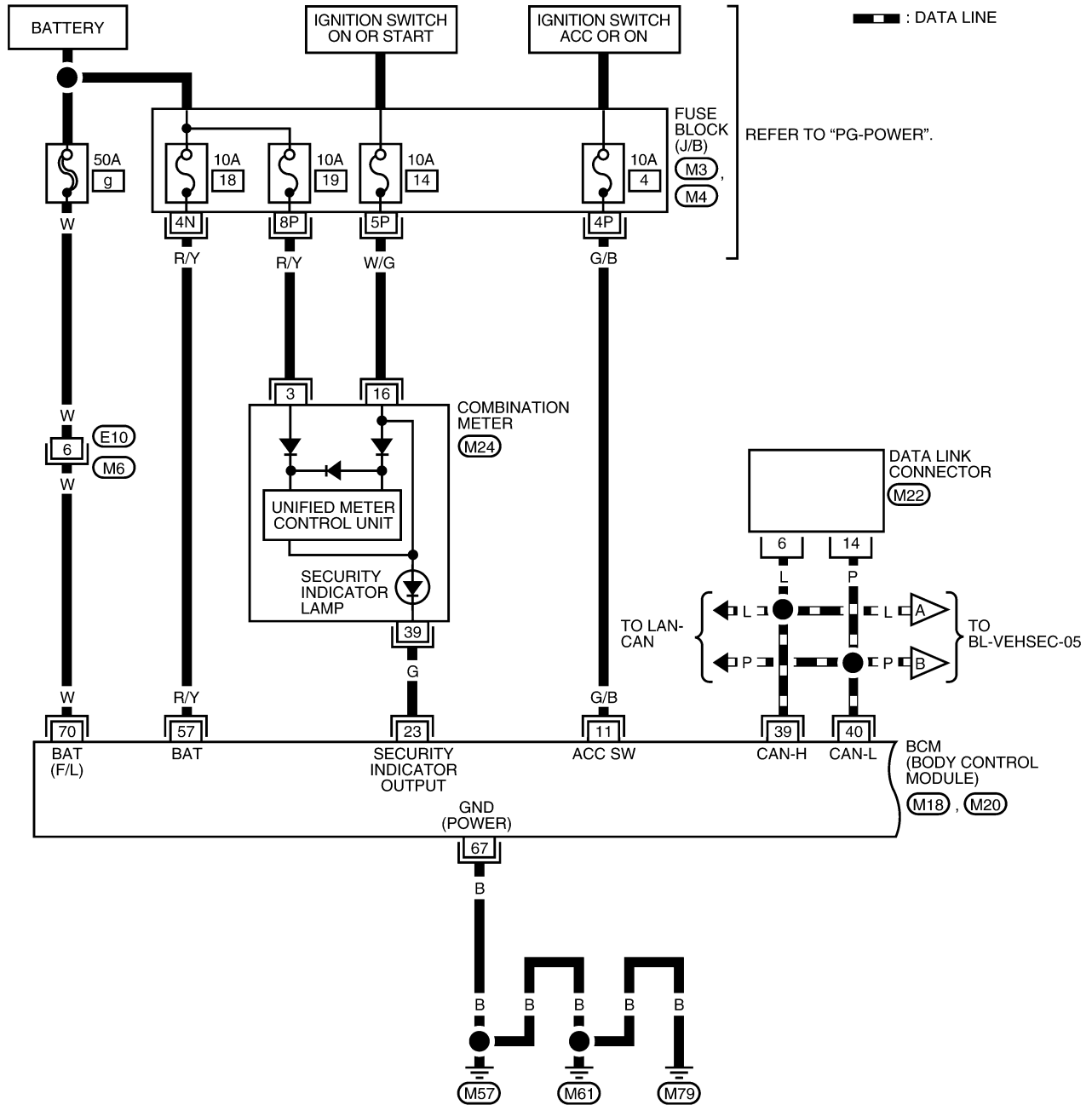
# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Wiring Diagram — VEHSEC — (King Cab)

EIS005V7

### BL-VEHSEC-01

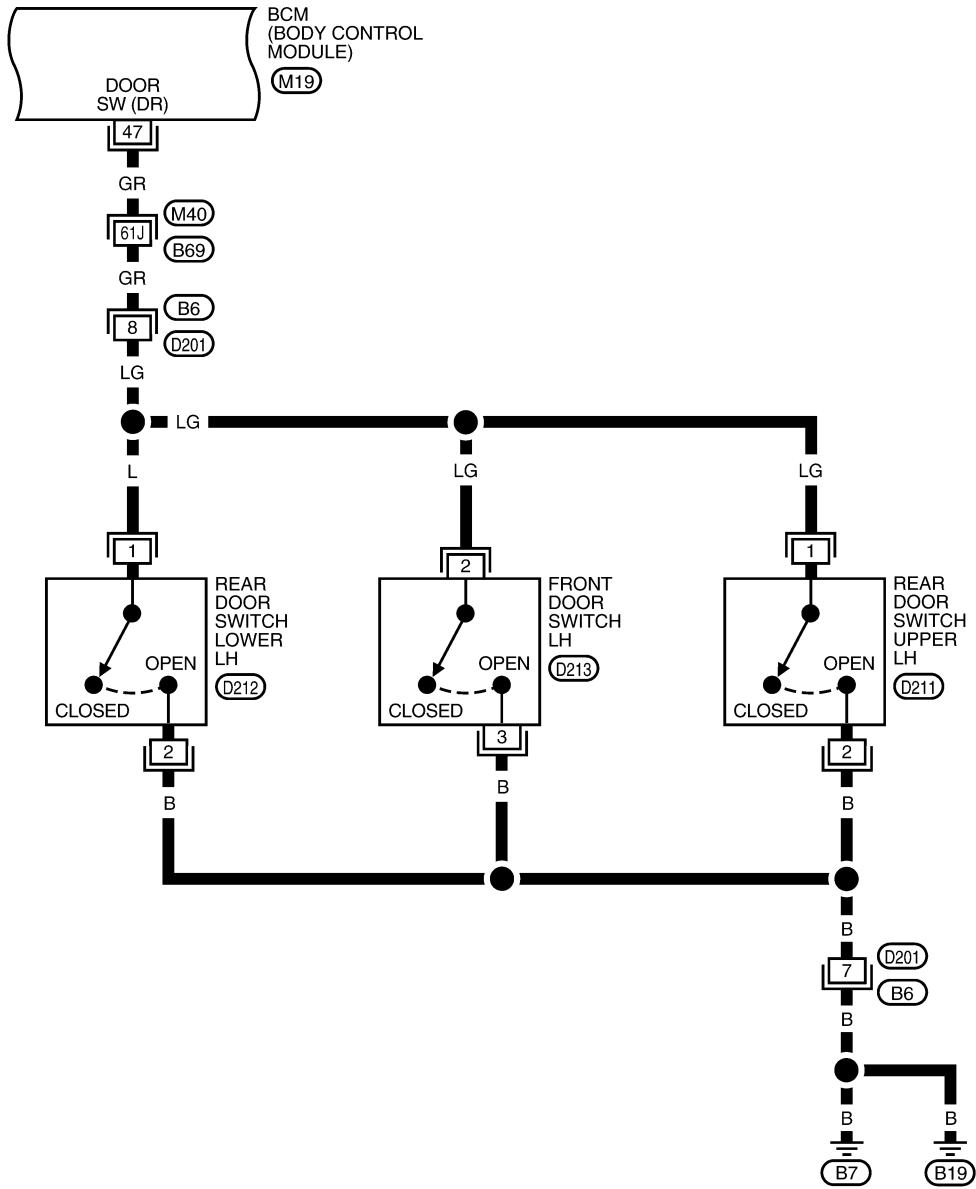
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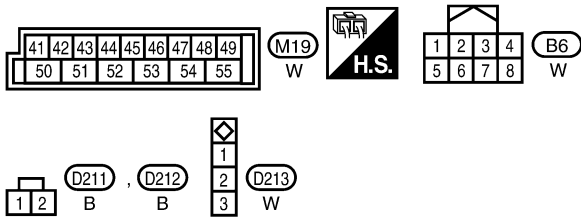
WIWA0922E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

BL-VEHSEC-02



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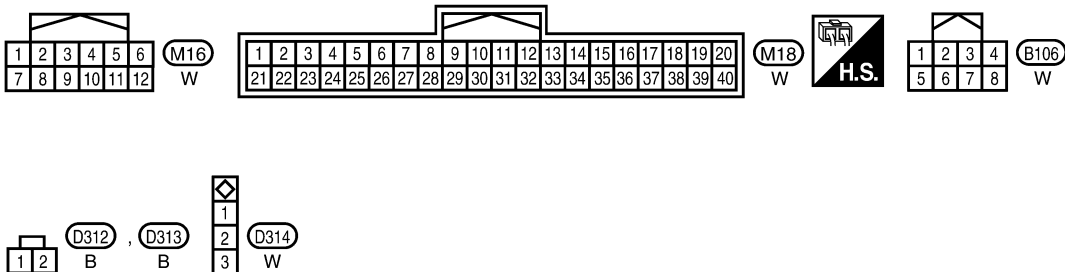
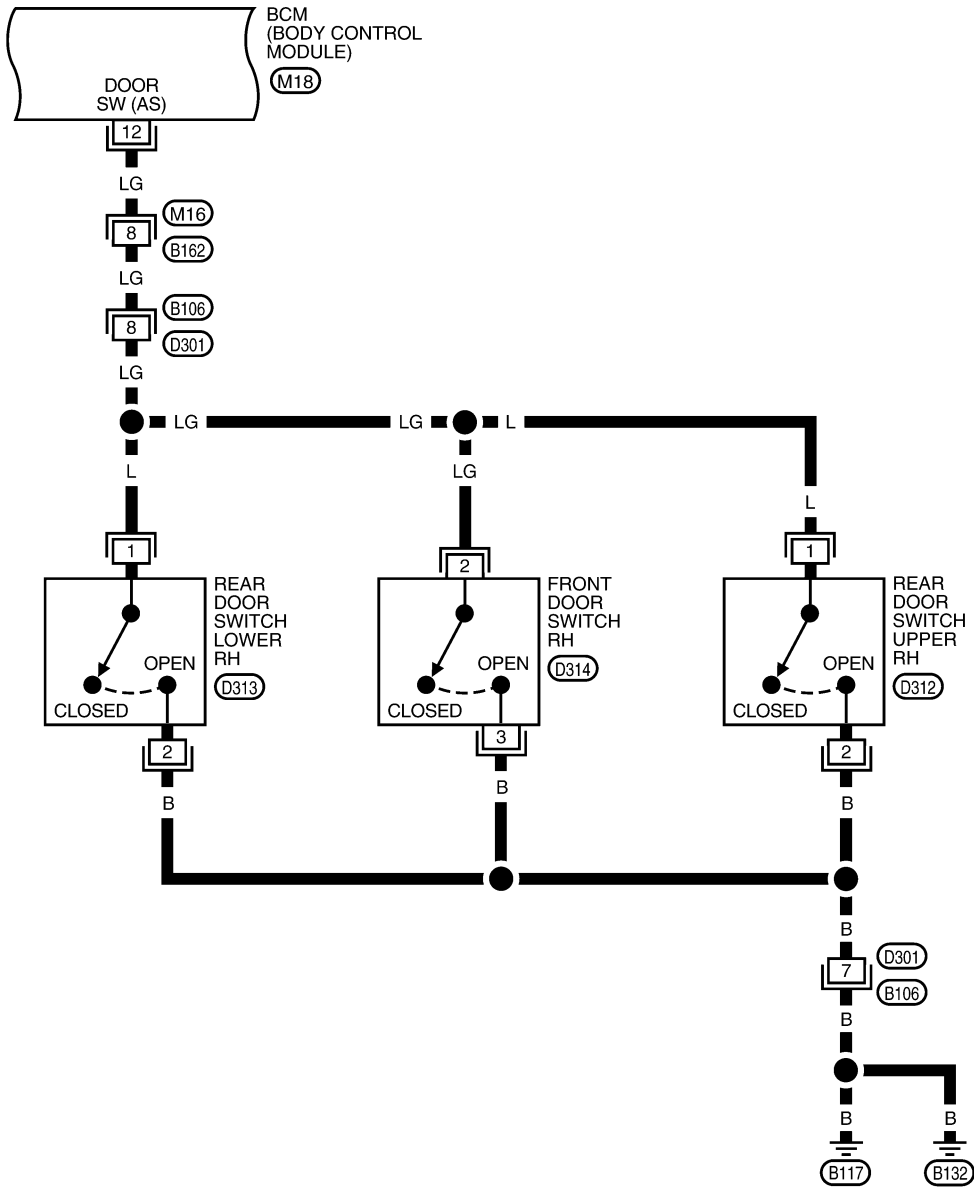


REFER TO THE FOLLOWING.  
 (M40) - SUPER MULTIPLE JUNCTION (SMJ)

W1WA0923E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

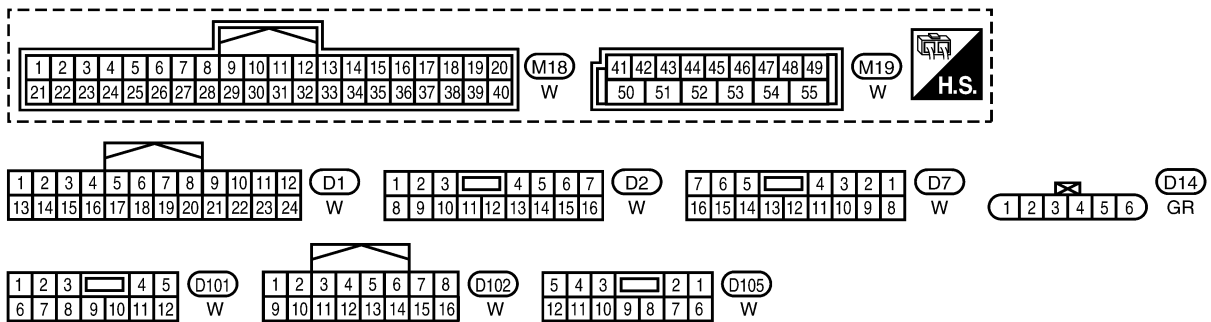
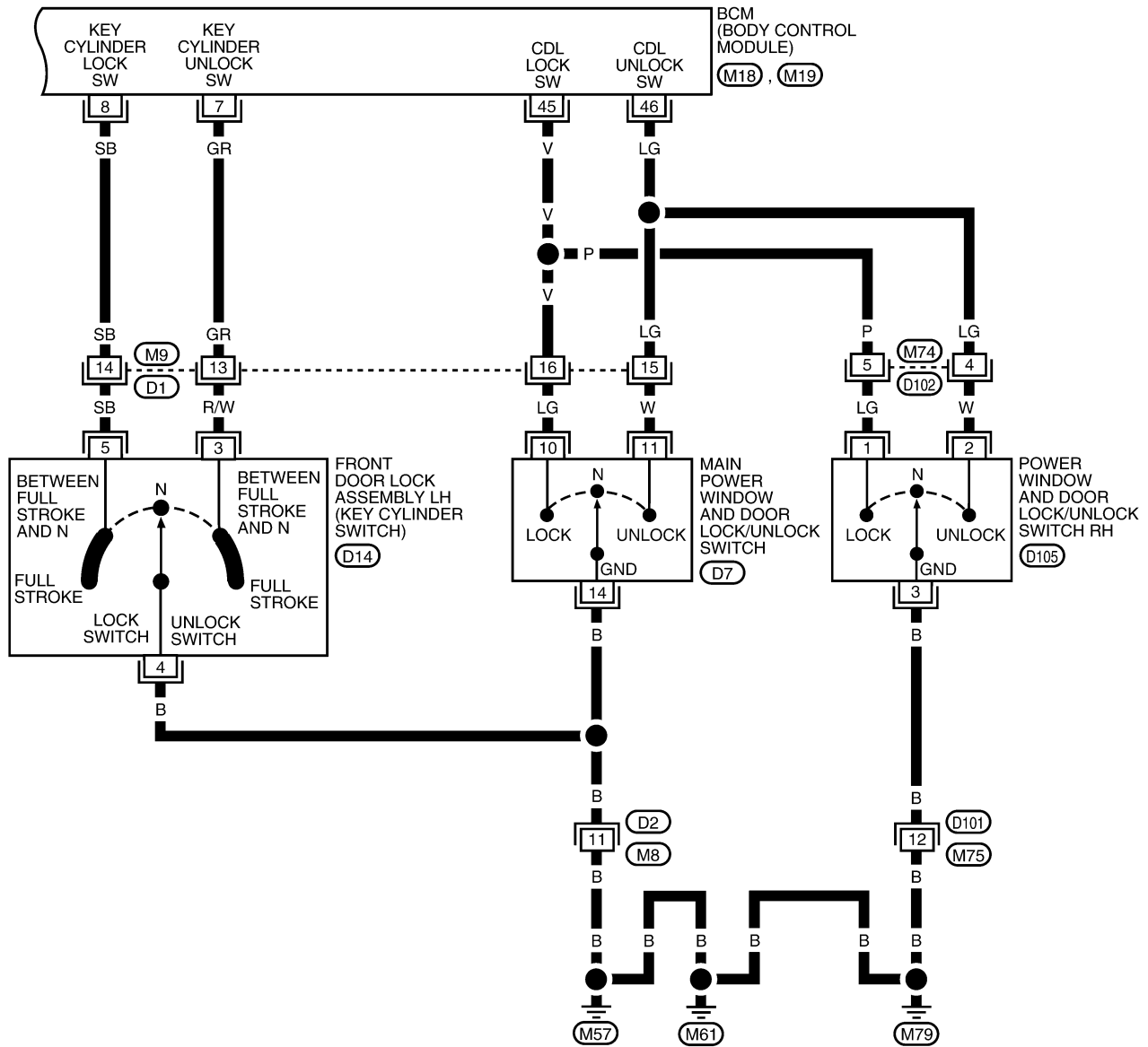
BL-VEHSEC-03



WIWA0924E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

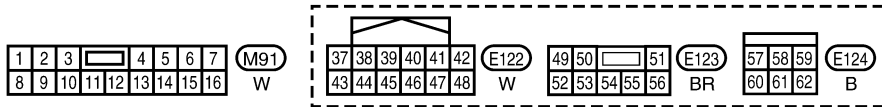
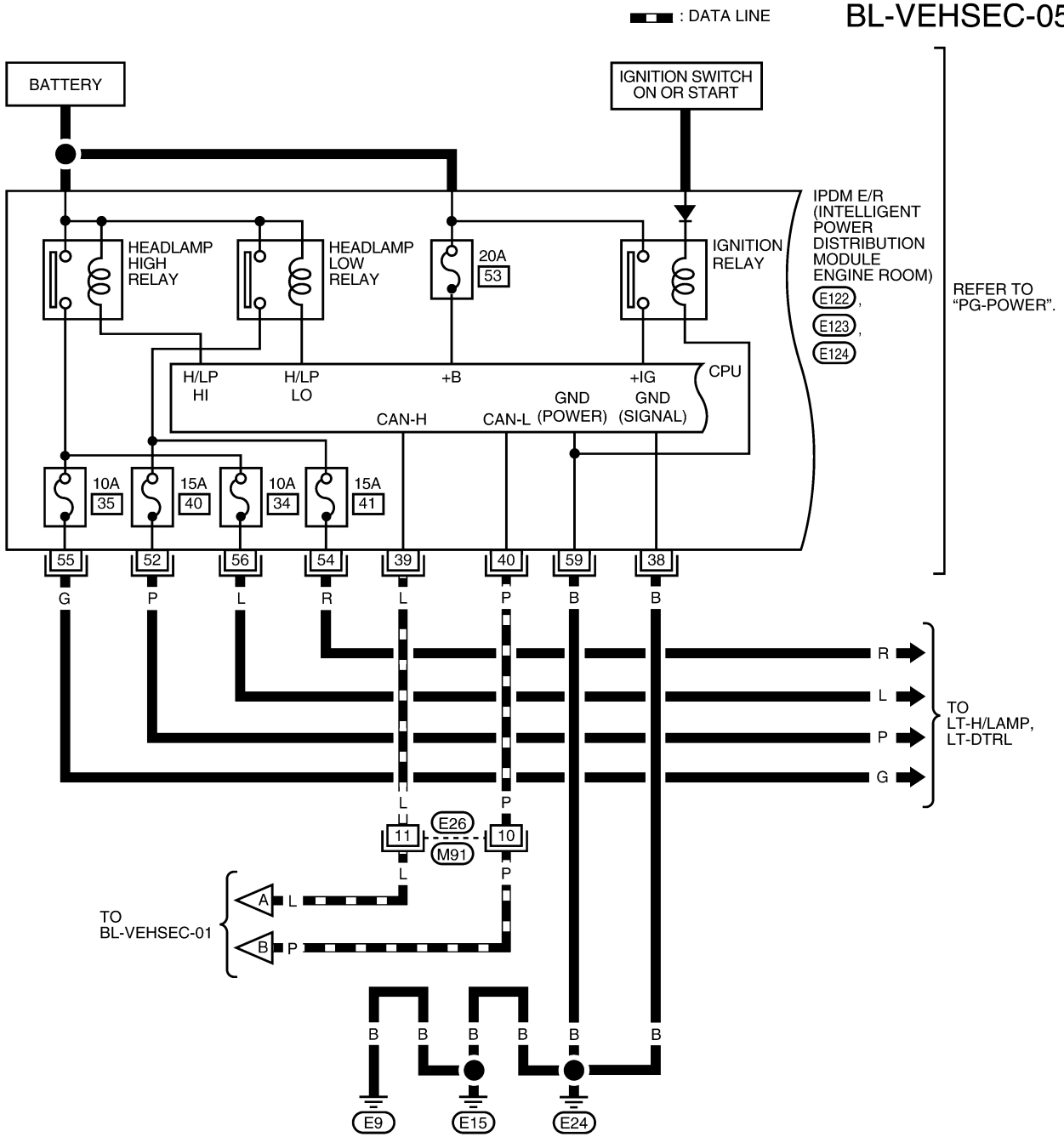
BL-VEHSEC-04



WIWA0925E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

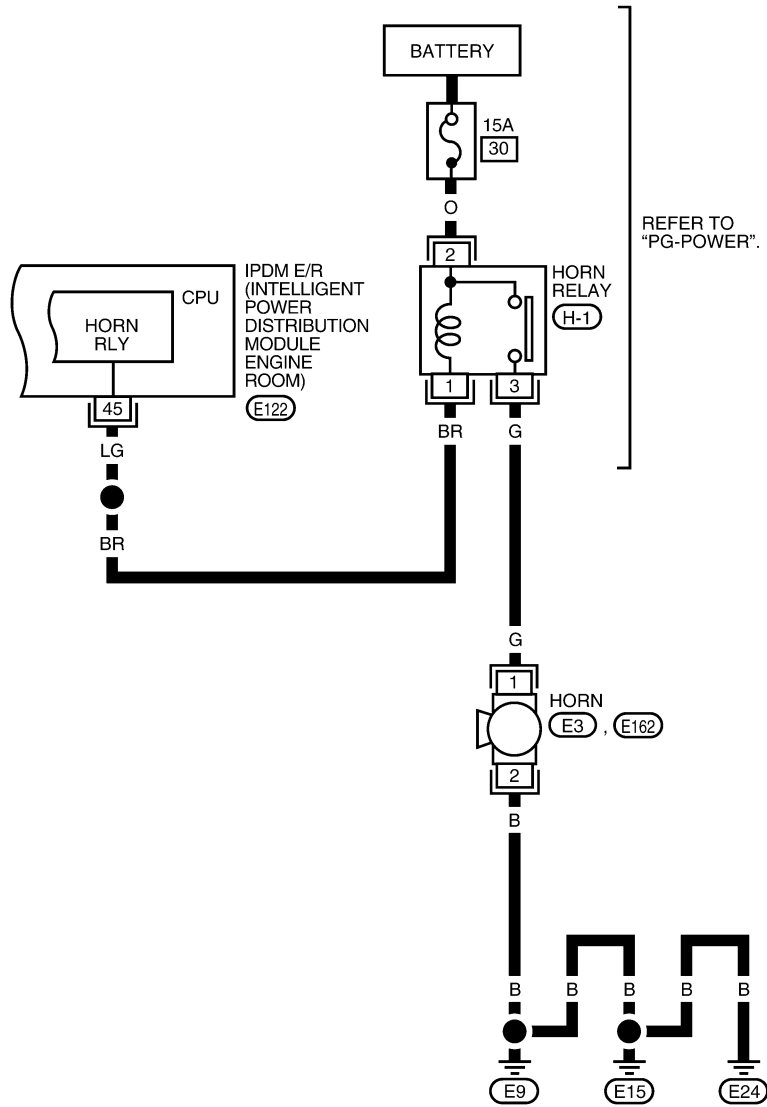
BL-VEHSEC-05



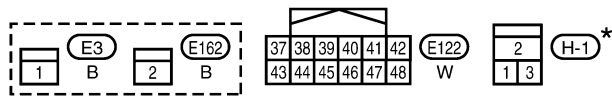
WIWA0667E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

BL-VEHSEC-06



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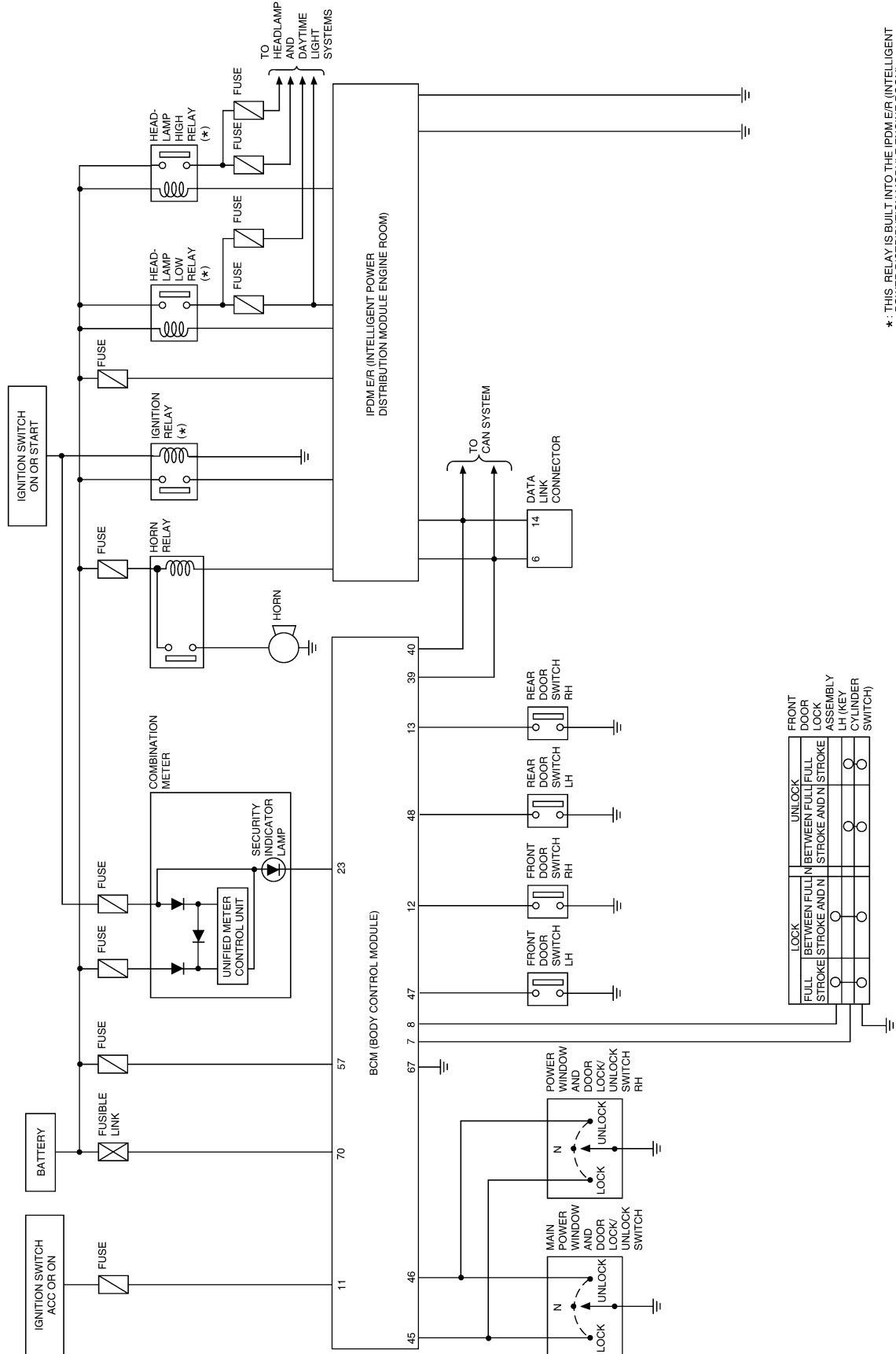
\* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

WIWA0668E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Schematic (Crew Cab)

EIS005X2



\* THIS RELAY IS BUILT INTO THE IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

WIWA0669E



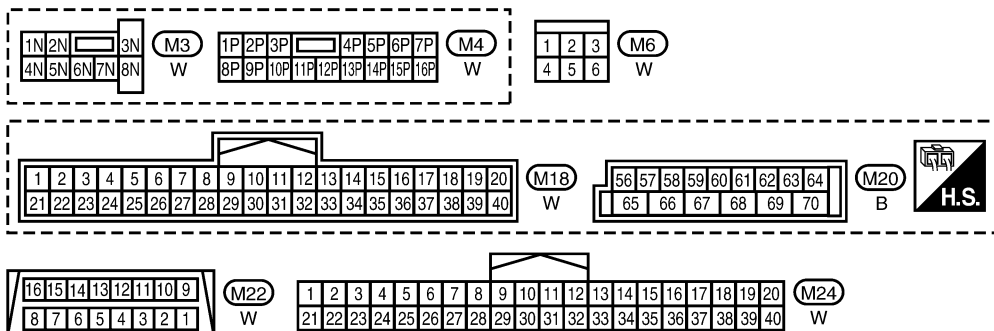
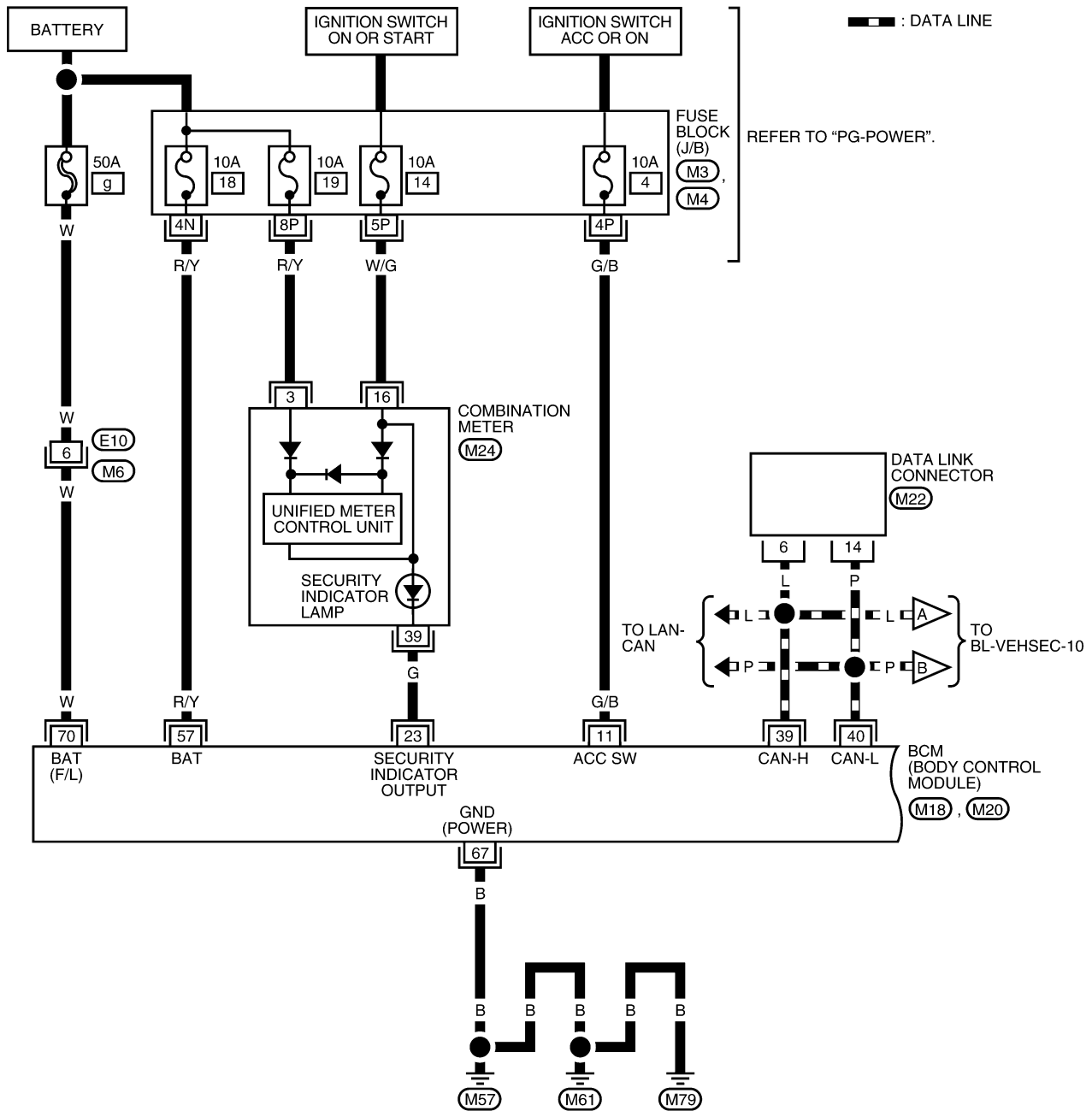
# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Wiring Diagram — VEHSEC — (Crew Cab)

EIS005X3

### BL-VEHSEC-07

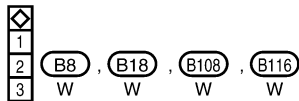
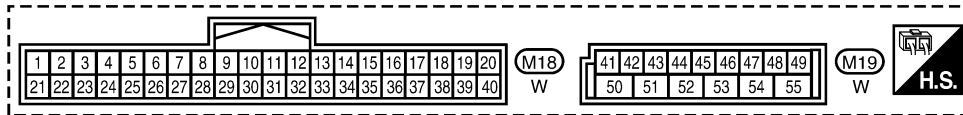
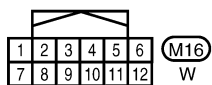
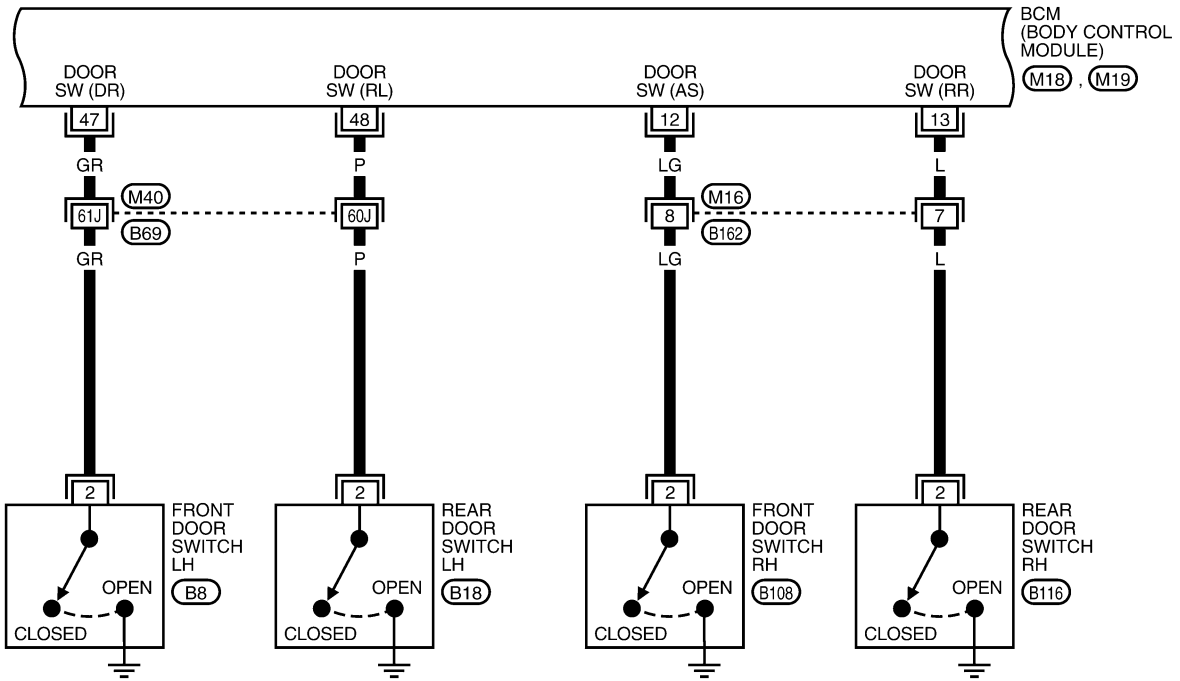
— : DATA LINE



WIWA0927E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

BL-VEHSEC-08

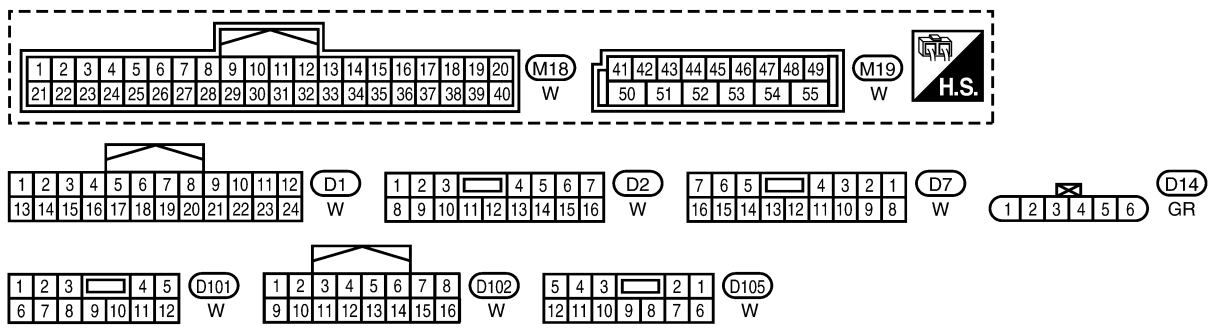
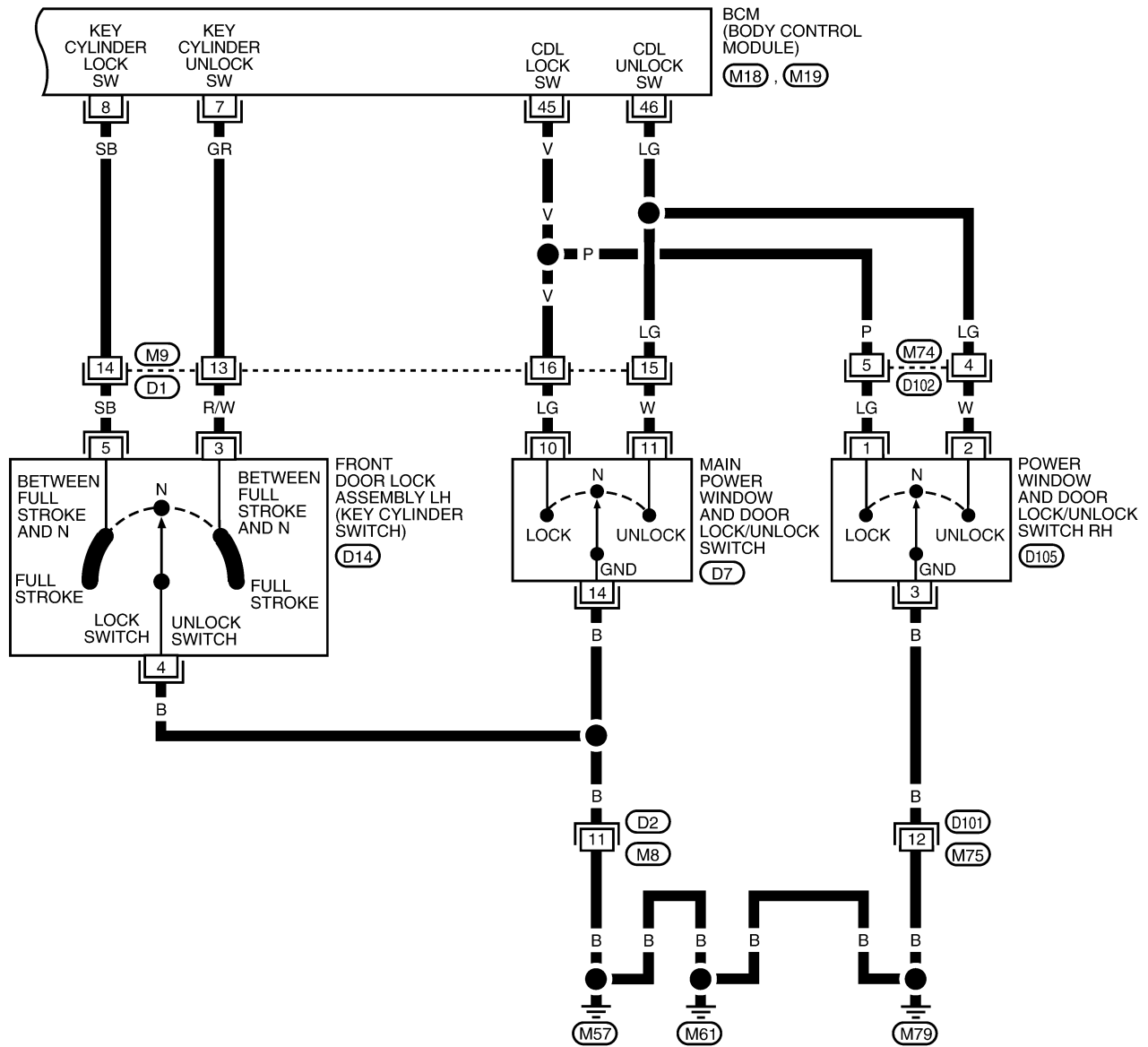


REFER TO THE FOLLOWING.  
 (M40) - SUPER MULTIPLE JUNCTION (SMJ)

WIWA0671E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

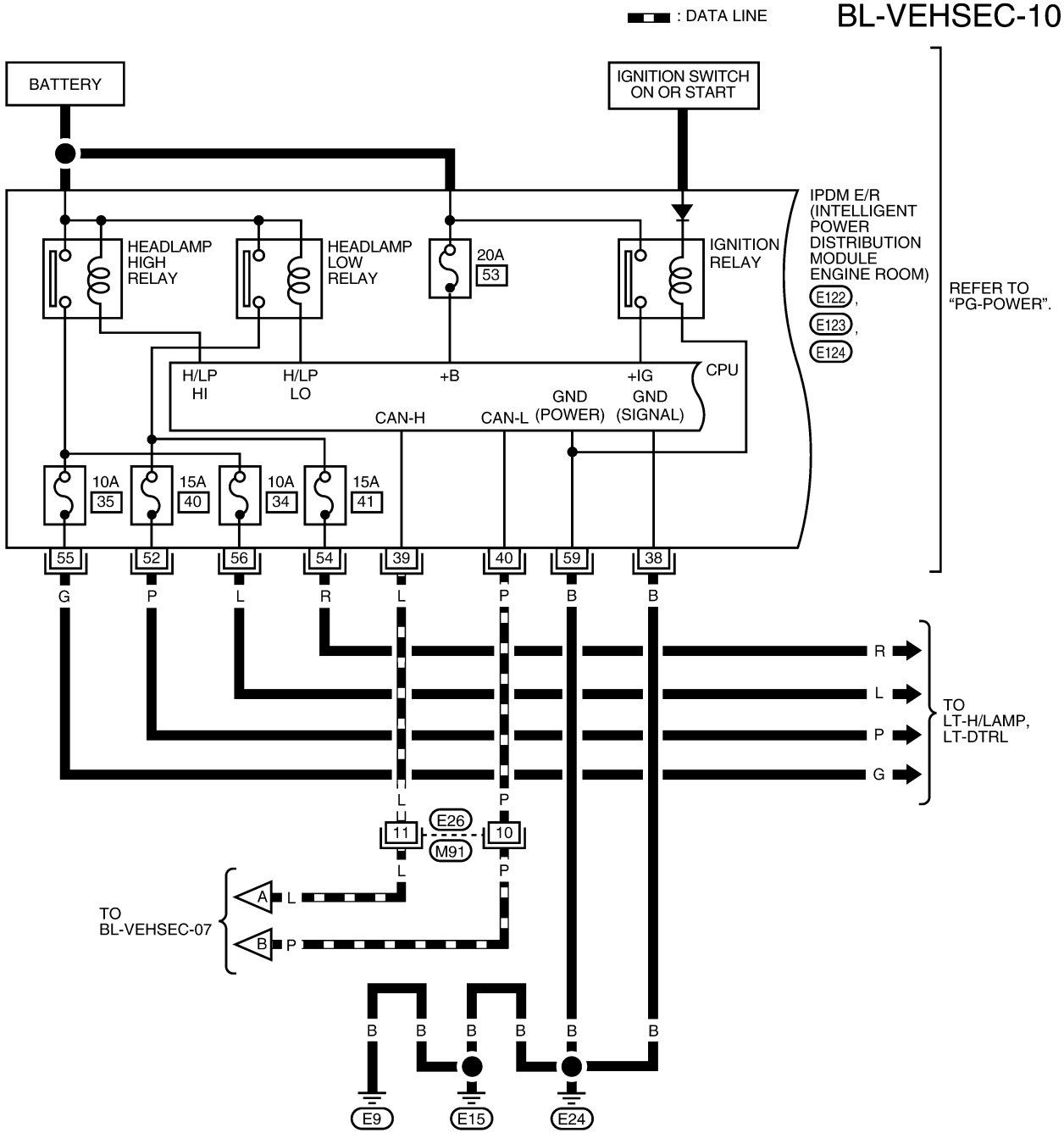
BL-VEHSEC-09



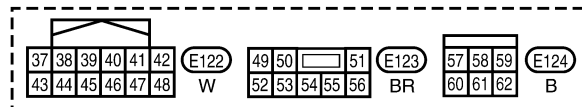
WIWA0928E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

BL-VEHSEC-10



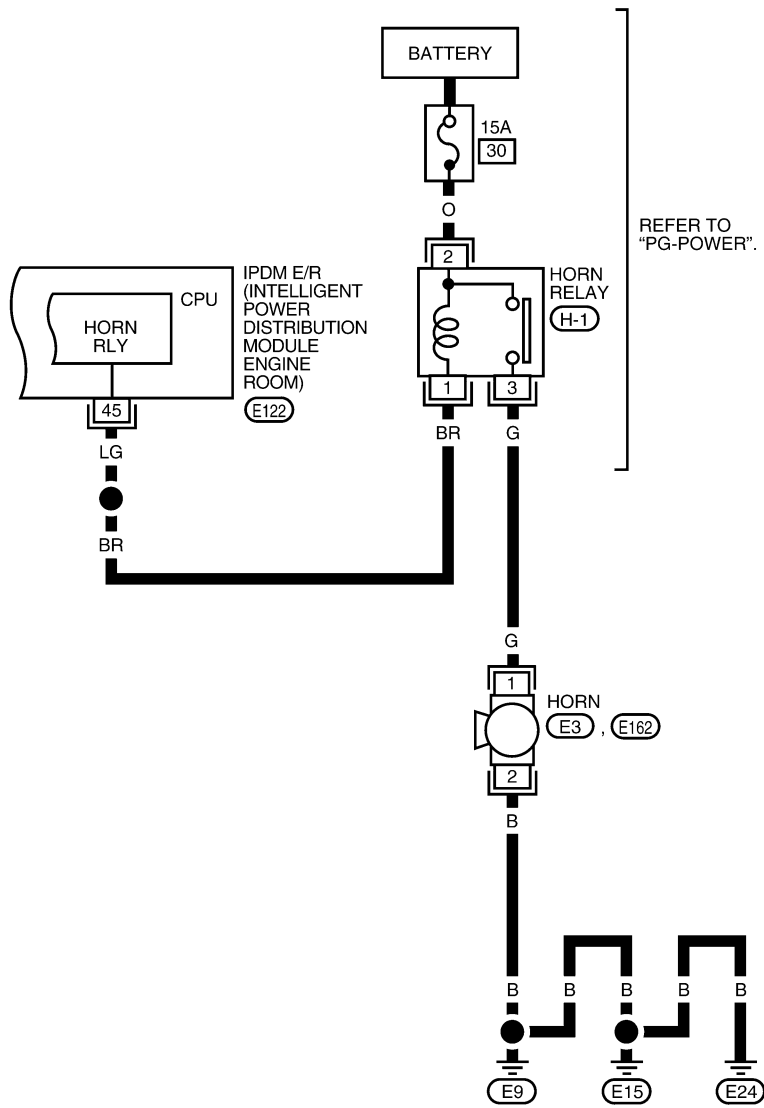
1	2	3	4	5	6	7	M91		
8	9	10	11	12	13	14	15	16	W



WIWA0673E

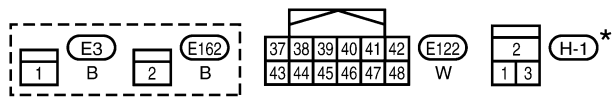
# VEHICLE SECURITY (THEFT WARNING) SYSTEM

BL-VEHSEC-11



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BL



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

WIWA0674E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Terminals and Reference Value for BCM

EIS005WS

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
7	GR	Front door lock assembly LH (key cylinder switch) (unlock)	OFF (neutral) → ON (unlocked)	5 → 0
8	SB	Front door lock assembly LH (key cylinder switch) (lock)	OFF (neutral) → ON (locked)	5 → 0
11	G/B	Ignition switch (ACC)	Ignition switch ACC	Battery voltage
12	LG	Front door switch RH (All)	Door open (ON) → Door close (OFF)	0 → Battery voltage
		Rear door switch lower RH (King Cab)		
		Rear door switch upper RH (King Cab)		
13	L	Rear door switch RH (Crew cab)	Door close (OFF) → Door open (ON)	Battery voltage → 0
23	G	Security indicator lamp	Goes off → Illuminates (Every 2.4 seconds)	Battery voltage → 0
39	L	CAN-H	—	—
40	P	CAN-L	—	—
45	V	Lock switch signal	Door lock and unlock switch (neutral) → Door lock and unlock switch (locked)	Battery voltage → 0
46	LG	Unlock switch signal	Door lock and unlock switch (neutral) → Door lock and unlock switch (unlocked)	Battery voltage → 0
47	GR	Front door switch LH (All)	Door open (ON) → Door close (OFF)	0 → Battery voltage
		Rear door switch lower LH (King Cab)		
		Rear door switch upper LH (King Cab)		
48	P	Rear door switch LH (Crew cab)	Door close (OFF) → Door open (ON)	Battery voltage → 0
57	R/Y	Power source (BAT)	—	Battery voltage
67	B	Ground	—	0
70	W	Power source (BAT)	—	Battery voltage

## Terminals and Reference Value for IPDM E/R

EIS005WT

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)	
38	B	Ground	—	0	
39	L	CAN-H	—	—	
40	P	CAN-L	—	—	
45	LG	Horn relay	When doors locks are operated using keyfob (OFF → ON) *1	Battery voltage → 0	
52	P	Headlamp low (LH)	Lighting switch 2ND position	OFF	0
				ON	Battery voltage
54	R	Headlamp low (RH)	Lighting switch 2ND position	OFF	0
				ON	Battery voltage
55	G	Headlamp high (LH)	Lighting switch HIGH or PASS position	OFF	0
				ON	Battery voltage

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

Terminal	Wire Color	Item	Condition		Voltage (V) (Approx.)
56	L	Headlamp high (RH)	Lighting switch HIGH or PASS position	OFF	0
				ON	Battery voltage
59	B	Ground	—		0

\*1: When horn reminder is ON.

## CONSULT-II Function (BCM)

EIS005VA

CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

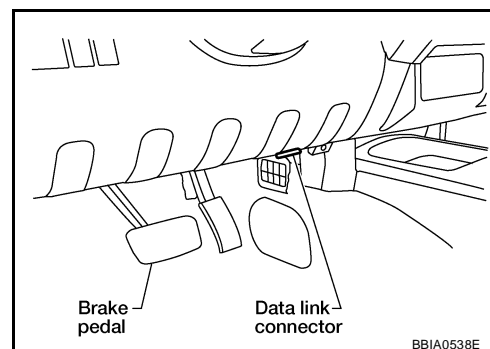
BCM diagnostic test item	Diagnostic mode	Description
Inspection by part	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
	DATA MONITOR	Displays BCM input/output data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
	SELF-DIAG RESULTS	Displays BCM self-diagnosis results.
	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
	ECU PART NUMBER	BCM part number can be read.
	CONFIGURATION	Performs BCM configuration read/write functions.

## CONSULT-II INSPECTION PROCEDURE

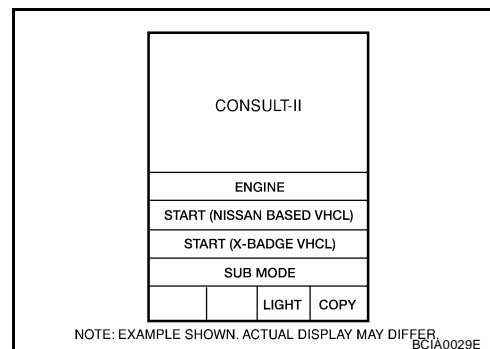
### CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carries out CAN communication.

1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.

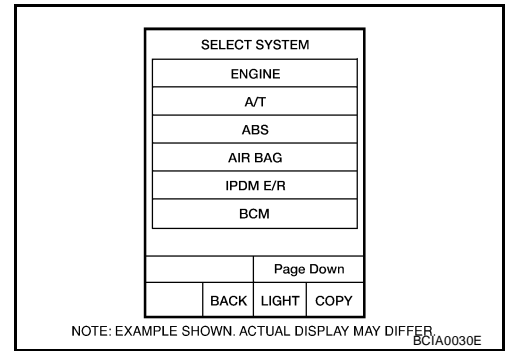


3. Turn ignition switch ON.
4. Touch "START (NISSAN BASED VHCL)".

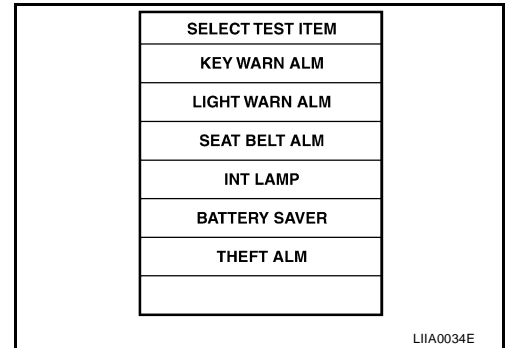


# VEHICLE SECURITY (THEFT WARNING) SYSTEM

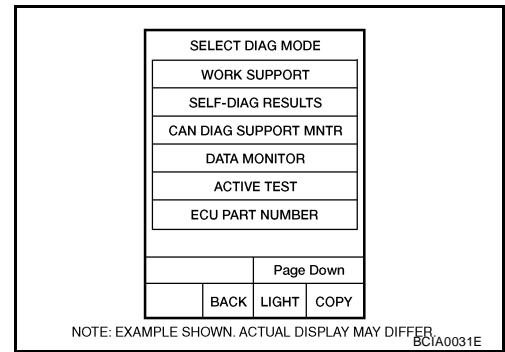
5. Touch "BCM".  
If "BCM" is not indicated, refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#) .



6. Touch "THEFT ALM" on the "SELECT TEST ITEM" screen.



7. Select diagnosis mode.  
"DATA MONITOR", "ACTIVE TEST" and "WORK SUPPORT" are available.



## CONSULT-II APPLICATION ITEM

### Data Monitor

Monitored Item	Description
DOOR SW-AS	Indicates [ON/OFF] condition of front door (all) and rear door switch upper and lower (King cab) switch RH.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH (Crew cab).
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH (Crew cab).
DOOR SW-DR	Indicates [ON/OFF] condition of front door (all) and rear door switch upper and lower (King cab) switch LH.
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 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.



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Active Test

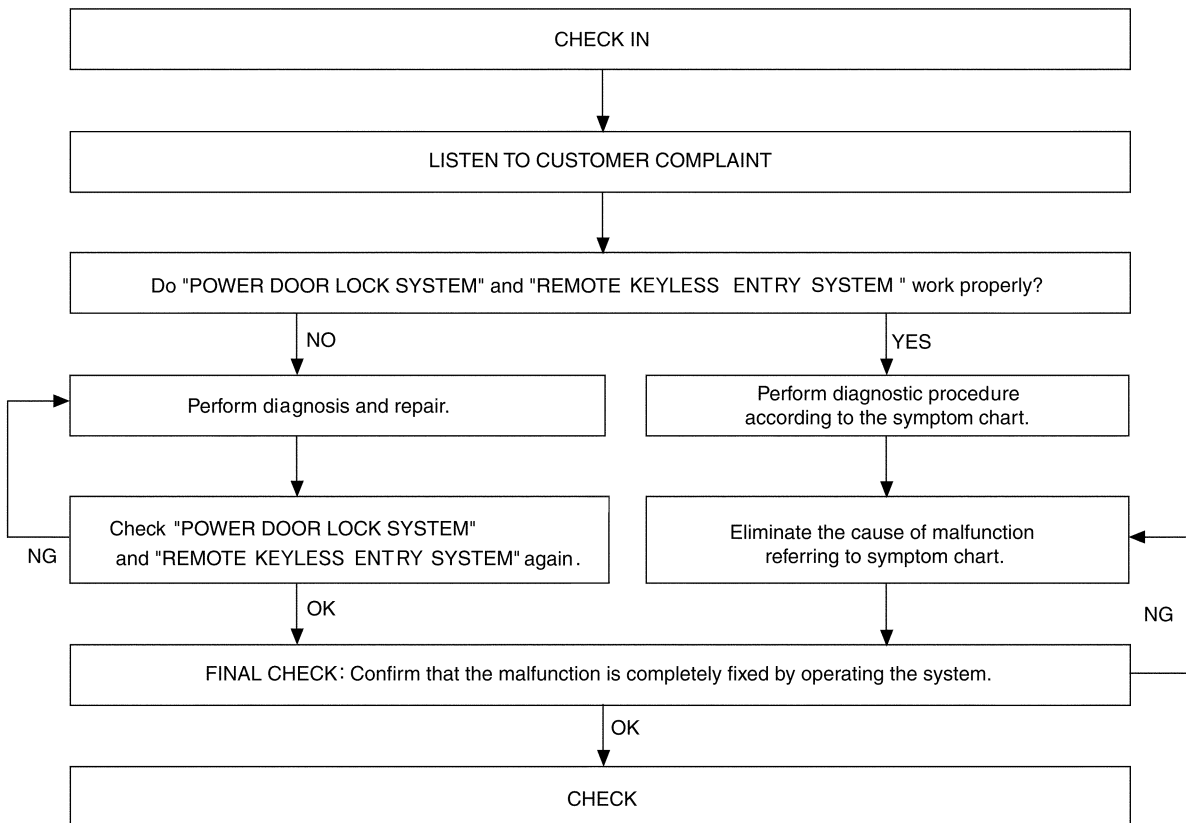
Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation. The lamp will be turned on when "ON" on CONSULT-II screen is touched.
HEAD LAMP (HI)	This test is able to check vehicle security lamp operation. The high beam headlamps will be activated for 0.5 seconds after "ON" on CONSULT-II screen is touched.
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation. The horns will be activated for 0.5 seconds after "ON" on CONSULT-II screen is touched.

