

# 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”

AIS005G6

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

AIS005G7

- 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 Diagrams and Trouble Diagnosis

AIS005G8

When you read wiring diagrams, refer to the following:

- [GI-14, "How to Read Wiring Diagrams"](#)
- [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#)

When you perform trouble diagnosis, refer to the following:

- [GI-10, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"](#)
- [GI-26, "How to Perform Efficient Diagnosis for an Electrical Incident"](#)  
Check for any Service bulletins before servicing the vehicle.

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# PREPARATION

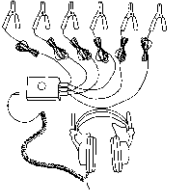
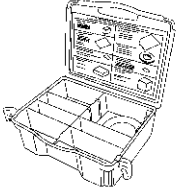
## PREPARATION

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### Special Service Tools

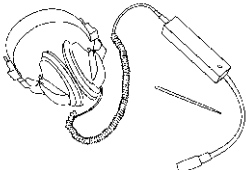
AIS005G9

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

Tool number (Kent-Moore No.) Tool name	Description
(J-39570) Chassis ear  SIIA0993E	Locating the noise
(J-43980) NISSAN Squeak and Rattle Kit  SIIA0994E	Repairing the cause of noise

### Commercial Service Tools

AIS005GA

Tool name	Description
Engine ear  SIIA0995E	Locating the noise

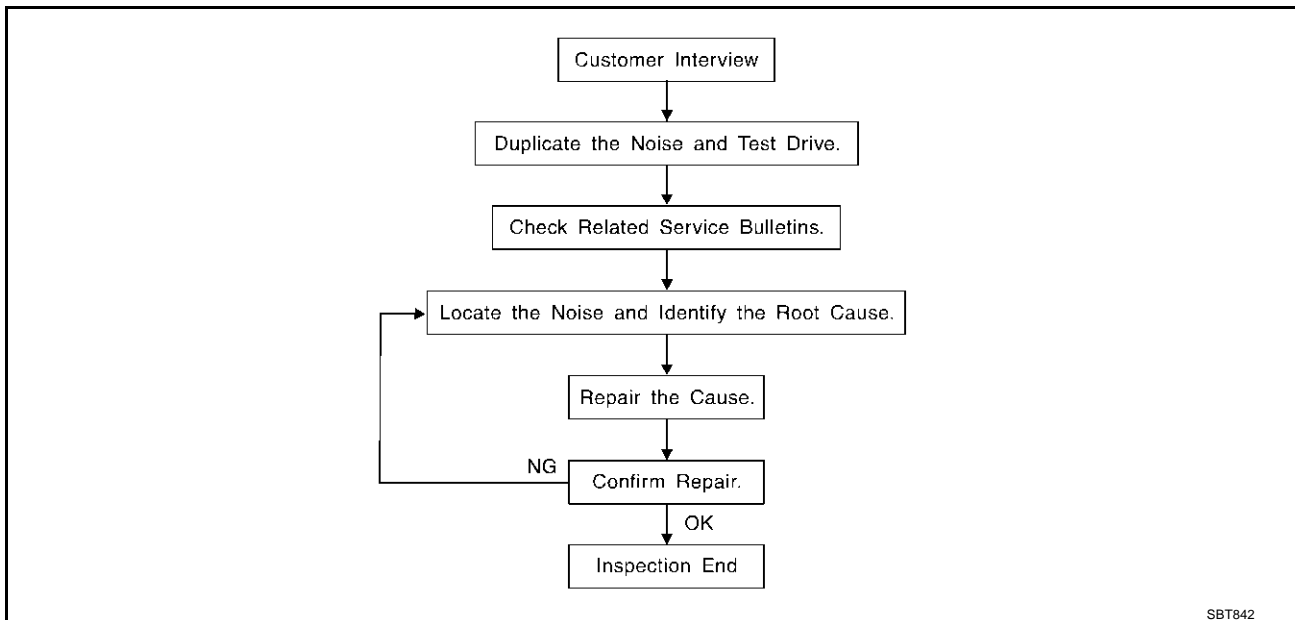
# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

## SQUEAK AND RATTLE TROUBLE DIAGNOSIS

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### Work Flow

AIS005GB



### 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-11, "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 DIAGNOSIS

## 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: J39570, Engine Ear and mechanics 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 fastener 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-9, "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 (J43980) 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 (J43980). 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)**

# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

## INSULATOR (Light foam block)

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

## FELT CLOTHTAPE

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 in place 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

AIS005GC

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 silicon 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 (J43980) to repair the noise.

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# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

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## 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 dumpers 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. Sunvisor shaft shaking in the holder
3. Front or rear windshield touching headlining and squeaking

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

## SEATS

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

Cause of seat noise include:

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

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

## UNDERHOOD

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

Causes of transmitted underhood noise include:

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

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

# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

## Diagnostic Worksheet

AIS005GD

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

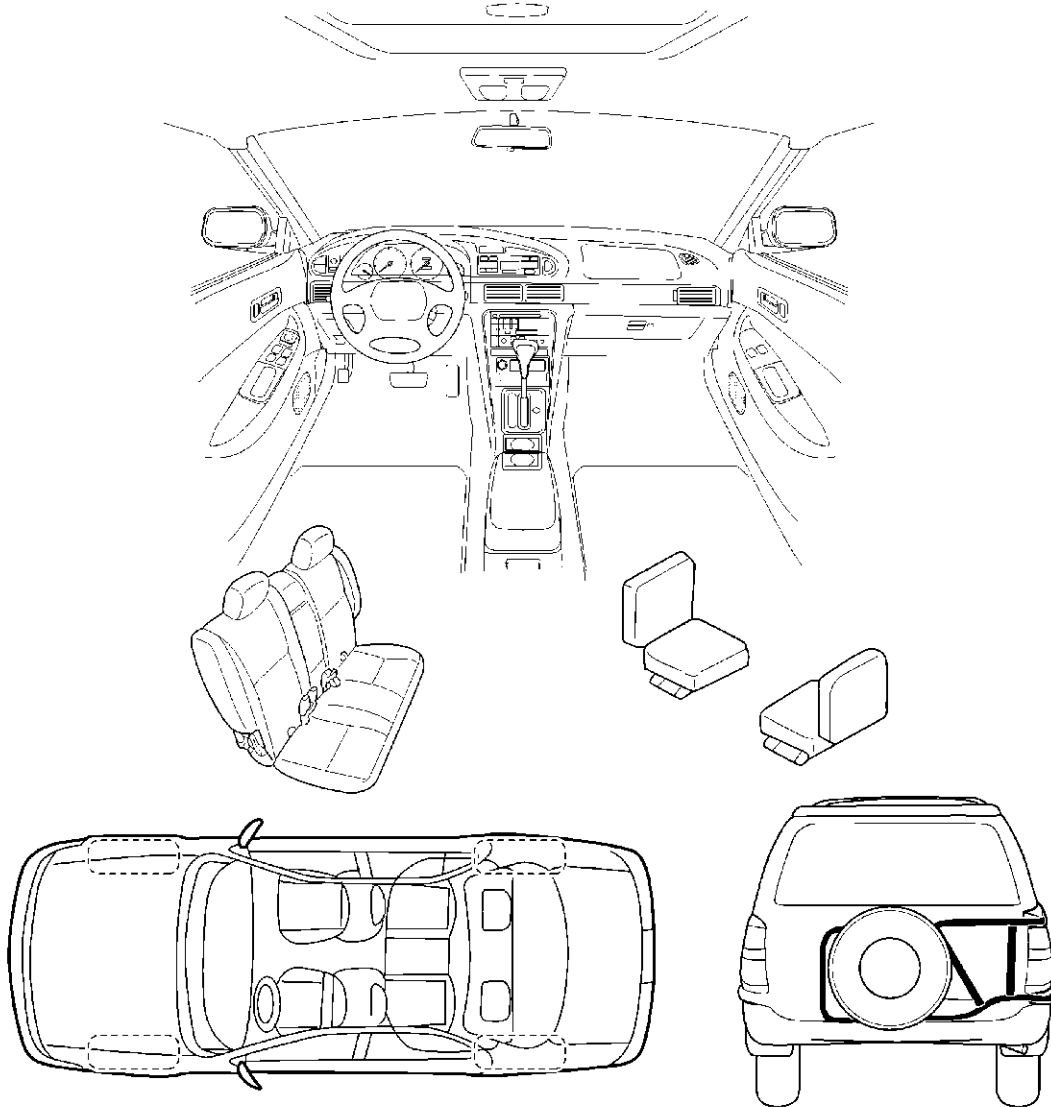
### SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

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.

PIIB0723E

# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

## SQUEAK & RATTLE DIAGNOSTIC WORKSHEET- page 2

Briefly describe the location where the noise occurs:

---

---

---

### 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:

---

---

	YES	NO	Initials of person performing
Vehicle test driven with customer	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Noise verified on test drive	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Noise source located and repaired	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Follow up test drive performed to confirm repair	<input type="checkbox"/>	<input type="checkbox"/>	_____

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

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

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

SBT844



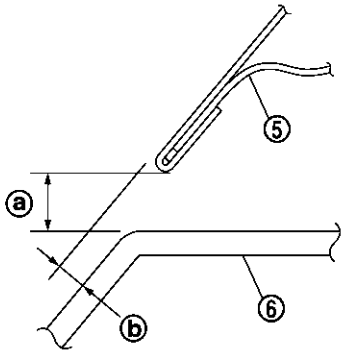
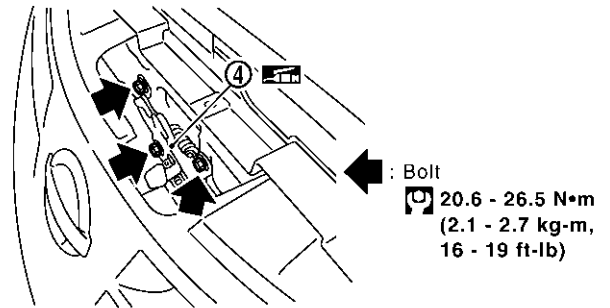
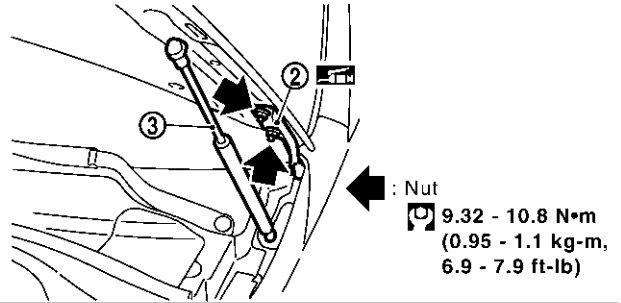
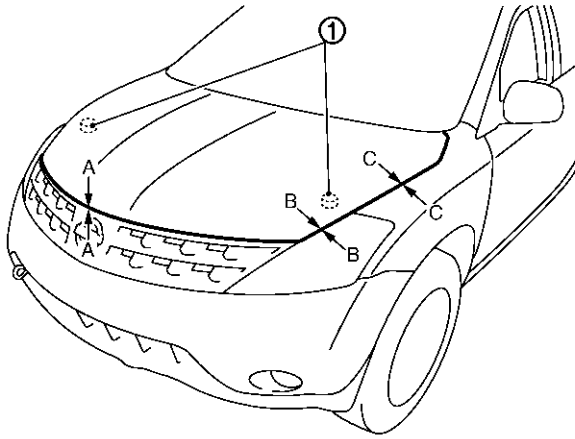
# HOOD

## HOOD

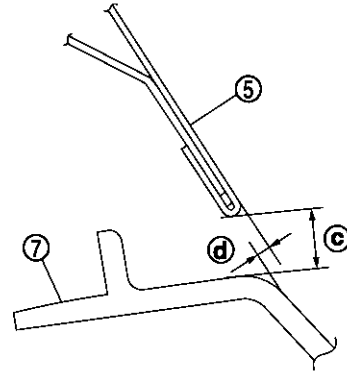
### Fitting Adjustment

PFP:F5100

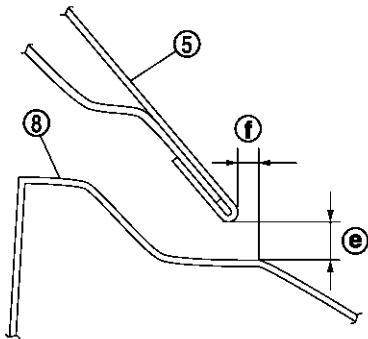
AIS005GE



A - A



B - B



C - C

Unit: mm (in)

: Apply body grease.

CLEARANCE	<b>a</b>	4.0 - 8.0 (0.157 - 0.315)
	<b>c</b>	4.0 - 8.0 (0.157 - 0.315)
	<b>e</b>	2.3 - 6.3 (0.091 - 0.248)
SURFACE HEIGHT	<b>b</b>	0.5 - 4.5 (0.020 - 0.177)
	<b>d</b>	$1 \pm 2$ (0.039 $\pm$ 0.079)
	<b>f</b>	0.9 - 3.9 (0.035 - 0.154)

PIIB1217E

# HOOD

- |                       |                  |                 |
|-----------------------|------------------|-----------------|
| 1. Bumper rubber      | 2. Hood hinge    | 3. Hood stay    |
| 4. Hood lock assembly | 5. Hood assembly | 6. Front grille |
| 7. Headlamp           | 8. Front fender  |                 |

## LONGITUDINAL AND LATERAL CLEARANCE ADJUSTMENT

1. Remove hood lock assembly, loosen the hood hinge nuts and close the hood.
2. Adjust the lateral and longitudinal clearance, and open the hood to tighten the hood hinge mounting bolts to the specified torque.
3. Install the hood lock temporarily, and align the hood striker and lock so that the centers of striker and lock become vertical viewed from the front, by moving the hood lock laterally.
4. Tighten hood lock mounting bolts to the specified torque.

### CAUTION:

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

**Hood and headlamp (B-B) : Less than 2.0 mm (0.08in)**

## FRONT END HEIGHT ADJUSTMENT

1. Remove the hood lock and adjust the height by rotating the bumper rubber until the hood becomes 1 to 1.5 mm (0.04 to 0.059 in) lower than the fender.
2. Temporarily tighten the hood lock, and position it by engaging it with the hood striker. Check the lock and striker for looseness, and tighten the hood lock mounting bolts to the specified torque.

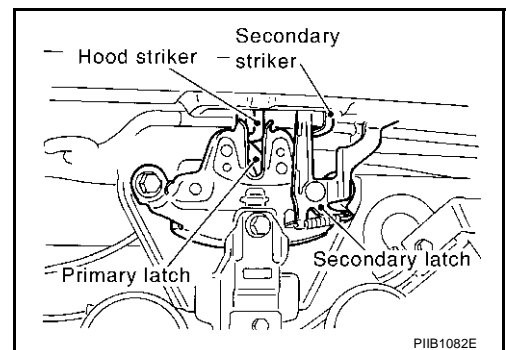
## SURFACE HEIGHT ADJUSTMENT

1. Remove hood lock, and adjust the surface height difference of hood, fender and headlamp according to the fitting standard dimension, by rotating RH and LH bumper rubbers.
2. Install hood lock temporarily, and move hood lock laterally until the centers of striker and lock become vertical when viewed from the front.
3. Make sure that the hood lock secondary latch is properly engaged with the secondary striker with hood's own weight.
4. Make sure that the hood lock primary latch is securely engaged with the hood striker with hood's own weight by dropping hood from approx. 200 mm (7.87in) height.

### CAUTION:

**Do not drop hood from a height of 300 mm (11.81 in) or more.**

5. Move hood lock up and down until striker smoothly engages the lock when the hood is closed.
6. When pulling the hood opener lever gently, make sure that front end of the hood rises by approximately 20 mm (0.79 in) and that hood striker and hood lock primary latch is disengaged. Also make sure that hood opener returns to the original position.
7. After adjustment, tighten lock bolts to the specified torque.

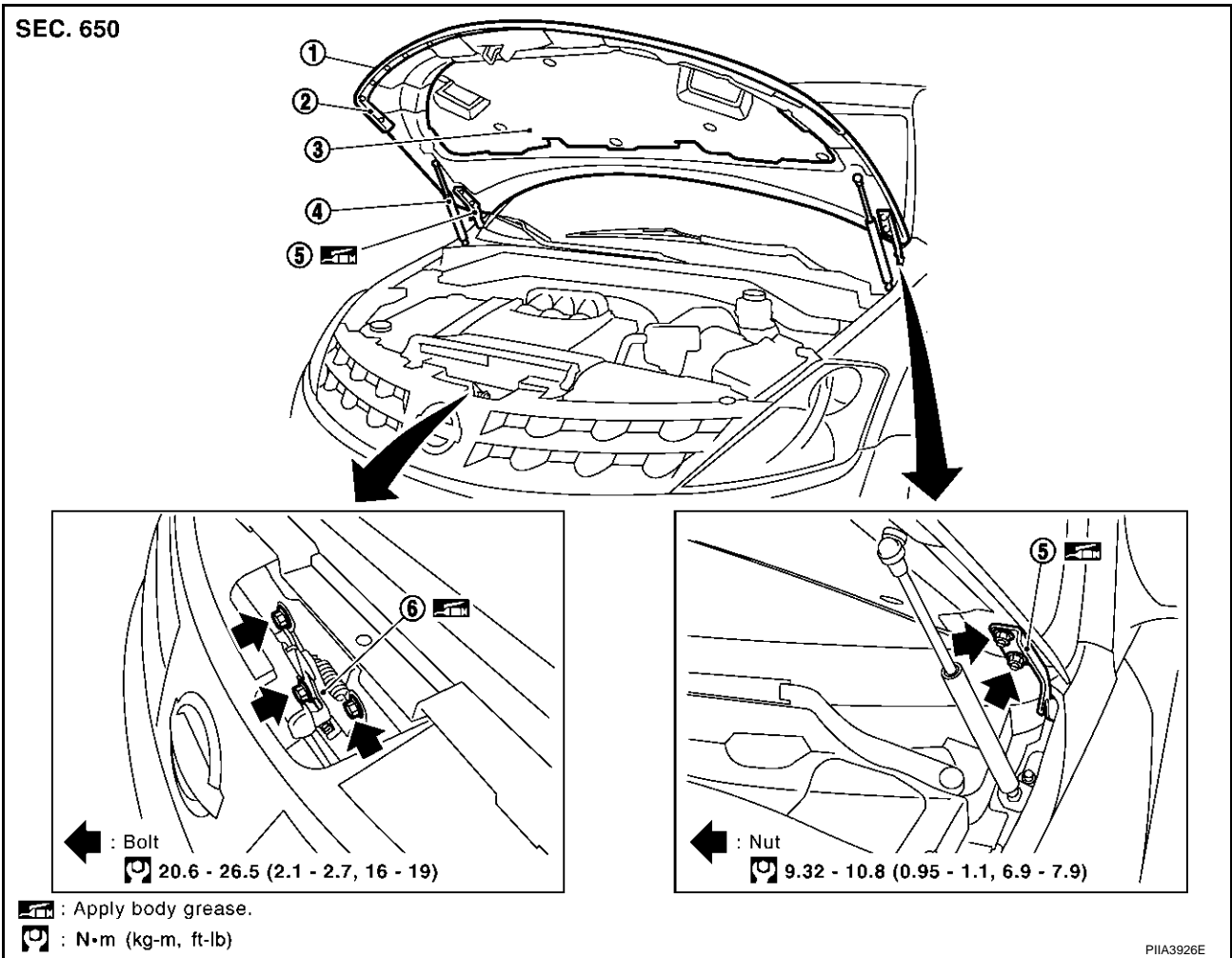


# HOOD

## Removal and Installation of Hood Assembly

AIS005GF

A  
B  
C  
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E  
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H  
BL  
J  
K  
L  
M

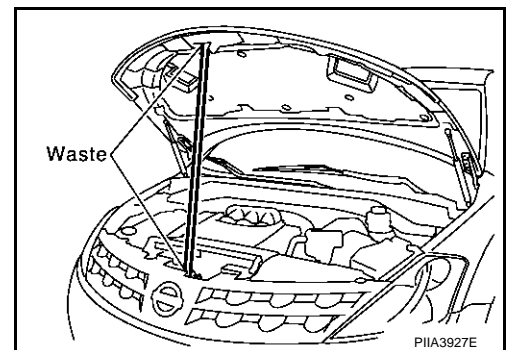


### REMOVAL

1. Support the hood striker with a proper material to prevent it from falling.

#### **WARNING:**

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



2. Remove the hood stays from the stud balls on the body side.
3. Remove the hinge mounting nuts on the hood to remove the hood assembly.

#### **CAUTION:**

Operate with two workers, because of its heavy weight.

### INSTALLATION

Install in the reverse order of removal.

#### **CAUTION:**

- Before installing hood hinge, apply anticorrosive agent onto the mounting surface of the vehicle body.

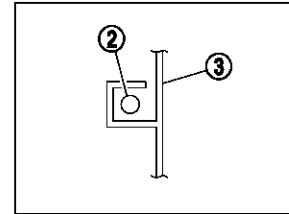
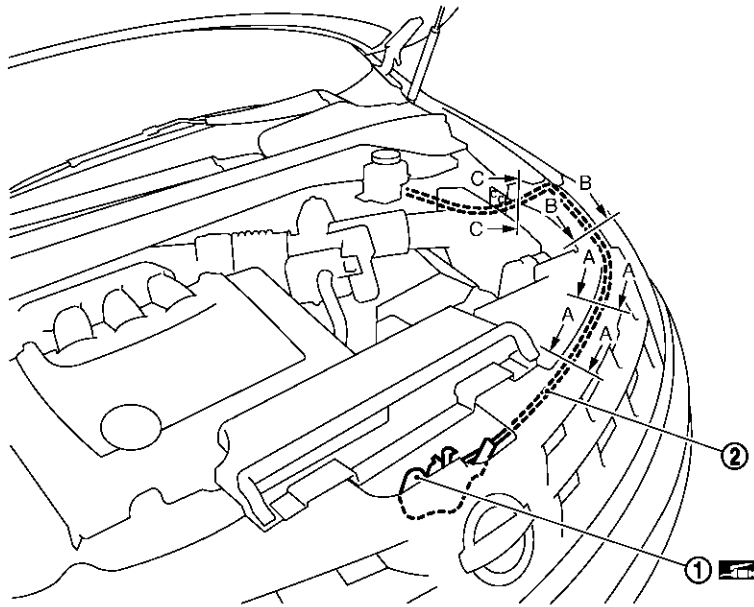
# HOOD

- After installing, perform hood fitting adjustment. Refer to [BL-13, "Fitting Adjustment"](#).

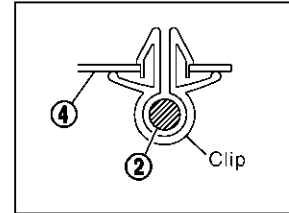
## Removal and Installation of Hood Lock Control

AIS005GG

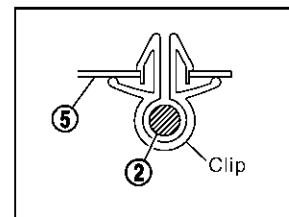
SEC. 656




A-A



B-B



C-C

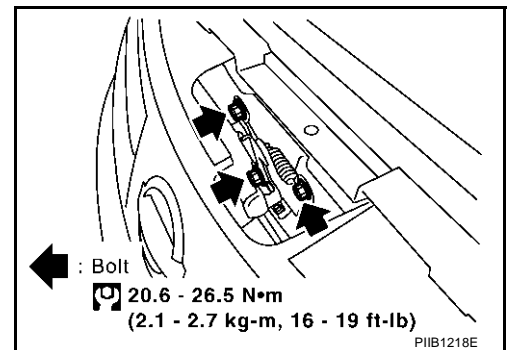
 : Apply body grease.

PIIA4011E

- |                               |                     |                               |
|-------------------------------|---------------------|-------------------------------|
| 1. Hood lock assembly         | 2. Hood lock cable  | 3. Radiator core support side |
| 4. Hood ledge reinforce upper | 5. hood ledge upper |                               |

### REMOVAL

- Remove the front grill. Refer to [EI-20, "Removal and Installation"](#).
- Remove the front fender protector (LH). Refer to [EI-22, "Removal and Installation"](#).
- Remove the hood lock assembly.



PIIB1218E

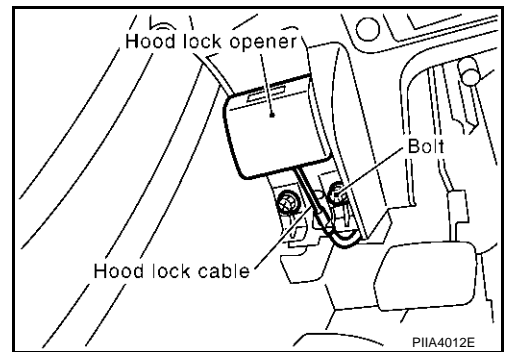
- Disconnect the hood lock cable from the hood lock, and clip it from the radiator core support upper and hood ledge.

# HOOD

5. Remove the hood lock opener mounting bolts, and remove the hood lock opener.
6. Remove the grommet on the dashboard, and pull the hood lock cable toward the passenger room.

**CAUTION:**

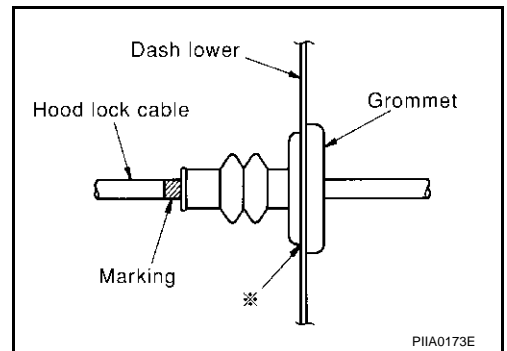
**While pulling, be careful not to damage (peeling) the outside of the hood lock cable.**



A  
B  
C  
D  
E

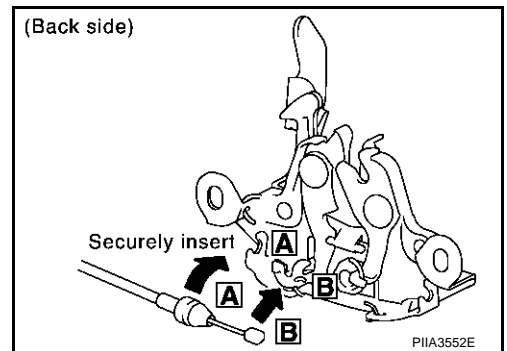
## INSTALLATION

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



F  
G  
H

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



BL  
J  
K  
L  
M

# HOOD

## Hood Lock Control Inspection

AIS005GH

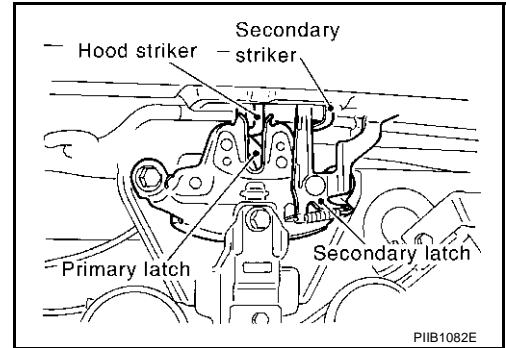
### CAUTION:

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

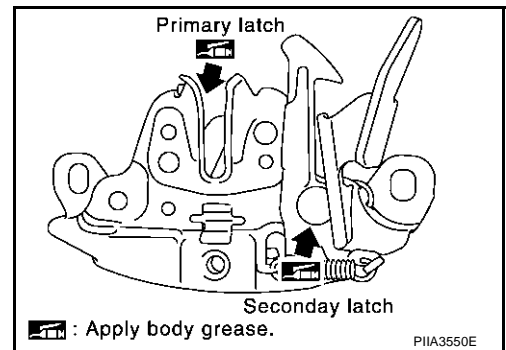
1. Make sure that the hood lock secondary latch is properly engaged with the secondary striker with hood's own weight.
2. Make sure that the hood lock primary latch is securely engaged with the hood striker with hood's own weight by dropping it from approx. 200 mm (7.87 in) height.

### CAUTION:

Do not drop hood from a height of 300 mm (11.81in) or more.



3. When pulling hood opener lever gently, make sure that front end of the hood rises by approximately 20 mm (0.79 in) and that hood striker and hood lock primary latch are disengaged. Also make sure that hood opener returns to the original position.
4. Confirm hood lock is properly lubricated. If necessary, apply grease at the point shown in the figure.



# RADIATOR CORE SUPPORT

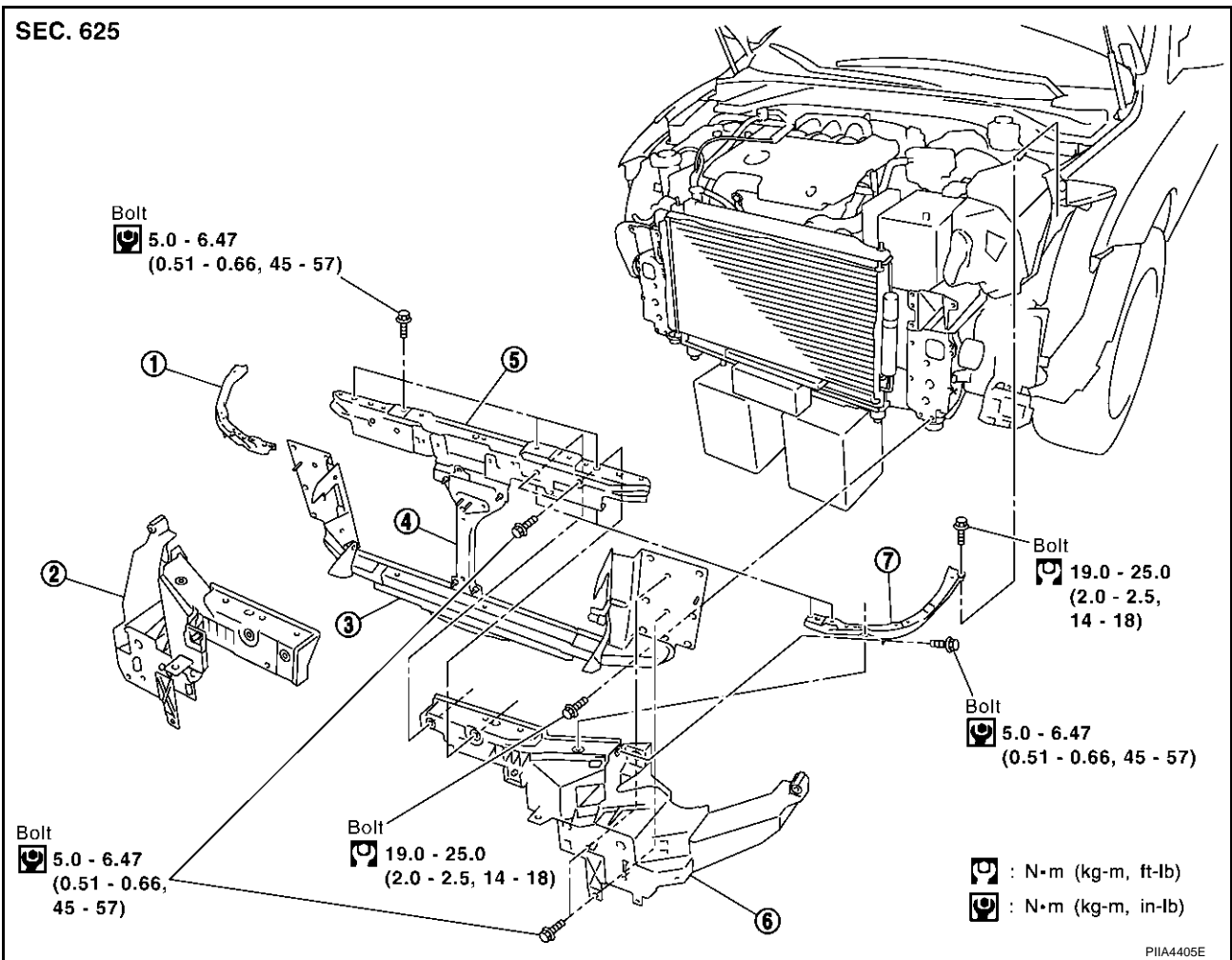
PFP:62500

## RADIATOR CORE SUPPORT

### Removal and Installation

AIS005GI

SEC. 625



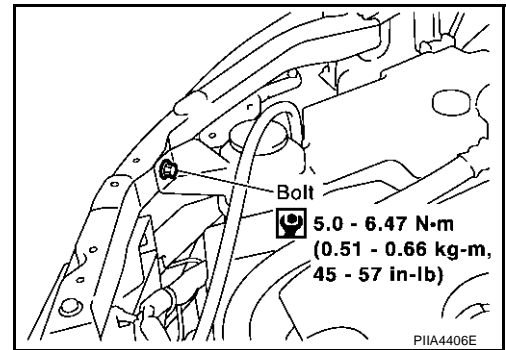
1. Radiator core support upper side (RH)
2. Radiator core support side (RH)
3. Radiator core support lower
4. Radiator core support center
5. Radiator core support upper center
6. Radiator core support side (LH)
7. Radiator core support upper side (LH)

### REMOVAL

1. Remove radiator cover grill. Refer to [EM-14, "AIR CLEANER AND AIR DUCT"](#)
2. Remove air duct. Refer to [EM-14, "AIR CLEANER AND AIR DUCT"](#)
3. Remove front bumper, bumper reinforcement and bumper stay. Refer to [EI-14, "Removal and Installation"](#)
4. Remove hood lock assembly, remove hood lock cable. Refer to [BL-15, "Removal and Installation of Hood Assembly"](#).
5. Remove headlamp (LH/RH). Refer to [LT-55, "Removal and Installation"](#) or [LT-101, "Removal and Installation"](#).
6. Remove crash zone sensor. Refer to [SRS-46, "Removal and Installation"](#).
7. Remove the hood switch Refer to [BL-142, "Component Parts and Harness Connector Location"](#).
8. Remove the undercover.
9. Remove the ambient sensor. Refer to [ATC-128, "Removal and Installation"](#).

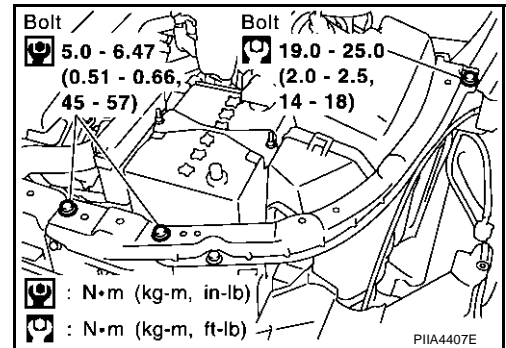
# RADIATOR CORE SUPPORT

10. Remove mounting bolt washer tank.



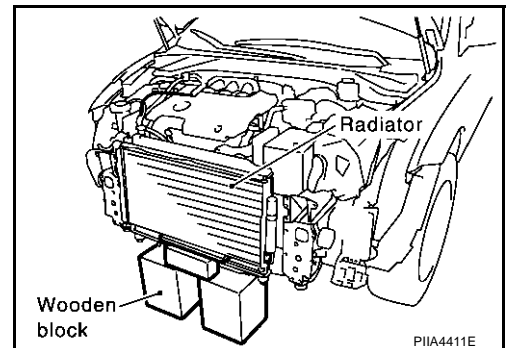
11. Remove mounting harness clip on radiator core support assembly, the harness is separate.

12. Remove the radiator core support upper side.



## CAUTION:

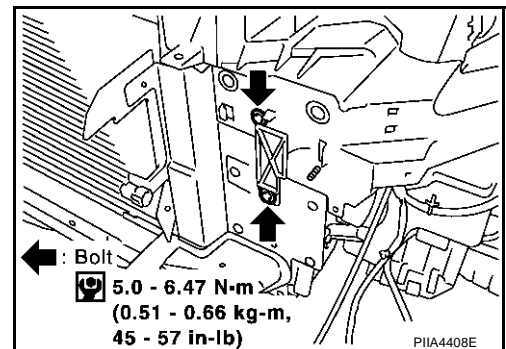
Put a wooden block under the radiator assembly to prevent the radiator assembly from falling.



13. Remove the radiator core support center.

14. Remove the radiator core support upper center.

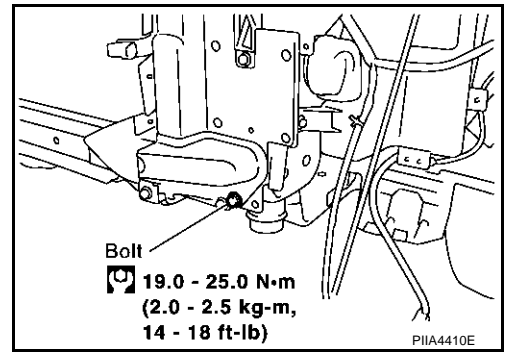
15. Remove the radiator core support side.





# RADIATOR CORE SUPPORT

16. Remove radiator core support assembly.
17. After removing radiator core support assembly, the following parts are separate.
  - Radiator core support lower



## INSTALLATION

Install in the reverse order of removal.

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

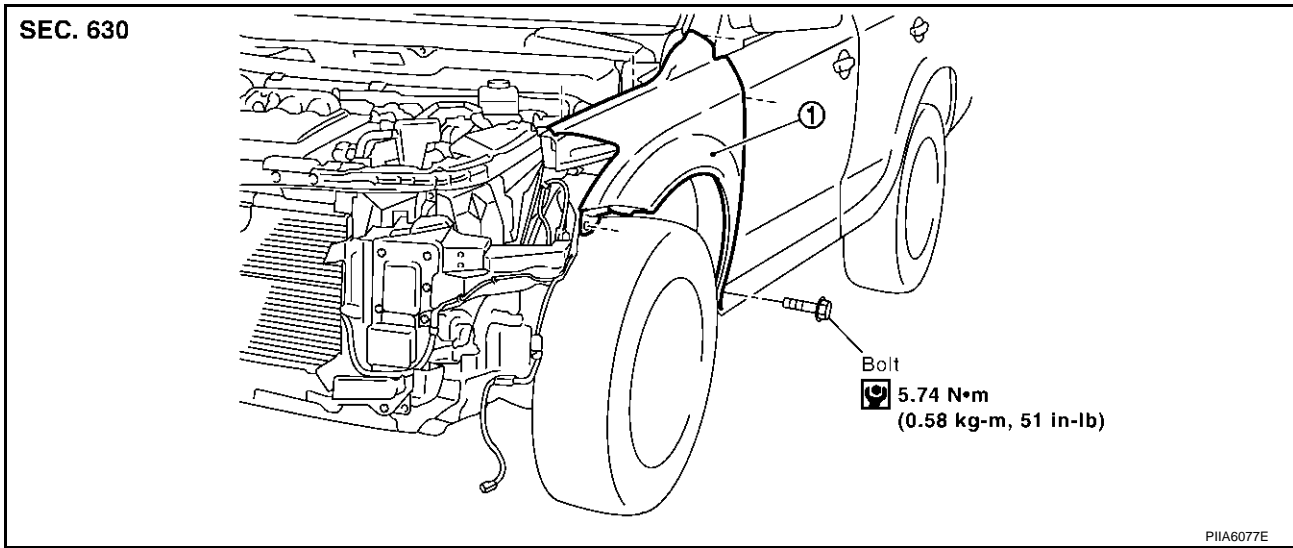
# FRONT FENDER

## FRONT FENDER

PF6:63100

### Removal and Installation

AIS003C3



1. Front fender

### REMOVAL

1. Remove the front bumper. Refer to [EI-14, "Removal and Installation"](#).
2. Remove the headlamp. Refer to [LT-55, "Removal and Installation"](#) or [LT-101, "Removal and Installation"](#).
3. Remove the front fender protector. Refer to [EI-22, "Removal and Installation"](#).
4. Remove the mounting bolt and remove the front fender.

### CAUTION:

While removing use a shop cloth to protect body from damaging.

### INSTALLATION

Install in the reverse order of removal.

### CAUTION:

- After installing, apply touch-up paint (the body color) onto the head of the front fender mounting bolts.
- After installing, check front fender adjustment. Refer to [BL-125, "Fitting Adjustment"](#) and [BL-13, "Fitting Adjustment"](#).

# POWER DOOR LOCK SYSTEM

## POWER DOOR LOCK SYSTEM

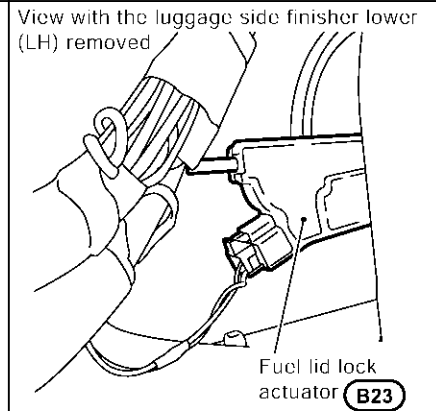
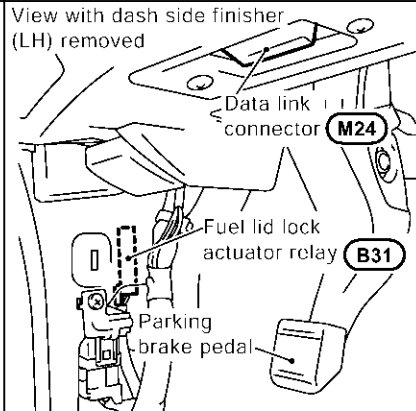
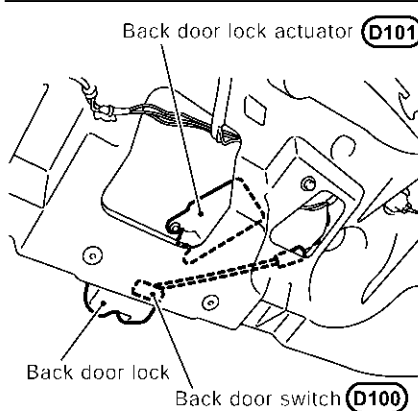
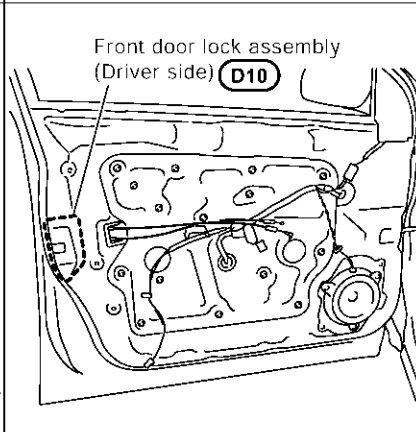
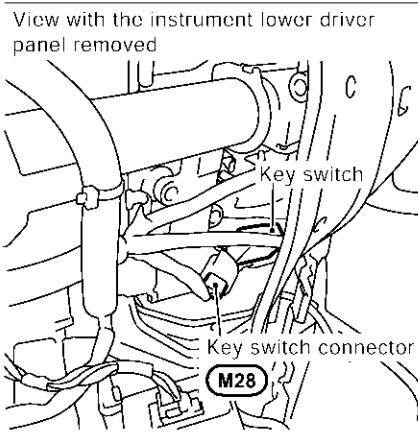
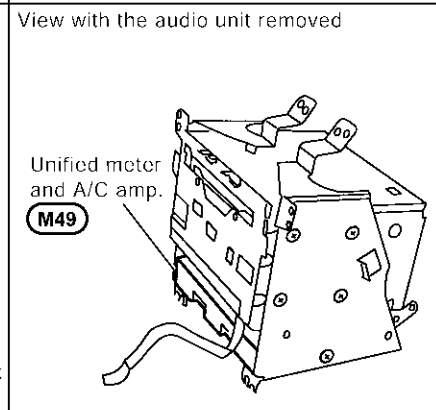
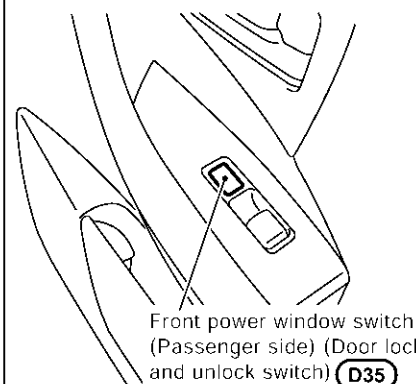
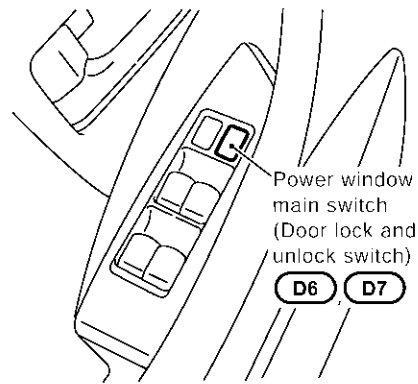
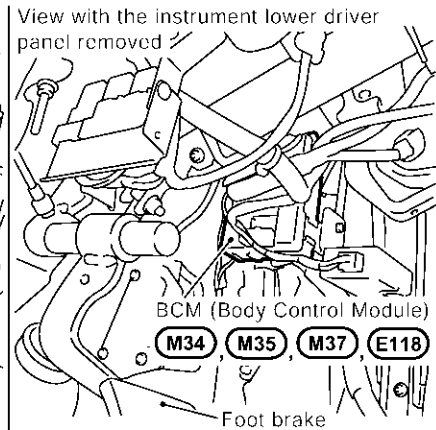
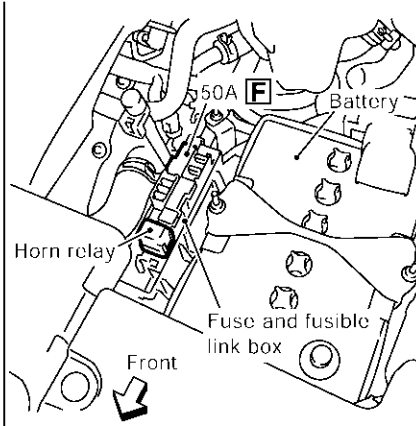
PF24814

### Component Parts and Harness Connector Location

AIS002EW

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

Fuse block (J/B) fuse layout



PIIB1502E

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

# POWER DOOR LOCK SYSTEM

AIS002EX

## System Description

Power is supplied at all times

- to BCM terminal 7
- through 50A fusible link (letter **F** , located in the fuse and fusible link box).
- to key switch terminal 3
- through 10A fuse [No. 21, located in the fuse block (J/B)].

When key switch is ON (key is inserted in ignition key cylinder), power is supplied

- to BCM terminal 62
- through key switch terminal 4.

When front door switch (driver side) is ON (door is OPEN), ground is supplied

- to BCM terminal 14 and unified meter and A/C amp. terminal 8
- through front door switch (driver side) terminals 4 and 5
- through grounds M14 and M78.

When front door switch (passenger side) is ON (door is OPEN), ground is supplied

- to BCM terminal 10 and unified meter and A/C amp. terminal 7
- through front door switch (passenger side) terminals 4 and 5
- through grounds M14 and M78.

When rear door switch LH is ON (door is OPEN), ground is supplied

- to unified meter and A/C amp. terminal 18
- through rear door switch LH terminals 4 and 5
- through grounds B7 and B20.

When rear door switch RH is ON (door is OPEN), ground is supplied

- to unified meter and A/C amp. terminal 17
- through rear door switch RH terminals 4 and 5
- through grounds B105 and B116.

Combination meter send door open signal to BCM with CAN communication system.

When back door switch is ON (back door is OPEN), ground is supplied

- to BCM terminal 18
- through back door switch terminals 1 and 3
- through grounds B7 and B20.

When door is locked and unlocked with power window main switch (door lock and unlock switch), ground is supplied

- to CPU of power window main switch
- through power window main switch (door lock and unlock switch) terminal 17
- through grounds M14 and M78.

Then power window main switch (door lock and unlock switch) operation signal is supplied.

- to BCM terminal 74
- through power window main switch (door lock and unlock switch) terminal 14.

When door is locked and unlocked with front power window switch (passenger side) (door lock and unlock switch), ground is supplied

- to CPU of front power window switch (passenger side)
- through front power window switch (passenger side) (door lock and unlock switch) terminal 11
- through grounds M14 and M78.

Then front power window switch (passenger side) (door lock and unlock switch) operation signal is supplied

- to BCM terminal 74
- through front power window switch (passenger side) (door lock and unlock switch) terminal 16.

When door is locked with door key cylinder switch, ground is supplied

- to power window main switch (door lock and unlock switch) terminal 4
- through door key cylinder switch terminals 1 and 5

# POWER DOOR LOCK SYSTEM

- through grounds M14 and M78.

Then door key cylinder switch operation signal (lock) is supplied

- to BCM terminal 74
- through power window main switch (door lock and unlock switch) terminal 14.

When the door is unlocked with door key cylinder switch, ground is supplied

- to power window main switch (door lock and unlock switch) terminal 6
- through front door key cylinder switch (driver side) terminal 6 and 5
- through grounds M14 and M78.

Then door key cylinder switch operation signal (unlock) is supplied

- to BCM terminal 74
- through power window main switch (door lock and unlock switch) terminal 14.

BCM is connected to power window main switch and front power window switch (passenger side) as serial link.

## POWER WINDOW SERIAL LINK

Power window main switch, front power window switch (passenger side) and BCM transmit and receive the signal by power window serial link.

The under mentioned signal is transmitted from power window main switch to BCM.

- Door lock and unlock switch signal.

The under mentioned signal is transmitted from front power window switch (passenger side) to BCM.

- Door lock and unlock switch signal.

## OUTLINE

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

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

### Functions Available by Operating the Door key Cylinder Switch

- Interlocked with the locking operation of door key cylinder, door lock actuators of all doors and fuel lid lock actuator are locked.
- When door key cylinder is unlocked, door lock actuator driver side is unlocked.
- When door key cylinder is unlocked for the second time within 5 seconds after the first operation, door lock actuators on all doors and fuel lid lock actuator are unlocked.

Unlock mode can be changed using "DOOR LOCK-UNLOCK SET" mode in "WORK SUPPORT".

Refer to [BL-58, "WORK SUPPORT"](#) .

### Key Reminder Door System

When door lock and unlock switch is operated to lock doors with ignition key put in ignition key cylinder and any door (include back door) open, all door lock actuators are locked and then unlocked.

Key reminder mode can be changed using "ANTI-LOCK OUT SET" mode in "WORK SUPPORT".

Refer to [BL-58, "WORK SUPPORT"](#) .