## Work Support

Test Item	Description
SECURITY ALARM SET	This mode can confirm and change vehicle security alarm ON-OFF setting.
THEFT ALM TRG	The switch which triggered vehicle security alarm is recorded. This mode is able to confirm and erase the record of vehicle security alarm. The trigger data can be erased by touching "CLEAR" on CONSULT-II screen.

## Trouble Diagnosis WORK FLOW

EIS005VB



WIIA0599E

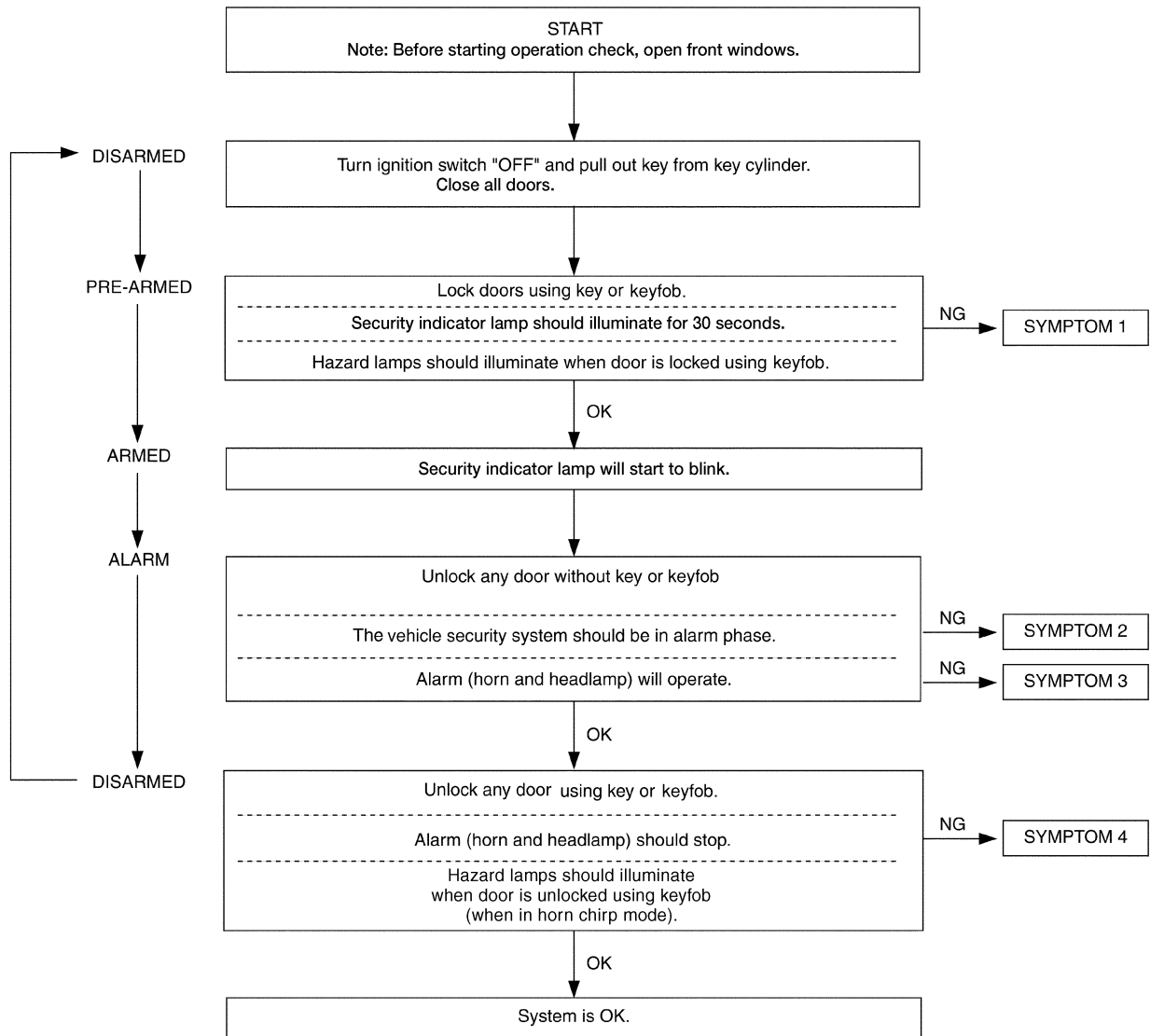
- "POWER DOOR LOCK SYSTEM" diagnosis refer to [BL-16, "POWER DOOR LOCK SYSTEM"](#) .
- "REMOTE KEYLESS ENTRY SYSTEM" diagnosis refer to [BL-48, "REMOTE KEYLESS ENTRY SYSTEM"](#) .

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

EIS005VC

## Preliminary Check

The system operation is canceled by turning ignition switch to ACC at any step between START and ARMED in the following flow chart.



WIIA0627E

After performing preliminary check, go to Symptom Chart.

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Symptom Chart

EIS005VD

PROCEDURE		Diagnostic procedure
SYMPTOM		
1	Vehicle security system cannot be set by ....	All items Diagnostic Procedure 1 Refer to <a href="#">BL-104, "Diagnostic Procedure 1"</a> . If the above systems are "OK", replace BCM. Refer to <a href="#">BCS-19, "Removal and Installation of BCM"</a> .
		Lock/unlock switch Diagnostic Procedure 6 Refer to <a href="#">BL-111, "Diagnostic Procedure 6"</a> . If the above systems are "OK", check main power window and door lock/unlock switch.
	Door outside key	Diagnostic Procedure 3 Refer to <a href="#">BL-109, "Diagnostic Procedure 3"</a> . If the above systems are "OK", check main power window and door lock/unlock switch.
		Security indicator does not turn "ON". Diagnostic Procedure 2 Refer to <a href="#">BL-108, "Diagnostic Procedure 2"</a> . If the above systems are "OK", replace BCM. Refer to <a href="#">BCS-19, "Removal and Installation of BCM"</a> .
	*1 Vehicle security system does not alarm when ....	Any door or glass hatch is opened. Diagnostic Procedure 1 Refer to <a href="#">BL-104, "Diagnostic Procedure 1"</a> . If the above systems are "OK", replace BCM. Refer to <a href="#">BCS-19, "Removal and Installation of BCM"</a> .
		Vehicle security alarm does not activate.
Headlamp alarm Diagnostic Procedure 5 Refer to <a href="#">BL-111, "Diagnostic Procedure 5"</a> . If the above systems are "OK", replace BCM. Refer to <a href="#">BCS-19, "Removal and Installation of BCM"</a> .		
4	Vehicle security system cannot be canceled by ....	Door outside key Diagnostic Procedure 3 Refer to <a href="#">BL-109, "Diagnostic Procedure 3"</a> . If the above systems are "OK", check main power window and door lock/unlock switch.
		Keyfob Check remote keyless entry function. If the above systems are "OK", replace BCM. Refer to <a href="#">BCS-19, "Removal and Installation of BCM"</a> .

\*1: Make sure the system is in the armed phase.

A  
B  
C  
D  
E  
F  
G  
H  
J  
K  
L  
M



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

EIS005VE

## Diagnostic Procedure 1

DOOR SWITCH CHECK (KING CAB)

### 1. CHECK DOOR SWITCHES INPUT SIGNAL

 With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS") in DATA MONITOR mode with CONSULT-II. Refer to [BL-100, "Data Monitor"](#).

- When any doors are open:

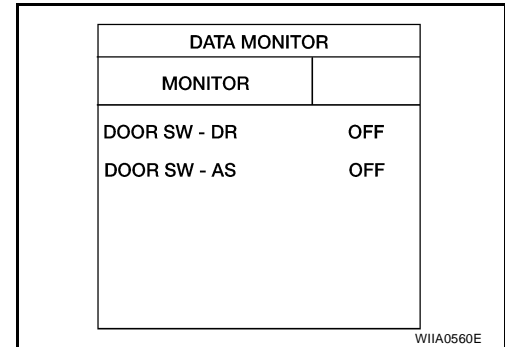
**DOOR SW-DR :ON**

**DOOR SW-AS :ON**

- When any doors are closed:

**DOOR SW-DR :OFF**

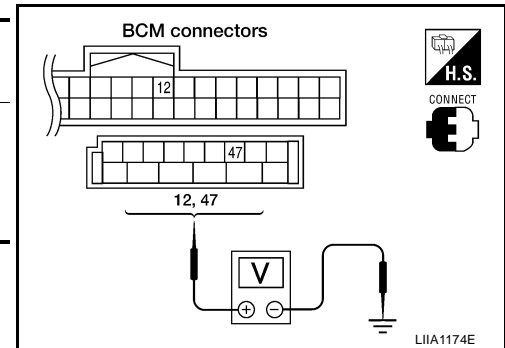
**DOOR SW-AS :OFF**



 Without CONSULT-II

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



OK or NG

OK >> Door switch circuit is OK.

NG >> GO TO 2.

### 2. CHECK BCM OUTPUT VOLTAGE

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

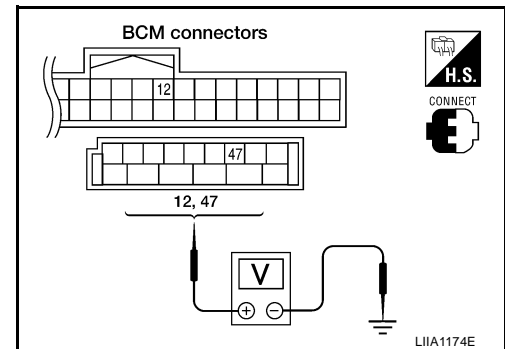
**12 - Ground : Battery voltage**

**47 - Ground : Battery voltage**

OK or NG

OK >> GO TO 3.

NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#).



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## 3. CHECK DOOR SWITCH CIRCUIT

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

**2 - 47 : Continuity should exist**

**2 - 12 : Continuity should exist**

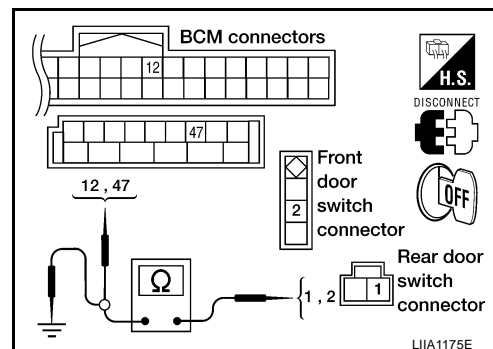
**1 - 47 : Continuity should exist**

**1 - 12 : Continuity should exist**

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

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

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



OK or NG

OK >> GO TO 4.

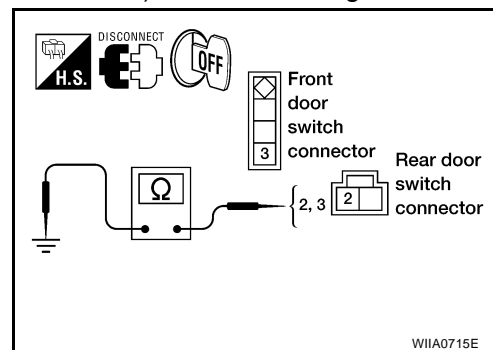
NG >> Repair or replace harness.

## 4. CHECK DOOR SWITCHES GROUND CIRCUIT

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

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

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



OK or NG

OK >> GO TO 5.

NG >> Repair or replace harness.

## 5. CHECK DOOR SWITCHES

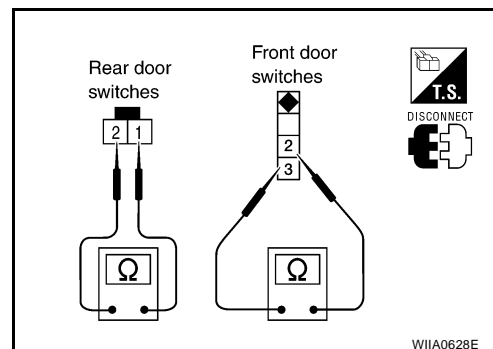
Check continuity between door switch terminals.

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

OK or NG

OK >> Check condition of harness and connector.

NG >> Replace door switch.



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## DOOR SWITCH CHECK (CREW CAB)

### 1. CHECK DOOR SWITCHES INPUT SIGNAL

 With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR") in DATA MONITOR mode with CONSULT-II. Refer to [BL-100, "Data Monitor"](#).

- When any doors are open:

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

- When any doors are closed:

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

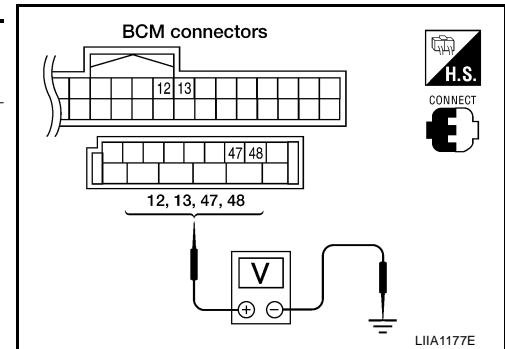
DATA MONITOR	
MONITOR	
DOOR SW-DR	OFF
DOOR SW-AS	OFF
DOOR SW-RL	OFF
DOOR SW-RR	OFF

PIIA6469E

 Without CONSULT-II

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			



OK or NG

- OK >> Door switch circuit is OK.  
 NG >> GO TO 2.

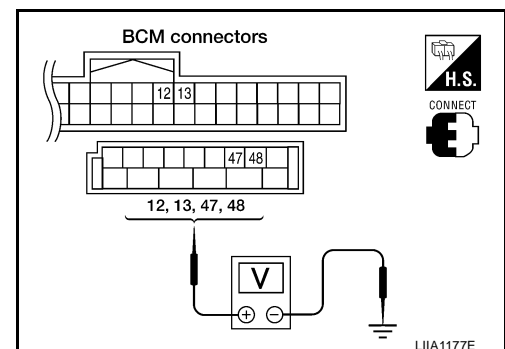
### 2. CHECK BCM OUTPUT VOLTAGE

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

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

OK or NG

- OK >> GO TO 3.  
 NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#).



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## 3. CHECK DOOR SWITCH CIRCUIT

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

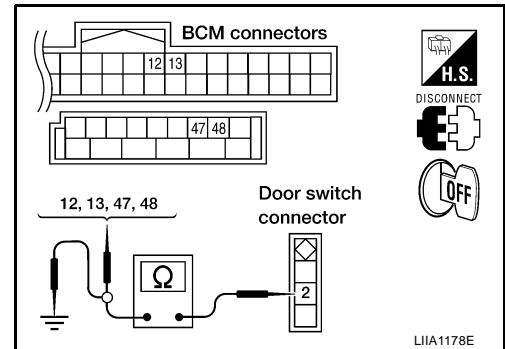
- 2 - 47 : Continuity should exist.**
- 2 - 12 : Continuity should exist.**
- 2 - 48 : Continuity should exist.**
- 2 - 13 : Continuity should exist.**

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

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

OK or NG

- OK >> GO TO 4.
- NG >> Repair or replace harness.



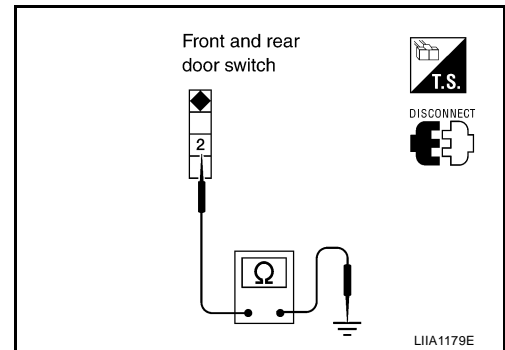
## 4. CHECK DOOR SWITCHES

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

	Terminal	Condition	Continuity
Door switch (front and rear)	2 – Ground	Open	Yes
		Closed	No

OK or NG

- OK >> Check switch case ground condition (front and rear door).
- NG >> Replace door switch.



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

EIS005VF

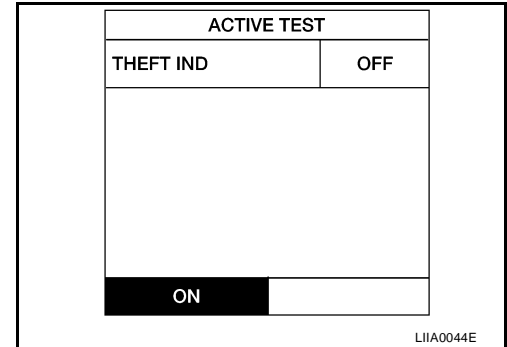
## Diagnostic Procedure 2

### SECURITY INDICATOR LAMP CHECK

#### 1. SECURITY INDICATOR LAMP ACTIVE TEST

① With CONSULT-II

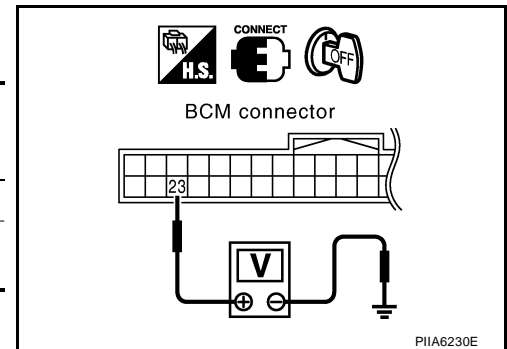
Check "THEFT IND" in "ACTIVE TEST" mode with CONSULT-II.



⊗ Without CONSULT-II

1. Turn ignition switch OFF.
2. Check voltage between BCM harness connector M18 terminal 23 and ground.

Connector	Terminal		Security indicator lamp condition	Voltage (V) (Approx.)
	(+)	(-)		
M18	23	Ground	Illuminated	0
			Not illuminated	Battery voltage



OK or NG

- OK >> Security indicator lamp is OK.  
 NG >> GO TO 2.

#### 2. SECURITY INDICATOR LAMP CHECK

Check security indicator lamp condition. Refer to [DI-13, "SELF-DIAGNOSIS FUNCTION"](#) .

OK or NG

- OK >> GO TO 3.  
 NG >> Replace combination meter. Refer to [IP-12, "COMBINATION METER"](#) .



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## 3. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and combination meter connector.
3. Check continuity between BCM connector M18 terminal 23 and combination meter harness connector M24 terminal 39.

**23 - 39 : Continuity should exist.**

4. Check continuity between BCM connector M18 terminal 23 and ground.

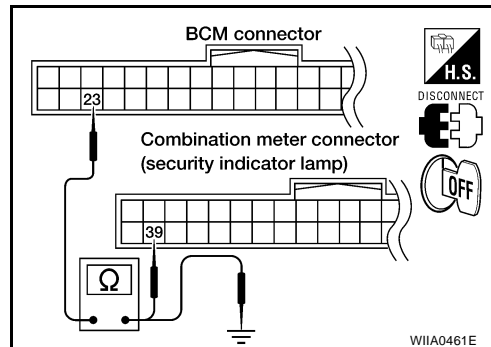
**23 - Ground : Continuity should not exist.**

OK or NG

OK >> Check the following.

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

NG >> Repair or replace harness.



## Diagnostic Procedure 3

EIS005VG

### 1. CHECK DOOR KEY CYLINDER SWITCH LH

Ⓜ With CONSULT-II

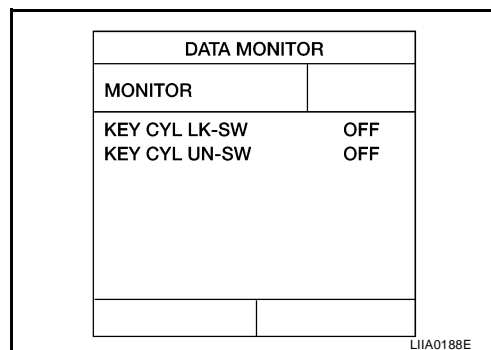
Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW") in DATA MONITOR mode in CONSULT-II. Refer to [BL-100, "Data Monitor"](#).

- 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:

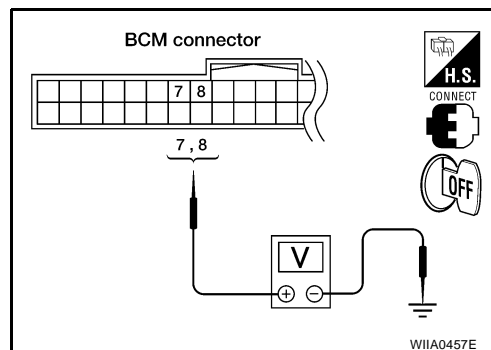
**KEY CYL UN-SW : ON**



ⓧ Without CONSULT-II

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

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M18	7	Ground	Neutral/Lock	5
			Unlock	0
	8		Neutral/Unlock	5
			Lock	0



OK or NG

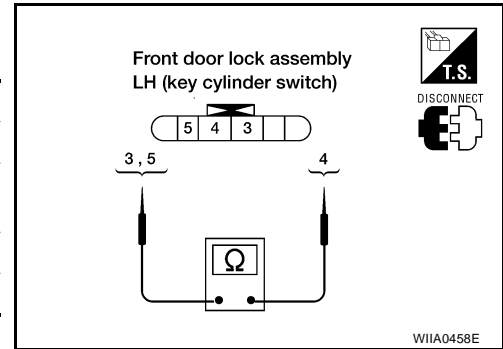
- OK >> Front door lock assembly LH (key cylinder switch) signal is OK.
- NG >> GO TO 2.

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

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

1. Turn ignition switch OFF.
2. Disconnect front door lock assembly LH (key cylinder switch).
3. Check continuity between front door lock assembly LH (key cylinder switch) connector terminals 3, 4 and 5.

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



OK or NG

OK >> GO TO 3.

NG >> Replace front door lock assembly LH (key cylinder switch). Refer to [BL-117, "Removal and Installation"](#).

## 3. CHECK FRONT DOOR LOCK ASSEMBLY LH HARNESS

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

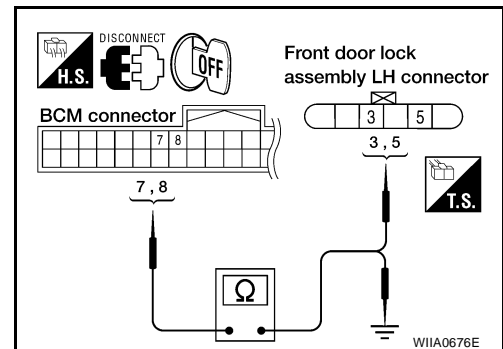
**7 - 3 : Continuity should exist.**

**8 - 5 : Continuity should exist.**

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

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

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



OK or NG

OK >> GO TO 4.

NG >> Repair or replace harness

## 4. CHECK FRONT DOOR LOCK ASSEMBLY LH GROUND

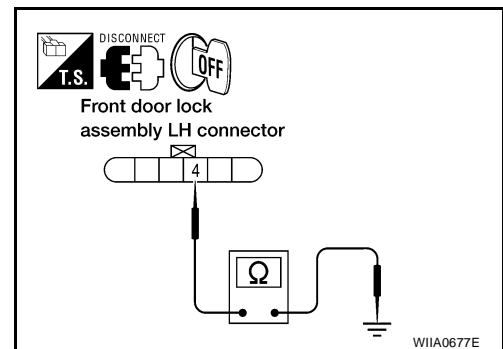
Check continuity between front door lock assembly LH connector D14 terminal 4 and ground.

**4 - Ground : Continuity should exist.**

OK or NG

OK >> GO TO 5.

NG >> Repair or replace harness



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## 5. CHECK BCM OUTPUT VOLTAGE

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

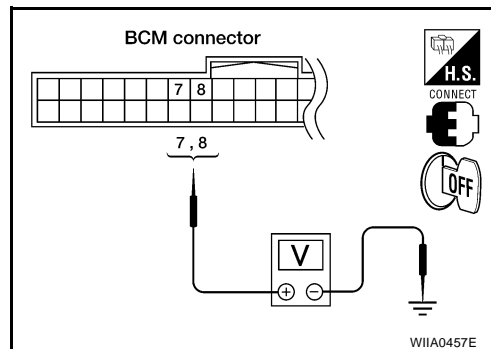
**7 - Ground : Approx. 5V**

**8 - Ground : Approx. 5V**

OK or NG

OK >> Check condition of the harness and connector.

NG >> Replace BCM. Refer to [BCS-19, "Removal and Installation of BCM"](#) .



EIS005VH

## Diagnostic Procedure 4

VEHICLE SECURITY HORN ALARM CHECK

### 1. CHECK HORN OPERATION

Check if horn sounds with horn switch.

Does horn operate?

Yes >> Check harness for open or short between IPDM E/R and horn relay.

No >> Check horn circuit. Refer to [WW-37, "HORN"](#) .

## Diagnostic Procedure 5

EIS005VI

VEHICLE SECURITY HEADLAMP ALARM CHECK

### 1. CHECK VEHICLE SECURITY HEADLAMP ALARM OPERATION

Check if headlamps operate with lighting switch.

Do headlamps come on when turning switch ON?

Yes >> Headlamp alarm is OK.

No >> Check headlamp system. Refer to [LT-5, "HEADLAMP \(FOR USA\)"](#) .

## Diagnostic Procedure 6

EIS005VJ

DOOR LOCK/UNLOCK SWITCH CHECK

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

Check if power door lock operates with door lock/unlock switch.

Do doors lock/unlock when using each door lock/unlock switch?

Yes >> Door lock/unlock switch is OK.

No >> Refer to [BL-40, "Door Lock/Unlock Switch Check"](#) .

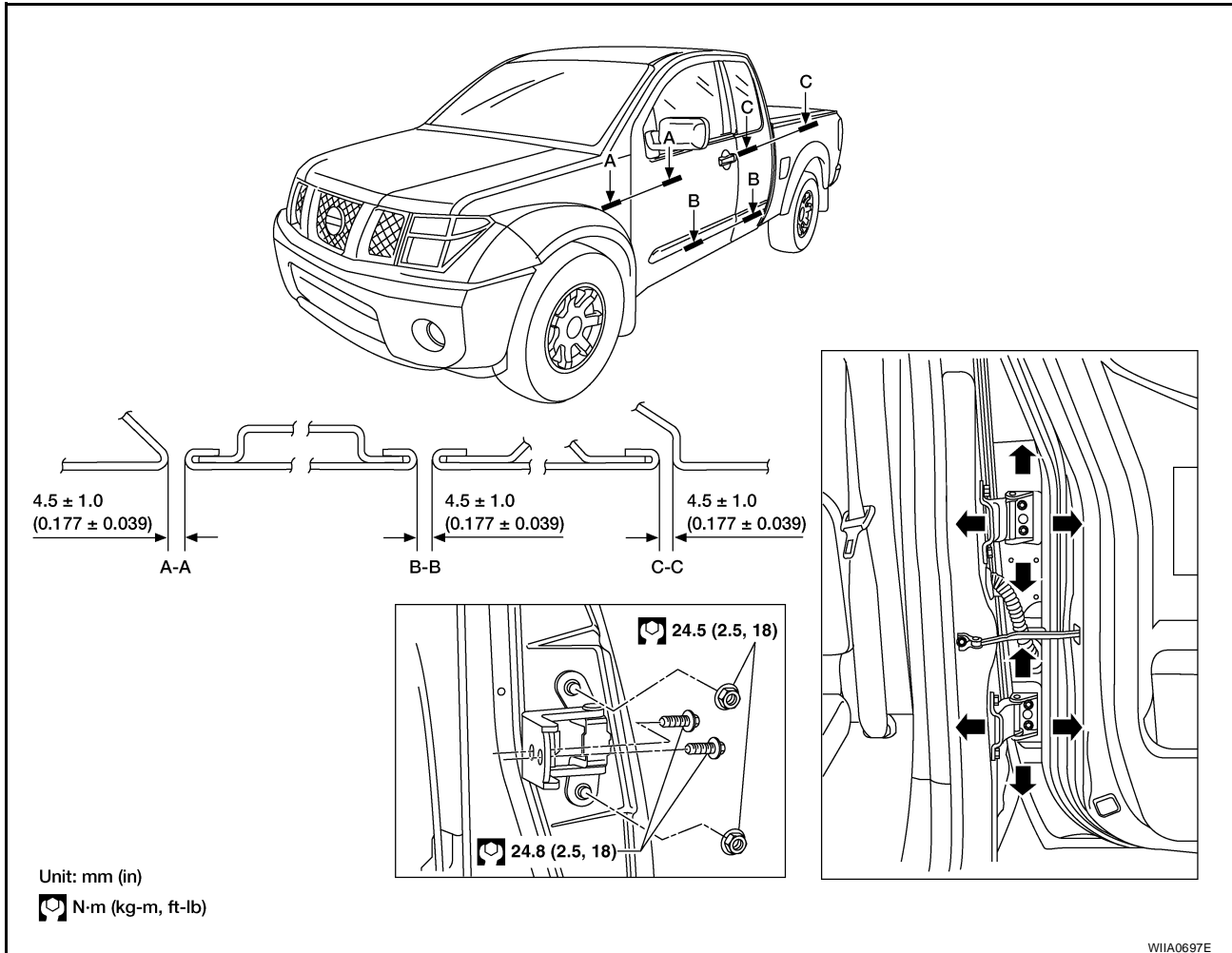
# DOOR

## DOOR Fitting Adjustment

PFP:80100

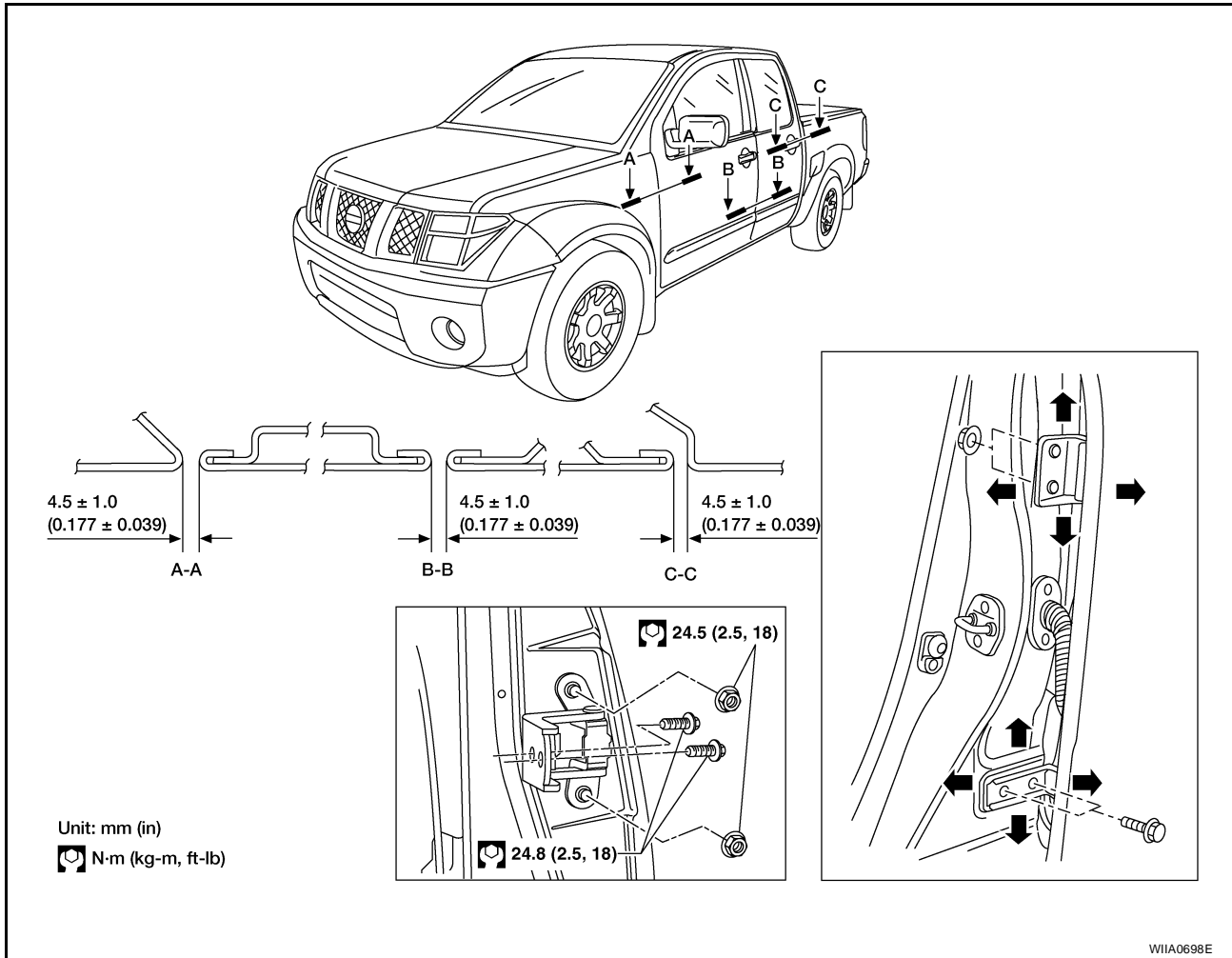
EIS005X9

### KING CAB



# DOOR

## CREW CAB



### FRONT DOOR

#### Longitudinal clearance and surface height adjustment at front end

1. Remove the front fender. Refer to [EI-21, "FRONT FENDER"](#).
2. Loosen the hinge bolts. Raise the front door at rear end to adjust.

### REAR DOOR

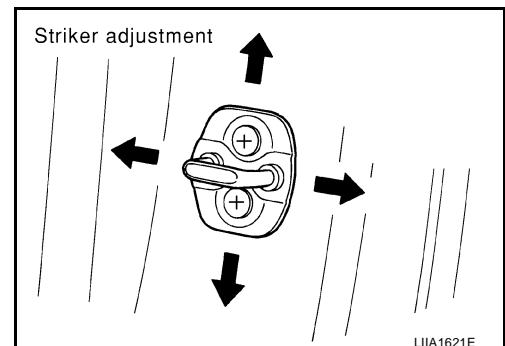
#### Longitudinal clearance and surface height adjustment at front end

1. Remove the center pillar upper finisher. Refer to [EI-37, "CENTER PILLAR UPPER FINISHER"](#).
2. Accessing from inside the vehicle, loosen the nuts. Open the rear door, and raise the rear door at rear end to adjust.

### STRIKER ADJUSTMENT

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

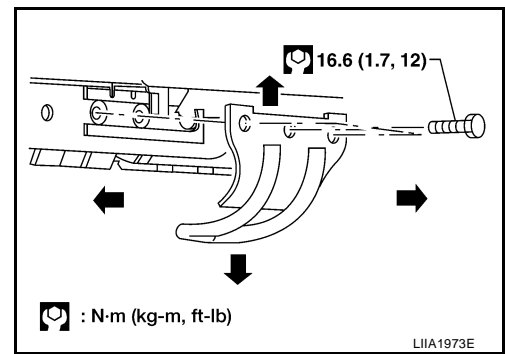
**Striker bolts : 16.6 N·m (1.7 kg-m, 12 ft-lb)**



# DOOR

- Remove the upper striker covers and adjust the striker so that it becomes parallel with the lock insertion direction.

**Striker bolts : 16.6 N·m (1.7 kg-m, 12 ft-lb)**



## Removal and Installation KING CAB

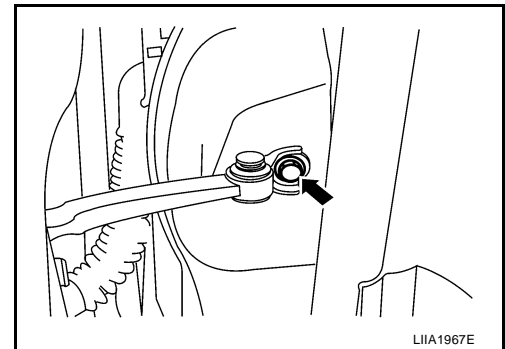
EIS005XA

### Front Door

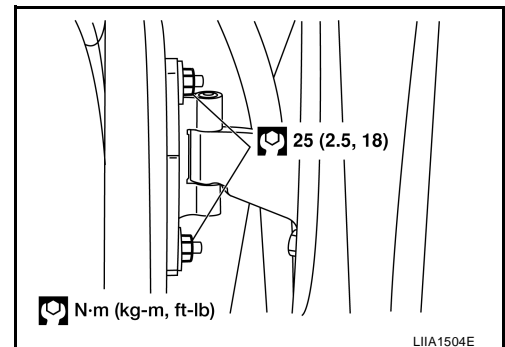
#### CAUTION:

- 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.
- Remove the front door glass and regulator assembly. Refer to [GW-59, "FRONT DOOR GLASS AND REGULATOR"](#).
  - Remove the door harness.
  - Remove the check link cover.
  - Remove the check link bolt from the hinge pillar.

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



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



Installation is in the reverse order of removal.

### Rear Door

#### CAUTION:

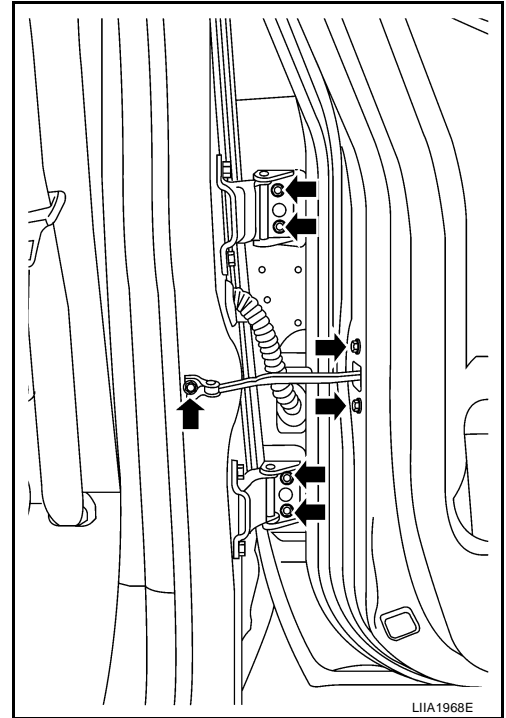
- When removing and installing the door assembly, support the door with a jack and shop cloth to protect the door and body.
- When removing and installing door assembly, be sure to carry out the fitting adjustment.
- Check the hinge rotating part for poor lubrication. If necessary, apply body grease.

# DOOR

1. Remove the door glass. Refer to [GW-67, "SIDE WINDOW GLASS"](#) .
  2. Remove the speaker.
  3. Remove the door handles and latch assembly. Refer to [BL-120, "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.

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

**Check link bolt to door** : 5.1 N·m (0.52 kg-m, 45 in-lb)



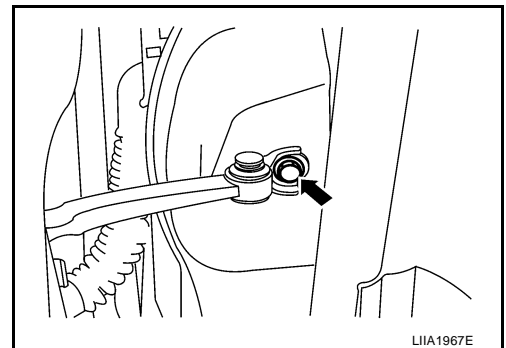
## CREW CAB

### 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 door finisher. Refer to [EI-33, "REAR DOOR - CREW CAB"](#) .
  2. Remove the inner seal.
  3. Remove the door glass and regulator assembly. Refer to [GW-59, "FRONT DOOR GLASS AND REGULATOR"](#) or [GW-63, "REAR DOOR GLASS AND REGULATOR"](#) .
  4. Remove the door harness.
  5. Remove the check link cover.
  6. Remove the check link bolt from the hinge pillar.

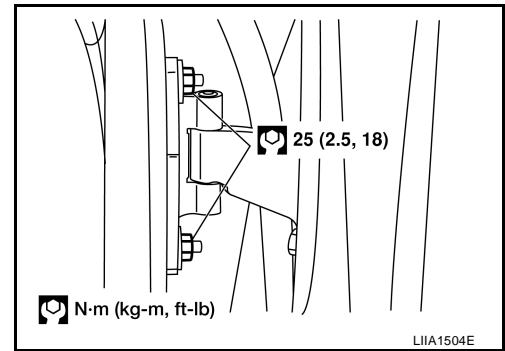
**Front door check link bolt to hinge pillar** : 14.7 N·m (1.5 kg-m, 11 ft - lb)

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



## DOOR

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



Installation is in the reverse order of removal.

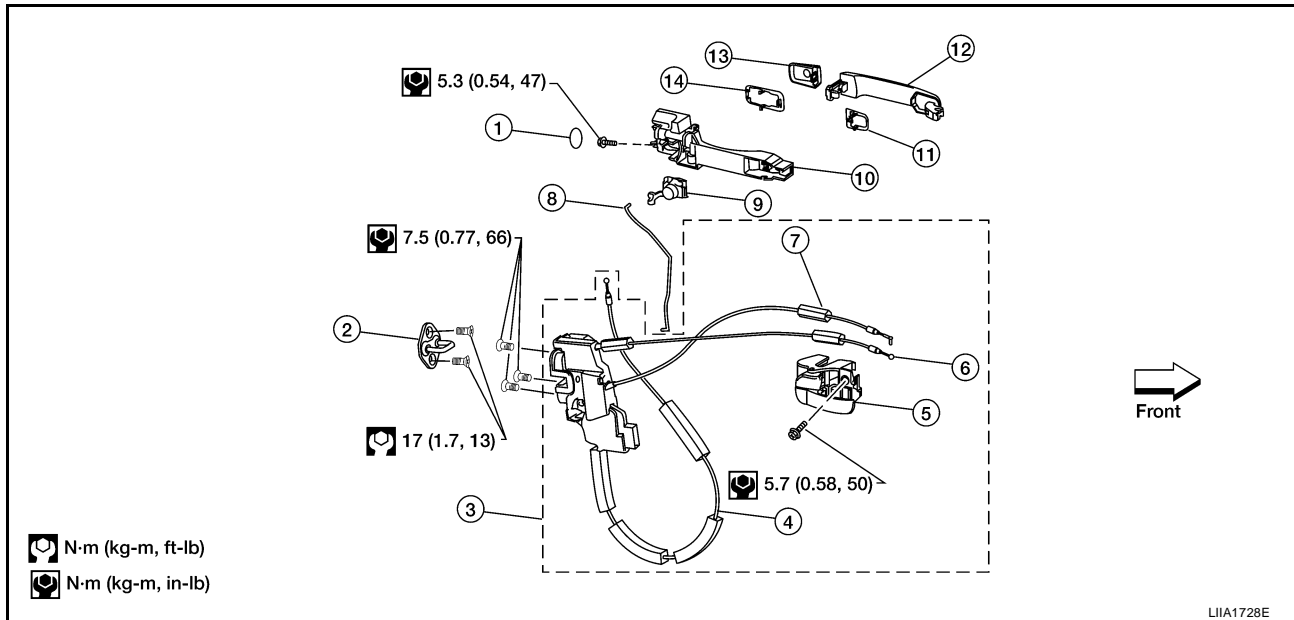


# FRONT DOOR LOCK

PFP:80502

EIS0052C

## FRONT DOOR LOCK Component Structure



N·m (kg-m, ft-lb)

N·m (kg-m, in-lb)

LIA1728E

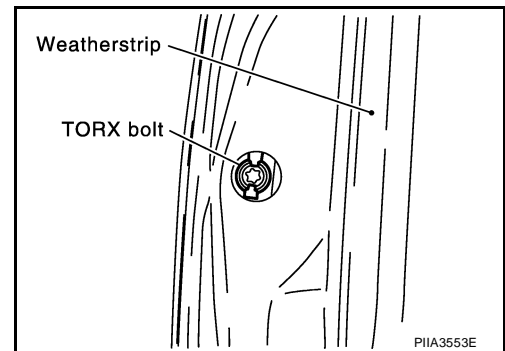
- |   |  |                        |
|---|--|------------------------|
| 1. Grommet  | 2. Front door striker                  | 3. Door lock assembly  |
| 4. Outside handle cable   | 5. Inside handle assembly              | 6. Inside handle cable |
| 7. Door lock cable  | 8. Key cylinder rod (Driver side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

## Removal and Installation REMOVAL

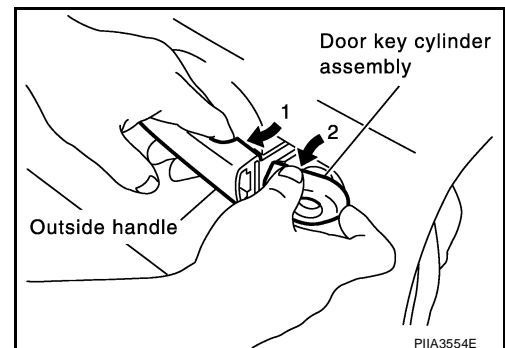
EIS0052D

- Remove the front door window regulator. Refer to [GW-60, "Front Door Glass Regulator"](#).
- Remove the front door window rear glass run.
- Remove the door side grommet, and the bolt (TORX T30) from the grommet hole.

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

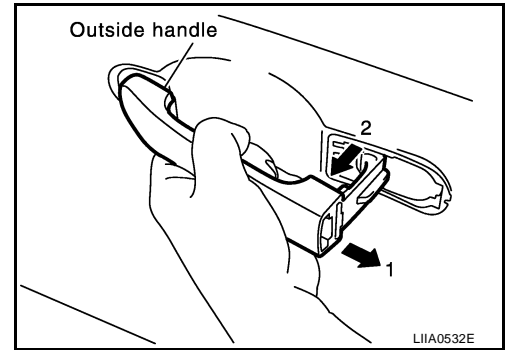


- While pulling the outside handle, remove the door key cylinder assembly or escutcheon.

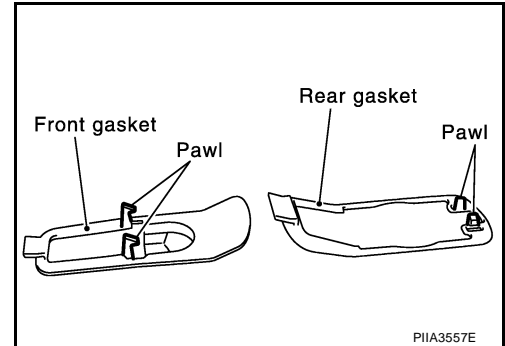


## FRONT DOOR LOCK

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

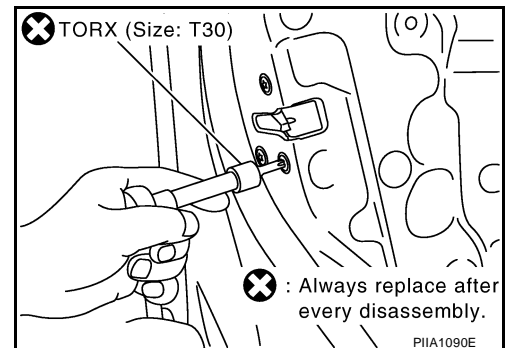


7. Remove the front and rear gaskets.

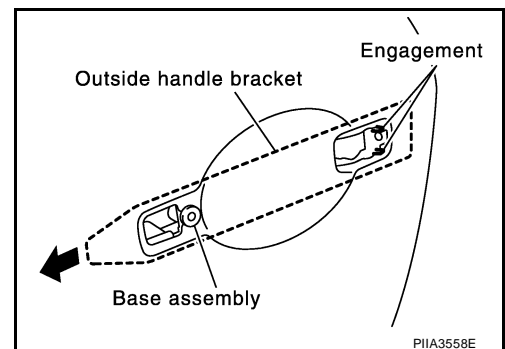


8. Remove the TORX bolts (T30), and the door lock assembly.

**Door lock assembly : 7.5 N·m (0.77 kg·m, 67 in·lb) bolts**



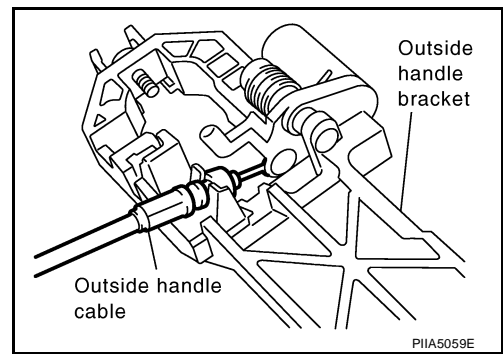
9. While pulling the outside handle bracket, slide it toward the rear of vehicle to remove it and the door lock assembly.



10. Disconnect the door lock actuator electrical connector.

# FRONT DOOR LOCK

11. Separate the outside handle cable connection from the outside handle bracket.



## INSTALLATION

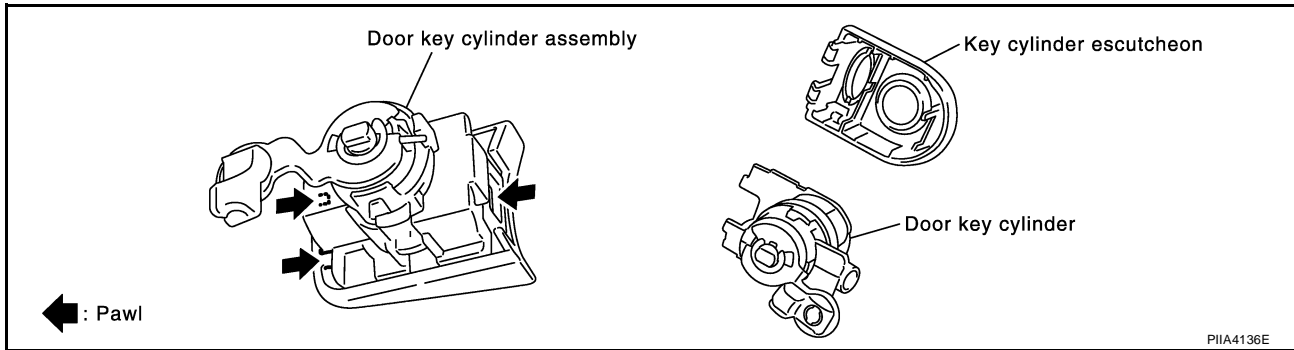
Installation in the reverse order of removal.

### CAUTION:

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

## Disassembly and Assembly DOOR KEY CYLINDER ASSEMBLY

EIS0052E



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

A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

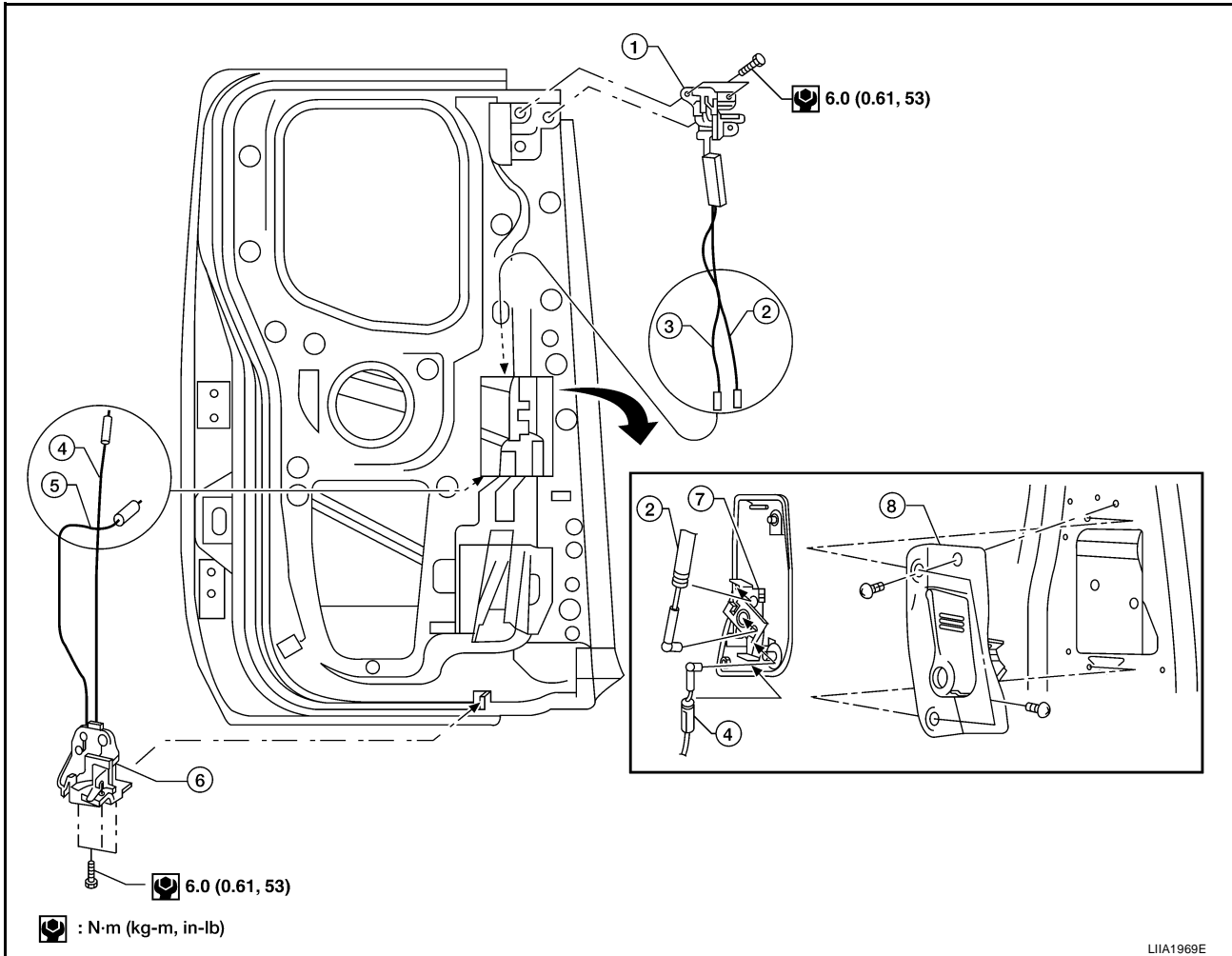
# REAR DOOR LOCK

PF-P:82502

E/S005XC

## REAR DOOR LOCK Component Structure

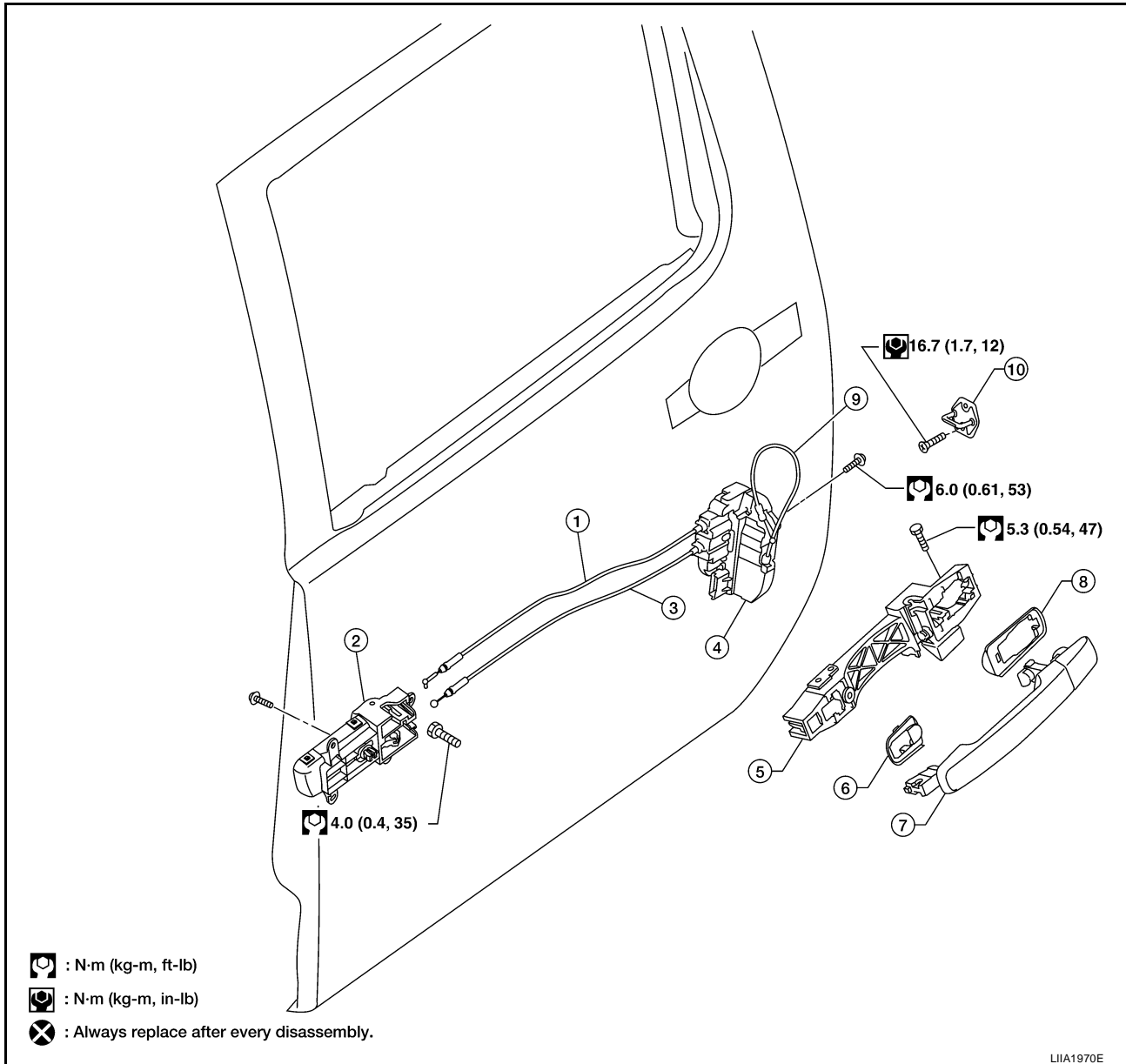
### KING CAB



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

# REAR DOOR LOCK

## CREW CAB



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

## Removal and Installation

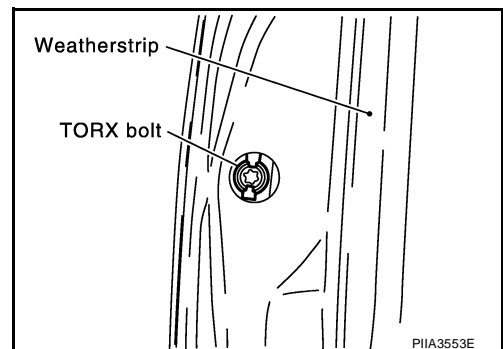
### REMOVAL

EIS005XD

1. Remove the rear door module assembly. Refer to [GW-64, "Rear Door Glass Regulator"](#) .
2. Remove the door side grommet and the bolt (TORX T30) from the grommet hole.

**Torx bolt**

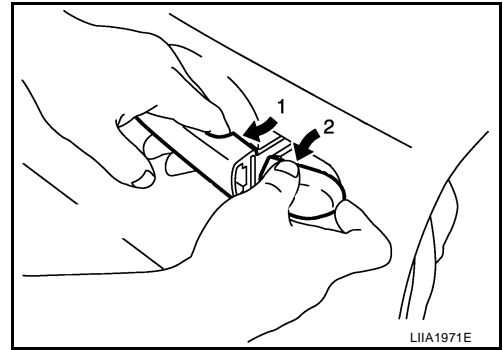
**: 5.3 N-m (0.54 kg-m, 47 in-lb)**



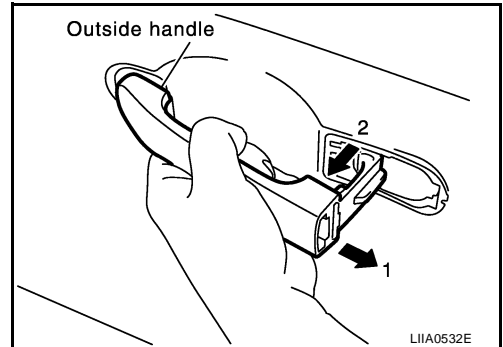
PIA3553E

# REAR DOOR LOCK

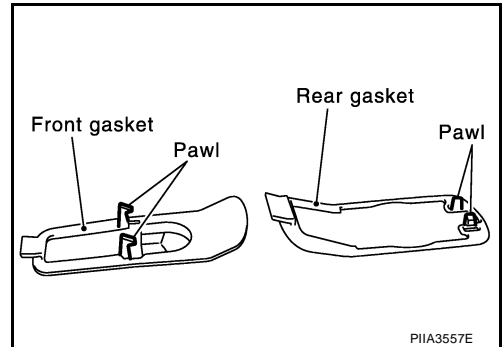
3. While pulling the outside handle, remove the door handle escutcheon.



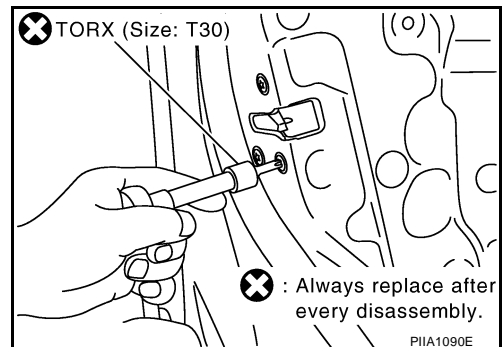
4. While pulling the outside handle, slide it toward the rear of vehicle to remove.



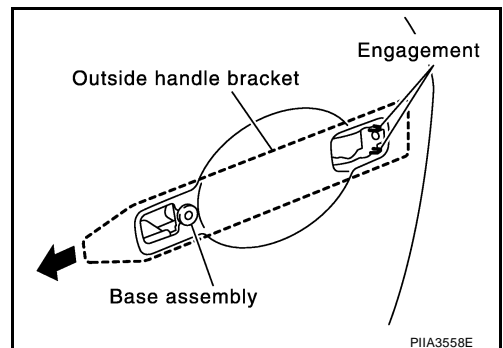
5. Remove the front and rear gaskets.



6. Remove the TORX bolts (T30), remove the door lock assembly.  
**Door lock assembly : 6.0 N·m (0.61 kg-m, 53 in-lb) bolts**

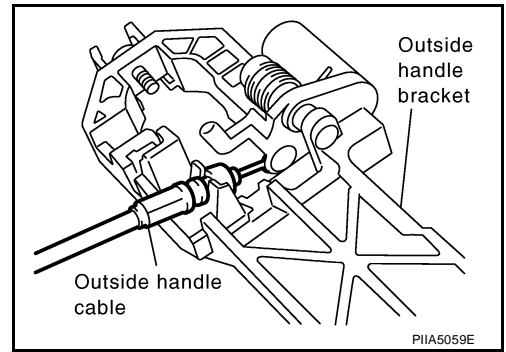


7. While pulling outside handle bracket, slide toward rear of vehicle to remove outside handle bracket and door lock assembly.



# REAR DOOR LOCK

8. Disconnect the outside handle cable.



## INSTALLATION

Installation is in the reverse order of removal.

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

BL

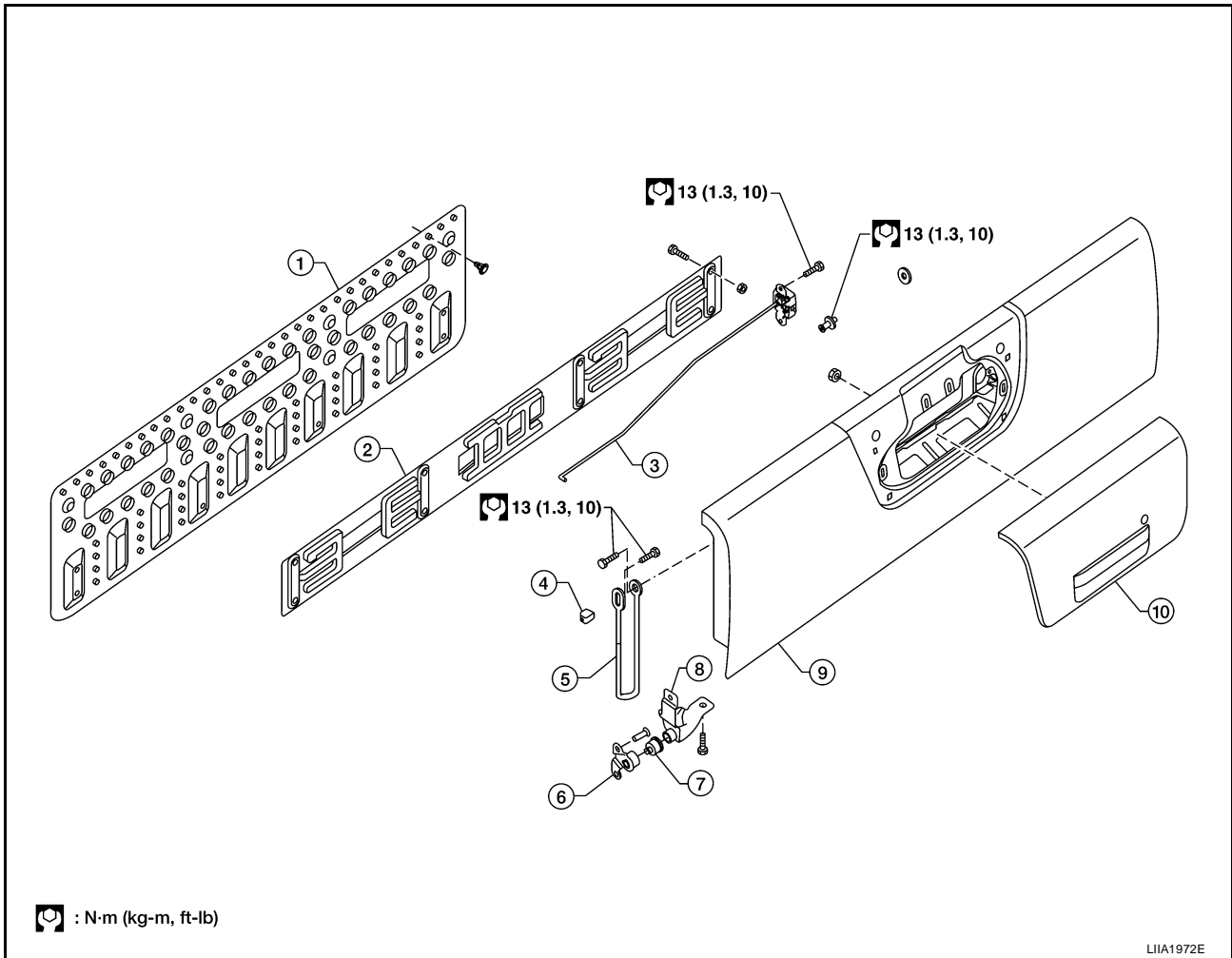
# TAIL GATE

PF9:93400

EIS005XE

## TAIL GATE

### Removal and Installation



- |   |   |   |
|---|---|---|
| 1. Rear gate liner cover (if equipped)  | 2. Rear gate inner panel                        | 3. Rear gate latch assembly (RH/ LH)            |
| 4. Rear gate rubber bumper              | 5. Rear gate stay assembly                      | 6. Rear gate hinge assembly (RH/ LH), body side |
| 7. Rear gate ring (LH)                  | 8. Rear gate hinge assembly (RH/ LH), gate side | 9. Rear gate                                    |
| 10. Rear gate handle and latch assembly |   |   |



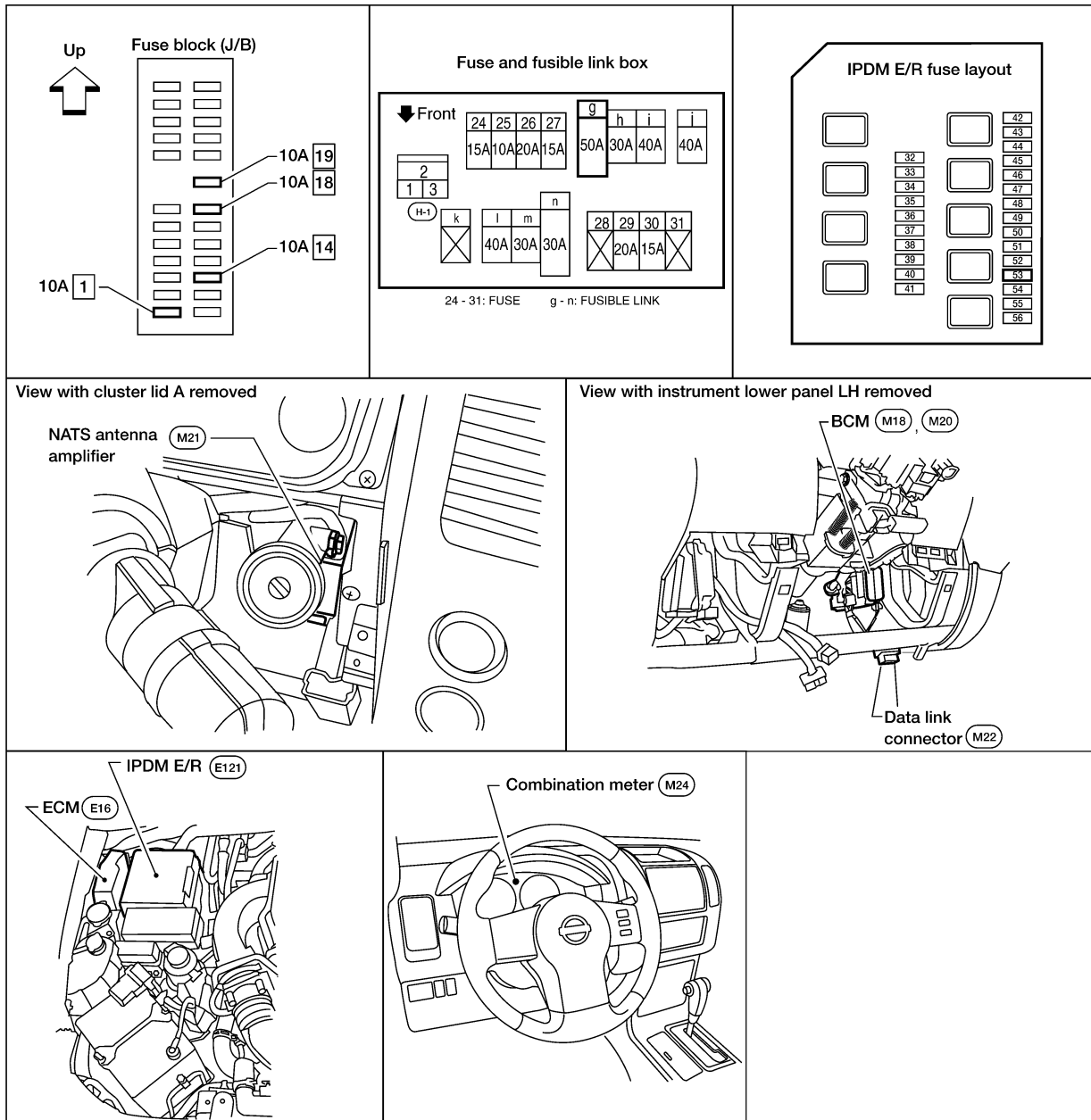
# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

## NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

PF0:28591

### Component Parts and Harness Connector Location

EIS005VK



A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS005VL

## System Description

NVIS (Nissan Vehicle Immobilizer System-NATS) has the following immobilizer functions:

- Since only NVIS (NATS) ignition keys, whose IDs have been registered into the ECM and BCM, allow the engine to run, operation of a stolen vehicle without a NVIS (NATS) registered key is prevented by NVIS (NATS).  
NVIS (NATS) will immobilize the engine if someone tries to start it without the registered key of NVIS (NATS).
- All of the originally supplied ignition key IDs have been NVIS (NATS) registered.  
If requested by the vehicle owner, a maximum of five key IDs can be registered into the NVIS (NATS) components.
- The security indicator blinks when the ignition switch is in OFF or ACC position. NVIS (NATS) warns outsiders that the vehicle is equipped with the anti-theft system.
- When NVIS (NATS) detects trouble, the security indicator lamp lights up while ignition key is in the ON position.
- NVIS (NATS) trouble diagnoses, system initialization and additional registration of other NVIS (NATS) ignition key IDs must be carried out using CONSULT-II hardware and CONSULT-II NVIS (NATS) software. When NVIS (NATS) initialization has been completed, the ID of the inserted ignition key is automatically NVIS (NATS) registered. Then, if necessary, additional registration of other NVIS (NATS) ignition key IDs can be carried out.  
Regarding the procedures of NVIS (NATS) initialization and NVIS (NATS) ignition key ID registration, refer to CONSULT-II Operation Manual NATS-IVIS/NVIS.
- **When servicing a malfunction of the NVIS (NATS) (indicated by lighting up of Security Indicator Lamp) or registering another NVIS (NATS) ignition key ID, it may be necessary to re-register original key identification. Therefore, be sure to receive ALL KEYS from vehicle owner.**

## System Composition

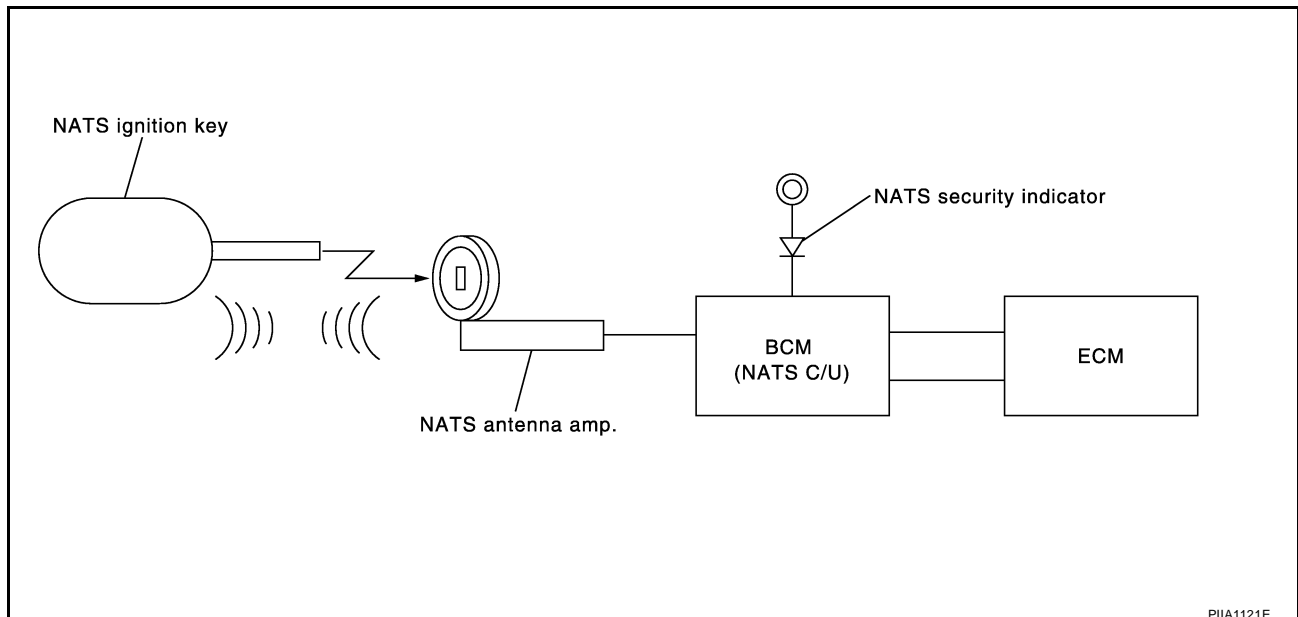
EIS005VM

The immobilizer function of the NVIS (NATS) consists of the following:

- NATS ignition key
- NATS antenna amp. located in the ignition key cylinder
- Body control module (BCM)
- Engine control module (ECM)
- Security indicator

### NOTE:

The communication between ECM and BCM uses the CAN communication system.



# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS005VN

## ECM Re-communicating Function

The following procedure can automatically perform re-communication of ECM and BCM, but only when the ECM has been replaced with a new one which has never been energized on-board.  
(In this step, initialization procedure by CONSULT-II is not necessary)

### NOTE:

- **When registering new key IDs or replacing the ECM other than brand new, refer to CONSULT-II Operation Manual NATS-IVIS/NVIS.**
  - **If multiple keys are attached to the key holder, separate them before work.**
  - **Distinguish keys with unregistered key ID from those with registered ID.**
1. Install ECM.
  2. Using a registered key (\*1), turn ignition switch to ON.  
\*1: To perform this step, use the key (except for card plate key) that has been used before performing ECM replacement.
  3. Maintain ignition switch in ON position for at least 5 seconds.
  4. Turn ignition switch to OFF.
  5. Start engine.  
If engine can be started, procedure is completed.  
If engine cannot be started, refer to CONSULT-II Operation Manual NATS-IVIS/NVIS and initialize control unit.

A

B

C

D

E

F

G

H

BL

J

K

L

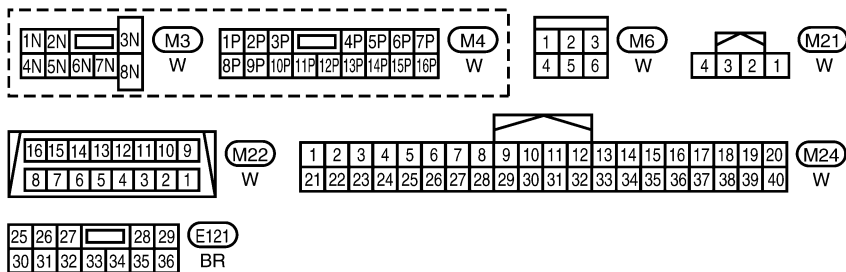
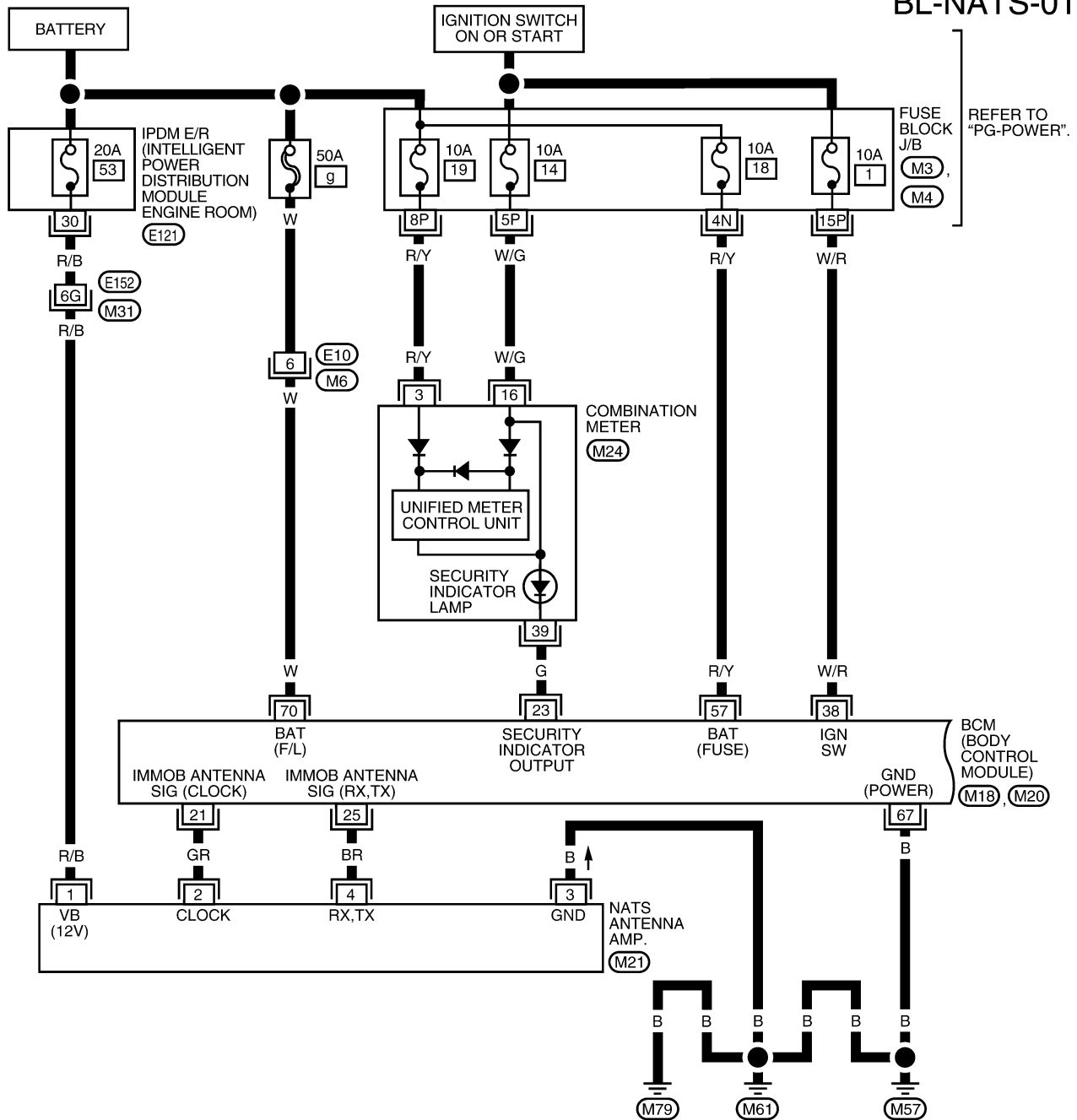
M

# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS005V0

## Wiring Diagram — NATS —

BL-NATS-01

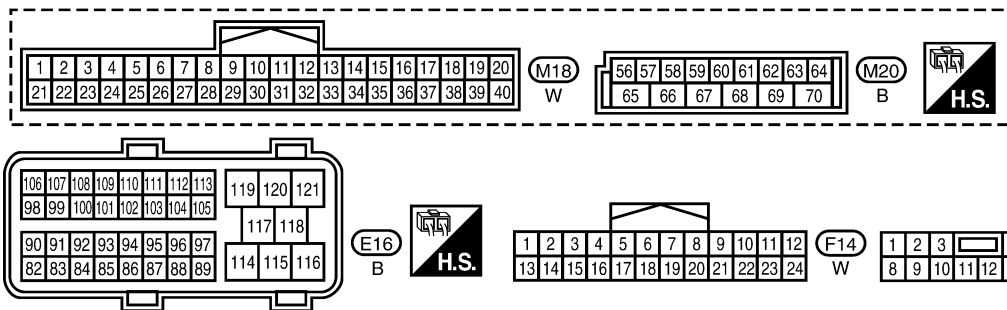
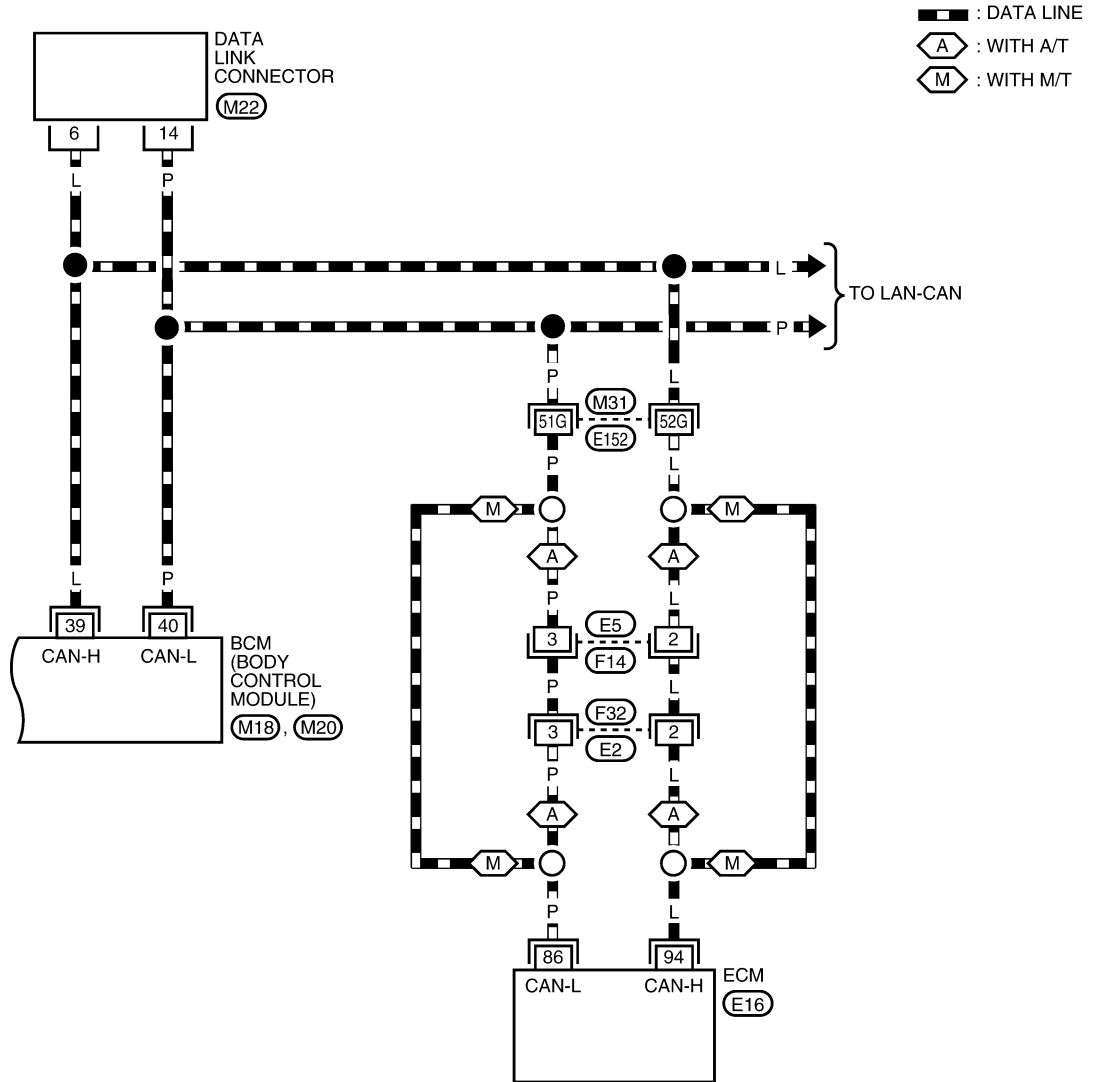


REFER TO THE FOLLOWING.  
 (M18), (M20) - ELECTRICAL UNITS  
 (M31) - SUPER MULTIPLE JUNCTION (SMJ)

WIWA0675E

# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

BL-NATS-02



LIWA0533E

# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

## Terminals and Reference Value for BCM

EIS005VP

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
21	GR	NATS antenna amp.	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move.
23	G	Security indicator lamp	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0
25	BR	NATS antenna amp.	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move.
38	W/R	Ignition switch (ON or START)	Ignition switch (ON or START position)	Battery voltage
39	L	CAN-H	—	—
40	P	CAN-L	—	—
57	R/Y	Power source (BAT)	—	Battery voltage
67	B	Ground	—	0
70	W	Power source (BAT)	—	Battery voltage

## CONSULT-II CONSULT-II INSPECTION PROCEDURE

EIS005VQ

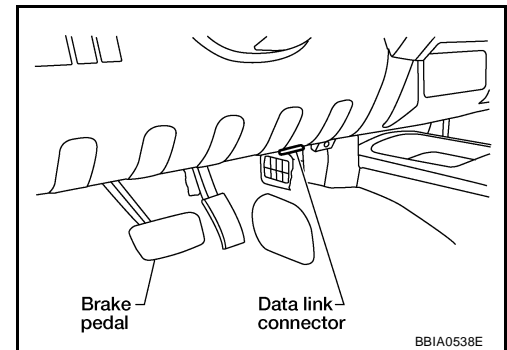
### CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carries out CAN communication.

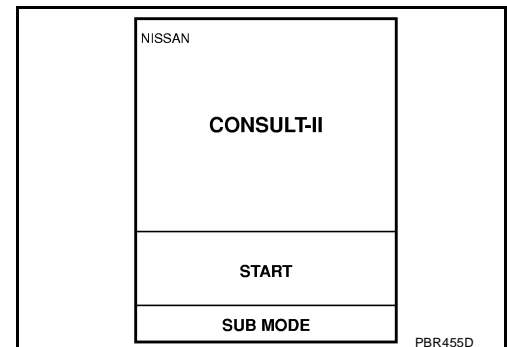
1. Turn ignition switch OFF.
2. Insert NVIS (NATS) program card into CONSULT-II.

**Program card : NATS (AEN02C or later)**

3. Connect CONSULT-II and CONSULT-II CONVERTER to data link connector.

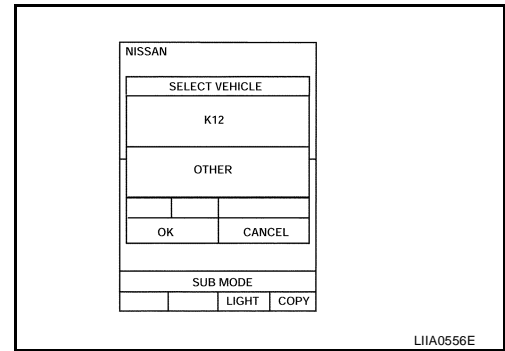


4. Turn ignition switch ON.
5. Touch "START".

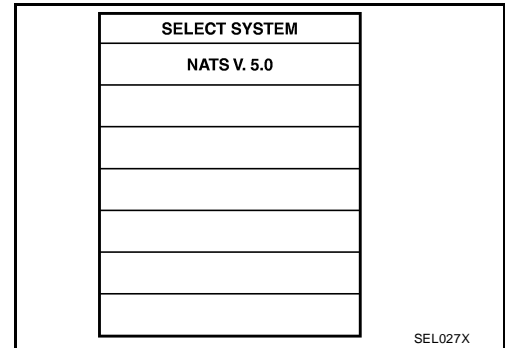


# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

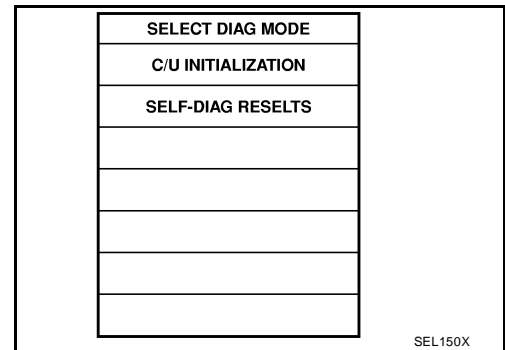
6. Touch "OTHER"



7. Select "NATS V.5.0".  
If "NATS V5.0" is not indicated, go to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



8. Perform each diagnostic test mode according to each service procedure.  
**For further information, see the CONSULT-II Operation Manual NATS-IVIS/NVIS.**



## CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

CONSULT-II DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following components, C/U initialization and re-registration of all NATS ignition keys are necessary. (NATS ignition key/ BCM/ ECM)
SELF-DIAG RESULTS	Detected items (screen terms) are as shown in the chart. Refer to <a href="#">BL-132, "NVIS (NATS) SELF-DIAGNOSTIC RESULTS ITEM CHART"</a> .

### NOTE:

- When any initialization is performed, all IDs previously registered will be erased and all NATS ignition keys must be registered again.
- The engine cannot be started with an unregistered key. In this case, the system will show "DIFFERENCE OF KEY" or "LOCK MODE" as a self-diagnostic result on the CONSULT-II screen.
- In rare case, "CHAIN OF ECM-IMMU" might be stored as a self-diagnostic result during key registration procedure, even if the system is not malfunctioning.

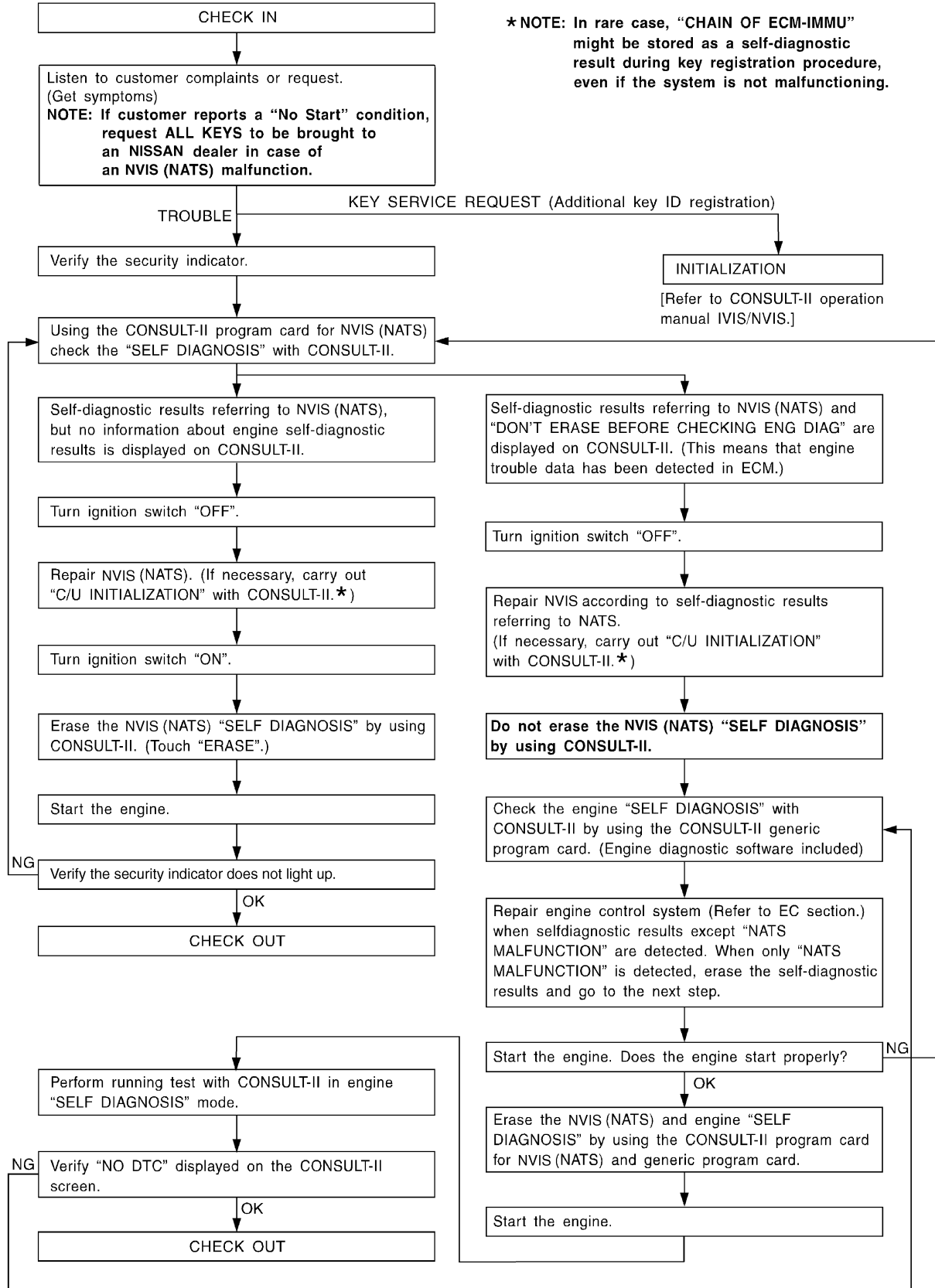




# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS005VR

## Work Flow



LIA1152E

# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS005VS

## Trouble Diagnoses SYMPTOM MATRIX CHART 1

### Self-diagnosis related item

Symptom	Displayed "SELF-DIAG RESULTS" on CONSULT-II screen.	Diagnostic Procedure (Reference page)	System (Malfunctioning part or mode)	Reference Part No. Of Illustration On System Diagram
<ul style="list-style-type: none"> <li>● Security indicator lighting up*</li> <li>● Engine cannot be started</li> </ul>	CHAIN OF ECM-IMMU [P1612]	PROCEDURE 1 (BL-136)	In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.	—
			Open circuit in battery voltage line of BCM circuit	C1
			Open circuit in ignition line of BCM circuit	C2
			Open circuit in ground line of BCM circuit	C3
			Open or short circuit between BCM and ECM communication line	C4
			ECM	B
			BCM	A
	DIFFERENCE OF KEY [P1615]	PROCEDURE 2 (BL-137)	Unregistered key	D
			BCM	A
	CHAIN OF IMMU-KEY [P1614]	PROCEDURE 5 (BL-140)	Malfunction of key ID chip	E5
			Communication line between ANT/ AMP and BCM:	E1
			Open circuit or short circuit of battery voltage line or ground line	E2
			Open circuit in power source line of ANT/ AMP circuit	E3
			Open circuit in ground line of ANT/ AMP circuit	E4
			NATS antenna amp.	E6
BCM			A	
ID DISCORD, IMM-ECM [P1611]	PROCEDURE 3 (BL-138)	System initialization has not yet been completed.	F	
		ECM	B	
LOCK MODE [P1610]	PROCEDURE 4 (BL-139)	LOCK MODE	D	
Security indicator lighting up*	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (BL-133)	Engine trouble data and NVIS (NATS) trouble data have been detected in ECM	—

\*: When NVIS (NATS) detects trouble, the security indicator lights up while ignition key is in the "ON" position.

# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

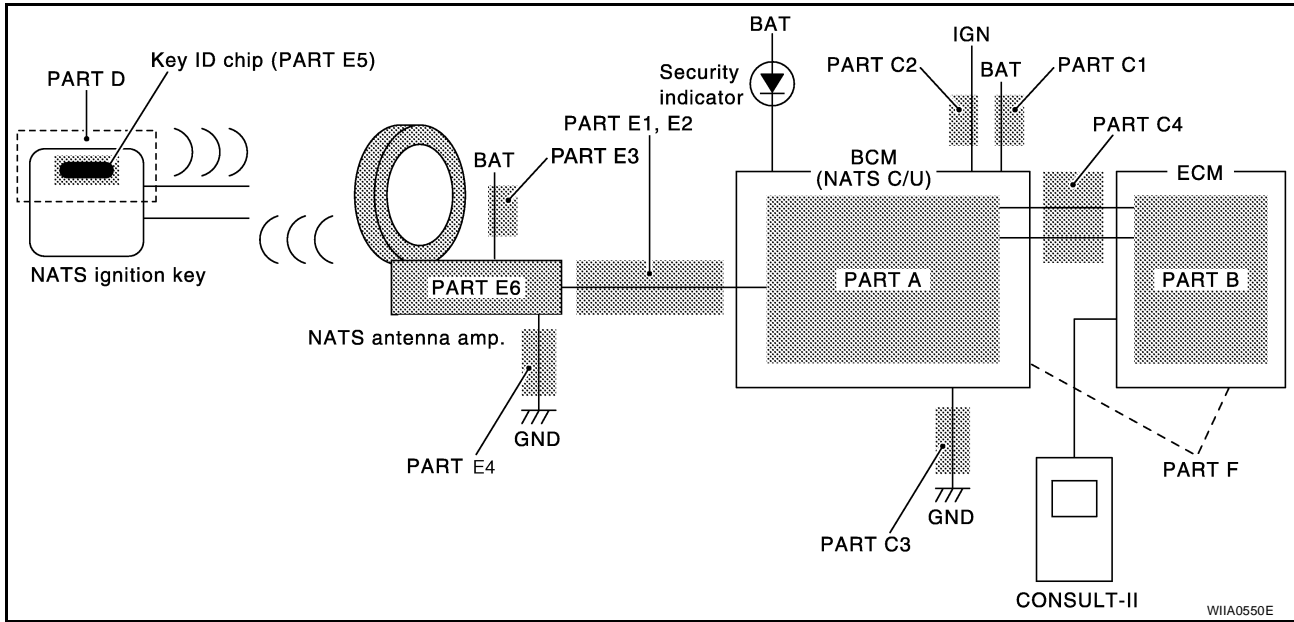
## SYMPTOM MATRIX CHART 2

### Non self-diagnosis related item

Symptom	Diagnostic Procedure (Reference page)	System (Malfunctioning part or mode)	Reference Part No. Of Illustration On System Diagram
Security indicator does not light up*.	PROCEDURE 6 ( <a href="#">BL-143</a> )	Combination meter (security indicator lamp)	—
		Open circuit between Fuse and BCM	—
		BCM	A

\*: CONSULT-II self-diagnostic results display screen "no malfunction is detected".

## DIAGNOSTIC SYSTEM DIAGRAM



# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS005VT

## Diagnostic Procedure 1

### Self-diagnostic results:

“CHAIN OF ECM-IMMU” displayed on CONSULT-II screen

First perform the “SELF-DIAG RESULTS” in “BCM” with CONSULT-II, then perform the trouble diagnosis of malfunction system indicated “SELF-DIAG RESULTS” of “BCM”. Refer to [BL-130. "CONSULT-II"](#)

### 1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “CHAIN OF ECM-IMMU” displayed on CONSULT-II screen.

#### NOTE:

In rare case, “CHAIN OF ECM-IMMU” might be stored during key registration procedure, even if the system is not malfunctioning.

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.

No >> GO TO [BL-134. "SYMPTOM MATRIX CHART 1"](#).

SELF DIAGNOSIS	
DTC RESULTS	TIME
CHAIN OF ECM-IMMU [P1612]	0

PIA1260E

### 2. CHECK POWER SUPPLY CIRCUIT FOR BCM

1. Turn ignition switch OFF.
2. Check voltage between BCM connector M20 terminal 70 and ground.

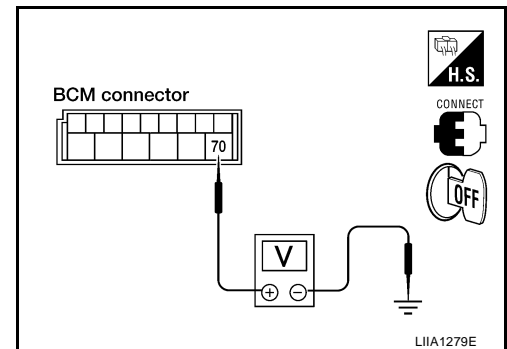
**70 - Ground : Battery voltage**

OK or NG

OK >> GO TO 3.

NG >> Check the following.

- 50A fusible link (letter **g** , located in fuse and fusible link box)
  - Harness for open or short between fuse and BCM connector
- Ref. Part No. C1**



### 3. CHECK IGN SW. ON SIGNAL

1. Turn ignition switch ON.
2. Check voltage between BCM connector M18 terminal 38 and ground.

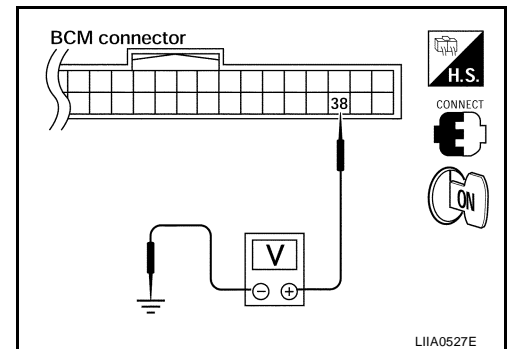
**38 - Ground : Battery voltage**

OK or NG

OK >> GO TO 4.

NG >> Check the following.

- 10A fuse [No. 1, located in the fuse block (J/B)]
  - Harness for open or short between fuse and BCM connector
- Ref. part No. C2**



# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

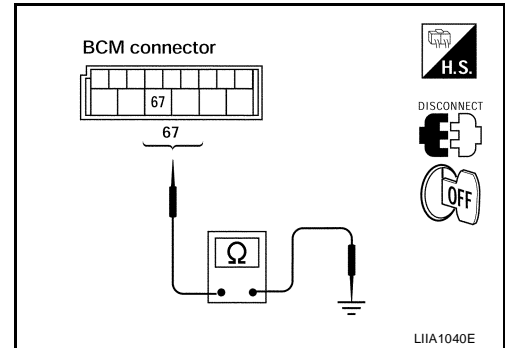
## 4. CHECK GROUND CIRCUIT FOR BCM

1. Turn ignition switch OFF.
2. Disconnect BCM.
3. Check continuity between BCM connector M20 terminal 67 and ground.

**67 - Ground :Continuity should exist.**

OK or NG

- OK >> GO TO 5.  
NG >> Repair or replace harness. **Ref. part No. C3**



## 5. REPLACE BCM

1. Replace BCM. **Ref. part No. A**
2. Perform initialization with CONSULT-II.  
For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

Does the engine start?

- Yes >> BCM is malfunctioning.  
No >> ECM is malfunctioning.

- Replace ECM. **Ref. part No. B**
- Perform initialization or re-communicating function.
- For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".
- For re-communicating function, refer to [BL-127, "ECM Re-communicating Function"](#).

## Diagnostic Procedure 2

EIS005VU

Self-diagnostic results:

"DIFFERENCE OF KEY" displayed on CONSULT-II screen

### 1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS "DIFFERENCE OF KEY" displayed on CONSULT-II screen.

Is CONSULT-II screen displayed as above?

- Yes >> GO TO 2.  
No >> GO TO [BL-134, "SYMPTOM MATRIX CHART 1"](#).

SELF DIAG RESULTS	
DTC RESULTS	TIME
DIFFERENCE OF KEY [P1615]	0

PIA1261E

# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

## 2. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs.

For initialization and registration of NATS ignition key IDs, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

### NOTE:

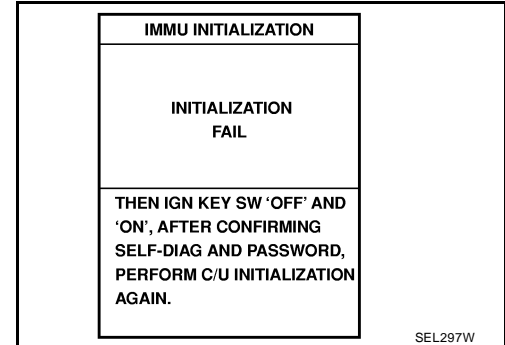
If the initialization is not completed or malfunctions, CONSULT-II shows message on the screen.

Can the system be initialized and can the engine be started with re-registered NATS ignition key?

Yes >> Ignition key ID was unregistered. **Ref. part No. D**

No >> BCM is malfunctioning.

- Replace BCM. **Ref. part No. A**
- Perform initialization with CONSULT-II.
- For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".



## Diagnostic Procedure 3

EIS005VV

### Self-diagnostic results:

"ID DISCORD, IMM-ECM" displayed on CONSULT-II screen

## 1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS "ID DISCORD, IMM-ECM" displayed on CONSULT-II screen.

### NOTE:

"ID DISCORD IMM-ECM":

Registered ID of BCM is in discord with that of ECM.

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.

No >> GO TO [BL-134, "SYMPTOM MATRIX CHART 1"](#).

SELF DIAG RESULTS	
DTC RESULTS	TIME
ID DISCORD, IMM-ECM [P1611]	0

PIIA1262E

## 2. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs.

For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

### NOTE:

If the initialization is not completed or malfunctions, CONSULT-II shows message on the screen.

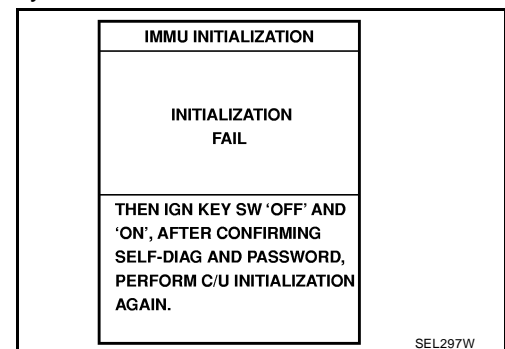
Can the system be initialized?

Yes >> ● Start engine. (END)

- (System initialization had not been completed. **Ref. part No. F**)

No >> ECM is malfunctioning.

- Replace ECM. **Ref. part No. B**
- Perform initialization with CONSULT-II.  
For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".



# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS005VW

## Diagnostic Procedure 4

### Self-diagnostic results:

“LOCK MODE” displayed on CONSULT-II screen

### 1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “LOCK MODE” is displayed on CONSULT-II screen.

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.

No >> GO TO [BL-134, "SYMPTOM MATRIX CHART 1"](#).

SELF DIAG RESULTS	
DTC RESULTS	TIME
LOCK MODE [P1610]	0

PIIA1264E

### 2. ESCAPE FROM LOCK MODE

1. Turn ignition switch OFF.
2. Turn ignition switch ON with registered key. (Do not start engine.) Wait 5 seconds.
3. Return the key to OFF position. Wait 5 seconds.
4. Repeat steps 2 and 3 twice (total of three cycles).
5. Start the engine.

Does engine start?

Yes >> System is OK (Now system is escaped from “LOCK MODE”). Clear all codes.

No >> GO TO 3.

### 3. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II.

For initialization, refer to “CONSULT-II Operation Manual NATS-IVIS/NVIS”.

#### NOTE:

If the initialization is not completed or malfunctions, CONSULT-II shows the message on the screen.

Can the system be initialized?

Yes >> System is OK.

No >> GO TO 4.

IMMU INITIALIZATION
INITIALIZATION FAIL
THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.

SEL297W

# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

## 4. PERFORM INITIALIZATION WITH CONSULT-II AGAIN

1. Replace BCM.
2. Perform initialization with CONSULT-II.  
For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

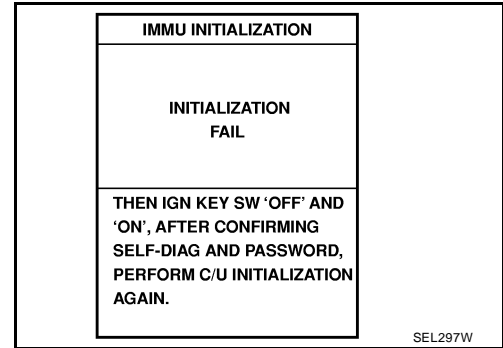
### NOTE:

If the initialization is not completed or malfunctions, CONSULT-II shows the message on the screen.

Can the system be initialized?

- Yes >> System is OK. BCM is malfunctioning. **Ref. part No. A**  
No >> ECM is malfunctioning.

- Replace ECM. **Ref. part No. B**
- Perform initialization with CONSULT-II.  
For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".



## Diagnostic Procedure 5

EIS005VX

### Self-diagnostic results:

"CHAIN OF IMMU-KEY" displayed on CONSULT-II screen

### 1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF IMMU-KEY" displayed on CONSULT-II screen.

Is CONSULT-II screen displayed as above?

- Yes >> GO TO 2.  
No >> GO TO [BL-134, "SYMPTOM MATRIX CHART 1"](#) .

The screenshot shows a CONSULT-II screen with the following table:

SELF DIAGNOSIS	
DTC RESULTS	TIME
CHAIN OF IMMU-KEY [P1614]	0

PIIA1263E

### 2. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to [BL-144, "How to Replace NATS Antenna Amp."](#) .

OK or NG

- OK >> GO TO 3.  
NG >> Reinstall NATS antenna amp. correctly.

### 3. CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

Does the engine start?

- Yes >> Ignition key ID chip is malfunctioning.
- Replace the ignition key.  
**Ref. part No. E5**
  - Perform initialization with CONSULT-II.  
For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".
- No >> GO TO 4.



# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

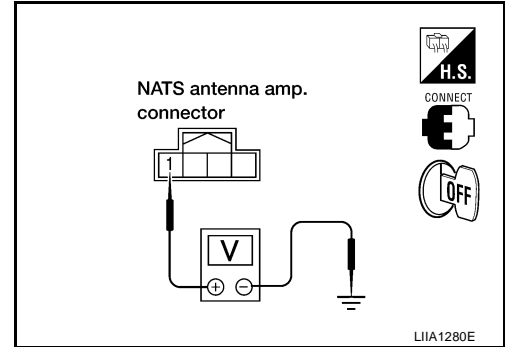
## 4. CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

1. Turn ignition switch OFF.
2. Check voltage between NATS antenna amp. connector M21 terminal 1 and ground.

**1 - Ground : Battery voltage**

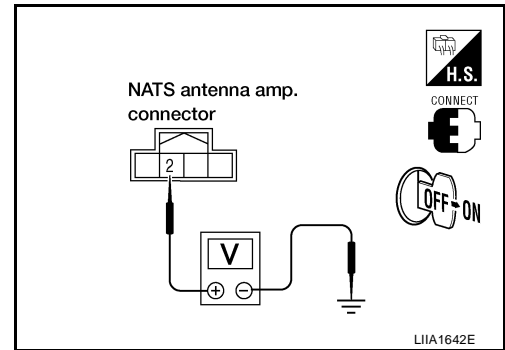
OK or NG

- OK >> GO TO 5.  
 NG >> Repair or replace fuse or harness. **Ref. part No. E3**



## 5. CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

Check voltage between NATS antenna amp. connector M21 terminal 2 and ground with analog tester.



<b>2 - Ground</b>	<b>Before inserting key into ignition key cylinder</b>	<b>: Battery voltage</b>
	<b>After inserting key into ignition key cylinder</b>	<b>: Pointer of tester should move for 30 seconds, then return to battery voltage.</b>
	<b>Just after turning ignition switch ON</b>	<b>: Pointer of tester should move for approx. 1 second, then return to battery voltage.</b>

OK or NG

- OK >> GO TO 6.  
 NG >> ● Repair or replace harness. **Ref. part No. E1**

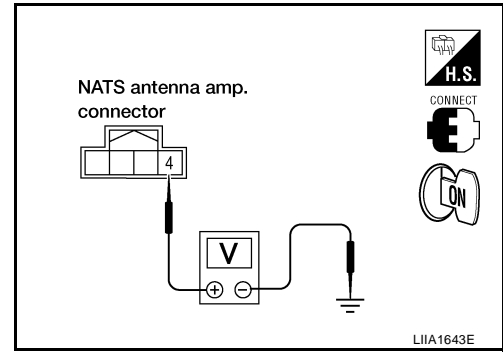
**NOTE:**

If harness is OK, replace BCM, perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

## 6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

Check voltage between NATS antenna amp. connector M21 terminal 4 and ground with analog tester.



	<b>Before inserting key into ignition key cylinder</b>	<b>: Battery voltage</b>
<b>4 - Ground</b>	<b>After inserting key into ignition key cylinder</b>	<b>: Pointer of tester should move for 30 seconds, then return to battery voltage.</b>
	<b>Just after turning ignition switch ON</b>	<b>: Pointer of tester should move for approx. 1 second, then return to battery voltage.</b>

OK or NG

OK >> GO TO 7.

NG >> ● Repair or replace harness. **Ref. part No. E2**

**NOTE:**

If harness is OK, replace BCM, perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

## 7. CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect NATS antenna amp. connector.
3. Check continuity between NATS antenna amp. connector M21 terminal 3 and ground.

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

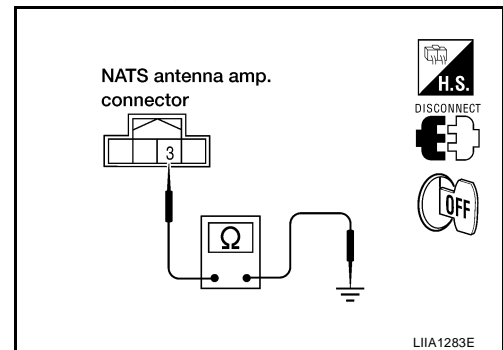
OK or NG

OK >> NATS antenna amp. is malfunctioning. **Ref. part No. E6**

NG >> ● Repair or replace harness. **Ref. part No. E4**

**NOTE:**

If harness is OK, replace BCM, perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".



# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS005VY

## Diagnostic Procedure 6

“SECURITY INDICATOR LAMP DOES NOT LIGHT UP”

### 1. CHECK FUSE

Check 10A fuse [No.19, located in the fuse block (J/B)].

OK or NG

- OK >> GO TO 2.
- NG >> Replace fuse.

### 2. CHECK SECURITY INDICATOR LAMP

1. Install 10A fuse.
2. Start engine and turn ignition switch OFF.
3. Check that the security indicator lamp lights up.

**Security indicator lamp should light up.**

OK or NG

- OK >> Inspection End.
- NG >> GO TO 3.

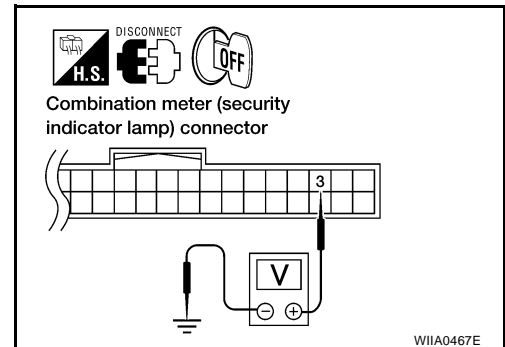
### 3. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

1. Disconnect combination meter.
2. Check voltage between combination meter connector M24 terminal 3 and ground.

**3 - Ground : Battery voltage**

OK or NG

- OK >> GO TO 4.
- NG >> Repair or replace harness.