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# POWER DOOR LOCK SYSTEM

## CAN Communication System Description

AIS003CL

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

## CAN Communication Unit For 2WD Models

AIS003KH

Body type	Wagon															
Axle	2WD															
Engine	VQ35DE															
Transmission	CVT															
Brake control	ABS								VDC							
Low tire pressure warning system		×			×	×		×		×			×	×		×
Navigation system			×		×		×	×			×		×		×	×
Automatic drive positioner				×		×	×	×				×		×	×	×
CAN communication unit																
ECM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Low tire pressure warning control unit		×			×	×		×		×			×	×		×
Display unit	×	×		×		×			×	×		×		×		
Display control unit			×		×		×	×			×		×		×	×
Data link connector	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
BCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Steering angle sensor									×	×	×	×	×	×	×	×
Driver seat control unit				×		×	×	×				×		×	×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
IPDM E/R	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
CAN communication type	BL-27. "TYPE 1/TYPE 2/TYPE 3/TYPE 4/TYPE 5/TYPE 6/TYPE 7/TYPE 8"								BL-32. "TYPE 9/TYPE 10/TYPE 11/TYPE 12/TYPE 13/TYPE 14/TYPE 15/TYPE 16"							

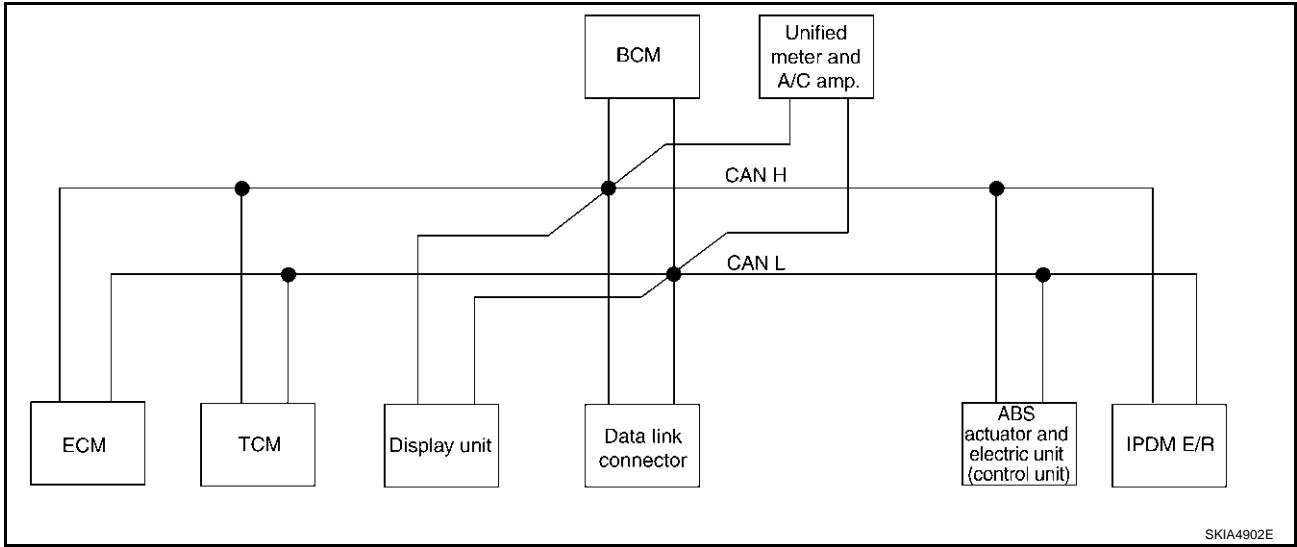
×: Applicable

# POWER DOOR LOCK SYSTEM

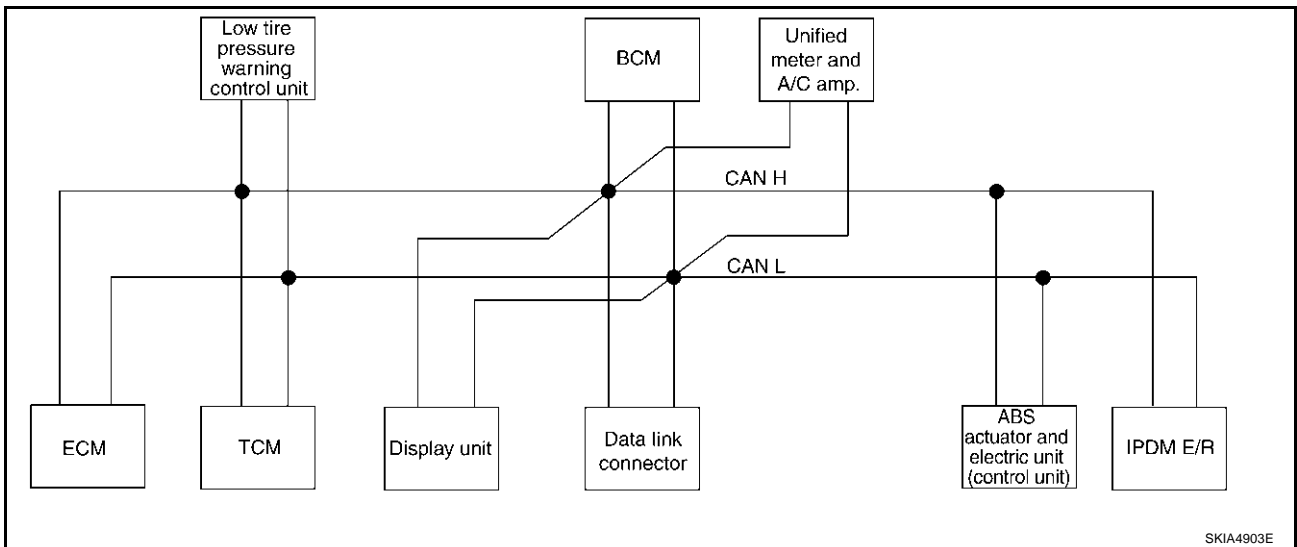
## TYPE 1/TYPE 2/TYPE 3/TYPE 4/TYPE 5/TYPE 6/TYPE 7/TYPE 8

### System Diagram

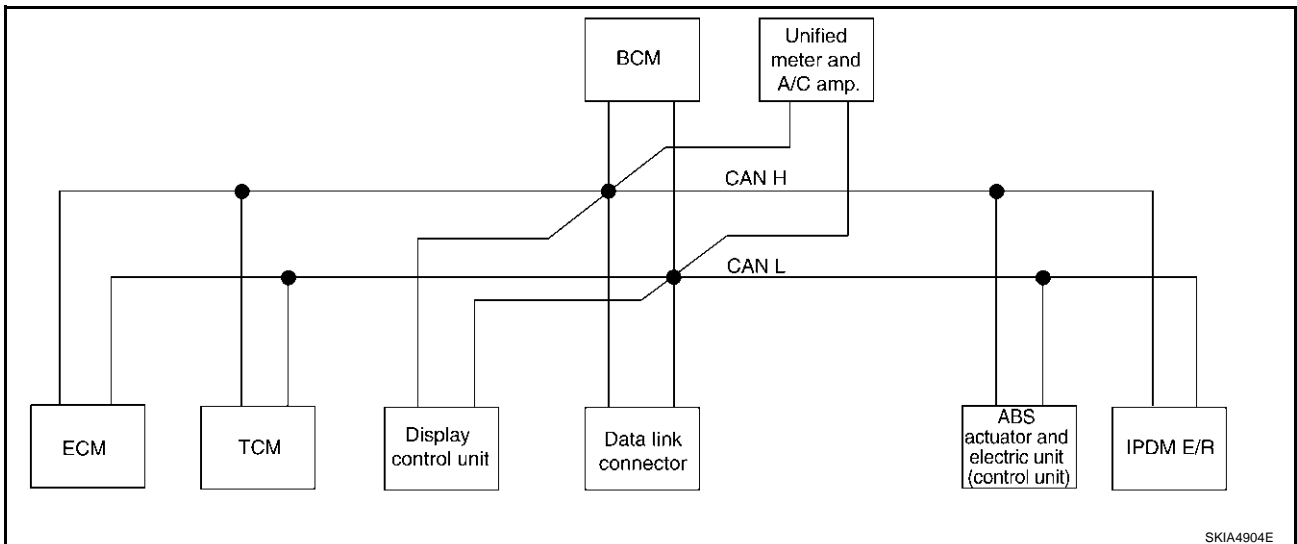
- Type1



- Type2



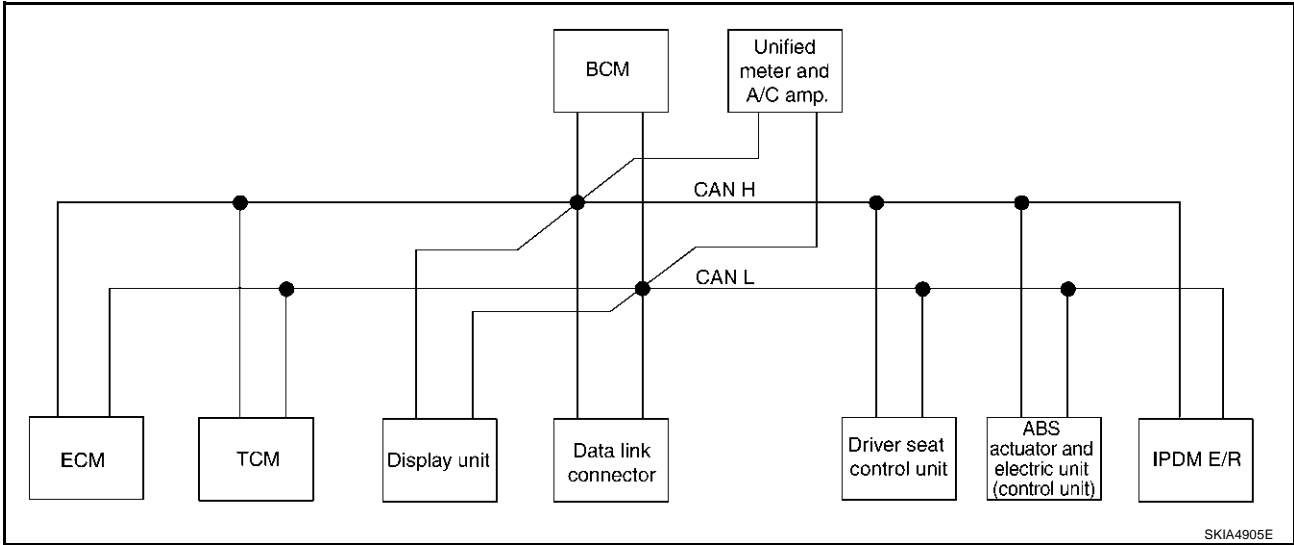
- Type3



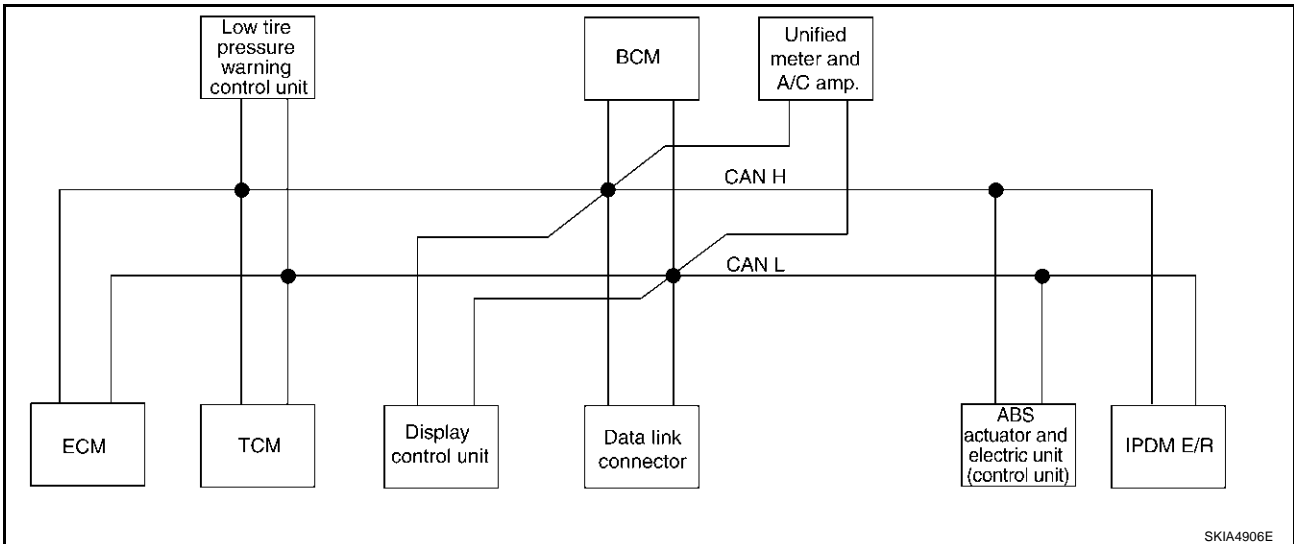
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# POWER DOOR LOCK SYSTEM

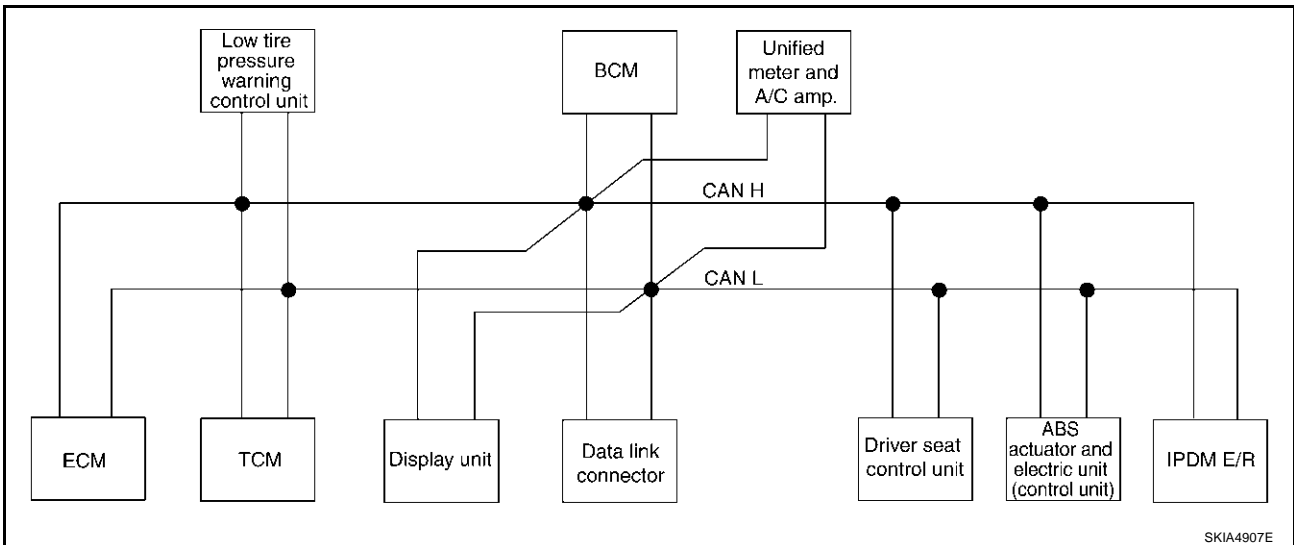
- Type4



- Type5



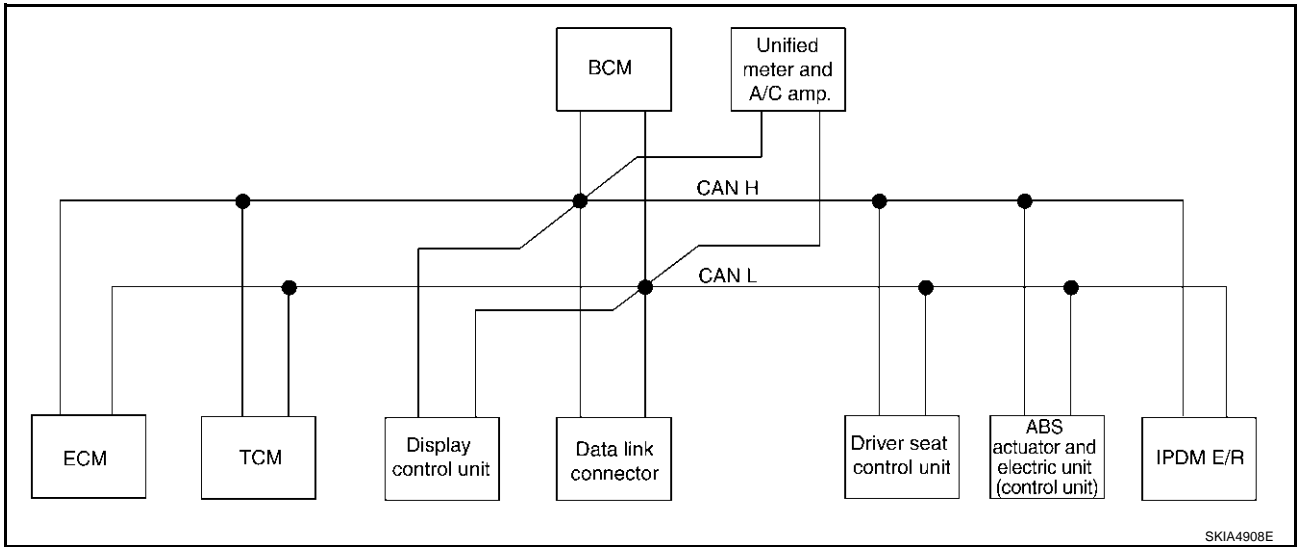
- Type6



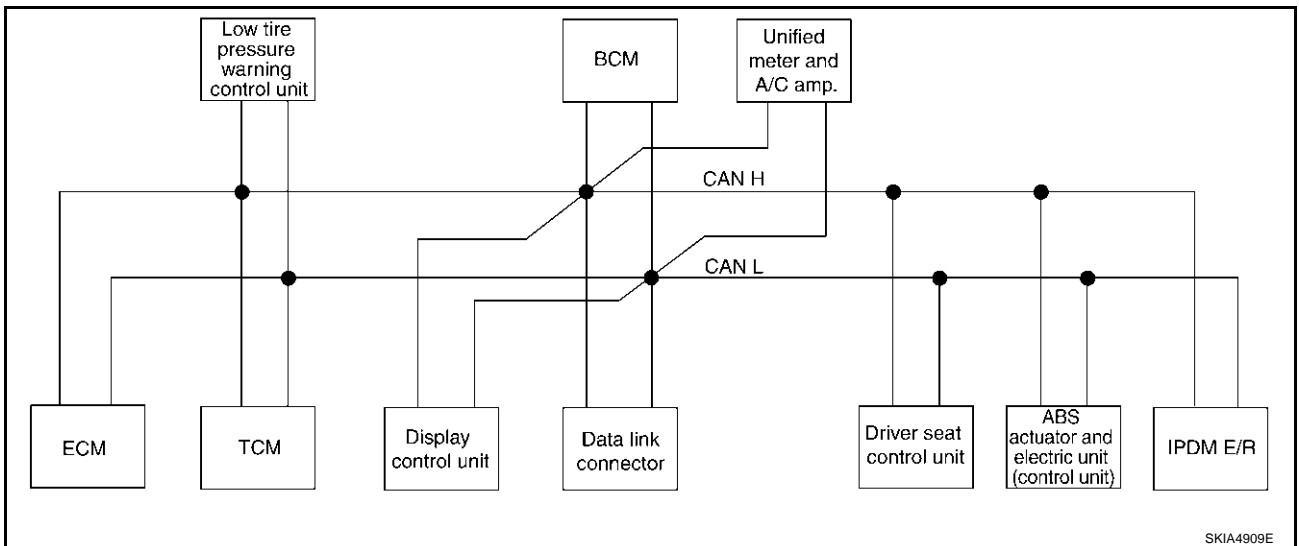


# POWER DOOR LOCK SYSTEM

- Type7



- Type8



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# POWER DOOR LOCK SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Driver seat control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R			R	R	R			
Engine status signal	T					R				
Engine coolant temperature signal	T						R			
CVT position indicator signal		T					R			
Second position signal		R					T			
Second position indicator signal		T					R			
Engine and CVT integrated control signal	T	R								
	R	T								
Accelerator pedal position signal	T	R								
Closed throttle position signal	T	R								
Wide open throttle position signal	T	R								
Key switch signal						T		R		
Ignition switch signal						T		R		R
P range signal		T						R		
Stop lamp switch signal		R					T			
Fuel consumption monitor signal	T						R			
CVT self-diagnosis signal	R	T								
ABS operation signal		R							T	
Air conditioner switch signal	R					T				
A/C compressor request signal	T									R
A/C compressor feedback signal	T						R			
Blower fan motor switch signal	R					T				
A/C control signal				T	T		R			
				R	R		T			
Cooling fan speed request signal	T									R
Position lights request signal						T	R			R
Low beam request signal						T				R
Low beam status signal	R									T
High beam request signal						T	R			R
High beam status signal	R									T
Front fog lights request signal						T				R
Vehicle speed signal		R					R		T	
	R		R		R	R	T	R		
Sleep request 1 signal						T	R			
Sleep request 2 signal						T				R
Door switch signal						R	T			
				R	R	T	R	R		R
Turn indicator signal						T	R			

# POWER DOOR LOCK SYSTEM

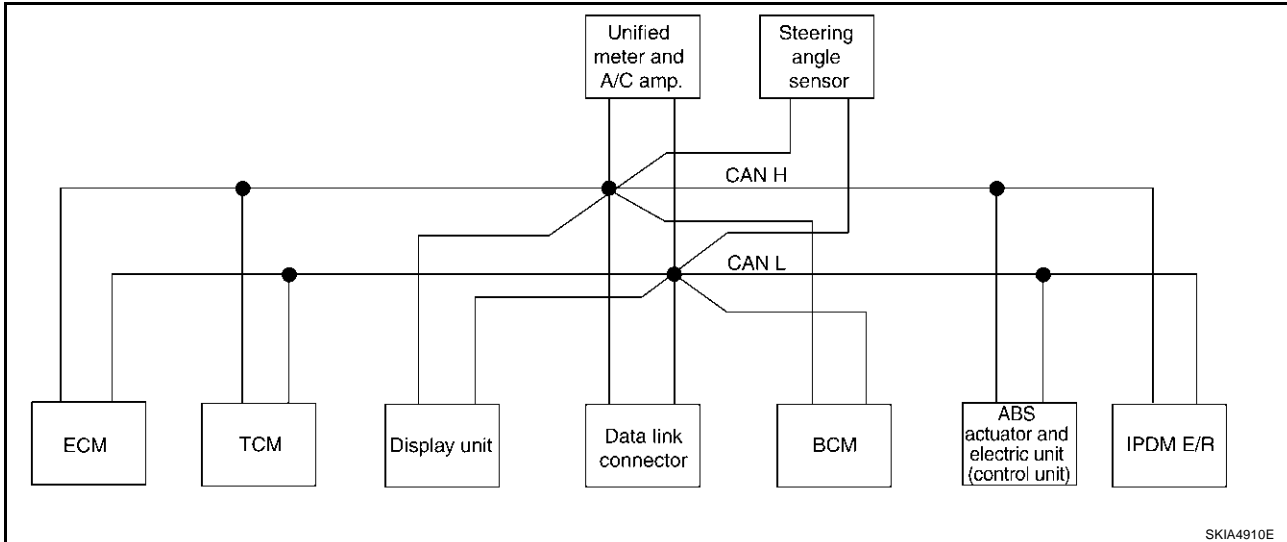
Signals	ECM	TCM	Low tire pres- sure warn- ing control unit	Dis- play unit	Dis- play control unit	BCM	Uni- fied meter and A/ C amp.	Driver seat control unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	A
Key fob ID signal						T		R			B
Key fob door unlock signal						T		R			C
Seat belt buckle switch signal						R	T				D
Oil pressure switch signal						R				T	E
						T	R				F
Buzzer output signal						T	R				G
Fuel level sensor signal	R						T				H
Fuel level low warning signal				R	R		T				I
Malfunction indicator lamp signal	T						R				J
ASCD SET lamp signal	T						R				K
ASCD CRUISE lamp signal	T						R				L
Input shaft revolution signal	R	T									M
Output shaft revolution signal	R	T									N
Front wiper request signal						T				R	O
Front wiper stop position signal						R				T	P
Rear window defogger switch signal						T				R	Q
Rear window defogger control signal	R			R	R					T	R
Hood switch signal						R				T	S
Theft warning horn request signal						T				R	T
Horn chirp signal						T				R	U
Tire pressure signal			T				R				V
Tire pressure data signal			T	R	R						W
ABS warning lamp signal							R		T		X
Brake warning lamp signal							R		T		Y
System setting signal				T	T			R			Z
Parking brake switch signal						R	T				AA

# POWER DOOR LOCK SYSTEM

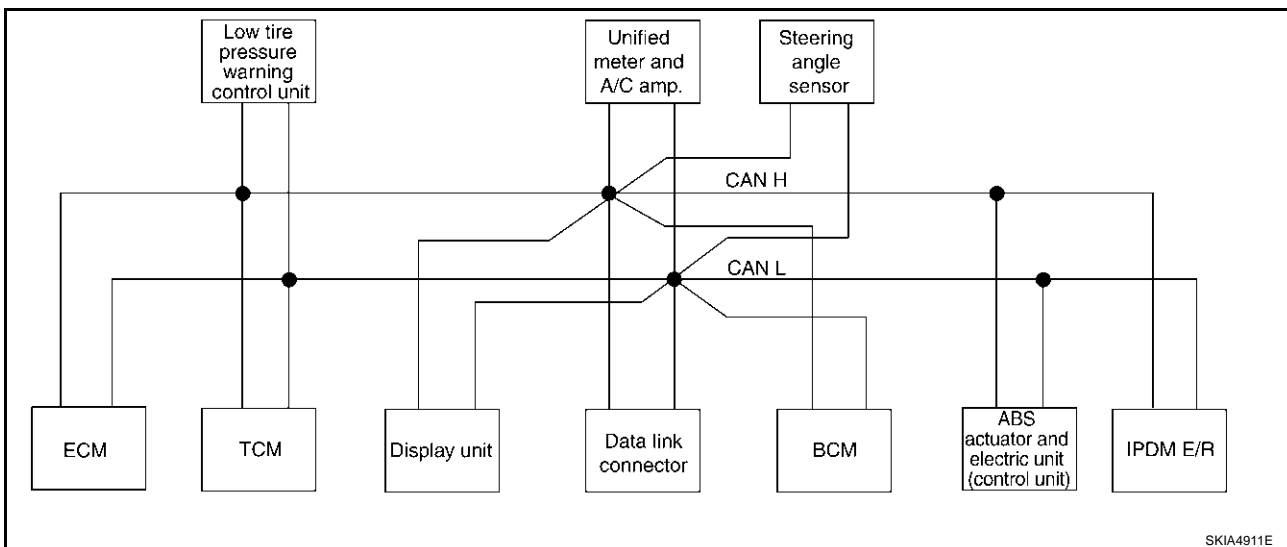
TYPE 9/TYPE10/TYPE 11/TYPE 12/TYPE 13/TYPE 14/TYPE 15/TYPE 16

## System Diagram

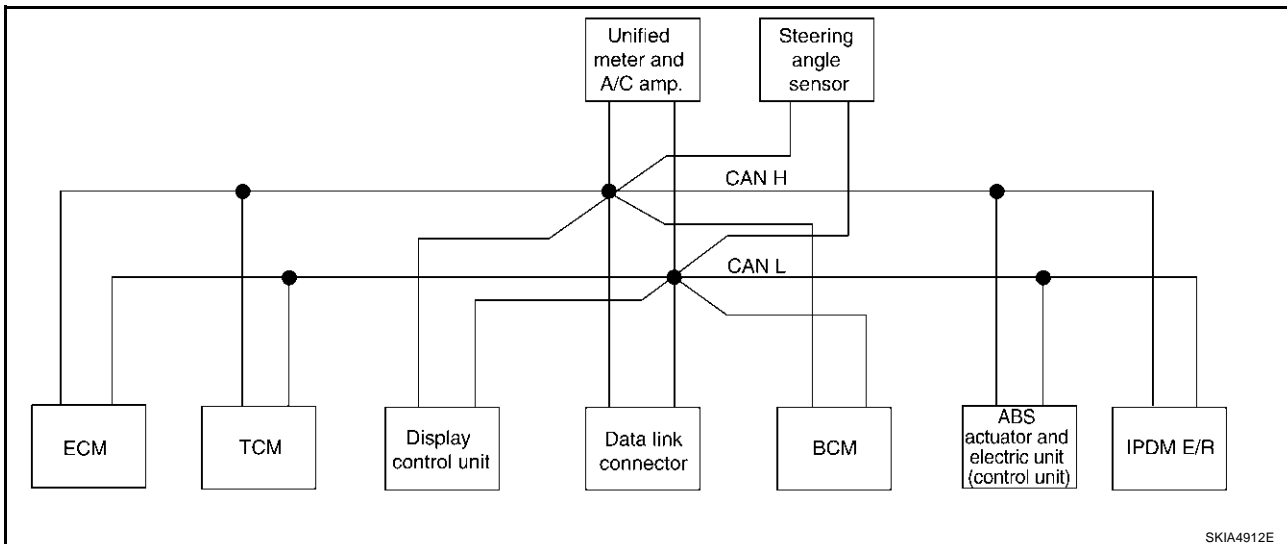
- Type9



- Type10

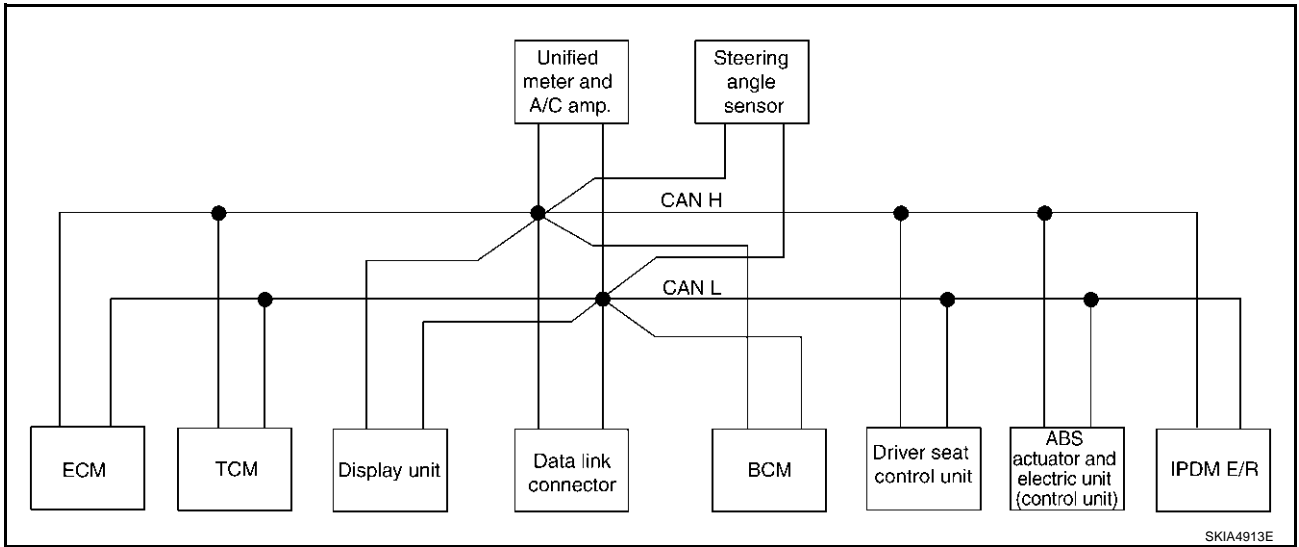


- Type11

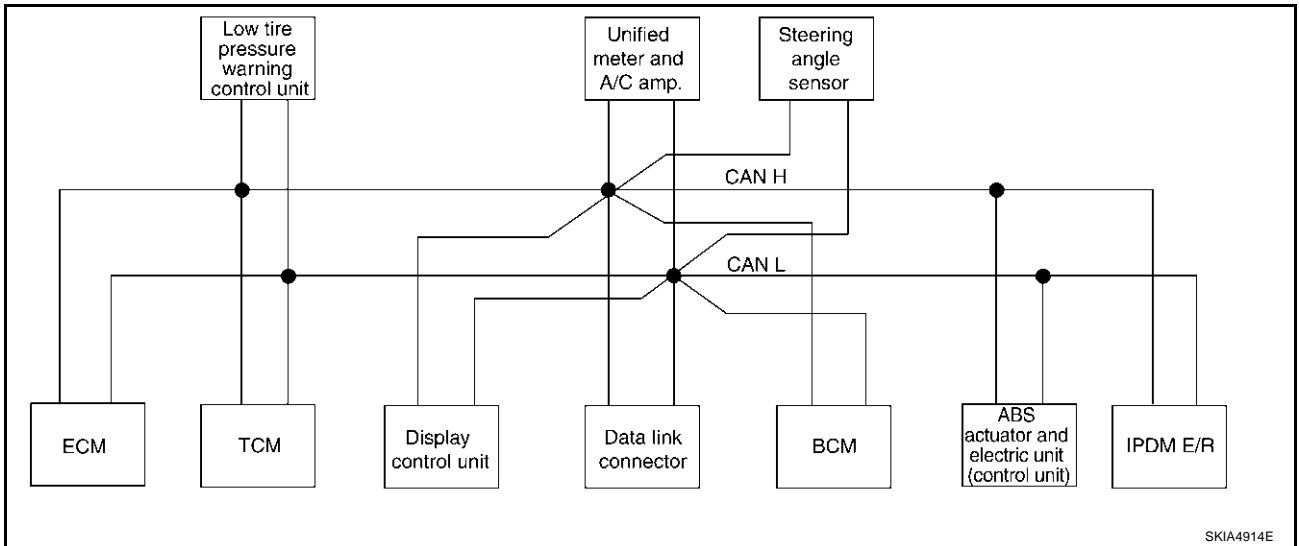


# POWER DOOR LOCK SYSTEM

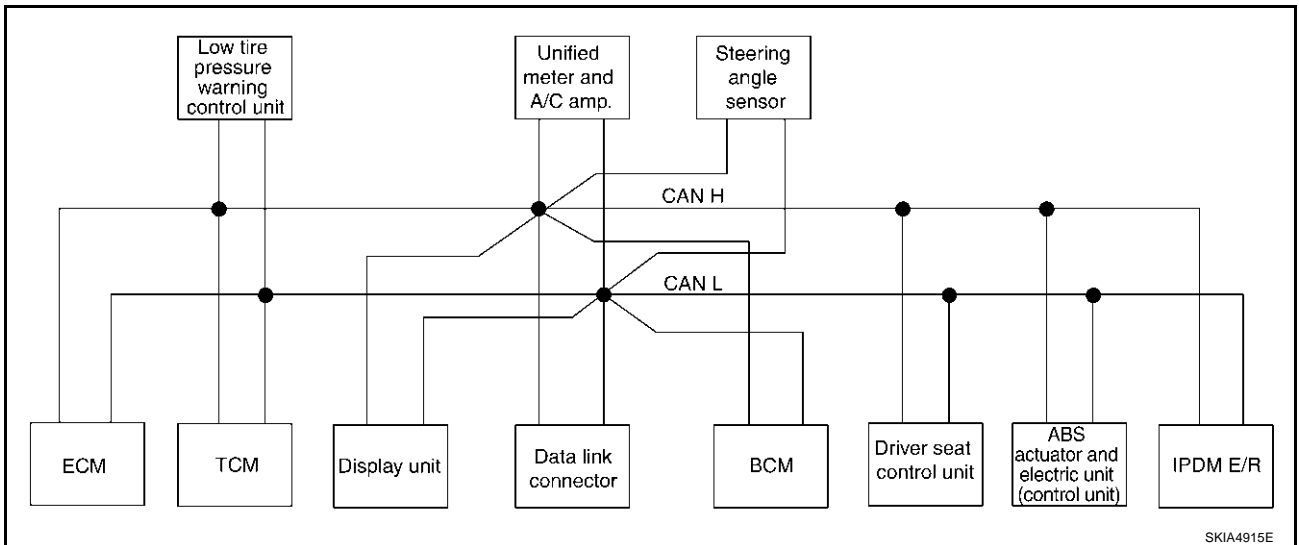
- Type12



- Type13



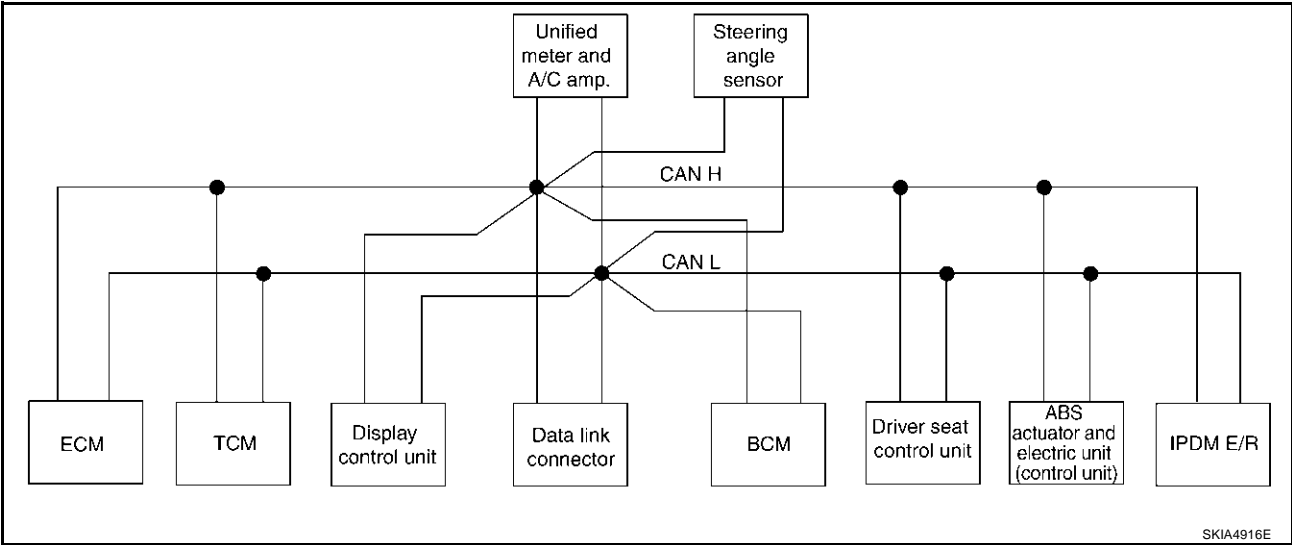
- Type14



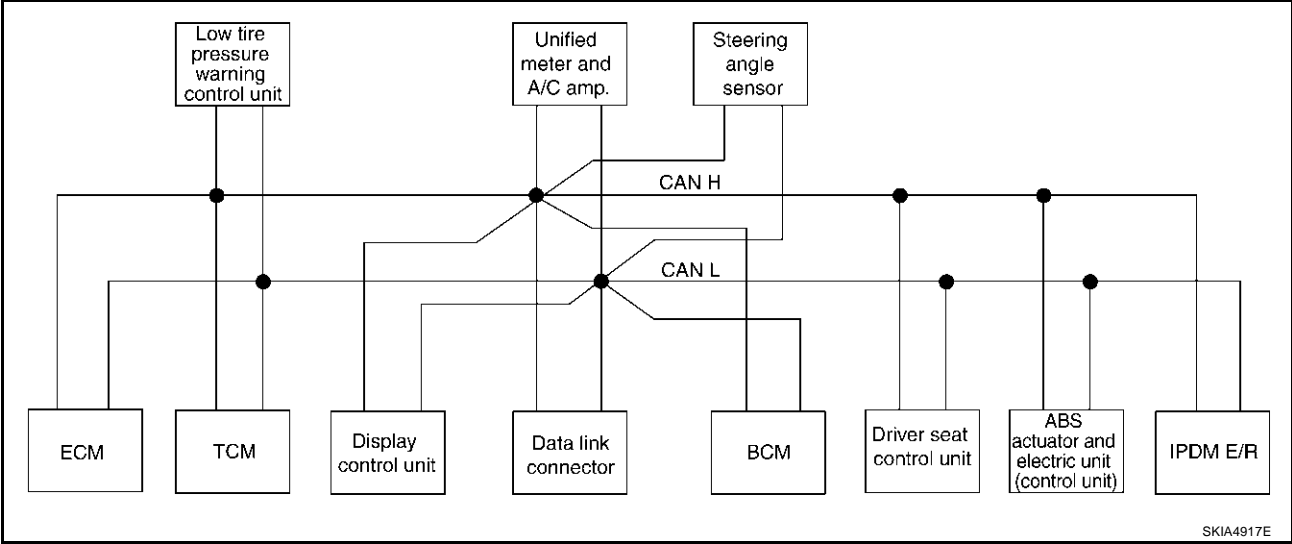
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# POWER DOOR LOCK SYSTEM

- Type15



- Type16



# POWER DOOR LOCK SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Steering angle sensor	Driver seat control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R			R	R	R			R	
Engine status signal	T					R					
Engine coolant temperature signal	T						R				
Engine and CVT integrated control signal	T	R									
	R	T									
Accelerator pedal position signal	T	R								R	
Closed throttle position signal	T	R									
Wide open throttle position signal	T	R									
Key switch signal						T			R		
Ignition switch signal						T			R		R
P range signal		T							R	R	
Stop lamp switch signal		R					T				
VDC operation signal		R								T	
Second position indicator signal		T					R			R	
Second position signal		R					T				
Fuel consumption monitor signal	T						R				
CVT self-diagnosis signal	R	T									
Input shaft revolution signal	R	T								R	
Output shaft revolution signal	R	T								R	
Air conditioner switch signal	R					T					
A/C compressor request signal	T										R
A/C compressor feedback signal	T						R				
Blower fan motor switch signal	R					T					
A/C control signal				T	T		R				
				R	R		T				
Cooling fan speed request signal	T										R
Position lights request signal						T	R				R
Low beam request signal						T					R
Low beam status signal	R										T
High beam request signal						T	R				R
High beam status signal	R										T
Front fog lights request signal						T					R
Vehicle speed signal		R					R			T	
	R		R		R	R	T		R		
Sleep request 1 signal						T	R				
Sleep request 2 signal						T					R

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# POWER DOOR LOCK SYSTEM

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Steering angle sensor	Driver seat control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Door switch signal						R	T				
Turn indicator signal				R	R	T	R		R		R
Key fob ID signal						T			R		
Key fob door unlock signal						T			R		
Seat belt buckle switch signal						R	T				
Oil pressure switch signal						R					T
Buzzer output signal						T	R				
Fuel level sensor signal	R						T				
Fuel level low warning signal				R	R		T				
Malfunction indicator signal	T						R				
ASCD SET lamp signal	T						R				
ASCD CRUISE lamp signal	T						R				
Front wiper request signal						T					R
Front wiper stop position signal						R					T
Rear window defogger switch signal						T					R
Rear window defogger control signal	R			R	R						T
Hood switch signal						R					T
Theft warning horn request signal						T					R
Horn chirp signal						T					R
Steering angle sensor signal								T		R	
Tire pressure signal			T				R				
Tire pressure data signal			T	R	R						
CVT position indicator signal		T					R			R	
ABS warning lamp signal							R			T	
VDC OFF indicator lamp signal							R			T	
SLIP indicator lamp signal							R			T	
Brake warning lamp signal							R			T	
System setting signal				T	T				R		
Parking brake switch signal						R	T				



# POWER DOOR LOCK SYSTEM

## CAN Communication Unit For AWD Models

AI5003K1

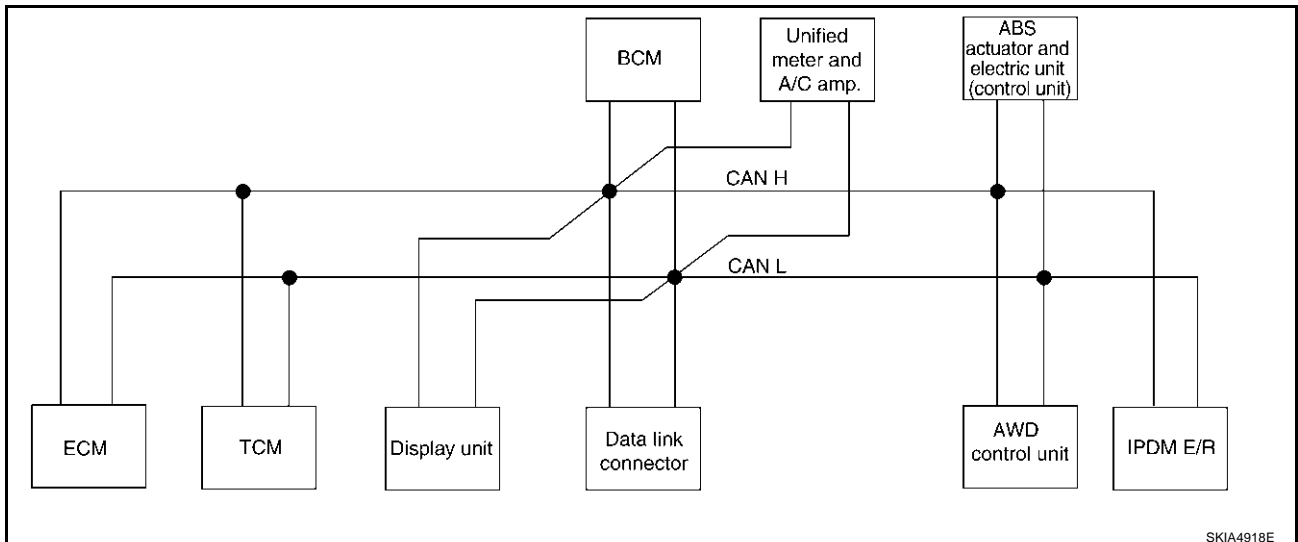
Body type	Wagon															
Axle	AWD															
Engine	VQ35DE															
Transmission	CVT															
Brake control	ABS								VDC							
Low tire pressure warning system		×			×	×		×		×			×	×		×
Navigation system			×		×		×	×			×		×		×	×
Automatic drive positioner				×		×	×	×				×		×	×	×
CAN communication unit																
ECM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Low tire pressure warning control unit		×			×	×		×		×			×	×		×
Display unit	×	×		×		×			×	×		×		×		
Display control unit			×		×		×	×			×		×		×	×
Data link connector	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
BCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Steering angle sensor									×	×	×	×	×	×	×	×
Driver seat control unit				×		×	×	×				×		×	×	×
AWD control unit	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
IPDM E/R	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
CAN communication type	<a href="#">BL-37. "TYPE 17/TYPE 18/TYPE 19/TYPE 20/TYPE 21/TYPE 22/TYPE 23/TYPE 24"</a>								<a href="#">BL-43. "TYPE 25/TYPE 26/TYPE 27/TYPE 28/TYPE 29/TYPE 30/TYPE 31/TYPE 32"</a>							

×: Applicable

### TYPE 17/TYPE 18/TYPE 19/TYPE 20/TYPE 21/TYPE 22/TYPE 23/TYPE 24

#### System Diagram

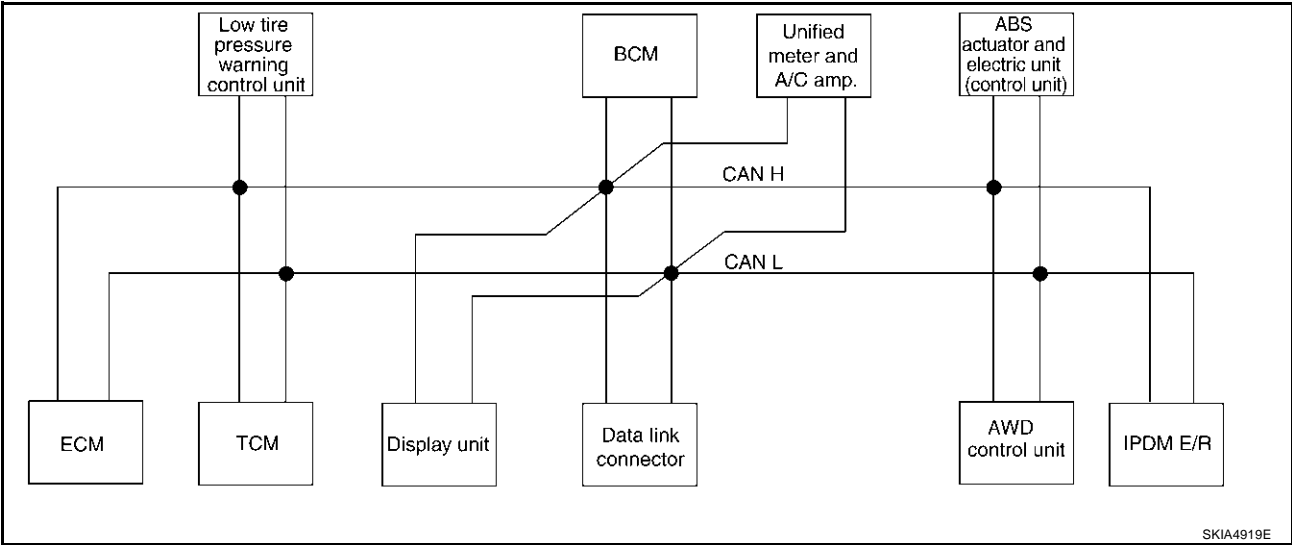
- Type17



SKIA4918E

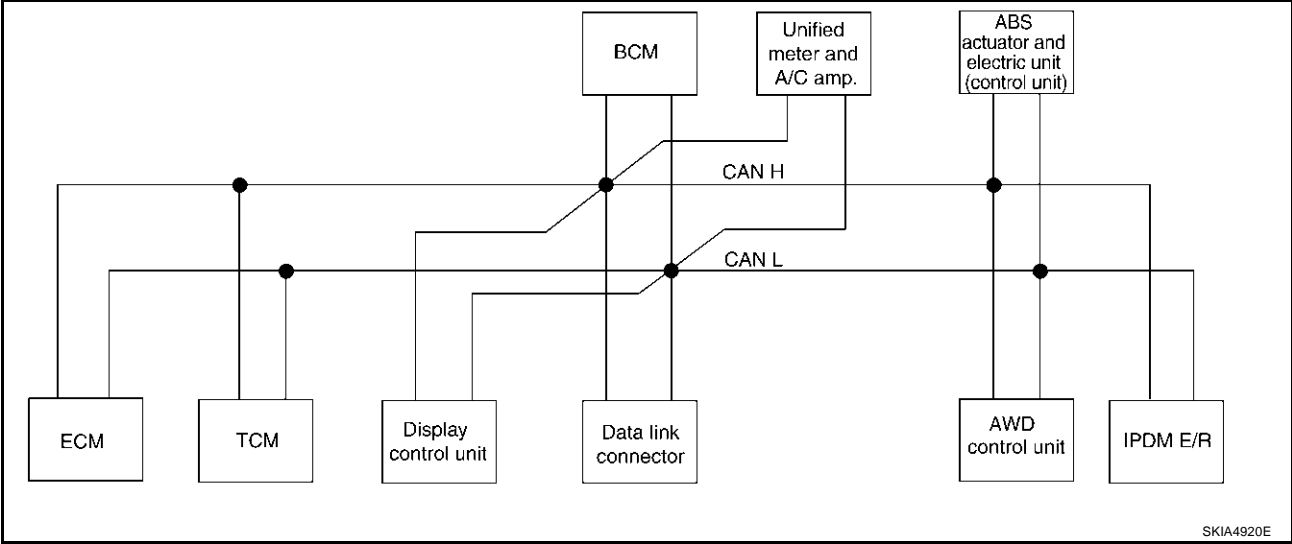
# POWER DOOR LOCK SYSTEM

● Type18



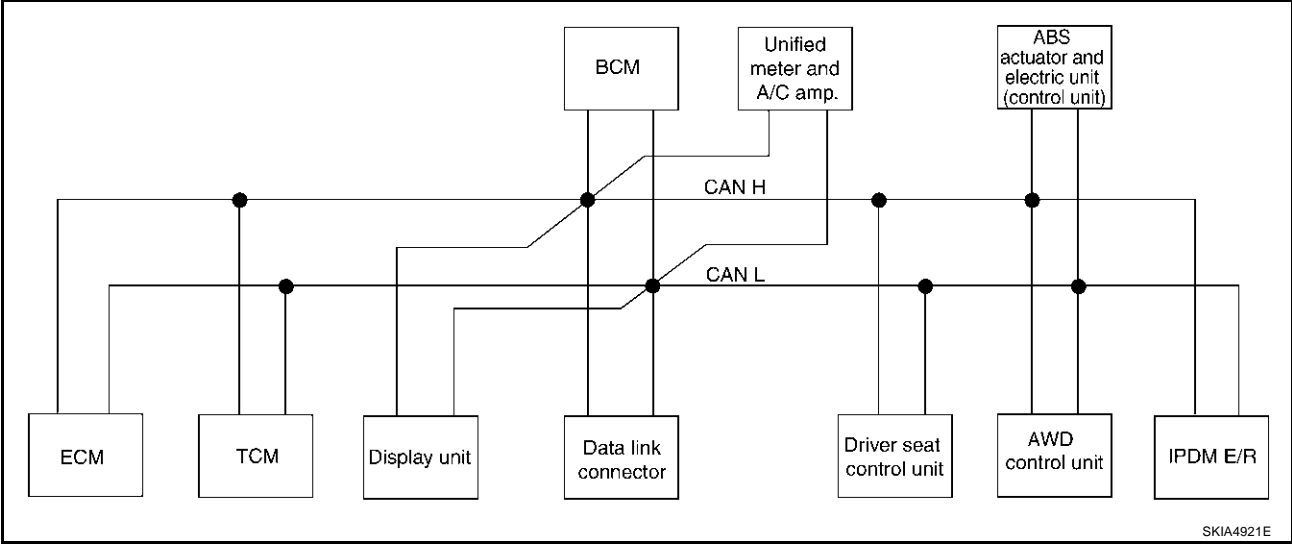
SKIA4919E

● Type19



SKIA4920E

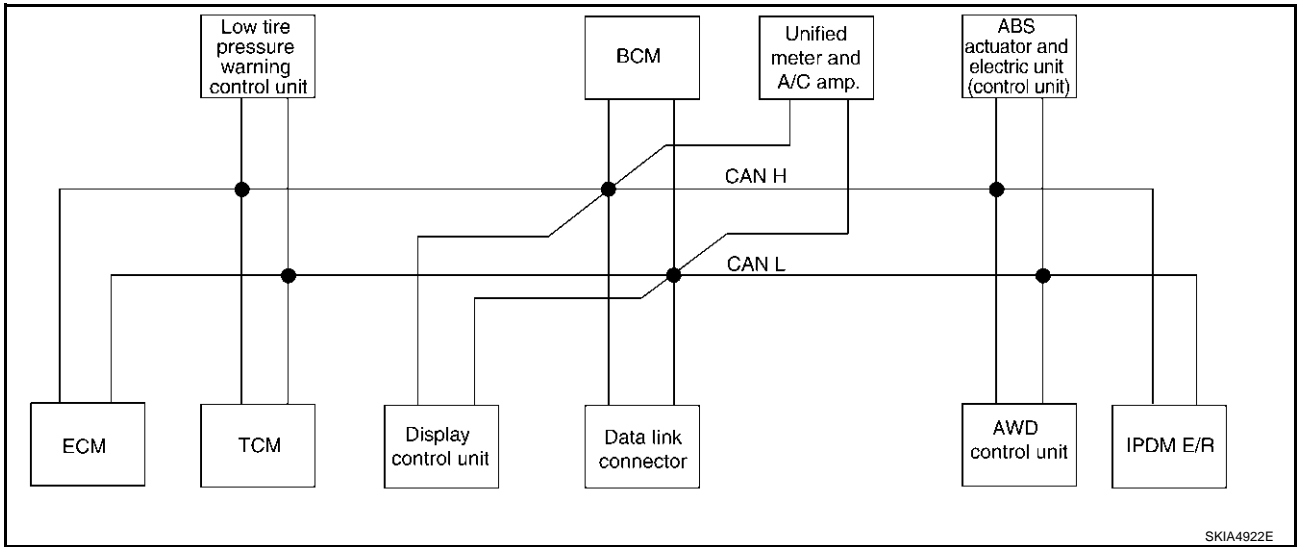
● Type20



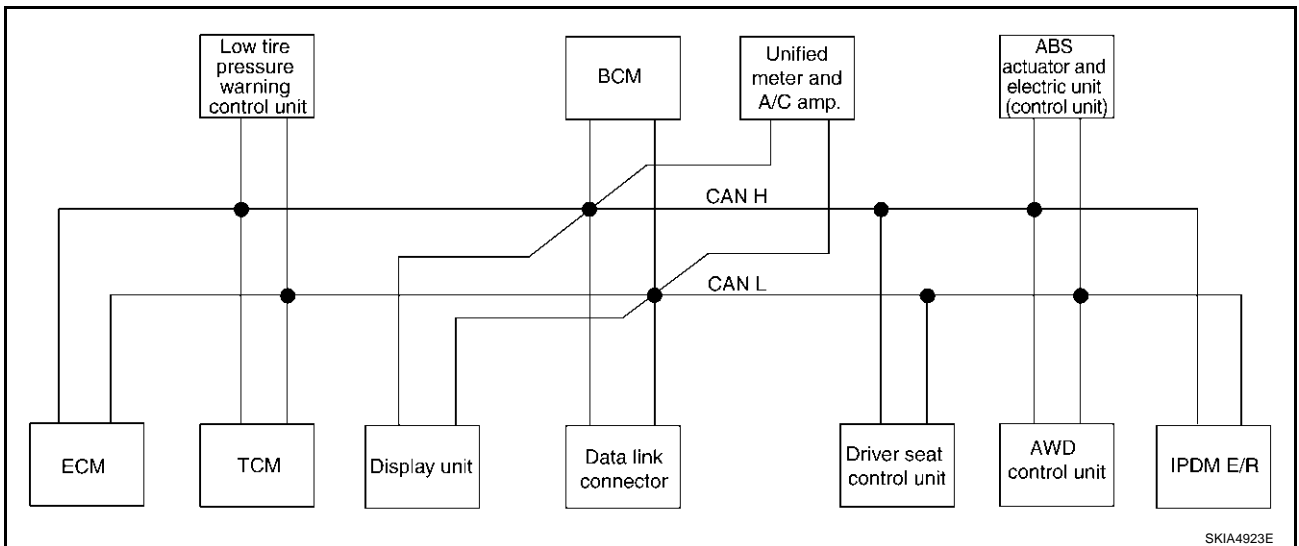
SKIA4921E

# POWER DOOR LOCK SYSTEM

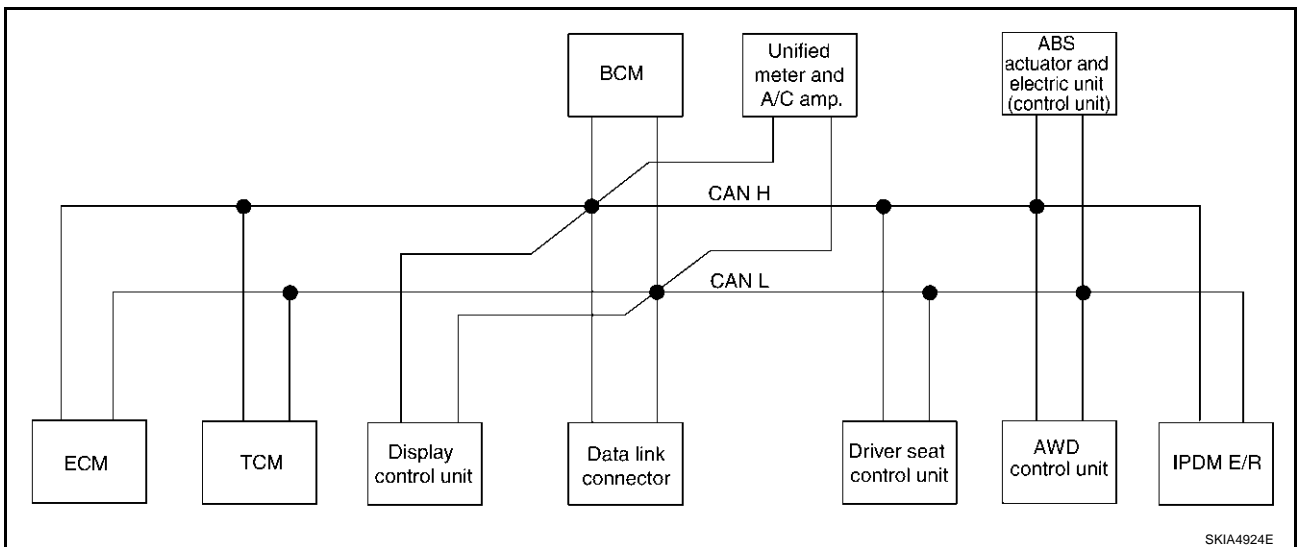
- Type21



- Type22



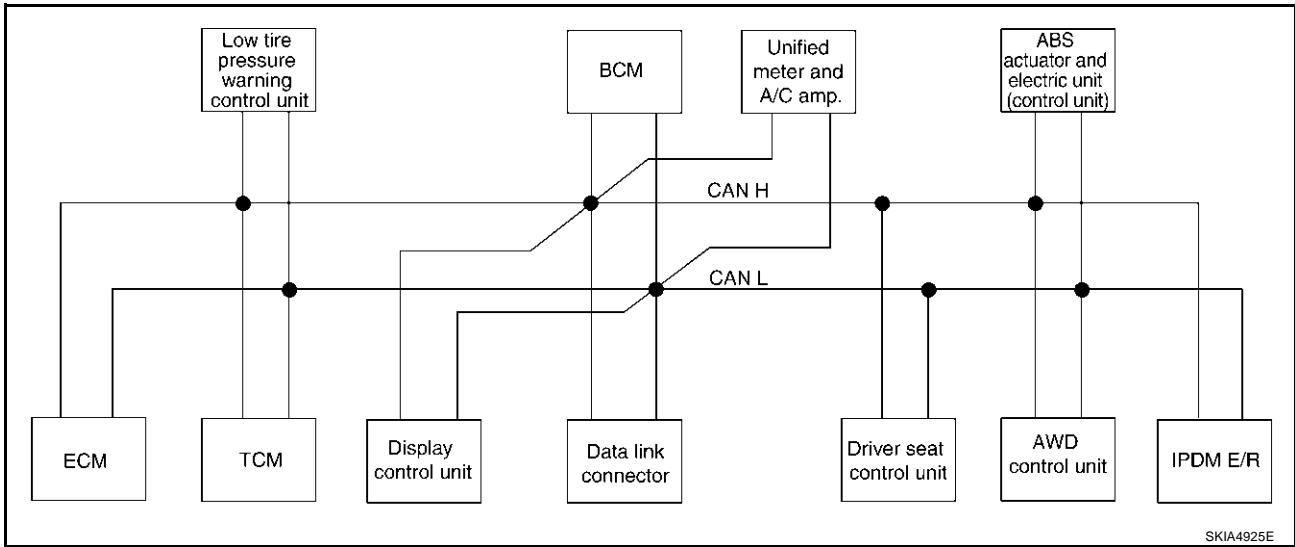
- Type23



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# POWER DOOR LOCK SYSTEM

- Type24



# POWER DOOR LOCK SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Driver seat control unit	AWD control unit	ABS actuator and electric unit (control unit)	IPDM E/R
CVT position indicator signal		T					R				
Second position signal		R					T				
Second position indicator signal		T					R				
Engine speed signal	T	R	R		R	R	R		R		
Engine status signal	T					R					
Engine coolant temperature signal	T						R				
Accelerator pedal position signal	T	R							R		
Closed throttle position signal	T	R									
Wide open throttle position signal	T	R									
Key switch signal						T		R			
Ignition switch signal						T		R			R
P range signal		T						R			
Stop lamp switch signal		R					T		R		
Fuel consumption monitor signal	T						R				
CVT self-diagnosis signal	R	T									
ABS operation signal		R							R	T	
Air conditioner switch signal	R					T					
A/C compressor request signal	T										R
A/C compressor feedback signal	T						R				
Blower fan motor switch signal	R					T					
A/C control signal				T	T		R				
				R	R		T				
Cooling fan speed request signal	T										R
Position lights request signal						T	R				R
Low beam request signal						T					R
Low beam status signal	R										T
High beam request signal						T	R				R
High beam status signal	R										T
Front fog lights request signal						T					R
Vehicle speed signal		R					R		R	T	
	R		R		R	R	T	R			
Sleep request 1 signal						T	R				
Sleep request 2 signal						T					R
Door switch signal						R	T				
				R	R	T	R	R			R
Key fob ID signal						T		R			
Key fob door unlock signal						T		R			