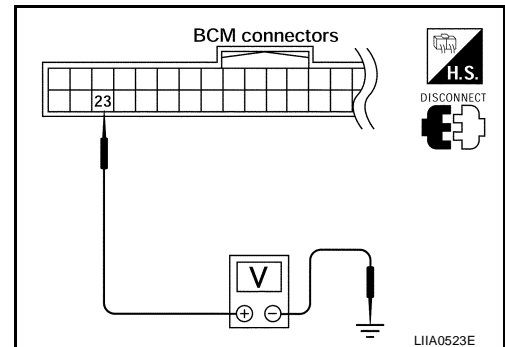
### 4. CHECK BCM (NATS CONTROL UNIT) FUNCTION

1. Connect combination meter.
2. Disconnect BCM.
3. Check voltage between BCM connector M18 terminal 23 and ground.

**23 - Ground : Battery voltage**

OK or NG

- OK >> BCM is malfunctioning.
  - Replace BCM.  
**Ref. part No. A**
  - Perform initialization with CONSULT-II.
  - For initialization, refer to “CONSULT-II Operation Manual NATS-IVIS/NVIS”.
- NG >> Check the following.
  - Harness for open or short between combination meter and BCM (NATS control unit).
  - Combination meter



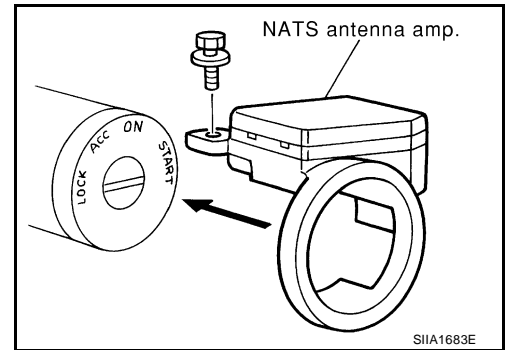
# NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

EIS005VZ

## How to Replace NATS Antenna Amp.

### NOTE:

- If NATS antenna amp. is not installed correctly, NVIS (NATS) system will not operate properly and SELF-DIAG RESULTS on CONSULT-II screen will show "LOCK MODE" or "CHAIN OF IMMU-KEY".
- Initialization is not necessary only when NATS antenna amp. is replaced with a new one.



# HOMELINK UNIVERSAL TRANSCEIVER

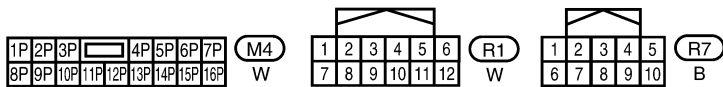
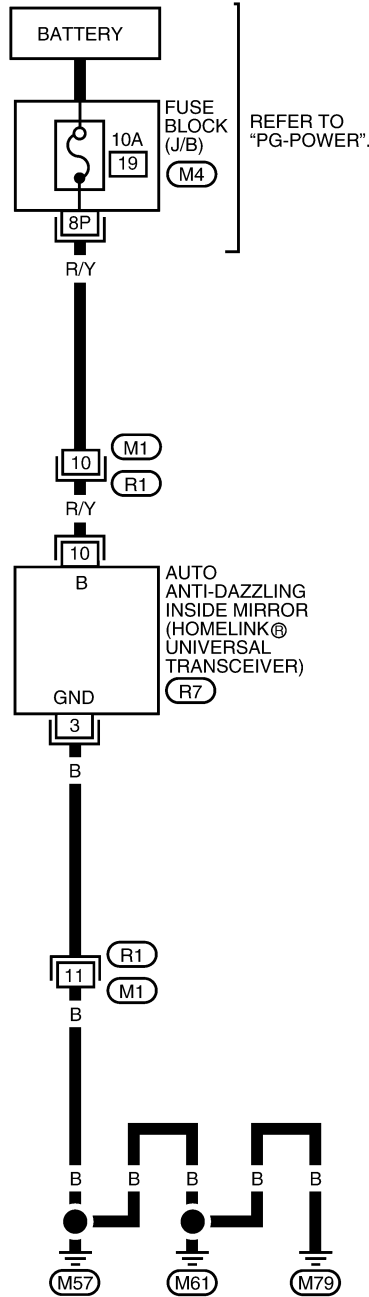
PFP:96401

## HOMELINK UNIVERSAL TRANSCEIVER

### Wiring Diagram — TRNSCV —

EIS005W0

## BL-TRNSCV-01



A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

# HOMELINK UNIVERSAL TRANSCEIVER

EIS005W1

## Trouble Diagnoses DIAGNOSTIC PROCEDURE

### SYMPTOM: Transmitter does not activate receiver.

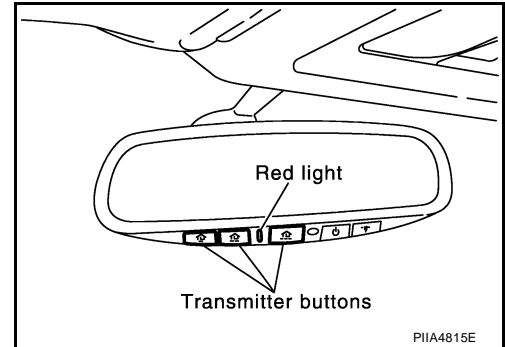
Before conducting the procedure given below, make sure that system receiver (garage door opener, etc.) operates with original, hand-held transmitter. If NG, receiver or hand-held transmitter is at fault, not vehicle related.

### 1. ILLUMINATION CHECK

1. Turn ignition switch OFF.
2. Does red light (LED) of transmitter illuminate when any button is pressed?

#### YES or NO

- YES >> GO TO 2.  
NO >> GO TO 3.



### 2. TRANSMITTER CHECK

Check transmitter with Tool\*.

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

#### OK or NG

- OK >> Receiver or handheld transmitter malfunction, not vehicle related.  
NG >> Replace transmitter.

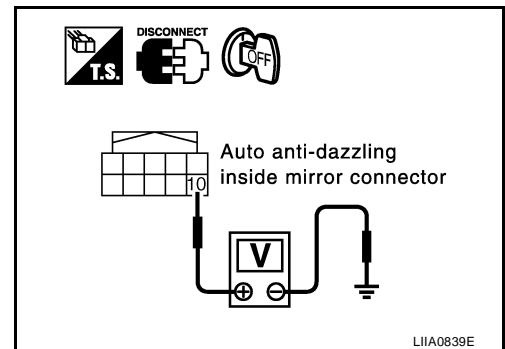
### 3. POWER SUPPLY CHECK

1. Disconnect transmitter.
2. Check voltage between auto anti-dazzling inside mirror connector R7 terminal 10 and ground.

**10 - Ground : Battery voltage**

#### OK or NG

- OK >> GO TO 4.  
NG >> Repair or replace fuse or harness.



# HOMELINK UNIVERSAL TRANSCEIVER

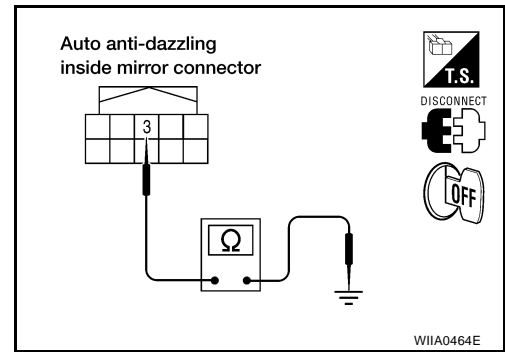
## 4. GROUND CIRCUIT CHECK

Check continuity between auto anti-dazzling inside mirror connector R7 terminal 3 and body ground.

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

OK or NG

- OK >> Replace auto anti-dazzling inside mirror assembly.
- NG >> Repair or replace harness.



A  
B  
C  
D  
E  
F  
G  
H  
J  
K  
L  
M

BL

# CAB AND REAR BODY

PFP:93020

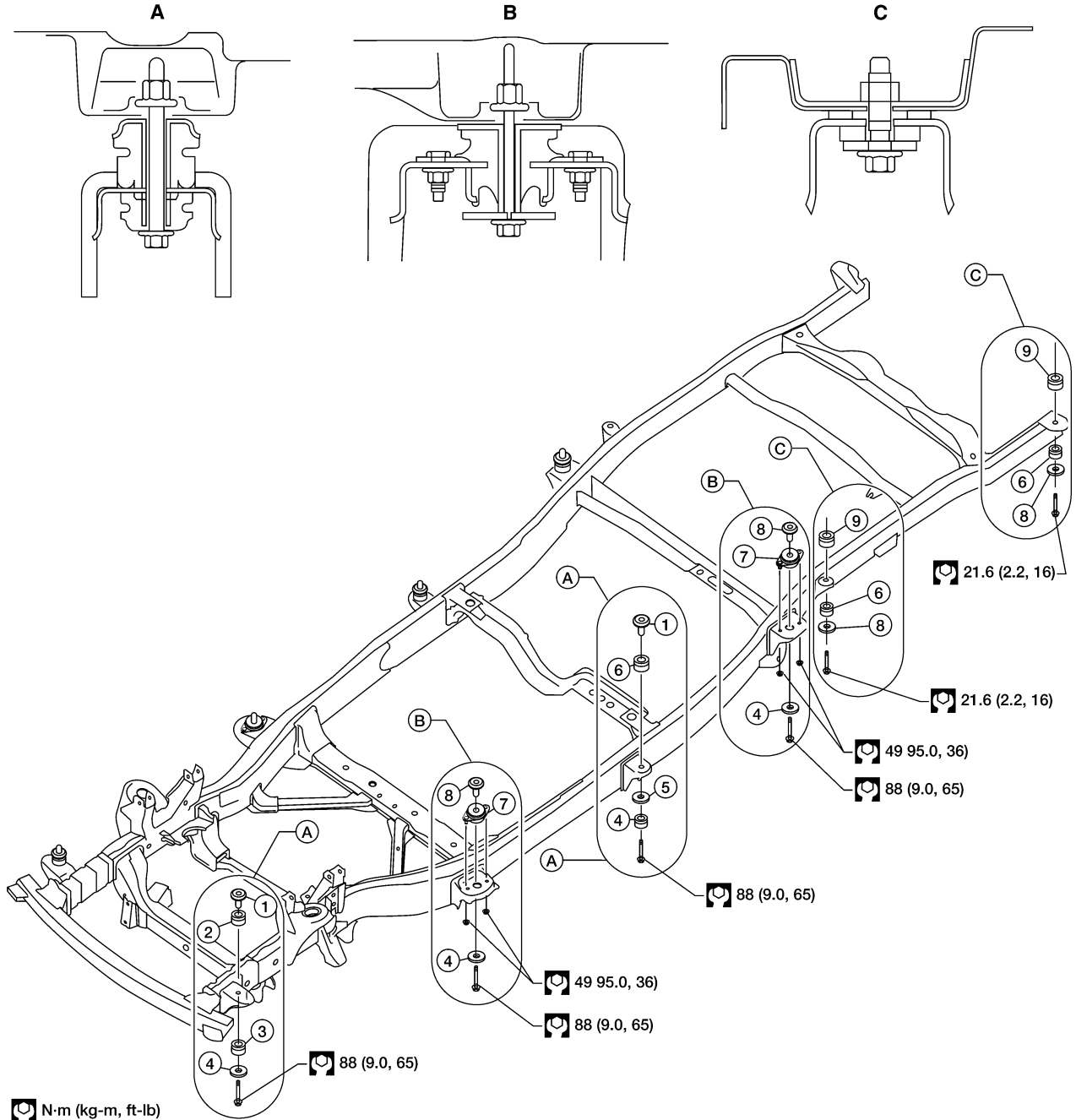
## CAB AND REAR BODY


EIS00530

### Body Mounting

- When removing, be sure to replace bolts and nuts (sealant applied bolts or self-lock nuts are used for all positions).
- Unless otherwise noted, the bushings and insulators have paint marks that are to be installed facing outward.

#### Crew Cab



 N-m (kg-m, ft-lb)

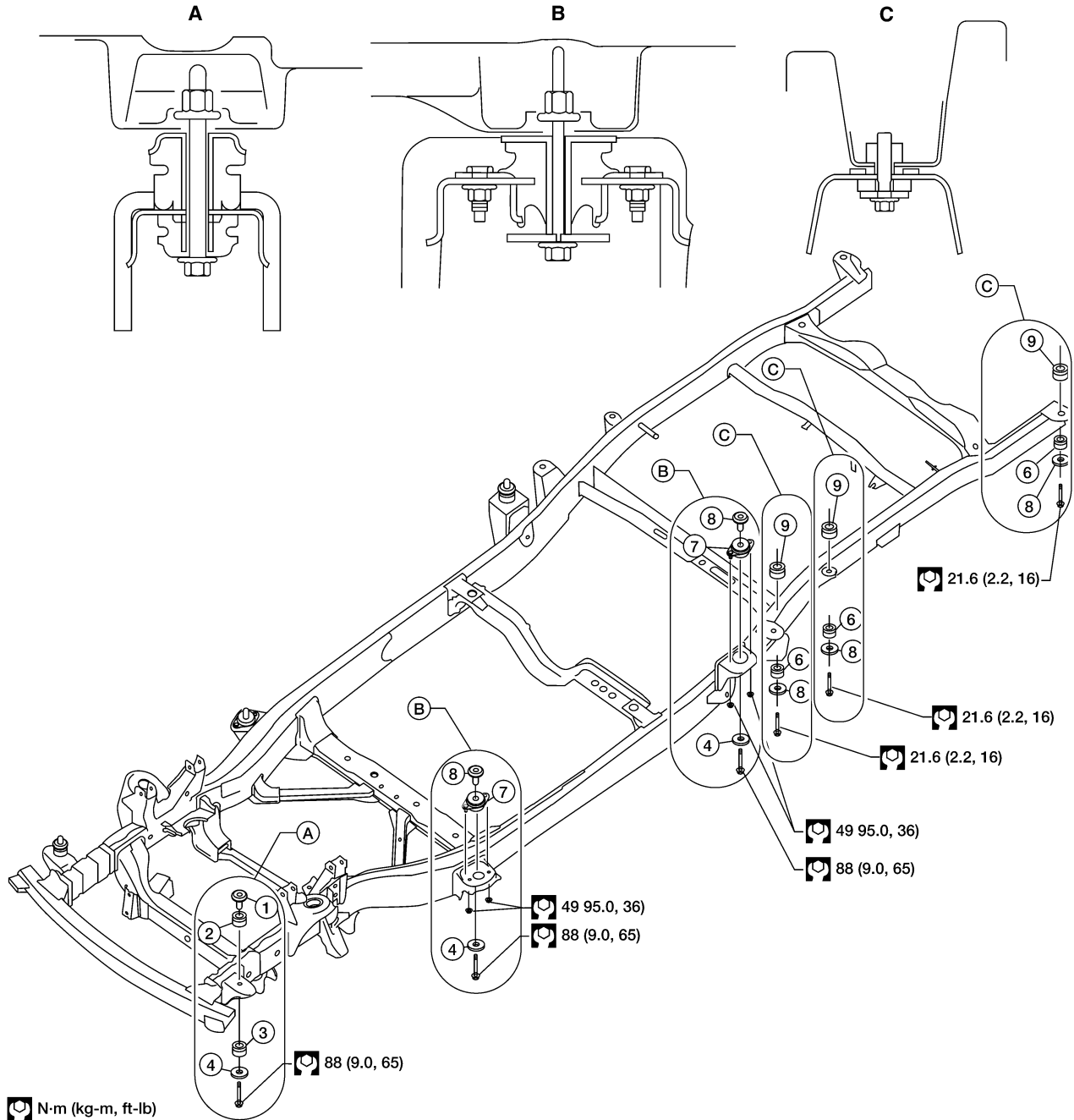
- |                         |                  |                                     |
|-------------------------|------------------|-------------------------------------|
| 1. Gold washer          | 2. Upper bushing | 3. Lower bushing                    |
| 4. Black washer         | 5. Washer        | 6. Upper bushing without paint mark |
| 7. Body mount insulator | 8. Body washer   | 9. Shim                             |

LIA2100E



# CAB AND REAR BODY

## King Cab



A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

N·m (kg·m, ft·lb)

- |                         |                  |                                     |
|-------------------------|------------------|-------------------------------------|
| 1. Gold washer          | 2. Upper bushing | 3. Lower bushing                    |
| 4. Black washer         | 5. Washer        | 6. Upper bushing without paint mark |
| 7. Body mount insulator | 8. Body washer   | 9. Shim                             |

LIA2101E

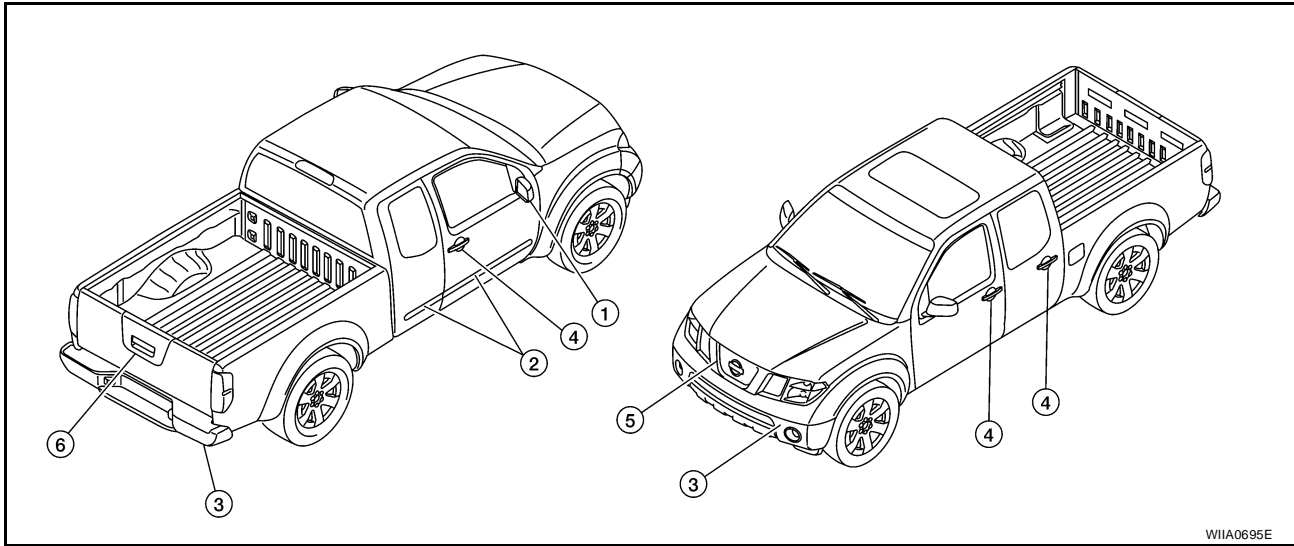
# BODY REPAIR

## BODY REPAIR

PF:60100

### Body Exterior Paint Color

E/S00531



WIIA0695E

Component			Color code	AG2	BX7	C20	D13	EW3*	K12	K27	KH3	KY2	QM1	
			Description	Aztec Red	Electric Blue	Desert Gold	Can-teen	Solar Yellow	Radiant Silver	Storm Gray	Super Black	Granite	Avalanche	
			Paint type	2S	M	M	PM	M	M	M	2S	M	S	
			Hard clear coat	—	—	—	—	—	—	—	—	—	—	
1	Outside mirror	King Cab	XE	Black	—	—	—	—	—	—	—	—	—	
			OR*1	Chromium plate	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P
			SE*1											
	CREW CAB	XE	Black	—	—	—	—	—	—	—	—	—	—	
		OR*1	Chromium plate	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	
		SE	Body Color	AG2	BX7	C20	D13	EW3	K12	K27	KH3	KY2	QM1	
2	Side Guard Molding		Body color	AG2	BX7	C20	D13	EW3	K12	K27	KH3	KY2	QM1	
3	Bumpers	Fascias	Body color	AG2	BX7	C20	D13	EW3	K12	K27	KH3	KY2	QM1	

# BODY REPAIR

Component				Color code	AG2	BX7	C20	D13	EW3*	K12	K27	KH3	KY2	QM1
				Description	Aztec Red	Electric Blue	Desert Gold	Can-teen	Solar Yellow	Radiant Silver	Storm Gray	Super Black	Granite	Avalanche
				Paint type	2S	M	M	PM	M	M	M	2S	M	S
				Hard clear coat	—	—	—	—	—	—	—	—	—	—
4	Out-side handles	King Cab	XE	Black	—	—	—	—	—	—	—	—	—	—
			OR* 1	Chromium plate	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P
			SE* 1		—	—	—	—	—	—	—	—	—	
		CREW CAB	XE	Black	—	—	—	—	—	—	—	—	—	—
			OR* 1	Chromium plate	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P
			SE	Body Color	AG2	BX7	C20	D13	EW3	K12	K27	KH3	KY2	QM1
5	Radiator grille	Center and emblem	Chromium plate	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	
		Center	Black	—	—	—	—	—	—	—	—	—	—	
6	Center Rear Gate Handle		Black	—	—	—	—	—	—	—	—	—	—	

M: Metallic; S: 1- Coat Solid, 2S: 2-Coat Solid, 2P: 2-Coat Pearl, PM: Pearl + Metallic

(\* ) only available on lifeguard units

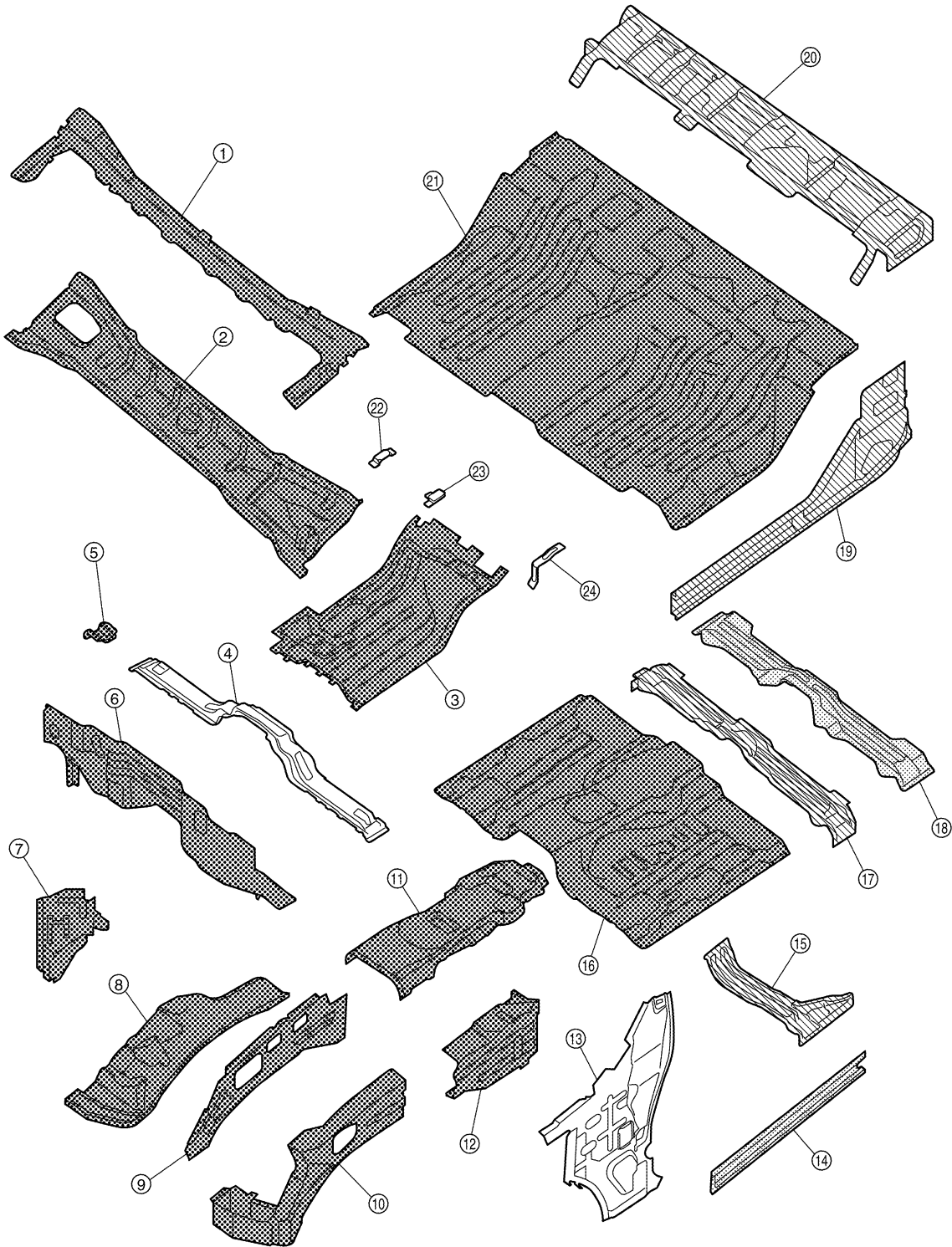
(\*1) if equipped, otherwise body color




A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

# BODY REPAIR

## Body Component Parts UNDERBODY COMPONENT PARTS

EIS00532



-  : Indicates both sided anti-corrosive pre-coated steel portions
-  : Indicates high strength steel (HSS) portions
-  : Indicates both sided anti-corrosive steel and HSS portions

SIIA2538E

## BODY REPAIR

---

1. Upper dash crossmember	A
2. Upper dash	
3. Rear floor reinforcement	
4. Front seat crossmember	
5. 2nd crossmember extension	B
6. Lower dash	
7. Battery tray	C
8. Lower hoodledge panel (RH&LH)	
9. Inner hoodledge panel (RH&LH)	
10. Hoodledge reinforcement (RH&LH)	D
11. Front floor reinforcement	
12. Rear hoodledge reinforcement (RH&LH)	
13. Side dash (RH&LH)	E
14. Inner sill (RH&LH)	
15. 2nd crossmember (RH&LH)	F
16. Front floor	
17. Front seat crossmember	
18. Center pillar crossmember	G
19. Inner sill extension (RH&LH)	
20. Cross-cab brace	
21. Rear floor	H
22. Woofer bracket	
23. Storage box bracket	
24. Accessory storage box bracket	BL

J

K

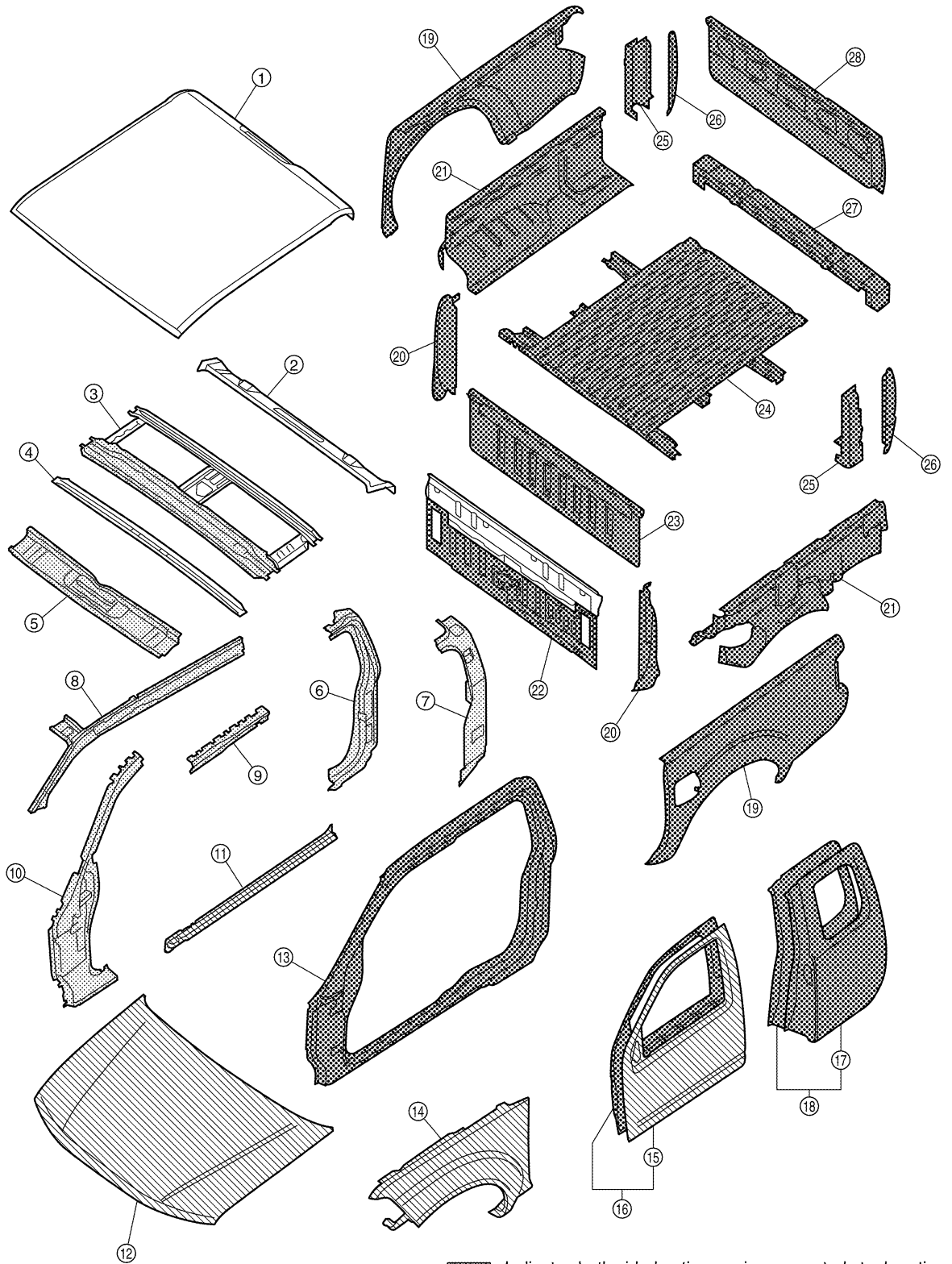
L




M

# BODY REPAIR

## BODY COMPONENT PARTS

### King Cab



-  : Indicates both sided anti-corrosive pre-coated steel portions
-  : Indicates high strength steel (HSS) portions
-  : Indicates both sided anti-corrosive steel and HSS portions

SIIA2539E

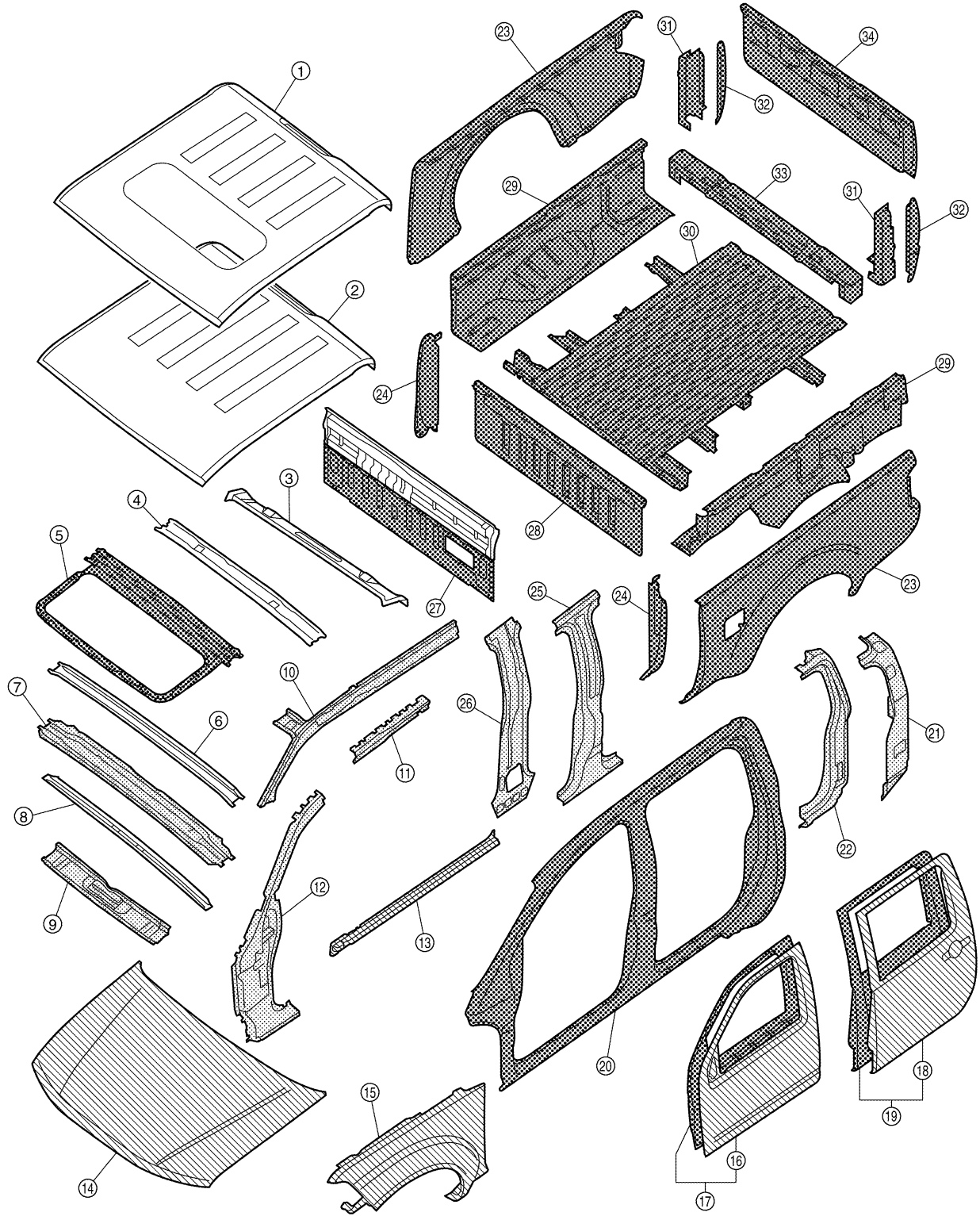
# BODY REPAIR




---

1. Roof	A
2. Rear roof rail	
3. Roof bow No. 2	
4. Roof bow No. 1	
5. Front roof rail	B
6. Lock pillar reinforcement (RH&LH)	
7. Inner lock pillar (RH&LH)	C
8. Upper inner front pillar (RH&LH)	
9. Roof side rail (RH&LH)	
10. Front pillar reinforcement (RH&LH)	D
11. Outer sill reinforcement (RH&LH)	
12. Hood	
13. Body side panel (RH&LH)	E
14. Front fender (RH&LH)	
15. Outer front door (RH&LH)	F
16. Front door assembly (RH&LH)	
17. Outer rear door (RH & LH)	
18. Rear door assembly (RH&LH)	G
19. Outer side panel	
20. Outer front strut	
21. Inner side panel	H
22. Back panel	
23. Front panel	
24. Rear body floor assembly	BL
25. Rear strut assembly	
26. Inner rear strut	
27. Rear floor bolster assembly	J
28. Rear gate	
	K
	L
	M

# BODY REPAIR

## Crew Cab



-  : Indicates both sided anti-corrosive precoated steel portions
-  : Indicates high strength steel (HSS) portions
-  : Indicates both sided anti-corrosive steel and HSS portions

SIIA2540E



## BODY REPAIR

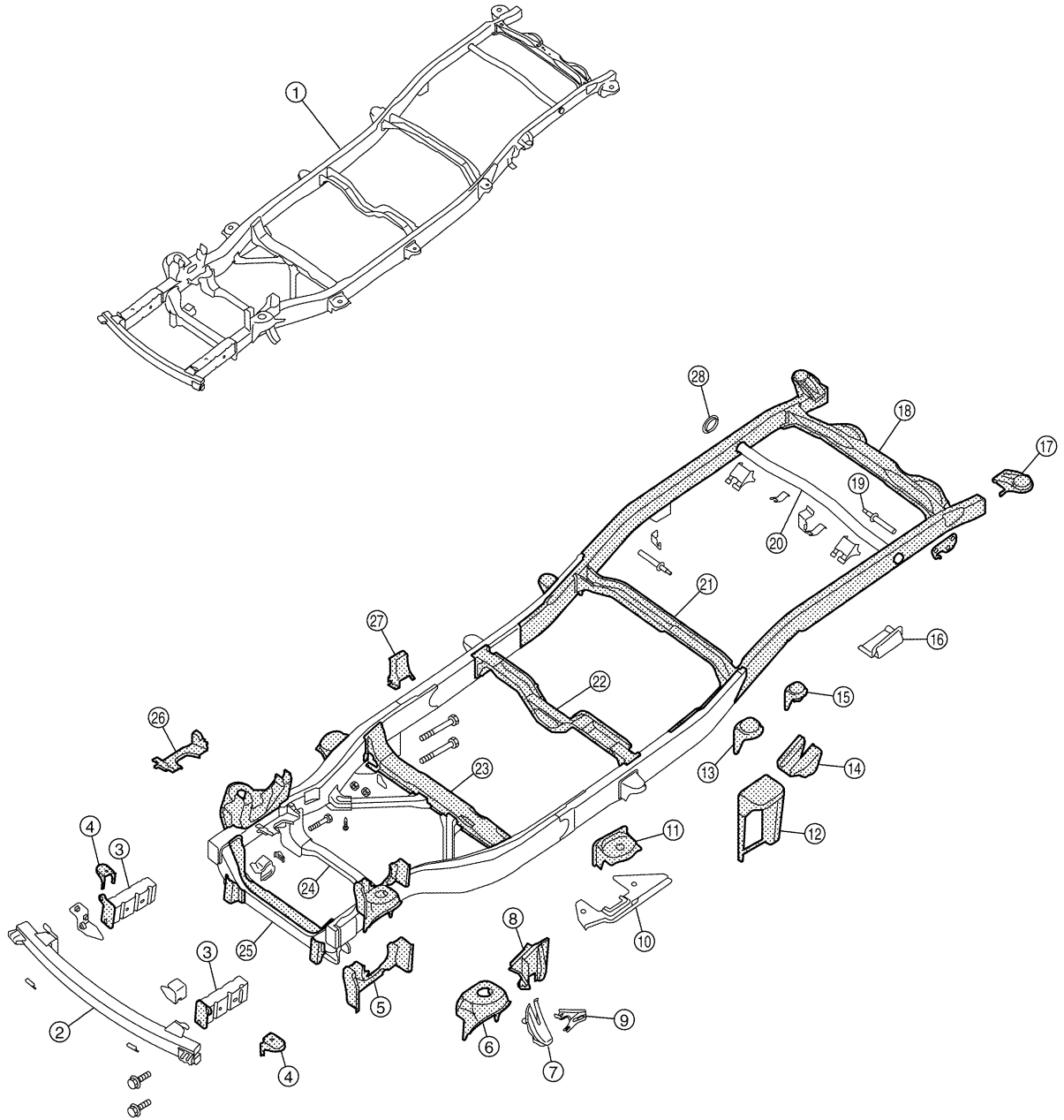
---




1. Roof (with sunroof)	A
2. Roof	
3. Rear roof rail	
4. Roof bow No. 4	
5. Sunroof reinforcement	B
6. Roof bow No. 3	
7. Roof bow No. 2	C
8. Roof bow No. 1	
9. Front roof rail	
10. Upper inner front pillar	D
11. Roof side rail reinforcement (RH&LH)	
12. Front pillar reinforcement (RH&LH)	
13. Outer sill reinforcement (RH&LH)	E
14. Hood	
15. Front fender (RH&LH)	
16. Outer front door (RH&LH)	F
17. Front door assembly (RH&LH)	
18. Outer rear door (RH&LH)	
19. Rear door assembly (RH&LH)	G
20. Body side panel (RH&LH)	
21. Inner rear lock pillar (RH&LH)	H
22. Inner rear side reinforcement (RH&LH)	
23. Outer side panel	
24. Outer front strut	BL
25. Center pillar brace (RH&LH)	
26. Inner center pillar (RH&LH)	
27. Back panel	J
28. Front panel	
29. Inner side panel	
30. Rear body floor assembly	K
31. Rear strut assembly	
32. Inner rear strut	L
33. Rear floor bolster assembly	
34. Rear gate	M

# BODY REPAIR

## FRAME COMPONENT PARTS

### King Cab



-  : Indicates both sided anti-corrosive pre-coated steel portions
-  : Indicates high strength steel (HSS) portions
-  : Indicates both sided anti-corrosive steel and HSS portions

SIIA2541E

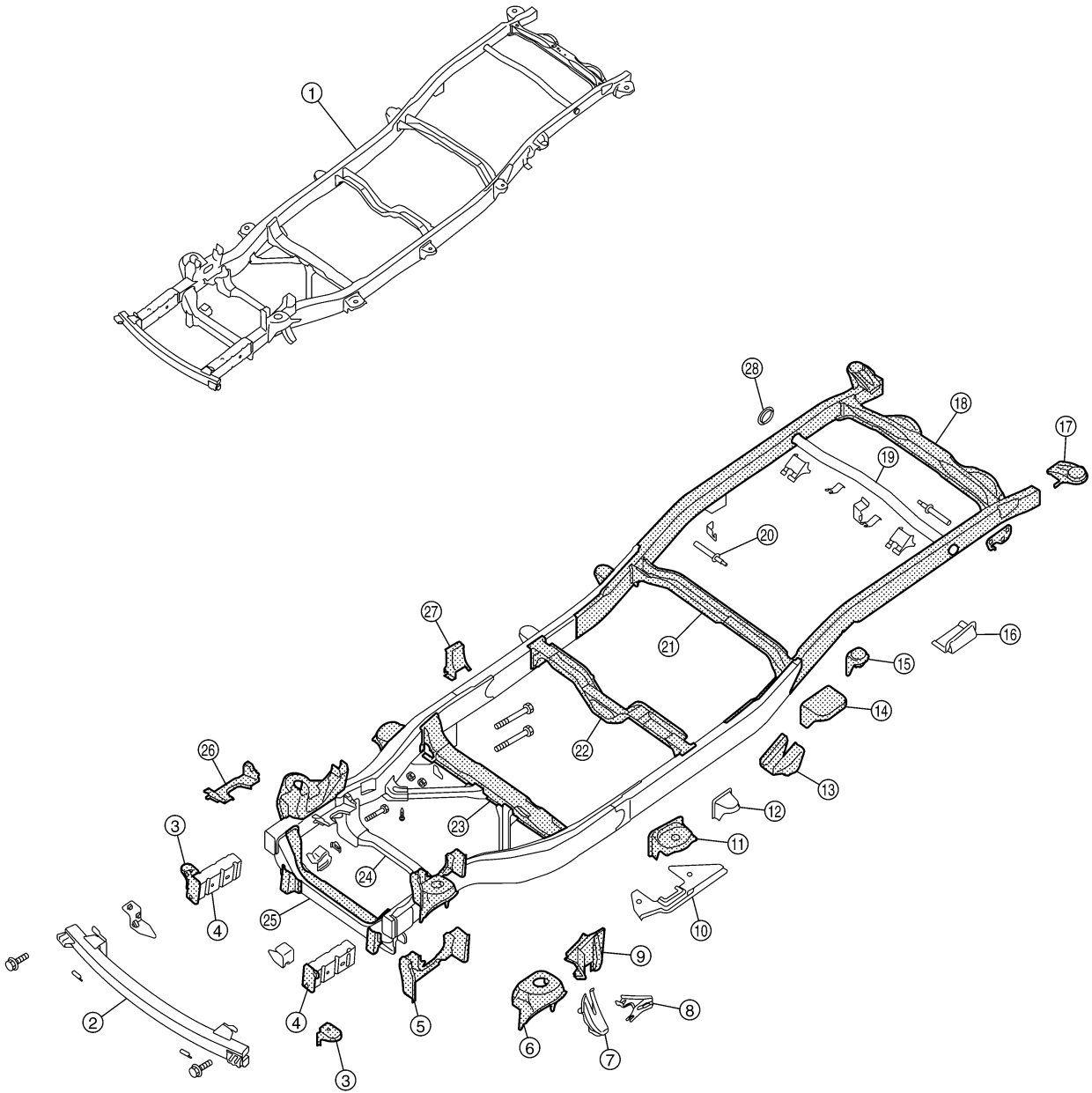
## BODY REPAIR




---

1. Frame assembly	A
2. 1st crossmember assembly	
3. Front side member extension assembly	
4. 1st cab mounting bracket	B
5. Front upper link mounting bracket ((RH&LH)	
6. Front shock absorber bracket (RH&LH)	
7. Bound bumper bracket (RH&LH)	C
8. Panhard rod reinforcement bracket (RH&LH)	
9. Front brake hose bracket (RH&LH)	
10. 4th crossmember gusset (RH&LH)	D
11. 2nd cab mounting bracket (RH&LH)	
12. 3rd cab mounting bracket (RH&LH)	
13. 1st rear body mounting bracket (RH&LH)	E
14. Rear spring front bracket assembly (RH&LH)	
15. 2nd rear body mounting bracket (RH&LH)	F
16. Rear bound bumper bracket (RH&LH)	
17. 5th rear body mounting bracket (RH&LH)	
18. 9th crossmember assembly	G
19. Rear shock absorber pin (RH&LH)	
20. Upper front crossmember	
21. 6th crossmember assembly	H
22. (2wd) Center bearing bracket assembly, (4wd) 5th crossmember assembly	
23. 4th crossmember assembly	BL
24. 3rd crossmember assembly	
25. 2nd crossmember assembly	
26. Engine mounting bracket assembly (RH&LH)	J
27. 4th crossmember gusset (RH&LH)	
28. Crossmember collar (RH&LH)	K
	L
	M

# BODY REPAIR

## Crew Cab



-  : Indicates both sided anti-corrosive pre-coated steel portions
-  : Indicates high strength steel (HSS) portions
-  : Indicates both sided anti-corrosive steel and HSS portions

SIIA2542E

## BODY REPAIR

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1. Frame assembly	A
2. 1st crossmember assembly	
3. 1st cab mounting bracket	
4. Front side member extension assembly	B
5. Front upper link mounting bracket (RH&LH)	
6. Front shock absorber bracket (RH&LH)	
7. Bound bumper bracket (RH&LH)	C
8. Front brake hose bracket (RH&LH)	
9. Panhard rod reinforcement bracket (RH&LH)	
10. 4th crossmember gusset (RH&LH)	D
11. 2nd cab mounting bracket (RH&LH)	
12. 3rd cab mounting bracket (RH&LH)	
13. Cab mounting bracket (RH&LH)	E
14. Rear spring front bracket assembly (RH&LH)	
15. 2nd rear body mounting bracket (RH&LH)	F
16. Rear bound bumper bracket (RH&LH)	
17. 5th rear body mounting bracket (RH&LH)	
18. 9th crossmember assembly	G
19. Upper front crossmember	
20. Rear shock absorber pin (RH&LH)	
21. 6th crossmember assembly	H
22. (2wd) Center bearing bracket assembly, (4wd) 5th crossmember assembly	
23. 4th crossmember assembly	
24. 3rd crossmember assembly	BL
25. 2nd crossmember assembly	
26. Engine mounting bracket assembly (RH&LH)	J
27. 4th crossmember gusset (RH&LH)	
28. Crossmember collar (RH&LH)	

K

L

M

# BODY REPAIR

EIS00533

## Corrosion Protection

### DESCRIPTION

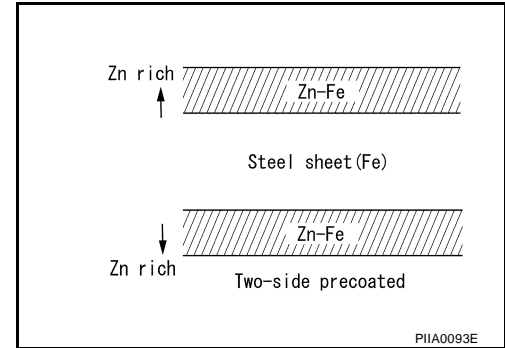
To provide improved corrosion prevention, the following anti-corrosive measures have been implemented in NISSAN production plants. When repairing or replacing body panels, it is necessary to use the same anti-corrosive measures.

### Anti-corrosive Pre-coated Steel (Galvannealed Steel)

To improve repairability and corrosion resistance, a new type of anti-corrosive pre-coated steel sheet has been adopted replacing conventional zinc-coated steel sheet.

Galvannealed steel is electroplated and heated to form Zinc-iron alloy, which provides excellent and long term corrosion resistance with cationic electrode position primer.

NISSAN Genuine Service Parts are fabricated from galvannealed steel. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.



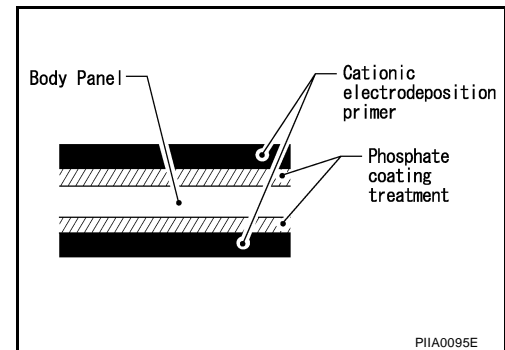
### Phosphate Coating Treatment and Cationic Electrodeposition Primer

A phosphate coating treatment and a cationic electrode position primer, which provide excellent corrosion protection, are employed on all body components.

NISSAN Genuine Service Parts are also treated in the same manner. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain anti-corrosive performance built into the vehicle at the factory.

### CAUTION:

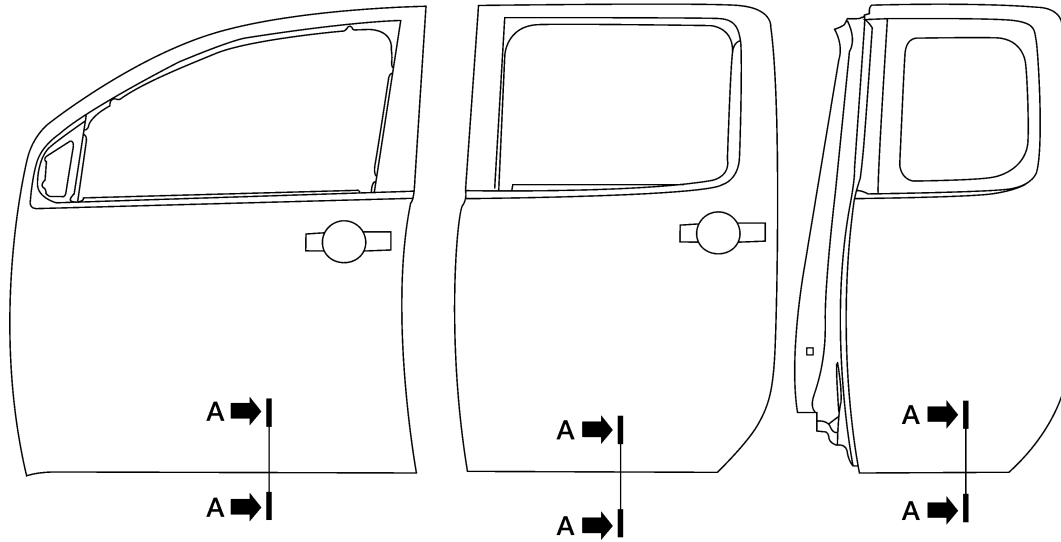
Confine paint removal during welding operations to an absolute minimum.





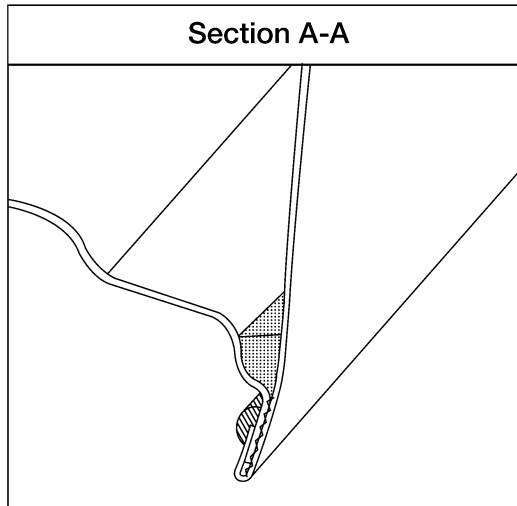
# BODY REPAIR

## ANTI-CORROSIVE WAX

To improve corrosion resistance, anti-corrosive wax is applied inside the body sill and inside other closed sections. Accordingly, when replacing these parts, be sure to apply anti-corrosive wax to the appropriate areas of the new parts. Select an excellent anti-corrosive wax which will penetrate after application and has a long shelf life.



-  : Indicates outside body sealant
-  : Indicates anti-corrosive wax coated portions



LIA1210E

A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

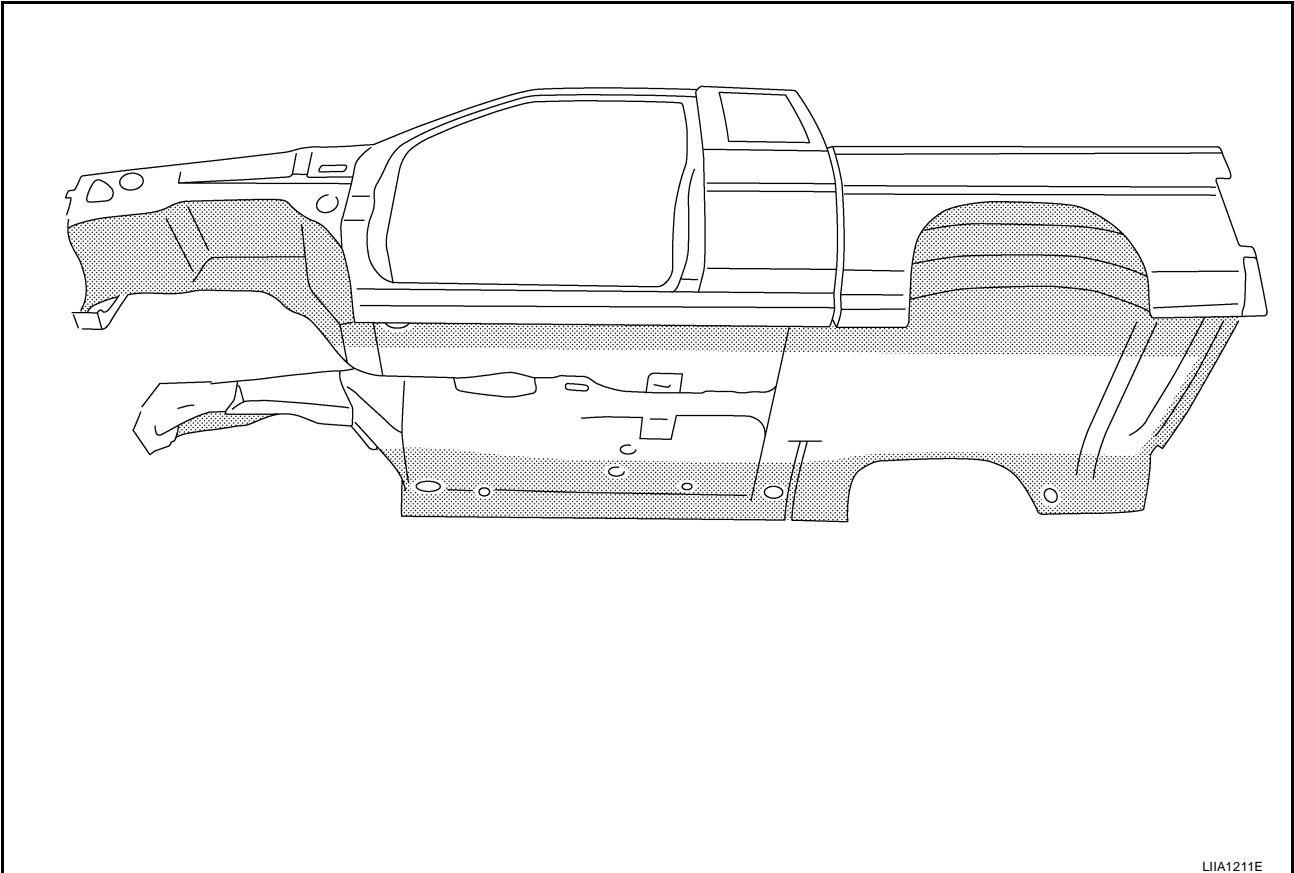
# BODY REPAIR

## UNDERCOATING

The underside of the floor and wheelhouse are undercoated to prevent rust, vibration, noise and stone chipping. Therefore, when such a panel is replaced or repaired, apply undercoating to that part. Use an undercoating which is rust preventive, soundproof, vibration-proof, shock-resistant, adhesive, and durable.

### Precautions in Undercoating

1. Do not apply undercoating to any place unless specified (such as the areas above the muffler and three way catalyst which are subjected to heat).
2. Do not undercoat the exhaust pipe or other parts which become hot.
3. Do not undercoat rotating parts.
4. Apply bitumen wax after applying undercoating.



LIA1211E

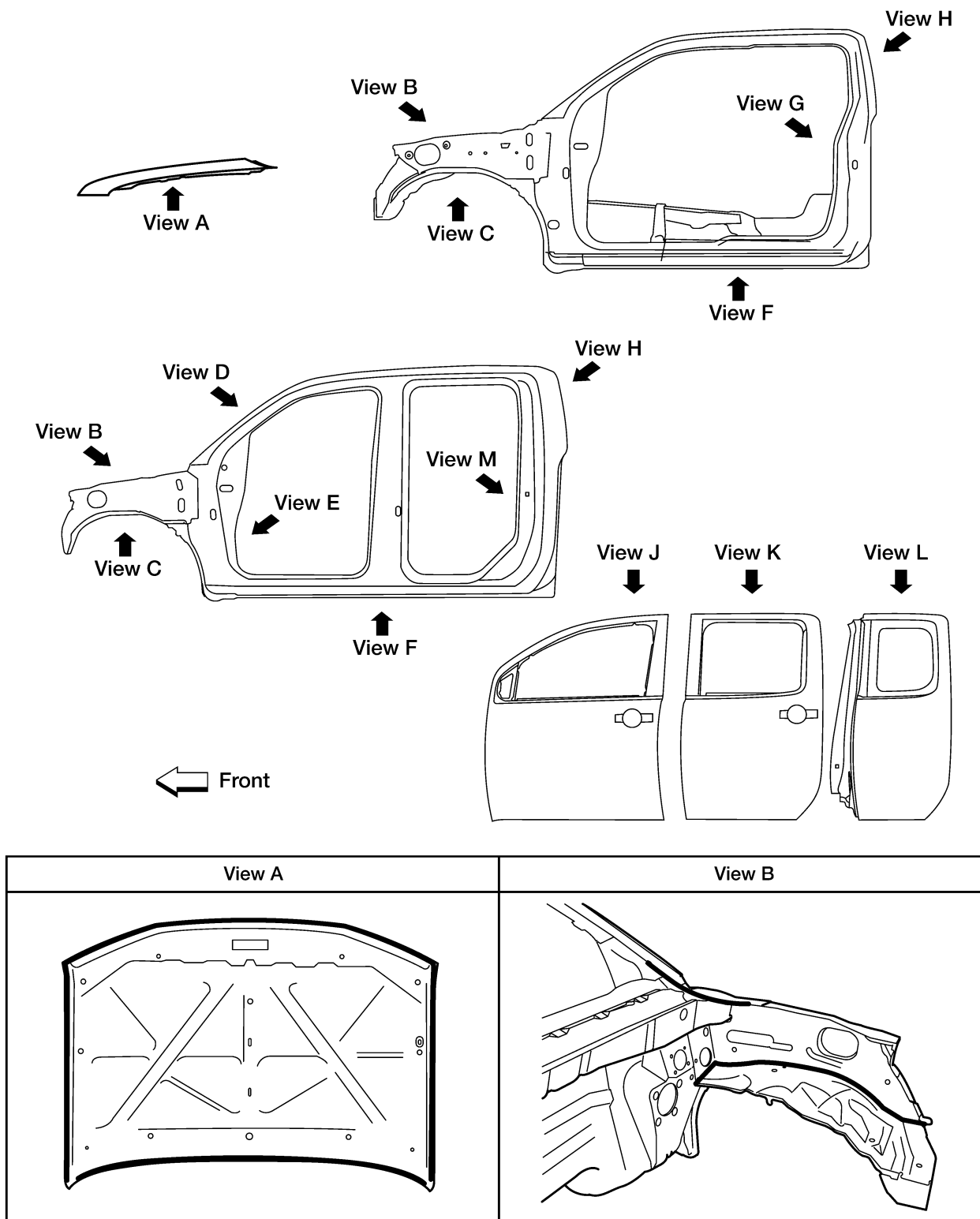


# BODY REPAIR

EIS00534

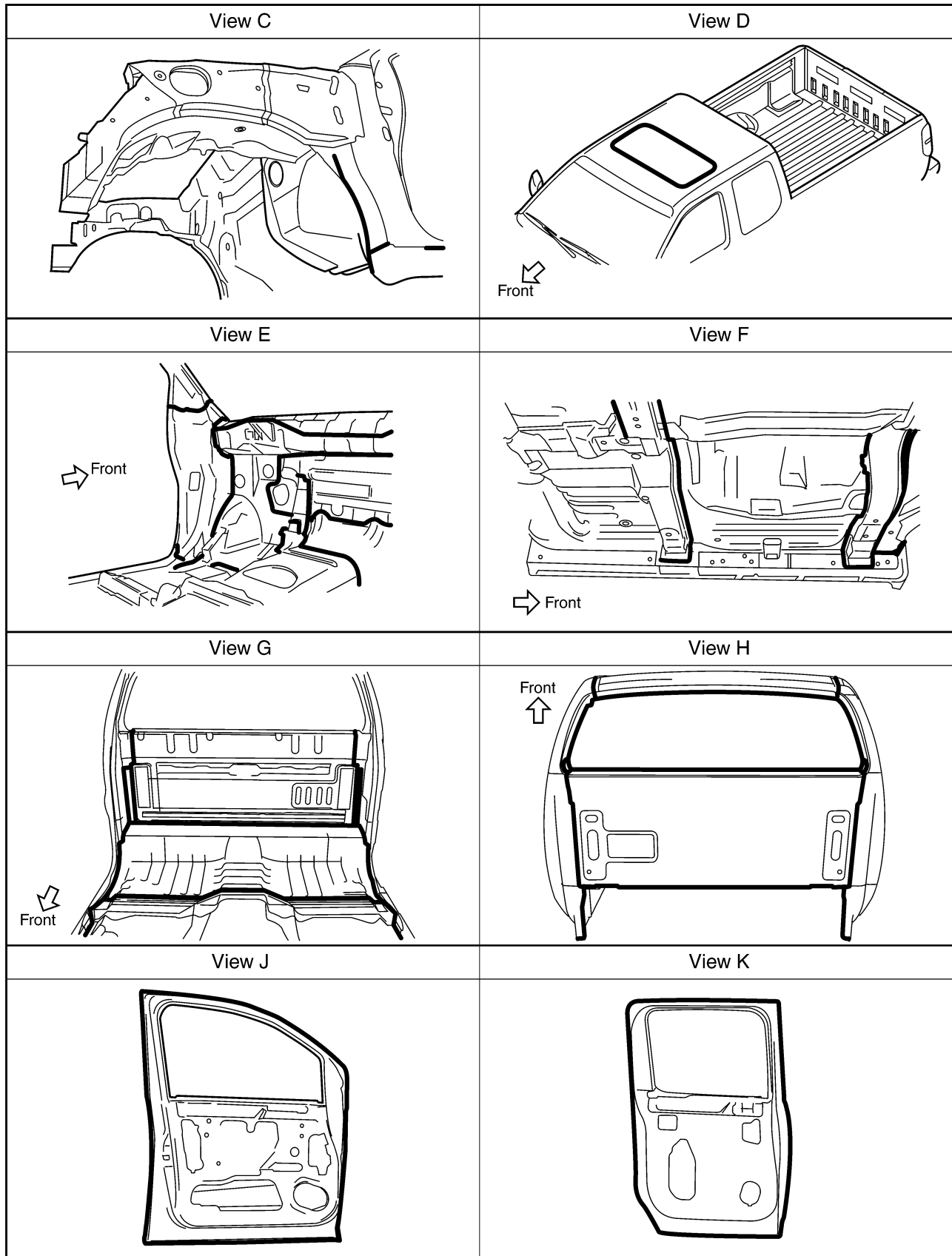
## Body Sealing DESCRIPTION

The following figure shows the areas which are sealed at the factory. Sealant which has been applied to these areas should be smooth and free from cuts or gaps. Care should be taken not to apply an excess amount of sealant and not to allow other unaffected parts to come into contact with the sealant.



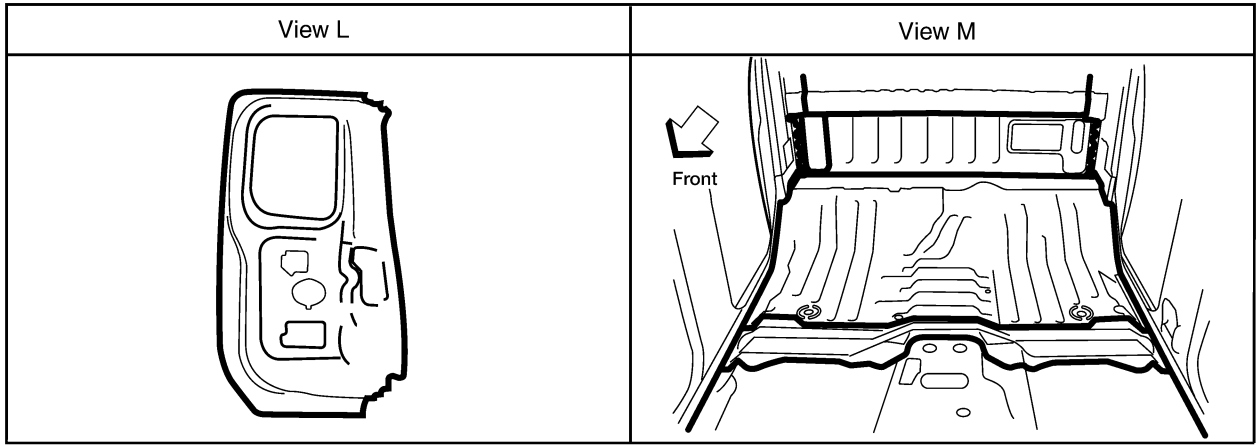
LIA2001E

# BODY REPAIR



SIIA2530E

# BODY REPAIR



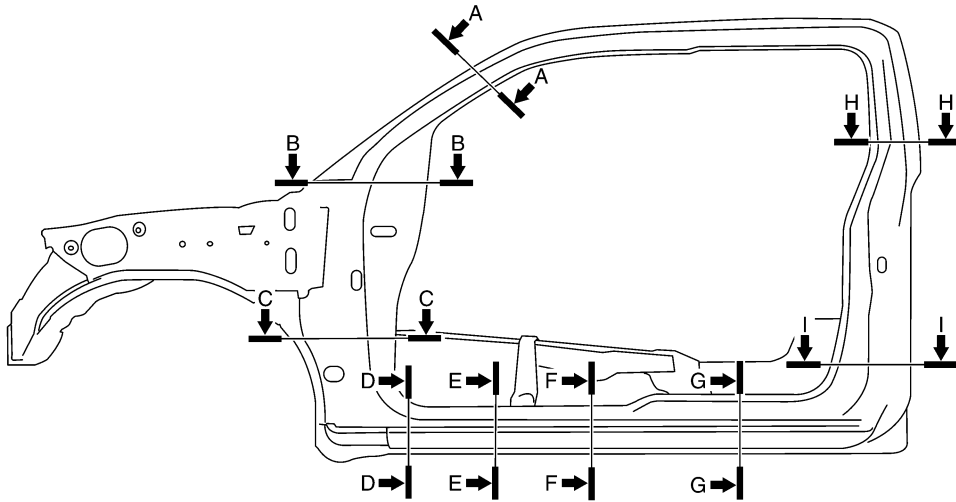
- A
- B
- C
- D
- E
- F
- G
- H
- BL**
- J
- K
- L
- M

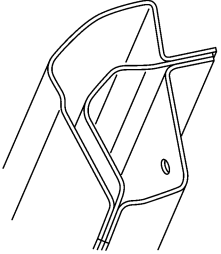
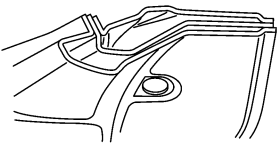
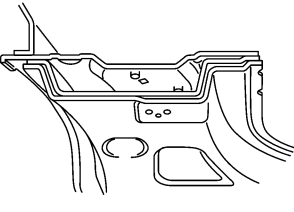
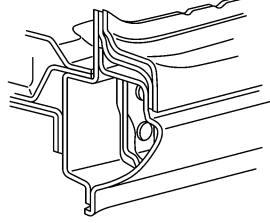
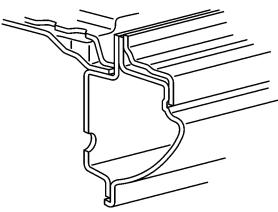
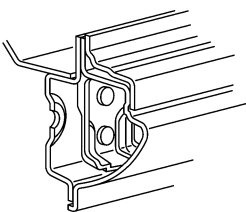
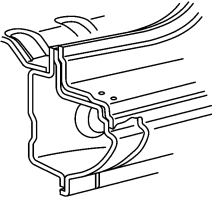
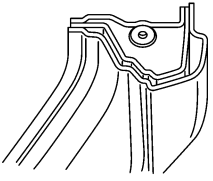
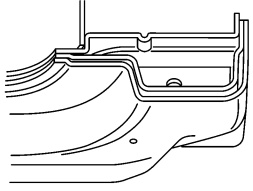
LIA2003E

# BODY REPAIR

## Body Construction BODY CONSTRUCTION KING CAB

EIS00535

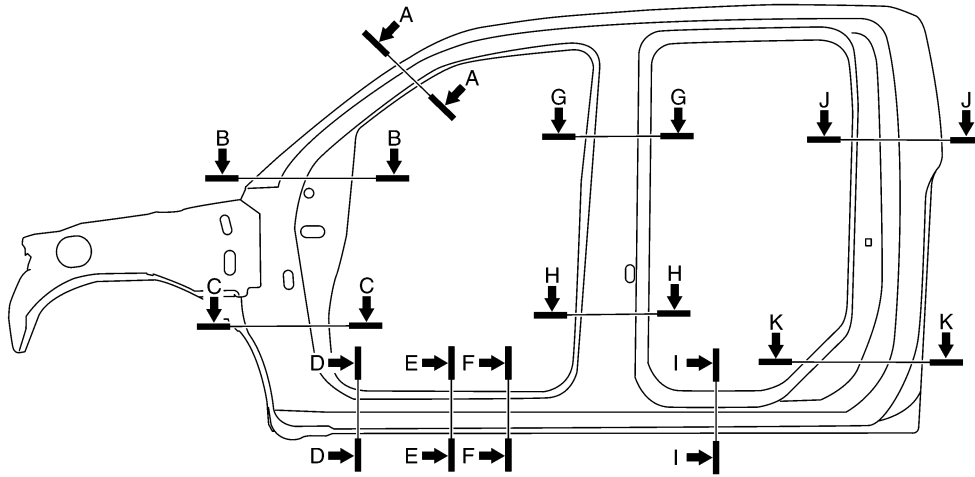


Section A-A	Section B-B	Section C-C	Section D-D
			
Section E-E	Section F-F	Section G-G	Section H-H
			
Section I-I			
			

SIIA2543E

# BODY REPAIR

## BODY CONSTRUCTION CREW CAB



Section A-A	Section B-B	Section C-C	Section D-D
Section E-E	Section F-F	Section G-G	Section H-H
Section I-I	Section J-J	Section K-K	

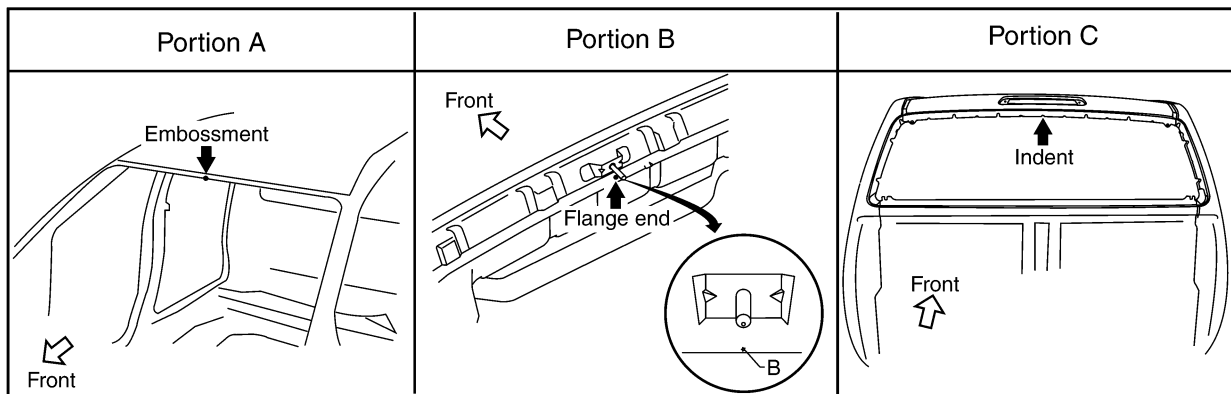
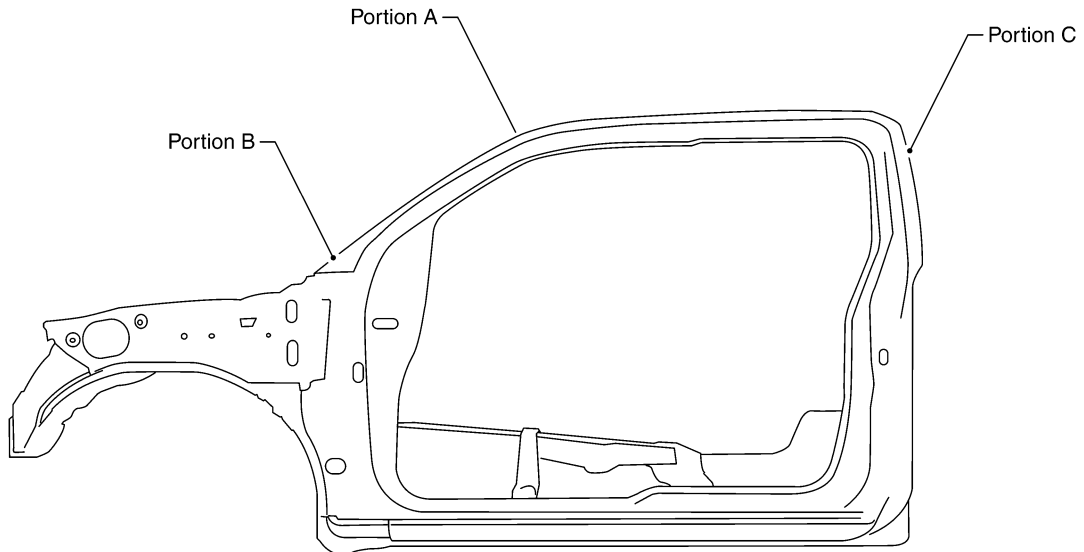
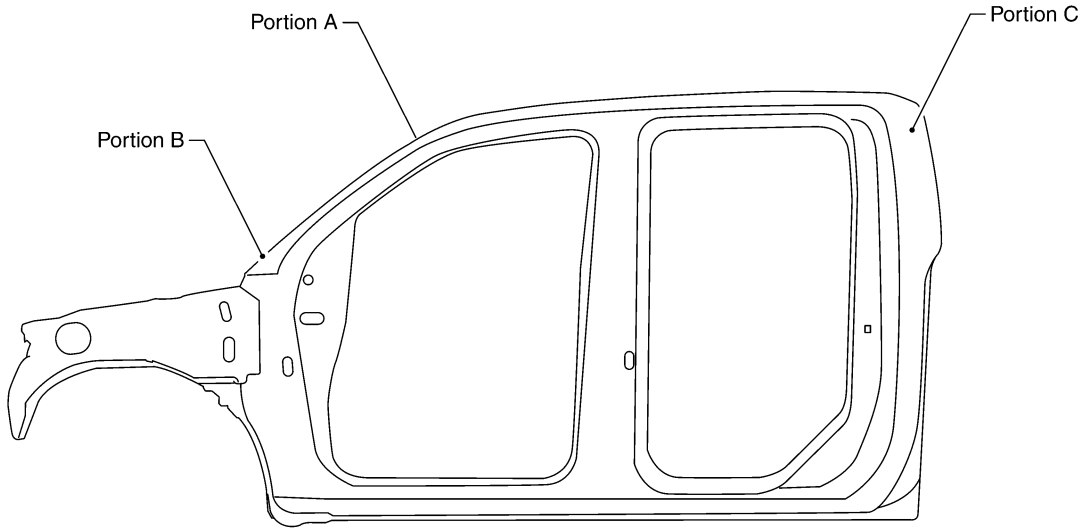
A  
B  
C  
D  
E  
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G  
H  
BL  
J  
K  
L  
M

S1A2544E

# BODY REPAIR

## Body Alignment BODY CENTER MARKS

EIS00536



SIAA2531E

# BODY REPAIR

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A mark has been placed on each part of the body to indicate the vehicle center. When repairing parts damaged by an accident which might affect the vehicle frame (members, pillars, etc.), more accurate and effective repair will be possible by using these marks together with body alignment specifications.

A

## PANEL PARTS MATCHING MARKS

A mark has been placed on each body panel to indicate the parts matching positions. When repairing parts damaged by an accident which might affect the vehicle structure (members, pillars, etc.), more accurate and effective repair will be possible by using these marks together with body alignment specifications.

B

C

D

E

F

G

H

BL

J

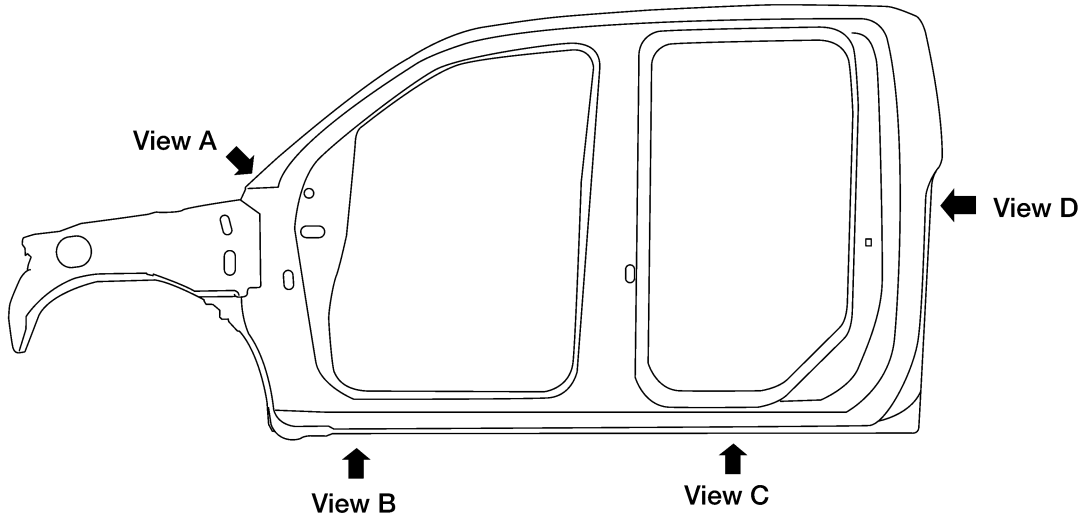
K

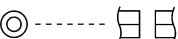

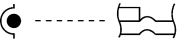

L

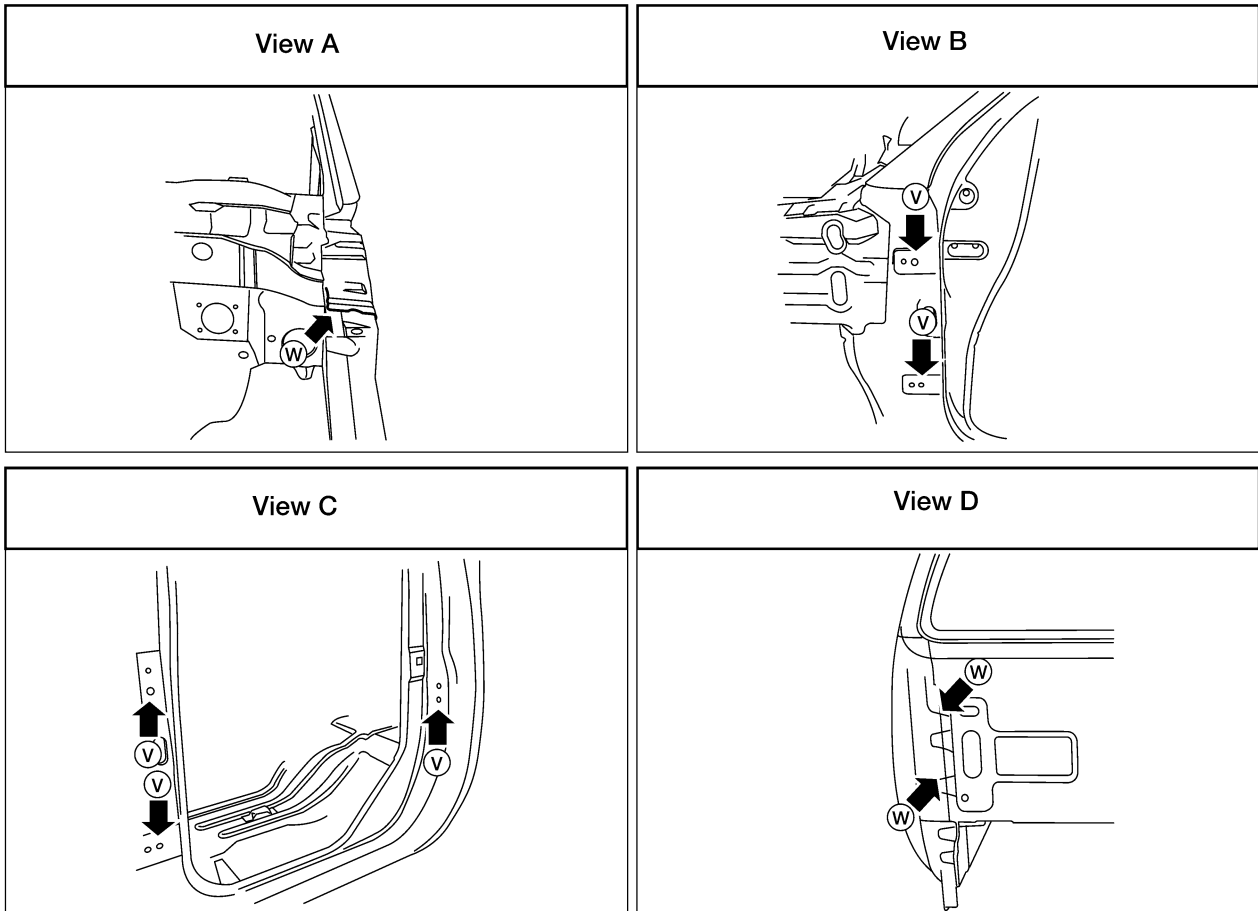
M

# BODY REPAIR

## Crew Cab



Type V:    
Type W:  

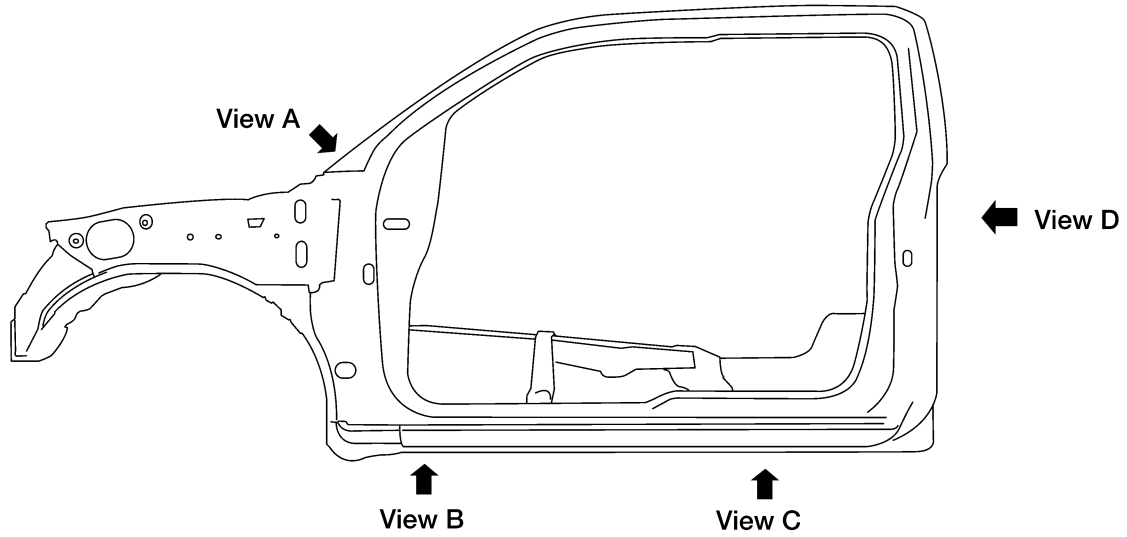


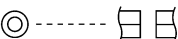
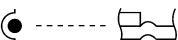
LIA2005E

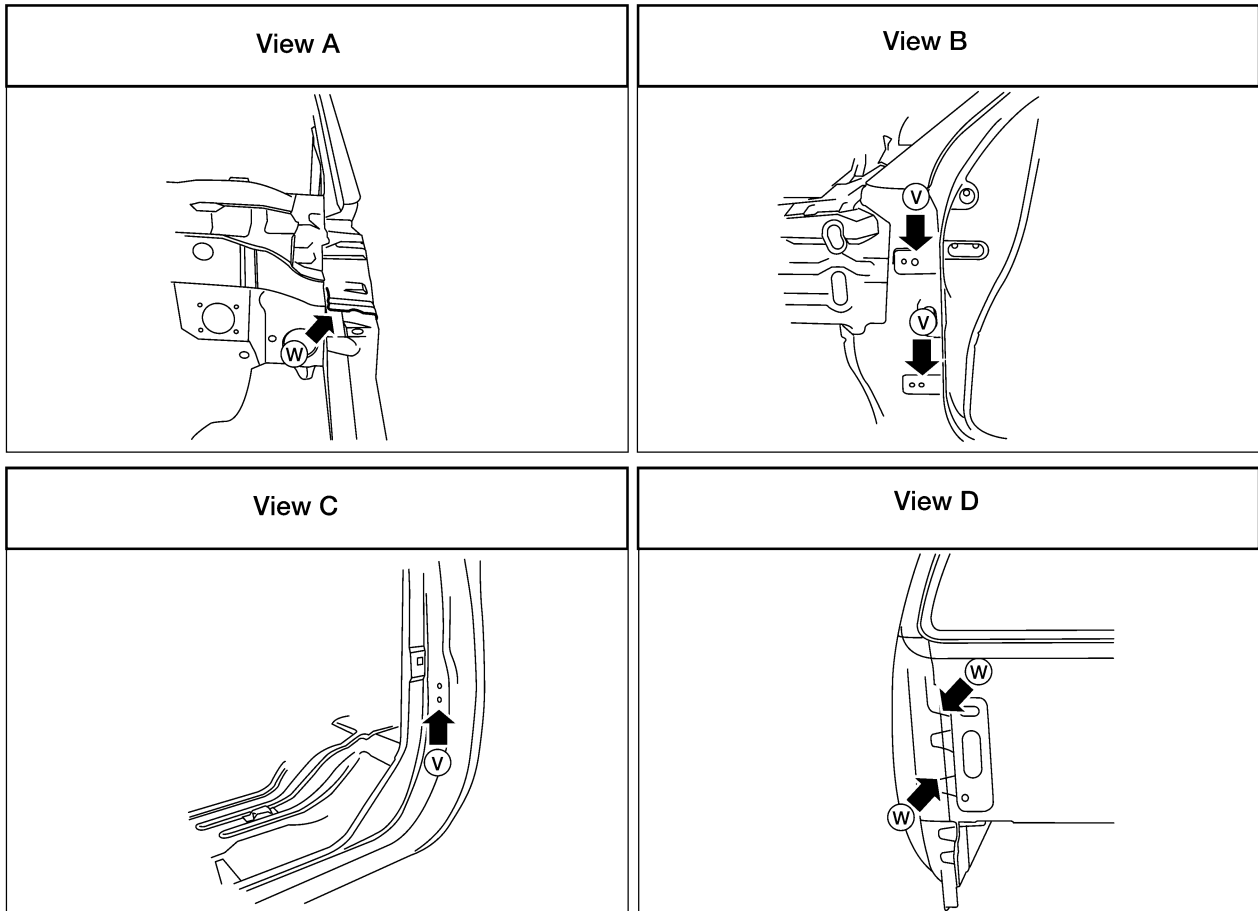


# BODY REPAIR

## King Cab



Type V:    
 Type W: 



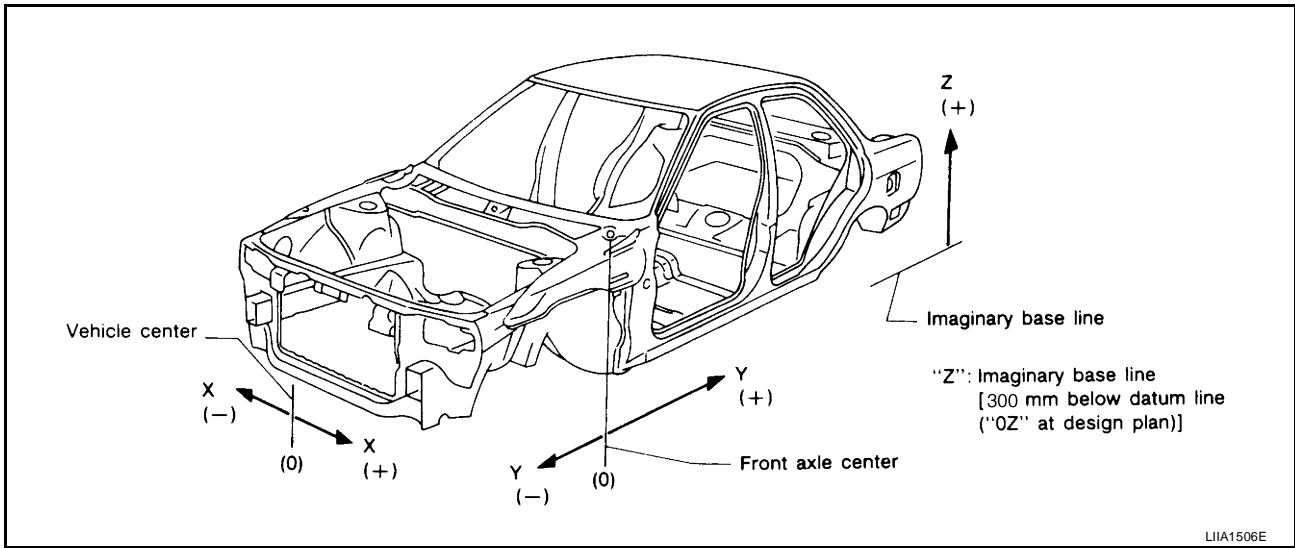
A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

LIA2104E

# BODY REPAIR

## DESCRIPTION

- All dimensions indicated in the figures are actual.
- When using a tracking gauge, adjust both pointers to equal length. Then check the pointers and gauge itself to make sure there is no free play.
- When a measuring tape is used, check to be sure there is no elongation, twisting or bending.
- Measurements should be taken at the center of the mounting holes.
- An asterisk (\*) following the value at the measuring point indicates that the measuring point on the other side is symmetrically the same value.
- The coordinates of the measurement points are the distances measured from the standard line of "X", "Y" and "Z".



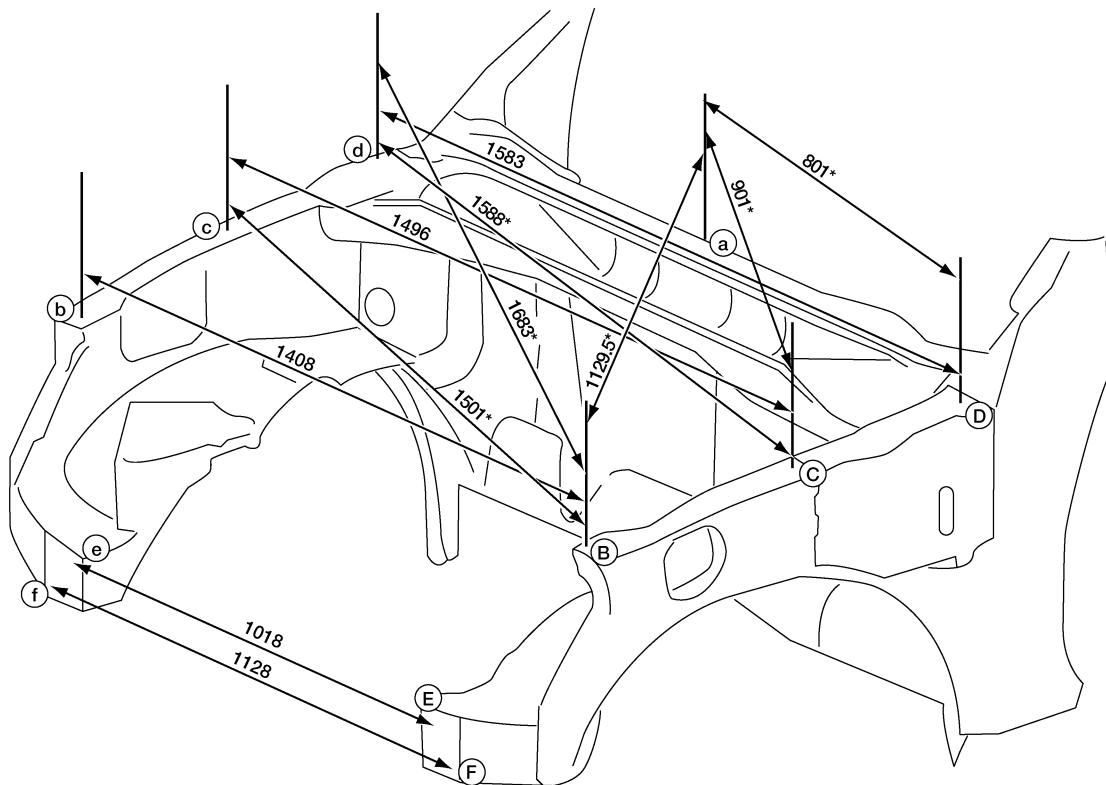
# BODY REPAIR

## ENGINE COMPARTMENT

### Measurement

All dimensions indicated in this figure are actual.

Figures marked with an (\*) indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.

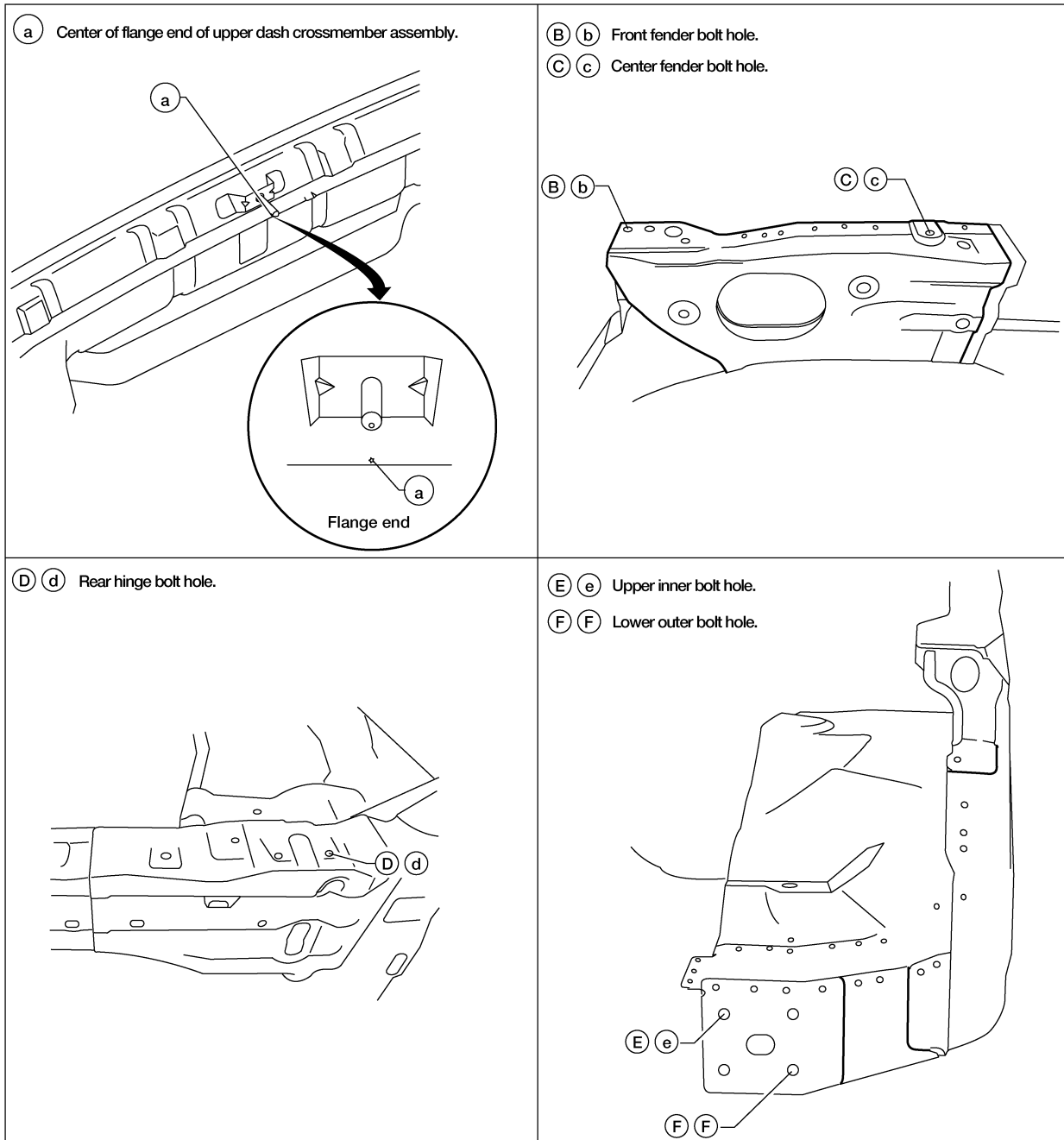


Unit: mm

LIA1792E

# BODY REPAIR

## Measurement Points



LIA1793E

# BODY REPAIR

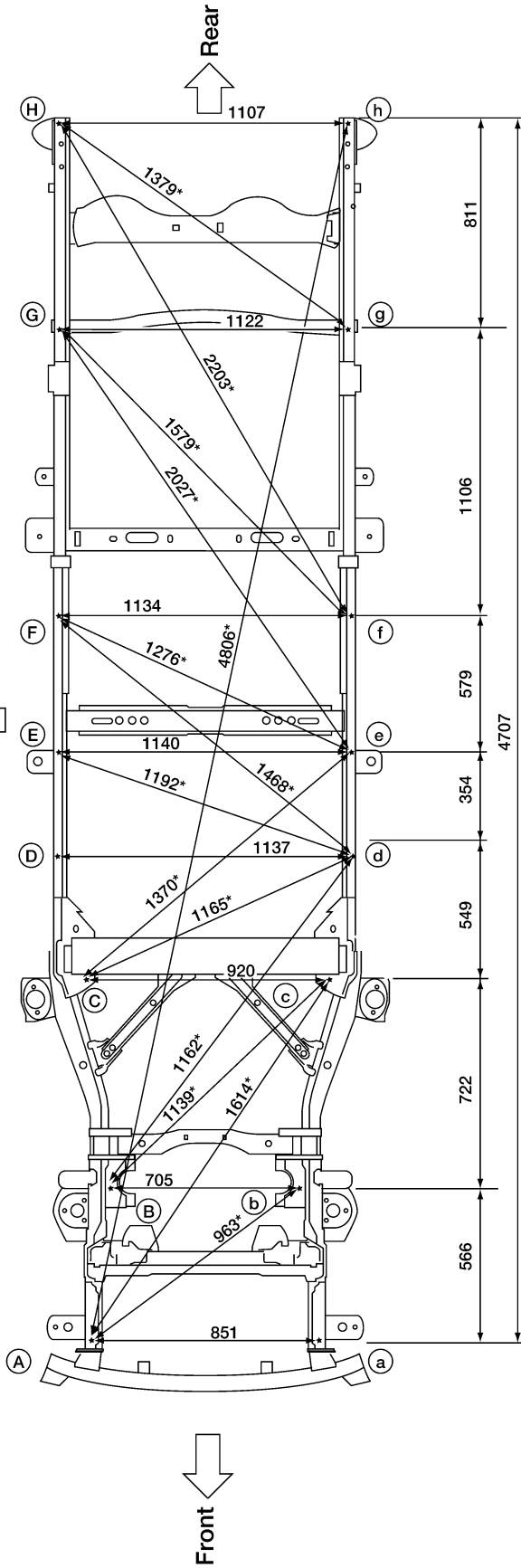
## UNDERBODY Measurement

Figures marked with a (\*) indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.

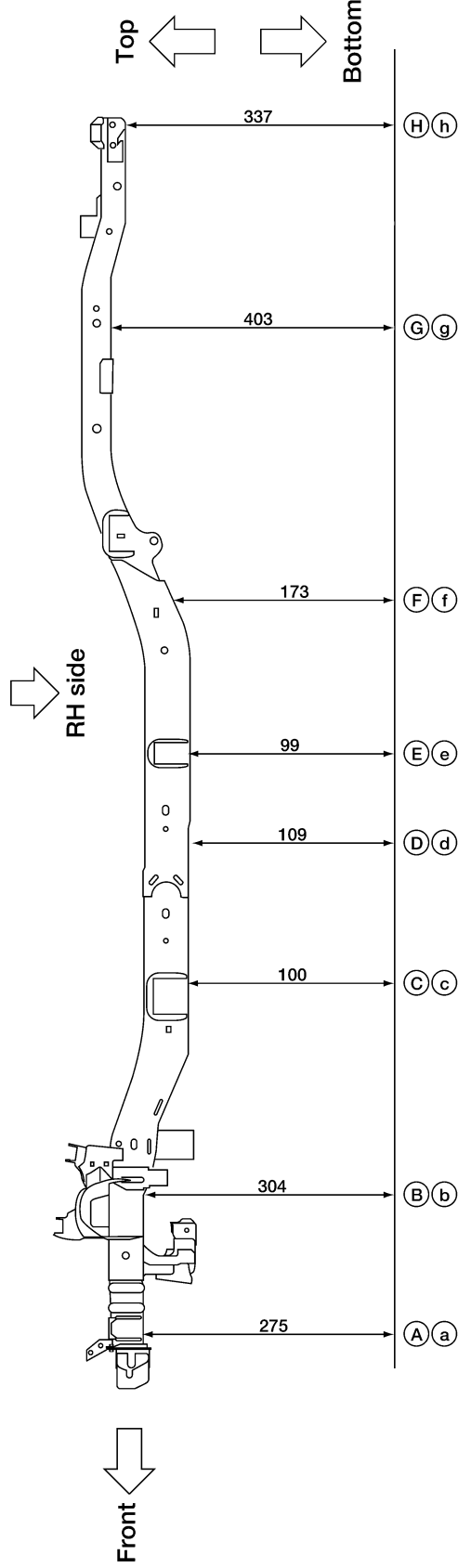
As viewed from underside.

LH side

All dimensions indicated in this figure are actual.



Unit: mm

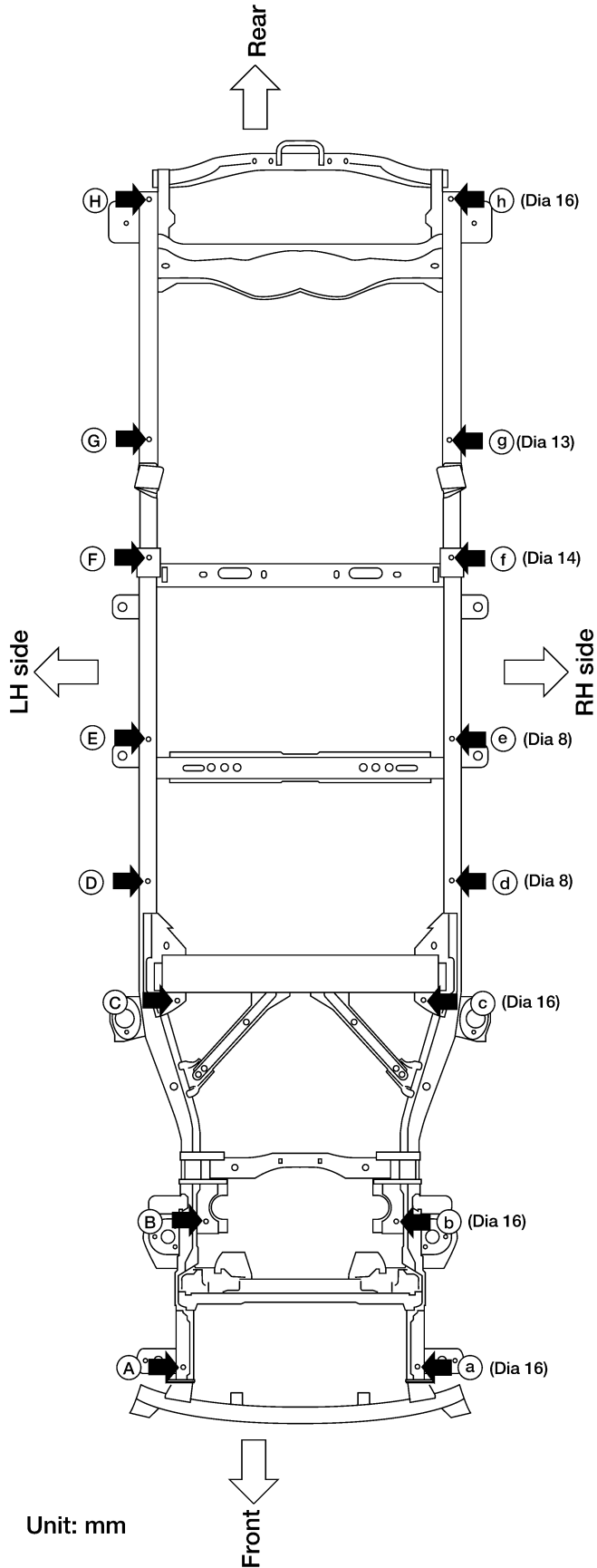


A  
B  
C  
D  
E  
F  
G  
H  
J  
K  
L  
M

BL

# BODY REPAIR

## Measurement Points



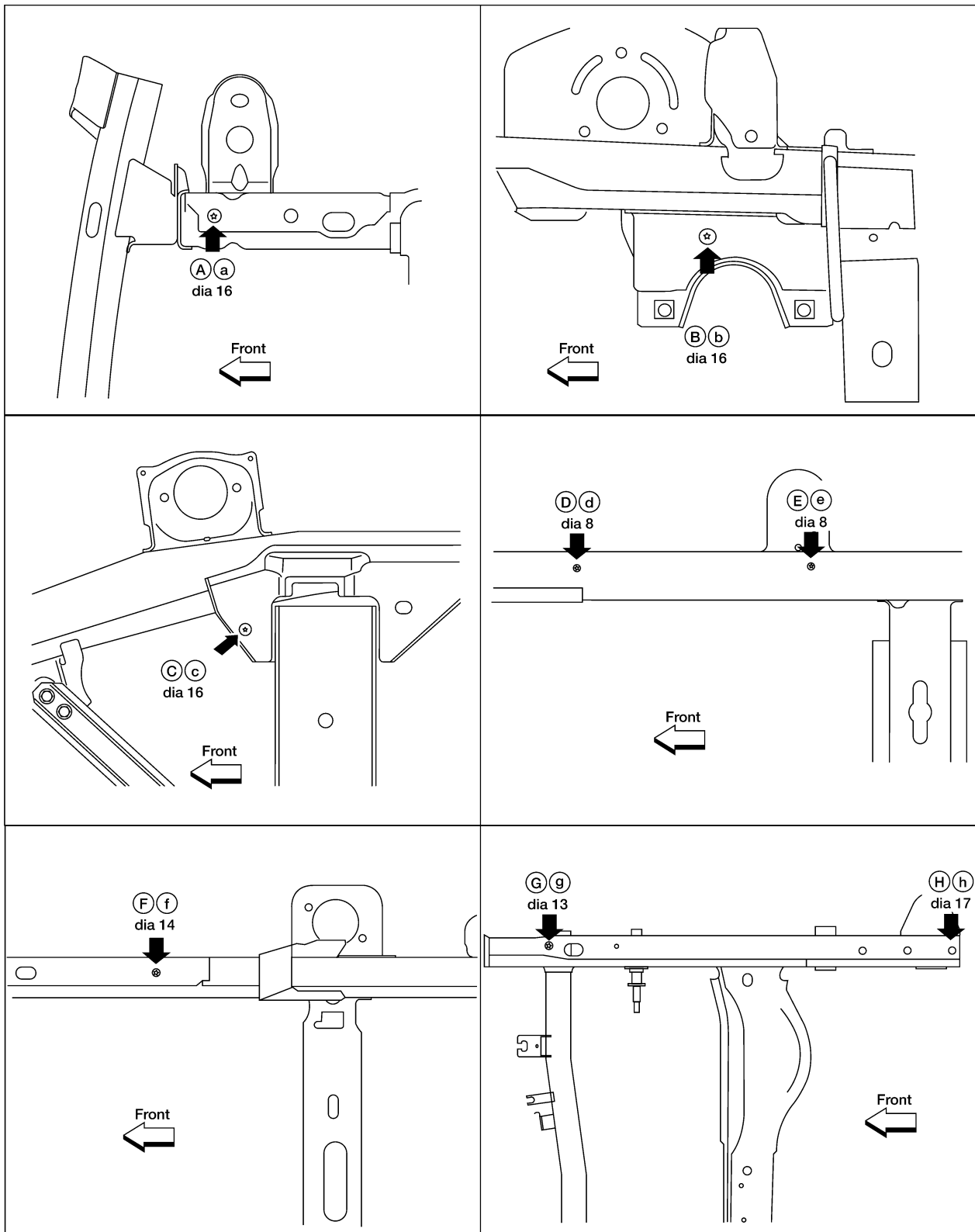
Unit: mm

Coordinates:

- (A) a  
X : ± 425  
Y : -531  
Z : 275
- (B) b  
X : ± 353  
Y : 35  
Z : 304
- (C) c  
X : ± 460  
Y : 807  
Z : 100
- (D) d  
X : ± 568  
Y : 1356  
Z : 109
- (E) e  
X : ± 570  
Y : 1710  
Z : 99
- (F) f  
X : ± 567  
Y : 2285  
Z : 173
- (G) g  
X : ± 562  
Y : 3365  
Z : 403
- (H) h  
X : ± 553  
Y : 4173  
Z : 337

LIA2084E

# BODY REPAIR



A  
B  
C  
D  
E  
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G  
H  
BL  
J  
K  
L  
M

Coordinates:	(A,a)	(B,b)	(C,c)	(D,d)	(E,e)	(F,f)	(G,g)	(H,h)
X :	± 425	± 353	± 460	± 568	± 570	± 567	± 562	± 553
Y :	-531	35	807	1356	1710	2285	3365	4123
Z :	275	304	100	109	99	173	403	337

Unit: mm

LIIA2085E

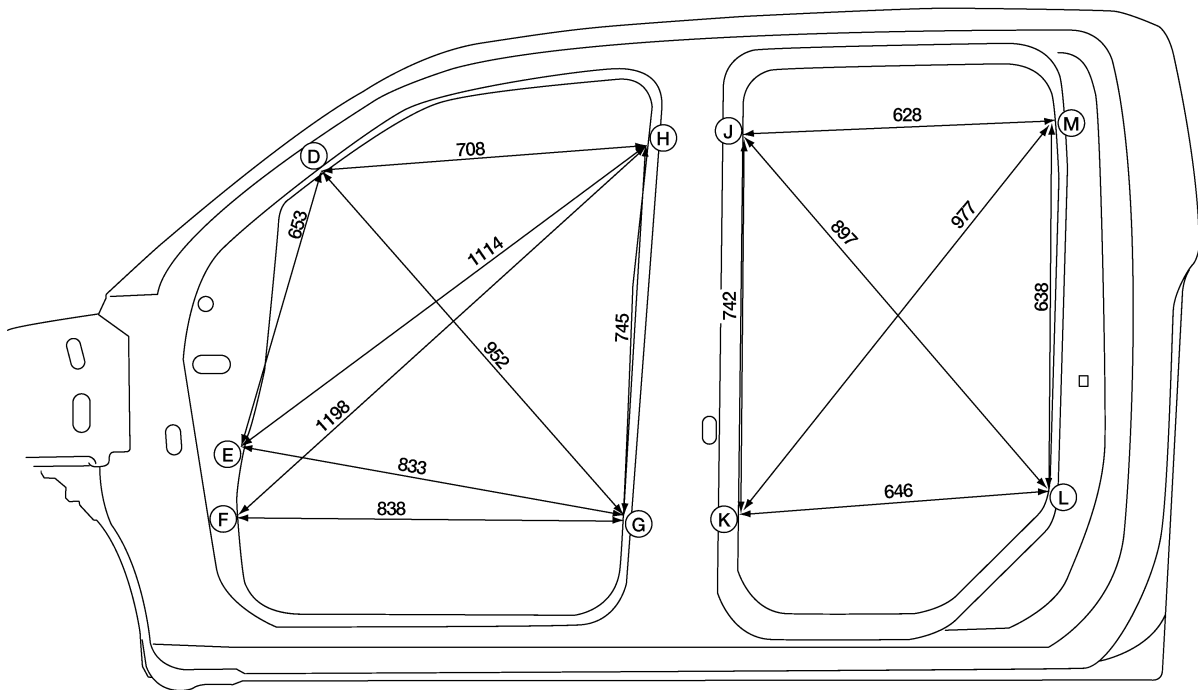
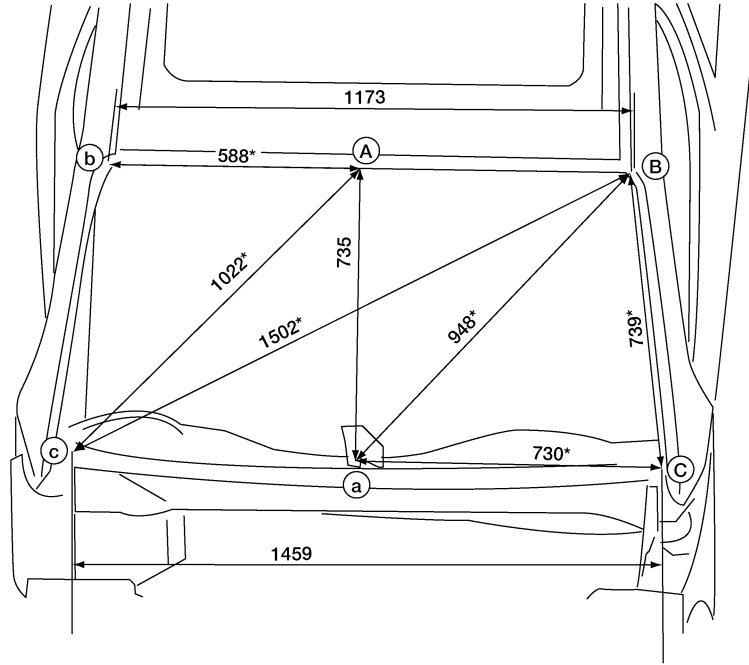
# BODY REPAIR

## PASSENGER COMPARTMENT

### Measurement

#### Crew Cab

Figures marked with a (\*) indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.