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## POWER DOOR LOCK SYSTEM

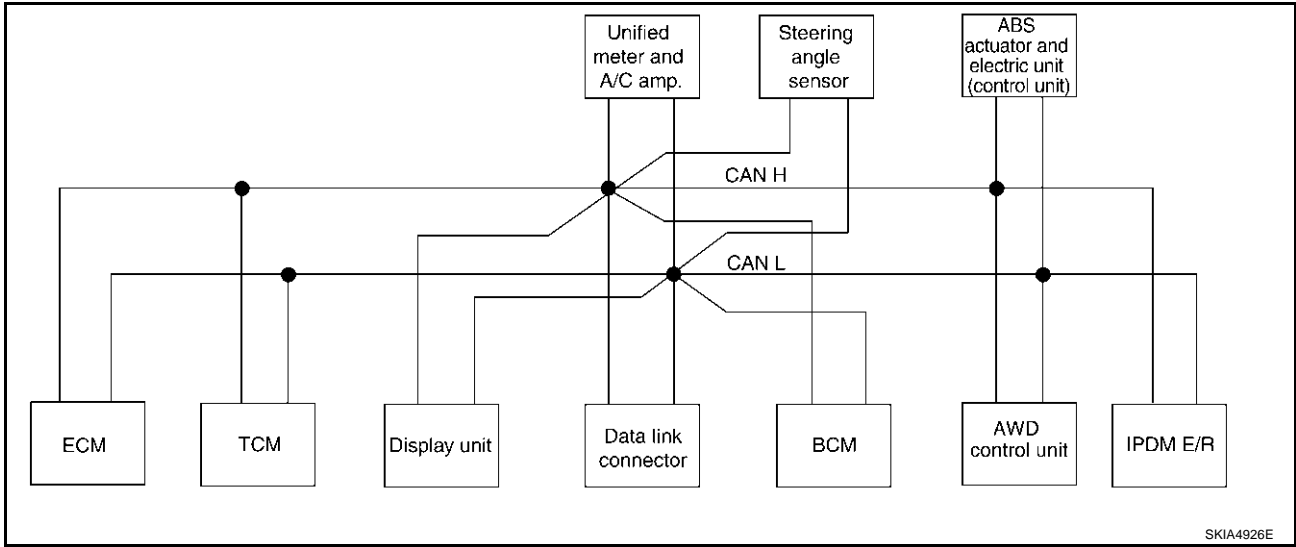
Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Driver seat control unit	AWD control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Turn indicator signal						T	R				
Seat belt buckle switch signal						R	T				
Oil pressure switch signal						R					T
						T	R				
Buzzer output signal						T	R				
Fuel level sensor signal	R						T				
Fuel level low warning signal				R	R		T				
Malfunction indicator lamp signal	T						R				
ASCD SET lamp signal	T						R				
ASCD CRUISE lamp signal	T						R				
Input shaft revolution signal	R	T									
Output shaft revolution signal	R	T									
Front wiper request signal						T					R
Front wiper stop position signal						R					T
Rear window defogger switch signal						T					R
Rear window defogger control signal	R			R	R						T
Engine and CVT integrated control signal	T	R									
	R	T									
Hood switch signal						R					T
Theft warning horn request signal						T					R
Horn chirp signal						T					R
Tire pressure signal			T				R				
Tire pressure data signal			T	R	R						
ABS warning lamp signal							R			T	
Brake warning lamp signal							R			T	
System setting signal				T	T			R			
AWD warning lamp signal							R		T		
AWD lock indicator lamp signal							R		T		
AWD lock switch signal							T		R		
Parking brake switch signal						R	T		R		

# POWER DOOR LOCK SYSTEM

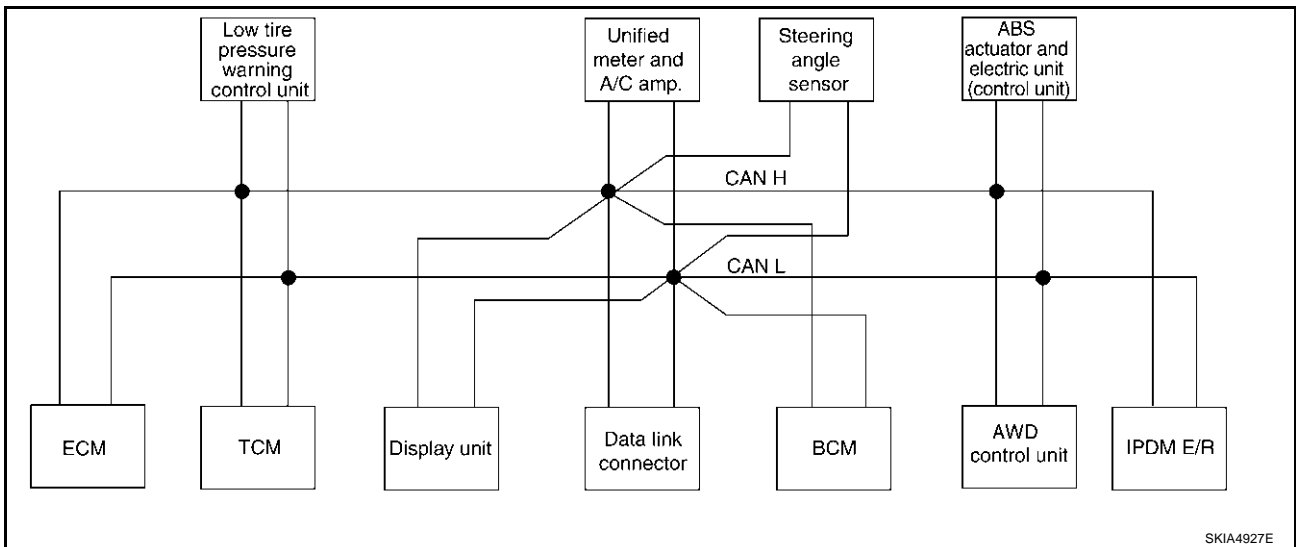
TYPE 25/TYPER26/TYPER 27/TYPER 28/TYPER 29/TYPER 30/TYPER 31/TYPER 32

## System Diagram

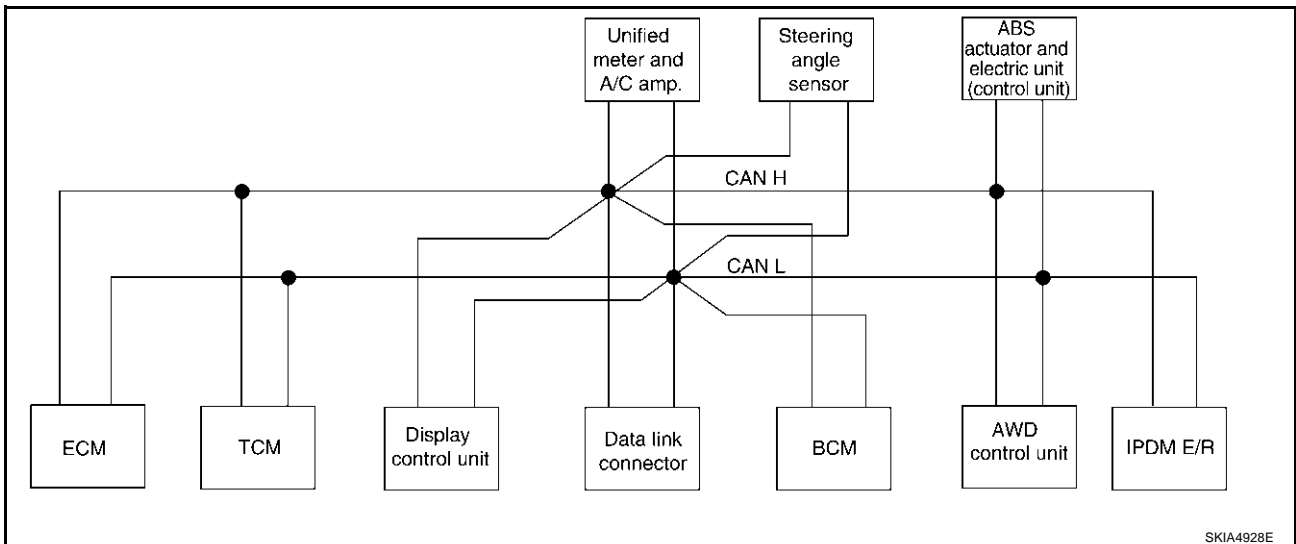
- Type25



- Type26



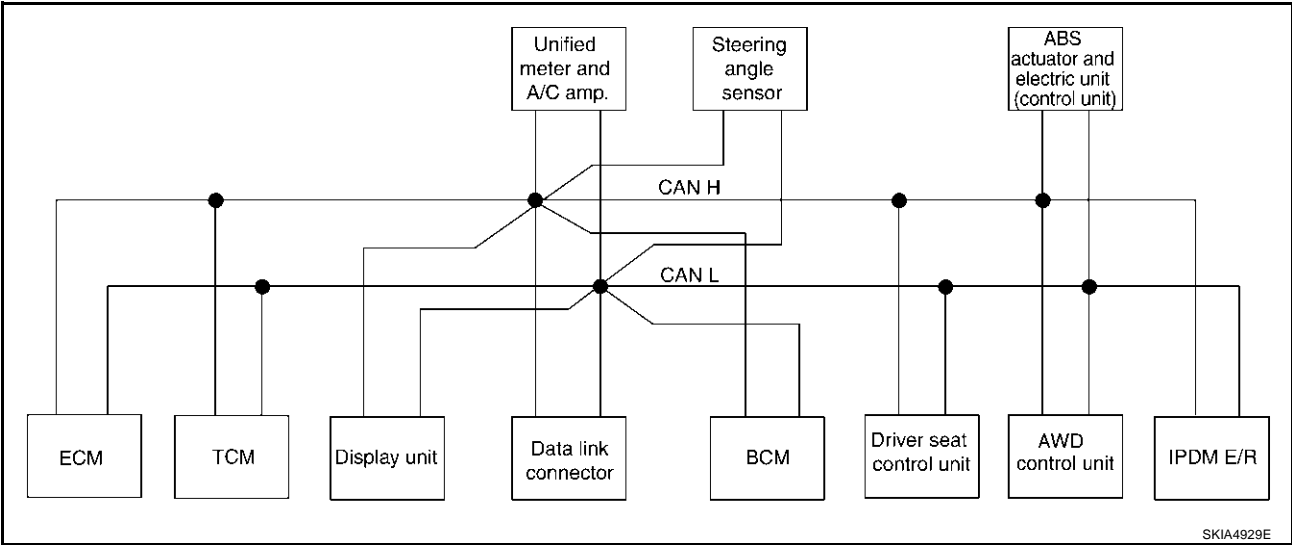
- Type27



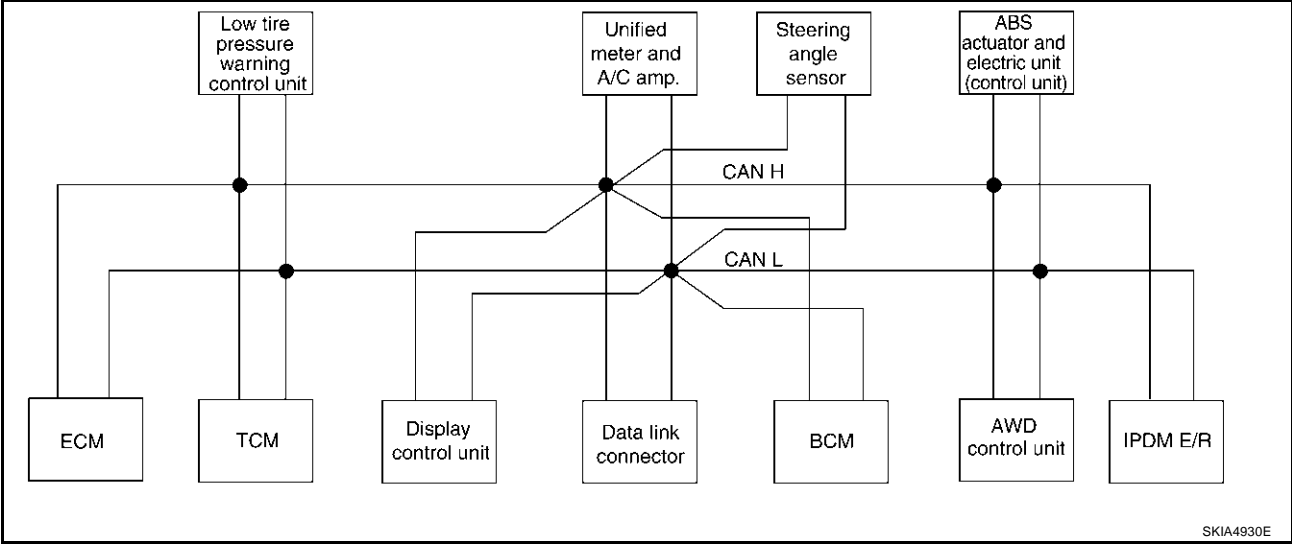
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# POWER DOOR LOCK SYSTEM

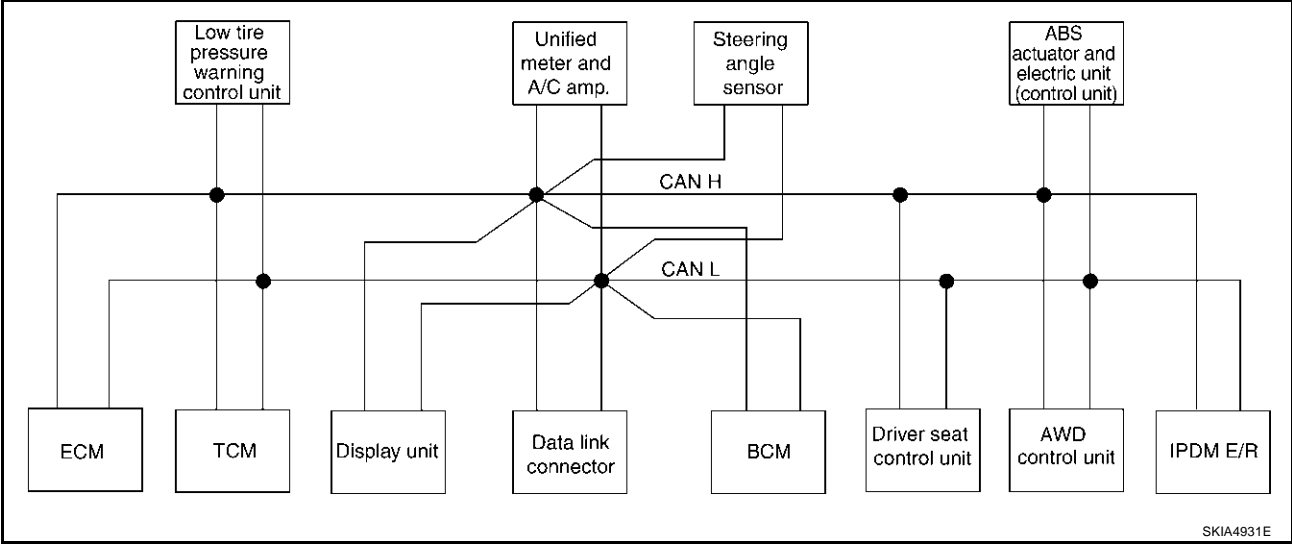
- Type28



- Type29



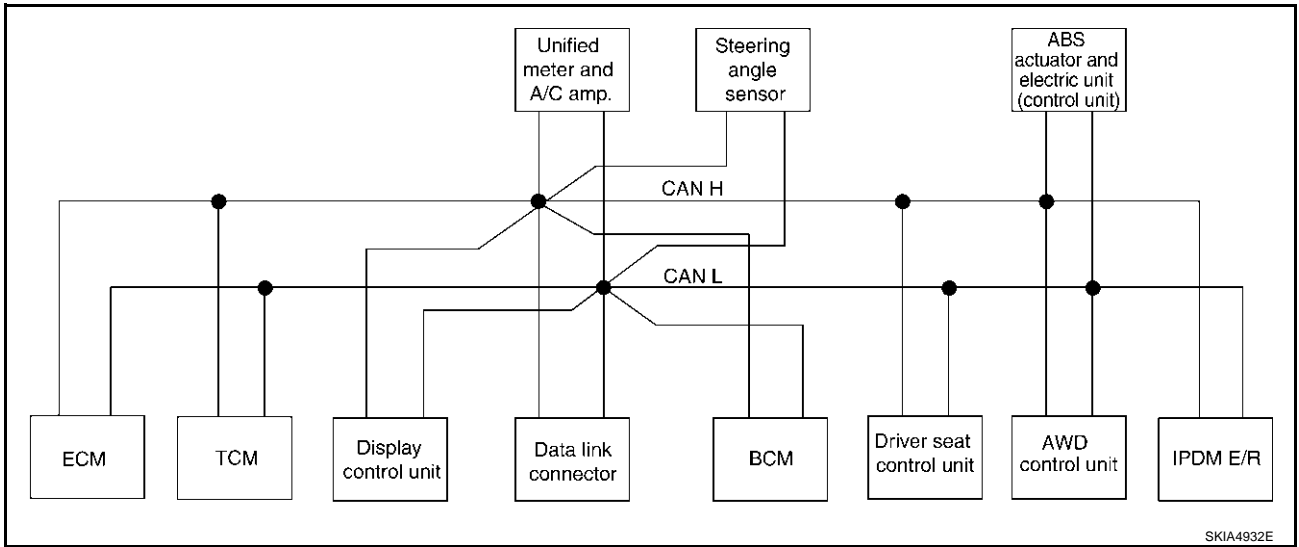
- Type30



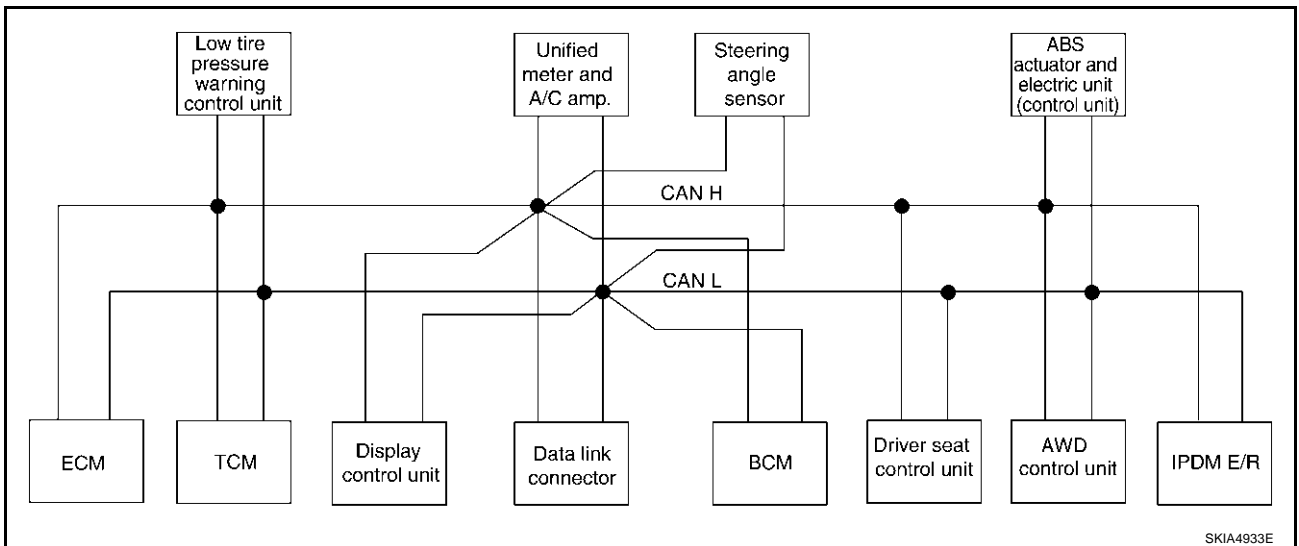


# POWER DOOR LOCK SYSTEM

- Type31



- Type32



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

# POWER DOOR LOCK SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Steering angle sensor	Driver seat control unit	AWD control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Engine and CVT integrated control signal	T	R										
	R	T										
Second position signal		R					T					
VDC operation signal		R								R	T	
Stop lamp switch signal		R					T			R		
Key switch signal						T			R			
Ignition switch signal						T			R			R
P range signal		T							R		R	
Closed throttle position signal	T	R										
Wide open throttle position signal	T	R										
Second position indicator signal		T					R				R	
Engine speed signal	T	R			R	R	R			R	R	
Engine status signal	T					R						
Engine coolant temperature signal	T						R					
Accelerator pedal position signal	T	R								R	R	
Fuel consumption monitor signal	T						R					
CVT self-diagnosis signal	R	T										
Input shaft revolution signal	R	T									R	
Output shaft revolution signal	R	T									R	
Air conditioner switch signal	R					T						
A/C compressor request signal	T											R
A/C compressor feedback signal	T						R					T
Blower fan motor switch signal	R					T						
A/C control signal				T	T		R					
				R	R		T					
Cooling fan speed request signal	T											R
Position lights request signal						T	R					R
Low beam request signal						T						R
Low beam status signal	R											T
High beam request signal						T	R					R
High beam status signal	R											T
Front fog lights request signal						T						R
Vehicle speed signal		R					R			R	T	
	R		R		R	R	T		R			
Sleep request 1 signal						T	R					
Sleep request 2 signal						T						R

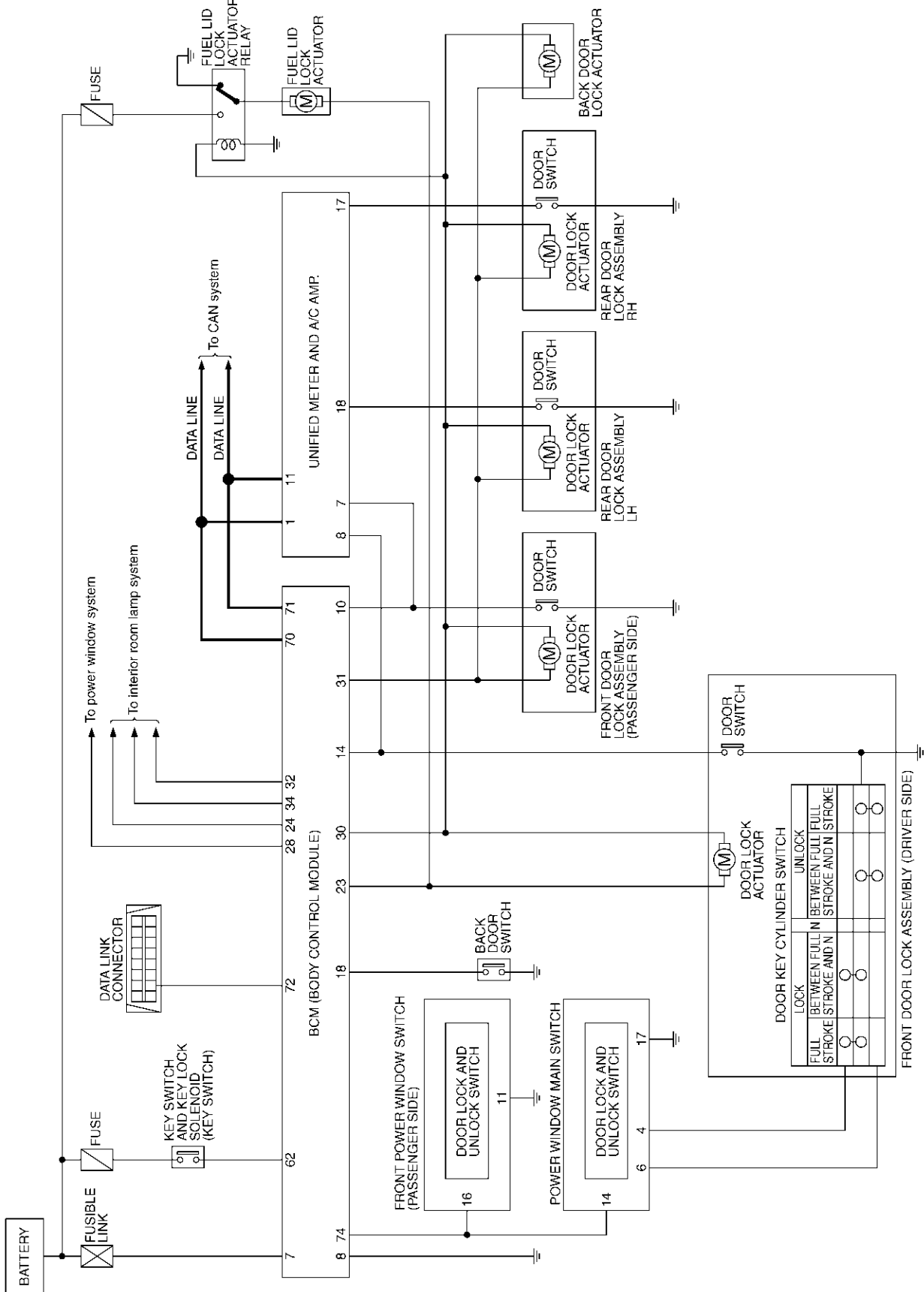
# POWER DOOR LOCK SYSTEM

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Steering angle sensor	Driver seat control unit	AWD control unit	ABS actuator and electric unit (control unit)	IPDM E/R	
Door switch signal						R	T						A
Turn indicator signal				R	R	T	R		R			R	B
Key fob ID signal						T			R				C
Key fob door unlock signal						T			R				D
Seat belt buckle switch signal						R	T						E
Oil pressure switch signal						R						T	F
Buzzer output signal						T	R						G
Fuel level sensor signal	R						T						H
Fuel level low warning signal				R	R		T						I
Malfunction indicator signal	T						R						J
ASCD SET lamp signal	T						R						K
ASCD CRUISE lamp signal	T						R						L
Front wiper request signal						T						R	BL
Front wiper stop position signal						R						T	M
Rear window defogger switch signal						T						R	
Rear window defogger control signal	R			R	R							T	
Hood switch signal						R						T	
Theft warning horn request signal						T						R	
Horn chirp signal						T						R	
Steering angle sensor signal								T			R		
Tire pressure signal			T				R						
Tire pressure data signal			T	R	R								
CVT position indicator signal		T					R				R		
ABS warning lamp signal							R				T		
VDC OFF indicator lamp signal							R				T		
SLIP indicator lamp signal							R				T		
Brake warning lamp signal							R				T		
System setting signal				T	T				R				
AWD warning lamp signal							R			T			
AWD lock indicator lamp signal							R			T			
AWD lock switch signal							T			R			
Parking brake switch signal						R	T			R			

# POWER DOOR LOCK SYSTEM

## Schematic

AIS002EY



TIWA0266E

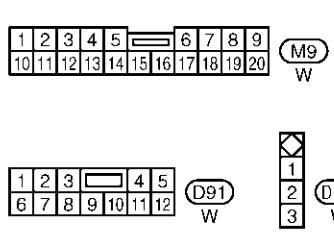
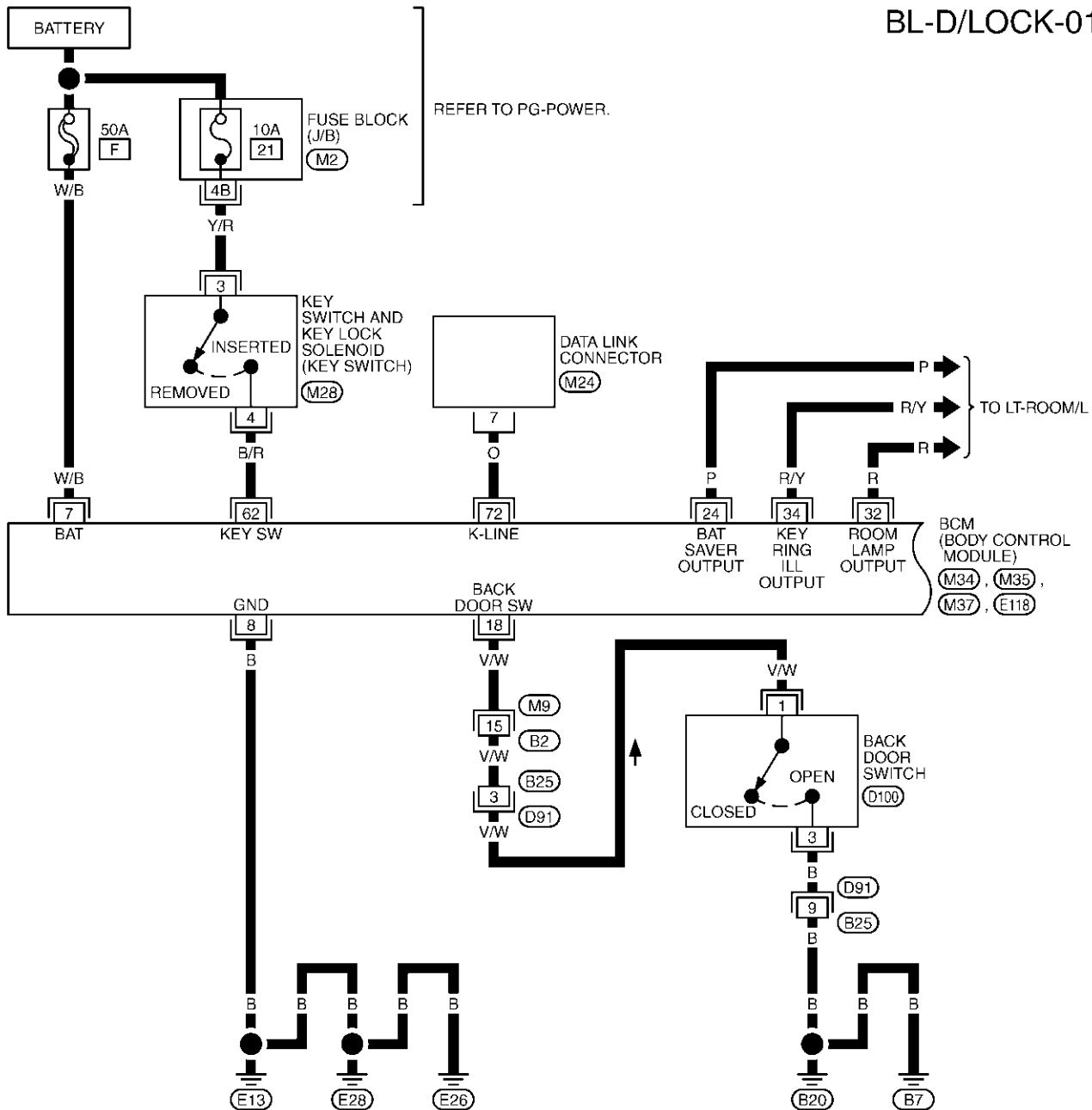
# POWER DOOR LOCK SYSTEM

**Wiring Diagram -D/LOCK-**  
**FIG. 1**

AIS002EZ

BL-D/LOCK-01

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



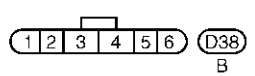
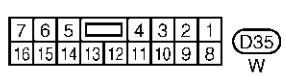
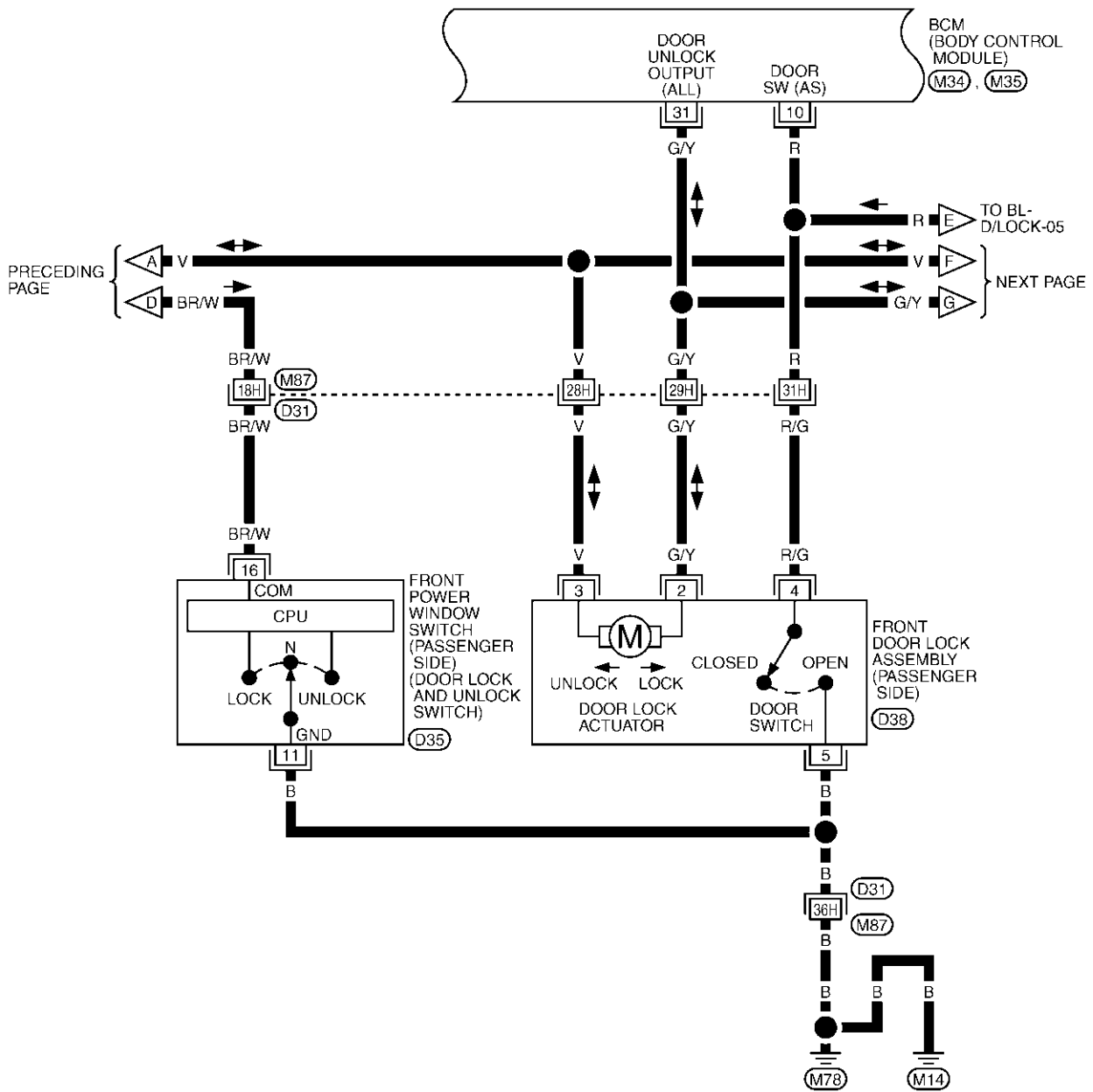
REFER TO THE FOLLOWING.  
 (M2) - FUSE BLOCK-JUNCTION BOX (J/B)  
 (M34), (M35), (M37), (E118) - ELECTRICAL UNITS



# POWER DOOR LOCK SYSTEM

FIG. 3

BL-D/LOCK-03



REFER TO THE FOLLOWING.  
 (D31) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M34), (M35) -ELECTRICAL UNITS

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



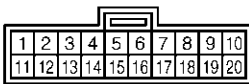
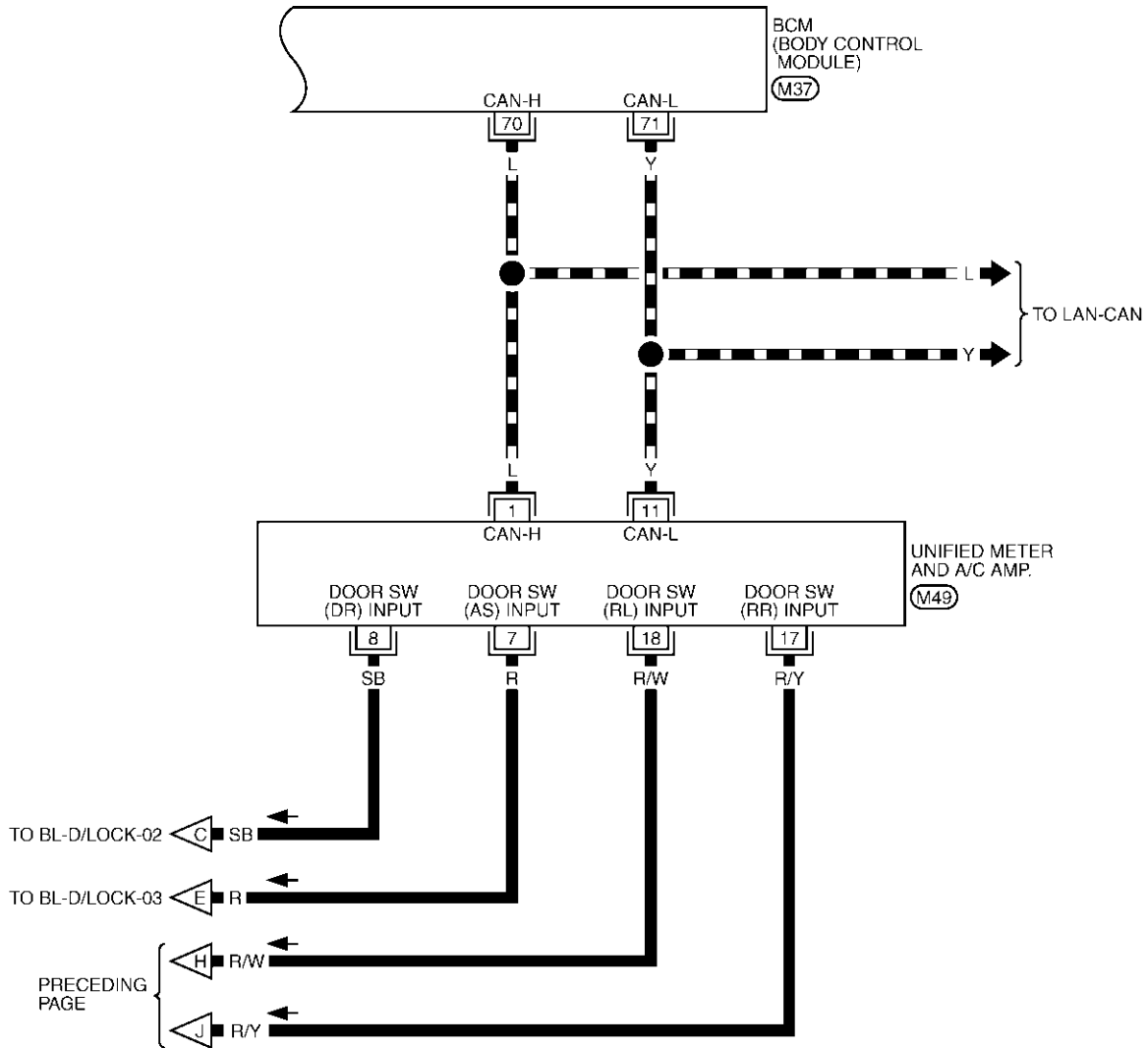


# POWER DOOR LOCK SYSTEM

FIG. 5

BL-D/LOCK-05

▬ : DATA LINE



M49  
GR



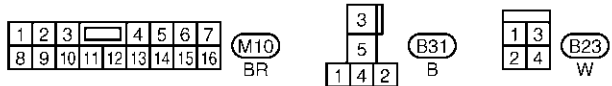
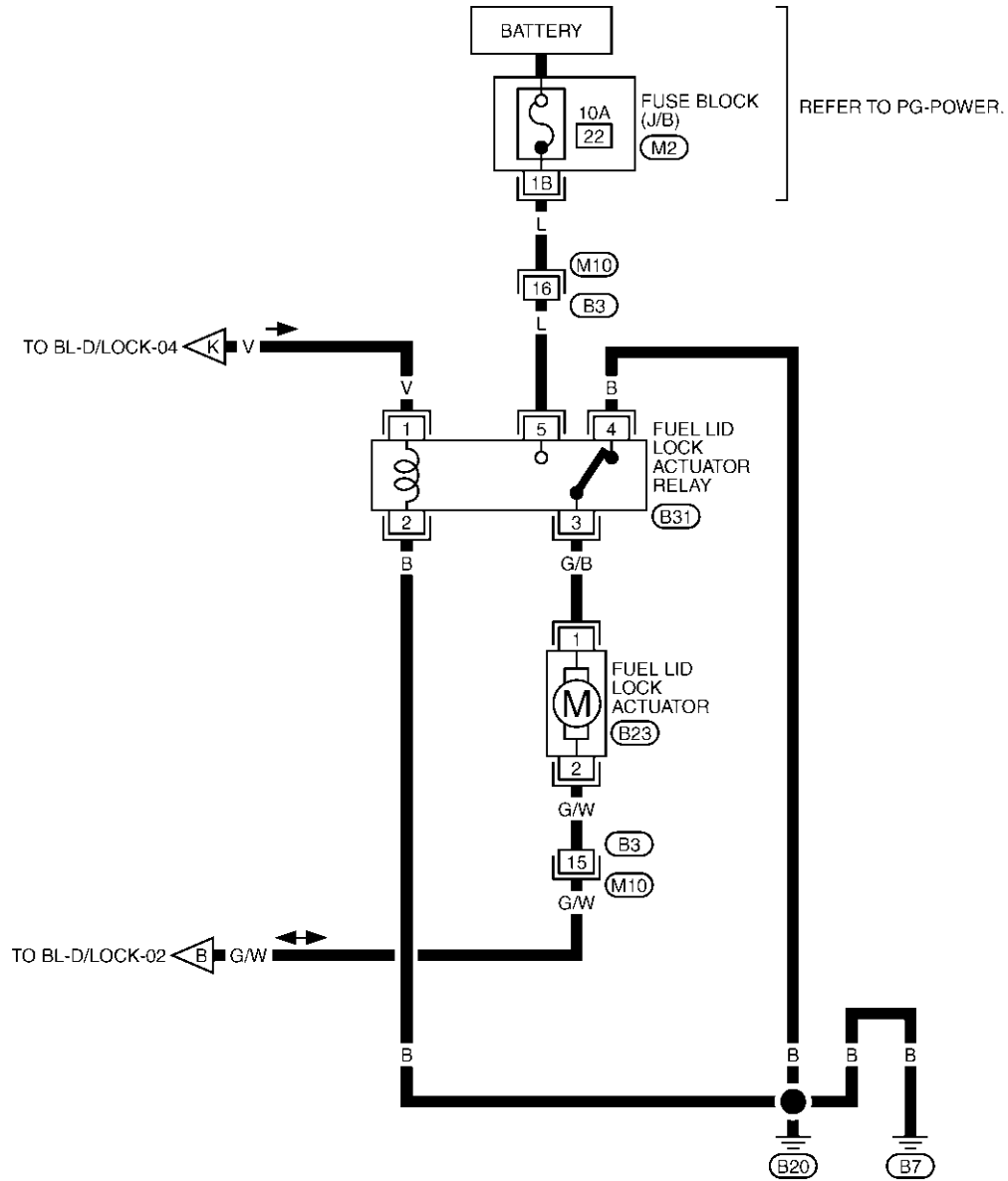
REFER TO THE FOLLOWING.  
M37 - ELECTRICAL UNITS

T1WA0271E

# POWER DOOR LOCK SYSTEM

FIG. 6

BL-D/LOCK-06



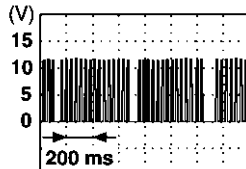
REFER TO THE FOLLOWING.  
 (M2) - FUSE BLOCK-JUNCTION BOX (J/B)

TIWA0324E

# POWER DOOR LOCK SYSTEM

## Terminals and Reference Value for BCM

AIS002HG

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
7	W/B	Battery power supply (Fusible link)	—	Battery voltage
8	B	Ground	—	0
10*1	R	Front door switch (Passenger side)	ON (Door open) → OFF (Door closed)	0 → Battery voltage
14*1	SB	Front door switch (Driver side)	ON (Door open) → OFF (Door closed)	0 → Battery voltage
18	V/W	Back door switch	ON (Back door open) → OFF (Back door closed)	0 → Battery voltage
23	G/W	Driver door lock actuator (Unlock)	Door lock and unlock switch (Free → Unlock)	0 → Battery voltage
24	P	Battery saver output signal	30 minutes after ignition switch is turned to OFF	0
			Ignition switch is in ON position	Battery voltage
28	W/R	Battery power supply (power window)	—	Battery voltage
30	V	All door lock actuators (lock)	Door lock and unlock switch (Free → Lock)	0 → Battery voltage
31	G/Y	Passenger and rear doors lock actuator (unlock)	Door lock and unlock switch (Free → Unlock)	0 → Battery voltage
32	R	Room lamp output signal	Map lamp is lighting.*2	0
			Map lamp is being turned off.*2	Battery voltage
34	R/Y	Key ring ill output signal	Key ring illumination is lighting.	0
			Key ring illumination is being turned off.	Battery voltage
62	B/R	Key switch	Key switch ON (key is inserted in ignition key cylinder)	Battery voltage
			Key switch OFF (key is removed from ignition key cylinder)	0
70	L	CAN-H	—	—
71	Y	CAN-L	—	—
72	O	Data link connector	—	—
74	BR/W	Power window serial link	Ignition switch is ON or power window retained power operation is activated.	

\*1: These signal are only used to control remote keyless entry system, if unified meter and A/C amp. or CAN communication is malfunction.

\*2: In the state that map lamp switch is in "DOOR" position.

# POWER DOOR LOCK SYSTEM

## Terminals and Reference Value for Unified Meter and A/C amp.

AIS002HK

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
1	L	CAN-H	—	—
7	R	Front door switch (Passenger side)	ON (Door open) → OFF (Door closed)	0 → Battery voltage
8	SB	Front door switch (driver side)	ON (Door open) → OFF (Door closed)	0 → Battery voltage
11	Y	CAN-L	—	—
17	R/Y	Rear door switch RH	ON (Door open) → OFF (Door closed)	0 → Battery voltage
18	R/W	Rear door switch LH	ON (Door open) → OFF (Door closed)	0 → Battery voltage

## Work Flow

AIS002F1

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to [BL-24, "System Description"](#).
3. Perform the preliminary check. Refer to [BL-56, "Preliminary Check"](#).
4. According to the trouble diagnosis chart, repair or replace the cause of the malfunction. Refer to [BL-60, "Trouble Diagnoses Chart by Symptom"](#).
5. Does power door lock system operate normally?  
YES: GO TO 6.  
NO: GO TO 4.
6. INSPECTION END.

## Preliminary Check

AIS002F2

### FUSE CHECK

#### 1. FUSE INSPECTION

Check 50A fusible link [letter F located in the fuse block (J/B)].

#### NOTE:

Refer to [BL-23, "Component Parts and Harness Connector Location"](#).

OK or NG

OK >> GO TO 2

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse, refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#).

#### 2. CHECK POWER SUPPLY CIRCUIT

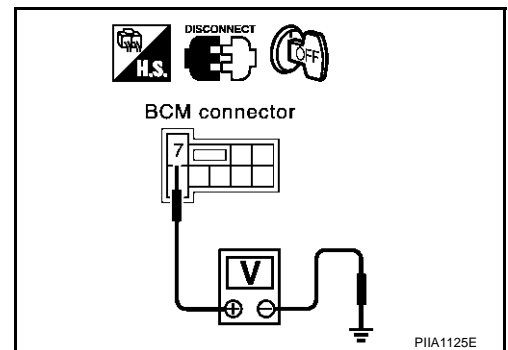
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check voltage between BCM connector E118 terminal 7 and ground.

**7 (W/B) – Ground : Battery voltage should exist.**

OK or NG

OK >> GO TO 3

NG >> Repair or replace BCM power supply circuit.



# POWER DOOR LOCK SYSTEM

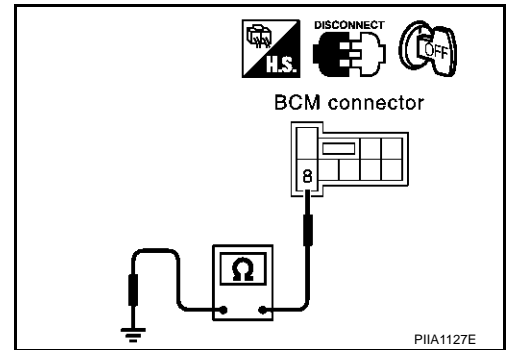
## 3. CHECK GROUND CIRCUIT

Check continuity between BCM connector E118 terminal 8 (B) and ground.

**8 (B) – Ground : Continuity should exist.**

OK or NG

- OK >> BCM power supply and ground circuit is OK.
- NG >> Repair or replace BCM ground circuit.



## CONSULT-II Function

AIS002F3

The following functions are executed by combining data received and command transmitted via the communication line from the BCM.

BCM diagnosis part	Inspection item, self-diagnosis mode		Content
BCM C/U*	SELF-DIAG RESULTS		Carries out the self-diagnosis.
	DATA MONITOR	CAN DIAG SUPPORT MNTR	Displays CAN communication system diagnosis, disabled transmission status, and communication status of each unit communicated with BCM.
		SELECTION FROM MENU	Displays the input data to BCM on real-time basis.
DOOR LOCK	WORK SUPPORT		Changes the setting for each function.
	DATA MONITOR		Displays BCM input data on real-time basis.
	ACTIVE TEST		Sends drive signals to door lock actuator to perform operation check.

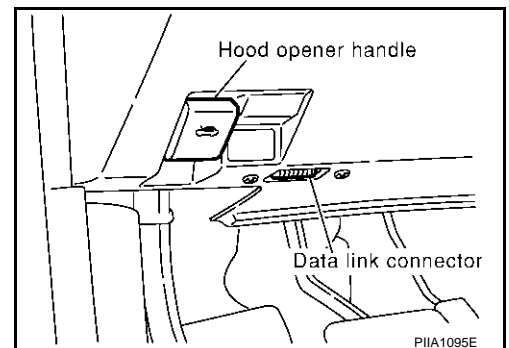
\*: Refer to [SE-66, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#).

## CONSULT-II BASIC OPERATION 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 carry out CAN communication.

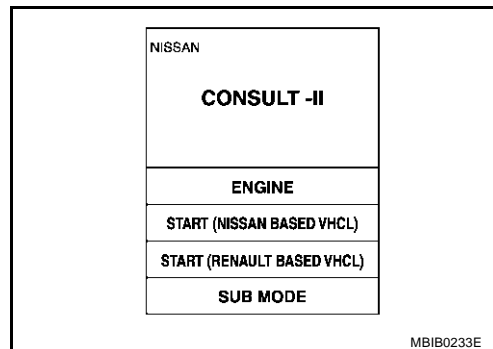
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" and "CONSULT-II CONVERTER" to data link connector.



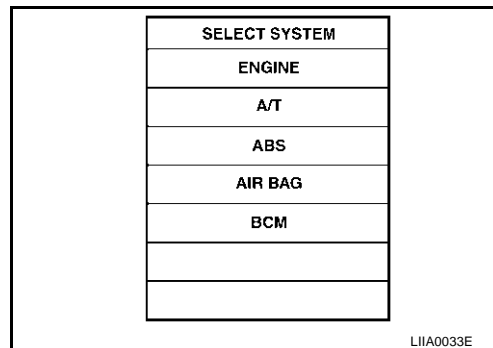
3. Turn ignition switch "ON".

# POWER DOOR LOCK SYSTEM

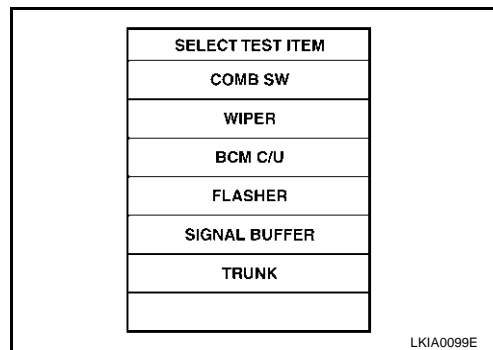
4. Touch "START (NISSAN BASED VHCL)".



5. Touch "BCM" on "SELECT SYSTEM" screen.  
If "BCM" is not indicated, go to [GI-38, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



6. Select item to be diagnosed on "SELECT TEST ITEM" screen.



## WORK SUPPORT

Work item	Description
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.
LOCK SW DR/AS	"ON/OFF" Indicates [ON/OFF] condition of lock signal from lock and unlock switch on power window main switch or front power window switch (passenger side).
UNLK SW DR/AS	"ON/OFF" Indicates [ON/OFF] condition of unlock signal from lock and unlock switch on power window main switch or front power window switch (passenger side).
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.
LK BUTTON/SIG	"ON/OFF" Indicates [ON/OFF] condition of lock signal from key fob.
UN BUTTON/SIG	"ON/OFF" Indicates [ON/OFF] condition of unlock signal from key fob.
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 LH.