Unit: mm

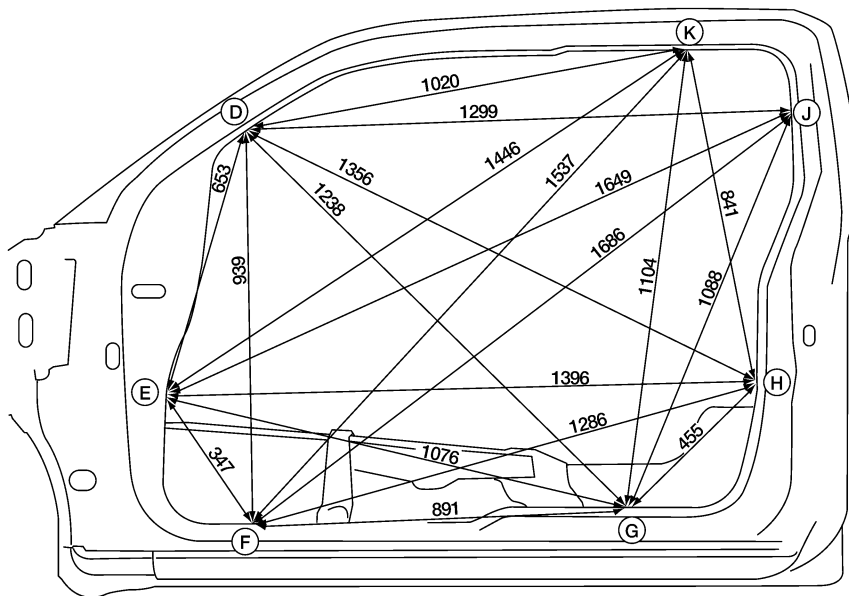
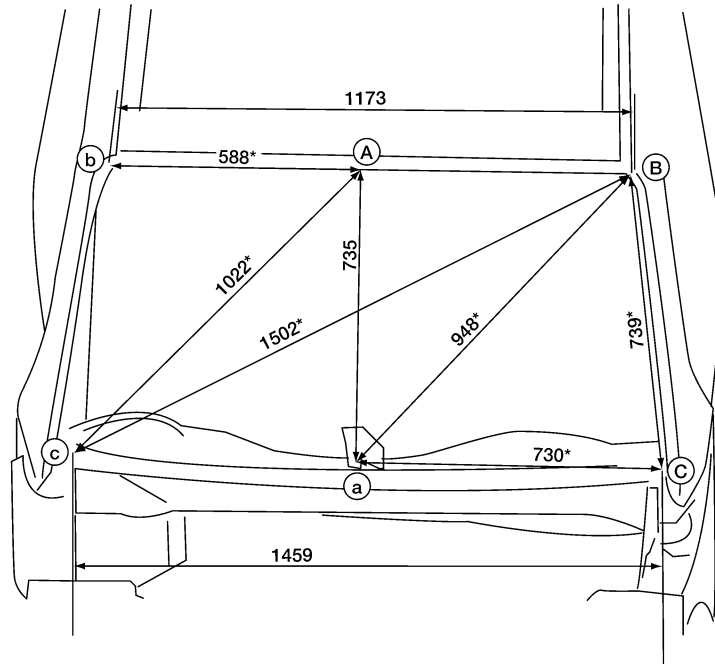
LIA2086E



# BODY REPAIR

## King Cab

Figures marked with a (\*) indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.



Unit: mm

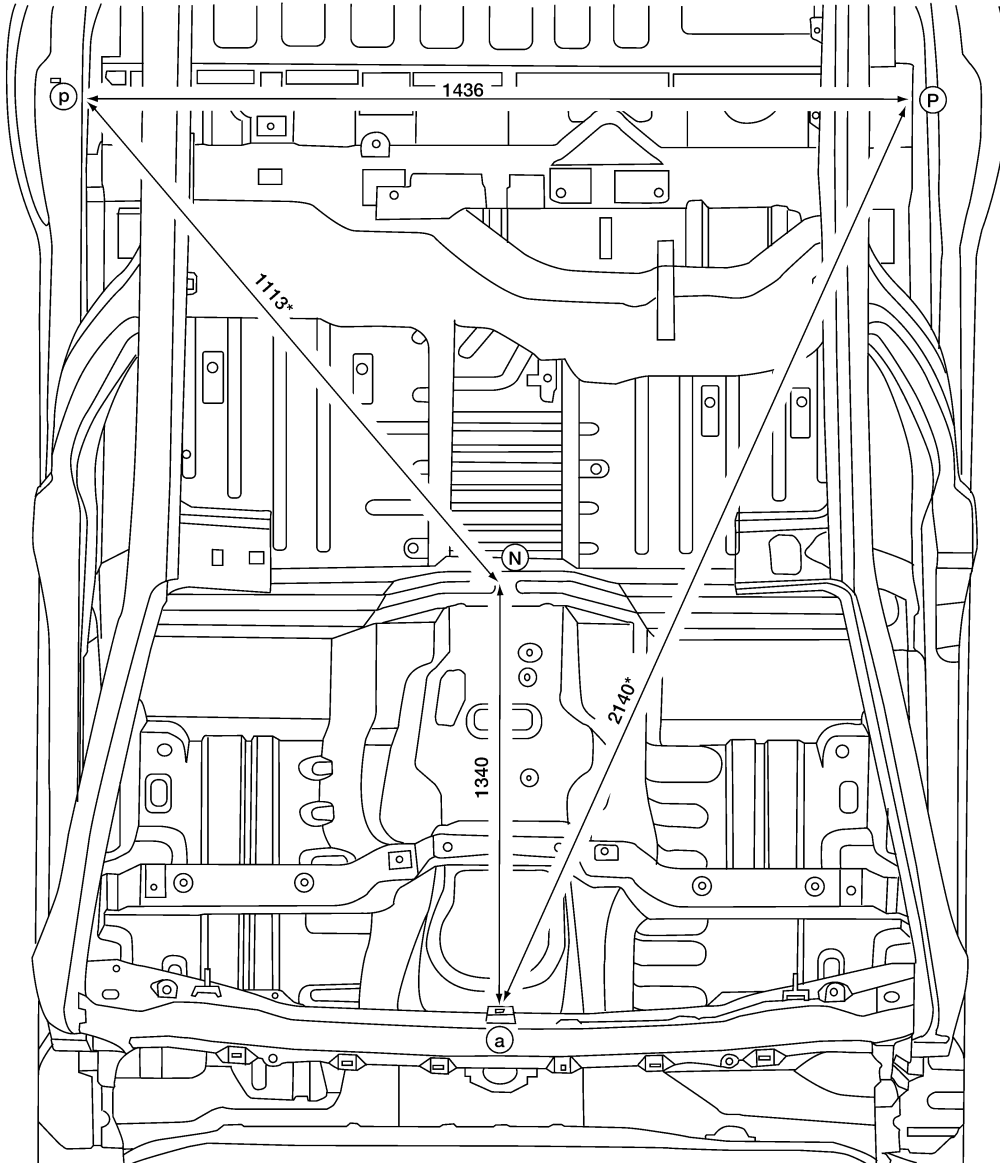
LIA2087E

A  
B  
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BL  
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K  
L  
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# BODY REPAIR

## Crew Cab

Figures marked with a (\*) indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.



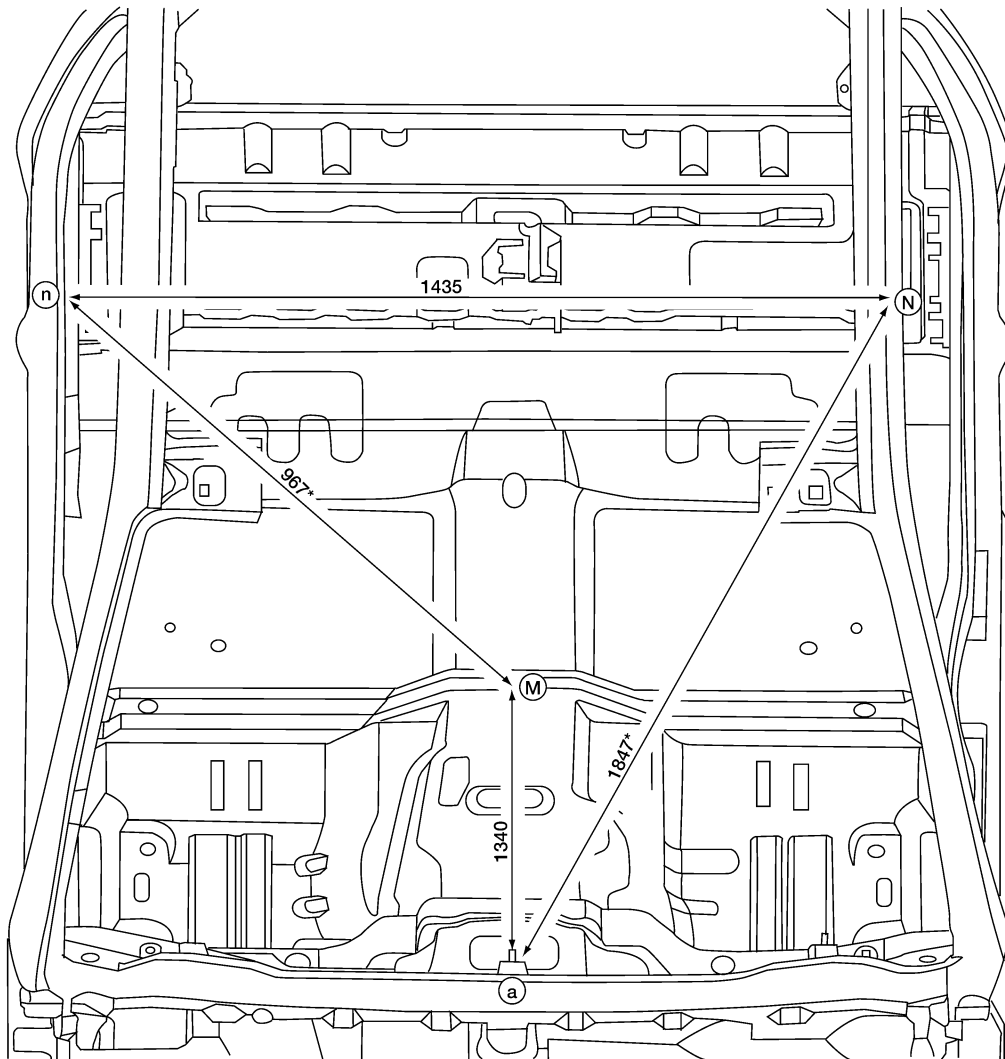
Unit: mm

LIA2088E

# BODY REPAIR

## King Cab

Figures marked with a (\*) indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.



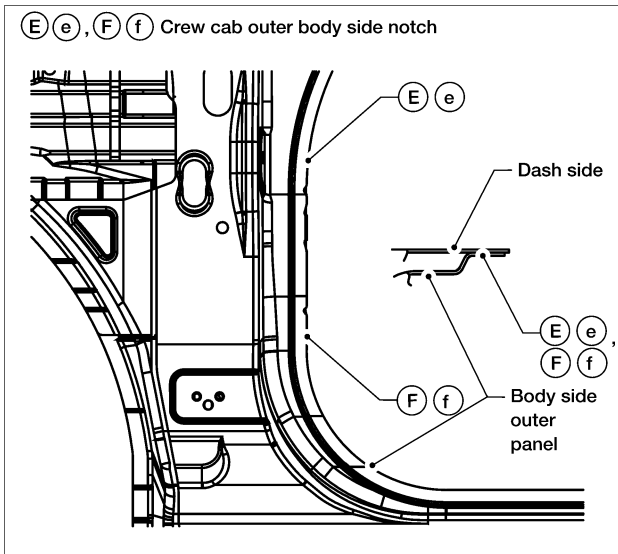
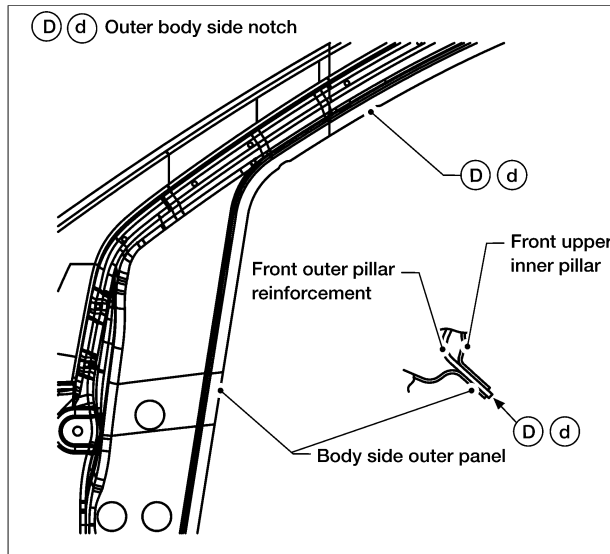
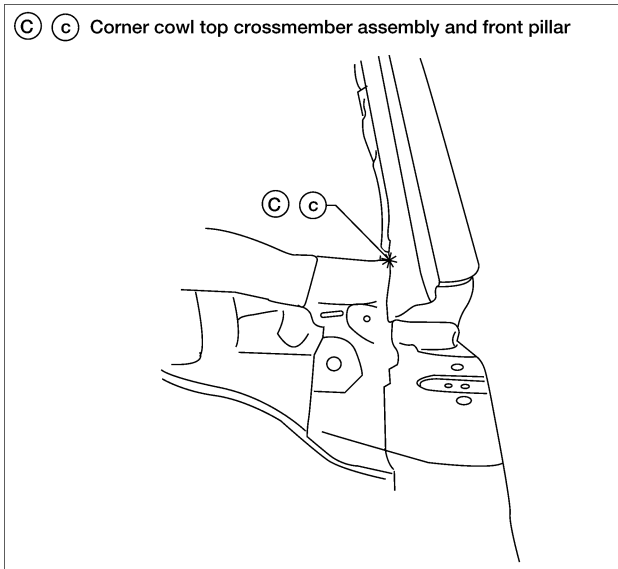
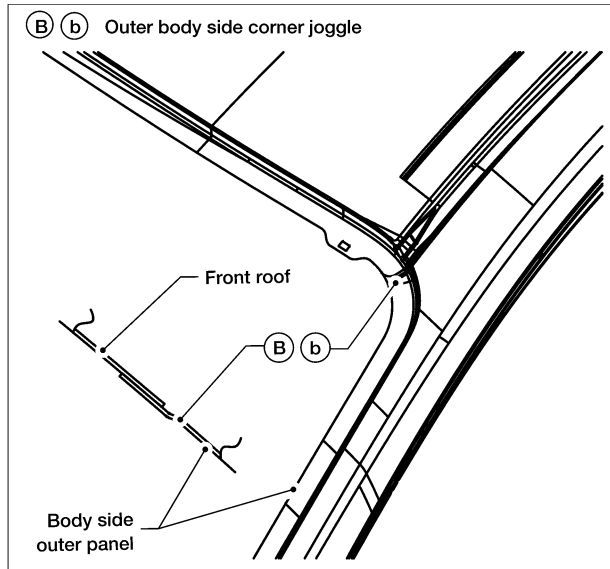
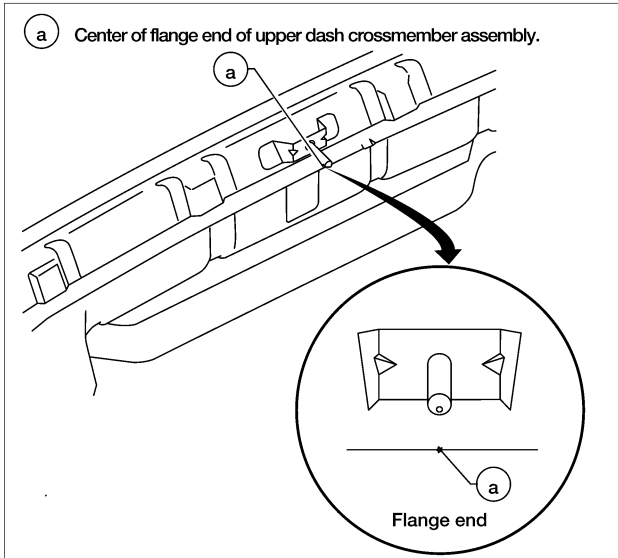
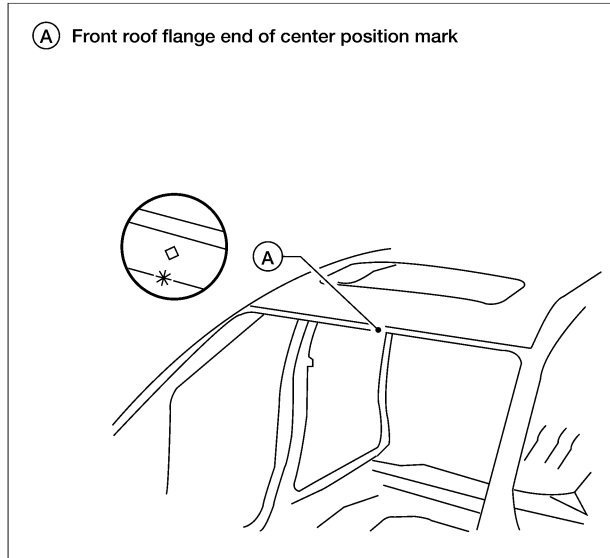
A  
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Unit: mm

LIIA2089E

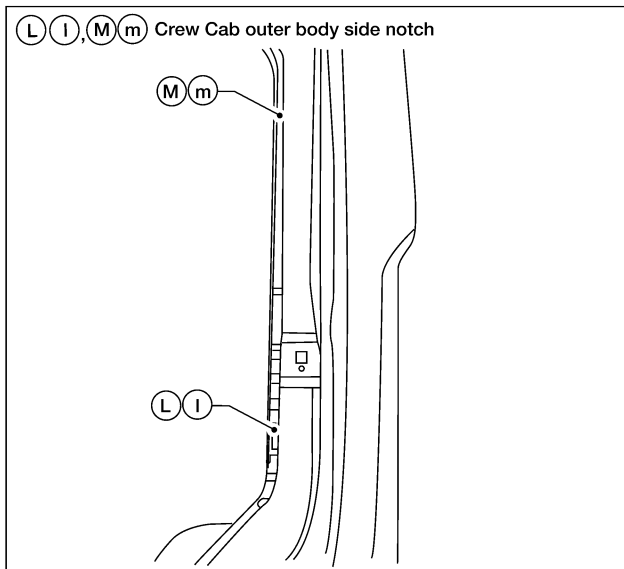
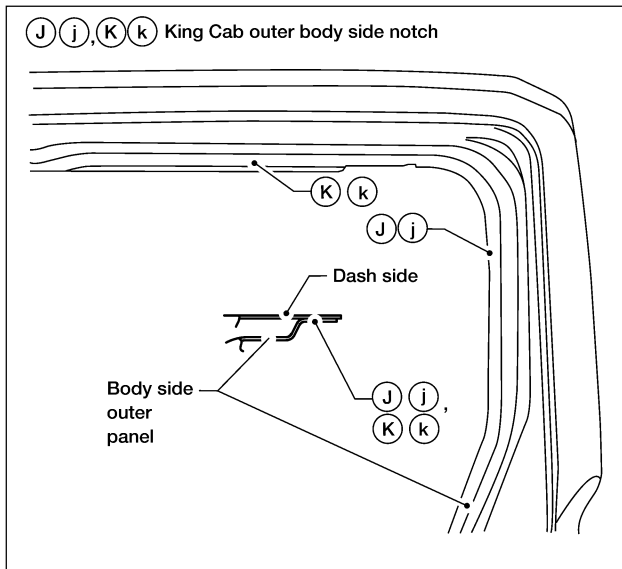
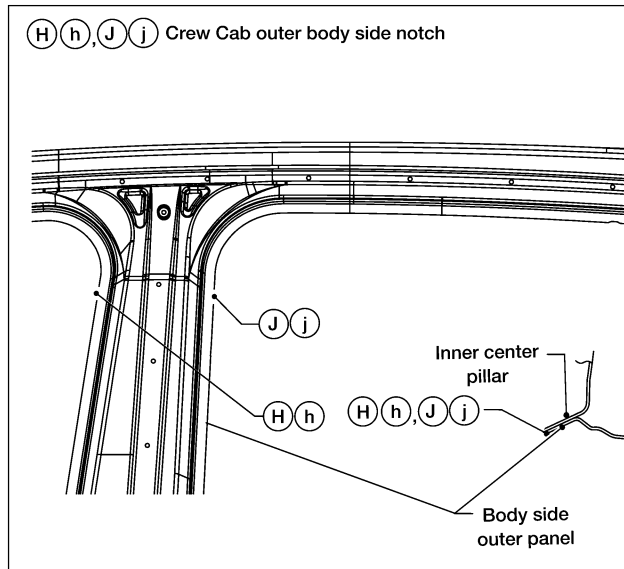
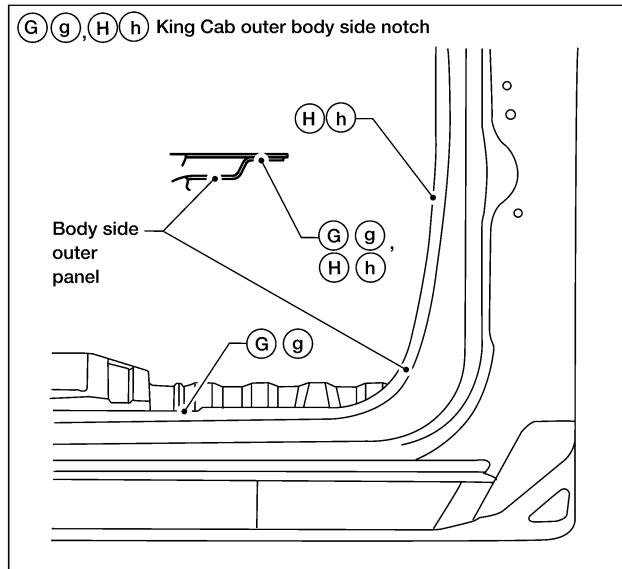
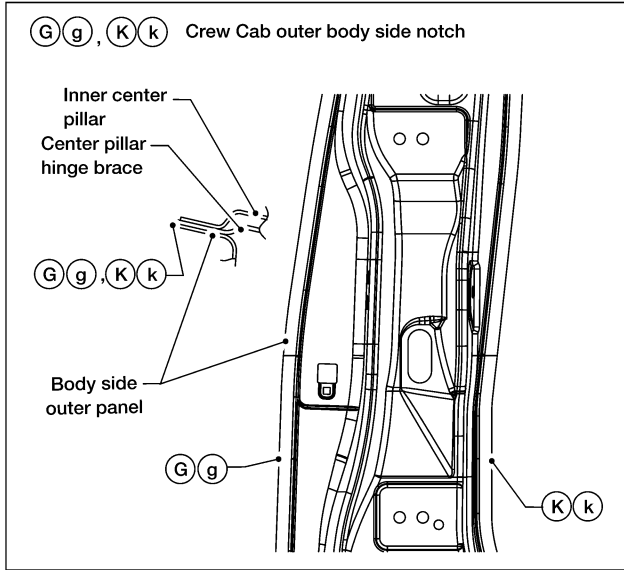
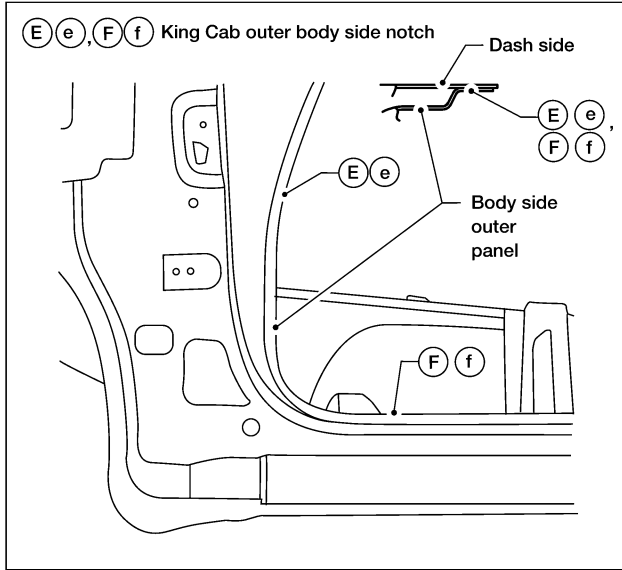
# BODY REPAIR

## Measurement Points



LIA2090E

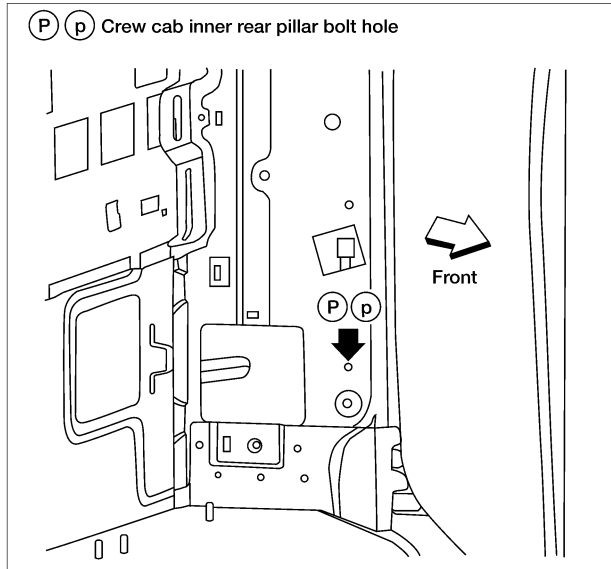
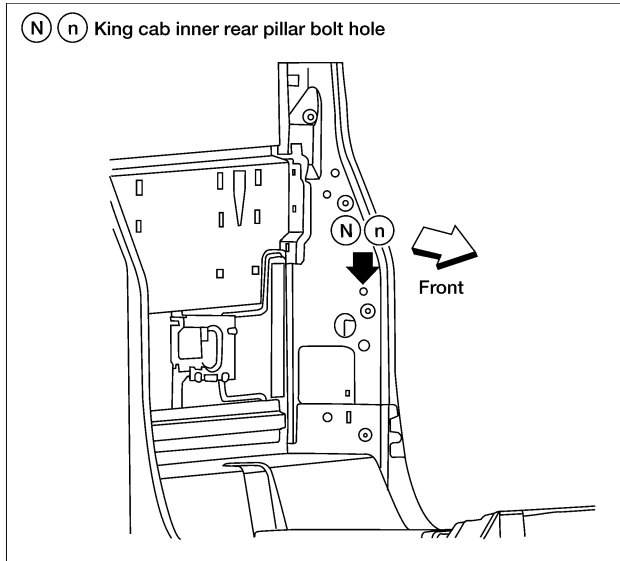
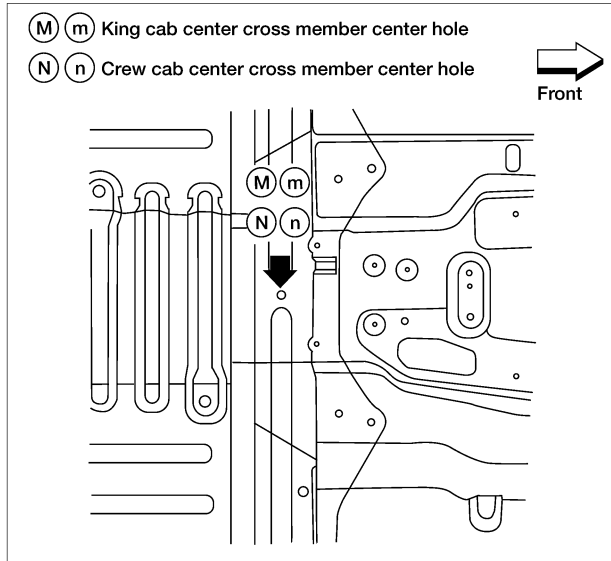
# BODY REPAIR



A  
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L1A2091E

# BODY REPAIR



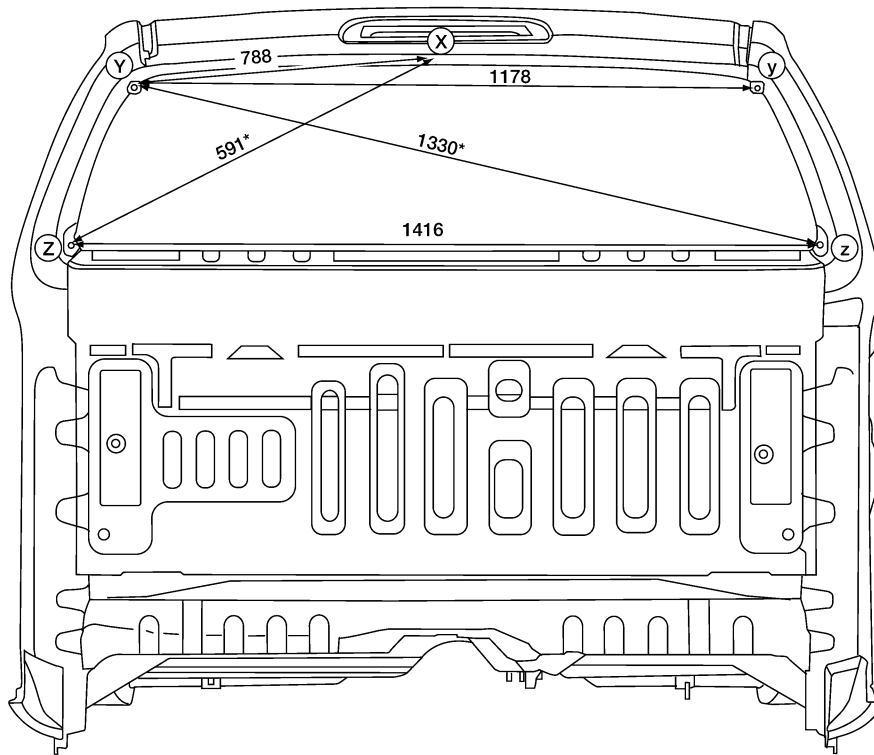
LIA2092E

# BODY REPAIR

## REAR BODY Measurement

A  
B  
C  
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E  
F  
G  
H  
BL  
J  
K  
L  
M

Figures marked with a (\*) indicate symmetrically identical dimensions on both right and left sides of the vehicle.

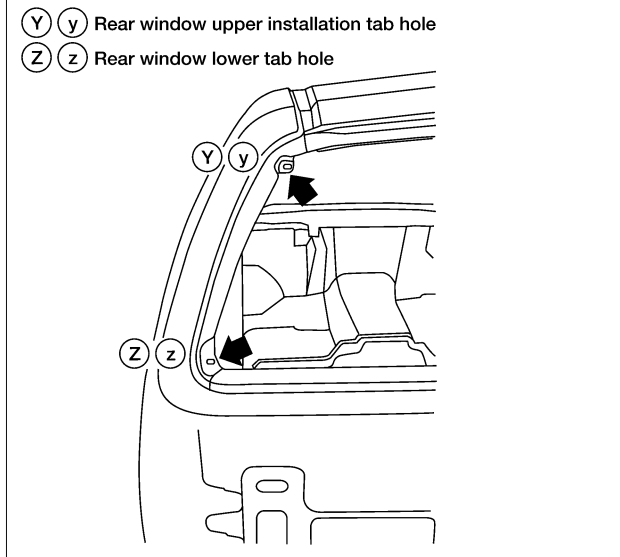
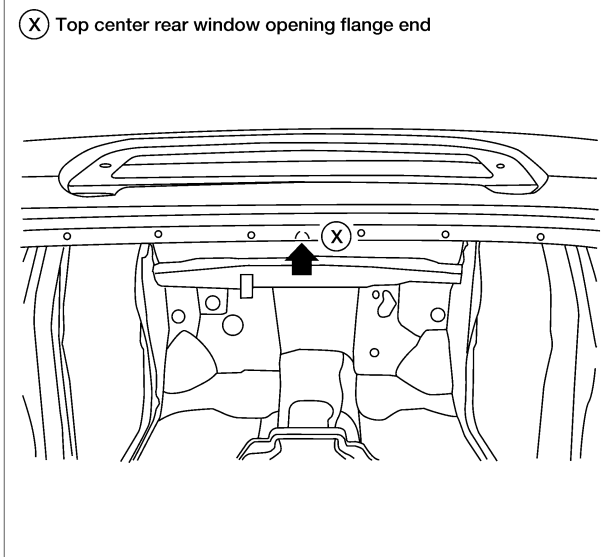


Unit: mm

LIA2093E

# BODY REPAIR

## Measurement Points



LIA2094E

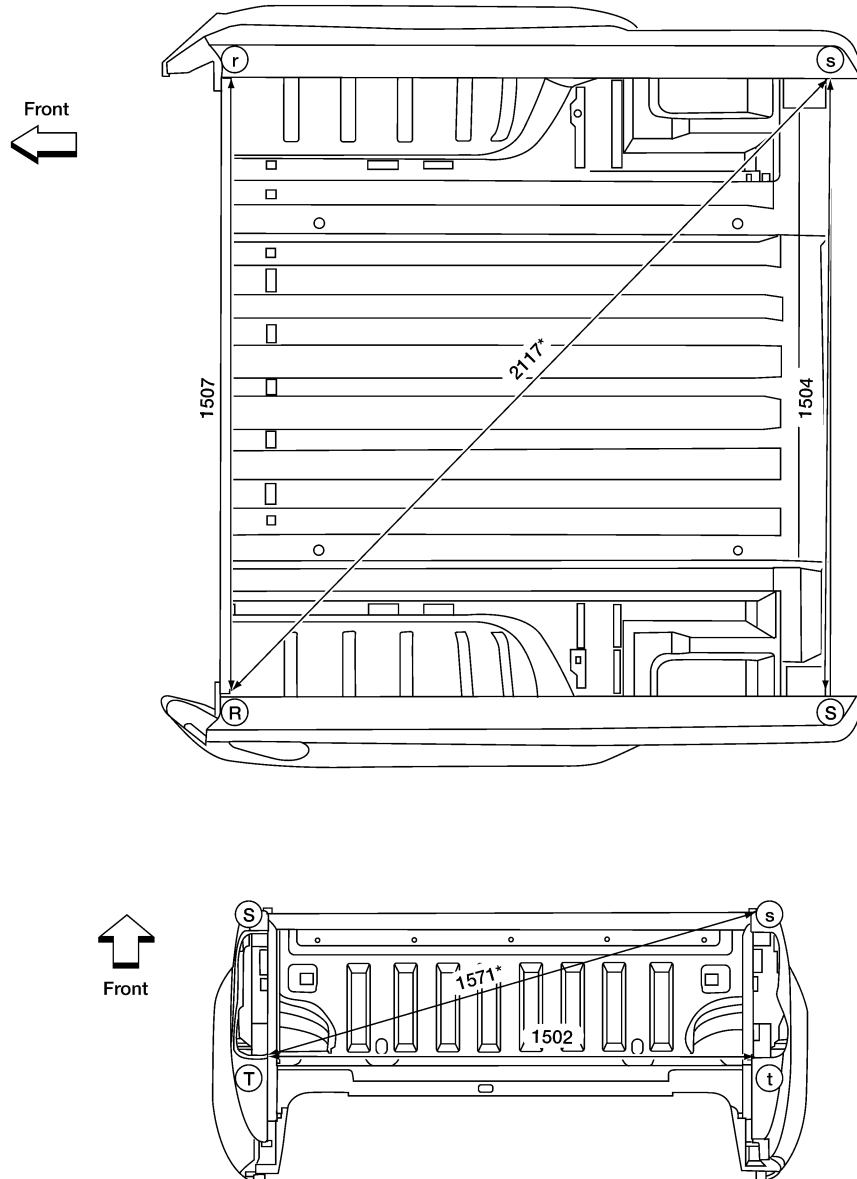


# BODY REPAIR

## PICKUP BED Measurements

### Crew Cab

Figures marked with a (\*) indicate symmetrically identical dimensions on both right and left sides of the vehicle.



A  
B  
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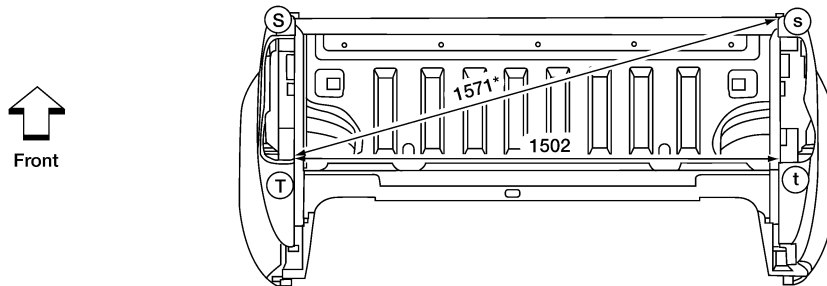
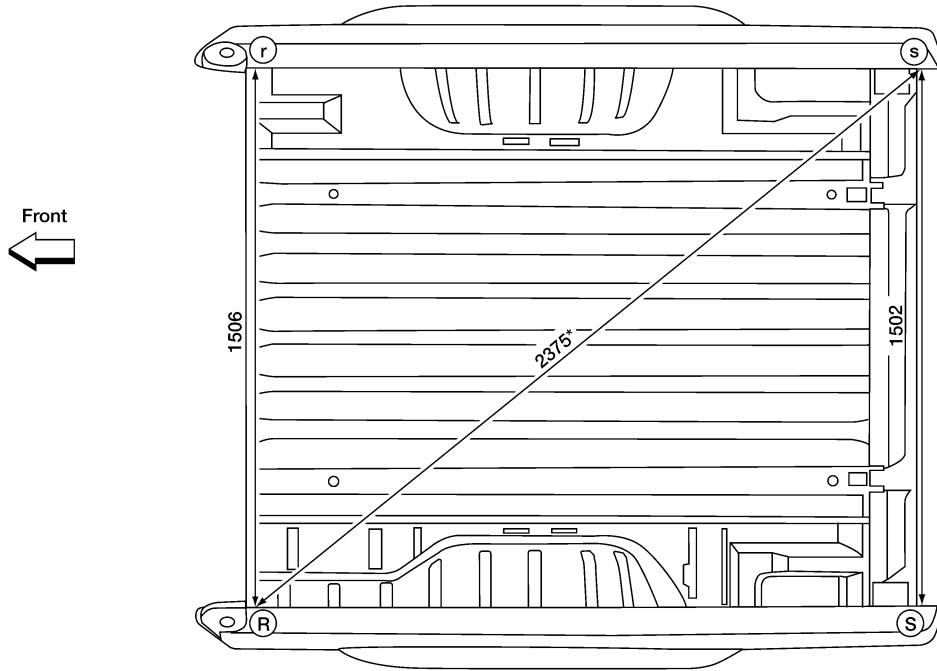
Unit: mm

LIA2095E

# BODY REPAIR

## King Cab

Figures marked with a (\*) indicate symmetrically identical dimensions on both right and left sides of the vehicle.

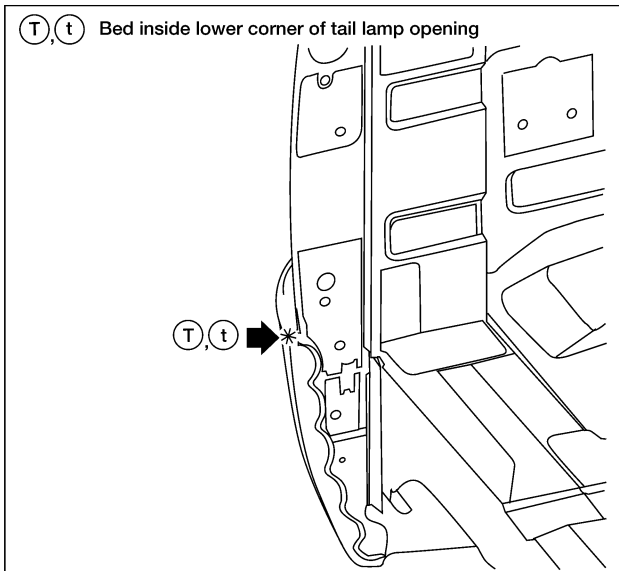
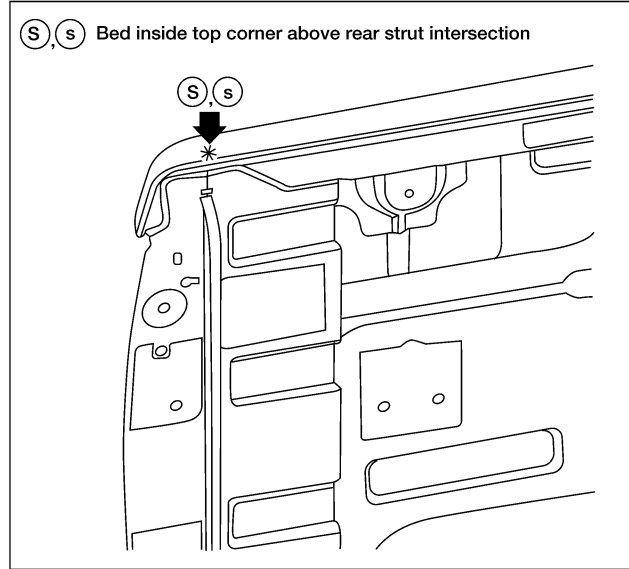
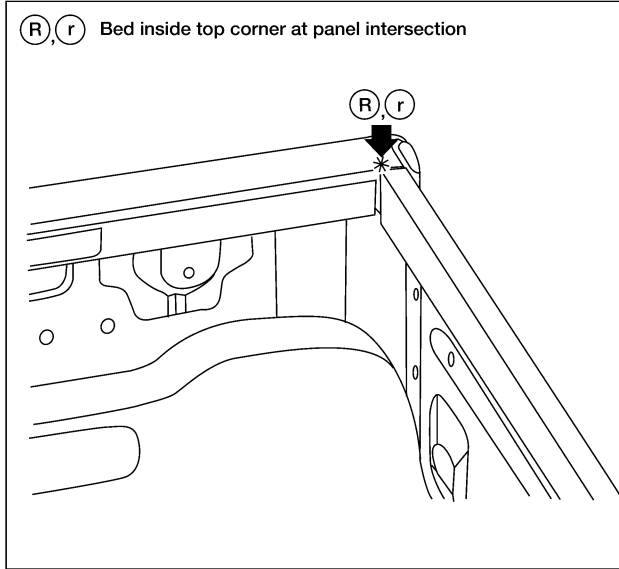


Unit: mm

LIA2096E

# BODY REPAIR

## Measurement points



A  
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LIA2097E

# BODY REPAIR

EIS00537

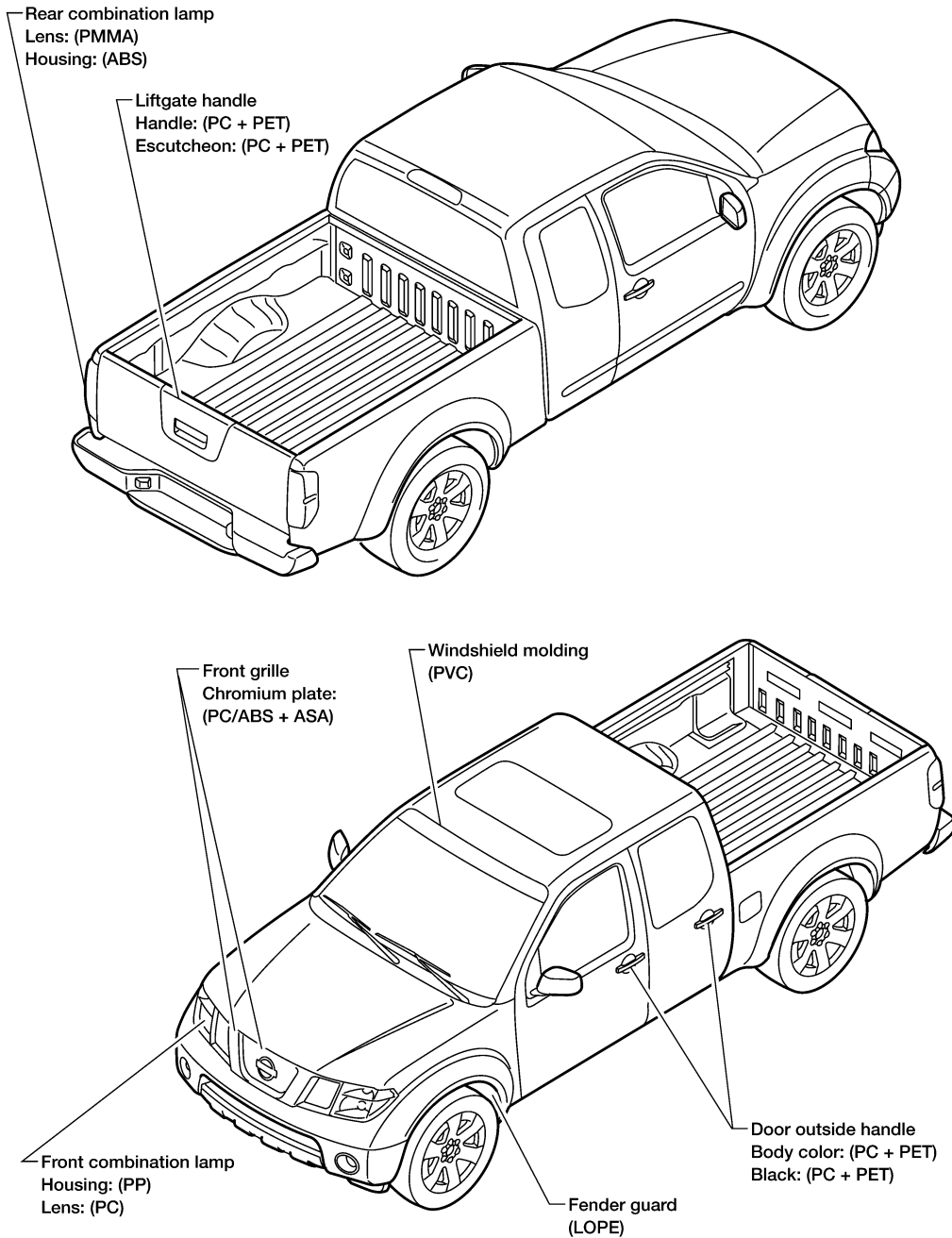
## Handling Precautions for Plastics HANDLING PRECAUTIONS FOR PLASTICS

Abbreviation	Material name	Heat resisting temperature °C (°F)	Resistance to gasoline and solvents	Other cautions
PE	Polyethylene	60 (140)	Gasoline and most solvents are harmless if applied for a very short time (wipe up quickly).	Flammable
PVC	Polyvinyl Chloride	80 (176)	Same as above.	Poison gas is emitted when burned.
EPM/EPDM	Ethylene Propylene (Diene) rubber	80 (176)	Same as above.	Flammable
TPO/TPR	Thermoplastic Olefine/Thermoplastic Rubber	80 (176)	Same as above.	Flammable
PP	Polypropylene	90 (194)	Same as above.	Flammable, avoid battery acid.
UP	Polyester thermoset	90 (194)	Same as above.	Flammable
PS	Polystyrene	80 (176)	Avoid solvents.	Flammable
ABS	Acrylonitrile Butadiene Styrene resin	80 (176)	Avoid gasoline and solvents.	
AES	Acrylonitrile Ethylene Styrene	80 (176)	Same as above.	
PMMA	Polymethyl Methacrylate	85 (185)	Same as above.	
AAS	Acrylonitrile Acrylic Styrene	85 (185)	Same as above.	
AS	Acrylonitrile Styrene	85 (185)	Same as above.	
EVA	Polyvinyl Ethyl Acetate	90 (194)	Same as above.	
ASA	Acrylonitrile Styrene Acrylate	100 (222)	Same as above.	Flammable
PPO/PPE	Polyphenylene Oxide/Polyphenylene Ether	110 (230)	Same as above.	
PC	Polycarbonate	120 (248)	Same as above.	
PAR	Polyacrylate	180 (356)	Same as above.	
L-LDPE	Linear Low Density PE	45 (100)	Gasoline and most solvents are harmless.	Flammable
PUR	Polyurethane	90 (194)	Same as above.	
TPU	Thermoplastic Urethane	110 (230)	Same as above.	
PPC	Polypropylene Composite	115 (239)	Same as above.	Flammable
POM	Polyacetal	120 (248)	Same as above.	Avoid battery acid.
PBT+PC	Polybutylene Terephthalate+Polycarbonate	120 (248)	Same as above.	Flammable
PA	Polyamide (Nylon)	140 (284)	Same as above.	Avoid immersing in water.
PBT	Polybutylene Terephthalate	140 (284)	Same as above.	
FRP	Fiber Reinforced Plastics	170 (338)	Same as above.	Avoid battery acid.
PET	Polyethylene Terephthalate	180 (356)	Same as above.	
PEI	Polyetherimide	200 (392)	Same as above.	

1. When repairing and painting a portion of the body adjacent to plastic parts, consider their characteristics (influence of heat and solvent) and remove them if necessary or take suitable measures to protect them.
2. Plastic parts should be repaired and painted using methods suiting the materials' characteristics.

# BODY REPAIR

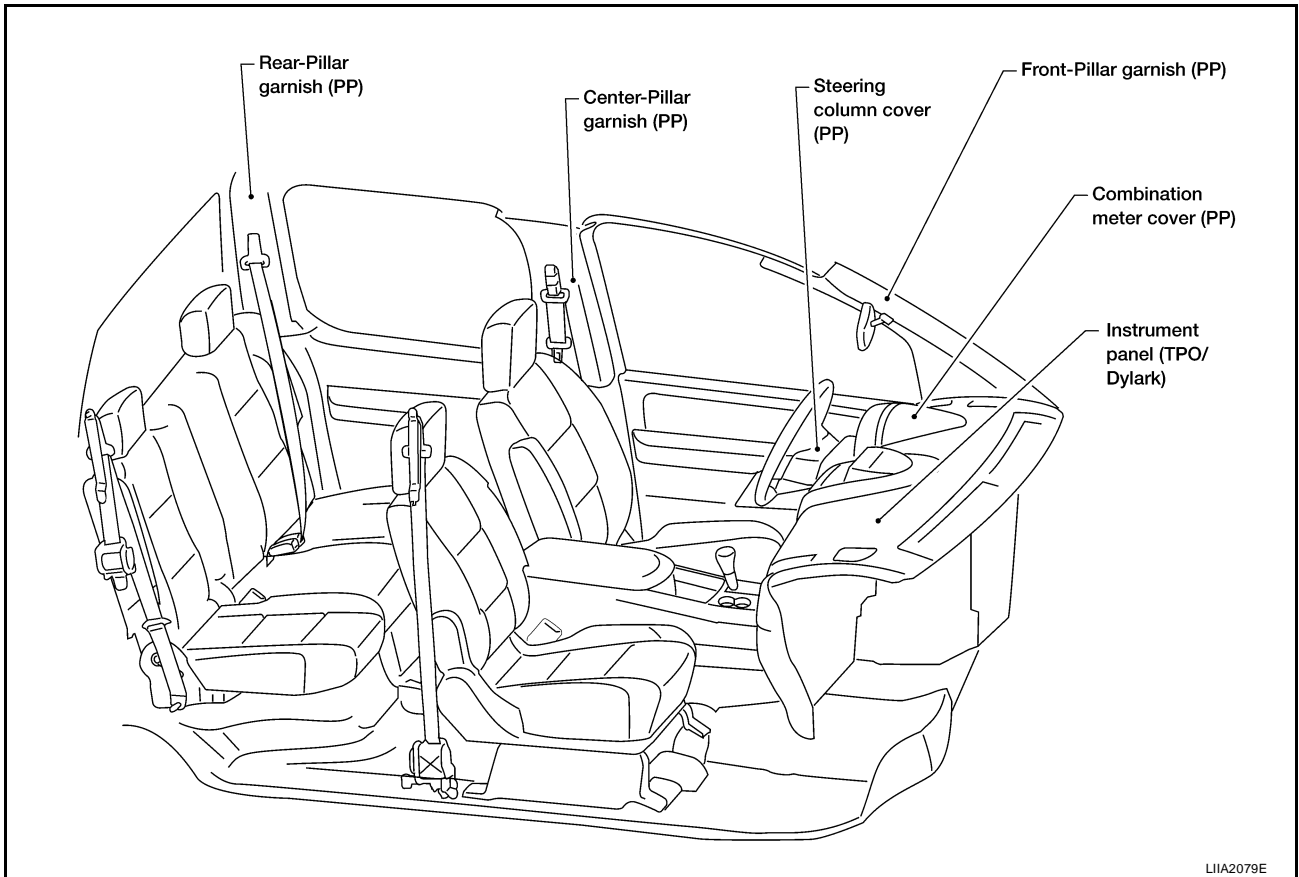
## LOCATION OF PLASTIC PARTS



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LIA2006E

# BODY REPAIR



# BODY REPAIR

EIS00538

## Precautions in Repairing High Strength Steel

High strength steel is used for body panels in order to reduce vehicle weight. Accordingly, precautions in repairing automotive bodies made of high strength steel are described below:

### HIGH STRENGTH STEEL (HSS) USED IN NISSAN VEHICLES

Tensile strength	NISSAN/INFINITI designation	Major applicable parts
373 N/mm <sup>2</sup> (38kg/mm <sup>2</sup> ,54klb/sq in)	SP130	<ul style="list-style-type: none"> <li>● Front inner pillar upper</li> <li>● Front pillar hinge brace</li> <li>● Outer front pillar reinforcement</li> <li>● Other reinforcements</li> </ul>
785-981N/mm <sup>2</sup> (80-100kg/mm <sup>2</sup> 114-142klb/sq in)	SP150	<ul style="list-style-type: none"> <li>● Outer sill reinforcement</li> <li>● Main back pillar</li> </ul>

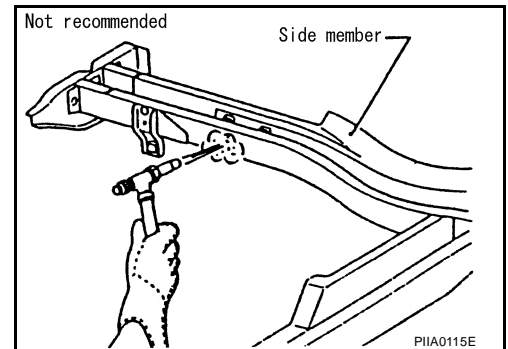
SP130 is the most commonly used HSS.

SP150 HSS is used only on parts that require much more strength.

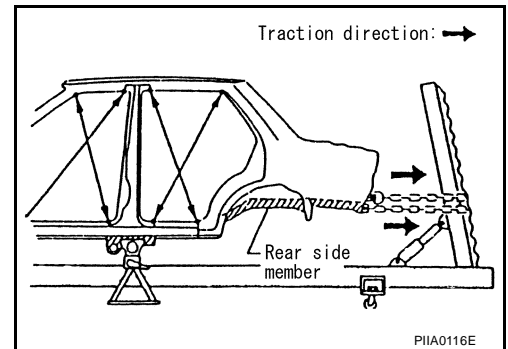
Read the following precautions when repairing HSS:

#### 1. Additional points to consider

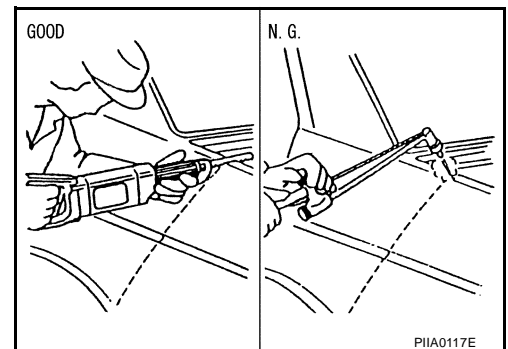
- The repair of reinforcements (such as side members) by heating is not recommended since it may weaken the component. When heating is unavoidable, do not heat HSS parts above 550°C (1,022°F). Verify heating temperature with a thermometer. (Crayon-type and other similar type thermometer are appropriate.)



- When straightening body panels, use caution in pulling any HSS panel. Because HSS is very strong, pulling may cause deformation in adjacent portions of the body. In this case, increase the number of measuring points, and carefully pull the HSS panel.

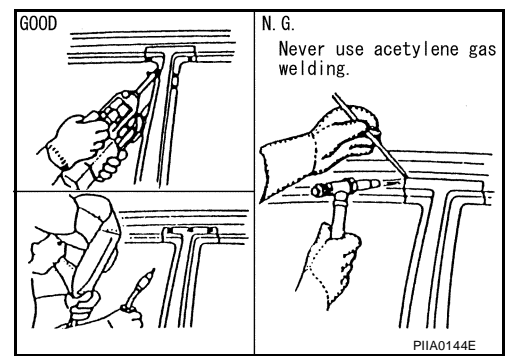


- When cutting HSS panels, avoid gas (torch) cutting if possible. Instead, use a saw to avoid weakening surrounding areas due to heat. If gas (torch) cutting is unavoidable, allow a minimum margin of 50 mm (1.97in).

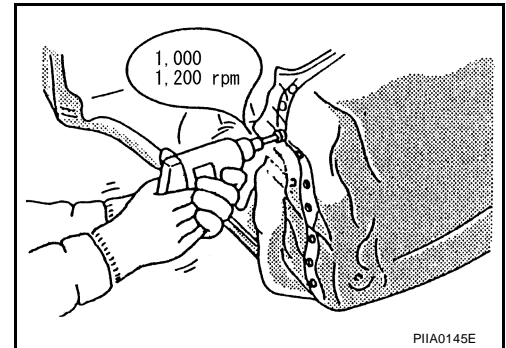


# BODY REPAIR

- When welding HSS panels, use spot welding whenever possible in order to minimize weakening surrounding areas due to heat. If spot welding is impossible, use M.I.G. welding. Do not use gas (torch) welding because it is inferior in welding strength.



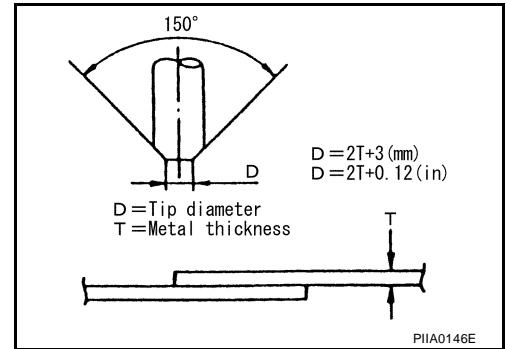
- The spot weld on HSS panels is harder than that of an ordinary steel panel. Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.
- SP150 HSS panels with a tensile strength of 785 to 981 N/mm<sup>2</sup> (80 to 100 kg/mm<sup>2</sup>, 114 to 142 klb/sq in), used as reinforcement in the door guard beams, is too strong to repair. When these HSS parts are damaged, the outer panels also sustain substantial damage; therefore, the assembly parts must be replaced.



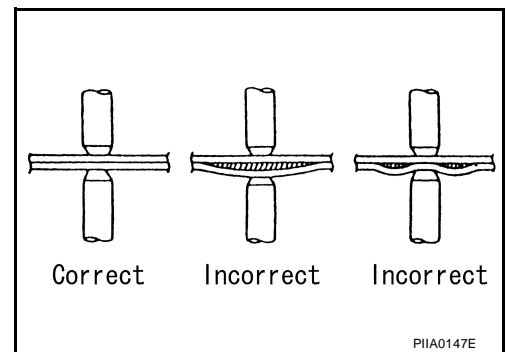
## 2. Precautions in spot welding HSS

This work should be performed under standard working conditions. Always note the following when spot welding HSS:

- The electrode tip diameter must be sized properly according to the metal thickness.