# POWER DOOR LOCK SYSTEM

Monitor item "OPERATION"		Content
DOOR SW-AS	"ON/OFF"	Indicates [ON/OFF] condition of front door switch RH.
BACK DOOR SW	"ON/OFF"	Indicates [ON/OFF] condition of back door switch.
DOOR SW-RR	"ON/OFF"	Indicates [ON/OFF] condition of door switch (Rear).
TRNK OPN MNTR	"ON/OFF"	This is displayed even when it is not equipped.

A

B

## ACTIVE TEST

Test item	Content
ALL D/LK MTR	This test is able to check all door lock actuators lock operation. These actuators lock when "ON" on CONSULT-II screen is touched.
DR D/UN MTR	This test is able to check front door lock actuator LH unlock operation. These actuators lock when "ON" on CONSULT-II screen is touched.
NON DR D/UN	This test is able to check door lock actuators (except front door lock actuator LH) unlock operation. These actuators unlock when "ON" on CONSULT-II screen is touched.

C

D

E

F

G

H

BL

J

K

L

M

# POWER DOOR LOCK SYSTEM

AIS002F4

## Trouble Diagnoses Chart by Symptom

### NOTE:

Always check the "Work Flow" before troubleshooting. Refer to [BL-56, "Work Flow"](#).

Symptom	Diagnoses service procedure	Refer to page
Power door lock does not operate with door lock and unlock switch on power window main switch or front power window switch (passenger side).	1. Preliminary check	<a href="#">BL-56</a>
	2. Check door lock and unlock switch.	<a href="#">BL-67</a>
	3. Replace BCM.	<a href="#">BCS-36</a>
Specific door lock actuator does not operate.	1. Check door lock actuator.	<a href="#">BL-69</a> *1 <a href="#">BL-70</a> *2 <a href="#">BL-70</a> *3
Power door lock does not operate with front door key cylinder operation, but operates with door lock and unlock switch.	1. Check door key cylinder switch.	<a href="#">BL-71</a> <a href="#">BL-72</a>
	2. Replace power window main switch.	—
Fuel lid lock actuator does not lock. (All door lock actuators are activate properly.)	1. Check fuel lid lock actuator (Lock).	<a href="#">BL-73</a>
Fuel lid lock actuator does not unlock. (All door lock actuators are activate properly.)	1. Check fuel lid lock actuator (Unlock).	<a href="#">BL-74</a>
Fuel lid opener actuator does not operate at all. (All door lock actuators are activate properly.)	1. Check fuel lid lock actuator (Lock and Unlock).	<a href="#">BL-75</a>
Key reminder door system does not operate properly.	1. Preliminary check	<a href="#">BL-56</a>
	2. Check key switch.	<a href="#">BL-65</a>
	3. Check door switch.	<a href="#">BL-61</a>
	4. Replace BCM.	<a href="#">BCS-36</a>

\*1 : Driver side

\*2 : Passenger side, rear LH, RH

\*3 : Back door



# POWER DOOR LOCK SYSTEM

AIS003C5

## Check Door Switch CHECK DOOR SWITCH (EXCEPT BACK DOOR SWITCH)

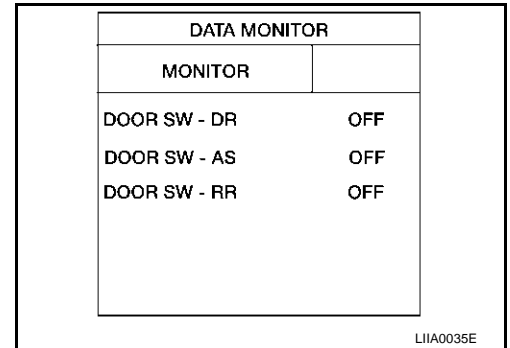
First perform the "SELF-DIAG RESULT" in "BCM" with CONSULT-II. When perform the each trouble diagnosis, refer to [SE-66, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#).

### 1. CHECK DOOR SWITCH INPUT SIGNAL

#### Ⓜ With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS" and "DOOR SW-RR") in "DATA MONITOR" mode with CONSULT-II.

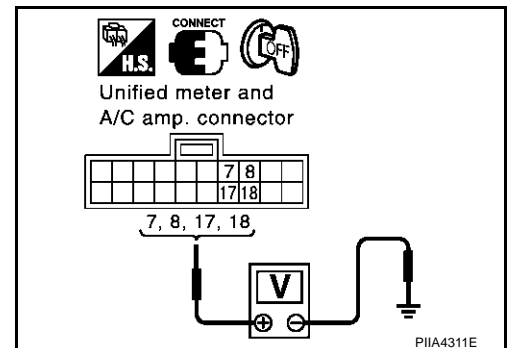
Monitor item	Condition	
DOOR SW-DR	Door is closed	OFF
DOOR SW-AS	↓	↓
DOOR SW-RR	Door is opened	ON



#### ⊗ Without CONSULT-II

Check voltage between unified meter and A/C amp. connector M49 terminals 8 (SB), 7 (R), 18 (R/W), 17 (R/W) and ground.

	Terminals		Condition	Voltage (V) Approx.
	(+)	(-)		
Front door switch (driver side)	8 (SB)	Ground	Door close ↓ Door open	Battery voltage ↓ 0
Front door switch (passenger side)	7 (R)			
Rear door switch LH	18 (R/W)			
Rear door switch RH	17 (R/Y)			



#### OK or NG

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

# POWER DOOR LOCK SYSTEM

## 2. CHECK DOOR SWITCH

1. Turn ignition switch OFF.
2. Disconnect door switch and unified meter and A/C amp. connectors.
3. Check continuity between door switch connectors D10, D38, D56, D76 terminals 4 and unified meter and A/C amp. connector M49 terminals 8, 7, 18, 17.

Item	Terminal	Continuity
Front door switch (driver side)	4 (SB) – 8 (SB)	Yes
Front door switch (passenger side)	4 (R/G) – 7 (R)	
Rear door switch LH	4 (V) – 18 (R/W)	
Rear door switch RH	4 (R/W) – 17 (R/Y)	

4. Check continuity between unified meter and A/C amp. connector M49 terminals 7, 8, 17, 18 and ground.

Item	Terminal	Continuity
Unified meter and A/C amp.	7 (R)	No
	8 (SB)	
	17 (R/Y)	
	18 (R/W)	

OK or NG

- OK >> GO TO 3.  
 NG >> Repair or replace harness.

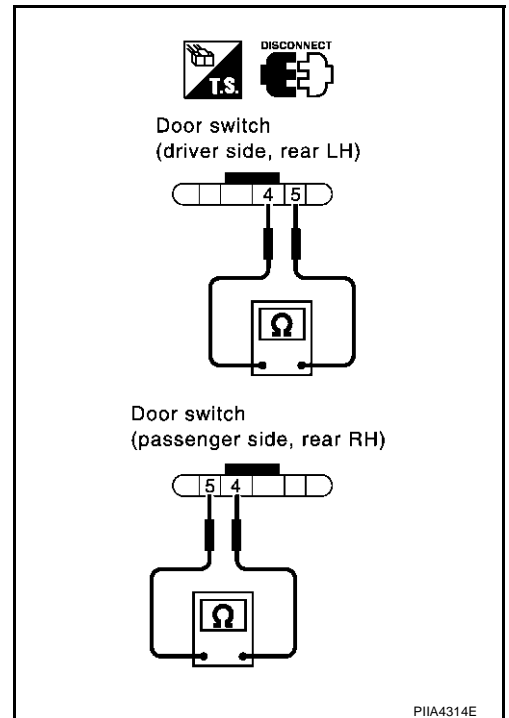
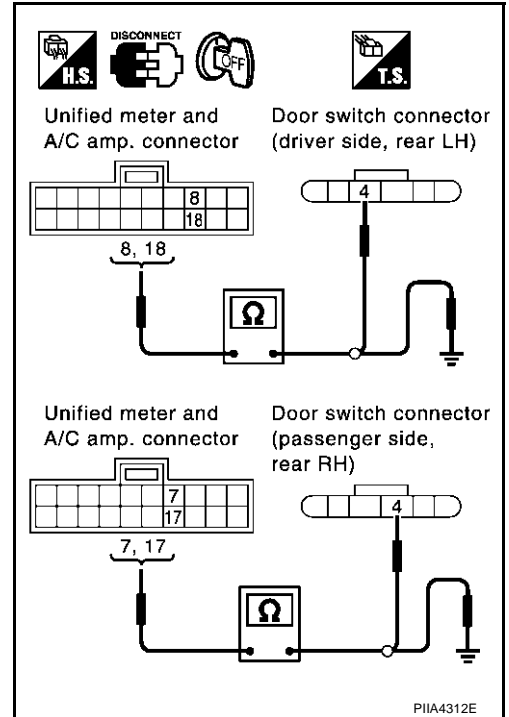
## 3. CHECK DOOR SWITCH

Check continuity between door switch terminals 4 and 5.

Terminal	Door switch condition	Continuity
4 - 5	Open position	Yes
	Closed position	No

OK or NG

- OK >> GO TO 4.  
 NG >> Replace door switch.



# POWER DOOR LOCK SYSTEM

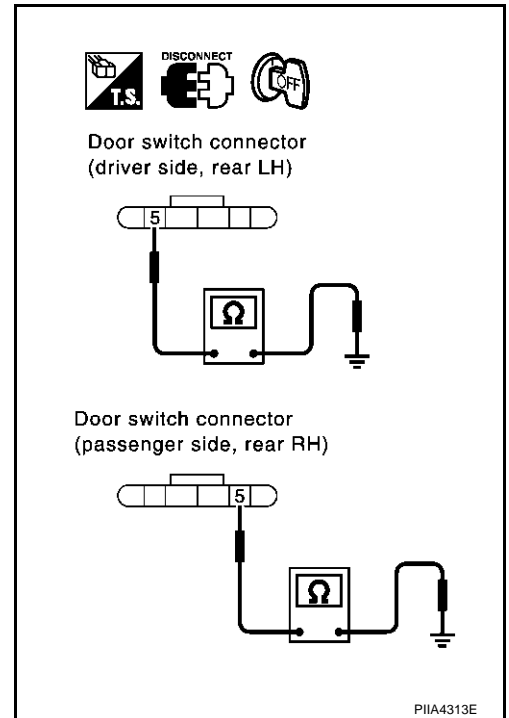
## 4. CHECK DOOR SWITCH GROUND HARNESS

Check continuity between door switch connectors D10, D38, D56, D76 terminal 5 and ground.

Item	Terminal		Continuity
Door switch (driver side, passenger side, rear RH)	5 (B)	Ground	Yes
Door switch (rear LH)	5 (G/Y)		

OK or NG

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



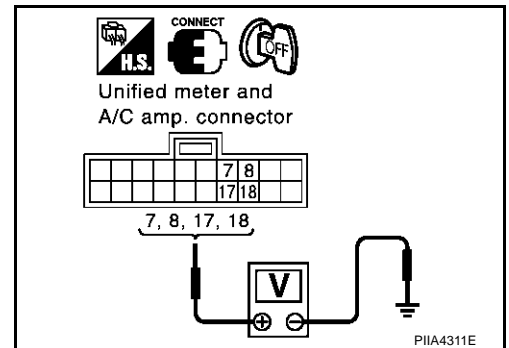
## 5. CHECK DOOR SWITCH INPUT SIGNAL

1. Connect unified meter and A/C amp. connector.
2. Check voltage between unified meter and A/C amp. connector M49 terminals 7, 8, 17, 18 and ground.

- 7 (R) – Ground : Battery voltage**  
**8 (SB) – Ground : Battery voltage**  
**17 (R/Y) – Ground : Battery voltage**  
**18 (R/W) – Ground : Battery voltage**

OK or NG

- OK >> Check harness connection.  
 NG >> Replace unified meter and A/C amp.



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

# POWER DOOR LOCK SYSTEM

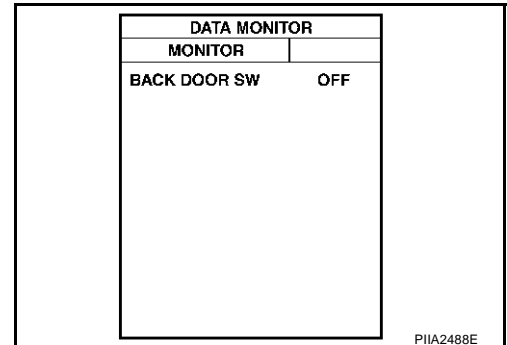
## CHECK BACK DOOR SWITCH

### 1. CHECK BACK DOOR SWITCH INPUT SIGNAL

#### With CONSULT-II

Check back door switch ("BACK DOOR SW") in "DATA MONITOR" mode with CONSULT-II.

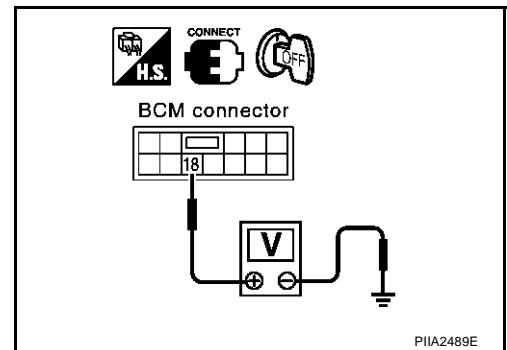
Monitor item	Condition	
BACK DOOR SW	Back door close	OFF
	Back door open	ON



#### Without CONSULT-II

Check voltage between BCM connector and ground.

Item	Terminals (Wire color)			Condition	Voltage (V) Approx.
	Con- nector	(+)			
		Terminal (Wire color)	(-)		
Back door switch	M34	18 (V/W)	Ground	OPEN	0
				CLOSE	5* <sup>1</sup> 12* <sup>2</sup>



\*1: When battery saver control function is not activated.

\*2: When battery saver control function is activated.

#### OK or NG

OK >> Back door switch circuit is OK.

NG >> GO TO 2

### 2. CHECK BACK DOOR SWITCH HARNESS

- Turn ignition switch OFF.
- Disconnect BCM and back door switch connectors.
- Check continuity between BCM connector M34 terminal 18 and back door switch connector D100 terminal 1.

**18 (V/W) – 1 (V/W) : Continuity should exist.**

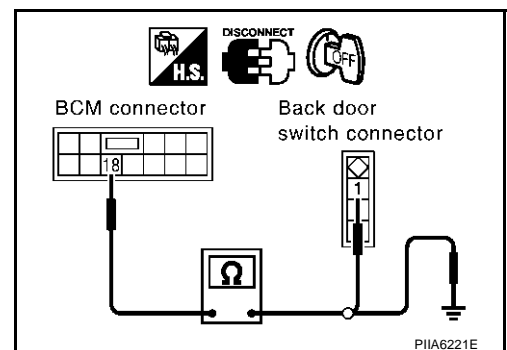
- Check continuity between BCM connector M34 terminal 18 and ground.

**18 (V/W) – Ground : Continuity should not exist.**

#### OK or NG

OK >> GO TO 3

NG >> Repair or replace harness.



# POWER DOOR LOCK SYSTEM

## 3. CHECK BACK DOOR SWITCH

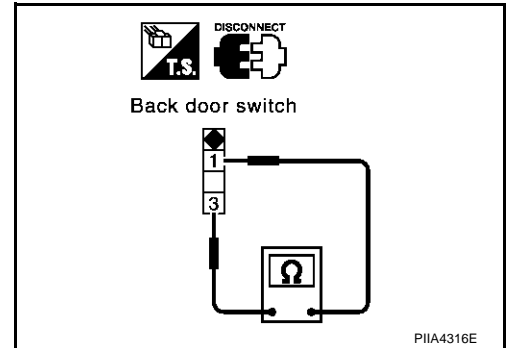
Check continuity between back door switch terminals 1 and 3.

Terminal	Back door switch condition	Continuity
1 - 3	Open position	Yes
	Closed position	No

OK or NG

OK >> GO TO 4.

NG >> Replace back door switch.



## 4. CHECK BACK DOOR SWITCH GROUND HARNESS

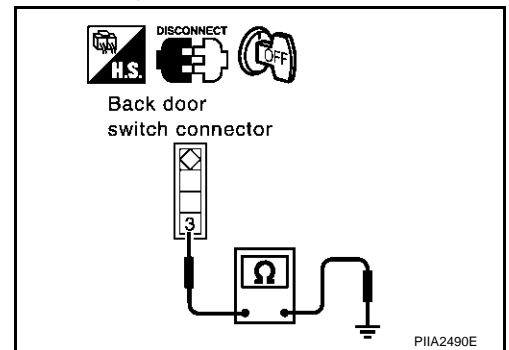
Check continuity between back door switch connector D100 terminal 3 (B) and ground.

**3 (B) - Ground : Continuity should exist.**

OK or NG

OK >> Check harness connection.

NG >> Repair or replace harness.



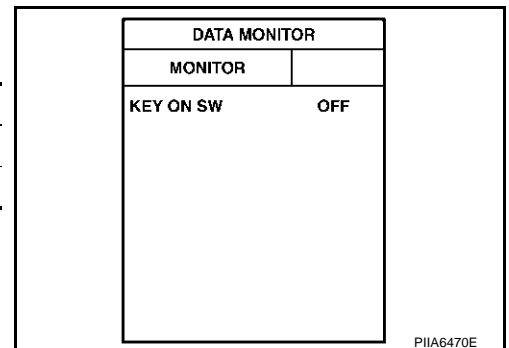
## Check Key Switch

### 1. CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

Check ignition key switch "IGN ON SW" in "DATA MONITOR" mode with CONSULT-II.

Monitor item	Condition	
KEY ON SW	Key is removed from IGN key cylinder	OFF
	Key is inserted in IGN key cylinder	ON



Without CONSULT-II

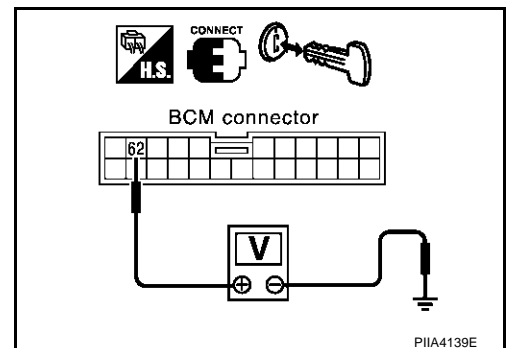
Check voltage between BCM connector M37 terminal 62 (B/R) and ground.

Terminal (Wire color)	Condition	Voltage (V) Approx.
62 (B/R) Ground	Key is removed from ignition key cylinder.	0
	Key is inserted in ignition key cylinder.	Battery voltage

OK or NG

OK >> Key switch circuit is OK.

NG >> GO TO 2.



# POWER DOOR LOCK SYSTEM

## 2. CHECK KEY SWITCH

1. Disconnect key switch connector.
2. Check continuity between key switch connector M28 terminals 3 and 4.

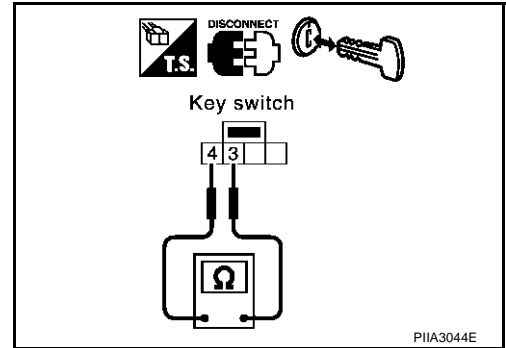
Terminal	Condition	Continuity
3 - 4	Key is removed from IGN key cylinder.	NO
	Key is inserted in IGN key cylinder.	YES

### OK or NG

OK >> Check the following.

- 10A fuse [No. 21, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between BCM and key switch

NG >> Replace key switch.



# POWER DOOR LOCK SYSTEM

AIS002F9

## Check Door Lock and Unlock Switch

### 1. CHECK POWER WINDOW OPERATION

Does power window system operate normally?

OK or NG

OK >> GO TO 2

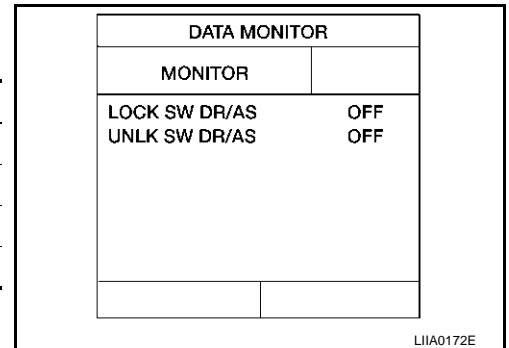
NG >> Refer to [GW-17, "POWER WINDOW SYSTEM"](#) .

### 2. CHECK DOOR LOCK AND UNLOCK SWITCH INPUT SIGNAL

#### ① With CONSULT-II

Check door lock and unlock switch ("LOCK SW DR/AS" and "UNLK SW DR/AS") in DATA MONITOR mode with CONSULT-II.

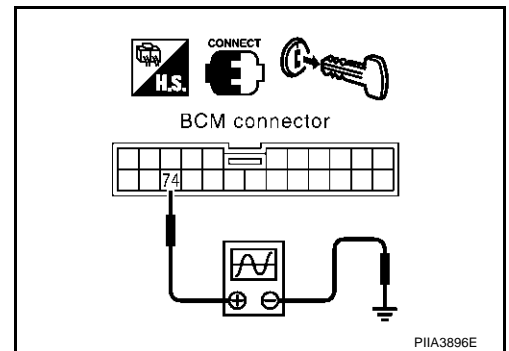
Monitor item	Condition	
LOCK SW DR/AS	Door lock and unlock switch is in free position	OFF
	Door lock and unlock switch is in LOCK position	ON
UNLK SW DR/AS	Door lock and unlock switch is in free position	OFF
	Door lock and unlock switch is in UNLOCK position	ON



#### ⊗ Without CONSULT-II

1. Remove key from ignition key cylinder.
2. Check the signal between BCM connector M37 terminal 74 (BR/W) and ground when door lock and unlock switch is turned "LOCK" or "UNLOCK".
3. Make sure signals which are shown in the figure below can be detected during 10 second just after door lock and unlock switch is turned "LOCK" or "UNLOCK".

Connector	Terminal		Voltage (V)
	(+)	(-)	
M37	74(BR/W)	Ground	



OK or NG

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

NG >> GO TO 3.

# POWER DOOR LOCK SYSTEM

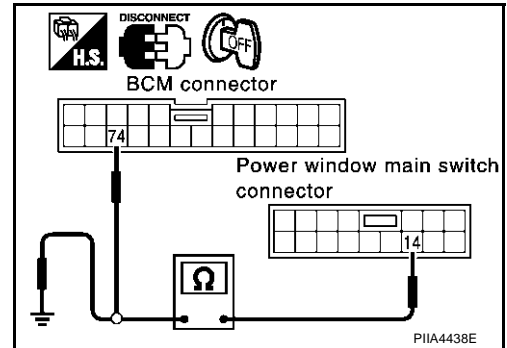
## 3. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Disconnect BCM, power window main switch and front power window switch (passenger side) connectors.
2. Check continuity between BCM connector M37 terminal 74 and power window main switch (door lock and unlock switch) connector D6 terminal 14.

**74 (BR/W) – 14 (BR/W) : Continuity should exist.**

3. Check continuity between power window main switch connector D6 terminal 14 and ground.

**14 (BR/W) – Ground : Continuity should not exist.**

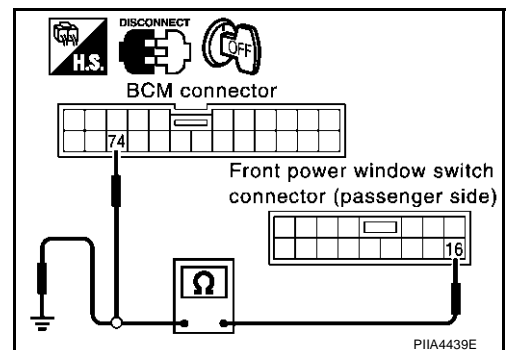


4. Check continuity between BCM connector M37 terminal 74 and front power window switch (passenger side) connector D35 terminal 16.

**74 (BR/W) – 16 (BR/W) : Continuity should exist.**

5. Check continuity between front power window switch (passenger side) connector D35 terminal 16 and ground.

**16 (BR/W) – Ground : Continuity should not exist.**



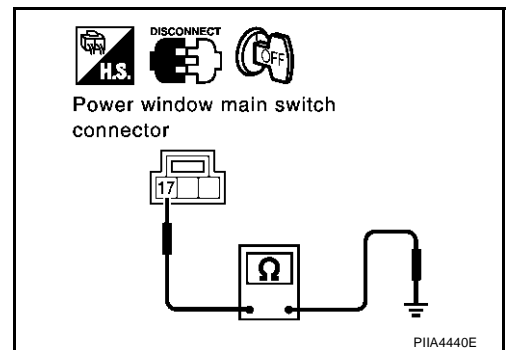
### OK or NG

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

## 4. CHECK DOOR LOCK AND UNLOCK SWITCH GROUND HARNESS

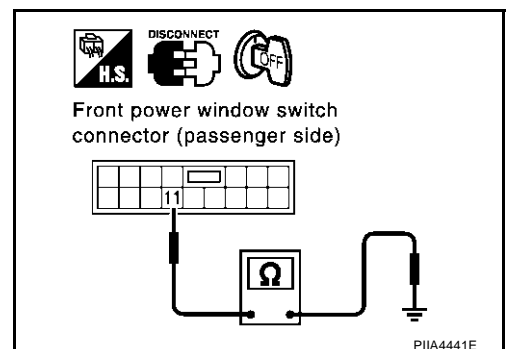
- Check continuity between power window main switch (door lock and unlock switch) connector D7 terminal 17 and ground.

**17 (B) – Ground : Continuity should exist.**



- Check continuity between front power window switch (passenger side) connector D35 terminal 11 and ground.

**11 (B) – Ground : Continuity should exist.**





# POWER DOOR LOCK SYSTEM

## OK or NG

OK >> Check harness connection.

- If harness connection is OK, replace power window main switch or front power window switch (passenger side).
- If harness connection is NG, repair or replace malfunction part of harness connection.

NG >> Repair or replace harness.

## Check Door Lock Actuator (Front Driver Side)

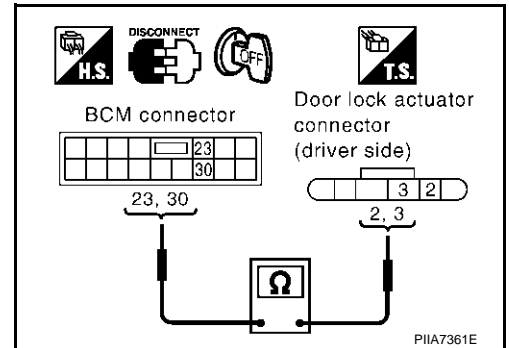
AIS002FA

### 1. CHECK DOOR LOCK ACTUATOR HARNESS

1. Turn ignition switch OFF.
2. Disconnect BCM and door lock actuator (driver side) connectors.
3. Check continuity between BCM connector M35 terminals 23, 30 and door lock actuator (driver side) connector D10 terminals 2, 3.

**23 (G/W) – 2 (G/W) : Continuity should exist.**

**30 (V) – 3 (V) : Continuity should exist.**



## OK or NG

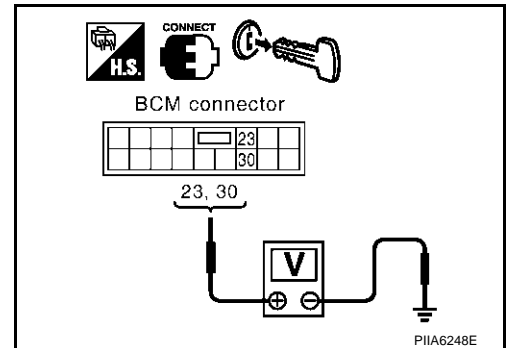
OK >> GO TO 2.

NG >> Repair or replace harness.

### 2. CHECK OUTPUT SIGNAL

1. Remove the key from ignition key cylinder.
2. Connect BCM connector.
3. Check voltage between BCM connector M35 terminals 23, 30 and ground.

Con- nector	Terminal		Condition	Voltage (V) Approx.
	(+)	(-)		
M35	23 (G/W)	Ground	Driver door lock and unlock switch is turned to UNLOCK.	0 → Battery voltage
	30 (V)		Driver door lock and unlock switch is turned to LOCK.	0 → Battery voltage



## OK or NG

OK >> Replace front door lock assembly (driver side).

NG >> Replace BCM.

# POWER DOOR LOCK SYSTEM

## Check Door Lock Actuator (Passenger Side and Rear LH/RH)

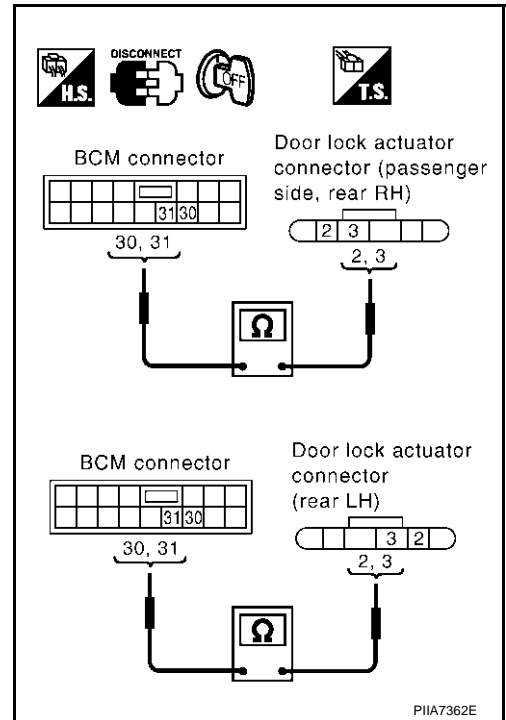
AIS002FB

### 1. CHECK DOOR LOCK ACTUATOR HARNESS

1. Turn ignition switch OFF.
2. Disconnect BCM and all door lock actuator connectors.
3. Check continuity between BCM connector M35 terminals 30, 31 and front door lock actuator passenger side, rear door lock actuator LH/RH connector D38, D56, D76 terminals 2, 3.

**30 (V) – 3 (V or R/W) : Continuity should exist.**

**31 (G/Y) – 2 (G/Y or B) : Continuity should exist.**



#### OK or NG

- OK >> Replace door lock assembly (door lock actuator).
- NG >> Repair or replace harness.

## Check Back Door Lock Actuator

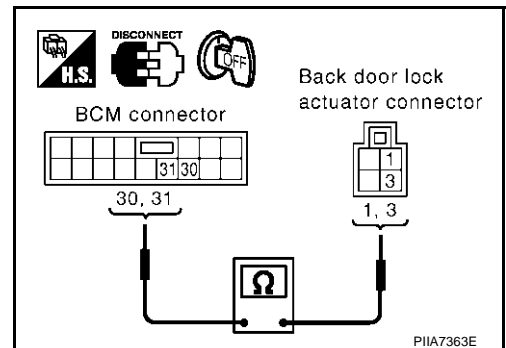
AIS002HJ

### 1. CHECK BACK DOOR OPENER ACTUATOR HARNESS

1. Turn ignition switch OFF.
2. Disconnect BCM and back door lock actuator connectors.
3. Check continuity between BCM connector M35 terminals 30 (V), 31 (G/Y) and back door lock actuator connector D101 terminals 1 (V), 3 (G/Y).

**30 (V) – 1 (V) : Continuity should exist.**

**31 (G/Y) – 3 (G/Y) : Continuity should exist.**



#### OK or NG

- OK >> Replace back door actuator.
- NG >> Repair or replace harness.

# POWER DOOR LOCK SYSTEM

## Check Door Key Cylinder Switch (Lock)

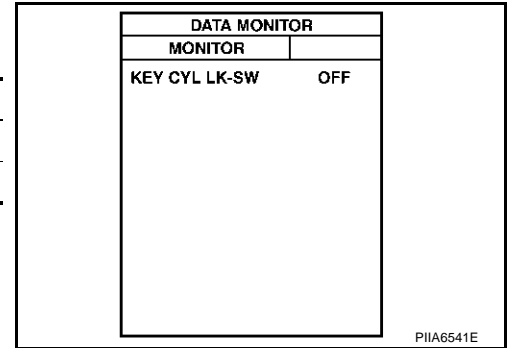
AIS002FD

### 1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK)

#### With CONSULT-II

Check door key cylinder switch ("KEY CYL LK SW") in "DATA MONITOR" mode with CONSULT-II.

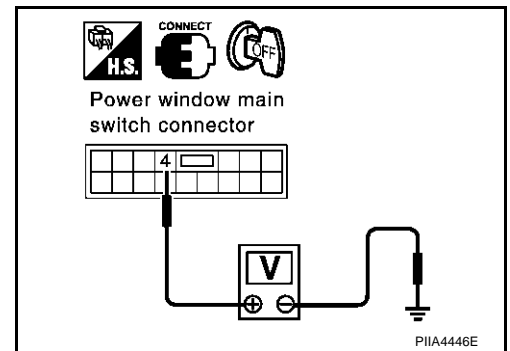
Monitor item	Condition	
KEY CYL LK-SW	Door key cylinder switch is in neutral position.	OFF
	Door key cylinder switch is in LOCK position.	ON



#### Without CONSULT-II

Check voltage between power window main switch (door lock and unlock switch) connector D6 terminal 4 (L) and ground.

Terminal (Wire color)	Door key cylinder switch position	Voltage (V) Approx.
4 (L) - Ground	Neutral / Unlock	5
	Lock	0



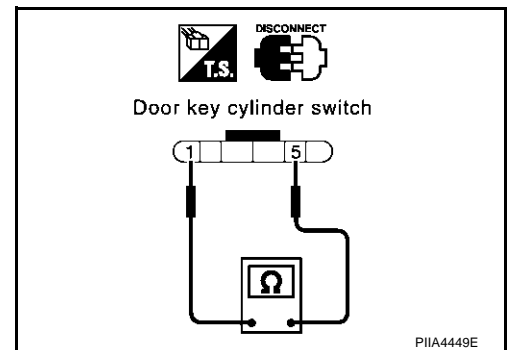
OK or NG

- OK >> Door key cylinder switch (lock) circuit is OK.
- NG >> GO TO 2.

### 2. CHECK DOOR KEY CYLINDER SWITCH

1. Disconnect door key cylinder switch connector.
2. Check continuity between door key cylinder switch terminals 1 and 5.

Terminal	Door key cylinder switch position	Continuity
1 - 5	Neutral / Unlock	No
	Lock	Yes



OK or NG

- OK >> Check the following.
  - Harness for open or short between power window main switch (door lock and unlock switch) and door key cylinder switch.
  - Door key cylinder switch ground circuit.
- NG >> Replace front door lock assembly (driver side) (door key cylinder switch).

# POWER DOOR LOCK SYSTEM

AIS002FE

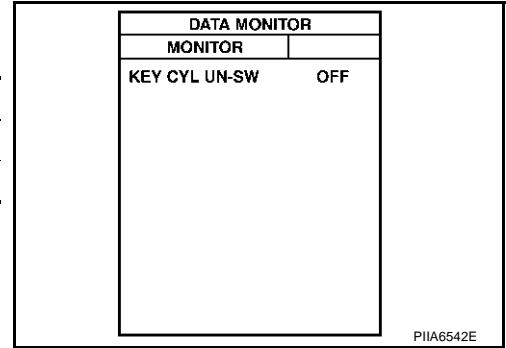
## Check Door Key Cylinder Switch (Unlock)

### 1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (UNLOCK)

#### With CONSULT-II

- Check door key cylinder switch ("KEY CYL UN-SW") in "DATA MONITOR" mode with CONSULT-II.

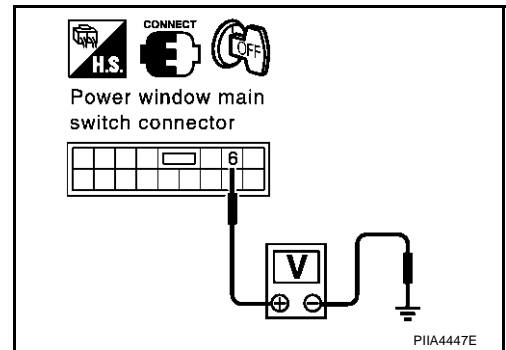
Monitor item	Condition	
<b>LOCK CYL UN-SW</b>	Door key cylinder switch is in neutral position	OFF
	Door key cylinder switch is in UNLOCK position	ON



#### Without CONSULT-II

Check voltage between main power window (door lock and unlock switch) connector D6 terminal 6 and ground.

Terminal (Wire color)	Door key cylinder switch position	Voltage (V) Approx.
6 (R) - Ground	Neutral / Lock	5
	Unlock	0



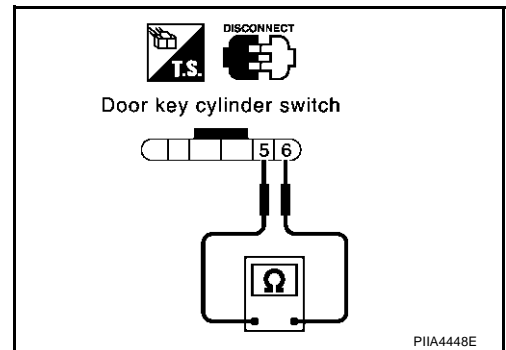
#### OK or NG

- OK >> Door key cylinder switch (unlock) circuit is OK.
- NG >> GO TO 2.

### 2. CHECK DOOR KEY CYLINDER SWITCH

- Disconnect door key cylinder switch connector.
- Check continuity between door key cylinder switch terminals 5 and 6.

Terminal	Door key cylinder switch position	Continuity
5 - 6	Neutral/Lock	No
	Unlock	Yes



#### OK or NG

- OK >> Check the following.
  - Harness for open or short between power window main switch (door lock and unlock switch) and door key cylinder switch
  - Door key cylinder switch ground circuit
- NG >> Replace front door lock assembly (driver side) (door key cylinder switch).

# POWER DOOR LOCK SYSTEM

AIS003C7

## Check Fuel Lid Lock Actuator (Lock)

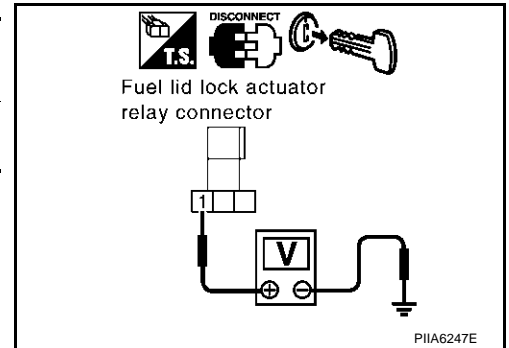
### 1. CHECK FUEL LID LOCK ACTUATOR RELAY CIRCUIT

1. Remove the key from ignition key cylinder.
2. Disconnect fuel lid lock actuator relay connector.
3. Check voltage between fuel lid lock actuator relay connector B31 terminal 1 and ground.

Con- nector	Terminal		Condition	Voltage (V) Approx.
	(+)	(-)		
B31	1 (V)	Ground	Door lock and unlock switch is turned to "LOCK".	0 → Battery voltage

OK >> GO TO 2.

NG >> Repair or replace harness between BCM and fuel lid lock actuator relay.



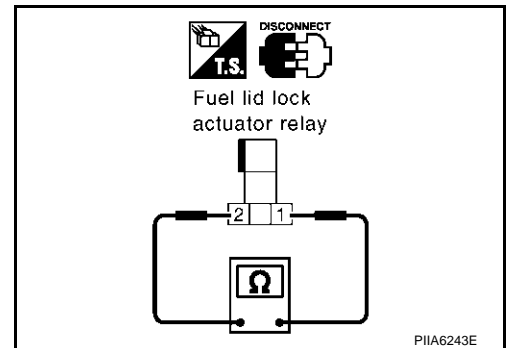
### 2. CHECK FUEL LID LOCK ACTUATOR RELAY

Check continuity between fuel lid lock actuator relay terminal 1 and 2.

**1 – 2 : Continuity should exist.**

OK >> GO TO 3.

NG >> Replace fuel lid lock actuator relay.



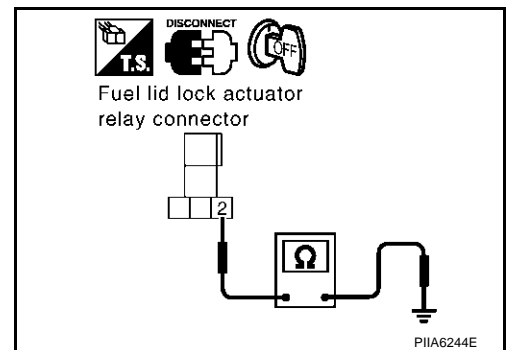
### 3. CHECK FUEL LID LOCK ACTUATOR RELAY GROUND CIRCUIT

Check continuity between fuel lid lock actuator relay connector B31 terminal 2 and ground.

**2 (B) – Ground : Continuity should exist.**

OK >> GO TO 4.

NG >> Repair or replace harness.



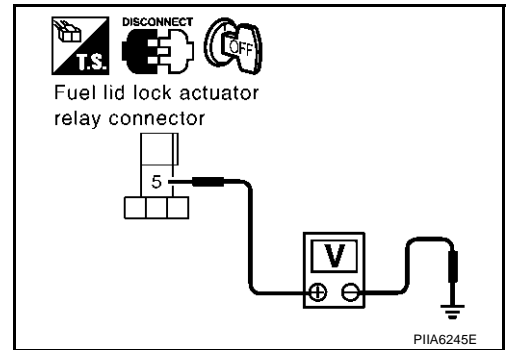
# POWER DOOR LOCK SYSTEM

## 4. CHECK FUEL LID LOCK ACTUATOR RELAY POWER SUPPLY CIRCUIT

Check voltage between fuel lid lock actuator relay connector B31 terminal 5 and ground.

**5 (L) – Ground : Battery voltage**

- OK >> Replace fuel lid lock actuator relay.  
NG >> Check the following.
- 10A fuse [No. 22, located in fuse block (J/B)]
  - Harness for open or short between fuel lid lock actuator relay and fuse.



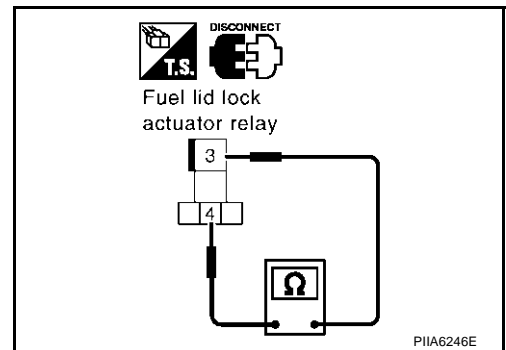
## Check Fuel Lid Lock Actuator (Unlock)

### 1. CHECK FUEL LID LOCK ACTUATOR RELAY

1. Disconnect fuel lid lock actuator relay connector.
2. Check continuity between fuel lid lock actuator relay terminal 3 and 4.

**3 – 4 : Continuity should exist.**

- OK >> GO TO 2.  
NG >> Replace fuel lid lock actuator relay.

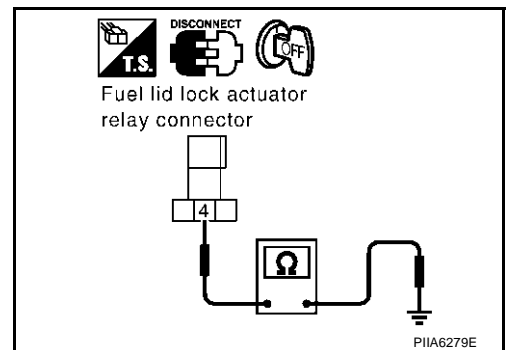


### 2. CHECK FUEL LID LOCK ACTUATOR GROUND CIRCUIT

Check continuity between fuel lid lock actuator relay connector B31 terminal 4 and ground.

**4 (B) – Ground : Continuity should exist.**

- OK >> Check harness connection.  
NG >> Repair or replace harness.



# POWER DOOR LOCK SYSTEM

## Check Fuel Lid Lock Actuator (Lock and Unlock)

AIS003C9

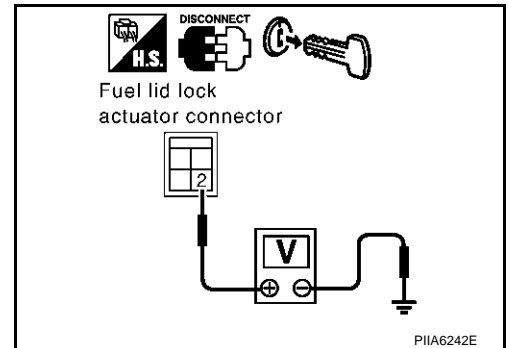
### 1. CHECK FUEL LID LOCK ACTUATOR RELAY

1. Remove the key from ignition key cylinder.
2. Disconnect fuel lid lock actuator connector.
3. Check voltage between fuel lid lock actuator connector B23 terminal 2 and ground.

Con- nector	Terminal		Condition	Voltage (V) Approx.
	(+)	(-)		
B23	2 (G/W)	Ground	Door lock and unlock switch is turned to "UNLOCK".	0 → Battery voltage

OK >> GO TO 2.

NG >> Repair or replace harness between BCM and fuel lid lock actuator.



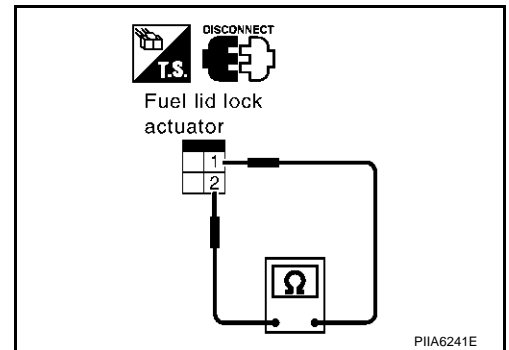
### 2. CHECK FUEL LID LOCK ACTUATOR

Check continuity between fuel lid lock actuator terminal 1 and 2.

**1 – 2 : Continuity should exist.**

OK >> GO TO 3.

NG >> Replace fuel lid lock actuator.



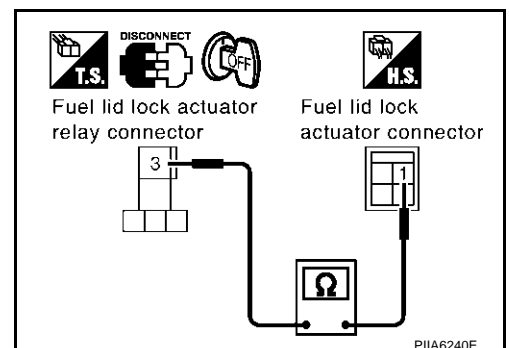
### 3. CHECK FUEL LID LOCK ACTUATOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect fuel lid lock actuator relay connector.
3. Check continuity between fuel lid lock actuator connector B23 terminal 1 and fuel lid lock actuator relay connector B31 terminal 3.

**1 (G/B) – 3 (G/B) : Continuity should exist.**

OK >> Replace fuel lid lock actuator relay.

NG >> Repair or replace harness.



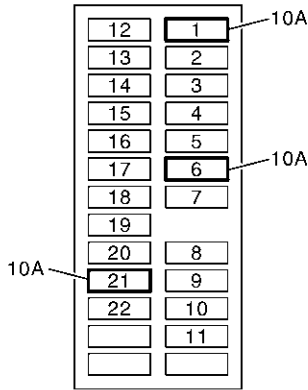
# REMOTE KEYLESS ENTRY SYSTEM

PFP:28596

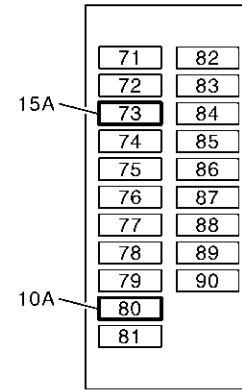
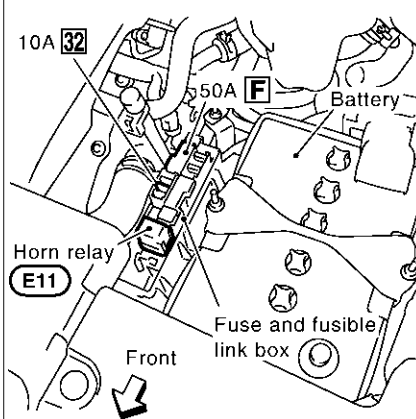
AIS002FF

## REMOTE KEYLESS ENTRY SYSTEM

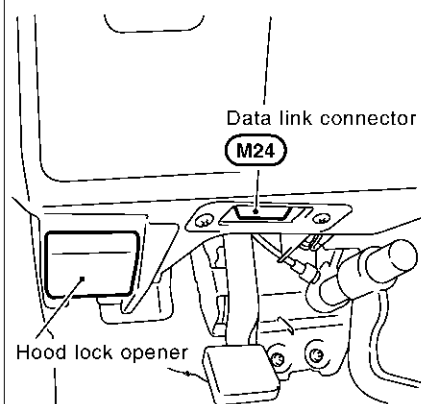
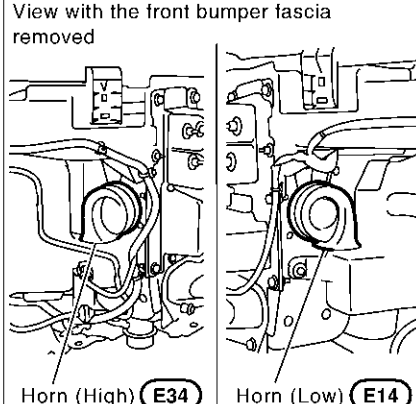
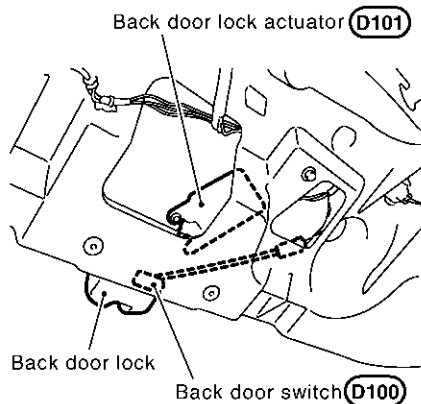
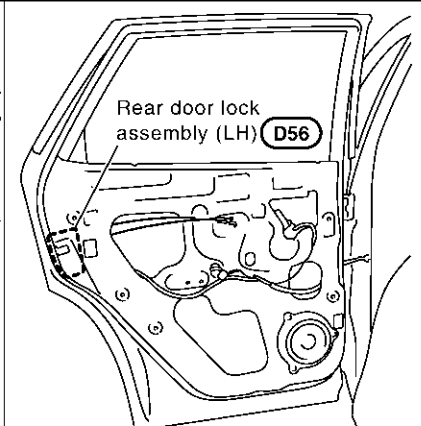
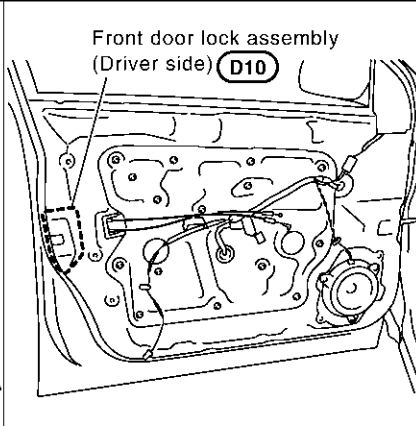
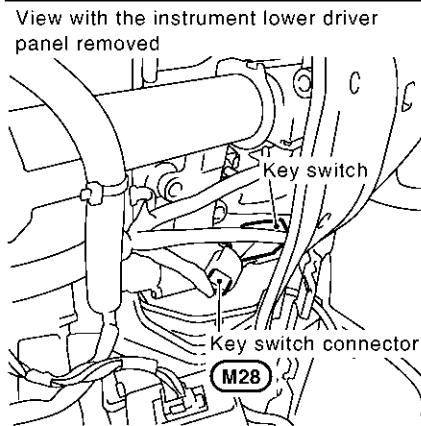
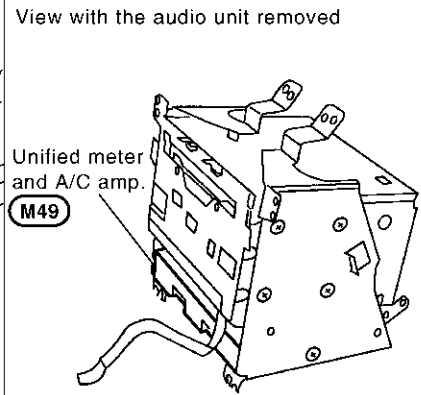
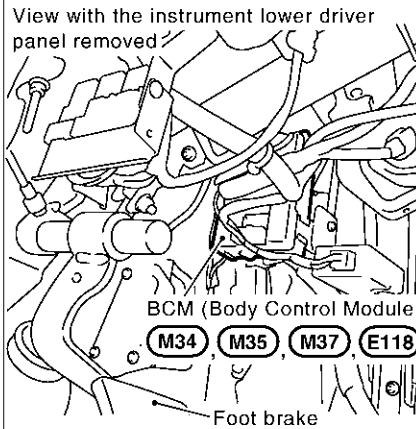
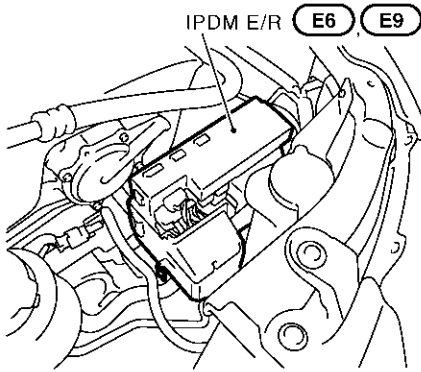
### Component Parts and Harness Connector Location



Fuse block (J/B) fuse layout



IPDM E/R fuse layout



PIIA7385E



# REMOTE KEYLESS ENTRY SYSTEM

AIS003KF

## System Description

### INPUTS

Power is supplied at all times

- to BCM terminal 7
- through 50A fusible link (letter **F** , located in the fuse and fusible link box).
- to key switch terminal 3
- through 10A fuse [No. 21, located in the fuse block (J/B)].

When key switch is ON (key is inserted in ignition key cylinder), power is supplied

- to BCM terminal 62
- through key switch terminal 4.

When ignition switch is ACC or ON, power is supplied

- to BCM terminal 36
- through 10A fuse [No. 6, located in the fuse block (J/B)].

When ignition switch is ON or START, power is supplied

- to BCM terminal 35
- through 10A fuse [No. 1, located in the fuse block (J/B)].

When front door switch (driver side) is ON (door is OPEN), ground is supplied

- to BCM terminal 14 and unified meter and A/C amp. terminal 8
- through front door switch (driver side) terminal 4 and 5
- through grounds M14 and M78.

When front door switch (passenger side) is ON (door is OPEN), ground is supplied

- to BCM terminal 10 and unified meter and A/C amp. terminal 7
- through front door switch (passenger side) terminal 4 and 5
- through grounds M14 and M78.

When rear door switch LH is ON (door is OPEN), ground is supplied

- to unified meter and A/C amp. terminal 18
- through rear door switch LH terminal 4 and 5
- through grounds B7 and B20.

When rear door switch RH is ON (door is OPEN), ground is supplied

- to unified meter and A/C amp. terminal 17
- through rear door switch RH terminal 4 and 5
- through grounds B105 and B116.

Combination meter send door open signal to BCM with CAN communication system.