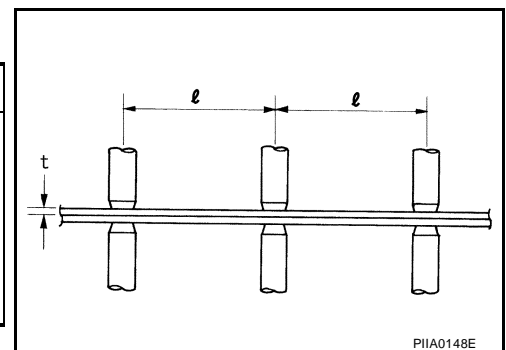
- The panel surfaces must fit flush to each other, leaving no gaps.



- Follow the specifications for the proper welding pitch.

Unit: mm (in)

Thickness (t)	Minimum pitch (ℓ)
0.6 (0.024)	10 (0.39) or over
0.8 (0.031)	12 (0.47) or over
1.0 (0.039)	18 (0.71) or over
1.2 (0.047)	20 (0.79) or over
1.6 (0.063)	27 (1.06) or over
1.8 (0.071)	31 (1.22) or over





# BODY REPAIR

EIS00539

## Foam Repair

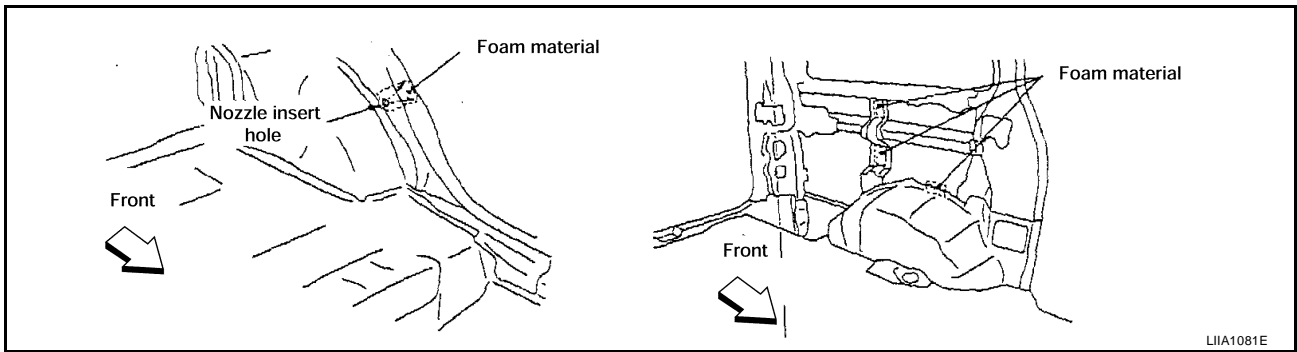
During factory body assembly, foam insulators are installed in certain body panels and locations around the vehicle. Use the following procedure(s) to replace any factory-installed foam insulators.

### URETHANE FOAM APPLICATIONS

Use commercially available spray foam for sealant (foam material) repair of material used on vehicle. Read instructions on product for fill procedures.

### FILL PROCEDURES

1. Fill procedures after installation of service part.
  - Remove foam material remaining on vehicle side.
  - Clean area in which foam was removed.
  - Install service part.
  - Insert nozzle into hole near fill area and fill foam material or fill in enough to close gap with the service part.



2. Fill procedures before installation of service part.
  - Remove foam material remaining on vehicle side.
  - Clean area in which foam was removed.
  - Fill foam material on wheelhouse outer side.

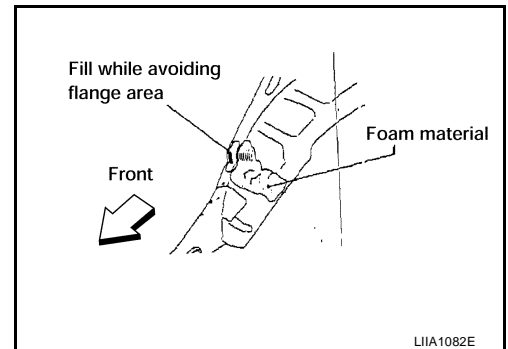
**NOTE:**

Fill in enough to close gap with service part while avoiding flange area.

- Install service part.

**NOTE:**

Refer to label for information on working times.



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# BODY REPAIR

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## Replacement Operations

EIS0062U

### DESCRIPTION


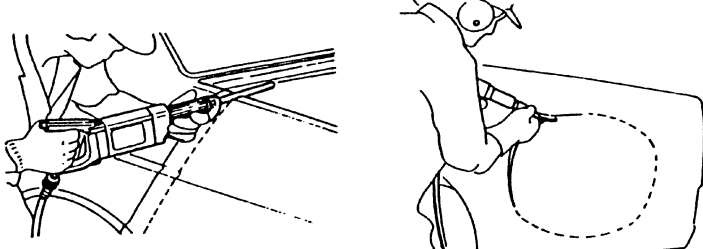
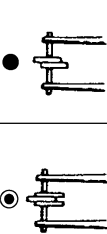
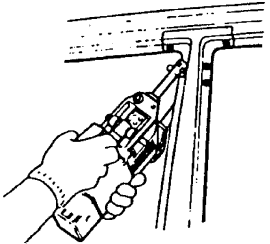
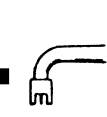

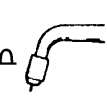




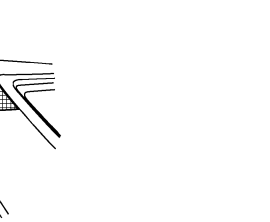
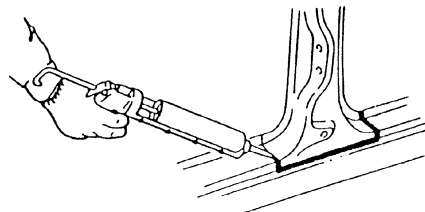
This section is prepared for technicians who have attained a high level of skill and experience in repairing collision-damaged vehicles and also use modern service tools and equipment. Persons unfamiliar with body repair techniques should not attempt to repair collision-damaged vehicles by using this section.

Technicians are also encouraged to read Body Repair Manual (Fundamentals) in order to ensure that the original functions and quality of the vehicle can be maintained. The Body Repair Manual (Fundamentals) contains additional information, including cautions and warnings, that are not including in this manual. Technicians should refer to both manuals to ensure proper repairs.

Please note that this information is prepared for worldwide usage, and as such, certain procedures may not apply in some regions or countries.

The symbols used in this section for cutting and welding / brazing operations are as shown.

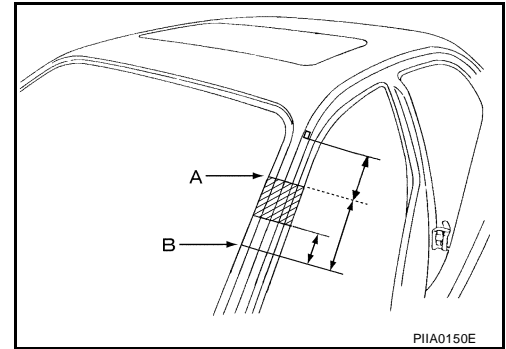
# BODY REPAIR

 <p>Saw cut or air chisel cut</p>		
<p>Spot weld</p> <p>●●●●● 2-spot welds</p> <p>●●●●● 3-spot welds</p>	 <p>2-spot welds (2-panel overlapping portions)</p> <p>3-spot welds (3-panel overlapping portions)</p>	
<p>■ ■ ■ ■</p> <p>MIG plug weld</p>		
<p>~~~~~</p> <p>MIG seam weld/ Point weld</p>		
<p>▨▨▨▨</p> <p>Brazing</p>		
<p>▨▨▨▨</p> <p>Soldering</p>		
<p>Sealing</p>		

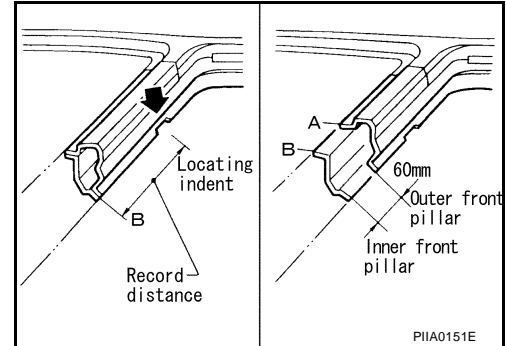
A  
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## BODY REPAIR

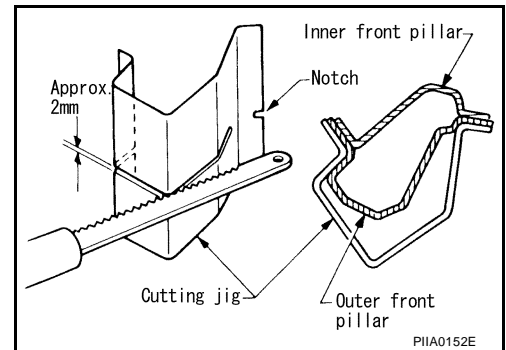
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle. Refer to the front pillar section.



- Determine cutting position and record distance from the locating indent. Use this distance when cutting the service part. Cut outer front pillar over 60 mm above inner front pillar cut position.

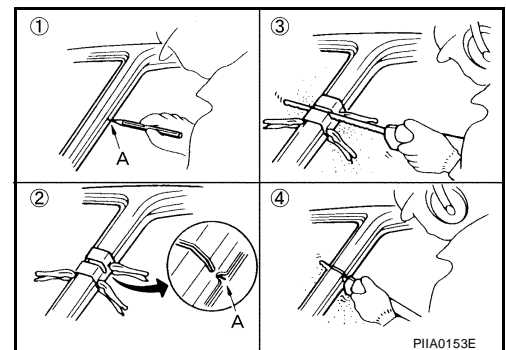


- Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit service part to be accurately cut at joint position.



- An example of cutting operation using a cutting jig is as follows.

1. Mark cutting lines.  
A: Cut position of outer pillar  
B: Cut position of inner pillar
2. Align cutting line with notch on jig. Clamp jig to pillar.
3. Cut outer pillar along groove of jig. (At position A)
4. Remove jig and cut remaining portions.
5. Cut inner pillar at position B in same manner.



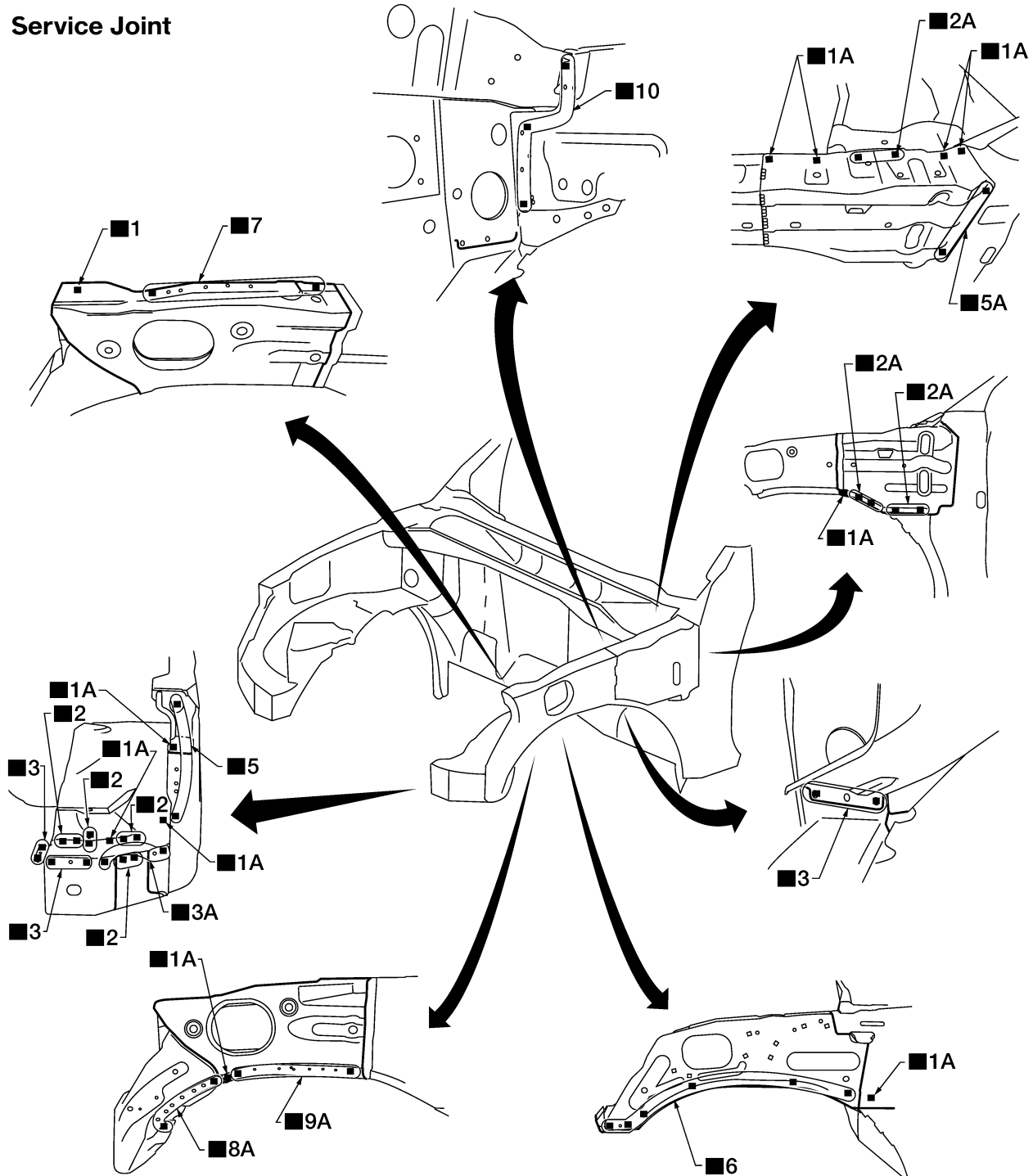
# BODY REPAIR

## HOODLEDGE

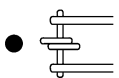
### LH Side

- Work after radiator core support has been removed.

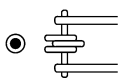
### Service Joint



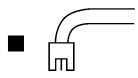
2-spot welds



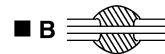
3-spot welds



MIG Plug weld



( For 3 panels plug weld method )



MIG seam weld/  
Point weld



LIIA2098E

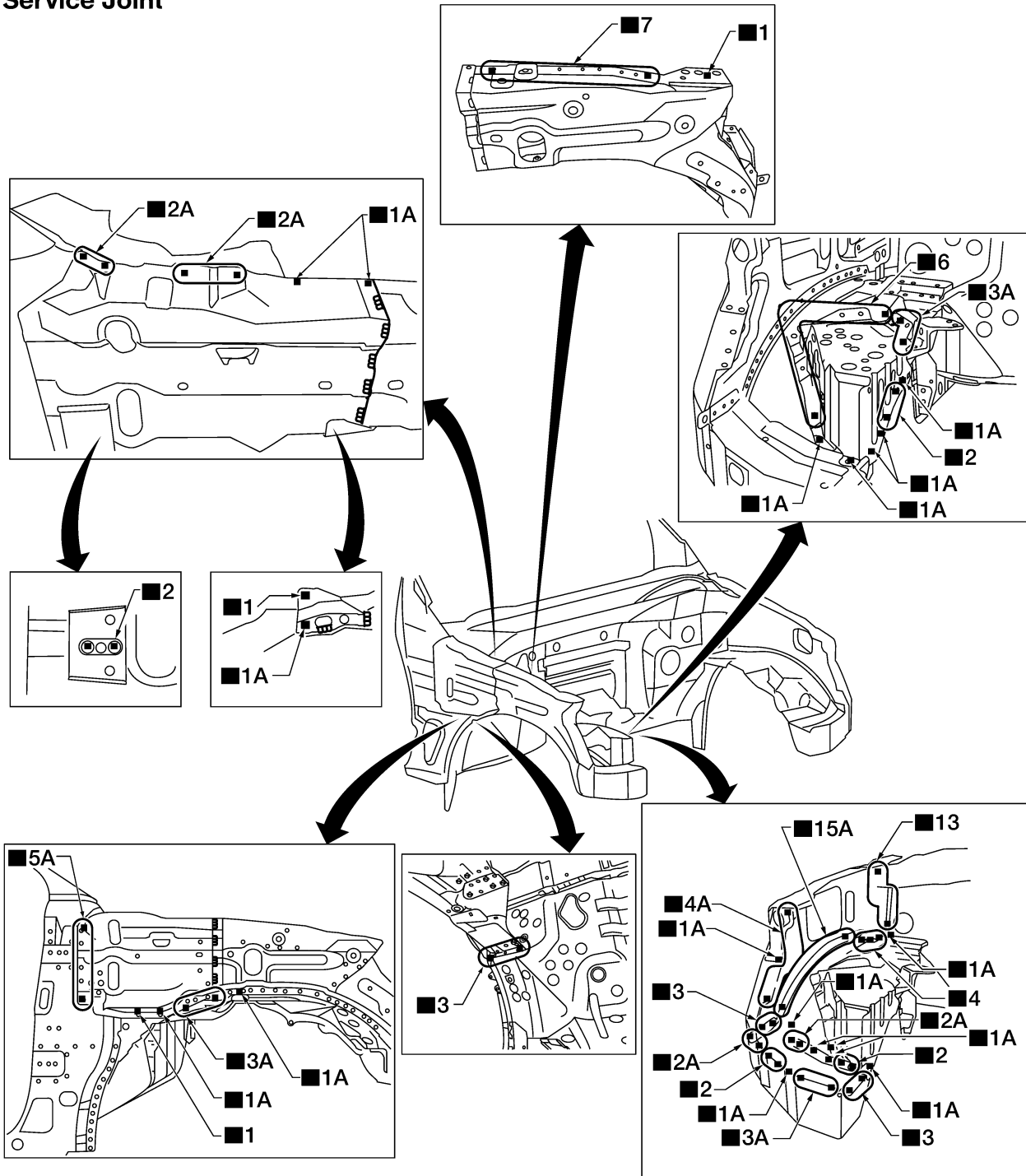
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# BODY REPAIR

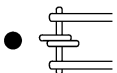
## RH Side

- Work after radiator core support has been removed.

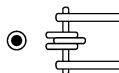
### Service Joint



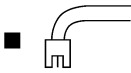
2-spot welds



3-spot welds



MIG Plug weld



( For 3 panels plug weld method )



MIG seam weld/  
Point weld



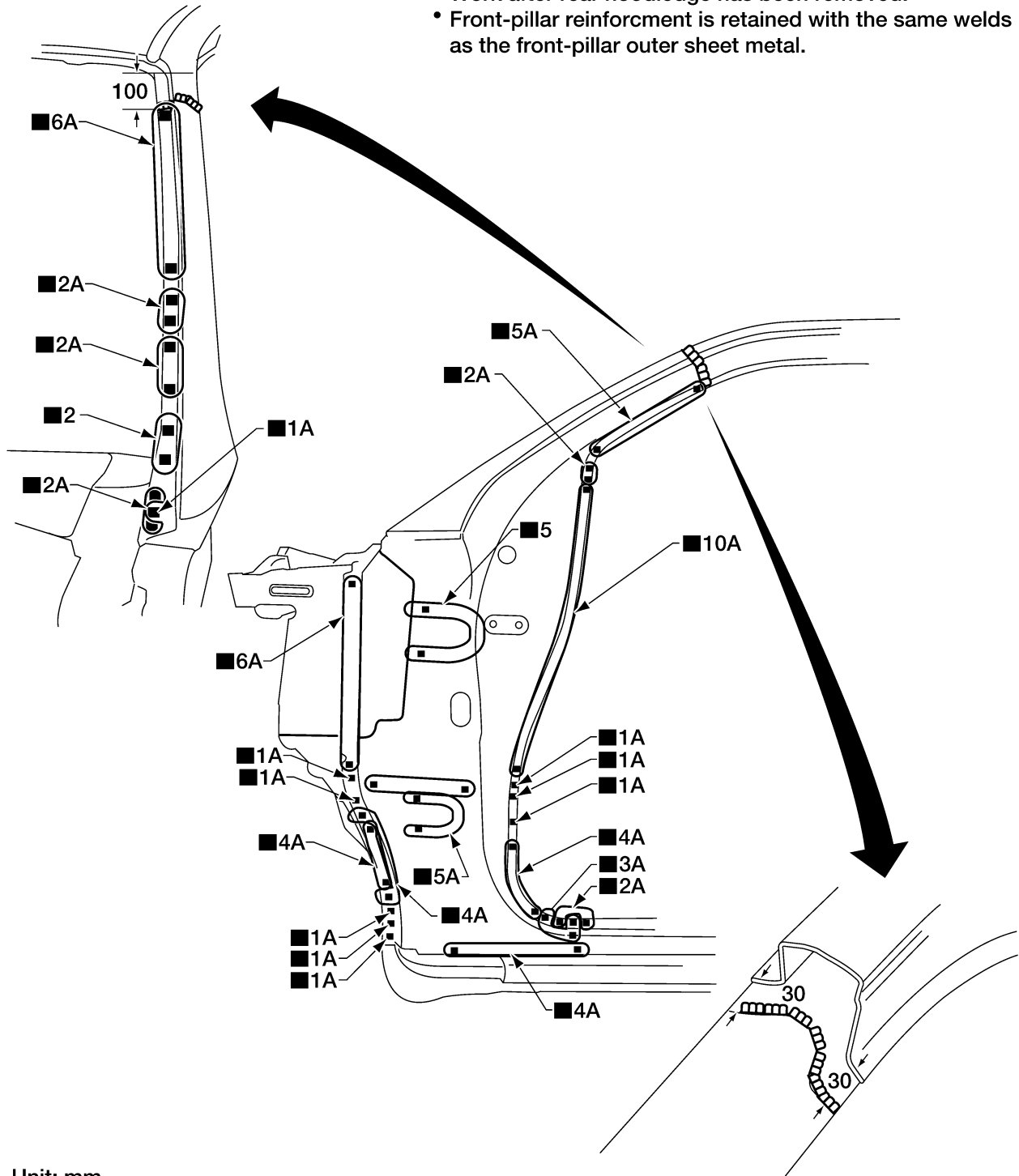
LIA2099E

# BODY REPAIR

## FRONT PILLAR

### Service Joint

- Work after rear hoodledge has been removed.
- Front-pillar reinforcement is retained with the same welds as the front-pillar outer sheet metal.



Unit: mm

2-spot welds

3-spot welds

MIG Plug weld

( For 3 panels plug weld method )

MIG seam weld/  
Point weld

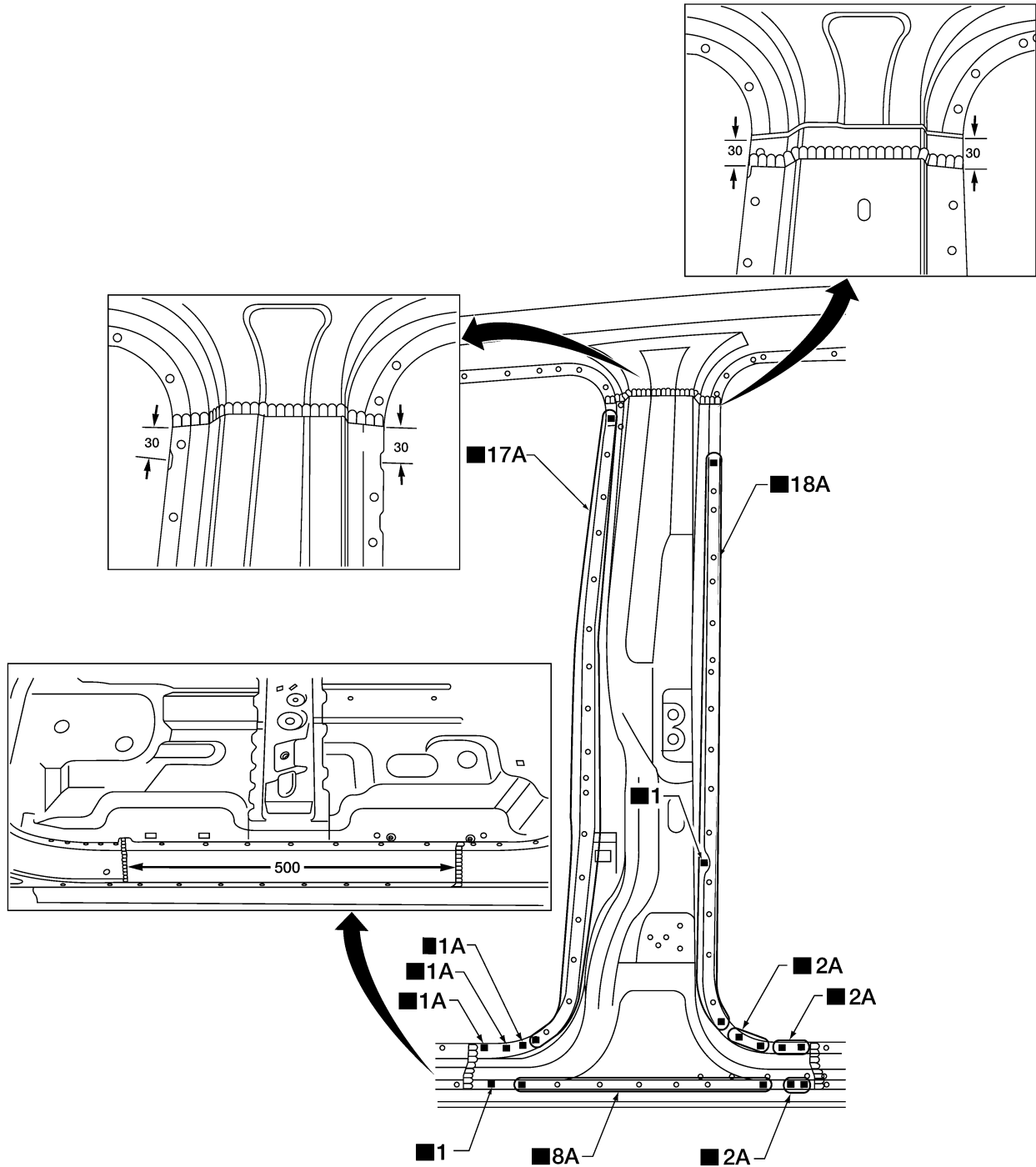


LIIA1810E

# BODY REPAIR

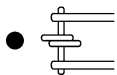
## CENTER PILLAR (CREW CAB ONLY)

### Service Joint

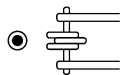


Unit: mm

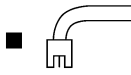
2-spot welds



3-spot welds



MIG Plug weld



( For 3 panels plug weld method )



MIG seam weld/  
Point weld



LIA2042E



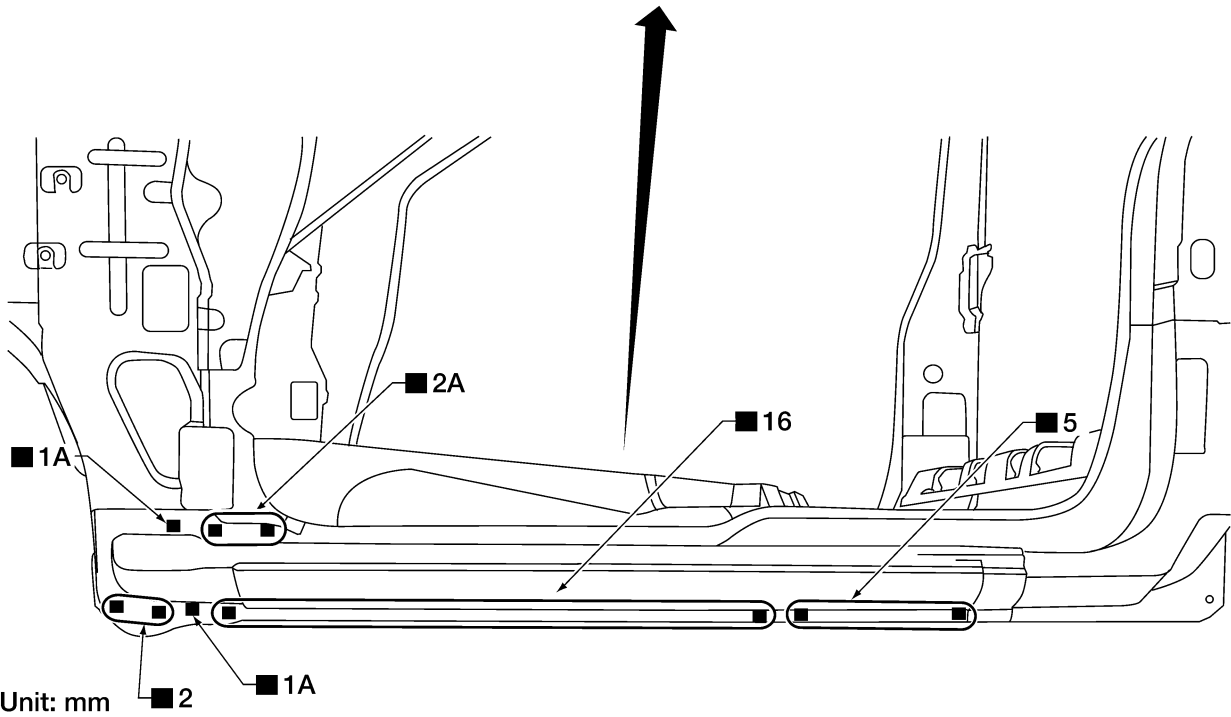
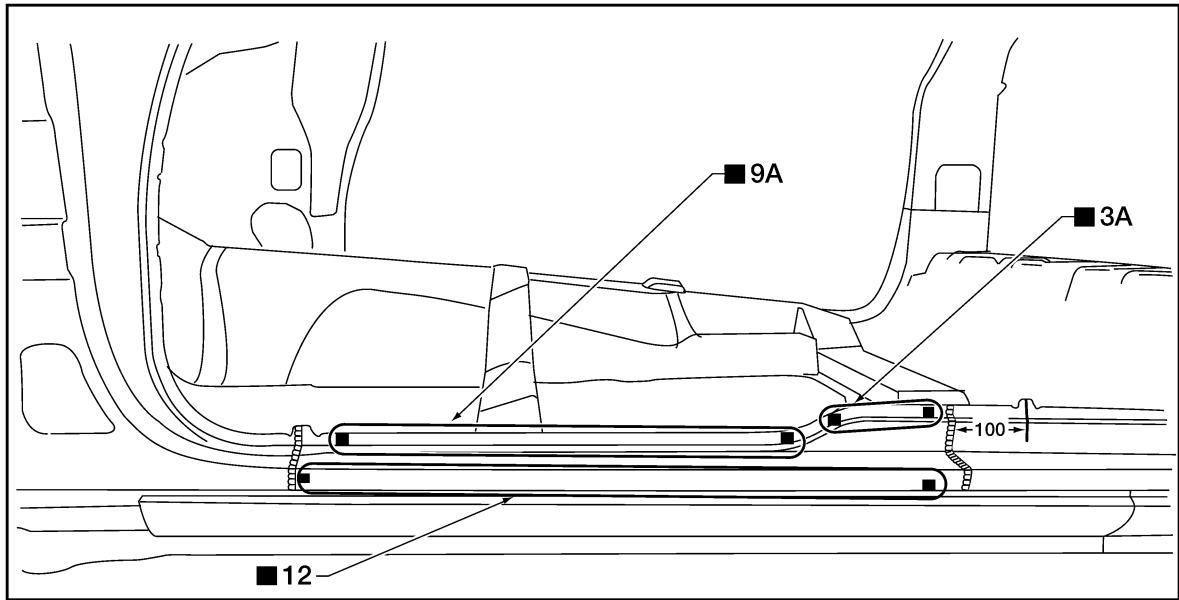
# BODY REPAIR

## OUTER SILL

### King Cab

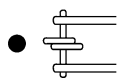
Work with front pillar outer, front pillar reinforcement, and rear pillar outer removed.

### Service Joint

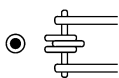


Unit: mm

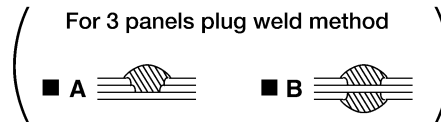
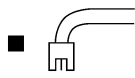
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/  
Point weld



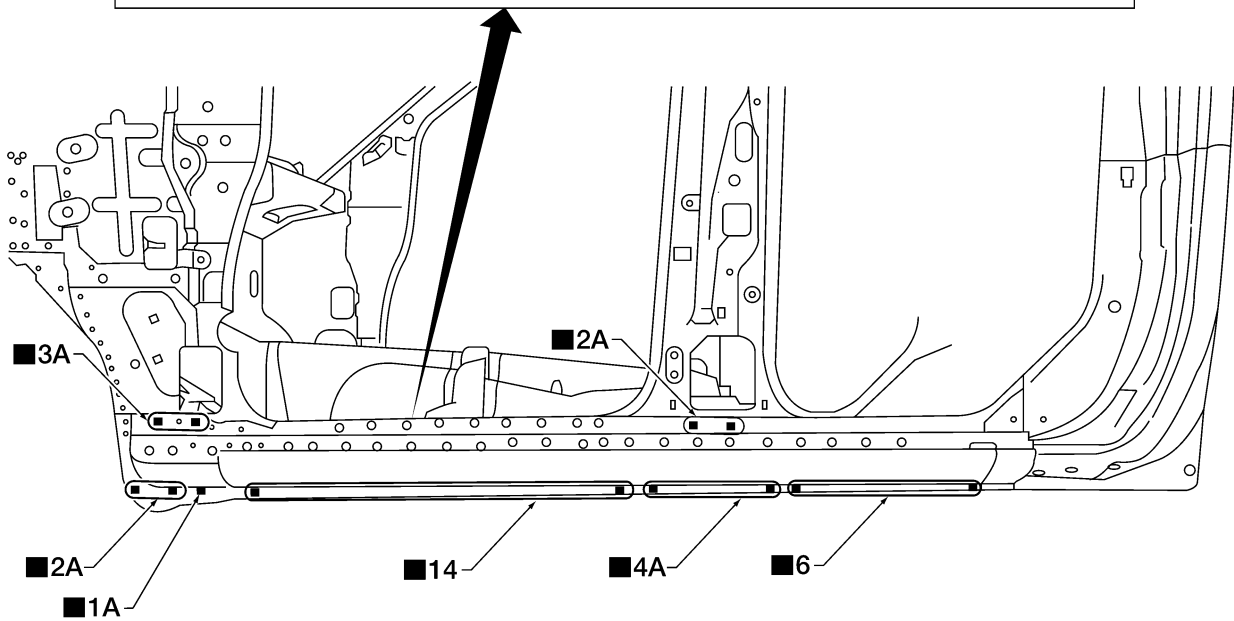
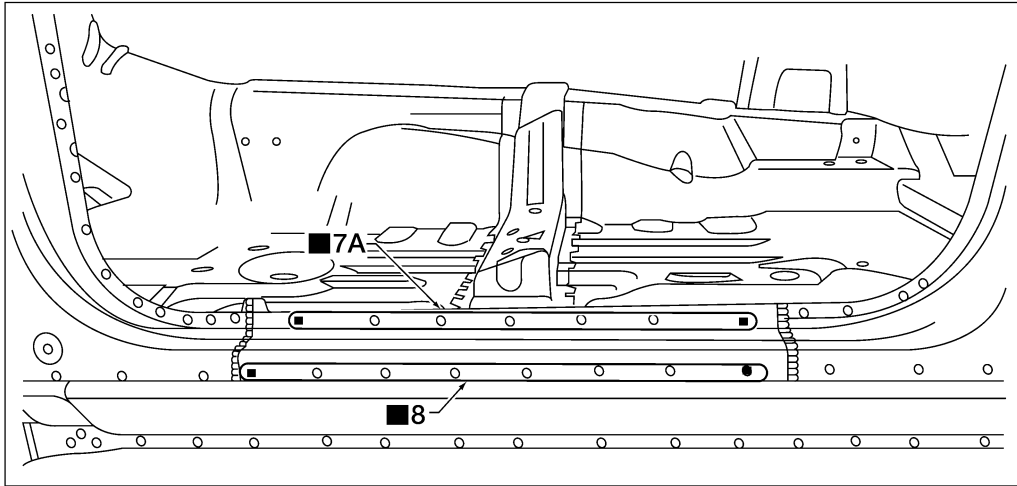
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# BODY REPAIR

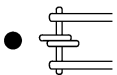
## Crew Cab

Work with front pillar outer, front pillar reinforcement, center pillar outer, center pillar reinforcement, and rear pillar outer removed.

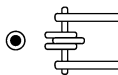
### Service Joint



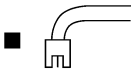
2-spot welds



3-spot welds



MIG Plug weld



For 3 panels plug weld method



MIG seam weld/  
Point weld

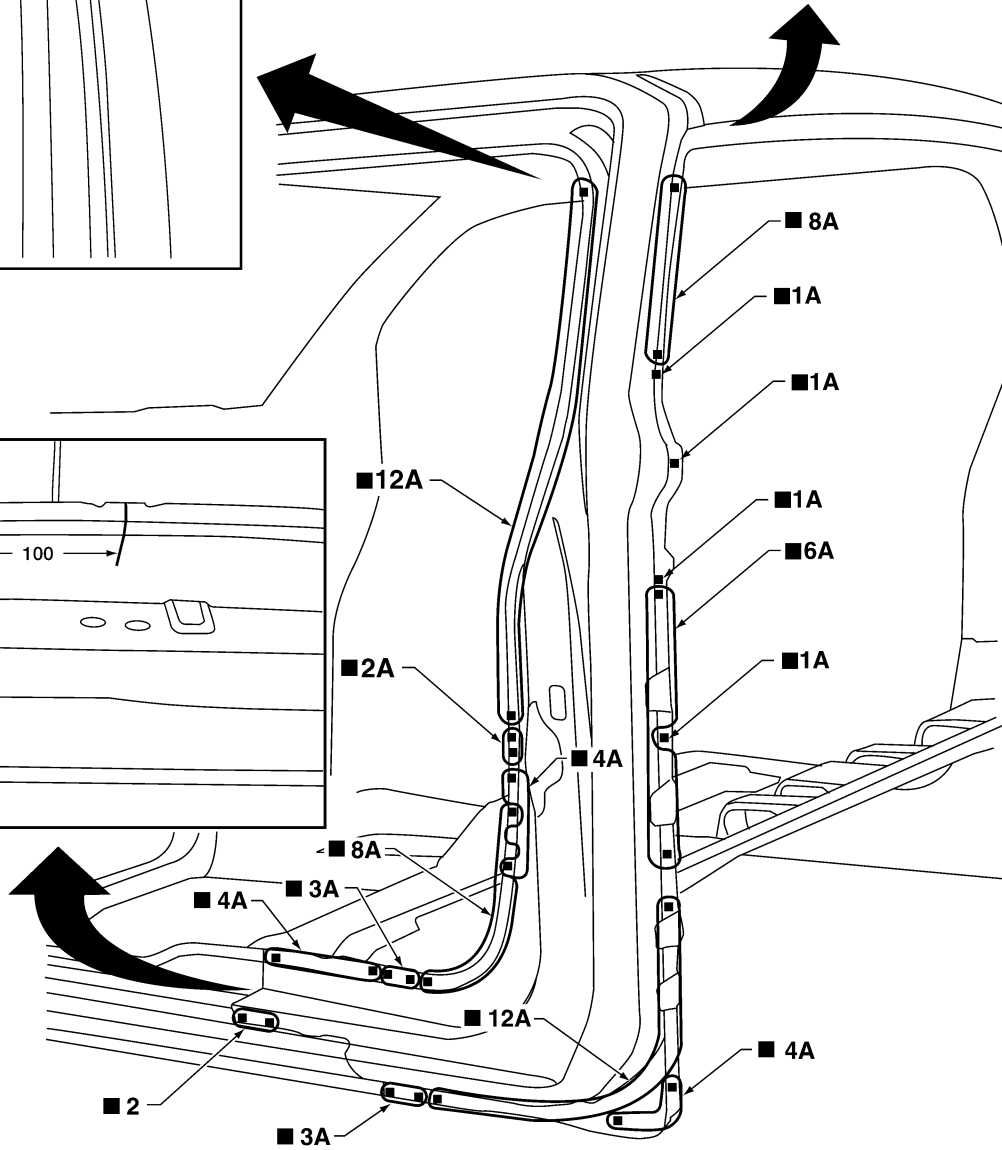
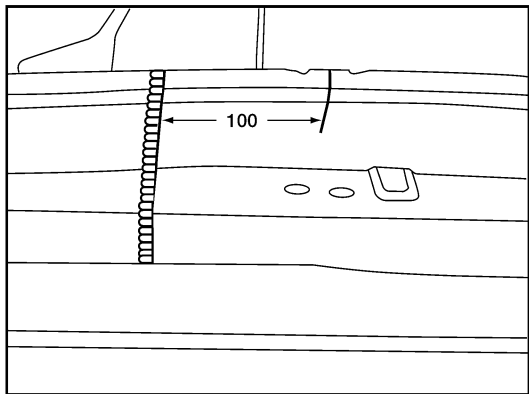
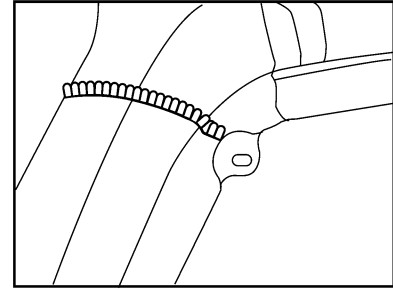
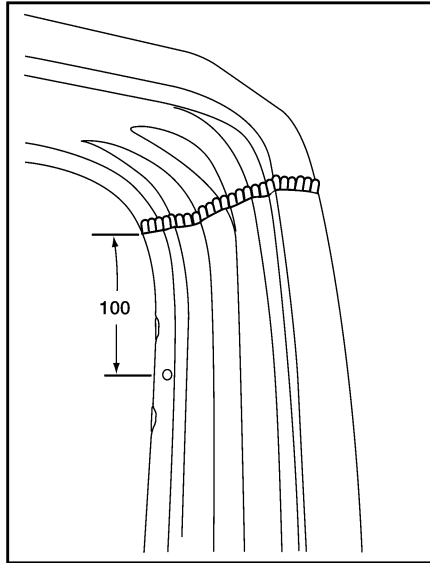


LIA2040E

# BODY REPAIR

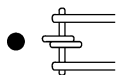
## REAR CAB PILLAR King Cab

### Service Joint

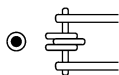


Unit: mm

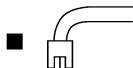
2-spot welds



3-spot welds



MIG Plug weld



( For 3 panels plug weld method )



MIG seam weld/  
Point weld

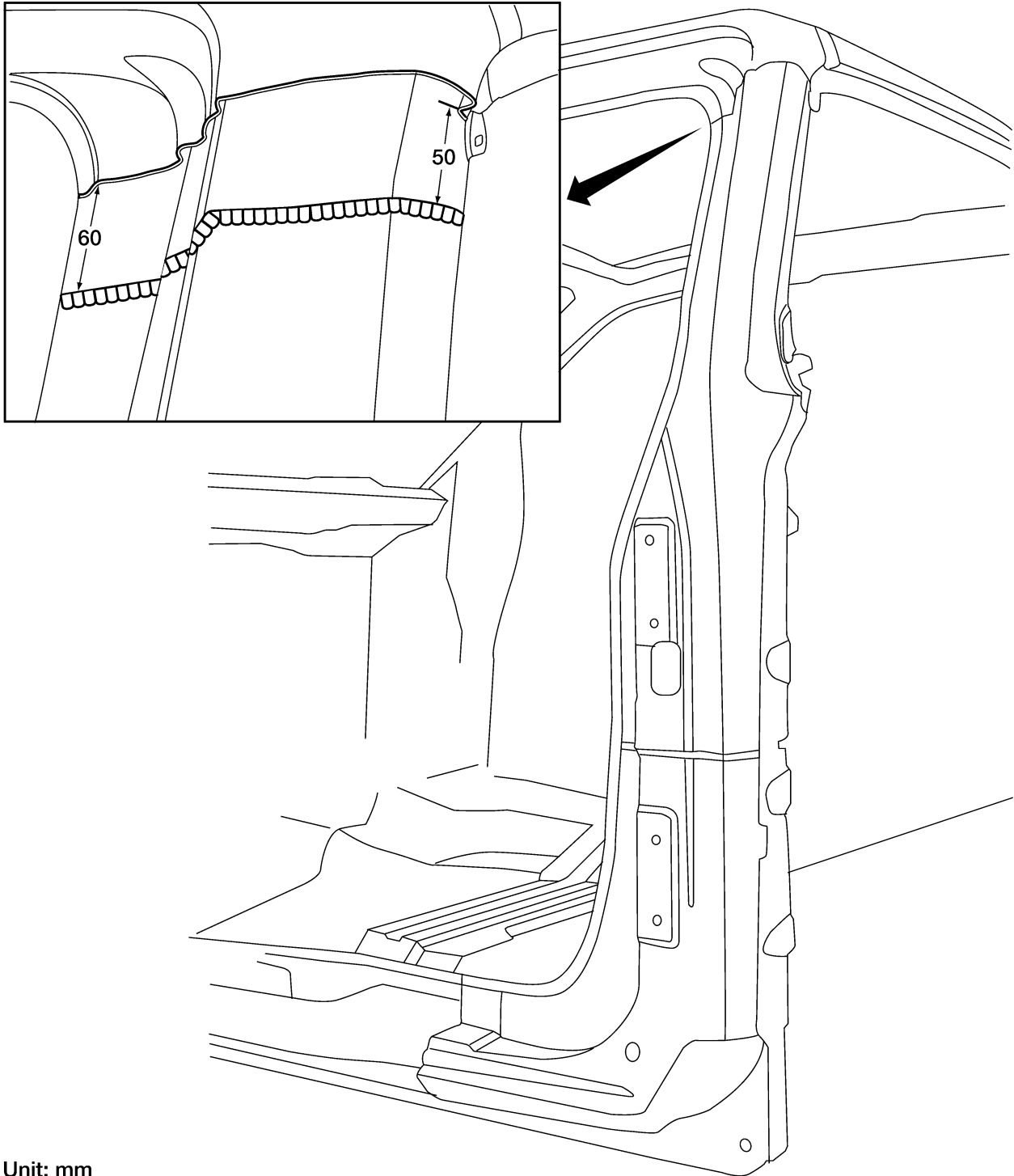


LIA2008E

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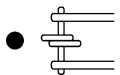
# BODY REPAIR

## Service Joint

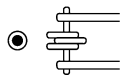


Unit: mm

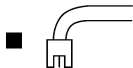
2-spot welds



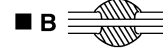
3-spot welds



MIG Plug weld



For 3 panels plug weld method



MIG seam weld/  
Point weld

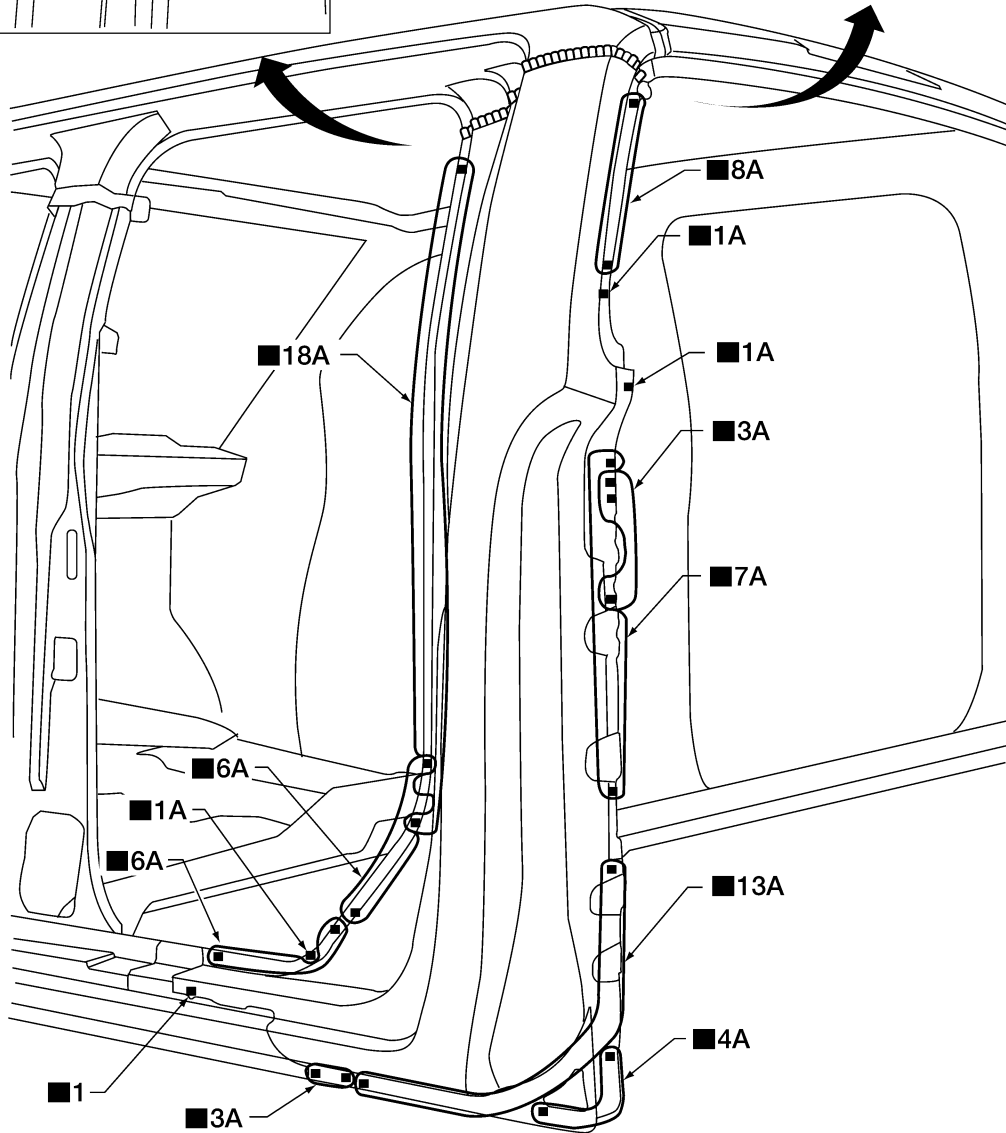
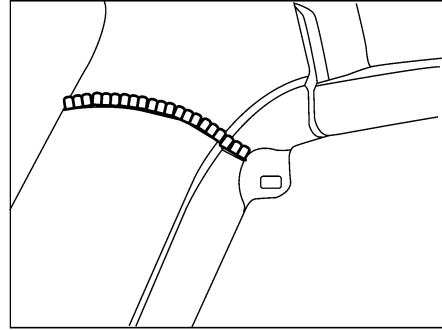
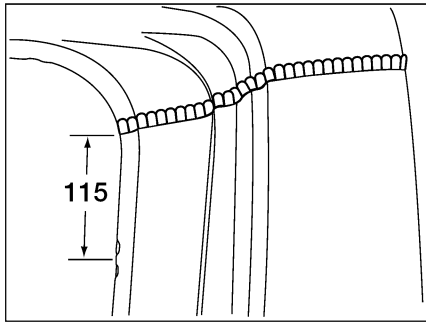


LIA2009E

# BODY REPAIR

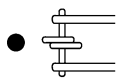
## Crew Cab

### Service Joint

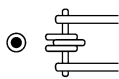


Unit: mm

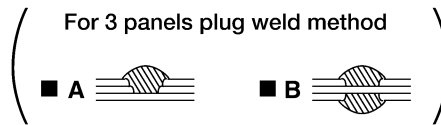
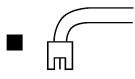
2-spot welds



3-spot welds



MIG Plug weld



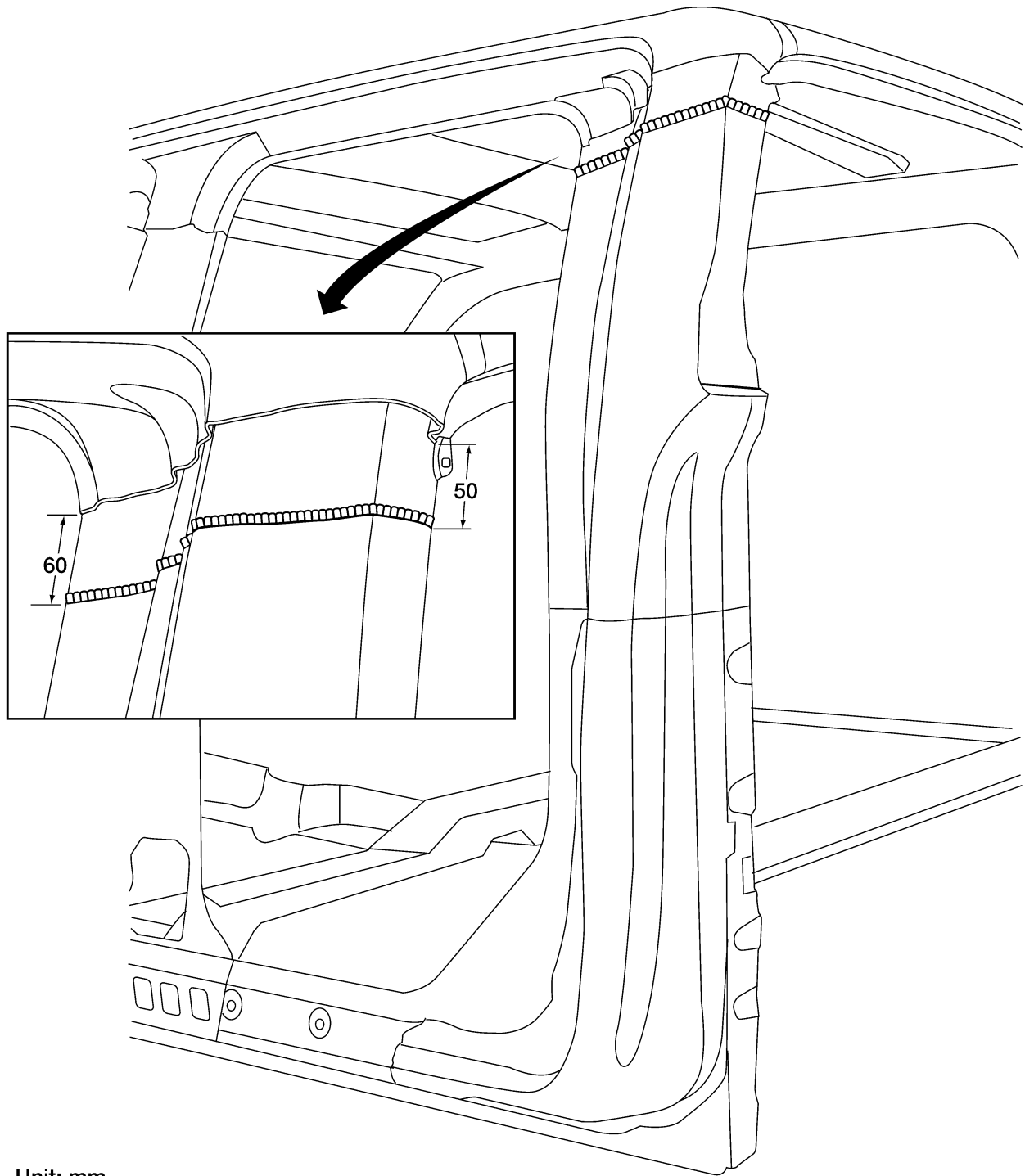
MIG seam weld/  
Point weld



LIA2010E

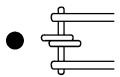
# BODY REPAIR

## Service Joint

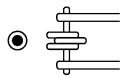


Unit: mm

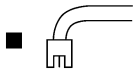
2-spot welds



3-spot welds



MIG Plug weld



For 3 panels plug weld method



MIG seam weld/  
Point weld

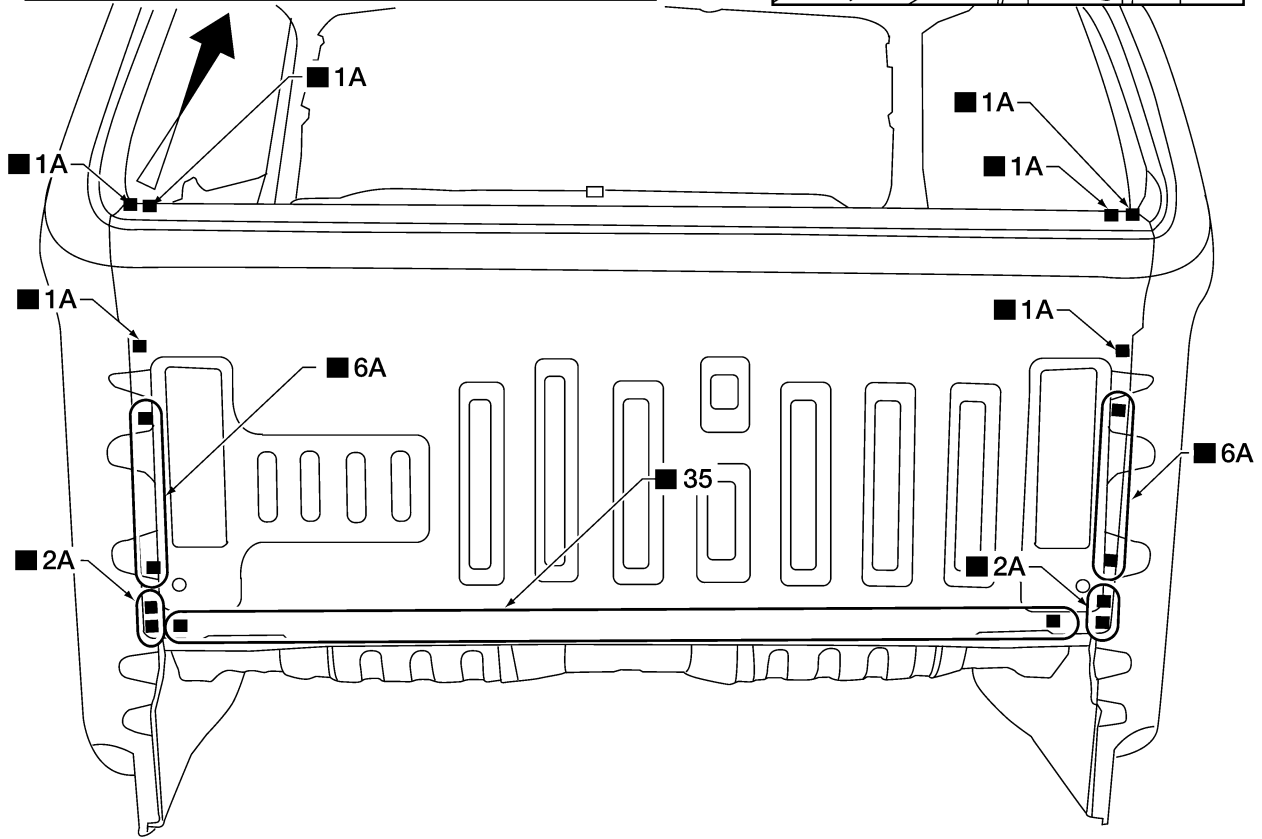
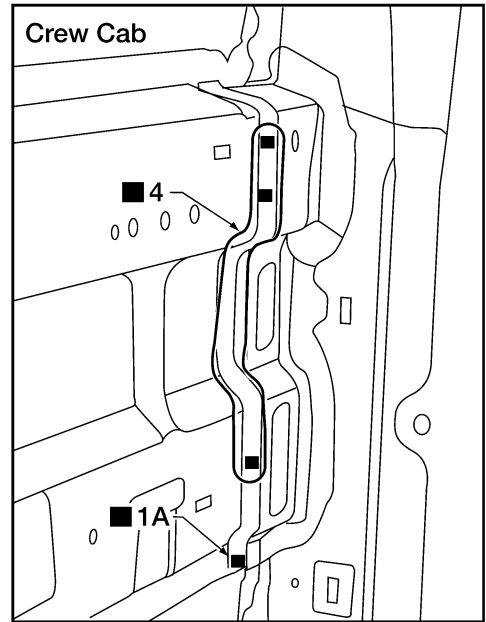
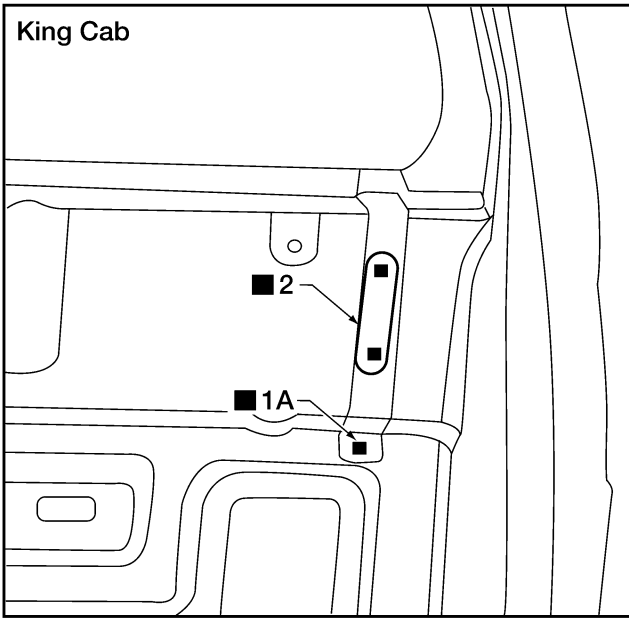


LIA2011E

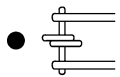
# BODY REPAIR

## REAR PANEL

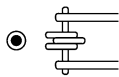
### Service Joint



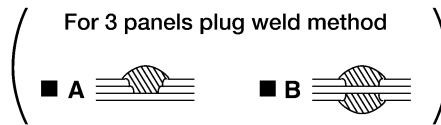
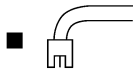
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/  
Point weld

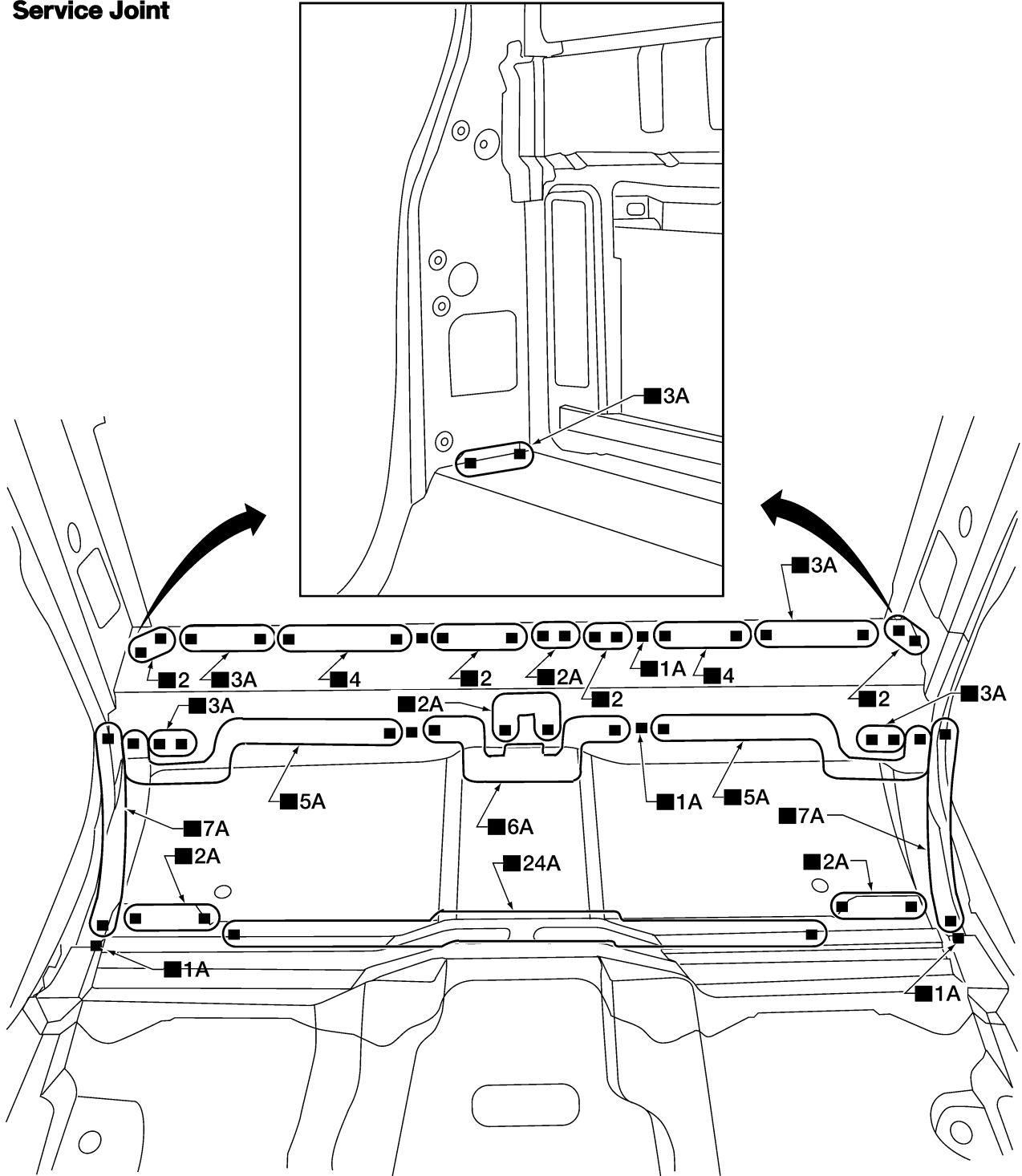


LIA2012E

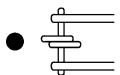
# BODY REPAIR

## REAR FLOOR REAR King Cab

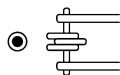
### Service Joint



2-spot welds



3-spot welds



MIG Plug weld



( For 3 panels plug weld method )



MIG seam weld/  
Point weld



LIA2013E

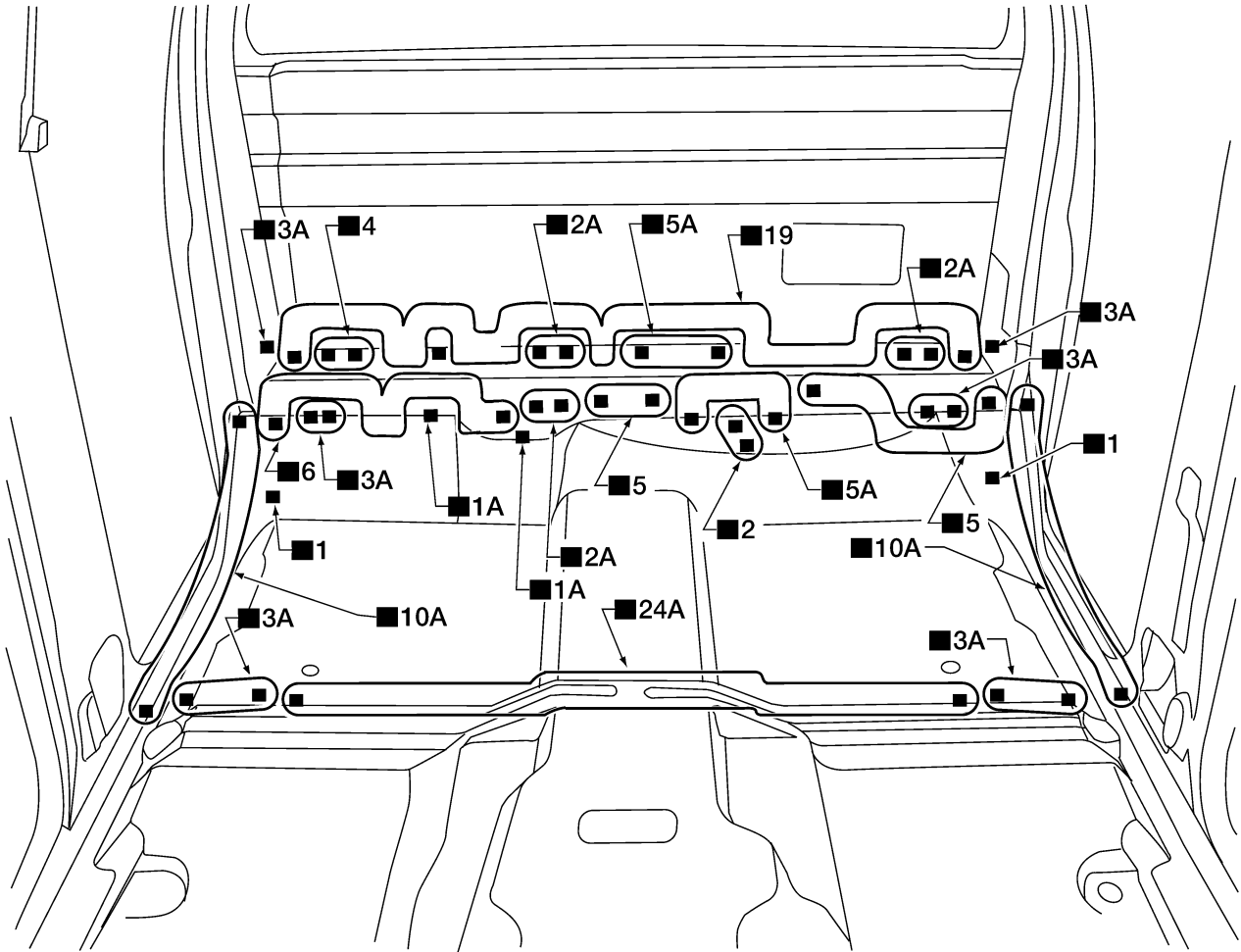


# BODY REPAIR

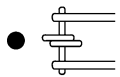
Crew Cab

## Service Joint

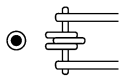
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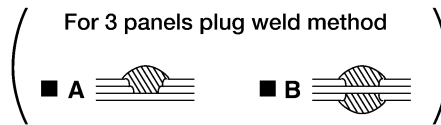
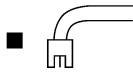
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/  
Point weld

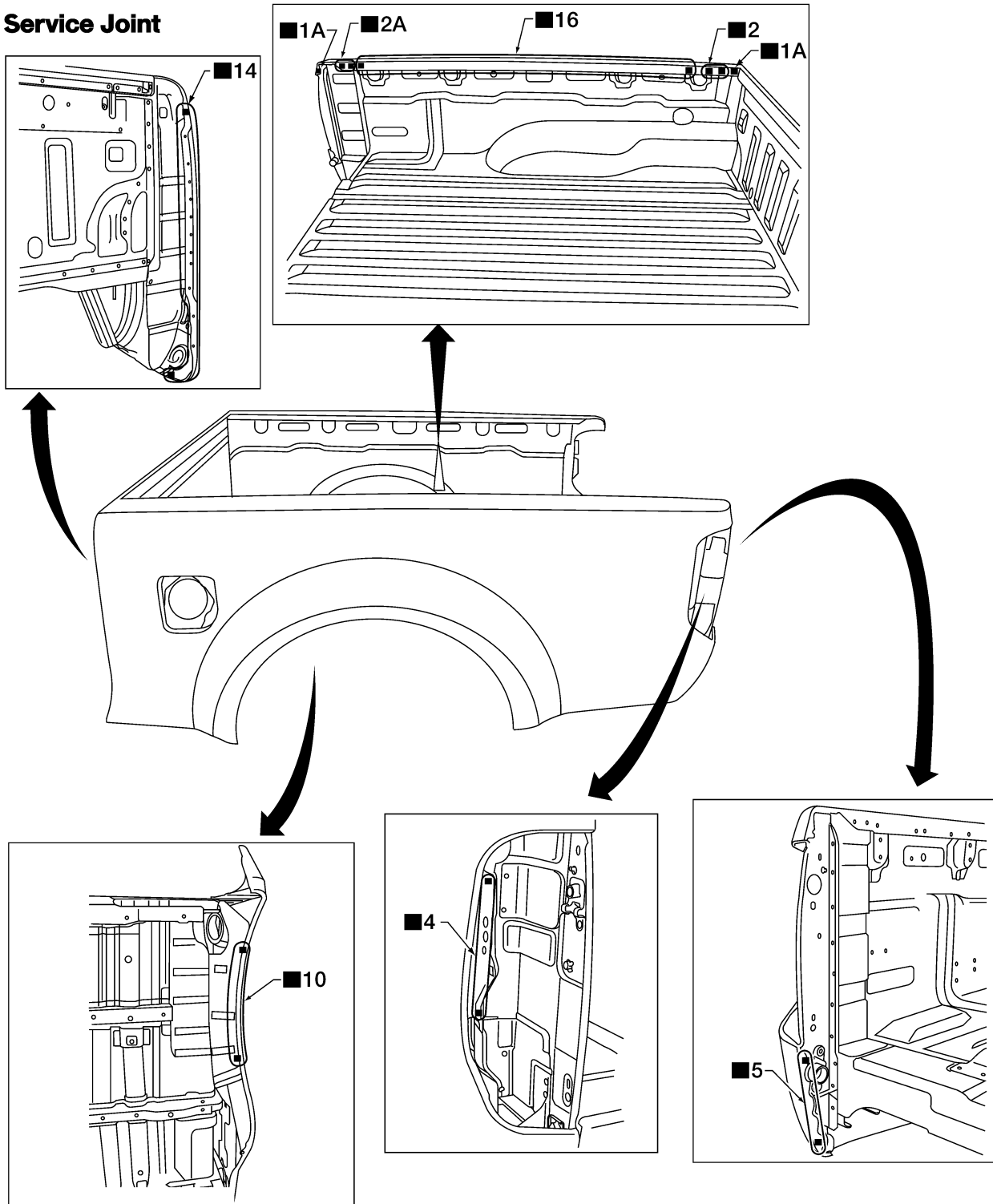


LIA2014E

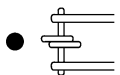
# BODY REPAIR

## PICKUP BED King Cab

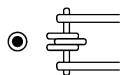
### Service Joint



2-spot welds



3-spot welds



MIG Plug weld



( For 3 panels plug weld method )



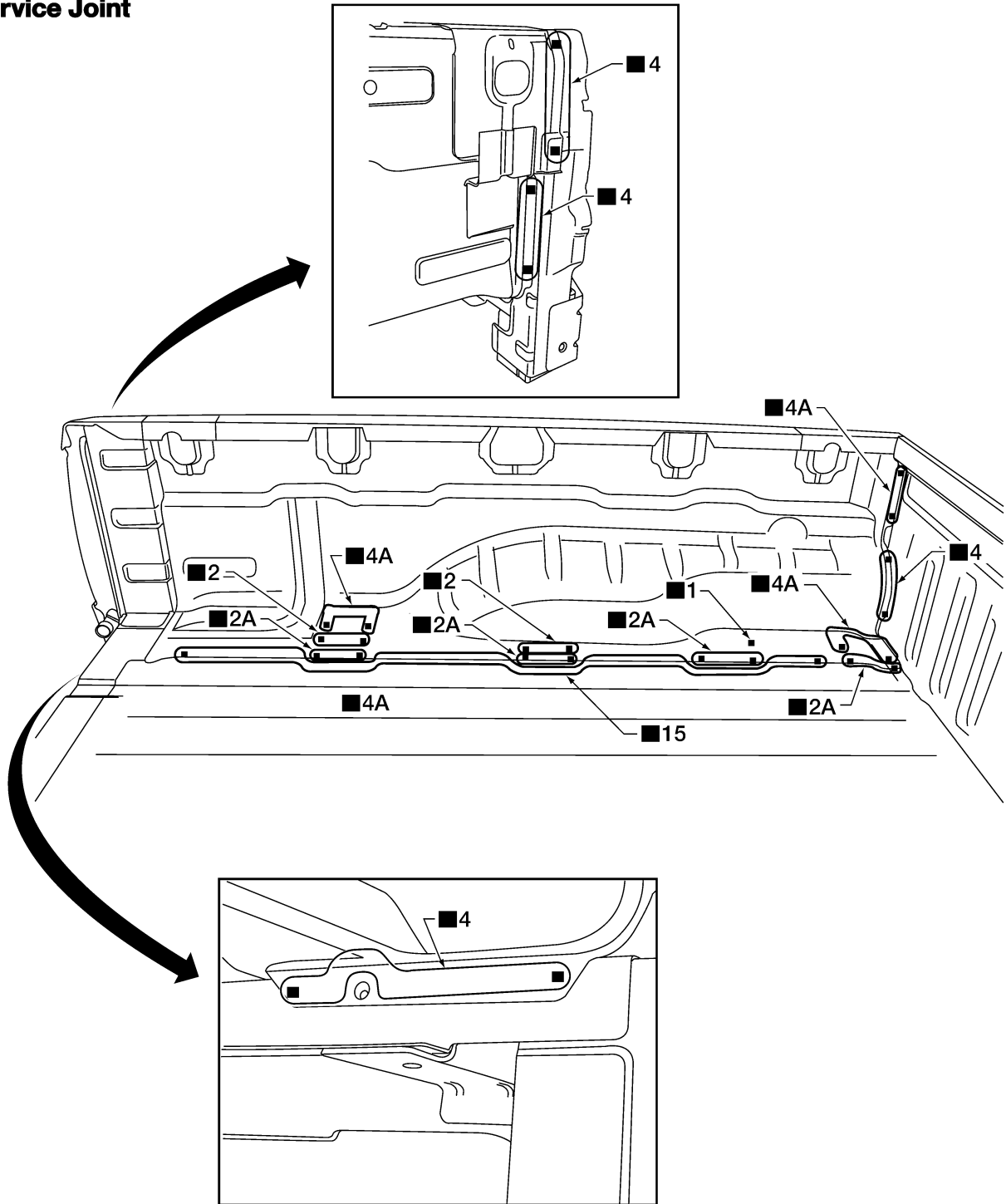
MIG seam weld/  
Point weld



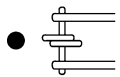
LIA2015E

# BODY REPAIR

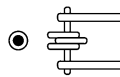
## Service Joint



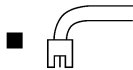
2-spot welds



3-spot welds



MIG Plug weld



For 3 panels plug weld method



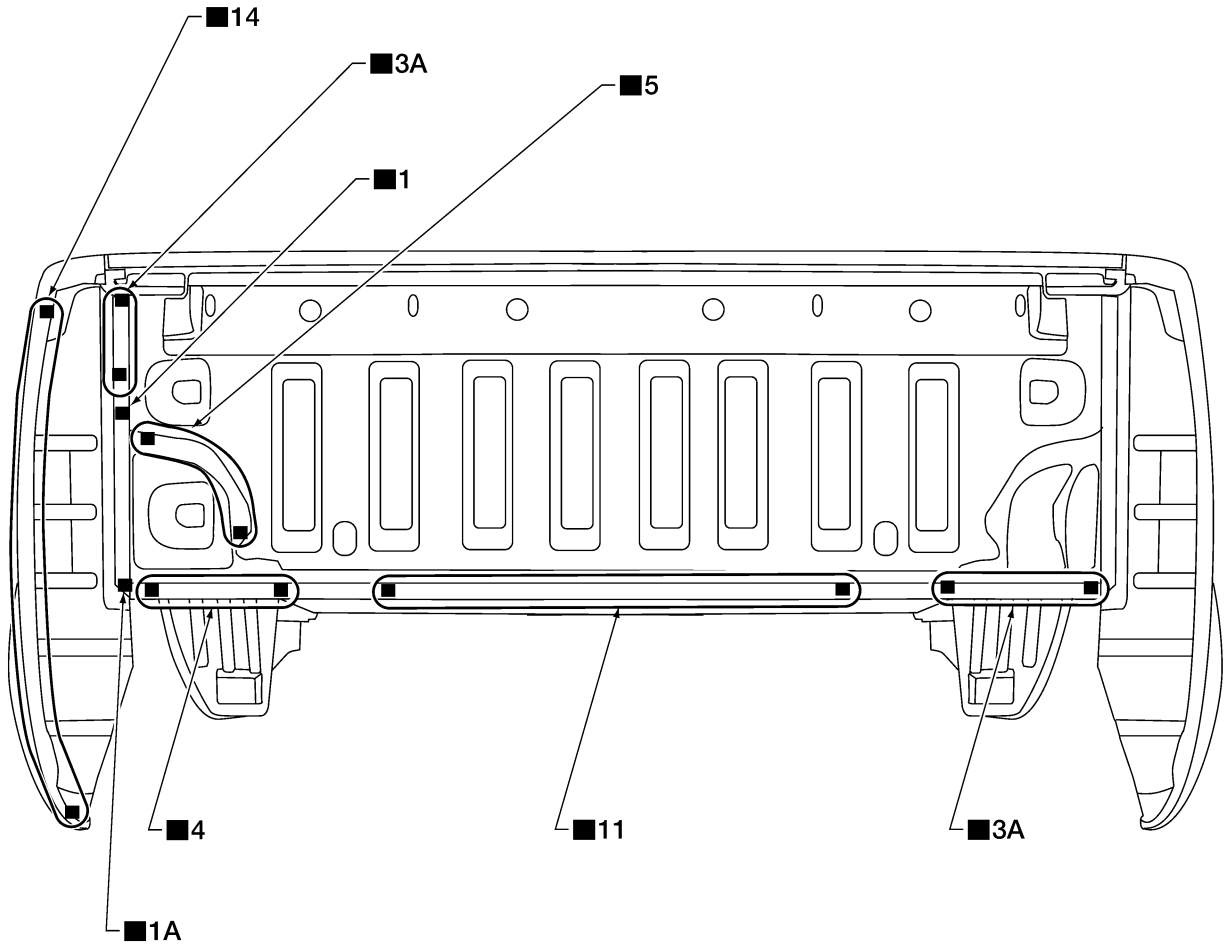
MIG seam weld/  
Point weld



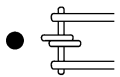
LIIA2016E

# BODY REPAIR

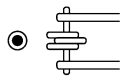
## Service Joint



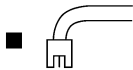
2-spot welds



3-spot welds



MIG Plug weld



For 3 panels plug weld method



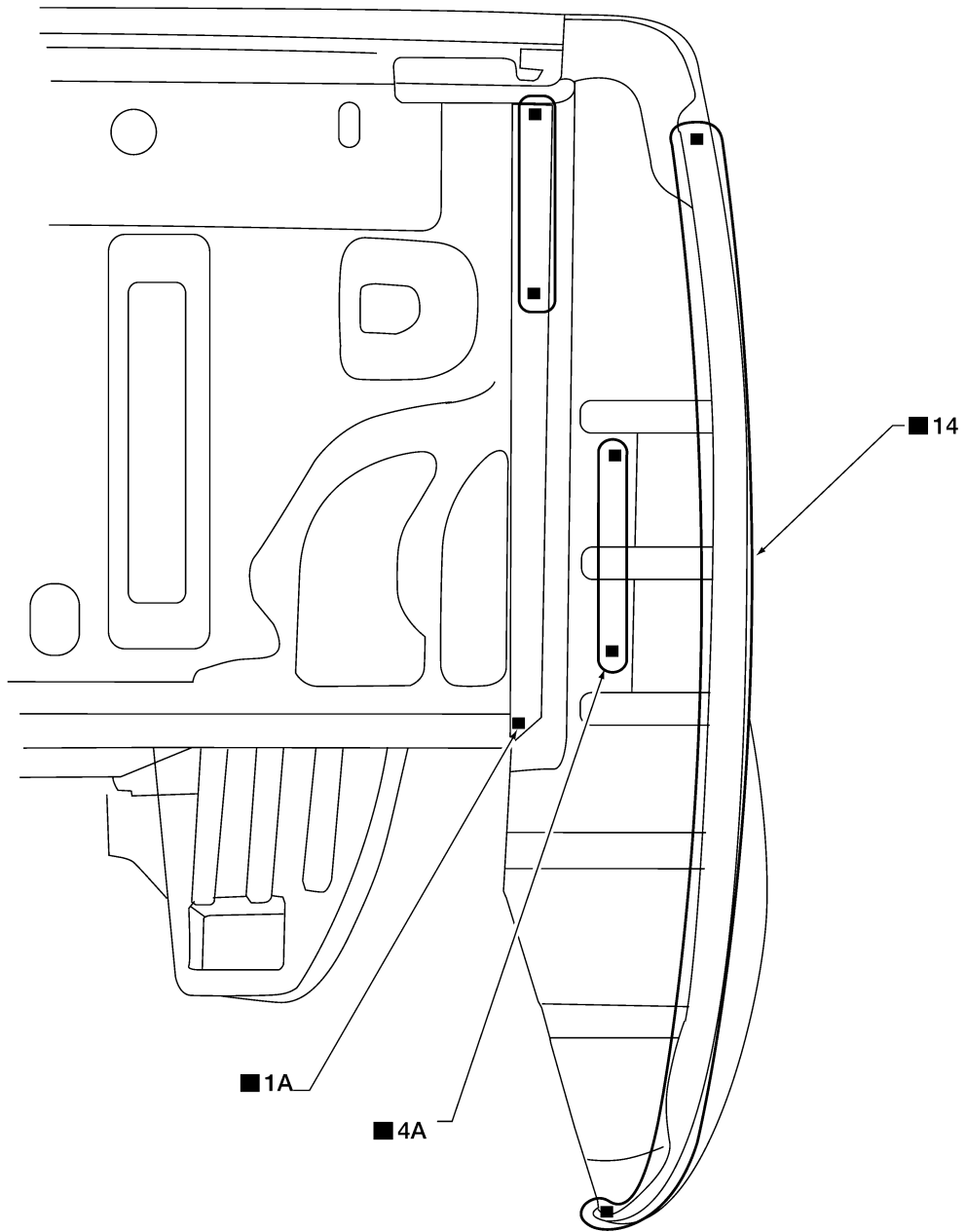
MIG seam weld/  
Point weld



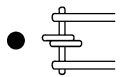
LIA2017E

# BODY REPAIR

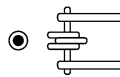
## Service Joint



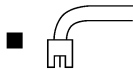
2-spot welds



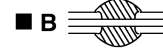
3-spot welds



MIG Plug weld



For 3 panels plug weld method



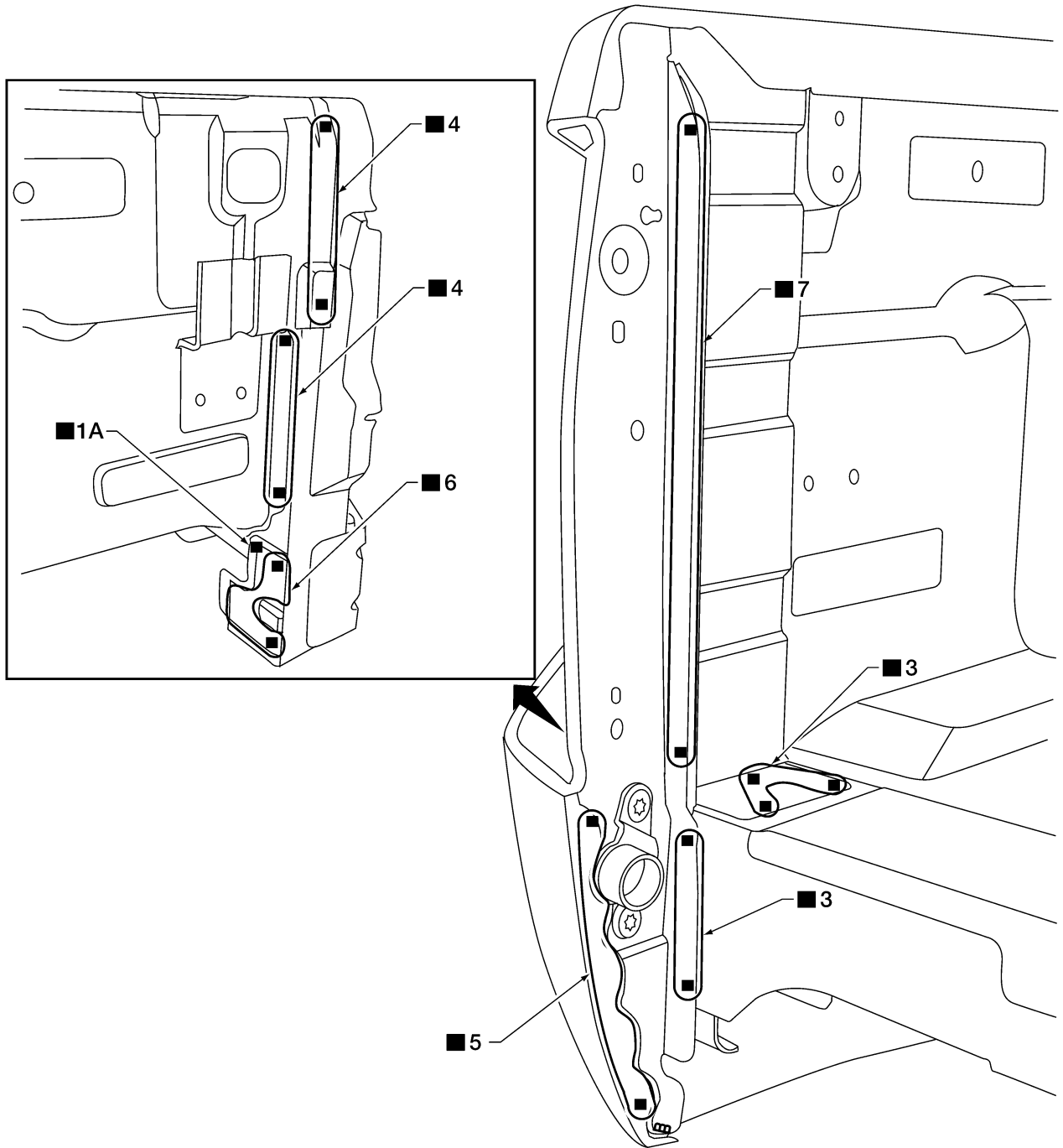
MIG seam weld/  
Point weld



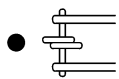
LIIA2018E

# BODY REPAIR

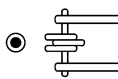
## Service Joint



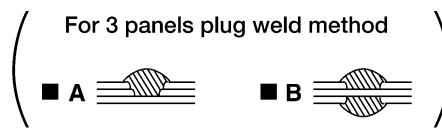
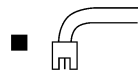
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/  
Point weld

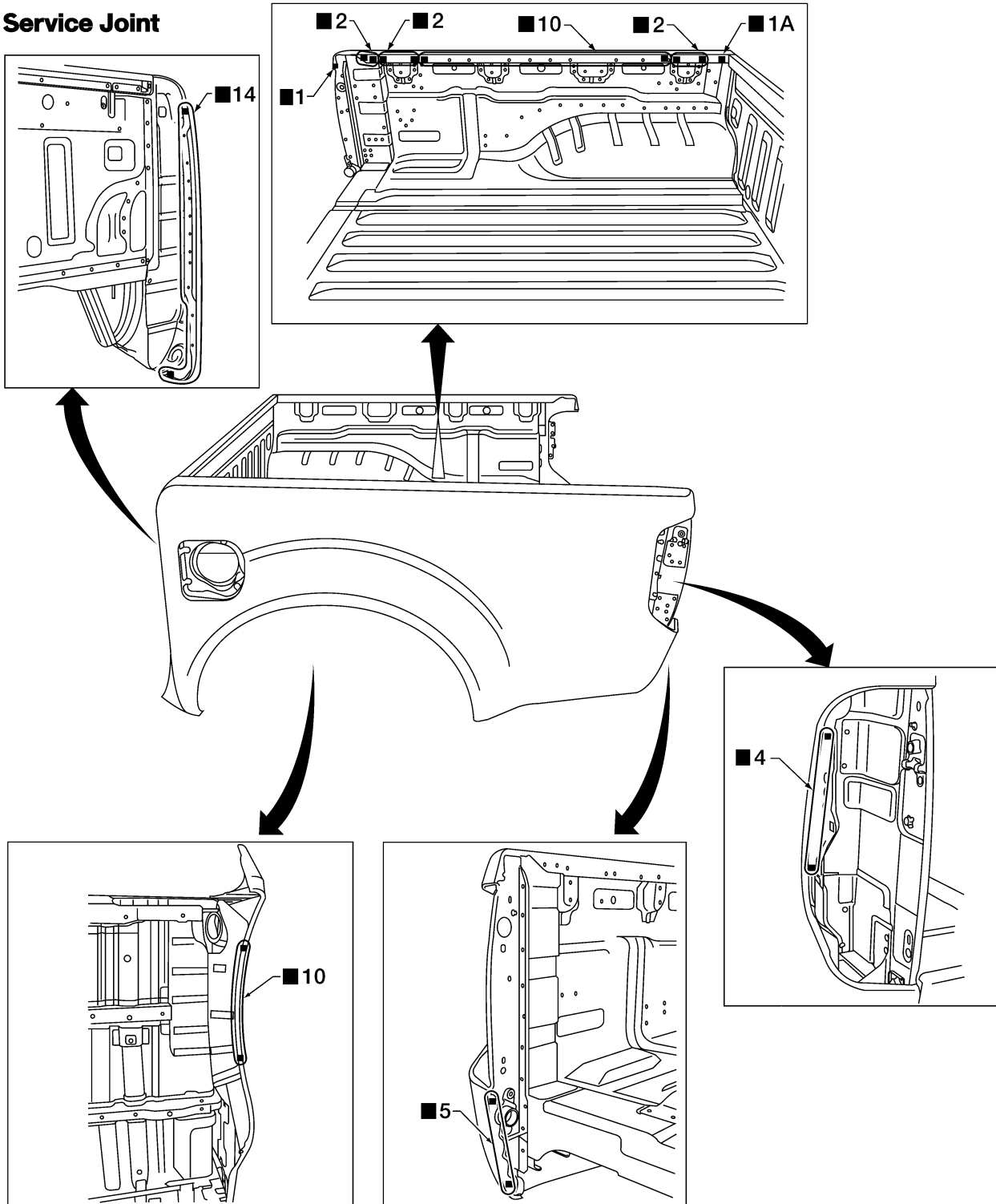


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# BODY REPAIR

## Crew Cab

### Service Joint



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2-spot welds

3-spot welds

MIG Plug weld

( For 3 panels plug weld method )

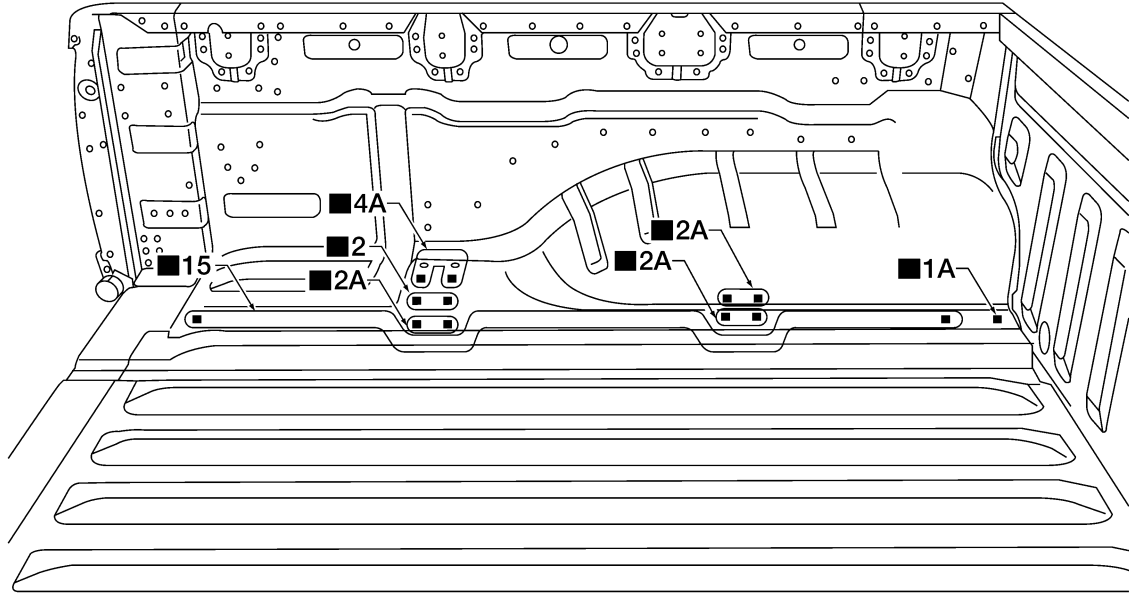
MIG seam weld/  
Point weld



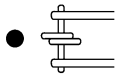
LIA2020E

# BODY REPAIR

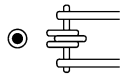
## Service Joint



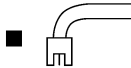
2-spot welds



3-spot welds



MIG Plug weld



For 3 panels plug weld method



MIG seam weld/  
Point weld

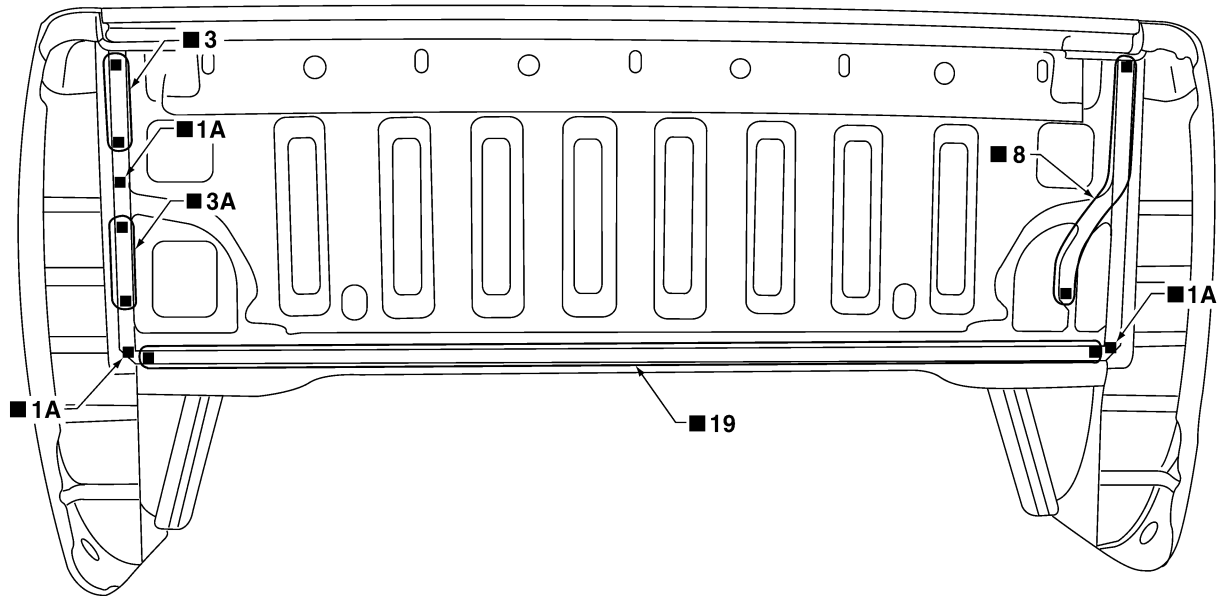


LIA2021E



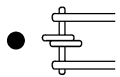
# BODY REPAIR

## Service Joint

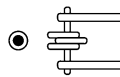


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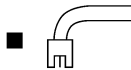
2-spot welds



3-spot welds



MIG Plug weld



For 3 panels plug weld method



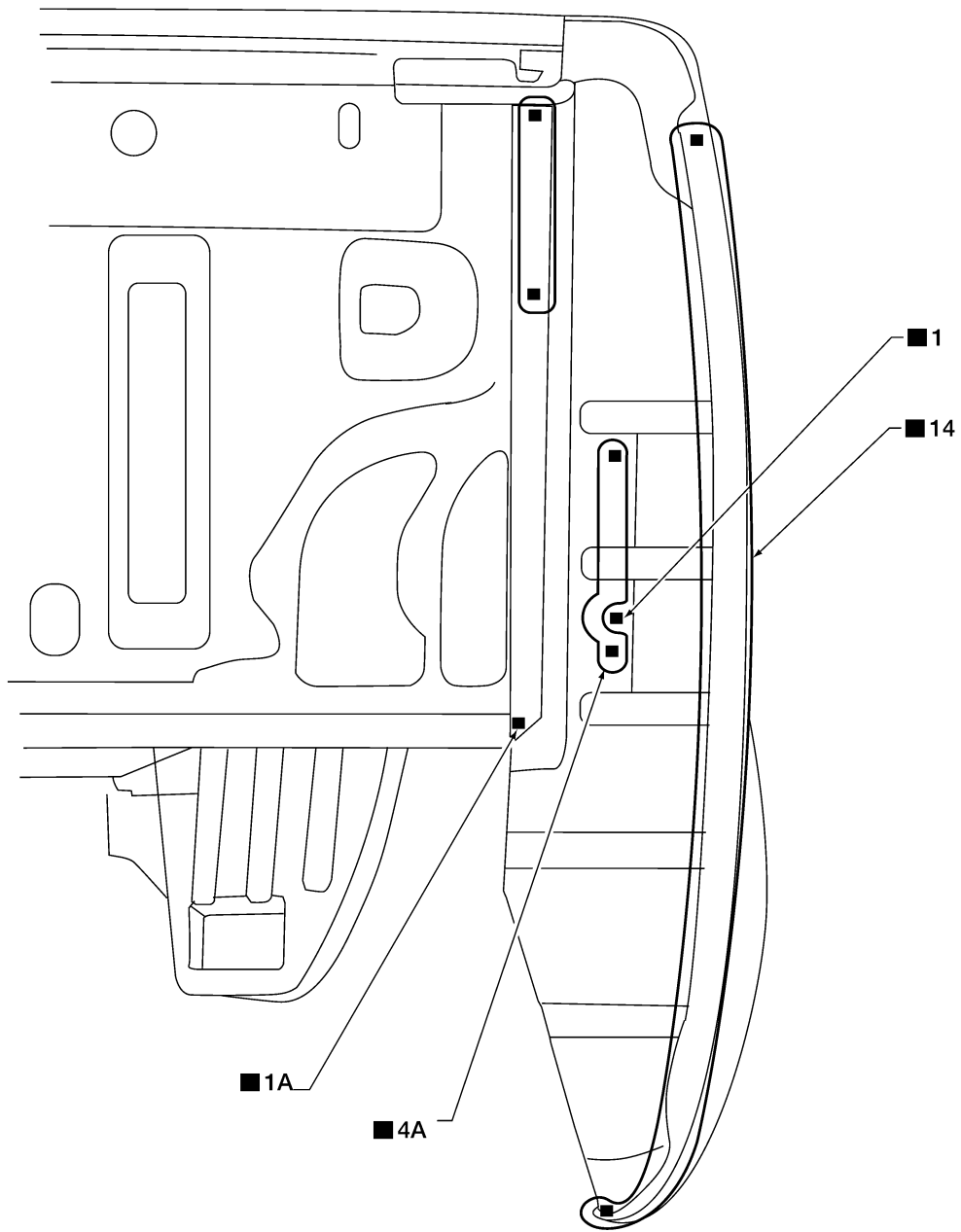
MIG seam weld/  
Point weld



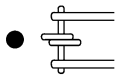
LIA2022E

# BODY REPAIR

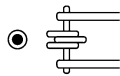
## Service Joint



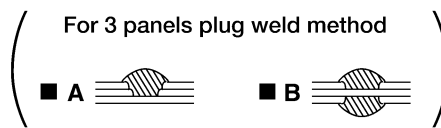
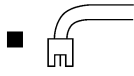
2-spot welds



3-spot welds



MIG Plug weld



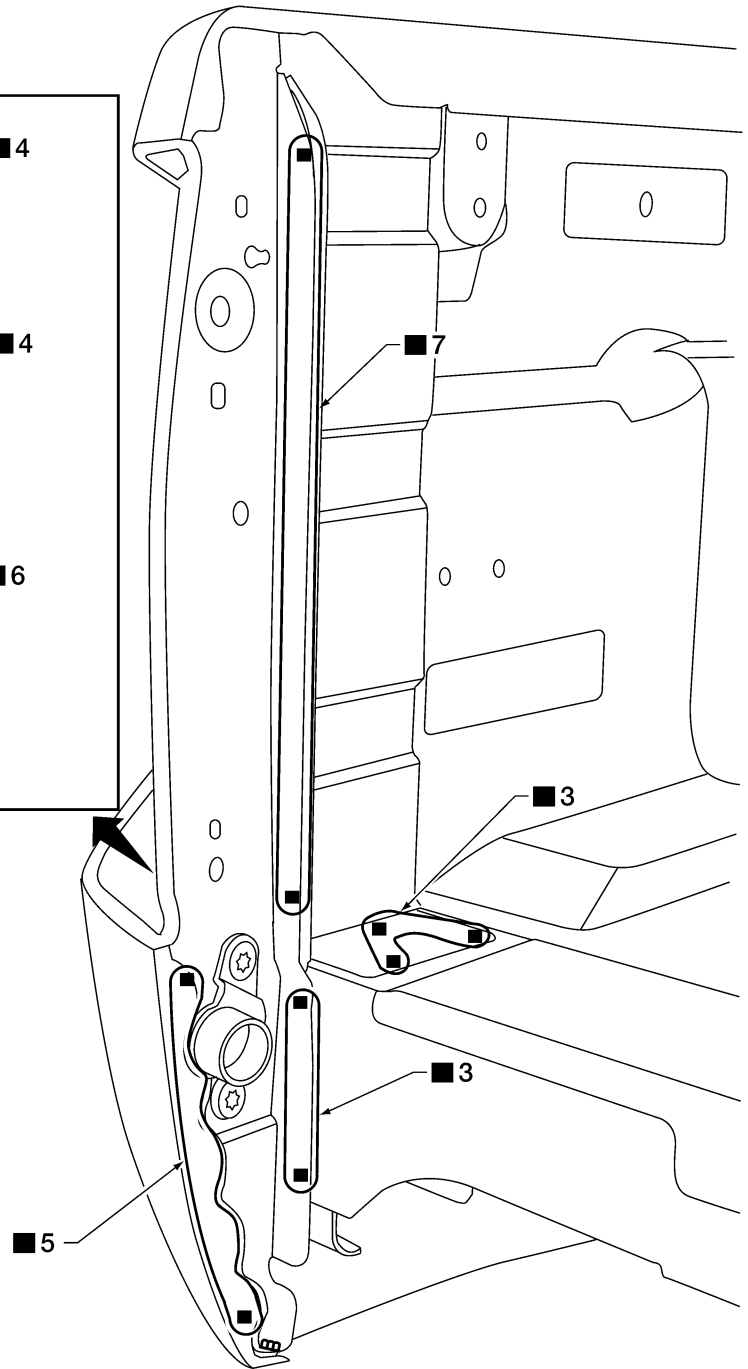
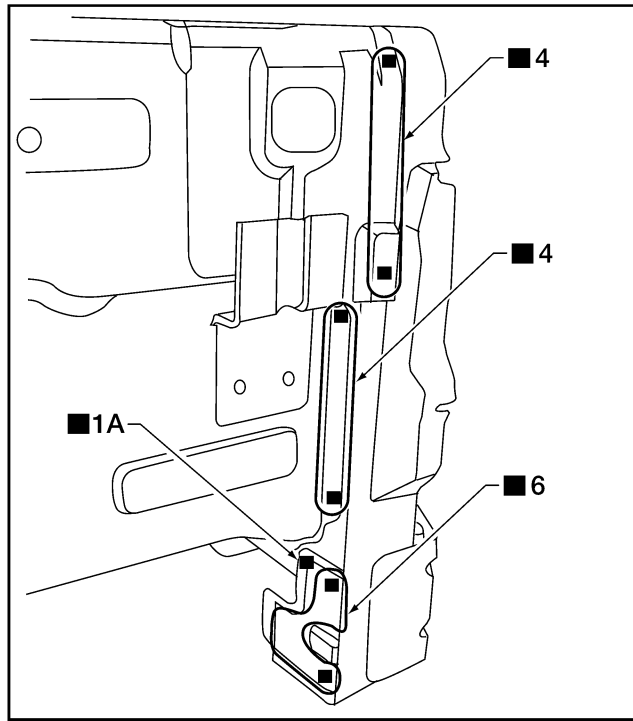
MIG seam weld/  
Point weld



WI1A1094E

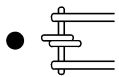
# BODY REPAIR

## Service Joint

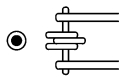


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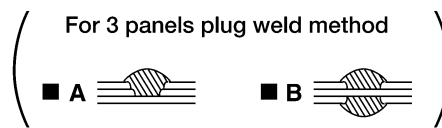
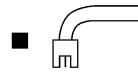
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/  
Point weld

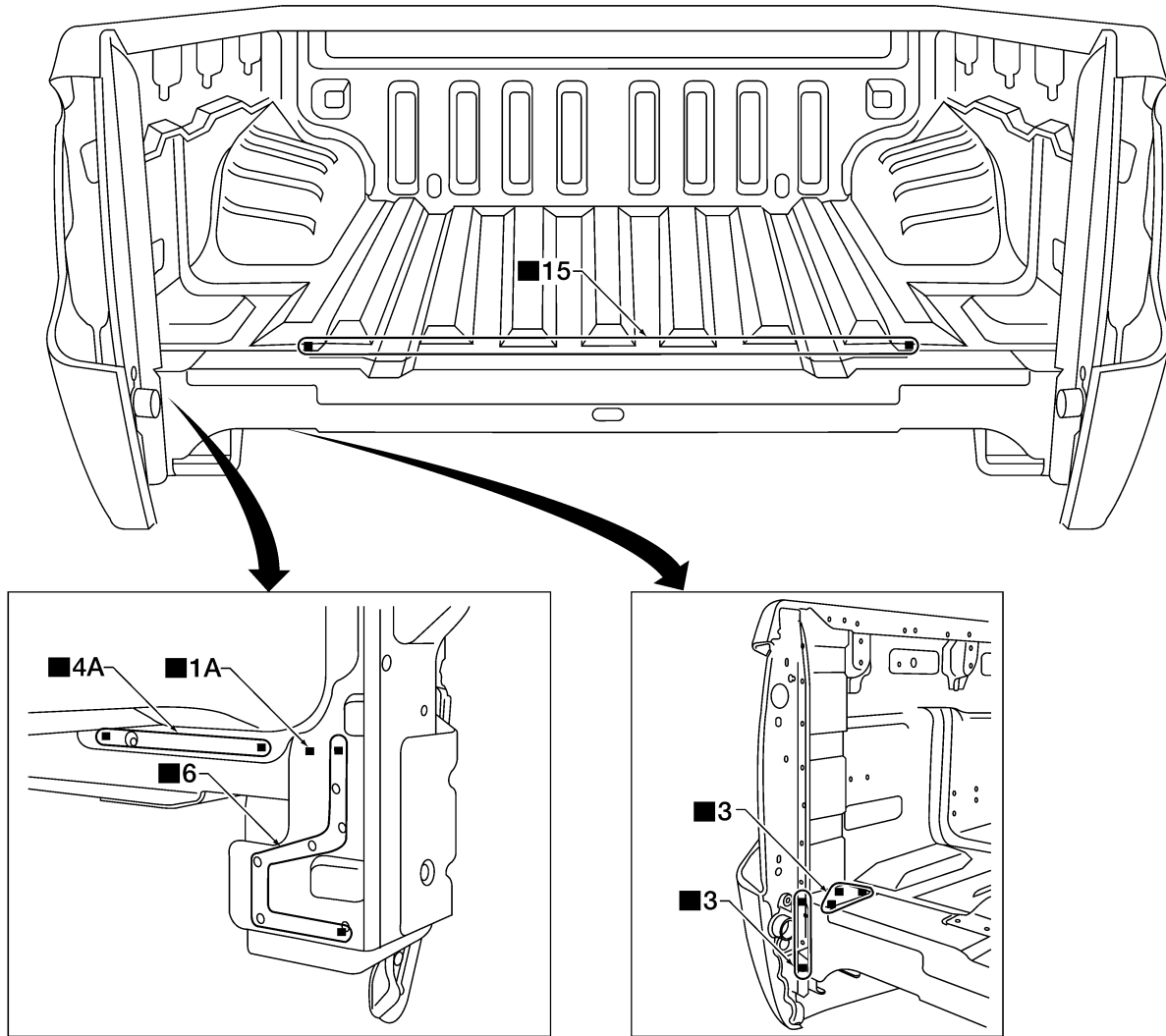


WI1A1093E

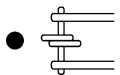
# BODY REPAIR

## Rear Crossmember

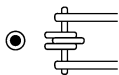
### Service Joint



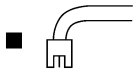
2-spot welds



3-spot welds



MIG Plug weld



For 3 panels plug weld method



MIG seam weld/  
Point weld



LIA2025E

# BODY REPAIR

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## CRUSH HORN

**CAUTION:**

When replacing a damaged crush horn on N50 model, do not choose partial replacement method, such as cutting and butt-joint welding the crush horn.

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**BL**

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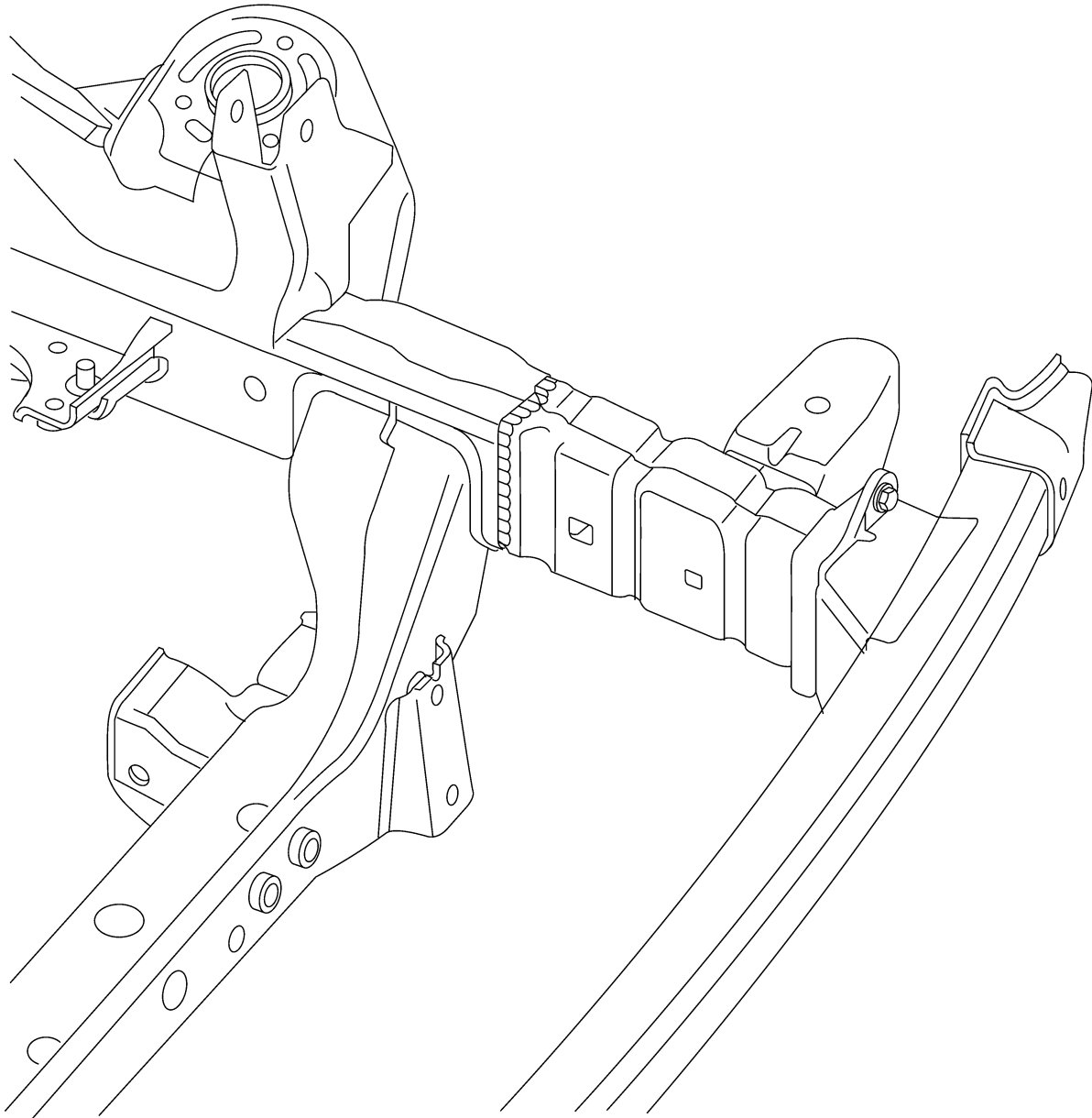
L

M

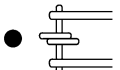
# BODY REPAIR

Be sure to replace the entire crush horn when the crush horn has damage at the back of the body mounting bracket.

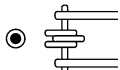
## Service Joint



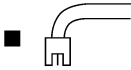
2-spot welds



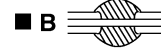
3-spot welds



MIG Plug weld



For 3 panels plug weld method



MIG seam weld/  
Point weld



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