When back door switch is ON (back door OPEN), ground is supplied

- to BCM terminal 18
- through back door switch terminal 1 and 3
- through grounds B7 and B20.

Key fob signal is inputted to BCM (the antenna of remote keyless entry system is combined with BCM).

The remote keyless entry system controls operation of the

- power door lock
- hazard and horn reminder
- auto door lock
- room lamp and ignition keyhole illumination
- panic alarm
- keyless power window down (open)

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# REMOTE KEYLESS ENTRY SYSTEM

## OPERATED PROCEDURE

### Power Door Lock Operation

BCM receives a LOCK signal from key fob. BCM locks all doors with input of LOCK signal from key fob. When an UNLOCK signal is sent from key fob once, driver's door will be unlocked. Then, if an UNLOCK signal is sent from key fob again within 5 seconds, all other door will be unlocked.

### Hazard and Horn Reminder

When the doors are locked or unlocked by key fob, supply power to hazard warning lamp flashes as follows

- LOCK operation: C mode (flash twice) or S mode (flash twice)
- UNLOCK operation: C mode (flash once) or S mode (does not flash)

BCM outputs 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).

### Operating function of hazard and horn reminder

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

Hazard and horn reminder does not operate if any door switches are ON (any doors are OPEN)

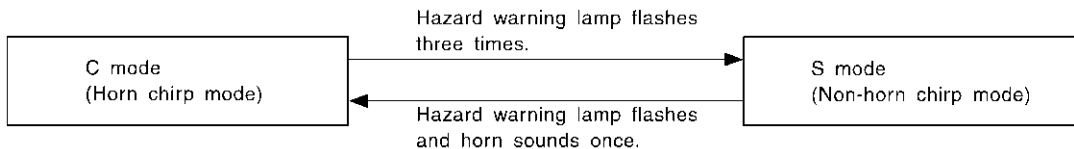
### How to change hazard and horn reminder mode

#### ① With CONSULT-II

Hazard and horn reminder can be changed using "MULTI ANSWER BACK SET" mode in "WORK SUPPORT". Refer to [BL-110, "Work Support"](#).

#### ⊗ Without CONSULT-II

When LOCK and UNLOCK signals are sent from the key fob for more than 2 seconds at the same time, the hazard and horn reminder mode is changed and hazard warning lamp flashes and horn sounds as follows:



SEL153WA

### Auto Door Lock Operation

Auto lock function signal is sent for operation when any of the following signals are not sent within 1 minute after the unlock signal is sent from the key fob:

- when door switch is turned ON for open.
- when the key switch is turned ON.
- when the lock signal is sent from the key fob.

Auto door lock mode can be changed using "AUTO LOCK SET" mode in "WORK SUPPORT".

Refer to [BL-110, "Work Support"](#).

### Room Lamp and Keyhole Illumination Operation

When the following conditions come:

- condition of room lamp switch is DOOR position;
- door switch OFF (when all the doors are closed);

Remote keyless entry system turns on room lamp and key ring illumination (for 30 seconds) with input of UNLOCK signal from key fob.

For detailed description, refer to [LT-309, "INTERIOR ROOM LAMP"](#).

# REMOTE KEYLESS ENTRY SYSTEM

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## Panic Alarm Operation

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

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

Panic alarm operation mode can be changed using "PANIC ALARM SET" mode in "WORK SUPPORT".

Refer to [BL-110, "Work Support"](#).

For detailed description, refer to [BL-142, "VEHICLE SECURITY \(THEFT WARNING\) SYSTEM"](#).

## Keyless Power Window Down (open) Operation

When key fob unlock switch is turned ON with ignition switch OFF, and key fob unlock switch is detected to be on continuously for 3 seconds, the driver's door and passenger's door power windows are simultaneously opened.

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

Keyless power window down operation mode can be changed using "PW DOWN SET" mode in "WORK SUPPORT".

Refer to [BL-110, "Work Support"](#).

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# REMOTE KEYLESS ENTRY SYSTEM

## CAN Communication System Description

AIS003CO

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

## CAN Communication Unit For 2WD Models

AIS003KD

Body type	Wagon															
Axle	2WD															
Engine	VQ35DE															
Transmission	CVT															
Brake control	ABS								VDC							
Low tire pressure warning system		×			×	×		×		×			×	×		×
Navigation system			×		×		×	×			×		×		×	×
Automatic drive positioner				×		×	×	×				×		×	×	×
CAN communication unit																
ECM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Low tire pressure warning control unit		×			×	×		×		×			×	×		×
Display unit	×	×		×		×			×	×		×		×		
Display control unit			×		×		×	×			×		×		×	×
Data link connector	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
BCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Steering angle sensor									×	×	×	×	×	×	×	×
Driver seat control unit				×		×	×	×				×		×	×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
IPDM E/R	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
CAN communication type	BL-81. "TYPE 1/TYPE 2/TYPE 3/TYPE 4/TYPE 5/TYPE 6/TYPE 7/TYPE 8"								BL-86. "TYPE 9/TYPE 10/TYPE 11/TYPE 12/TYPE 13/TYPE 14/TYPE 15/TYPE 16"							

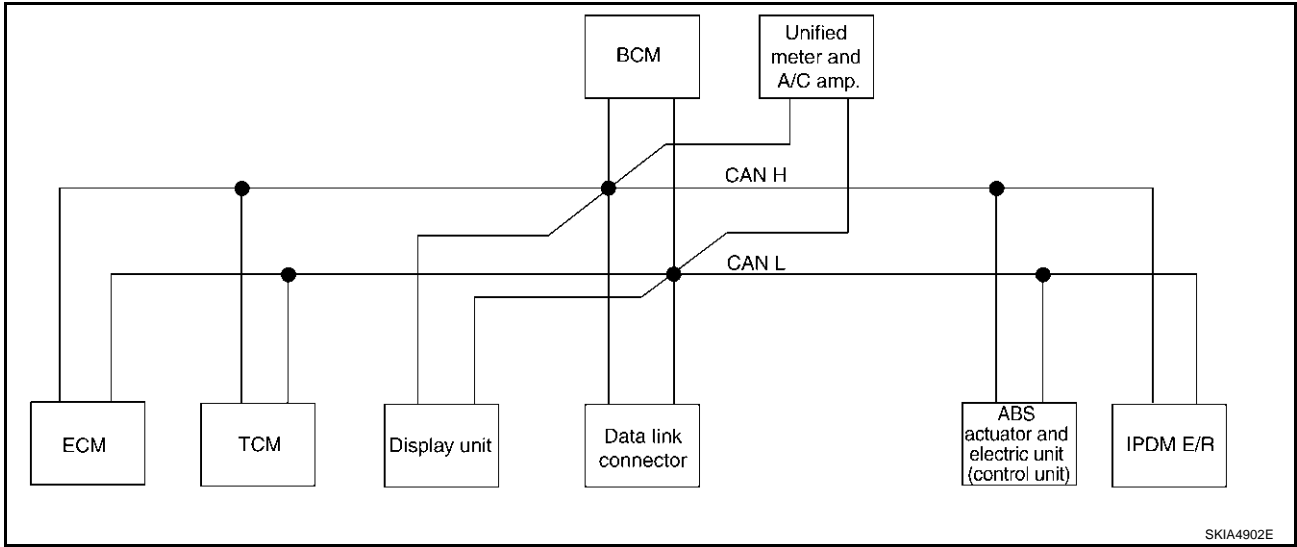
×: Applicable

# REMOTE KEYLESS ENTRY SYSTEM

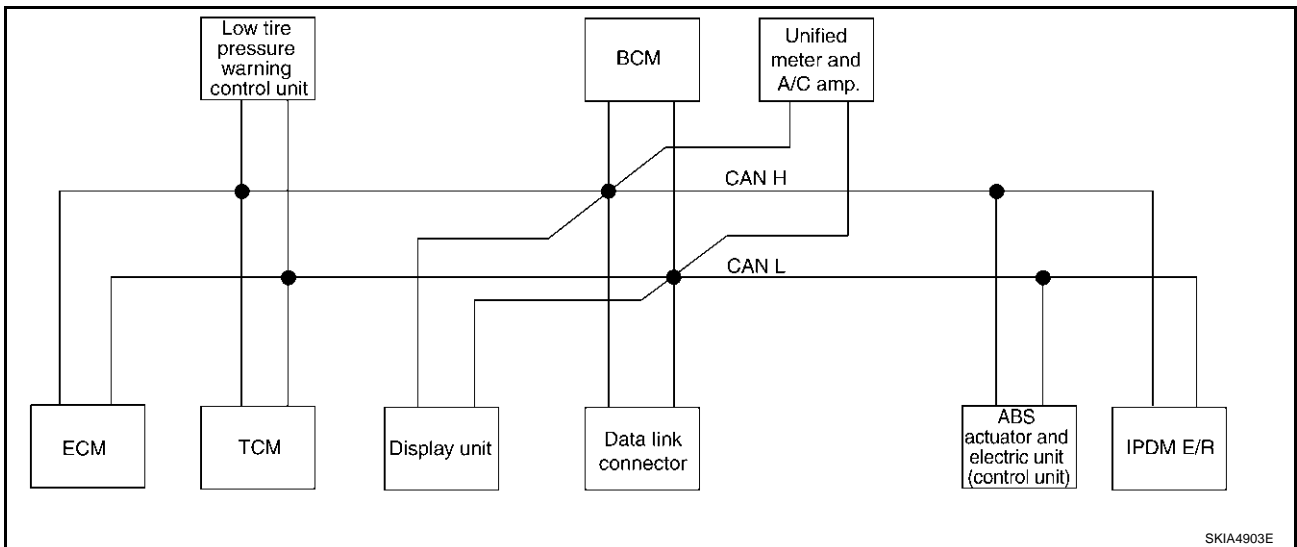
## TYPE 1/TYPER 2/TYPER 3/TYPER 4/TYPER 5/TYPER 6/TYPER 7/TYPER 8

### System Diagram

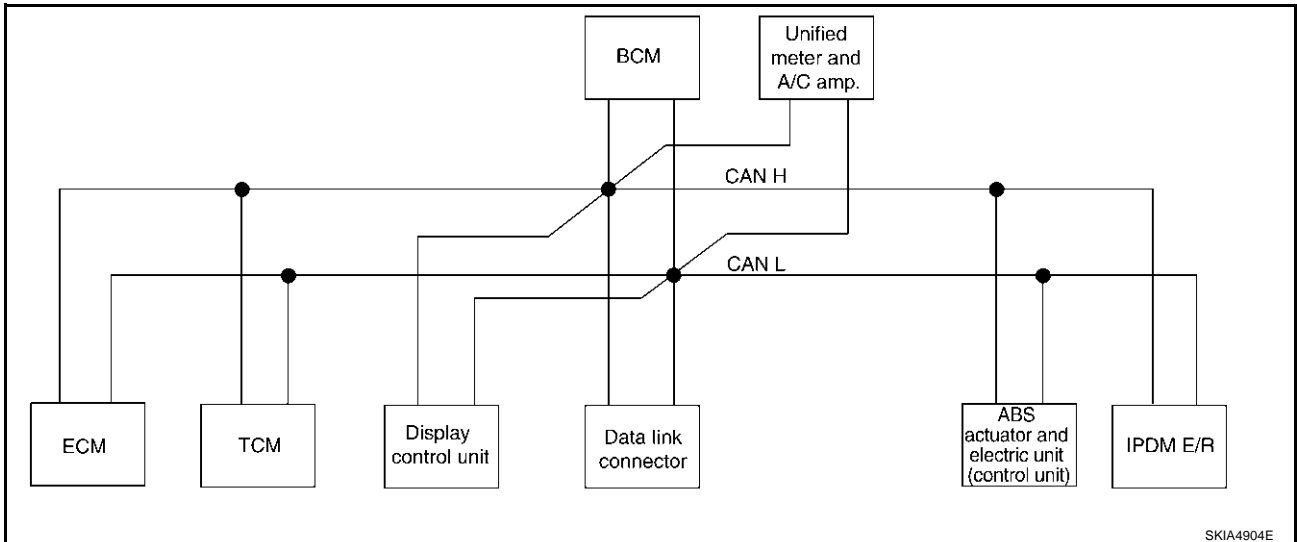
- Type1



- Type2



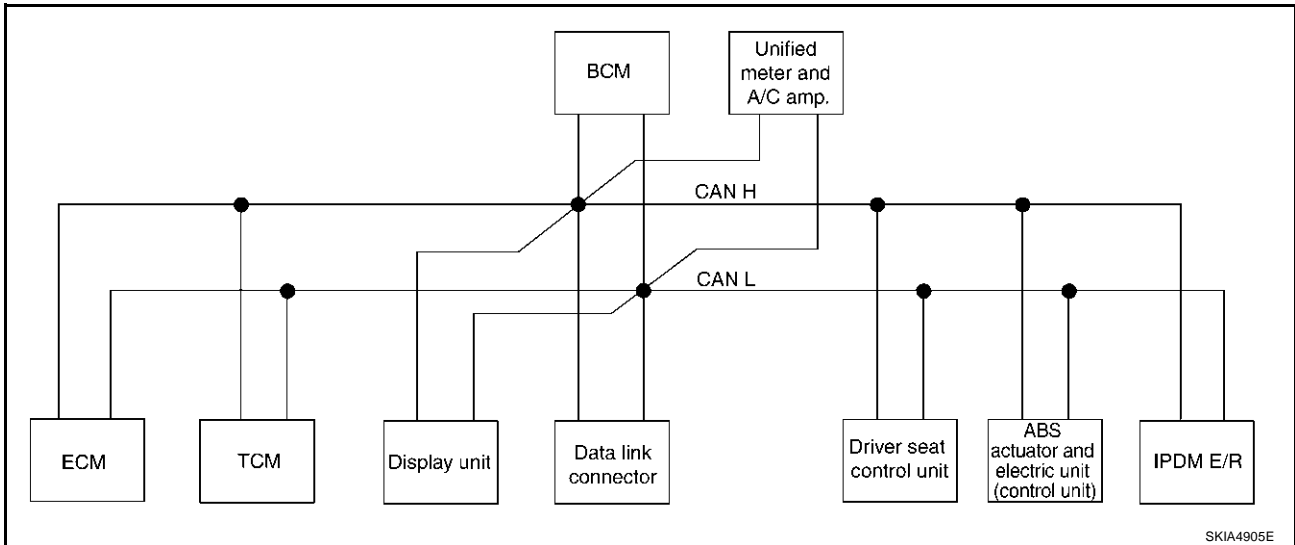
- Type3



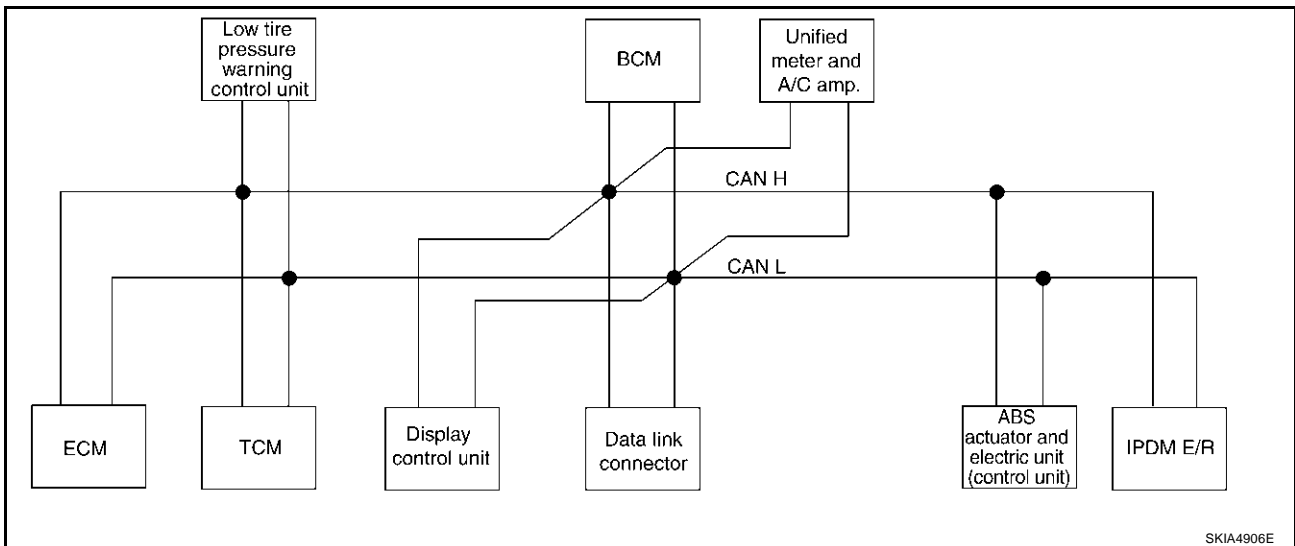
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# REMOTE KEYLESS ENTRY SYSTEM

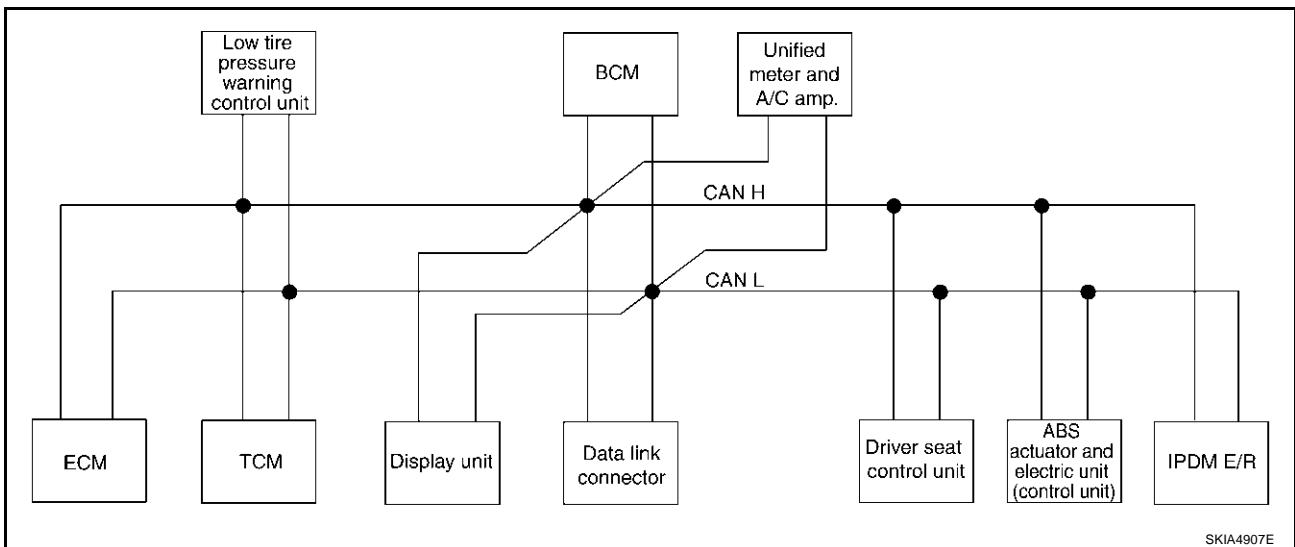
- Type4



- Type5

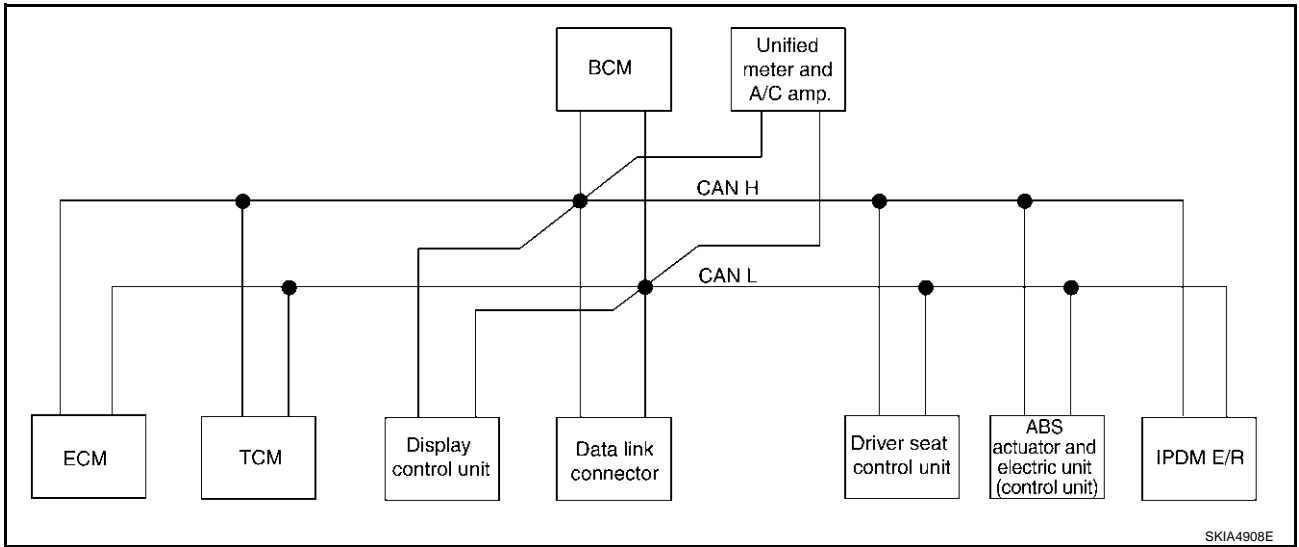


- Type6

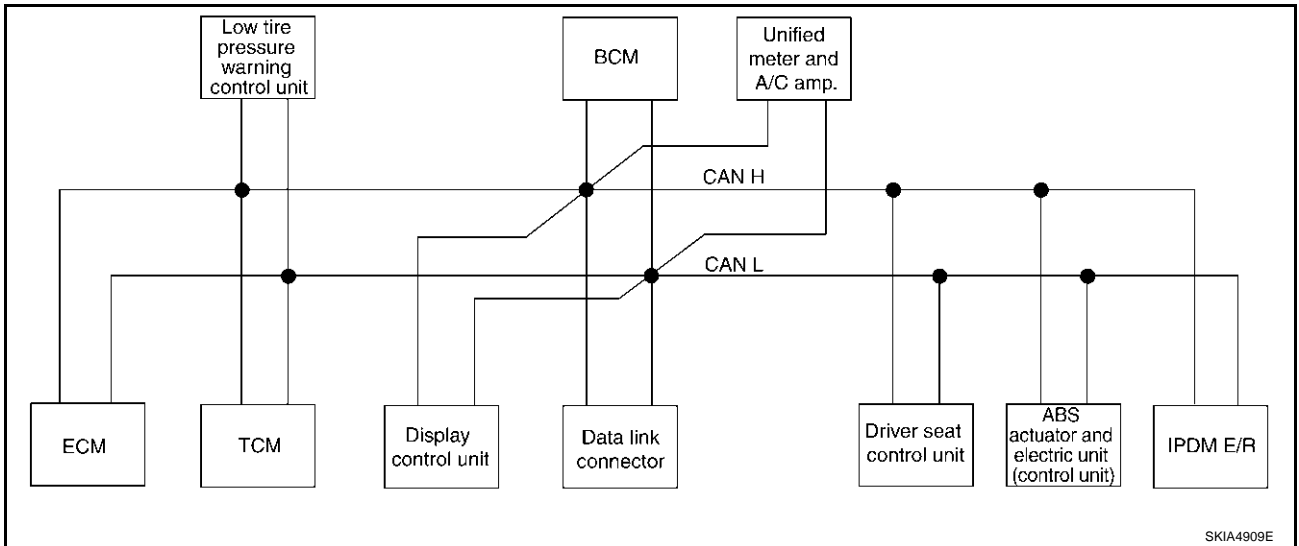


# REMOTE KEYLESS ENTRY SYSTEM

- Type7



- Type8



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# REMOTE KEYLESS ENTRY SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Driver seat control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R			R	R	R			
Engine status signal	T					R				
Engine coolant temperature signal	T						R			
CVT position indicator signal		T					R			
Second position signal		R					T			
Second position indicator signal		T					R			
Engine and CVT integrated control signal	T	R								
	R	T								
Accelerator pedal position signal	T	R								
Closed throttle position signal	T	R								
Wide open throttle position signal	T	R								
Key switch signal						T		R		
Ignition switch signal						T		R		R
P range signal		T						R		
Stop lamp switch signal		R					T			
Fuel consumption monitor signal	T						R			
CVT self-diagnosis signal	R	T								
ABS operation signal		R							T	
Air conditioner switch signal	R					T				
A/C compressor request signal	T									R
A/C compressor feedback signal	T						R			
Blower fan motor switch signal	R					T				
A/C control signal				T	T		R			
				R	R		T			
Cooling fan speed request signal	T									R
Position lights request signal						T	R			R
Low beam request signal						T				R
Low beam status signal	R									T
High beam request signal						T	R			R
High beam status signal	R									T
Front fog lights request signal						T				R
Vehicle speed signal		R					R		T	
	R		R		R	R	T	R		
Sleep request 1 signal						T	R			
Sleep request 2 signal						T				R
Door switch signal						R	T			
				R	R	T	R	R		R
Turn indicator signal						T	R			



# REMOTE KEYLESS ENTRY SYSTEM

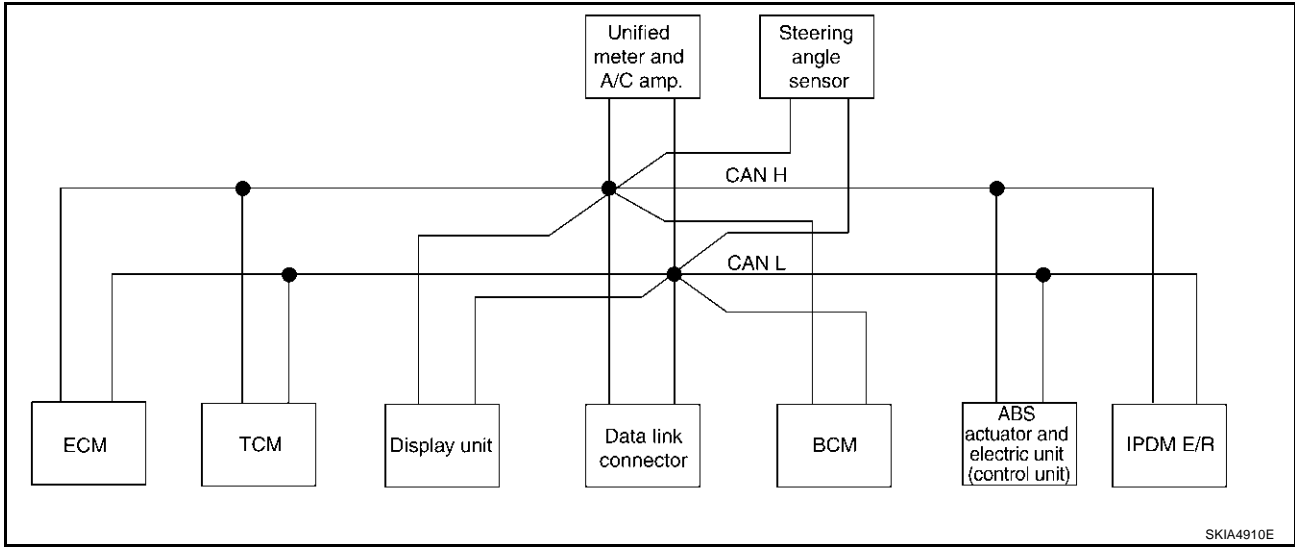
Signals	ECM	TCM	Low tire pres- sure warn- ing control unit	Dis- play unit	Dis- play control unit	BCM	Uni- fied meter and A/ C amp.	Driver seat control unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	A
Key fob ID signal						T		R			B
Key fob door unlock signal						T		R			C
Seat belt buckle switch signal						R	T				D
Oil pressure switch signal						R				T	E
						T	R				F
Buzzer output signal						T	R				G
Fuel level sensor signal	R						T				H
Fuel level low warning signal				R	R		T				I
Malfunction indicator lamp signal	T						R				J
ASCD SET lamp signal	T						R				K
ASCD CRUISE lamp signal	T						R				L
Input shaft revolution signal	R	T									M
Output shaft revolution signal	R	T									N
Front wiper request signal						T				R	O
Front wiper stop position signal						R				T	P
Rear window defogger switch signal						T				R	Q
Rear window defogger control signal	R			R	R					T	R
Hood switch signal						R				T	S
Theft warning horn request signal						T				R	T
Horn chirp signal						T				R	U
Tire pressure signal			T				R				V
Tire pressure data signal			T	R	R						W
ABS warning lamp signal							R		T		X
Brake warning lamp signal							R		T		Y
System setting signal				T	T			R			Z
Parking brake switch signal						R	T				AA

# REMOTE KEYLESS ENTRY SYSTEM

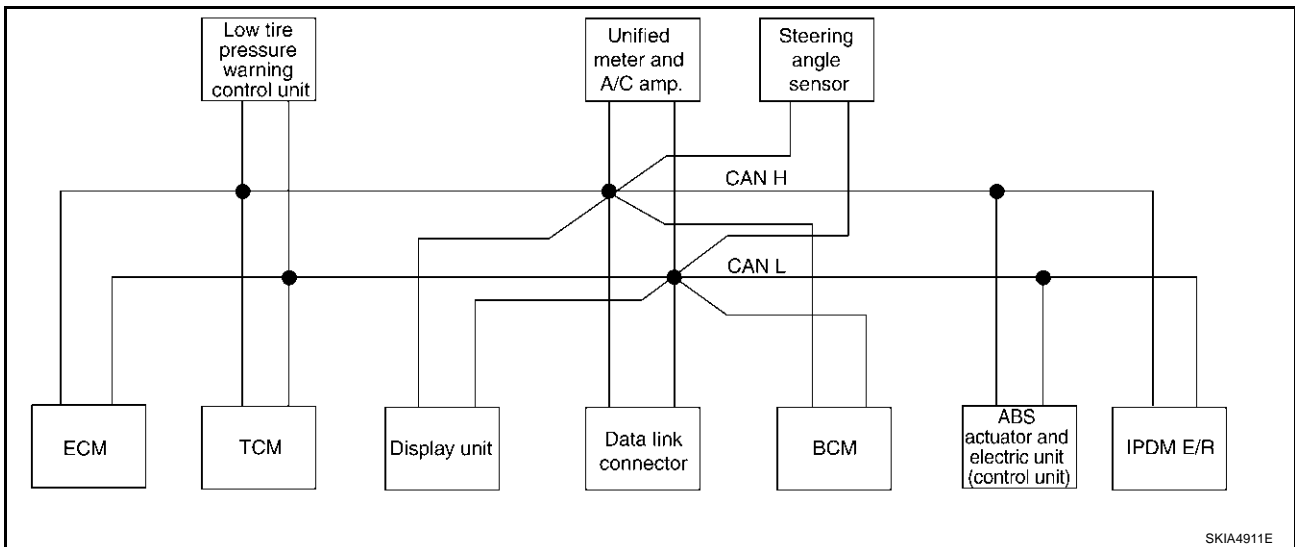
TYPE 9/TYPER10/TYPER 11/TYPER 12/TYPER 13/TYPER 14/TYPER 15/TYPER 16

## System Diagram

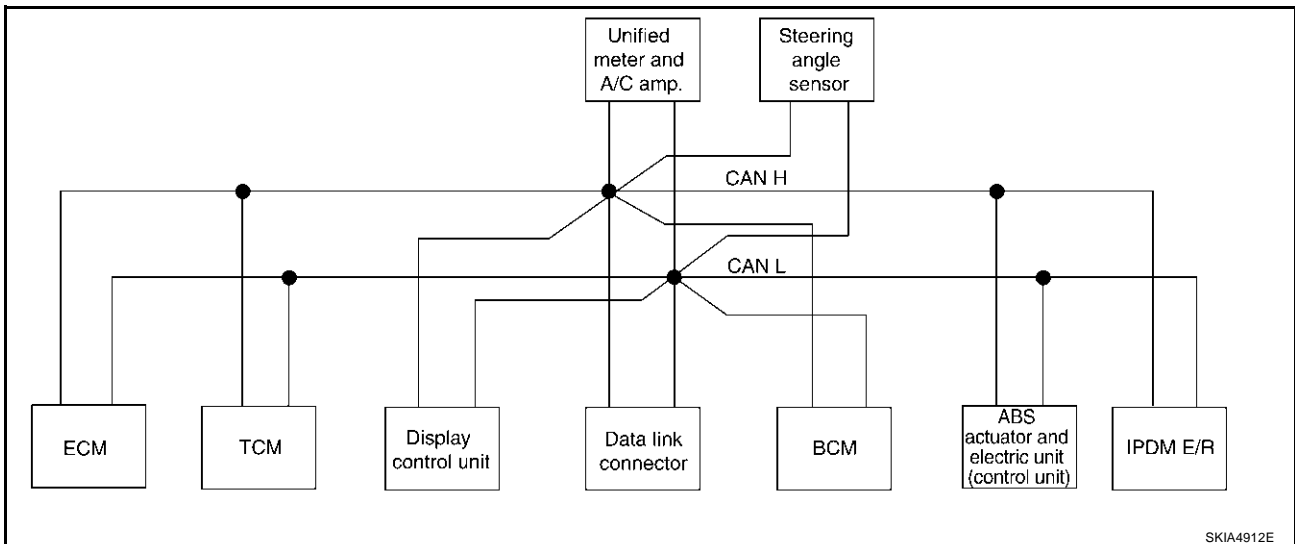
- Type9



- Type10

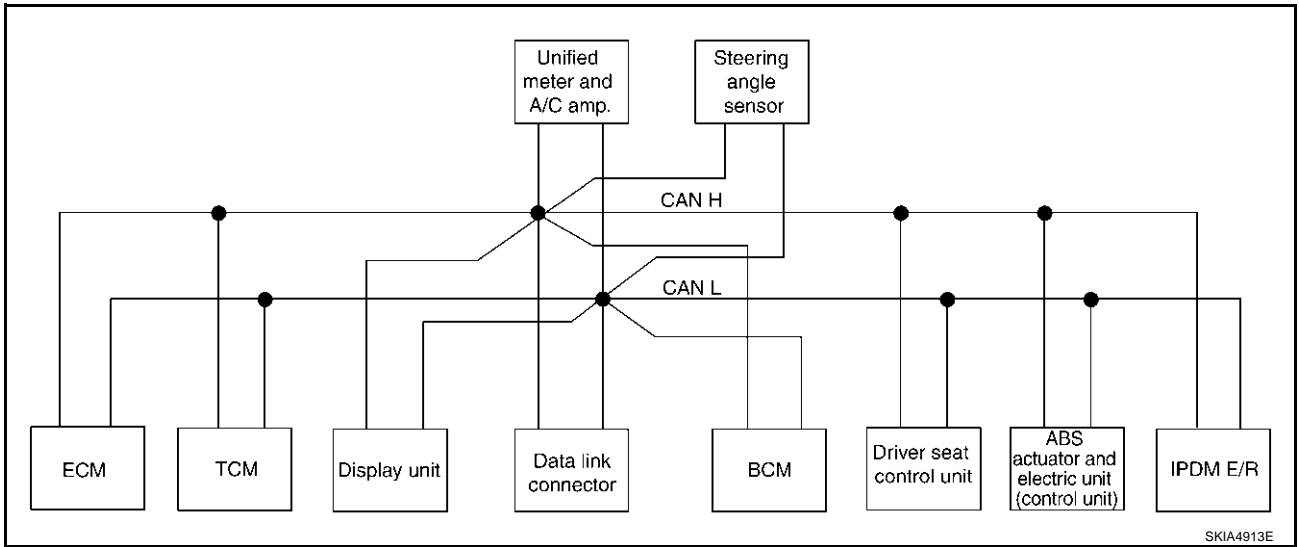


- Type11

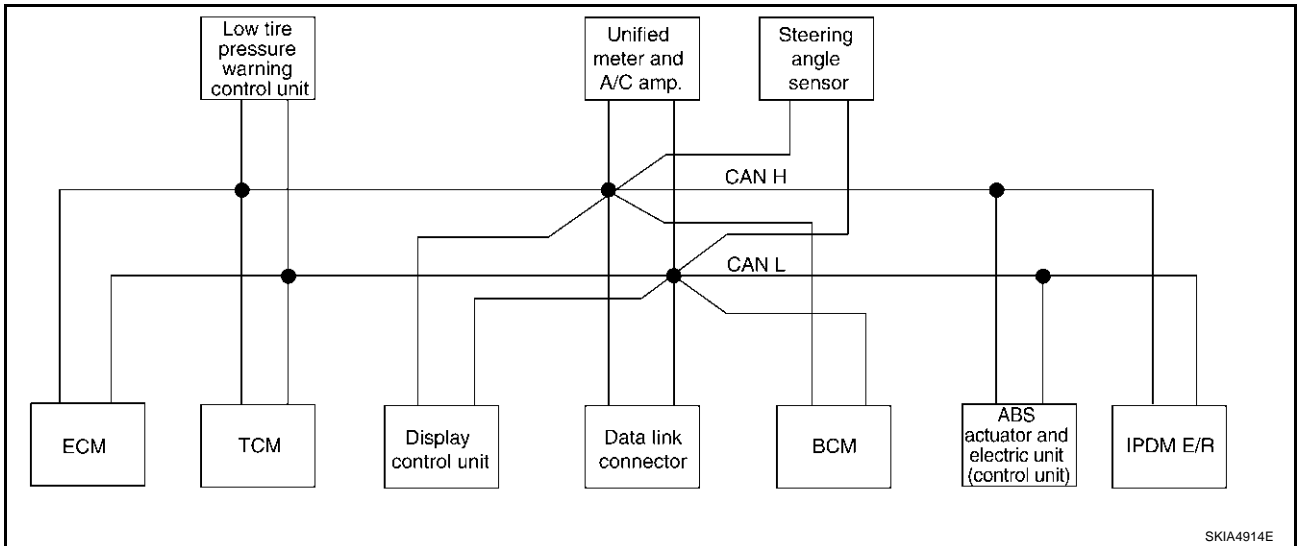


# REMOTE KEYLESS ENTRY SYSTEM

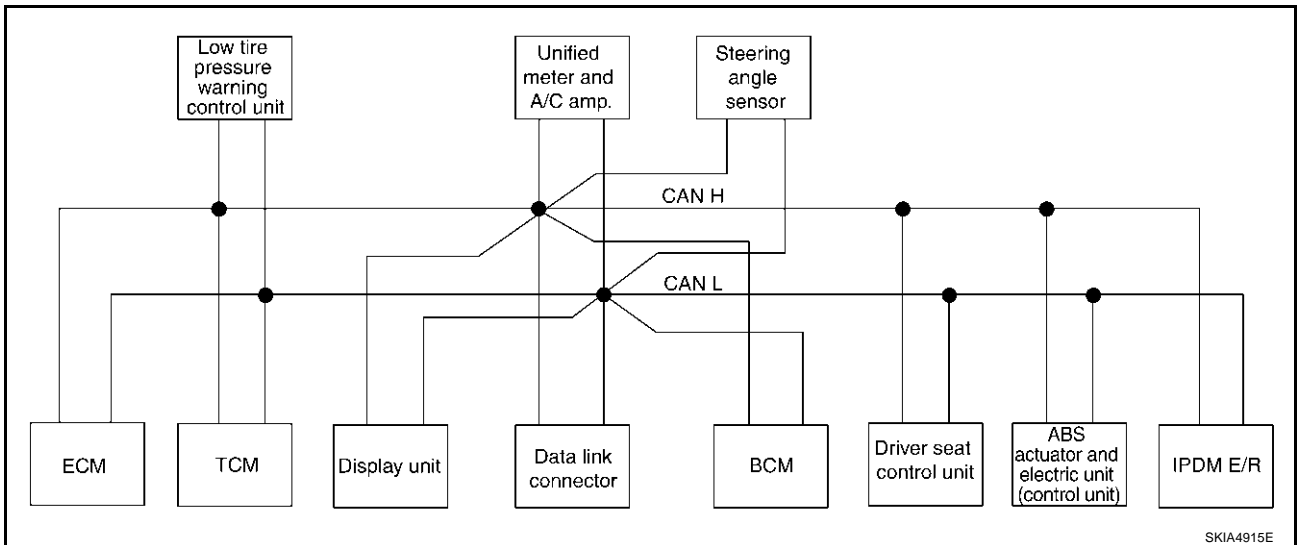
- Type12



- Type13



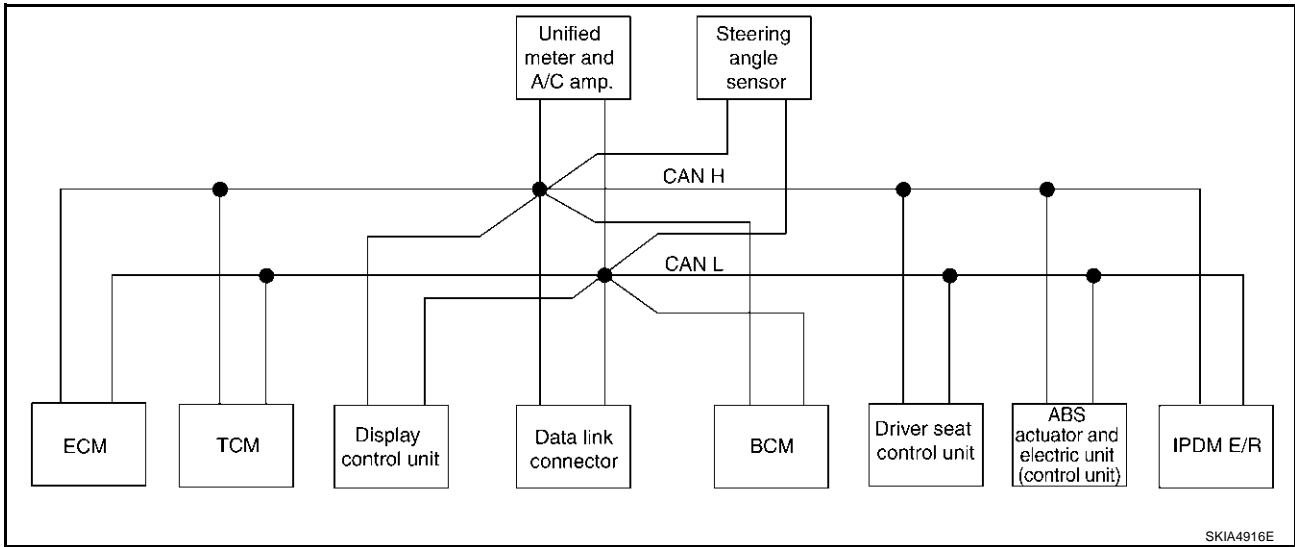
- Type14



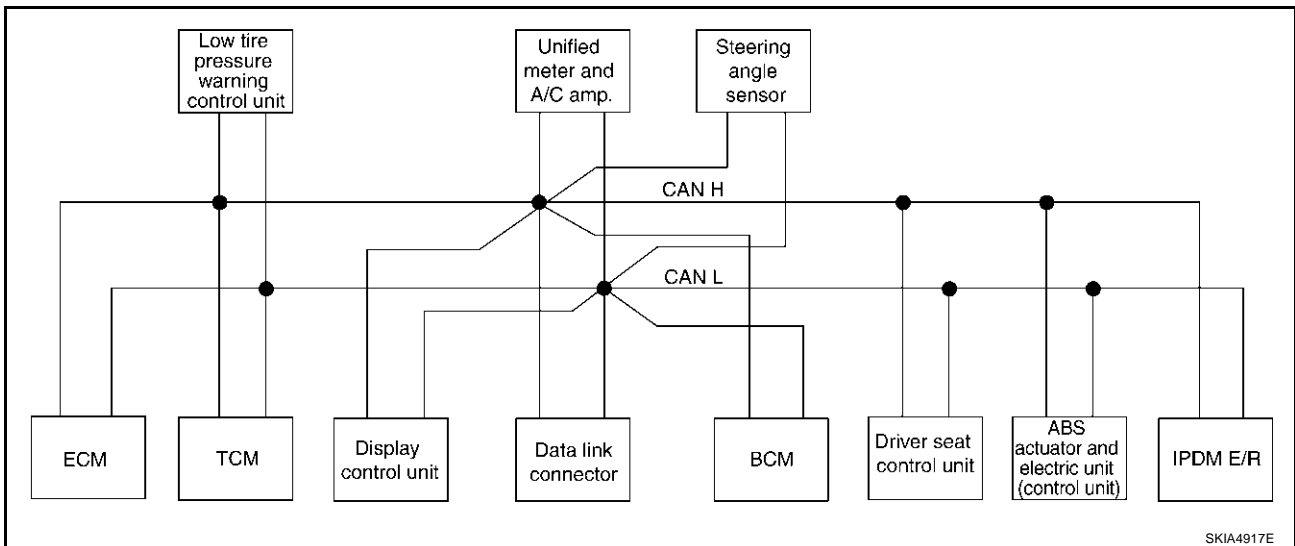
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# REMOTE KEYLESS ENTRY SYSTEM

- Type15



- Type16



# REMOTE KEYLESS ENTRY SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Steering angle sensor	Driver seat control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R			R	R	R			R	
Engine status signal	T					R					
Engine coolant temperature signal	T						R				
Engine and CVT integrated control signal	T	R									
	R	T									
Accelerator pedal position signal	T	R								R	
Closed throttle position signal	T	R									
Wide open throttle position signal	T	R									
Key switch signal						T			R		
Ignition switch signal						T			R		R
P range signal		T							R	R	
Stop lamp switch signal		R					T				
VDC operation signal		R								T	
Second position indicator signal		T					R			R	
Second position signal		R					T				
Fuel consumption monitor signal	T						R				
CVT self-diagnosis signal	R	T									
Input shaft revolution signal	R	T								R	
Output shaft revolution signal	R	T								R	
Air conditioner switch signal	R					T					
A/C compressor request signal	T										R
A/C compressor feedback signal	T						R				
Blower fan motor switch signal	R					T					
A/C control signal				T	T		R				
				R	R		T				
Cooling fan speed request signal	T										R
Position lights request signal						T	R				R
Low beam request signal						T					R
Low beam status signal	R										T
High beam request signal						T	R				R
High beam status signal	R										T
Front fog lights request signal						T					R
Vehicle speed signal		R					R			T	
	R		R		R	R	T		R		
Sleep request 1 signal						T	R				
Sleep request 2 signal						T					R

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# REMOTE KEYLESS ENTRY SYSTEM

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Steering angle sensor	Driver seat control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Door switch signal						R	T				
Turn indicator signal				R	R	T	R		R		R
Key fob ID signal						T			R		
Key fob door unlock signal						T			R		
Seat belt buckle switch signal						R	T				
Oil pressure switch signal						R					T
Buzzer output signal						T	R				
Fuel level sensor signal	R						T				
Fuel level low warning signal				R	R		T				
Malfunction indicator signal	T						R				
ASCD SET lamp signal	T						R				
ASCD CRUISE lamp signal	T						R				
Front wiper request signal						T					R
Front wiper stop position signal						R					T
Rear window defogger switch signal						T					R
Rear window defogger control signal	R			R	R						T
Hood switch signal						R					T
Theft warning horn request signal						T					R
Horn chirp signal						T					R
Steering angle sensor signal								T		R	
Tire pressure signal			T				R				
Tire pressure data signal			T	R	R						
CVT position indicator signal		T					R			R	
ABS warning lamp signal							R			T	
VDC OFF indicator lamp signal							R			T	
SLIP indicator lamp signal							R			T	
Brake warning lamp signal							R			T	
System setting signal				T	T				R		
Parking brake switch signal						R	T				

# REMOTE KEYLESS ENTRY SYSTEM

## CAN Communication Unit For AWD Models

AIS003KE

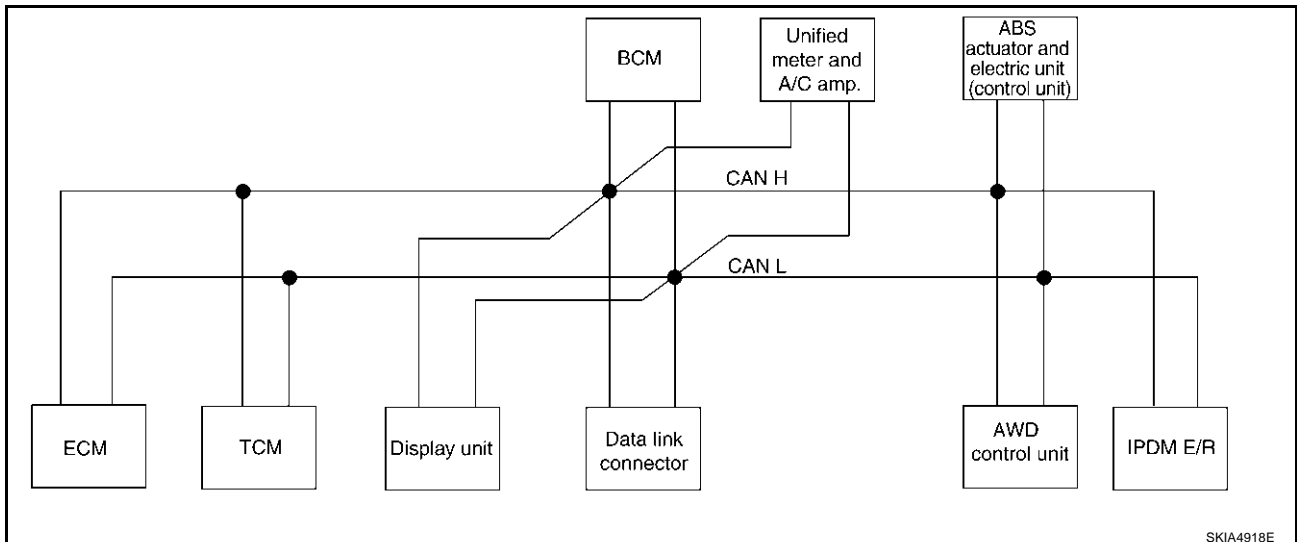
Body type	Wagon															
Axle	AWD															
Engine	VQ35DE															
Transmission	CVT															
Brake control	ABS							VDC								
Low tire pressure warning system		×			×	×		×		×			×	×		×
Navigation system			×		×		×	×			×		×		×	×
Automatic drive positioner				×		×	×	×				×		×	×	×
CAN communication unit																
ECM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Low tire pressure warning control unit		×			×	×		×		×			×	×		×
Display unit	×	×		×		×			×	×		×		×		
Display control unit			×		×		×	×			×		×		×	×
Data link connector	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
BCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Steering angle sensor									×	×	×	×	×	×	×	×
Driver seat control unit				×		×	×	×				×		×	×	×
AWD control unit	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
IPDM E/R	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
CAN communication type	<u>BL-91. "TYPE 17/TYPE 18/TYPE 19/TYPE 20/TYPE 21/TYPE 22/TYPE 23/TYPE 24"</u>							<u>BL-97. "TYPE 25/TYPE 26/TYPE 27/TYPE 28/TYPE 29/TYPE 30/TYPE 31/TYPE 32"</u>								

×: Applicable

### TYPE 17/TYPE 18/TYPE 19/TYPE 20/TYPE 21/TYPE 22/TYPE 23/TYPE 24

#### System Diagram

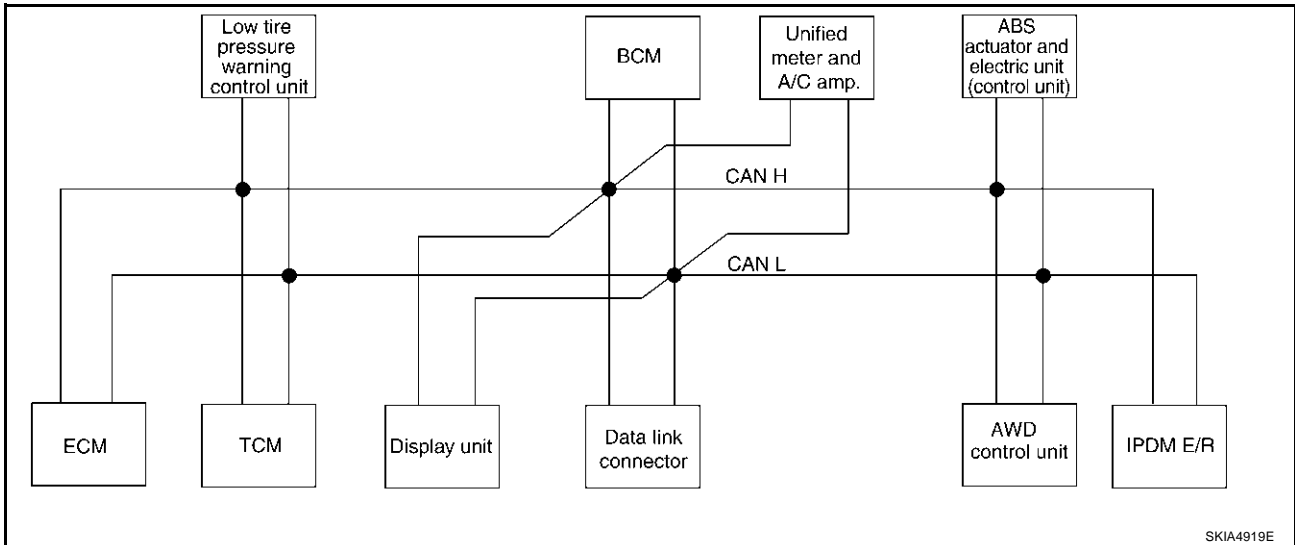
- Type17



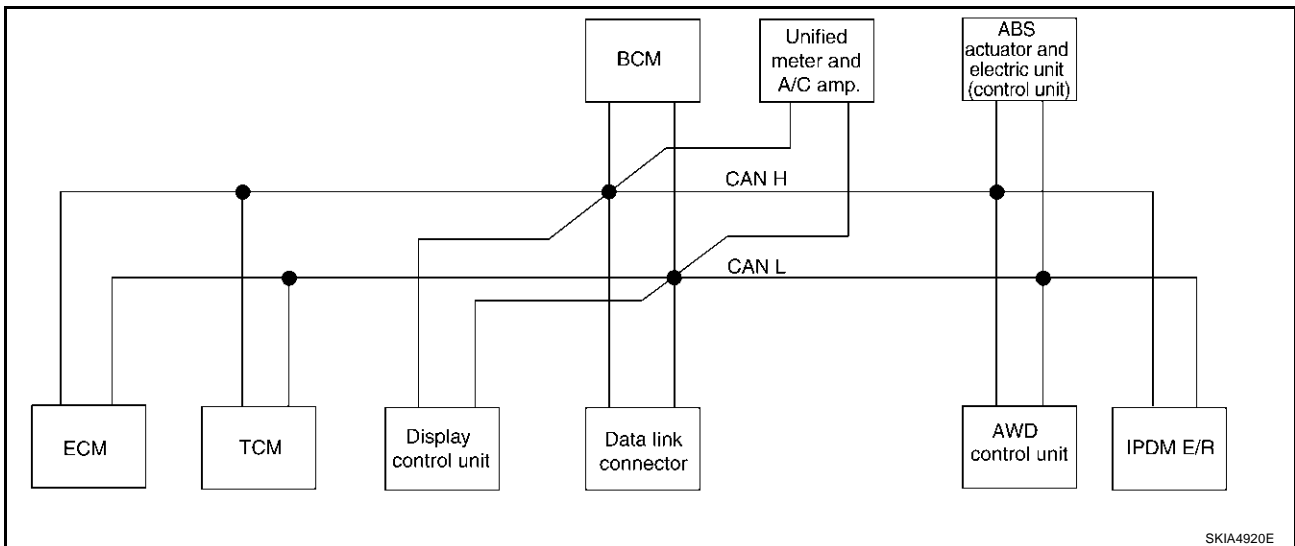
SKIA4918E

# REMOTE KEYLESS ENTRY SYSTEM

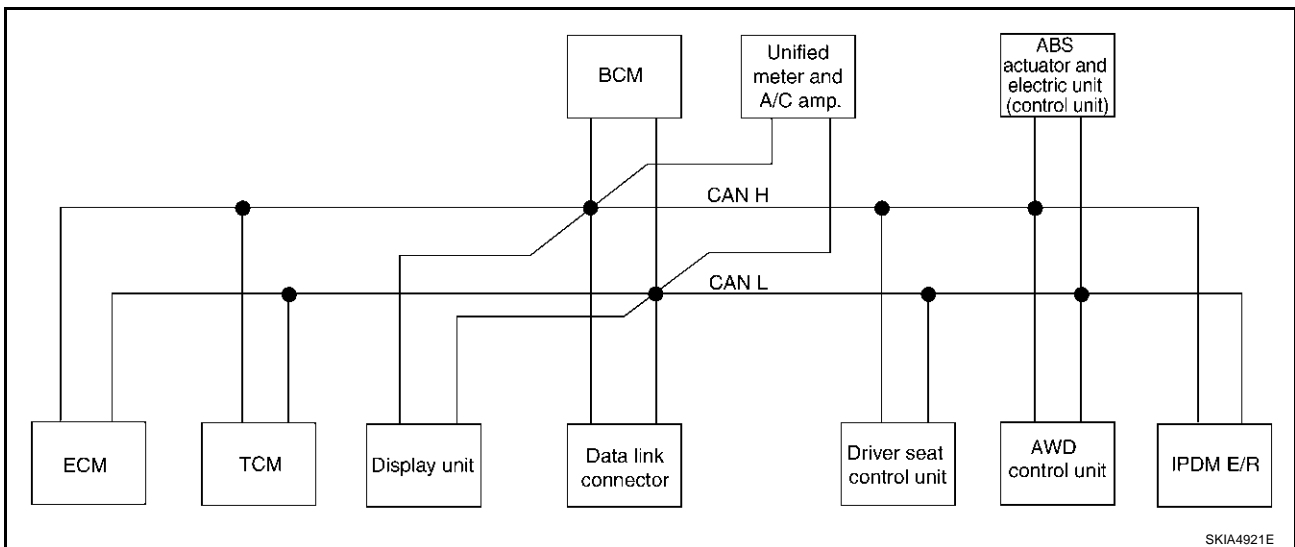
- Type18



- Type19



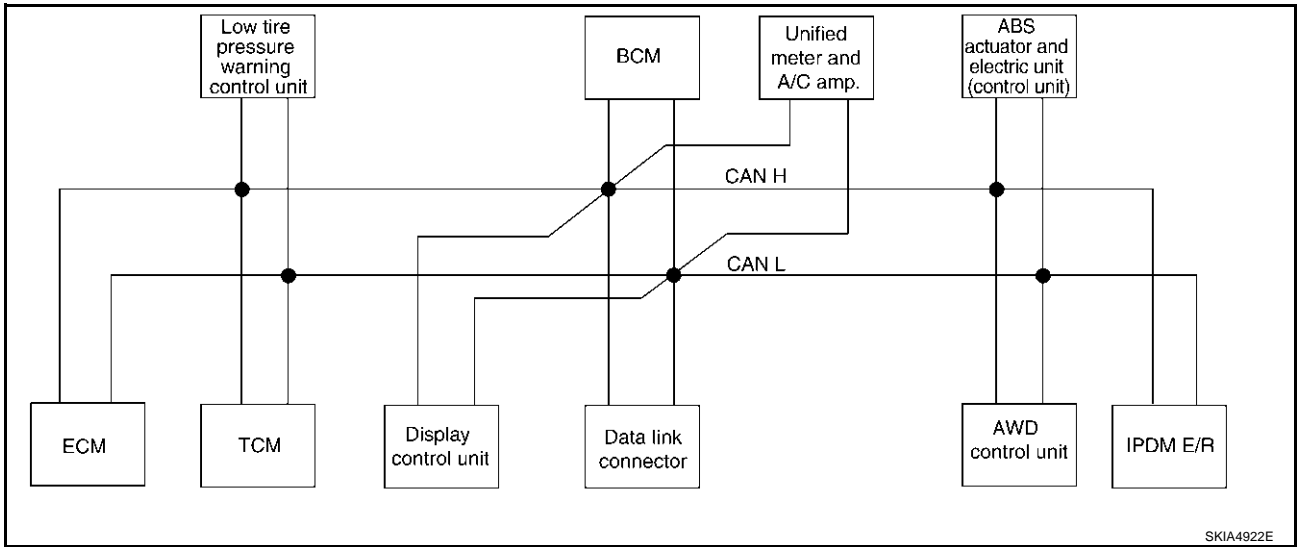
- Type20



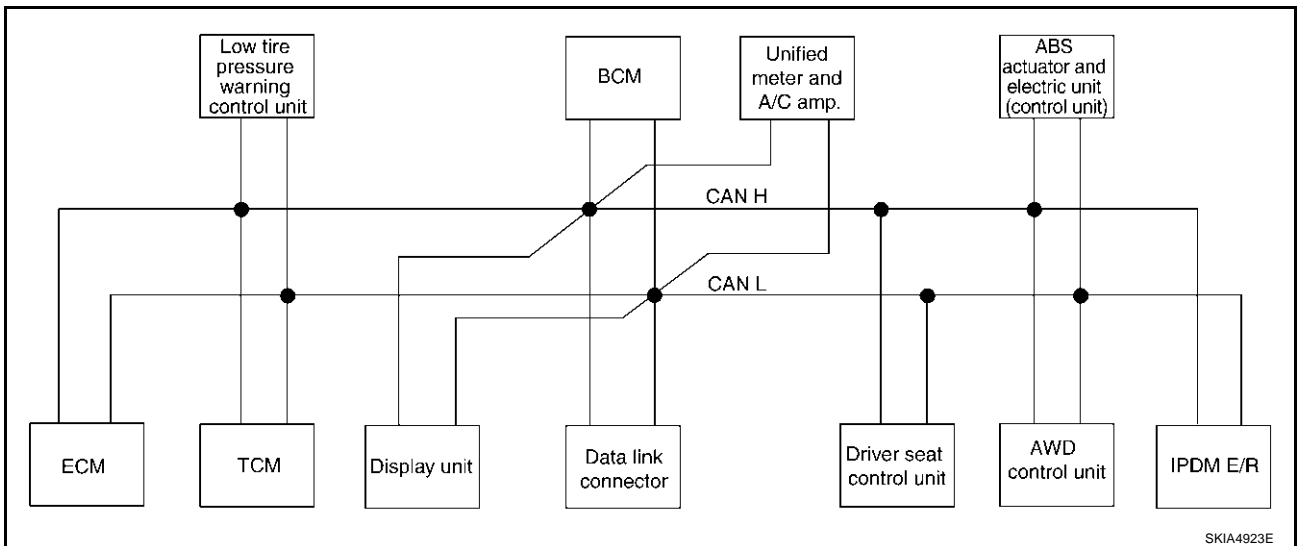


# REMOTE KEYLESS ENTRY SYSTEM

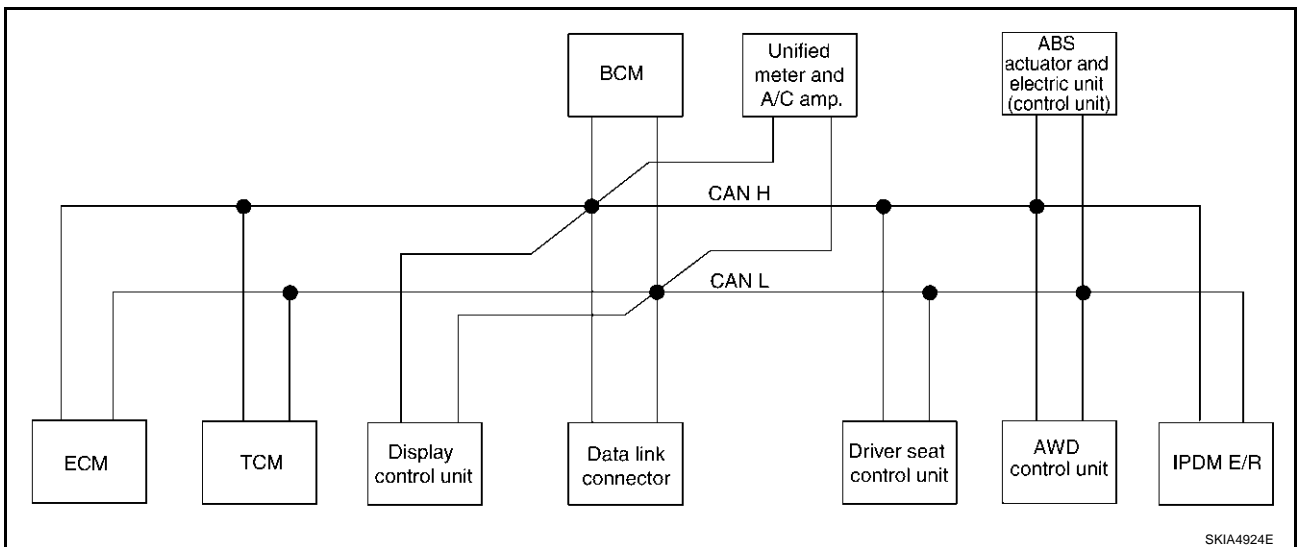
- Type21



- Type22



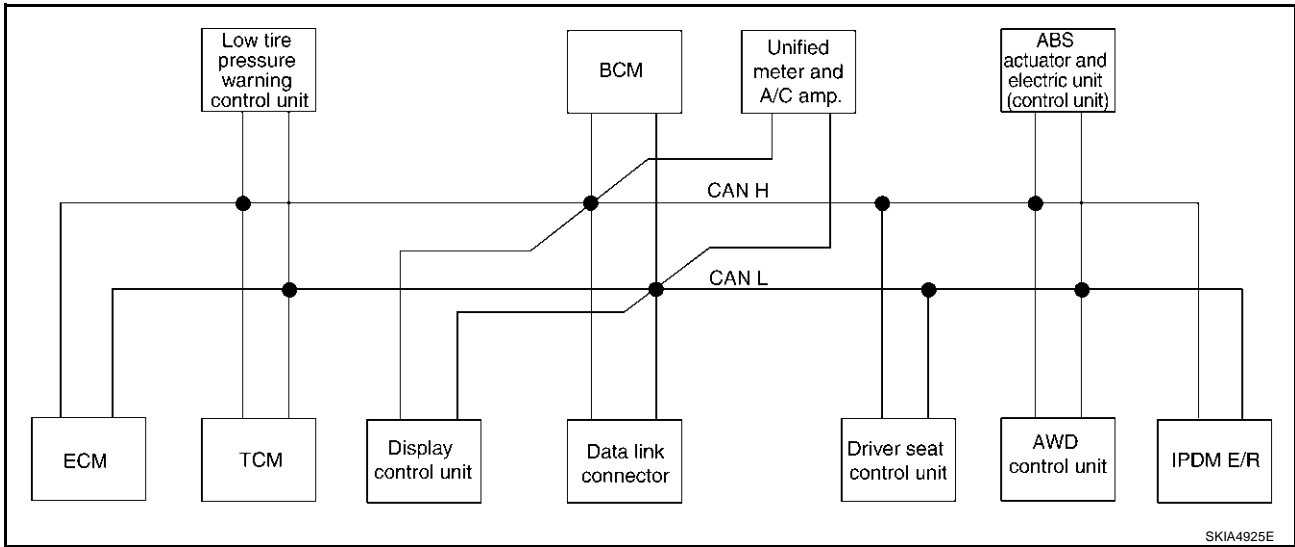
- Type23



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# REMOTE KEYLESS ENTRY SYSTEM

- Type24



# REMOTE KEYLESS ENTRY SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Driver seat control unit	AWD control unit	ABS actuator and electric unit (control unit)	IPDM E/R
CVT position indicator signal		T					R				
Second position signal		R					T				
Second position indicator signal		T					R				
Engine speed signal	T	R	R		R	R	R		R		
Engine status signal	T					R					
Engine coolant temperature signal	T						R				
Accelerator pedal position signal	T	R							R		
Closed throttle position signal	T	R									
Wide open throttle position signal	T	R									
Key switch signal						T		R			
Ignition switch signal						T		R			R
P range signal		T						R			
Stop lamp switch signal		R					T		R		
Fuel consumption monitor signal	T						R				
CVT self-diagnosis signal	R	T									
ABS operation signal		R							R	T	
Air conditioner switch signal	R					T					
A/C compressor request signal	T										R
A/C compressor feedback signal	T						R				
Blower fan motor switch signal	R					T					
A/C control signal				T	T		R				
				R	R		T				
Cooling fan speed request signal	T										R
Position lights request signal						T	R				R
Low beam request signal						T					R
Low beam status signal	R										T
High beam request signal						T	R				R
High beam status signal	R										T
Front fog lights request signal						T					R
Vehicle speed signal		R					R		R	T	
	R		R		R	R	T	R			
Sleep request 1 signal						T	R				
Sleep request 2 signal						T					R
Door switch signal						R	T				
				R	R	T	R	R			R
Key fob ID signal						T		R			
Key fob door unlock signal						T		R			

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# REMOTE KEYLESS ENTRY SYSTEM

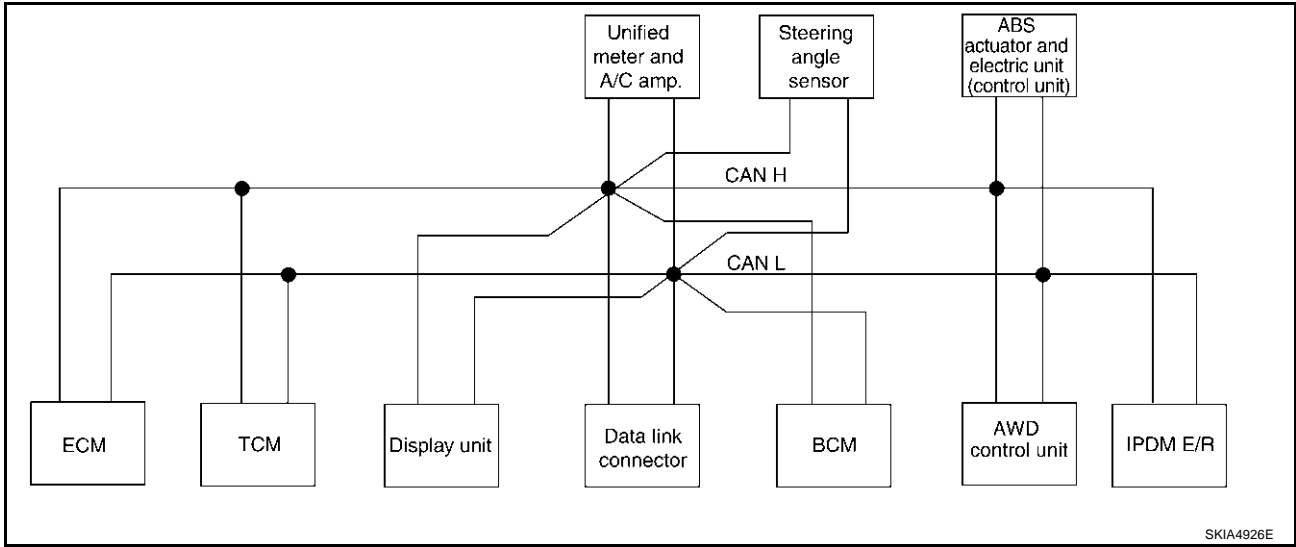
Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Driver seat control unit	AWD control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Turn indicator signal						T	R				
Seat belt buckle switch signal						R	T				
Oil pressure switch signal						R					T
						T	R				
Buzzer output signal						T	R				
Fuel level sensor signal	R						T				
Fuel level low warning signal				R	R		T				
Malfunction indicator lamp signal	T						R				
ASCD SET lamp signal	T						R				
ASCD CRUISE lamp signal	T						R				
Input shaft revolution signal	R	T									
Output shaft revolution signal	R	T									
Front wiper request signal						T					R
Front wiper stop position signal						R					T
Rear window defogger switch signal						T					R
Rear window defogger control signal	R			R	R						T
Engine and CVT integrated control signal	T	R									
	R	T									
Hood switch signal						R					T
Theft warning horn request signal						T					R
Horn chirp signal						T					R
Tire pressure signal			T				R				
Tire pressure data signal			T	R	R						
ABS warning lamp signal							R			T	
Brake warning lamp signal							R			T	
System setting signal				T	T			R			
AWD warning lamp signal							R		T		
AWD lock indicator lamp signal							R		T		
AWD lock switch signal							T		R		
Parking brake switch signal						R	T		R		

# REMOTE KEYLESS ENTRY SYSTEM

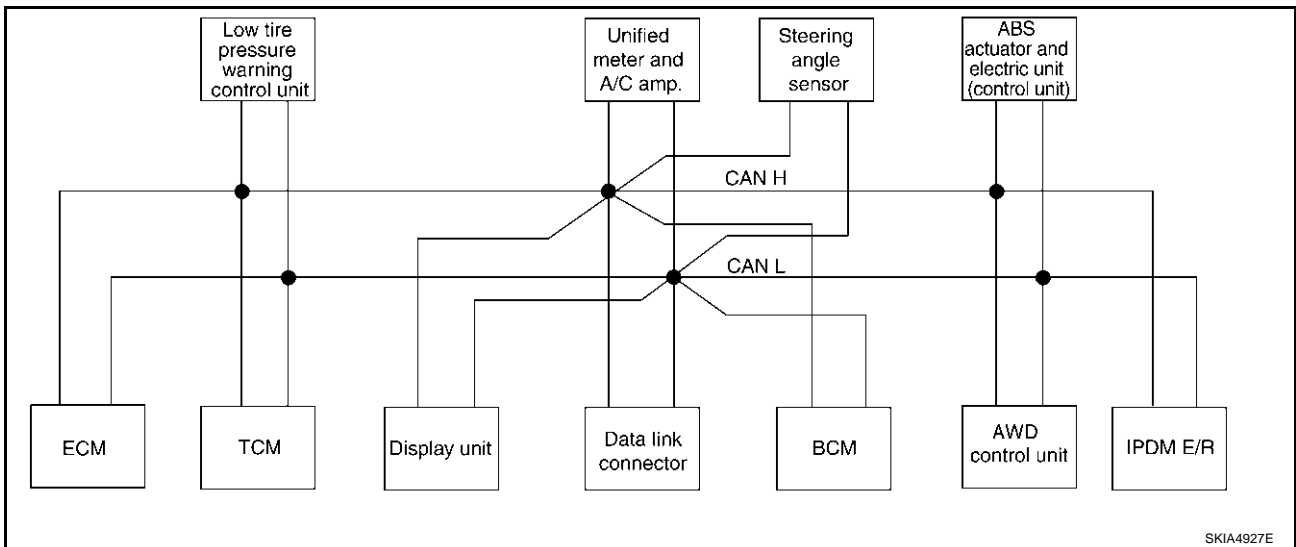
TYPE 25/TYPER26/TYPER 27/TYPER 28/TYPER 29/TYPER 30/TYPER 31/TYPER 32

## System Diagram

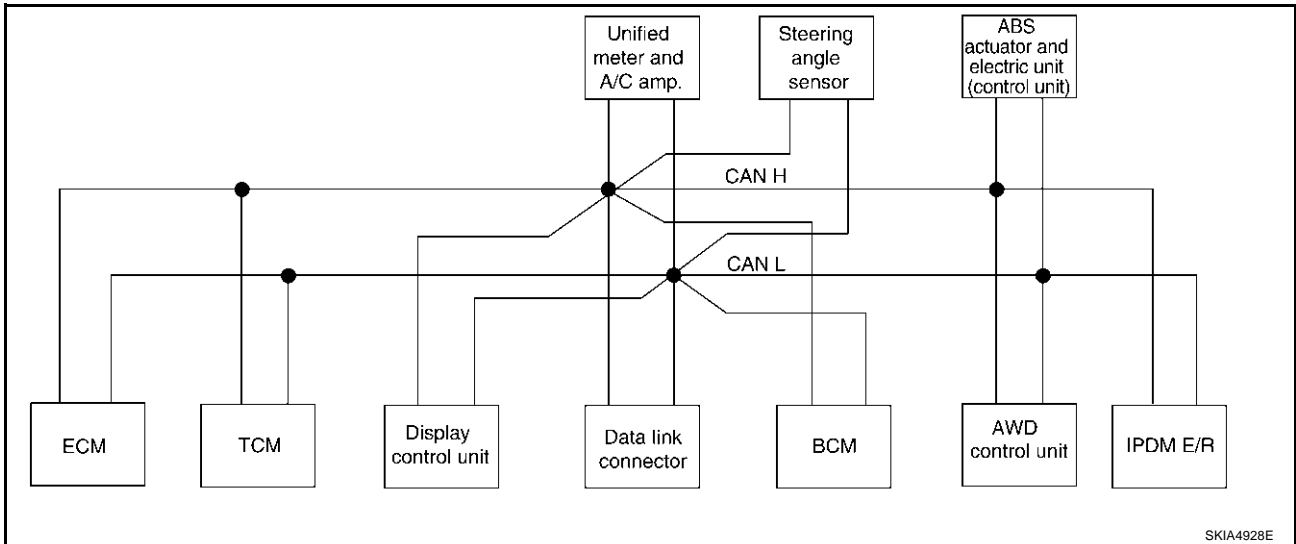
- Type25



- Type26



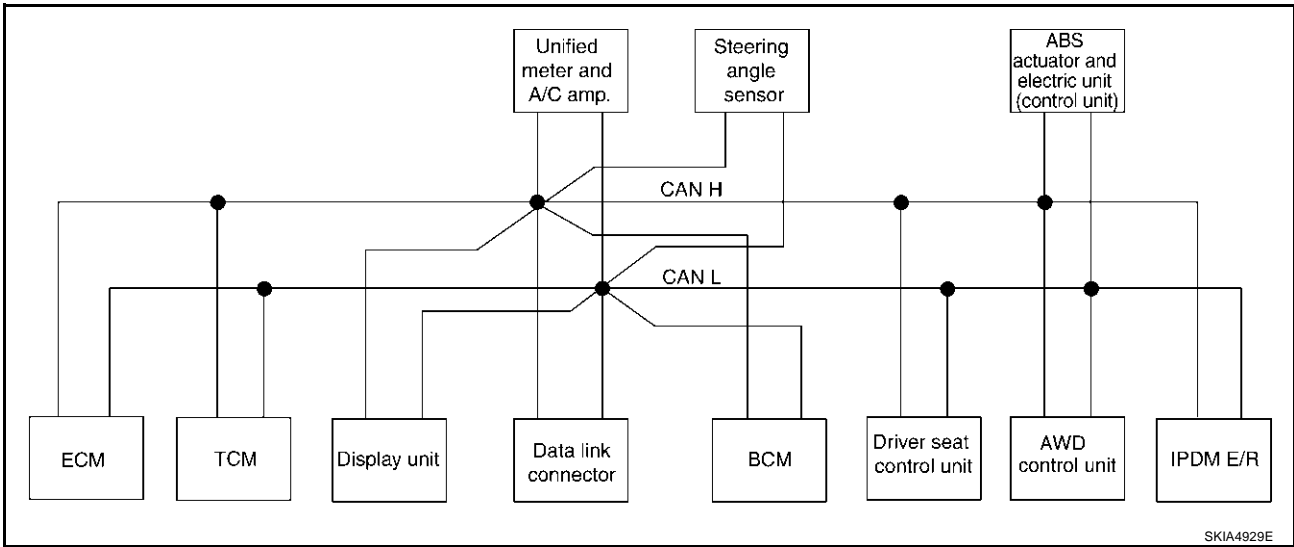
- Type27



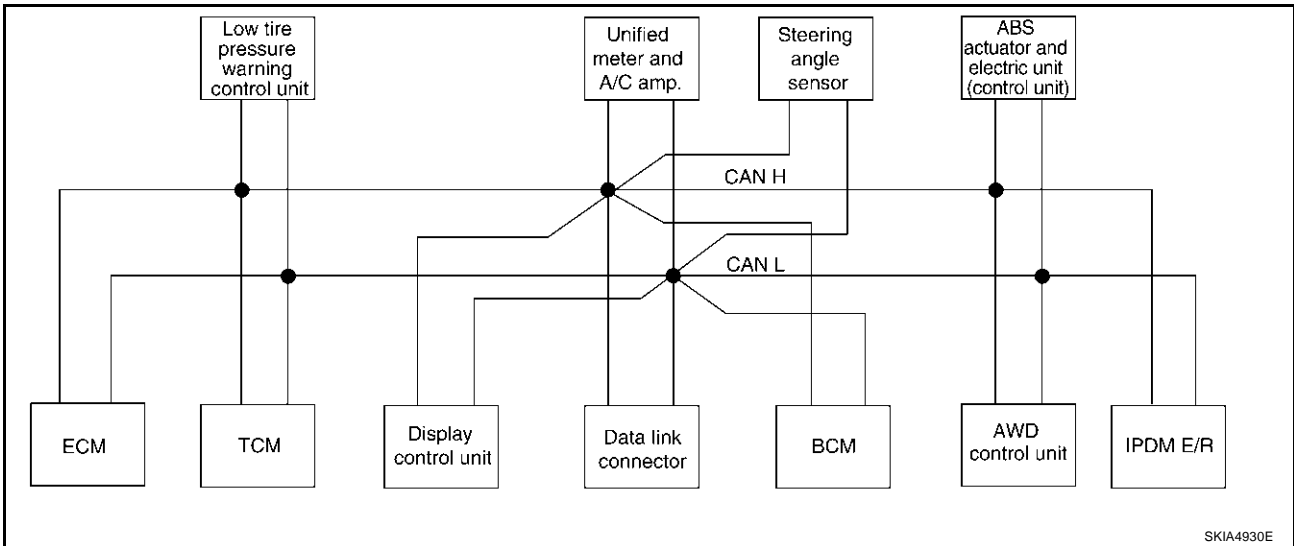
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# REMOTE KEYLESS ENTRY SYSTEM

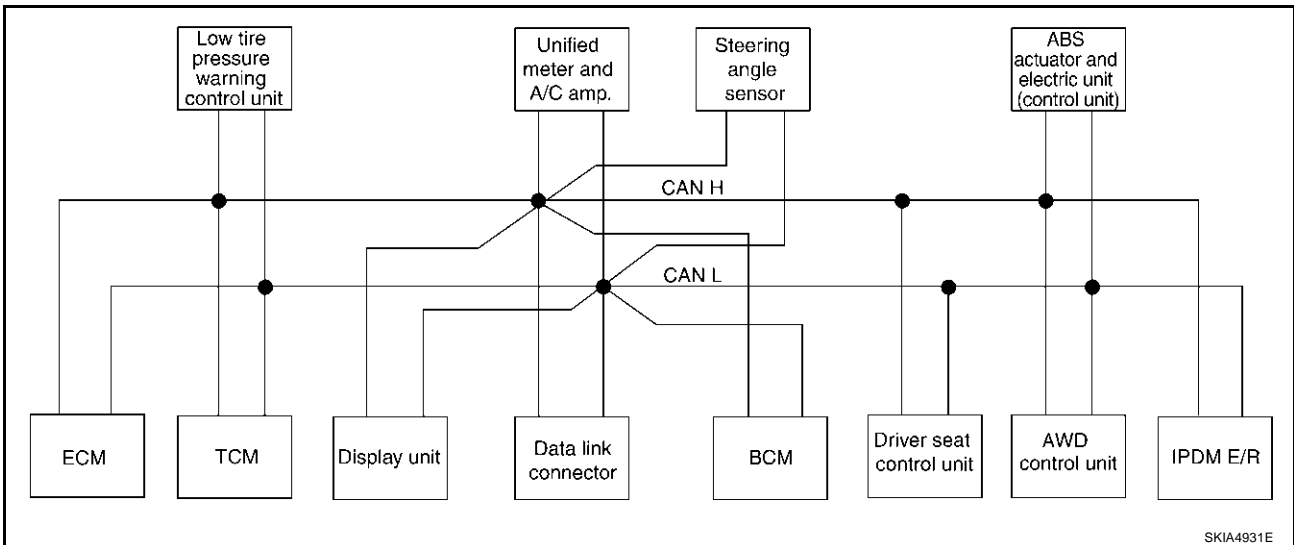
- Type28



- Type29

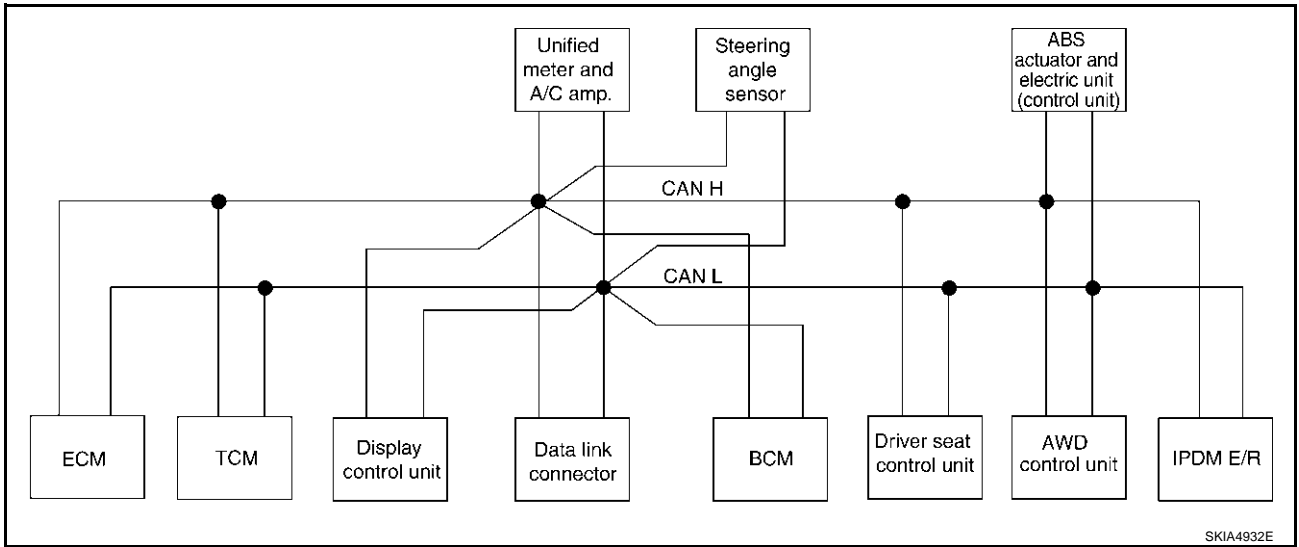


- Type30

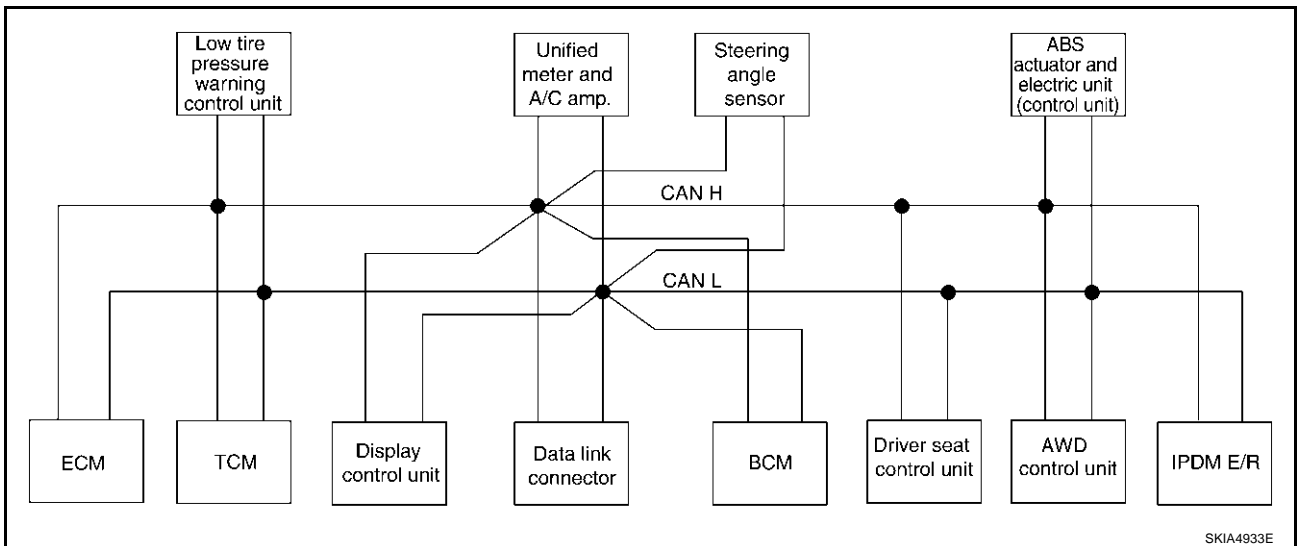


# REMOTE KEYLESS ENTRY SYSTEM

- Type31



- Type32



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# REMOTE KEYLESS ENTRY SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Steering angle sensor	Driver seat control unit	AWD control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Engine and CVT integrated control signal	T	R										
	R	T										
Second position signal		R					T					
VDC operation signal		R								R	T	
Stop lamp switch signal		R					T			R		
Key switch signal						T			R			
Ignition switch signal						T			R			R
P range signal		T							R		R	
Closed throttle position signal	T	R										
Wide open throttle position signal	T	R										
Second position indicator signal		T					R				R	
Engine speed signal	T	R			R	R	R			R	R	
Engine status signal	T					R						
Engine coolant temperature signal	T						R					
Accelerator pedal position signal	T	R								R	R	
Fuel consumption monitor signal	T						R					
CVT self-diagnosis signal	R	T										
Input shaft revolution signal	R	T									R	
Output shaft revolution signal	R	T									R	
Air conditioner switch signal	R					T						
A/C compressor request signal	T											R
A/C compressor feedback signal	T						R					T
Blower fan motor switch signal	R					T						
A/C control signal				T	T		R					
				R	R		T					
Cooling fan speed request signal	T											R
Position lights request signal						T	R					R
Low beam request signal						T						R
Low beam status signal	R											T
High beam request signal						T	R					R
High beam status signal	R											T
Front fog lights request signal						T						R
Vehicle speed signal		R					R			R	T	
	R		R		R	R	T		R			
Sleep request 1 signal						T	R					
Sleep request 2 signal						T						R



# REMOTE KEYLESS ENTRY SYSTEM

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Steering angle sensor	Driver seat control unit	AWD control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Door switch signal						R	T					
Turn indicator signal				R	R	T	R		R			R
Key fob ID signal						T			R			
Key fob door unlock signal						T			R			
Seat belt buckle switch signal						R	T					
Oil pressure switch signal						R						T
Buzzer output signal						T	R					
Fuel level sensor signal	R						T					
Fuel level low warning signal				R	R		T					
Malfunction indicator signal	T						R					
ASCD SET lamp signal	T						R					
ASCD CRUISE lamp signal	T						R					
Front wiper request signal						T						R
Front wiper stop position signal						R						T
Rear window defogger switch signal						T						R
Rear window defogger control signal	R			R	R							T
Hood switch signal						R						T
Theft warning horn request signal						T						R
Horn chirp signal						T						R
Steering angle sensor signal								T			R	
Tire pressure signal			T				R					
Tire pressure data signal			T	R	R							
CVT position indicator signal		T					R				R	
ABS warning lamp signal							R				T	
VDC OFF indicator lamp signal							R				T	
SLIP indicator lamp signal							R				T	
Brake warning lamp signal							R				T	
System setting signal				T	T				R			
AWD warning lamp signal							R			T		
AWD lock indicator lamp signal							R			T		
AWD lock switch signal							T			R		
Parking brake switch signal						R	T			R		

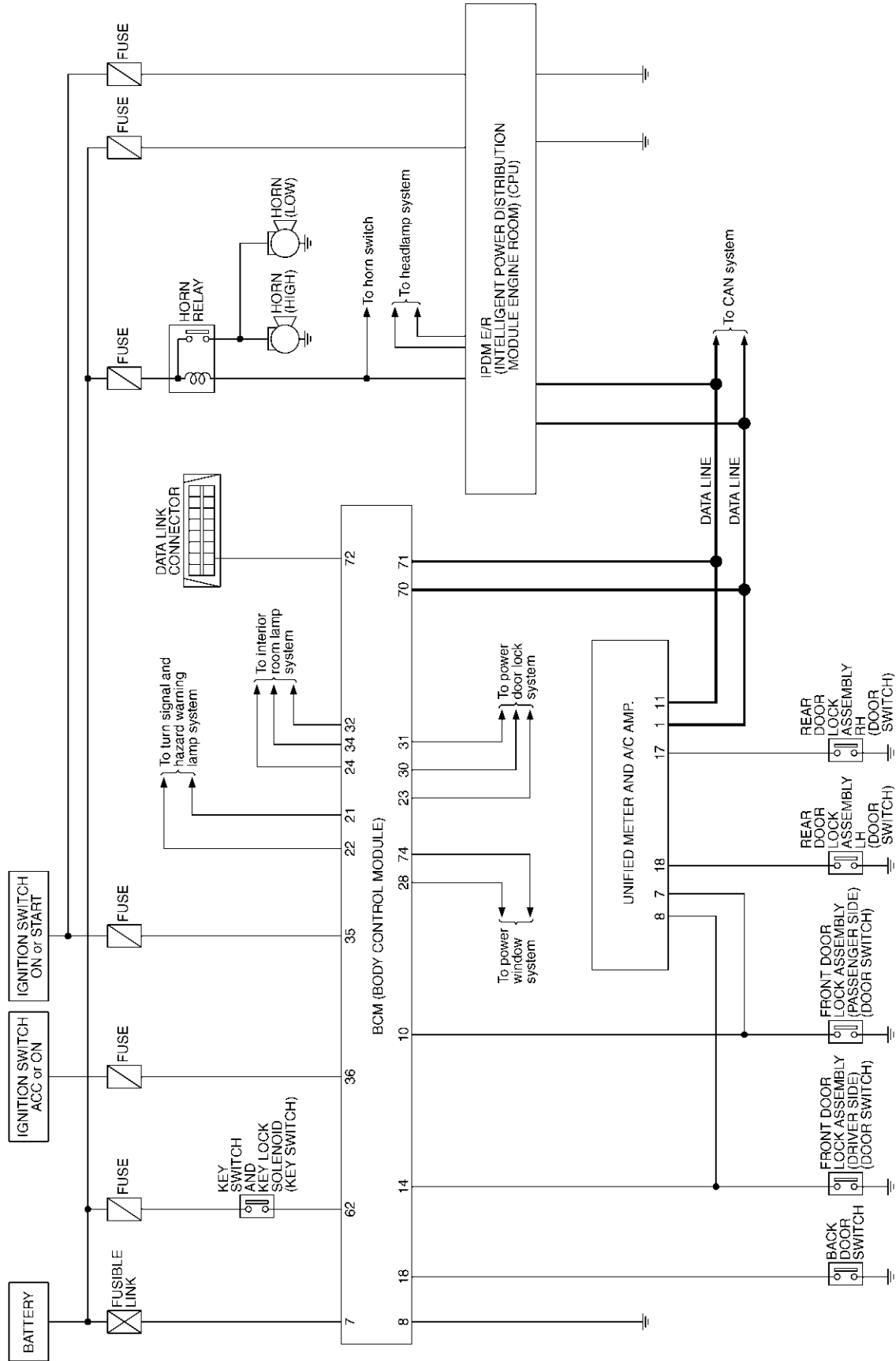
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# REMOTE KEYLESS ENTRY SYSTEM

## Schematic

AI5002FI

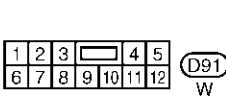
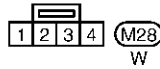
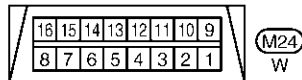
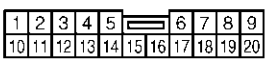
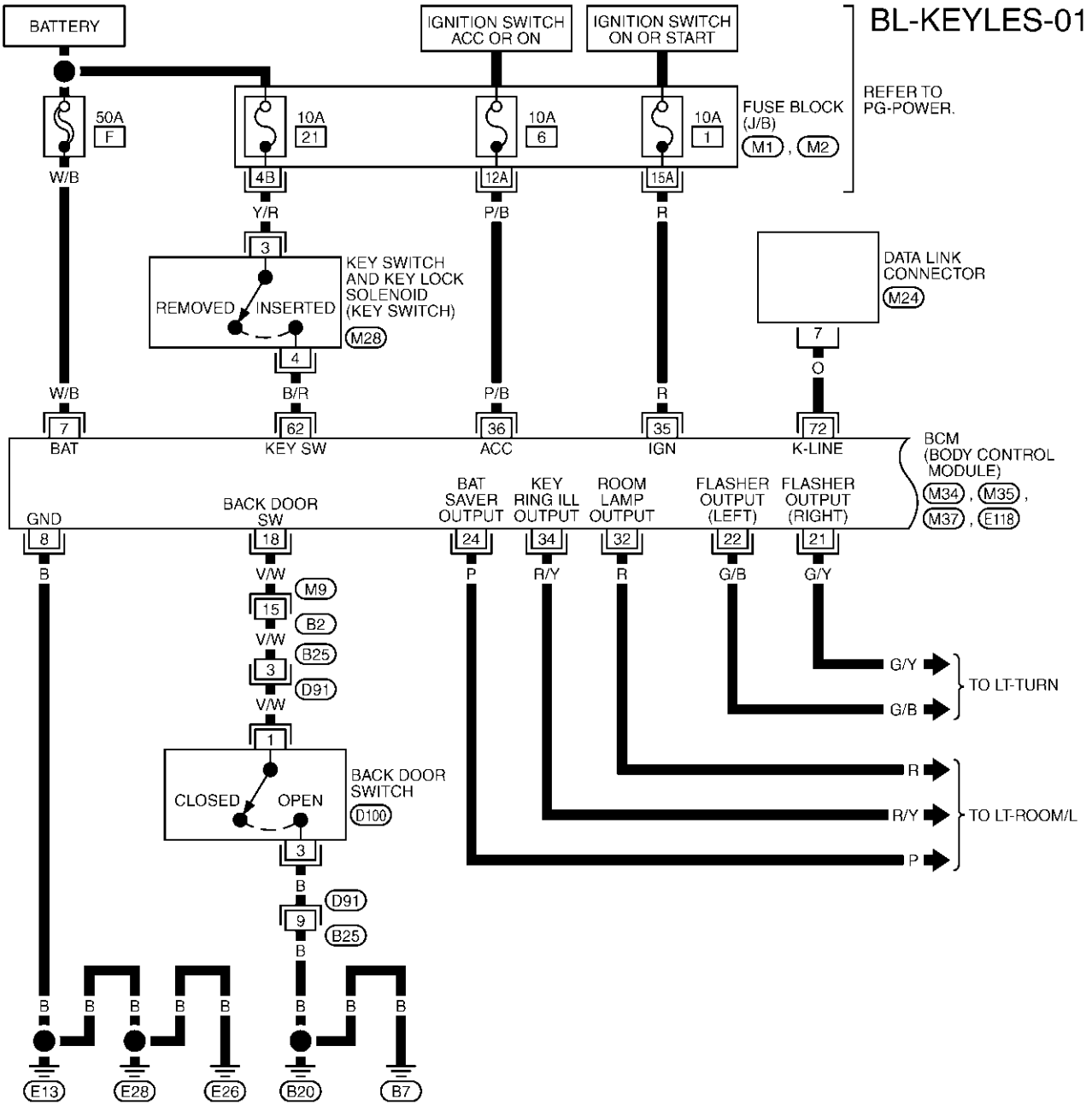


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# REMOTE KEYLESS ENTRY SYSTEM

AIS002FJ

**Wiring Diagram — KEYLES—**  
**FIG. 1**



REFER TO THE FOLLOWING.  
(M1), (M2) - FUSE BLOCK-JUNCTION BOX (J/B)  
(M34), (M35), (M37), (E118) - ELECTRICAL UNITS

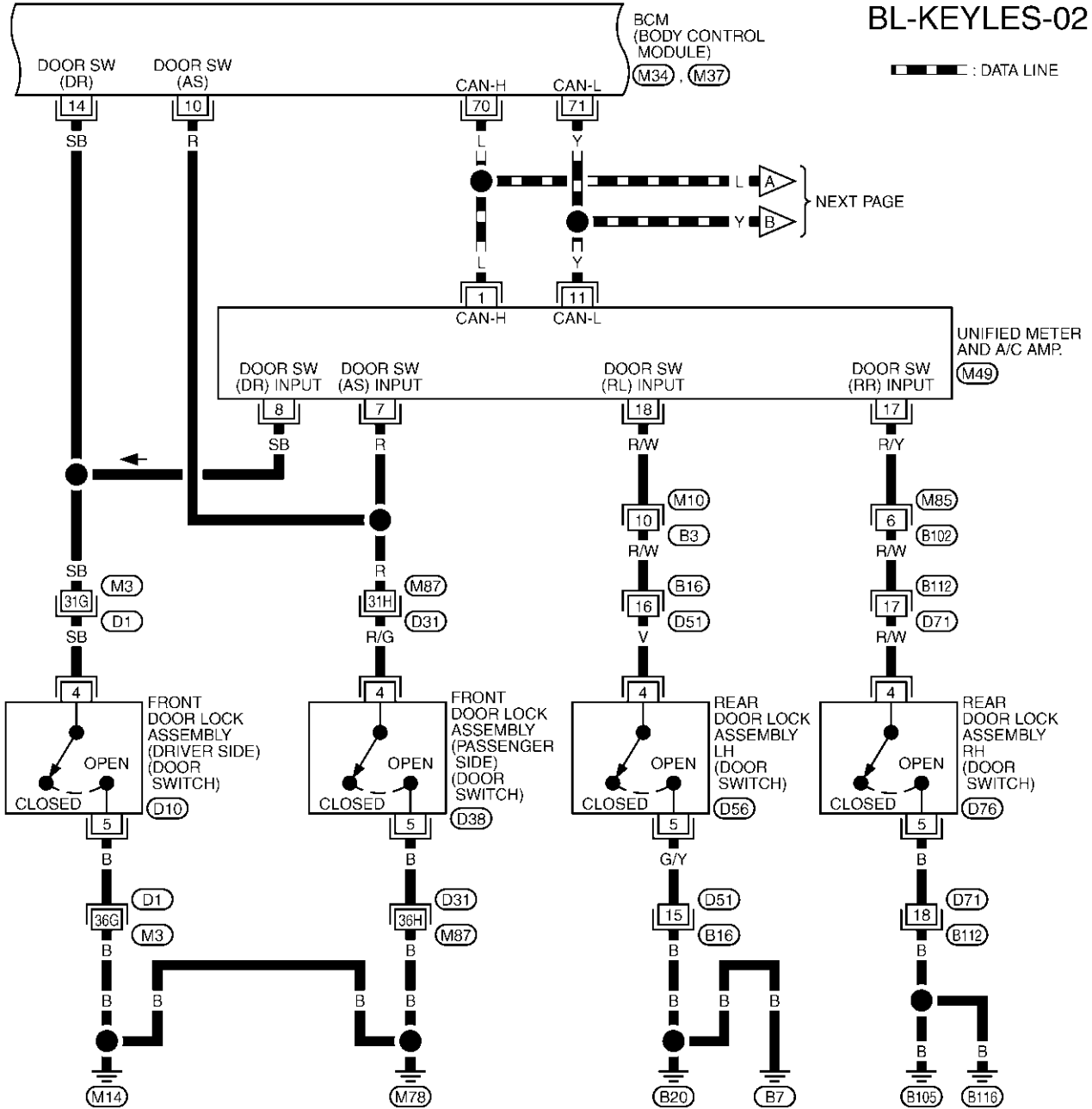
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BL

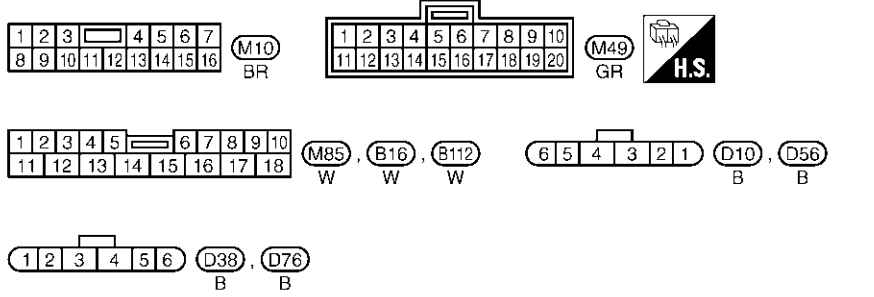
# REMOTE KEYLESS ENTRY SYSTEM

FIG. 2

BL-KEYLES-02



REFER TO THE FOLLOWING.  
 (D1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M34), (M37) -ELECTRICAL UNITS

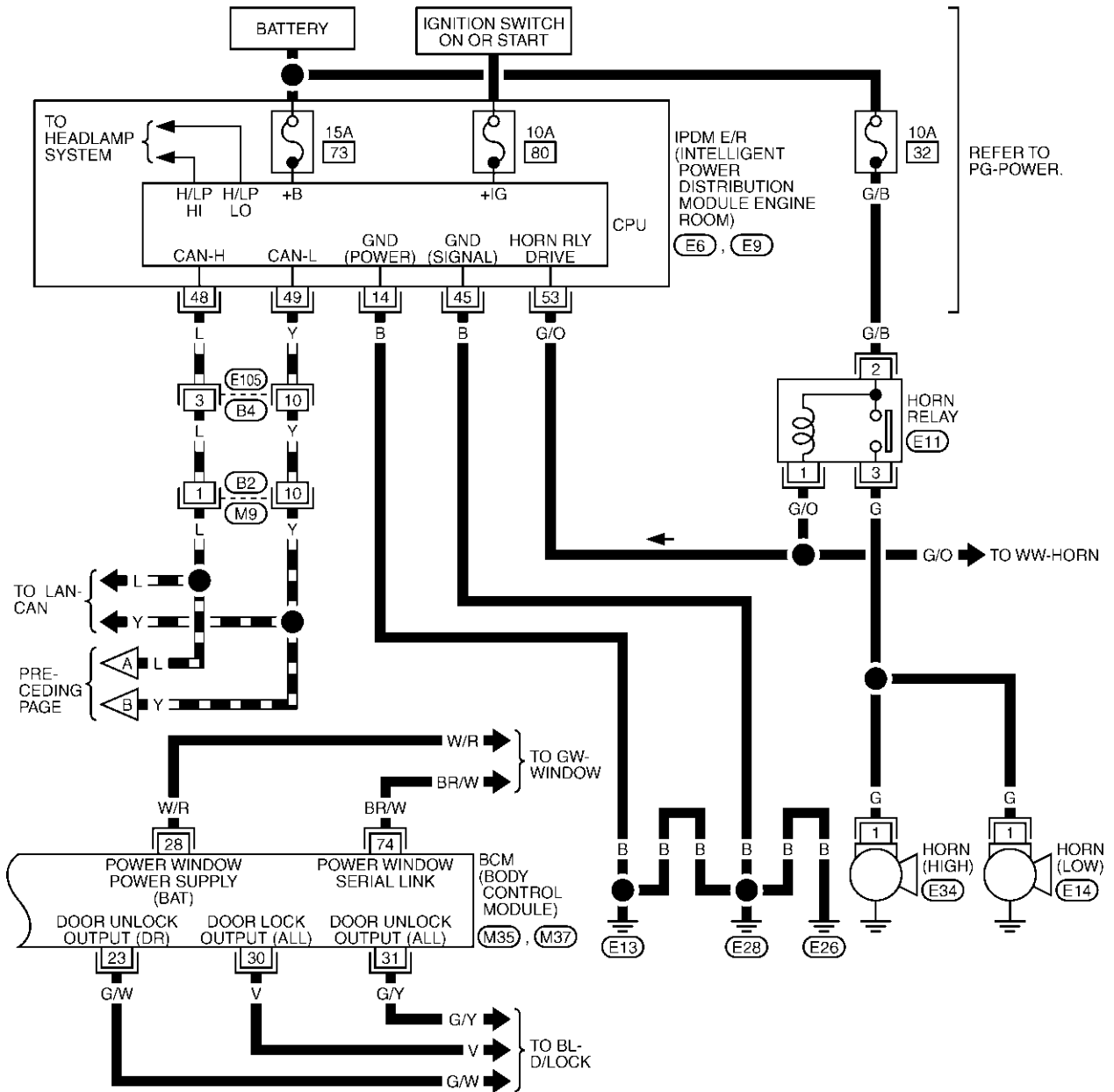


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# REMOTE KEYLESS ENTRY SYSTEM

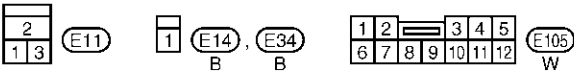
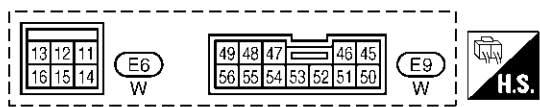
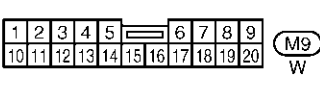
FIG. 3

BL-KEYLES-03



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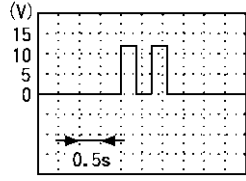
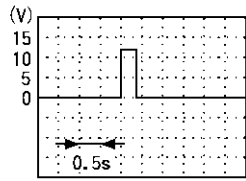
REFER TO THE FOLLOWING.  
 (M35), (M37) - ELECTRICAL UNITS

T1WA0275E

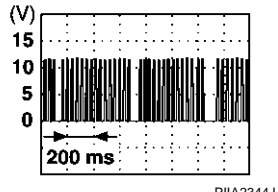
# REMOTE KEYLESS ENTRY SYSTEM

## Terminals and Reference Value for BCM

AISO02NO

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
7	W/B	Battery power supply (Fusible link)	—	Battery voltage
8	B	Ground	—	0
10*1	R	Front door switch input signal (passenger side)	ON (Door is opened) → OFF (Door is closed)	0 → Battery voltage
14*1	SB	Front door switch input signal (driver side)	ON (Door is opened) → OFF (Door is closed)	0 → Battery voltage
18	V/W	Back door switch input signal	ON (Back door is opened) → OFF (Back door is closed)	0 → Battery voltage
21,22	G/Y: 21 G/B: 22	Flasher output signal (Left: 22, Right: 21)	When door lock is operated with key fob, turn signal lamp blinks twice.*2	 PIIA2487J
			When door unlock is operated with key fob, turn signal lamp blinks once.*2	 PIIA2486J
23	G/W	Door unlock output signal (driver door and fuel lid lock actuator)	Door lock and unlock switch (Free → Lock)	0 → Battery voltage
24	P	Battery saver output signal	For 30 minutes after ignition switch is turned to OFF	0
			Ignition switch is in ON position	Battery voltage
28	W/R	Battery power supply (power window)	—	Battery voltage
30	V	Door lock output signal (all door lock actuators)	Door lock and unlock switch (Free → Lock)	0 → Battery voltage
31	G/Y	Door unlock output signal (passenger, rear and back door lock actuators)	Door lock and unlock switch (Free → Unlock)	0 → Battery voltage
32	R	Room lamp output signal	Room lamp is lighting.*3	0
			Room lamp is being turned off.*3	Battery voltage
34	R/Y	Key ring ill output signal	Ignition keyhole illumination is light- ing.	0
			Ignition keyhole illumination is being turned off.	Battery voltage
35	R	Ignition switch ON power supply	Ignition switch is in ON position	Battery voltage
36	P/B	Ignition switch ACC power sup- ply	Ignition switch is in ACC position	Battery voltage
62	B/R	Key switch input signal	Key switch ON (key is inserted in ignition key cylinder)	Battery voltage
			Key switch OFF (key is removed from ignition key cylinder)	0
70	L	CAN-H	—	—

# REMOTE KEYLESS ENTRY SYSTEM

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
71	Y	CAN-L	—	—
72	O	Data link connector	—	—
74	BR/W	Power window serial link	Ignition switch is ON or power window retained power operation is activated.	

\*1: These signals are only used to control remote keyless entry system, when unified meter and A/C amp. or CAN communication is malfunction.

\*2: In the state that hazard reminder operates

\*3: In the state that map lamp switch is in "DOOR" position

## Terminals and Reference Value for IPDM E/R

AIS002FL

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
14	B	Ground	—	0
45	B	Ground	—	0
48	L	CAN – H	—	—
49	Y	CAN – L	—	—
53	G/O	Horn relay	When door lock or panic alarm are operated using key fob* (ON → OFF)	0 → Battery voltage

\*: In the state that horn reminder and panic alarm operates.

## Terminals and Reference Value for Unified Meter and A/C amp.

AIS002N1

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
1	L	CAN-H	—	—
7	R	Front door switch (passenger side) input signal	ON (Door is opened) → OFF (Door is closed)	0 → Battery voltage
8	SB	Front door switch (driver side) input signal	ON (Door is opened) → OFF (Door is closed)	0 → Battery voltage
11	Y	CAN-L	—	—
17	R/Y	Rear door switch RH input signal	ON (Door is opened) → OFF (Door is closed)	0 → Battery voltage
18	R/W	Rear door switch LH input signal	ON (Door is opened) → OFF (Door is closed)	0 → Battery voltage

# REMOTE KEYLESS ENTRY SYSTEM

## CONSULT-II Function

AIS002FM

The following functions are executed by combining data received and command transmitted via the communication line from the BCM.

BCM diagnosis part	Inspection items and diagnosis mode	Description
BCM C/U*	SELF-DIAG RESULTS	Carries out the self-diagnosis.
	DATA MONITOR   SELECTION FROM MENU	Displays the input data to BCM on real-time basis.
	CAN DIAGNOSTIC SUPPORT MONITOR	The results of transmit / receive diagnosis of CAN communication can be read.
MULTI REMOTE ENT	DATA MONITOR	Displays the input remote keyless entry system data to BCM on real-time basis.
	ACTIVE TEST	Gives a drive to a load to check the operation.
	WORK SUPPORT	Changes the setting for each function.

\*:Refer to [SE-66, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#) .

## CONSULT-II Inspection Procedure

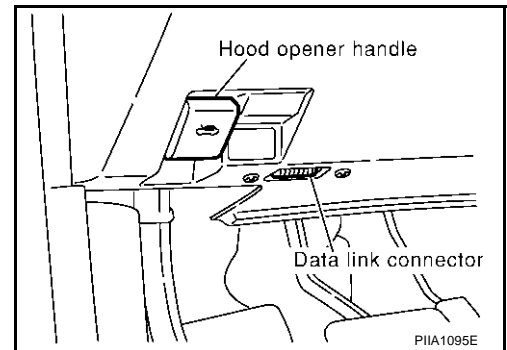
AIS002FM

### CAUTION:

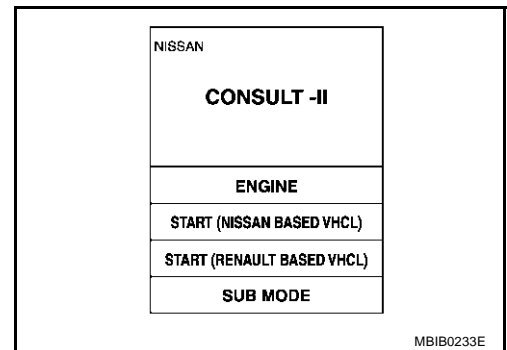
If CONVERTER is not connected with CONSULT-II, vehicle occur the "FAIL-SAFE MODE" which is "LIGHT UP THE HEADLAMP" and/or "COOLING FAN ROTATING" when CONSULT-II is started.

### "MULTI REMOTE ENT"

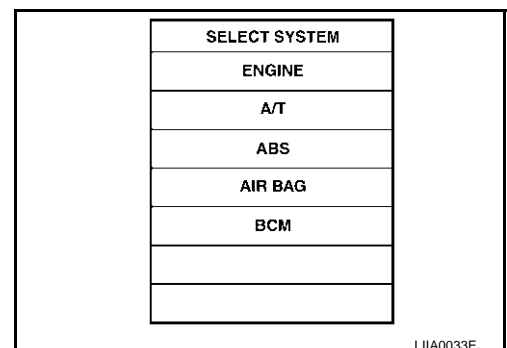
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" and "CONSULT-II CONVERTER" to data link connector.



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



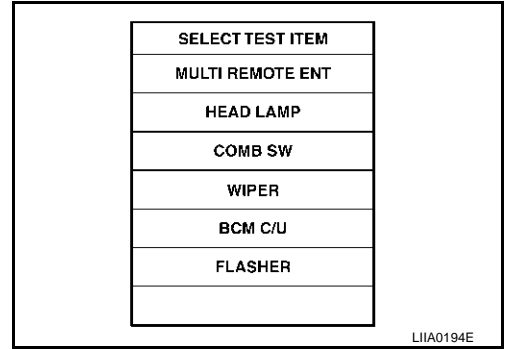
5. Touch "BCM".  
If "BCM" is not indicated, go to [GI-38, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#) .



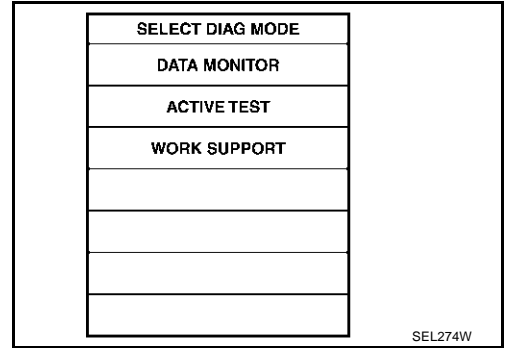


# REMOTE KEYLESS ENTRY SYSTEM

6. Touch "MULTI REMOTE ENT".



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



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

### Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch is in ON position.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch is in ACC position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
DOOR SW-DR	Indicates [ON/OFF] condition of driver side door switch.
DOOR SW-AS	Indicates [ON/OFF] condition of passenger side door switch.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
LOCK SW DR/AS	Indicates [ON/OFF] condition of lock signal from door lock and unlock switch.
UNLK SW DR/AS	Indicates [ON/OFF] condition of unlock signal from door lock and unlock switch.
KEY CYL LK SW	Indicates [ON/OFF] condition of lock signal from door key cylinder switch.
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from key fob.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from key fob.
PANIC BTN	Indicates [ON/OFF] condition of panic alarm signal from key fob.
TRUNK BTN/SIG	This is displayed even when it is not equipped.
TRUNK OPN MNTR	This is displayed even when it is not equipped.
UN BUTTON ON	Indicates [ON/OFF] condition of unlock signal from key fob.
LK/UN BTN ON	Indicates [ON/OFF] condition of lock/unlock signal at the same time from key fob.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switches.

# REMOTE KEYLESS ENTRY SYSTEM

## Active Test

Test Item	Description
INT LAMP	This test is able to check interior lamp operation. The interior lamp is turned on when "ON" on CONSULT-II screen is touched.
IGN ILLUM	This test is able to check ignition keyhole illumination operation. The ignition keyhole illumination is turned on when "ON" on CONSULT-II screen is touched. <b>NOTE:</b> Remote keyless entry system does not control ignition keyhole illumination operation.
TRUNK/BACK DOOR	This is displayed even when it is not equipped.
HORN	This test is able to check panic alarm and horn reminder operations. The horn activate for 0.5 seconds after "ON" on CONSULT-II screen is touched.
HEADLAMP (HI)	This test is able to check headlamps panic alarm operation. The headlamp illuminates for 0.5 seconds after "ON" on CONSULT-II screen is touched.
POWER WINDOW DOWN	This test is able to check power window open operation. The front power windows activate for 10 seconds after "ON" or CONSULT-II screen is touched.
FLASHER RIGHT	This test is able to check right hazard reminder operation. The right hazard lamp turns on when "ON" on CONSULT-II screen is touched.
FLASHER LEFT	This test is able to check left hazard reminder operation. The left hazard lamp turns on when "ON" on CONSULT-II screen is touched.
FLASHER RIGHT (CAN)	This test is able to check hazard reminder operation. The right hazard indicator lamp turns on when "ON" on CONSULT-II screen is touched.
FLASHER LEFT (CAN)	This test is able to check hazard reminder operation. The left hazard indicator lamp turns on when "ON" on CONSULT-II screen is touched.

## Work Support

Test Item	Description
REMO CONT ID CONFIR	It can be checked whether key fob ID code is registered or not in this mode.
REMO CONT ID REGIST	Key fob ID code can be registered.
REMO CONT ID ERASUR	Key fob ID code can be erased.
MULTI ANSWER BACK SET	Hazard and horn reminder mode can be changed in this mode.
AUTO LOCK SET	Auto locking function mode can be changed in this mode.
PANIC ALRM SET	Panic alarm operation mode can be changed in this mode.
TRUNK OPEN SET	This is displayed even when it is not equipped.
PW DOWN SET	Keyless power window down (open) operation mode can be changed in this mode.

# REMOTE KEYLESS ENTRY SYSTEM

## Hazard and horn reminder mode

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

## Auto locking function mode

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

## Panic alarm operation mode

	MODE 1	MODE 2	MODE 3
Key fob operation	0.5 seconds	Nothing	1.5 seconds

## Power window down operation mode

	MODE 1	MODE 2	MODE 3
Key fob operation	3 seconds	Nothing	5 seconds

## Work Flow

AIS002FP

1. Check the trouble symptom and customer's requests.
2. Understand outline of system. Refer to [BL-77, "System Description"](#) .
3. Confirm that power door lock system operates normally.  
Refer to [BL-23, "POWER DOOR LOCK SYSTEM"](#) .
4. Refer to trouble diagnosis chart by symptom, repair or replace any malfunctioning parts.  
Refer to [BL-111, "Trouble Diagnosis Chart by Symptom"](#) .
5. INSPECTION END

## Trouble Diagnosis Chart by Symptom

AIS002FQ

### NOTE:

- Always check the "Work Flow" before troubleshooting. Refer to [BL-111, "Work Flow"](#) .
- Always check key fob battery before replacing key fob.

Symptom	Diagnoses/service procedure	Reference page
All function of remote keyless entry system do not operate.	1. Check key fob battery.	<a href="#">BL-112</a>
	2. Check key fob function.	<a href="#">BL-113</a>
	3. Replace BCM.	<a href="#">BCS-36</a>
The new ID code of key fob cannot be entered without CONSULT-II.	1. Check key fob battery.	<a href="#">BL-112</a>
	2. Check key switch.	<a href="#">BL-118</a>
	3. Check door switch.	<a href="#">BL-114</a>
	4. Check ACC power.	<a href="#">BL-113</a>
	5. Replace BCM.	<a href="#">BCS-36</a>
Door lock or unlock does not function with key fob. (Power door lock system is "OK".) (Panic alarm activates properly with key fob.)	1. Check key fob function.	<a href="#">BL-113</a>
	2. Replace BCM.	<a href="#">BCS-36</a>
Hazard and horn reminder does not activate properly when pressing lock or unlock button of key fob.	1. Check hazard and horn reminder mode.* *: Hazard and horn reminder mode can be changed. First check the hazard and horn reminder setting.	<a href="#">BL-110</a>
	2. Check door switch.	<a href="#">BL-114</a>
	3. Replace BCM.	<a href="#">BCS-36</a>

# REMOTE KEYLESS ENTRY SYSTEM

Symptom	Diagnoses/service procedure	Reference page
Hazard reminder does not activate properly when pressing lock or unlock button of key fob. (Horn reminder is "OK".)	1. Check hazard reminder mode.* *: Hazard reminder mode can be changed. First check the hazard reminder setting.	<a href="#">BL-110</a>
	2. Check hazard function.	<a href="#">BL-120</a>
	3. Replace BCM.	<a href="#">BCS-36</a>
Horn reminder does not activate properly when pressing lock button of key fob. (Hazard reminder is "OK".)	1. Check horn reminder mode.* *: Horn reminder mode can be changed. First check the horn chirp setting.	<a href="#">BL-110</a>
	2. Check horn function.	<a href="#">BL-120</a>
	3. Check IPDM E/R operation.	<a href="#">BL-119</a>
	4. Replace BCM.	<a href="#">BCS-36</a>
Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed. (Door lock and unlock activates properly with key fob.)	1. Check panic alarm mode.* *: Panic alarm mode can be changed. First check the panic alarm setting.	<a href="#">BL-110</a>
	2. Check key fob function.	<a href="#">BL-113</a>
	3. Check key switch.	<a href="#">BL-118</a>
	4. Check headlamp function.	<a href="#">BL-120</a>
	5. Check horn function.	<a href="#">BL-120</a>
	6. Check IPDM E/R operation.	<a href="#">BL-119</a>
	7. Replace BCM.	<a href="#">BCS-36</a>
Auto door lock operation does not activate properly. (All other remote keyless entry system function is OK.)	1. Check auto door lock operation mode.* *: Auto door lock operation mode can be changed. First check the auto door lock operation setting.	<a href="#">BL-110</a>
	2. Replace BCM.	<a href="#">BCS-36</a>
Keyless power window down (open) operation does not activate properly. (All other remote keyless entry system function is OK.)	1. Check power window down operation mode.* *: Power window down operation mode can be changed. First check the power window down setting.	<a href="#">BL-110</a>
	2. Check power window function.	<a href="#">GW-18</a>
	3. Replace BCM.	<a href="#">BCS-36</a>
Map lamp and ignition keyhole illumination function does not activate properly. (All other remote keyless entry system function is OK.)	1. Check room lamp and ignition keyhole illumination function.	<a href="#">BL-120</a>
	2. Replace BCM.	<a href="#">BCS-36</a>

## Check Key Fob Battery

AIS002FR

### 1. CHECK KEY FOB BATTERY

1. Remove key fob battery. Refer to [BL-124, "Key Fob Battery Replacement"](#) .
2. Check voltage between battery positive and negative terminals, (+) and (-).

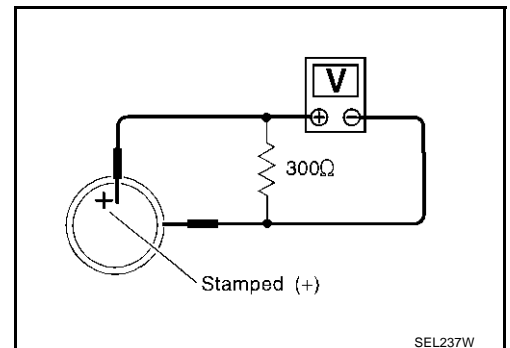
**Voltage** : 2.5V - 3.0V

#### NOTE:

Key fob does not function if battery is not set correctly.

#### OK or NG

- OK >> Key fob battery is OK.  
NG >> Replace key fob battery.



# REMOTE KEYLESS ENTRY SYSTEM

## Check Key Fob Function

AIS003Y6

### 1. CHECK KEY FOB FUNCTION

#### With CONSULT-II

Check key fob function in "DATA MONITOR" mode with CONSULT-II.

When pushing each button of key fob, the corresponding monitor item should be turned as follows.

Key fob switch condition	Monitor item
Pushing LOCK	LK BUTTON/SIG : ON
Pushing UNLOCK	UN BUTTON/SIG : ON
Keep pushing UNLOCK	UN BUTTON ON : ON*
	*: UN BUTTON ON turns to ON 3 seconds after UNLOCK button keeps pushing.
Pushing PANIC	PANIC BTN : ON
Pushing LOCK and UNLOCK at the same time	LK/UN BTN ON : ON

DATA MONITOR	
MONITOR	
LK BUTTON/SIG	OFF
UN BUTTON/SIG	OFF
UN BUTTON ON	OFF
PANIC BTN	OFF
LK/UN BTN ON	OFF

PIIA4975E

#### OK or NG

OK >> Key fob is OK.

NG >> Replace key fob and register key fob ID code. Refer to [BL-121, "ID Code Entry Procedure"](#).

## Check ACC Power

AIS002FS

### 1. CHECK ACC POWER

#### With CONSULT-II

Check ACC power ("ACC ON SW") in "DATA MONITOR" mode with CONSULT-II.

Monitor item	Condition	
ACC ON SW	Ignition switch is in ACC position	ON
	Ignition switch is in OFF position	OFF

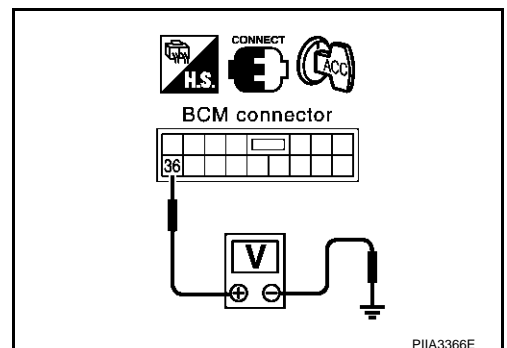
DATA MONITOR	
MONITOR	
ACC ON SW	OFF

PIIA3367E

#### Without CONSULT-II

Check voltage between BCM connector and ground.

Item	Terminals (Wire color)			Condition	Voltage (V) Approx.
	(+)		(-)		
	Con- nector	Terminal (Wire color)			
BCM	M35	36 (P/B)	Ground	ACC	Battery voltage
				OFF	0



#### OK or NG

OK >> ACC power supply circuit is OK.

NG >> Check the following.

- 10A fuse [No. 6, located in fuse block (J/B)]
- Harness for open or short between BCM and fuse.

# REMOTE KEYLESS ENTRY SYSTEM

AIS003Y7

## Check Door Switch

### CHECK DOOR SWITCH (EXCEPT BACK DOOR SWITCH)

First perform the "SELF-DIAG RESULT" in "BCM" with CONSULT-II. When perform the each trouble diagnosis, refer to [SE-66, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#).

#### 1. CHECK DOOR SWITCH INPUT SIGNAL

##### Ⓜ With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS" and "DOOR SW-RR") in "DATA MONITOR" mode with CONSULT-II.

Monitor item	Condition	
DOOR SW-DR	Door is closed	OFF
DOOR SW-AS	↓	↓
DOOR SW-RR	Door is opened	ON

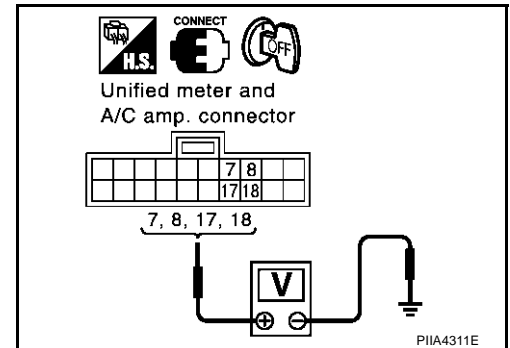
DATA MONITOR	
MONITOR	
DOOR SW - DR	OFF
DOOR SW - AS	OFF
DOOR SW - RR	OFF

LIIA0035E

##### ⊗ Without CONSULT-II

Check voltage between unified meter and A/C amp. connector M49 terminals 8 (SB), 7 (R), 18 (R/W), 17 (R/W) and ground.

	Terminals		Condition	Voltage (V) Approx.
	(+)	(-)		
Front door switch (driver side)	8 (SB)	Ground	Door close ↓ Door open	Battery voltage ↓ 0
Front door switch (passenger side)	7 (R)			
Rear door switch LH	18 (R/W)			
Rear door switch RH	17 (R/Y)			



#### OK or NG

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

# REMOTE KEYLESS ENTRY SYSTEM

## 2. CHECK DOOR SWITCH

1. Turn ignition switch OFF.
2. Disconnect door switch and unified meter and A/C amp. connectors.
3. Check continuity between door switch connectors D10, D38, D56, D76 terminals 4 and unified meter and A/C amp. connector M49 terminals 8, 7, 18, 17.

Item	Terminal	Continuity
Front door switch (driver side)	4 (SB) – 8 (SB)	Yes
Front door switch (passenger side)	4 (R/G) – 7 (R)	
Rear door switch LH	4 (V) – 18 (R/W)	
Rear door switch RH	4 (R/W) – 17 (R/Y)	

4. Check continuity between unified meter and A/C amp. connector M49 terminals 7, 8, 17, 18 and ground.

Item	Terminal	Continuity
Unified meter and A/C amp.	7 (R)	No
	8 (SB)	
	17 (R/Y)	
	18 (R/W)	

OK or NG

- OK >> GO TO 3.  
 NG >> Repair or replace harness.

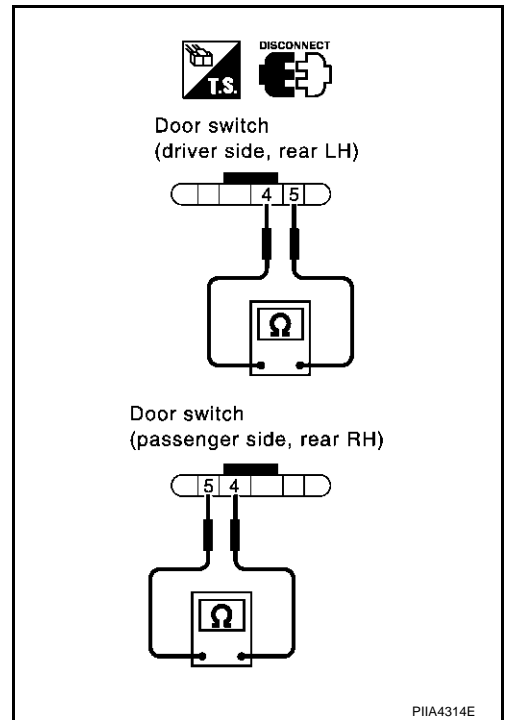
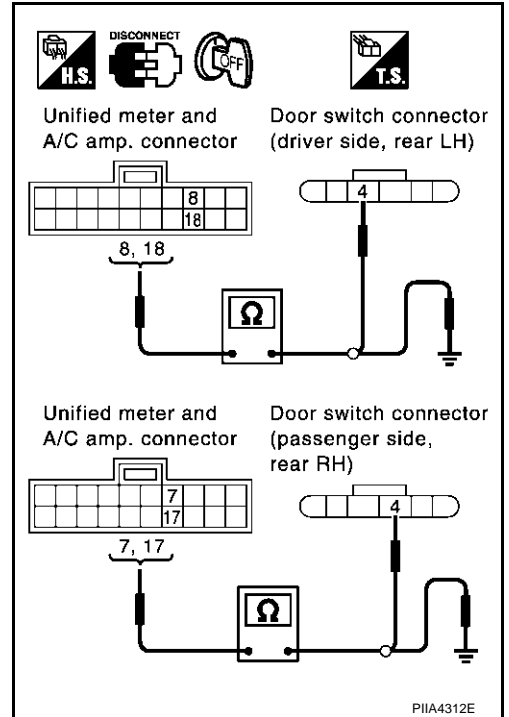
## 3. CHECK DOOR SWITCH

Check continuity between door switch terminals 4 and 5.

Terminal	Door switch condition	Continuity
4 - 5	Open position	Yes
	Closed position	No

OK or NG

- OK >> GO TO 4.  
 NG >> Replace door switch.



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

BL

# REMOTE KEYLESS ENTRY SYSTEM

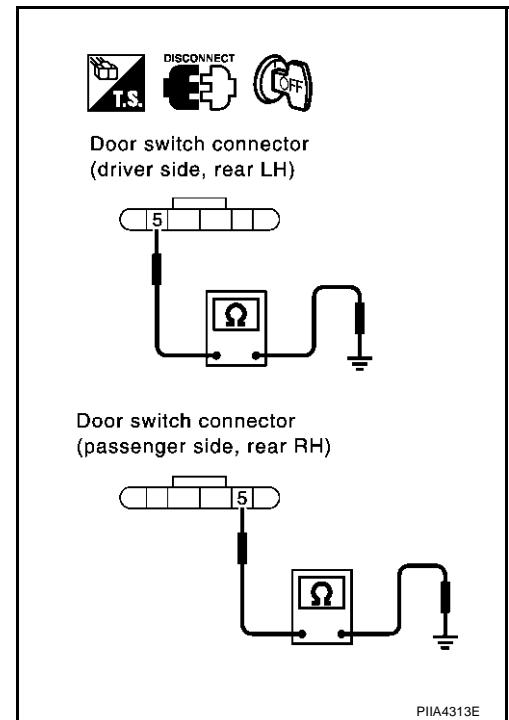
## 4. CHECK DOOR SWITCH GROUND HARNESS

Check continuity between door switch connectors D10, D38, D56, D76 terminal 5 and ground.

Item	Terminal		Continuity
Door switch (driver side, passenger side, rear RH)	5 (B)	Ground	Yes
Door switch (rear LH)	5 (G/Y)		

OK or NG

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



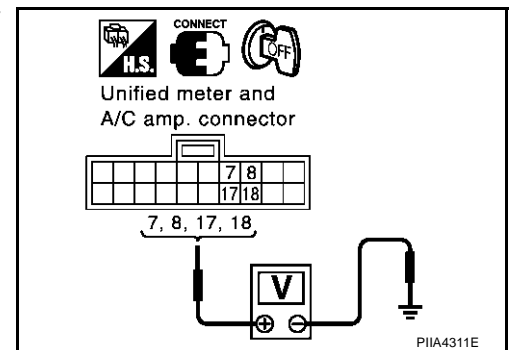
## 5. CHECK DOOR SWITCH INPUT SIGNAL

1. Connect unified meter and A/C amp. connector.
2. Check voltage between unified meter and A/C amp. connector M49 terminals 7, 8, 17, 18 and ground.

- 7 (R) – Ground : Battery voltage**  
**8 (SB) – Ground : Battery voltage**  
**17 (R/Y) – Ground : Battery voltage**  
**18 (R/W) – Ground : Battery voltage**

OK or NG

- OK >> Check harness connection.  
 NG >> Replace unified meter and A/C amp.





# REMOTE KEYLESS ENTRY SYSTEM

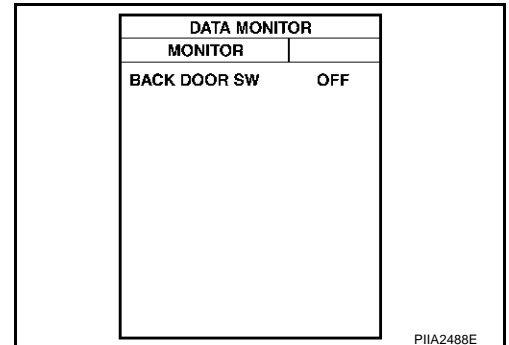
## CHECK BACK DOOR SWITCH

### 1. CHECK BACK DOOR SWITCH INPUT SIGNAL

#### With CONSULT-II

Check back door switch ("BACK DOOR SW") in "DATA MONITOR" mode with CONSULT-II.

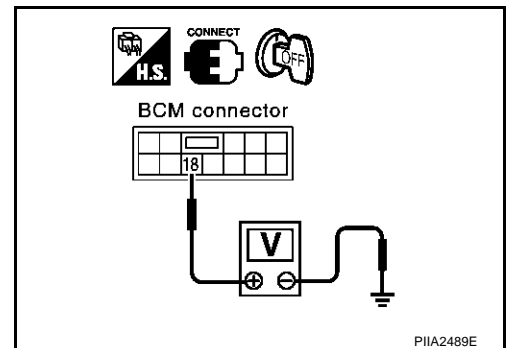
Monitor item	Condition	
BACK DOOR SW	Back door close	OFF
	Back door open	ON



#### Without CONSULT-II

Check voltage between BCM connector and ground.

Item	Terminals (Wire color)		Condition	Voltage (V) Approx.	
	(+)	(-)			
	Con- nector	Terminal (Wire color)			
Back door switch	M34	18 (V/W)	Ground	OPEN	0
				CLOSE	5* <sup>1</sup> 12* <sup>2</sup>



\*1: When battery saver control function is not activated.

\*2: When battery saver control function is activated.

#### OK or NG

OK >> Back door switch circuit is OK.

NG >> GO TO 2

### 2. CHECK BACK DOOR SWITCH HARNESS

- Turn ignition switch OFF.
- Disconnect BCM and back door switch connectors.
- Check continuity between BCM connector M34 terminal 18 and back door switch connector D100 terminal 1.

**18 (V/W) – 1 (V/W) : Continuity should exist.**

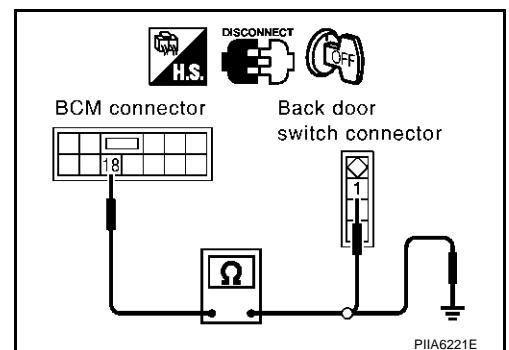
- Check continuity between BCM connector M34 terminal 18 and ground.

**18 (V/W) – Ground : Continuity should not exist.**

#### OK or NG

OK >> GO TO 3

NG >> Repair or replace harness.



# REMOTE KEYLESS ENTRY SYSTEM

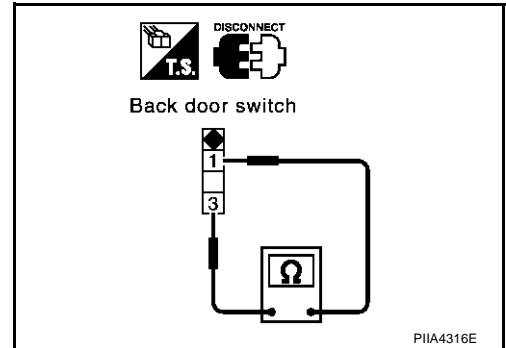
## 3. CHECK BACK DOOR SWITCH

Check continuity between back door switch terminals 1 and 3.

Terminal	Back door switch condition	Continuity
1 - 3	Open position	Yes
	Closed position	No

OK or NG

- OK >> GO TO 4.
- NG >> Replace back door switch.



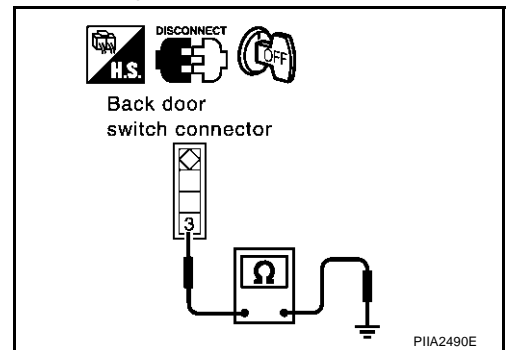
## 4. CHECK BACK DOOR SWITCH GROUND HARNESS

Check continuity between back door switch connector D100 terminal 3 (B) and ground.

**3 (B) - Ground : Continuity should exist.**

OK or NG

- OK >> Check harness connection.
- NG >> Repair or replace harness.



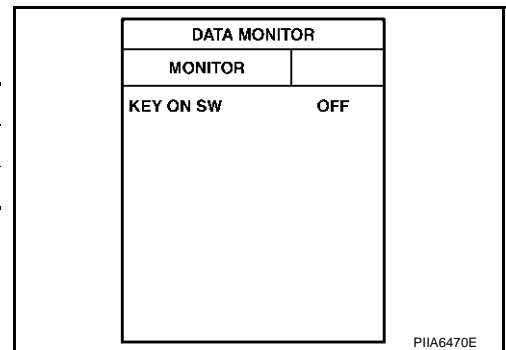
## Check Key Switch

### 1. CHECK KEY SWITCH INPUT SIGNAL

**With CONSULT-II**

Check ignition key switch "IGN ON SW" in "DATA MONITOR" mode with CONSULT-II.

Monitor item	Condition	
<b>KEY ON SW</b>	Key is removed from IGN key cylinder	OFF
	Key is inserted in IGN key cylinder	ON



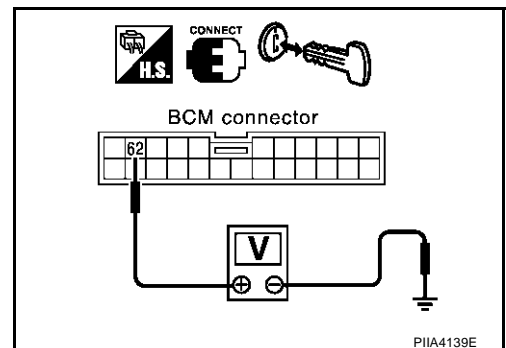
**Without CONSULT-II**

Check voltage between BCM connector M37 terminal 62 (B/R) and ground.

Terminal (Wire color)	Condition	Voltage (V) Approx.
62 (B/R) Ground	Key is removed from ignition key cylinder.	0
	Key is inserted in ignition key cylinder.	Battery voltage

OK or NG

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



# REMOTE KEYLESS ENTRY SYSTEM

## 2. CHECK KEY SWITCH

1. Disconnect key switch connector.
2. Check continuity between key switch connector M28 terminals 3 and 4.

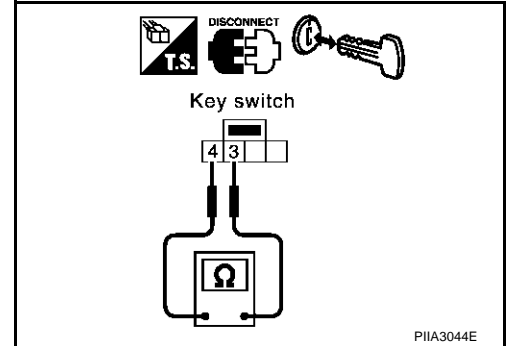
Terminal	Condition	Continuity
3 - 4	Key is removed from IGN key cylinder	NO
	Key is inserted in IGN key cylinder.	YES

OK or NG

OK >> Check the following.

- 10A fuse [No. 21, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between BCM and key switch

NG >> Replace key switch.



## Check IPDM E/R Operation

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

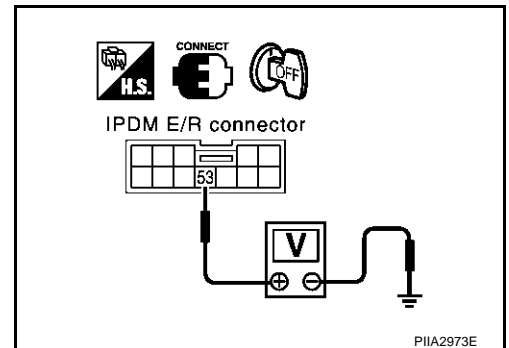
1. Turn ignition switch OFF.
2. Check voltage between IPDM E/R connector E9 terminal 53 (G/O) and ground.

Connector	Terminal (Wire color)		Voltage (V) Approx.
	(+)	(-)	
E9	53 (G/O)	Ground	Battery voltage

OK or NG

OK >> Replace IPDM E/R.

NG >> GO TO 2



## 2. CHECK IPDM E/R HARNESS

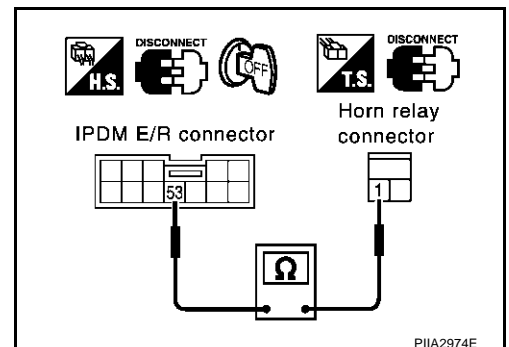
1. Disconnect IPDM E/R and horn relay connector.
2. Check continuity between IPDM E/R connector E9 terminal 53 (G/O) and horn relay connector E11 terminal 1 (G/O).

**53 (G/O) – 1 (G/O) : Continuity should exist.**

OK or NG

OK >> Check harness connection.

NG >> Repair or replace harness.



# REMOTE KEYLESS ENTRY SYSTEM

---

## Check Hazard Function

AIS002FY

### 1. CHECK HAZARD WARNING LAMP

---

Does hazard warning lamp flash with hazard switch?

YES or NO

YES >> Hazard warning lamp circuit is OK.

NO >> Check hazard warning lamp circuit. Refer to [LT-213, "TURN SIGNAL AND HAZARD WARNING LAMPS"](#) .

## Check Horn Function

AIS002FZ

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 [SE-66, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#) .

### 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-73, "HORN"](#) .

## Check Headlamp Function

AIS002G0

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 [SE-66, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#) .

### 1. CHECK HEADLAMP OPERATION

---

Does headlamp come on when turning lighting switch "ON"?

YES or NO

YES >> Headlamp circuit is OK.

NO >> Check headlamp system. Refer to [LT-8, "HEADLAMP - XENON TYPE -"](#) , [LT-58, "HEADLAMP - CONVENTIONAL TYPE-"](#) .

## Check Room Lamp and Ignition Keyhole Illumination Function

AIS002G1

### 1. CHECK ROOM LAMP AND KEYHOLE ILLUMINATION OPERATION

---

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 >> Room lamp and ignition keyhole illumination circuit is OK.

NG >> Check room lamp and ignition keyhole illumination circuit. Refer to [LT-324, "Room Lamp Control Does Not Operate"](#) , [LT-327, "Ignition Key Hole Illumination Control Does Not Operate"](#) .

# REMOTE KEYLESS ENTRY SYSTEM

AIS002G2

## ID Code Entry Procedure KEY FOB ID SET UP WITH CONSULT-II

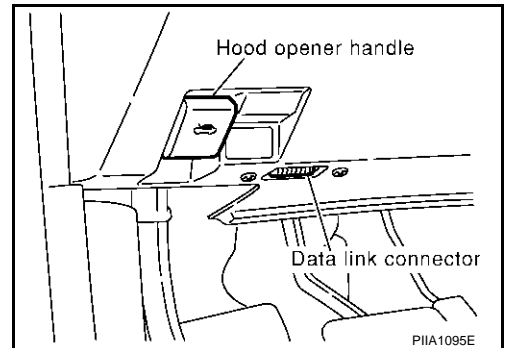
### CAUTION:

If CONVERTER is not connected with CONSULT-II, vehicle occur the "FAIL-SAFE MODE" which is "LIGHT UP THE HEADLAMP" and/or "COOLING FAN ROTATING" when CONSULT-II is started.

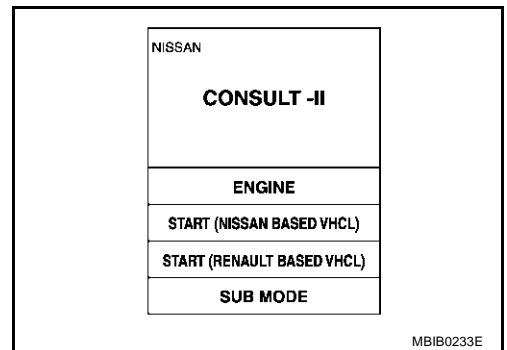
### NOTE:

- If a key fob is lost, the ID code of the lost key fob 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 key fob 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 key fobs must be re-registered.
- When registering an additional key fob, 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.
- 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.

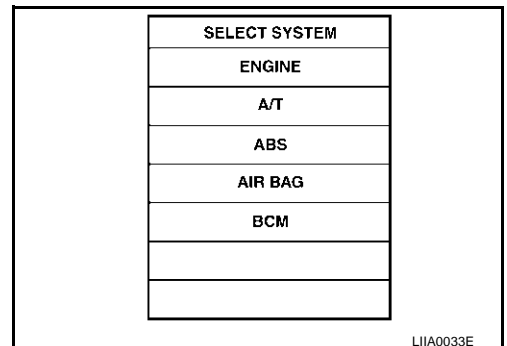
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" and "CONSULT-II CONVERTER" to data link connector.



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

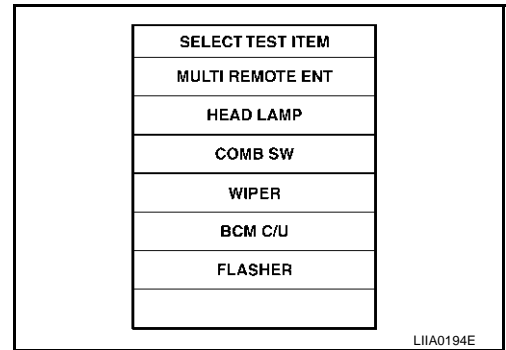


5. Touch "BCM".  
If "BCM" is not indicated, go to [GI-38. "CONSULT-II Data Link Connector \(DLC\) Circuit"](#) .

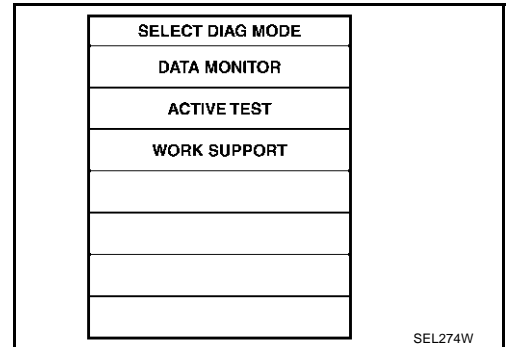


# REMOTE KEYLESS ENTRY SYSTEM

6. Touch "MULTI REMOTE ENT".



7. Touch "WORK SUPPORT".



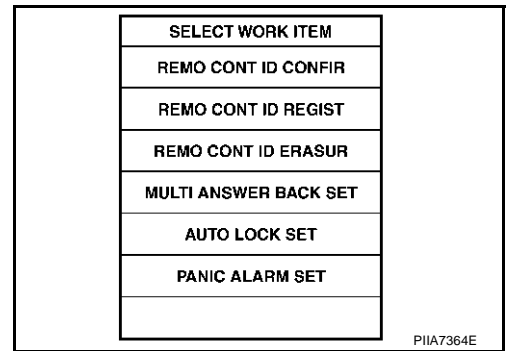
8. The items are shown on the figure can be set up.

- "REMO CONT ID CONFIR"  
Use this mode to confirm if a key fob ID code is registered or not.
- "REMO CONT ID REGIST"  
Use this mode to register a key fob ID code.

**NOTE:**

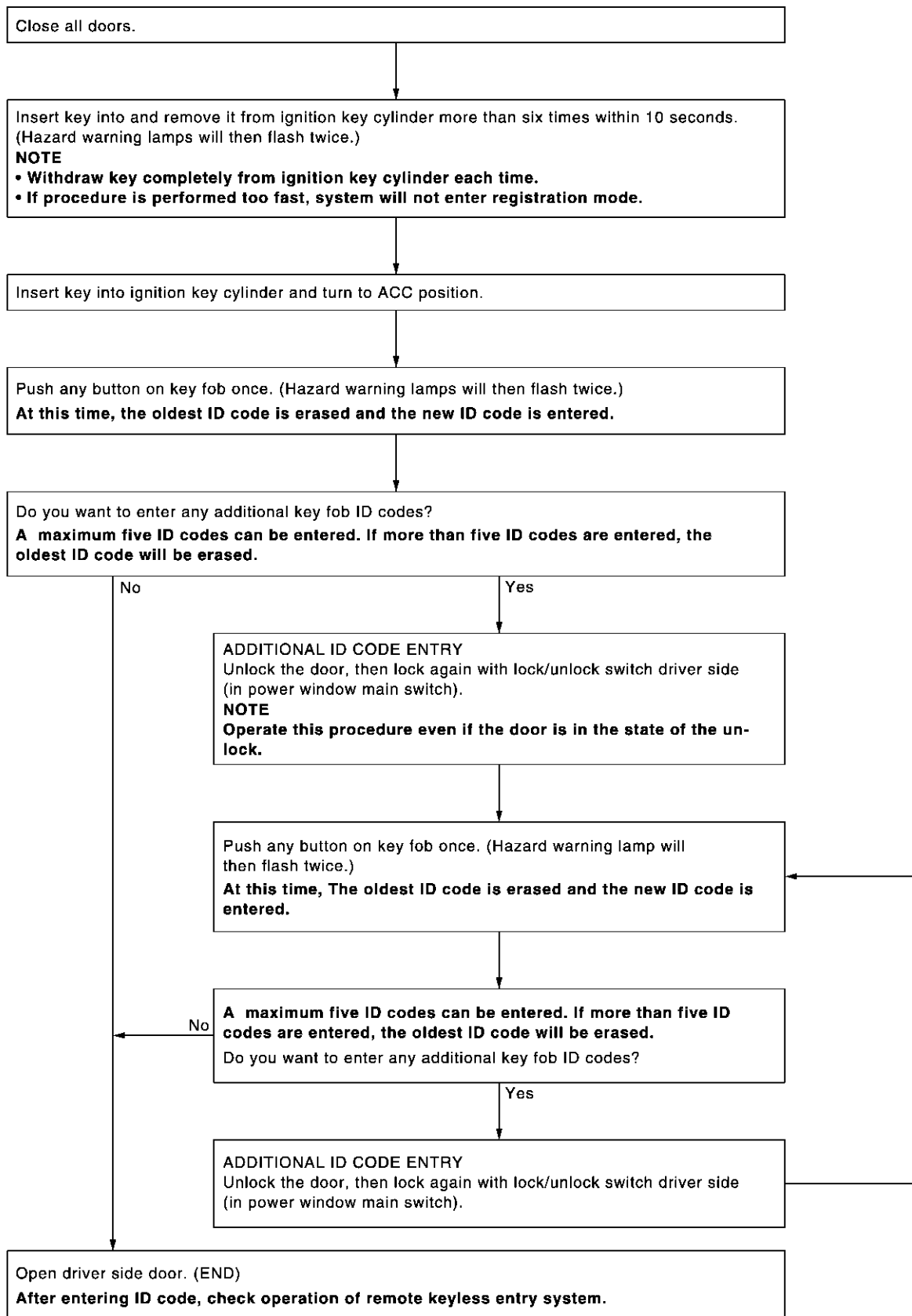
**Register a key fob ID code when key fob or BCM is replaced, or when additional key fob is required.**

- "REMO CONT ID ERASUR"  
Use this mode to erase a key fob ID code.



# REMOTE KEYLESS ENTRY SYSTEM

## KEY FOB ID SET UP WITHOUT CONSULT-II



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

PIIA2839E

# REMOTE KEYLESS ENTRY SYSTEM

## NOTE:

- If a key fob is lost, the ID code of the lost key fob 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 key fob 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 key fobs must be re-registered.  
To erase all ID codes in memory, register one ID code (key fob) five times. After all ID codes are erased, the ID codes of all remaining and/or new key fobs must be re-registered.
- When registering an additional key fob, 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 key fobs, repeat the procedure “Additional ID code entry” for each new key fob.
- 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.

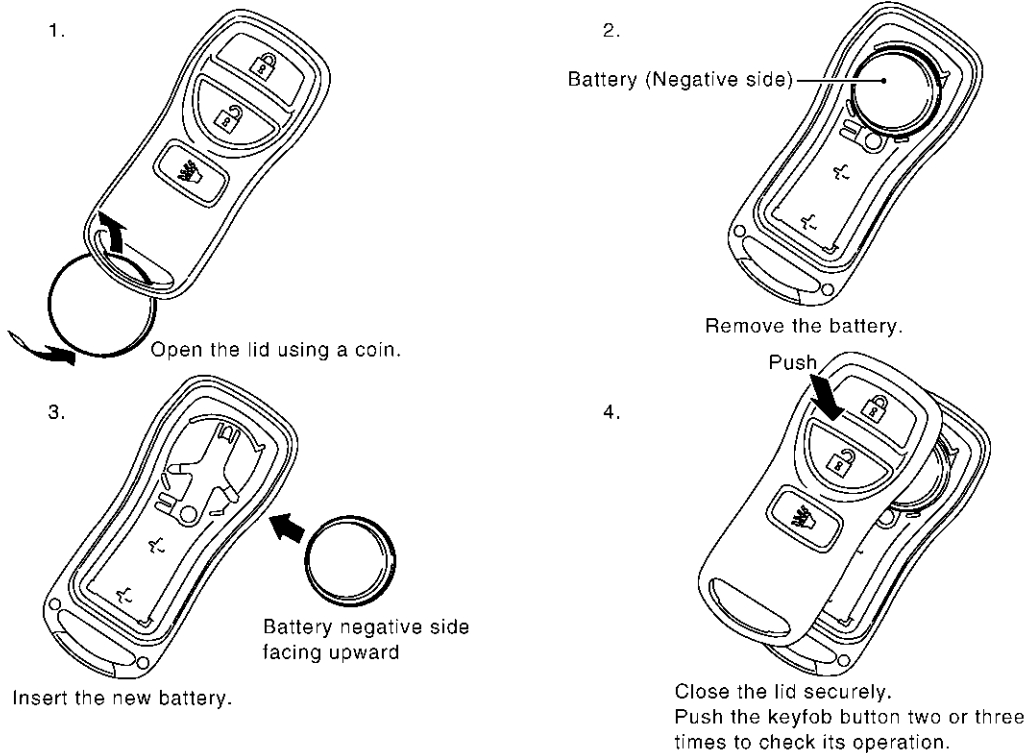
## Key Fob Battery Replacement

AIS002G3

### SEC. 998

#### 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.



PIIA4706E



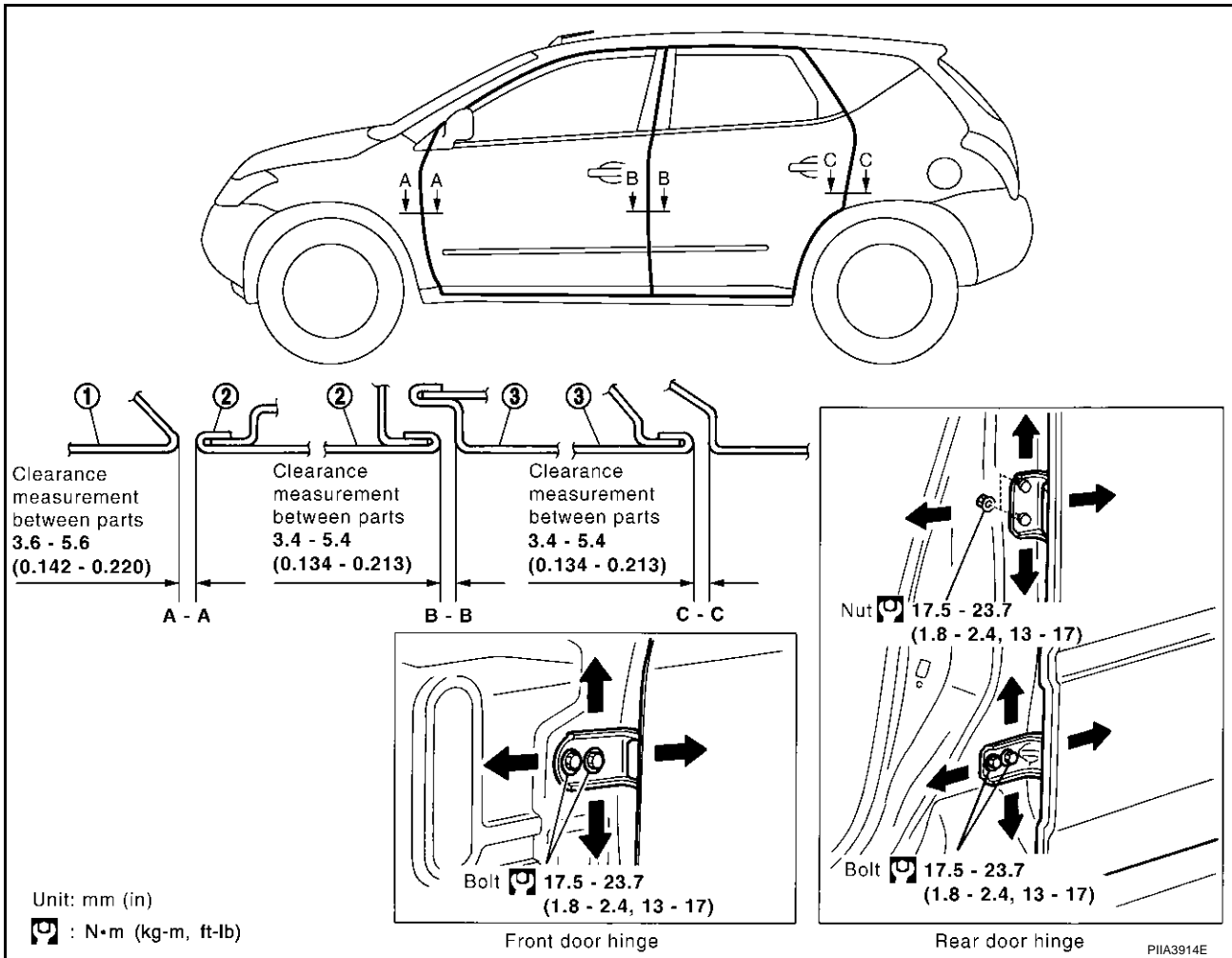
# DOOR

## DOOR

PFP:80100

### Fitting Adjustment

AI/S002B5



1. Front fender

2. Front door outer

3. Rear door outer

### FRONT DOOR

#### Longitudinal Clearance and Surface Height Adjustment at Front End

1. Loosen the hinge mounting bolts. Raise the front door at rear end to adjust.

### REAR DOOR

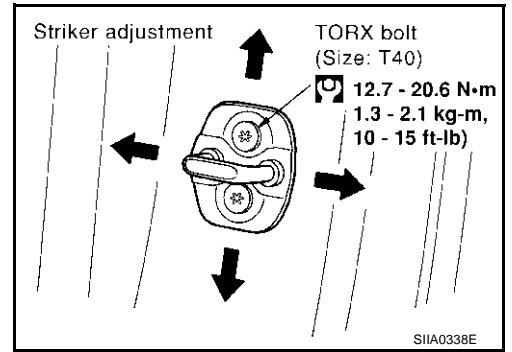
#### Longitudinal Clearance and Surface Height Adjustment at Front End

1. Remove the center pillar upper garnish and center pillar lower garnish. Refer to [EI-32, "BODY SIDE TRIM"](#).
2. Accessing from inside the vehicle, loosen the mounting nuts. Open the rear door, and raise the rear door at rear end to adjust.

# DOOR

## STRIKER ADJUSTMENT

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



## Removal and Installation of Front Door

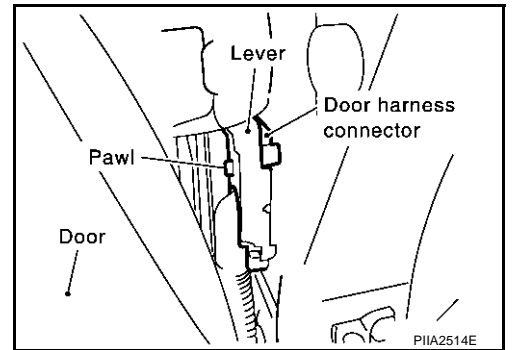
AIS002B6

### CAUTION:

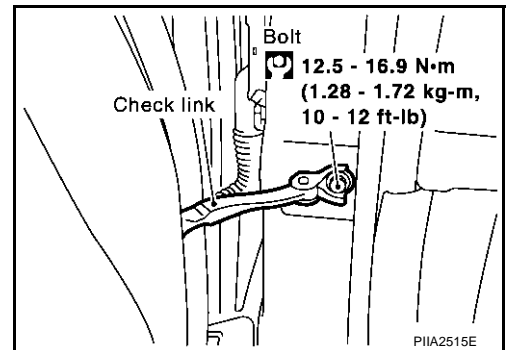
- When removing and installing the front door assembly, support the door with a jack and cloth to protect the door and body.
- When removing and installing front door assembly, be sure to carry out the fitting adjustment. Refer to [BL-125, "Fitting Adjustment"](#).
- Check the hinge rotating part for poor lubrication. If necessary, apply "body grease".
- After installing, check operation.

### REMOVAL

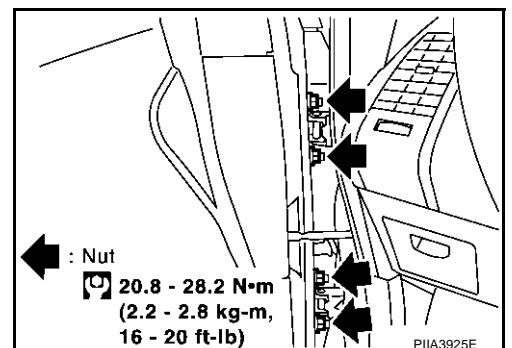
1. Pull the lever and remove the front door harness connector while removing tabs of door harness connector.



2. Remove the mounting bolts of the check link on the vehicle.



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



# DOOR

## INSTALLATION

Install in the reverse order of removal.

## Removal and Installation of Rear Door

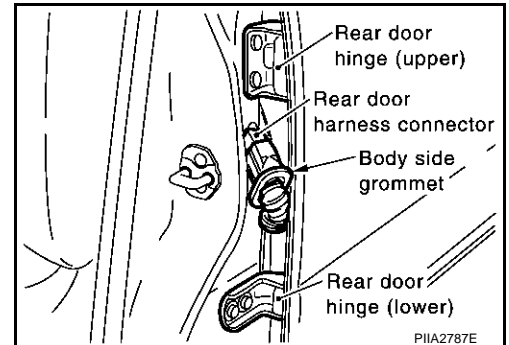
AIS002B7

### CAUTION:

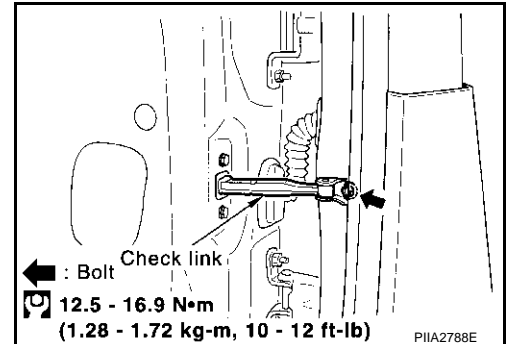
- When removing and installing the rear door assembly, support the door with a jack and cloth to protect the door and body.
- When removing and installing rear door assembly, be sure to carry out the fitting adjustment. Refer to [BL-125, "Fitting Adjustment"](#).
- Check the hinge rotating part for poor lubrication. If necessary, apply "body grease".
- After installing, check operation.

## REMOVAL

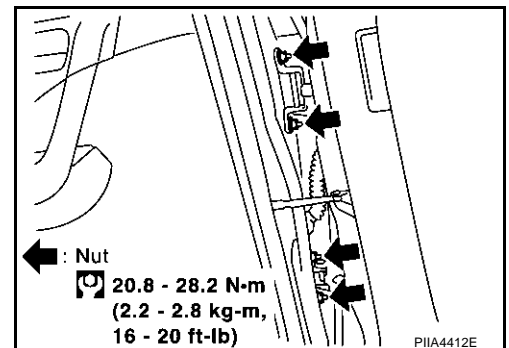
1. Pull out grommet, and detach rear door harness connector.



2. Remove the mounting bolts of the check link on the vehicle.



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



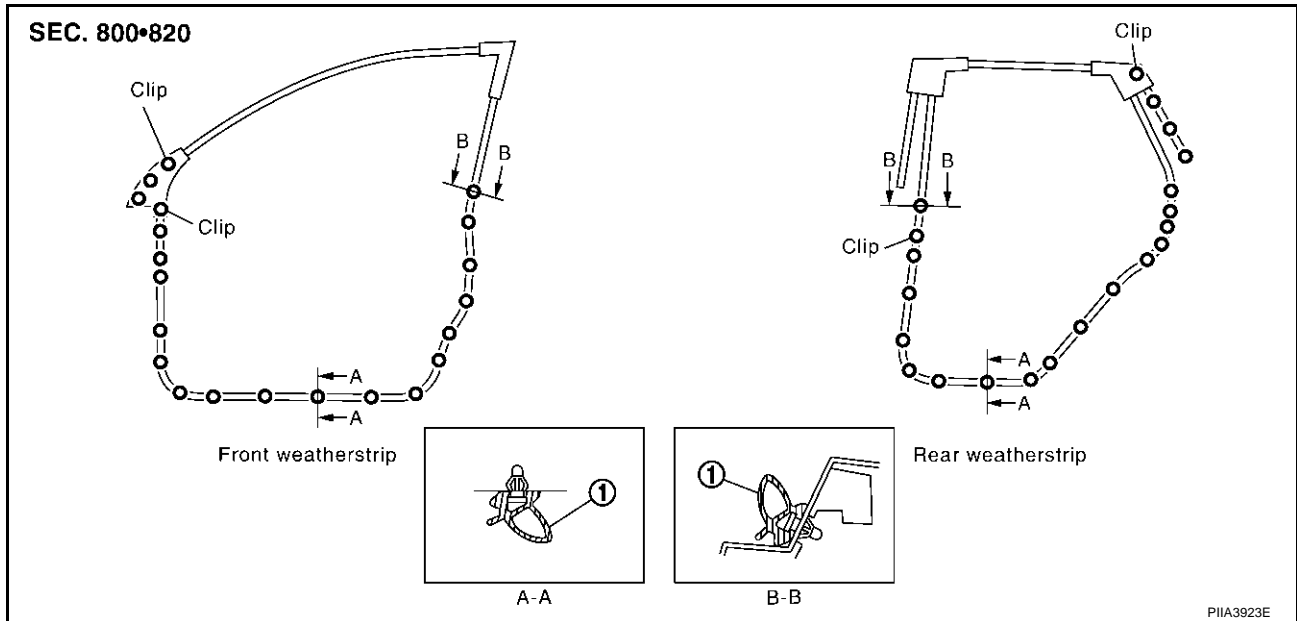
## INSTALLATION

Install in the reverse order of assembly.

# DOOR

## Door Weatherstrip

AI5002B8



1. Weatherstrip

### REMOVAL

1. Remove the mounting bolts of the check link on the vehicle. Refer to [BL-126, "Removal and Installation of Front Door"](#) or [BL-127, "Removal and Installation of Rear Door"](#).
2. Remove the weatherstrip clips and remove weatherstrip.

### INSTALLATION

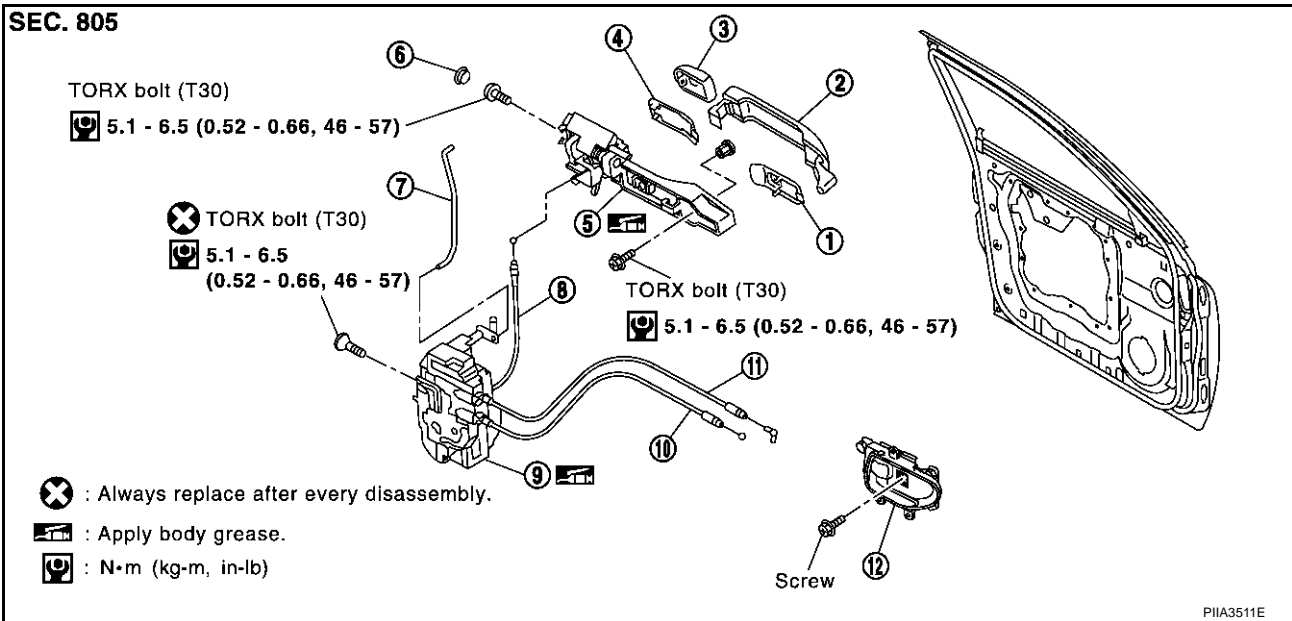
Install in the reverse order of assembly.

# FRONT DOOR LOCK

## FRONT DOOR LOCK Component Structure

PFP:80502

AIS002B9

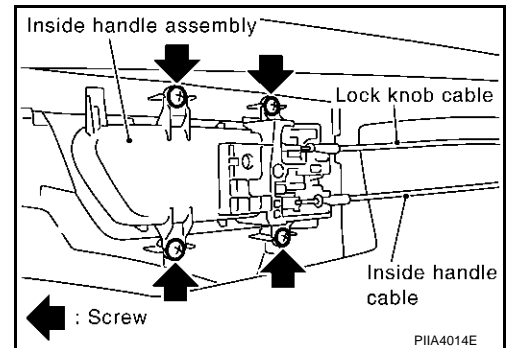


- |  |                           |   |
|--|---------------------------|---|
| 1. Front gasket                        | 2. Outside handle         | 3. Door key cylinder assembly (Driver side)<br>Outside handle escutcheon (Passenger side) |
| 4. Rear gasket                         | 5. Outside handle bracket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

## Removal and Installation REMOVAL

AIS002BA

1. Remove the front door finisher. Refer to [EI-30, "DOOR FINISHER"](#).
2. Disconnect the inside handle knob cable and lock knob cable from the back side of the front door finisher.

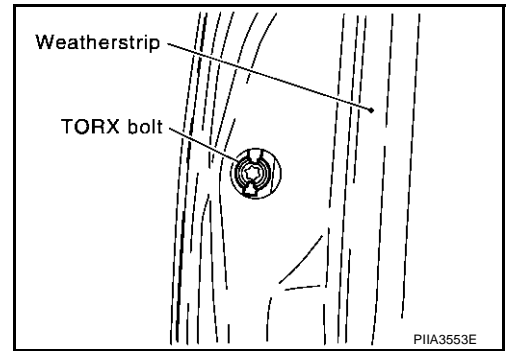


3. Remove the front door window and front door module assembly. Refer to [GW-58, "FRONT DOOR GLASS AND REGULATOR"](#).
4. Remove door side grommet, and remove door key cylinder assembly (driver side) and outside handle escutcheon (passenger side) bolts (TORX T30) from grommet hole.

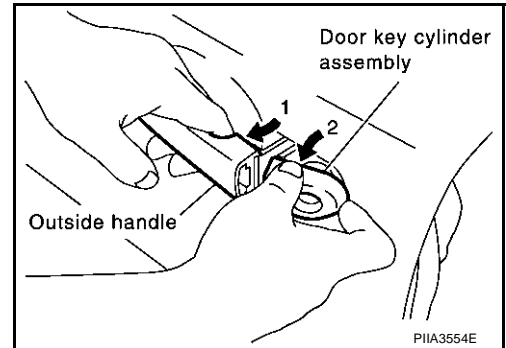
# FRONT DOOR LOCK

**CAUTION:**

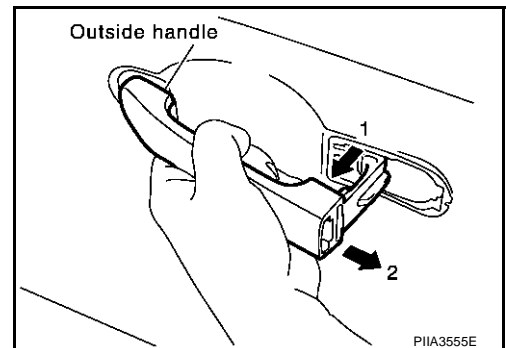
Do not forcibly remove the TORX bolts (T30).



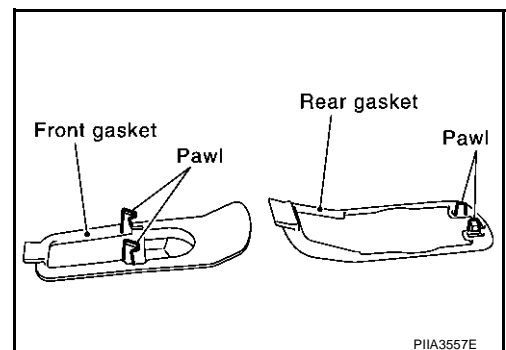
5. Reach to separate the key cylinder rod connection (on the handle). If no door key cylinder is found, GO TO 6.
6. While pulling the outside handle, remove door key cylinder assembly.



7. While pulling outside handle, slide toward rear of vehicle to remove outside handle.

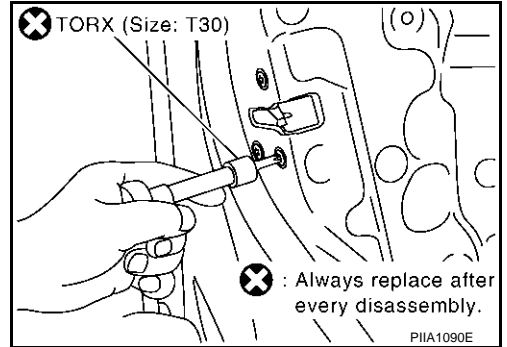


8. Remove the front gasket and rear gasket.

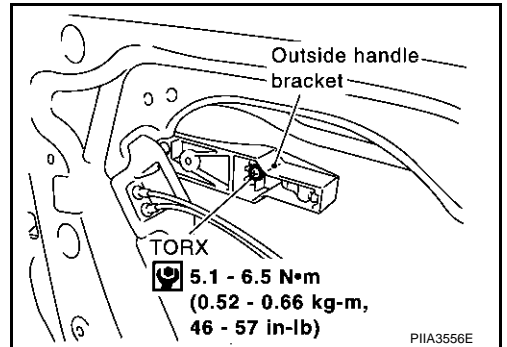


# FRONT DOOR LOCK

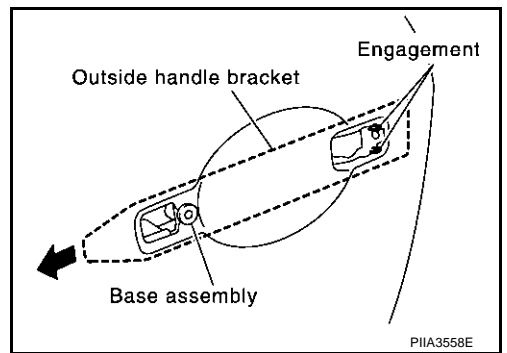
9. Remove the TORX bolts (T30), remove the door lock assembly.



10. Remove the TORX bolt (T30) of the outside handle bracket.

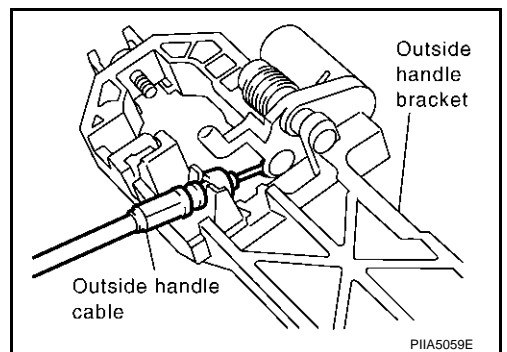


11. While pulling outside handle bracket, slide toward rear of vehicle to remove outside handle bracket.



12. Disconnect the door lock actuator connector and remove the door lock assembly.

13. Reach to separate the outside handle cable connection.



## INSTALLATION

Install in the reverse order of removal.

### CAUTION:

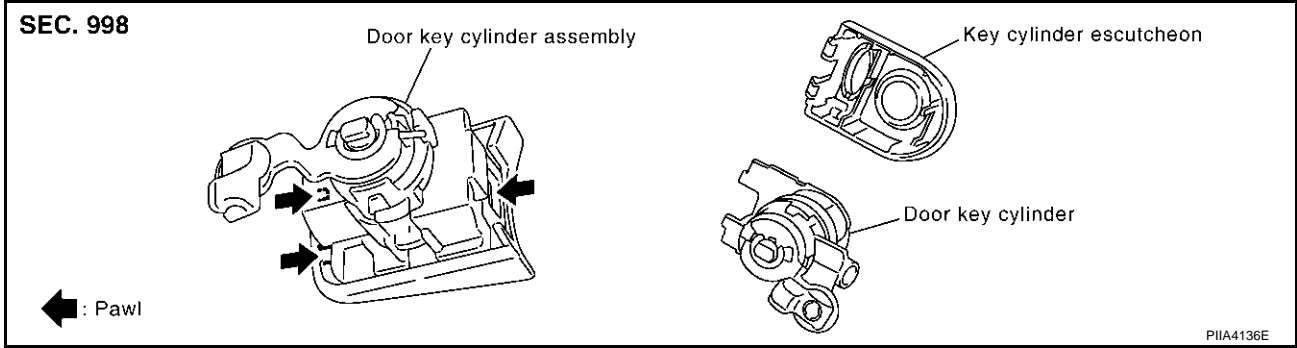
To install each rod, be sure to rotate the rod holder until a click is felt.

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

# FRONT DOOR LOCK

## Disassembly and Assembly DOOR KEY CYLINDER ASSEMBLY

AIS002BB



### Removal

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

### Installation

Install in the reverse order of removal.



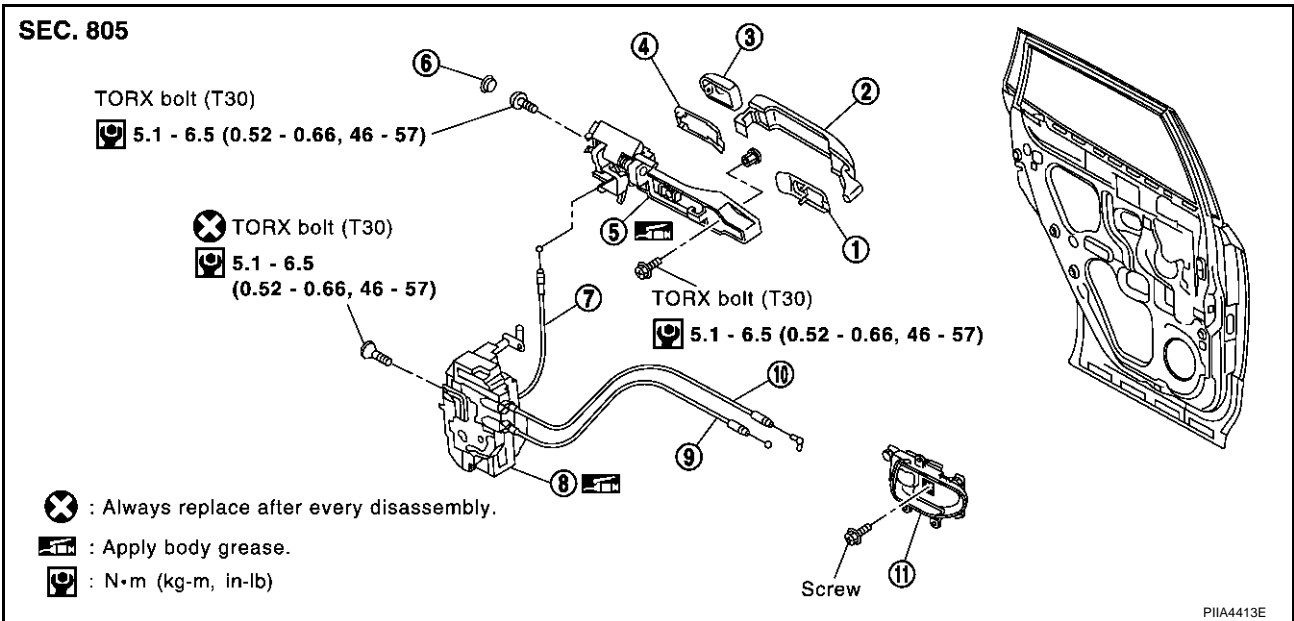
# REAR DOOR LOCK

## REAR DOOR LOCK Component Structure

PF:82502

AIS002BC

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



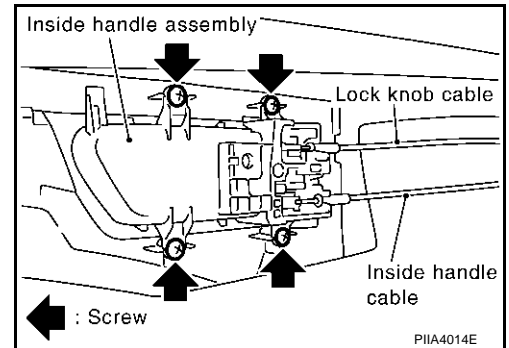
- |                         |                           |                              |
|-------------------------|---------------------------|------------------------------|
| 1. Front gasket         | 2. Outside handle         | 3. Outside handle escutcheon |
| 4. Rear gasket          | 5. Outside handle bracket | 6. Grommet                   |
| 7. Outside handle cable | 8. Door lock assembly     | 9. Inside handle knob cable  |
| 10. Lock knob cable     | 11. Inside handle         |                              |

## Removal and Installation REMOVAL

AIS002BD

BL

1. Remove the rear door finisher. Refer to [EI-30, "DOOR FINISHER"](#) .
2. Disconnect the inside handle knob cable and lock knob cable from the back side of the rear door finisher.

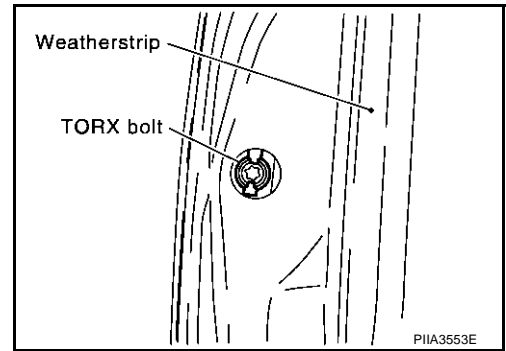


3. Remove the rear door sash. Refer to [GW-61, "REAR DOOR GLASS AND REGULATOR"](#) .
4. Remove the rear door window and rear door screen assembly. Refer to [GW-61, "REAR DOOR GLASS AND REGULATOR"](#) .
5. Remove door side grommet, and remove outside handle escutcheon bolt (TORX T30) from grommet hole.

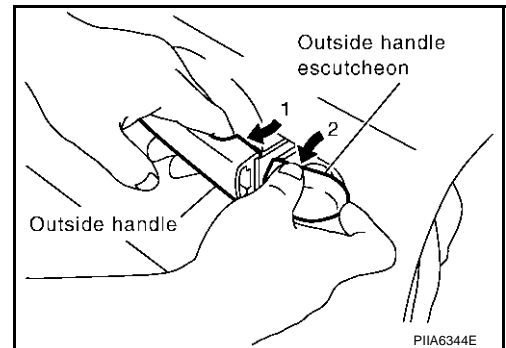
## REAR DOOR LOCK

**CAUTION:**

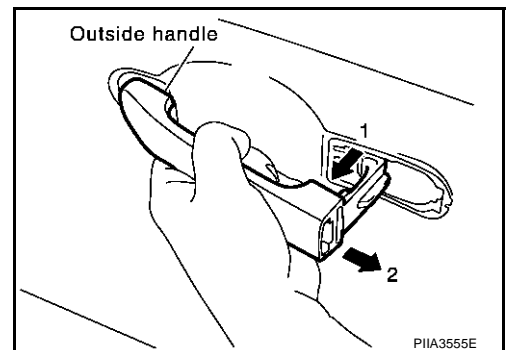
Do not forcibly remove the TORX bolts (T30).



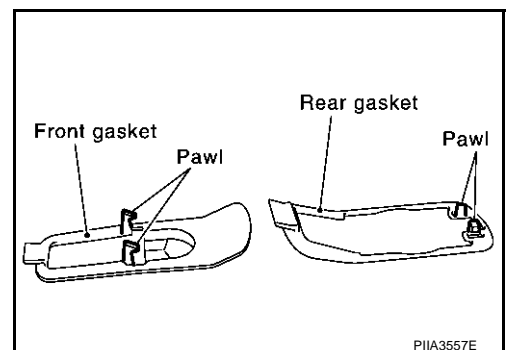
6. While pulling the outside handle, remove outside handle escutcheon.



7. While pulling outside handle, slide toward rear of vehicle to remove outside handle.

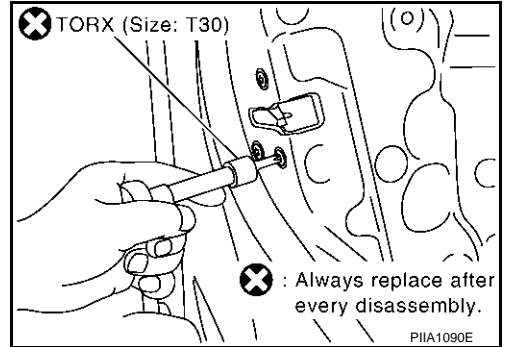


8. Remove the front gasket and rear gasket.

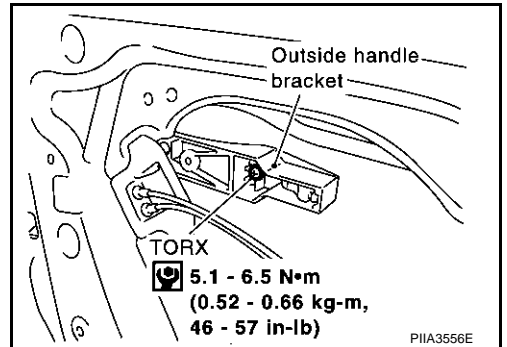


# REAR DOOR LOCK

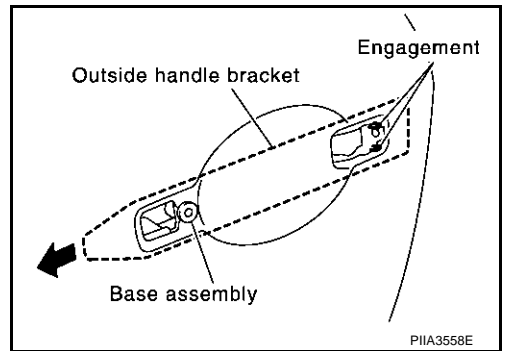
9. Remove the TORX bolts (T30), remove the door lock assembly.



10. Remove the TORX bolt (T30), and remove the outside handle bracket.

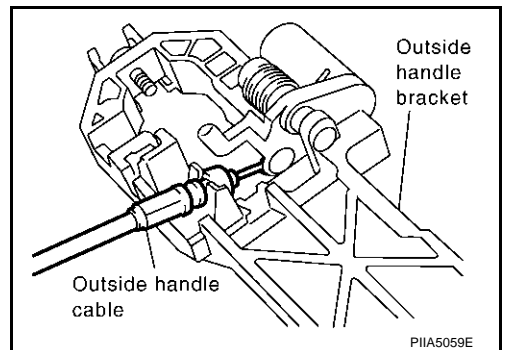


11. While pulling outside handle, slide toward rear of vehicle to remove outside handle.



12. Disconnect the door lock actuator connector and remove the door lock assembly.

13. Reach to separate outside handle cable connection.



## INSTALLATION

Install in the reverse order of removal.

### CAUTION:

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

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

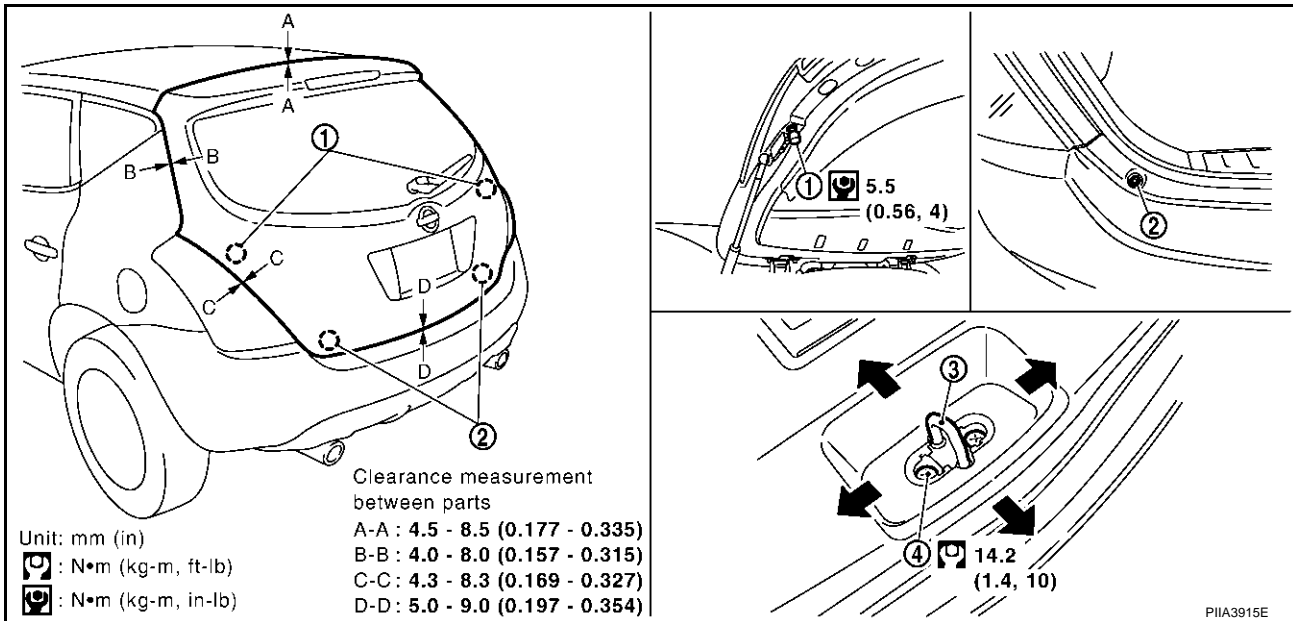
# BACK DOOR

PFP:90100

AIS002BF

## BACK DOOR

### Fitting Adjustment



1. Bumper rubber (upper)

2. Bumper rubber (lower)

3. Back door striker

4. Screw

### VERTICAL/LATERAL CLEARANCE ADJUSTMENT

1. Loosen the back door striker mounting screw, and close the back door lightly.
2. Adjust the surface height with the bumper rubber (upper/lower).

#### NOTE:

- Rotate the bumper rubber (upper) to adjust the height.
  - Rotate the TORX (T20) bolt of the bumper rubber (lower) to adjust the height.
3. After adjusting the surface height, open the door and tighten the back door striker mounting screw and bumper rubber (upper) lock nuts to the specified torque.

# BACK DOOR

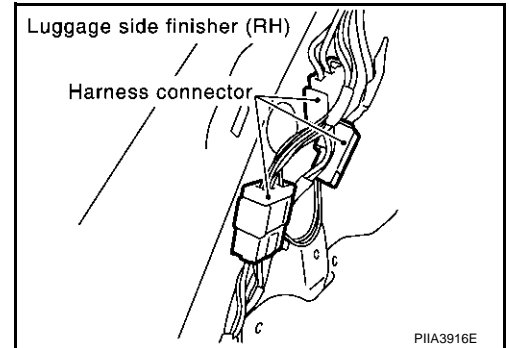
## Back Door Assembly REMOVAL

AIS002BG

### CAUTION:

Before servicing SRS, turn ignition switch OFF, disconnect both battery cables and wait at least 3 minutes.

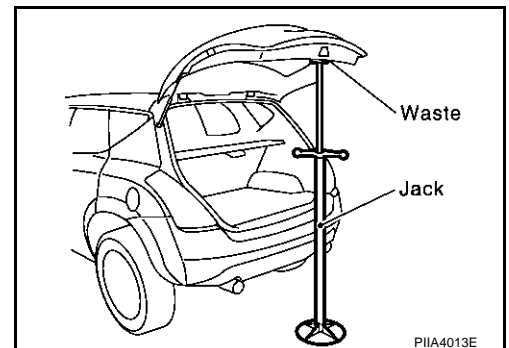
1. Remove the headlining. Refer to [EI-36, "Removal and Installation"](#).
2. Disconnect the back door harness connector.



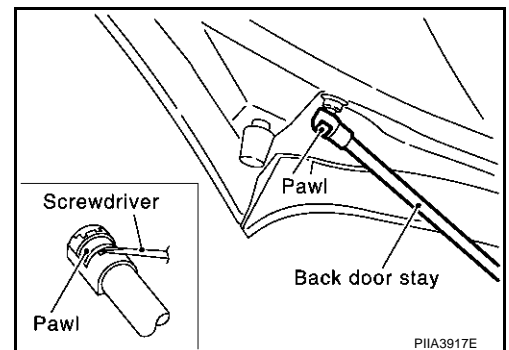
3. Remove the high mount stop lamp cover.
4. Washer hose is separated in the connection part.
5. Remove the viral tape which tight the back door harness and SRS curtain air bag harness.
6. Support the back door lock with a proper material to prevent it from falling.

### WARNING:

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



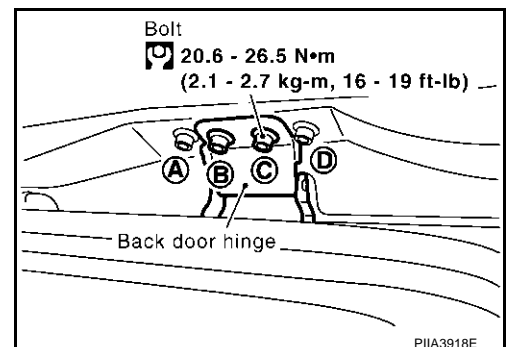
7. Remove back door stay on back door.



8. Remove hinge mounting bolts on the back door and remove back door assembly.

### CAUTION:

Do not loosen hinge mounting bolt A and D.



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

# BACK DOOR

## INSTALLATION

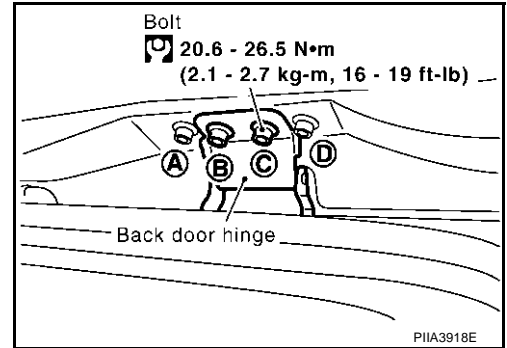
Install in the reverse order of removal.

### CAUTION:

- After installing, check operation.
- After installing, perform fitting adjustment Refer to [BL-136, "Fitting Adjustment"](#) .

## INSPECTION

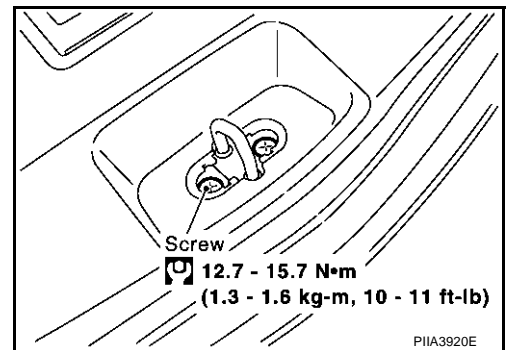
1. Check hinges for the following items.
  - Malfunction noise or door closing and opening effort
  - Component wear or damage
2. Apply Grease to the rotating part of the hinge.



## Removal and Installation of Back Door Striker

### REMOVAL

1. Remove luggage finisher lower. Refer to [EI-38, "Removal and Installation"](#) .
2. Remove mounting screws, and remove striker from the vehicle.



## INSTALLATION

Install in the reverse order of removal.

### CAUTION:

After installing, perform fitting adjustment.

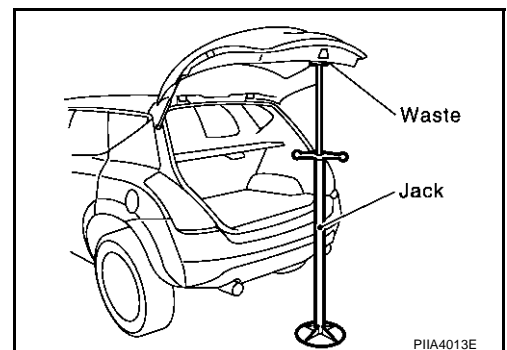
## Removal and Installation of Back Door Stay

### REMOVAL

1. Support the back door lock with a proper material to prevent it from falling.

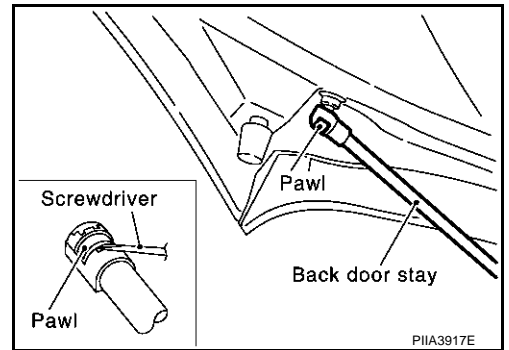
### WARNING:

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

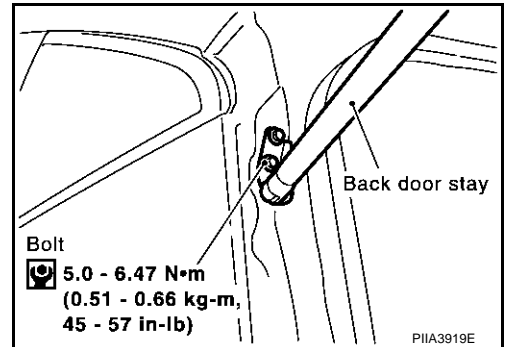


# BACK DOOR

- Remove back door stay on back door.



- Remove back door stay assembly bracket adjusting nuts and remove back door stay assembly.



## INSTALLATION

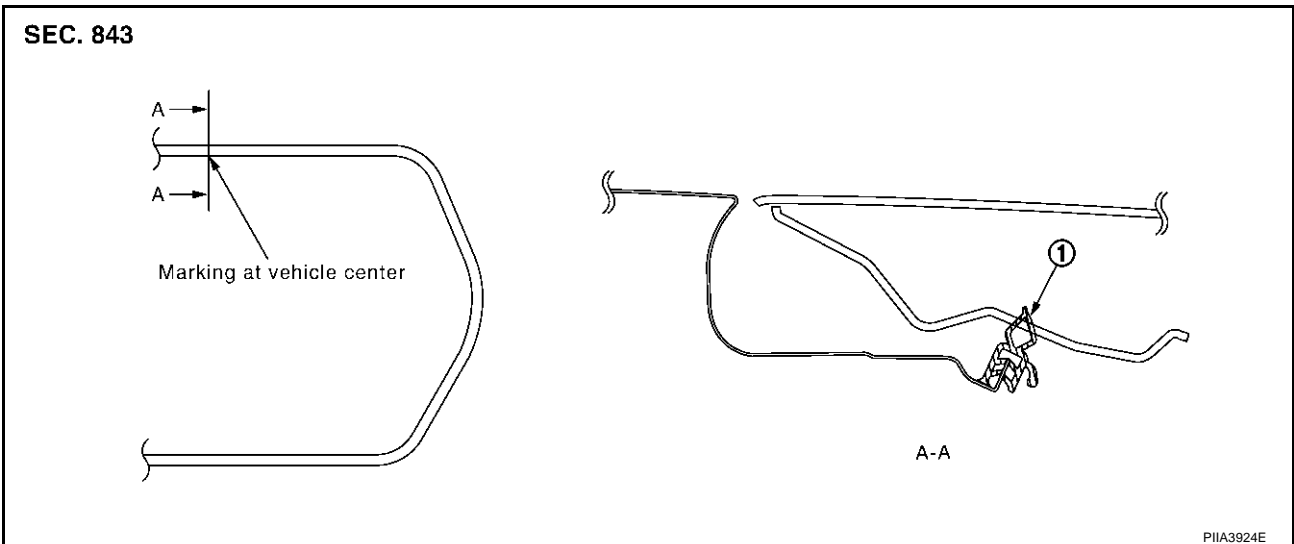
Install in the reverse order of removal.

### CAUTION:

After installing, check operation.

## Removal and Installation of Back Door Weatherstrip

AIS002BJ



- Weatherstrip

- Working from the upper section, align weatherstrip mark with vehicle center position mark and install weatherstrip onto the vehicle.
- For the lower section, align the weatherstrip seam with center of the striker.
- After installation, pull the weatherstrip gently to ensure that there is no loose section.

### NOTE:

Make sure the weatherstrip is fit tightly at each corner and back door rear plate.

# BACK DOOR LOCK ASSEMBLY

PF9:90504

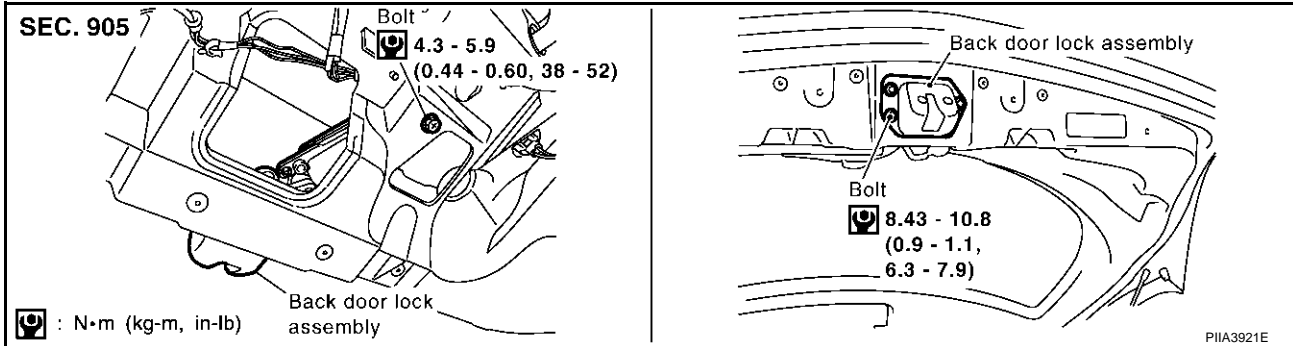
## BACK DOOR LOCK ASSEMBLY

### Removal and Installation of Back Door Lock Assembly

AIS002BK

#### REMOVAL

1. Remove back door finisher. Refer to [EI-40, "Removal and Installation"](#).
2. Disconnect the connector and the clip of the back door opener.
3. Remove the mounting bolts.



4. Disconnect the connector of the back door lock actuator and back door opener cable.
5. Remove the mounting bolts, remove back door lock assembly.

#### INSTALLATION

Install in the reverse order of removal.

#### CAUTION:

- After installing, check operation.
- After installing, perform fitting adjustment. Refer to [BL-136, "Fitting Adjustment"](#).

#### INSPECTION

1. Check back door lock for the following items.
  - Malfunction noise or door closing and opening effort
  - Component wear or damage
2. Apply body grease to the rotating part of the back door lock.



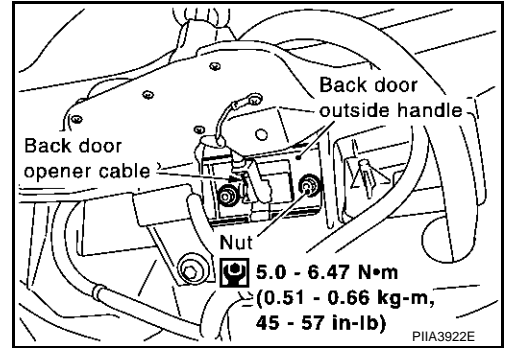
# BACK DOOR LOCK ASSEMBLY

## Removal and Installation of Back Door Outside Handle

AIS002BL

### REMOVAL

1. Remove back door finisher. Refer to [EI-40, "Removal and Installation"](#) .
2. Disconnect the back door cable of back door outside handle.
3. Remove the mounting nuts, remove the back door outside handle.



### INSTALLATION

Install in the reverse order of removal.

#### CAUTION:

- After installing, check operation.

## Disassembly and Assembly of Back Door Lock & Back door Lock Actuator

AIS003HM

### DISASSEMBLY

#### CAUTION:

**Be sure to remove or install the actuator with the Back door lock & back door lock actuator removed.**

1. Remove the mounting screws, and remove the back door lock actuator from the back door lock.
2. Pull the back door lock actuator straight downward to separate it from the back door lock.

### ASSEMBLY

1. Align the back door lock actuator pivot with the cutout on the knob lever of the, then assemble the actuator.
2. Move the knob lever and the back door lock actuator pivot toward the lock-on direction, and check that it engages securely.

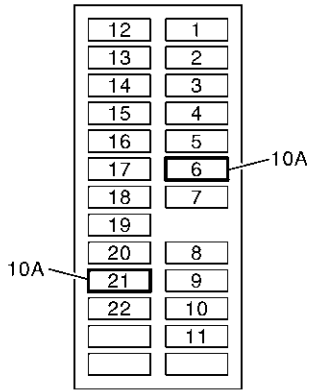
# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## VEHICLE SECURITY (THEFT WARNING) SYSTEM

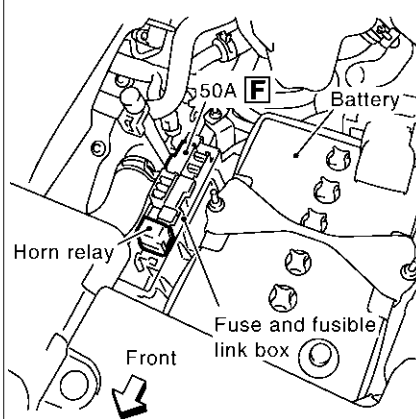
PFP:28491

### Component Parts and Harness Connector Location

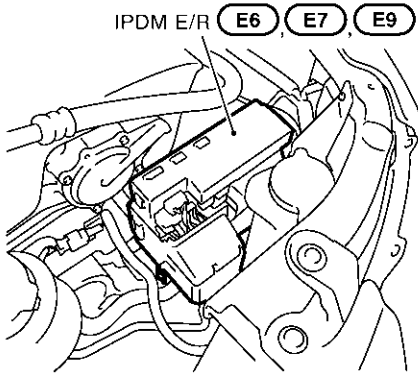
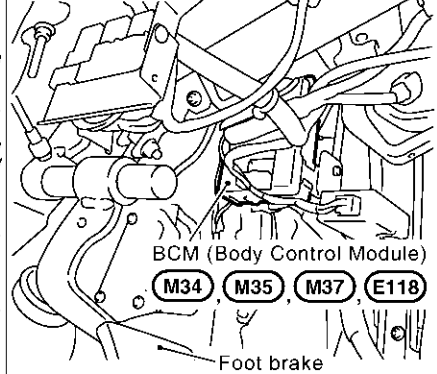
AIS001VO



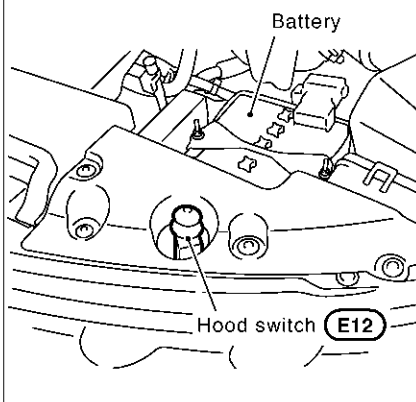
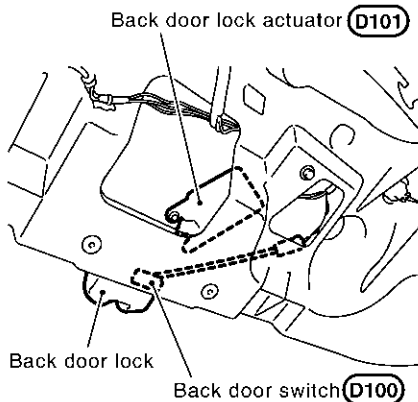
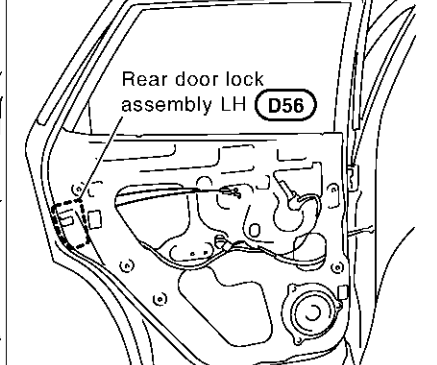
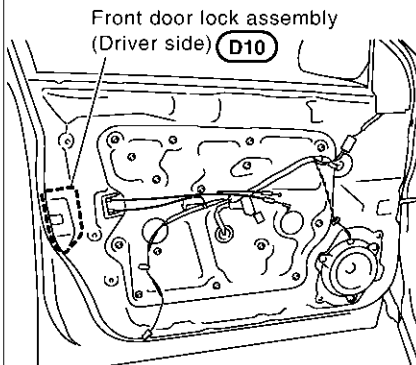
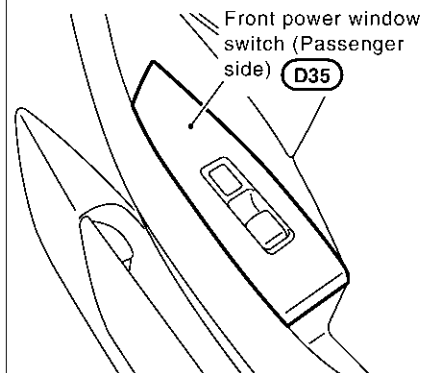
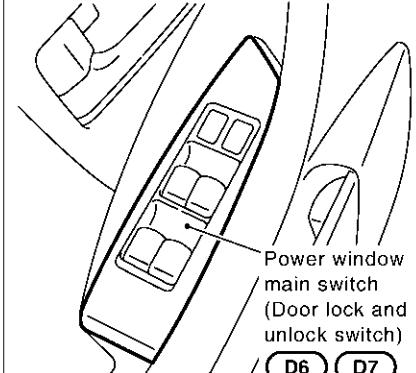
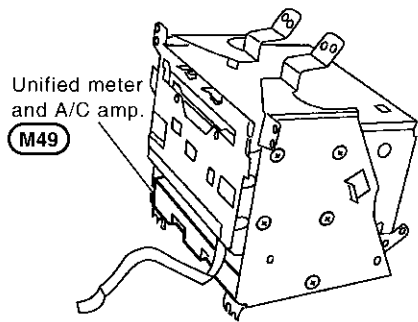
Fuse block (J/B) fuse layout



View with the instrument lower driver panel removed

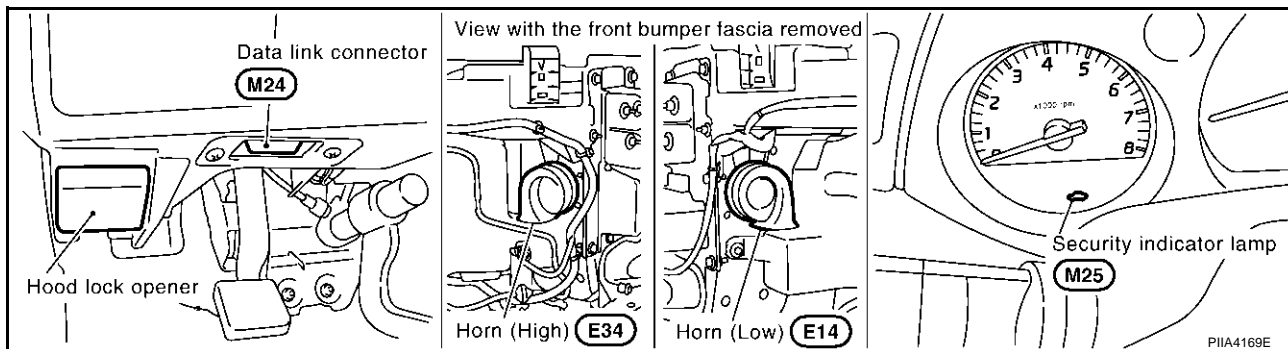


View with the audio unit removed



PIIA4168E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

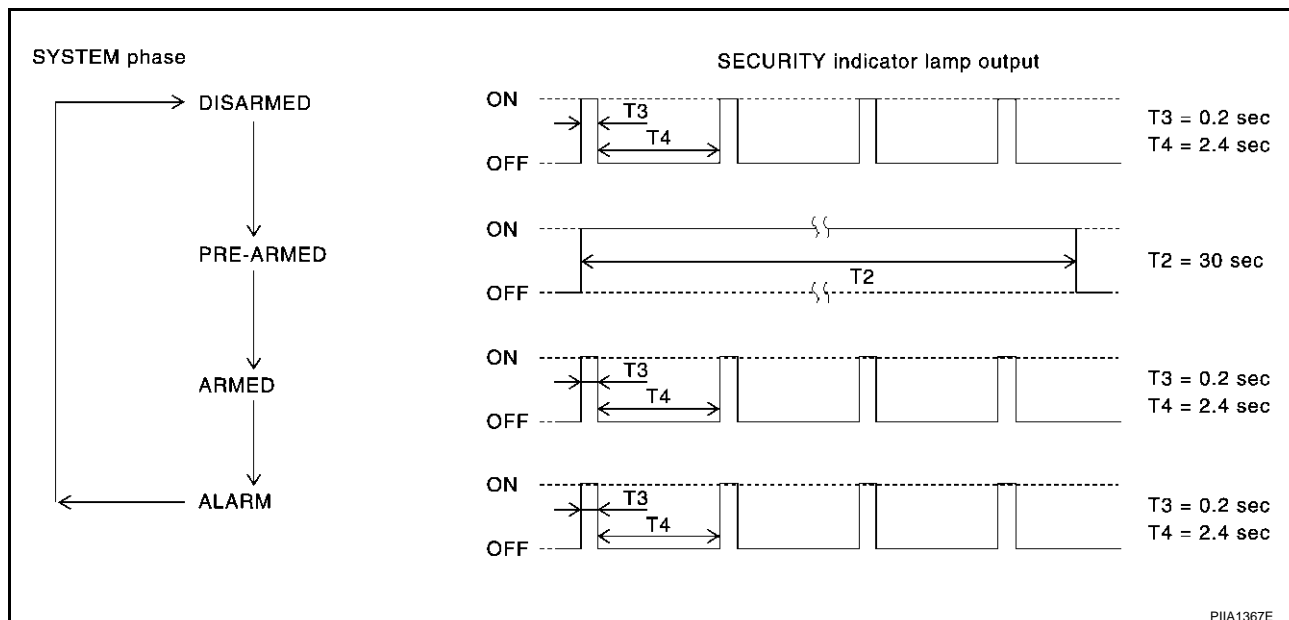


## System Description

### DESCRIPTION

### Operation Flow

AIS001VP



PIIA1367E

## Setting the Vehicle Security System

### Initial condition

- Ignition switch is in OFF position.

### Disarmed phase

- When hood, doors or back door is open, the vehicle security system is set in the disarmed phase on the assumption that the owner is inside or near the vehicle.
- When the vehicle security system is in the disarmed phase, the security indicator lamp blinks every 2.4 seconds.

### Pre-armed phase and armed phase

When the following operation 1 or 2 is performed, the vehicle security system turns into the "pre-armed" phase. (The security indicator lamp illuminates.)

1. BCM receives LOCK signal from front door key cylinder switch or key fob after hood, back door and all doors are closed.
2. Hood, back door and all doors are closed after front doors are locked by key or door lock and unlock switch.  
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 or the key fob.
2. Turn ignition switch "ON" or "ACC" position.

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

---

## Canceling the Alarm Operation of the Vehicle Security System

When unlocking the door with the key or key fob the alarm operation is canceled.

## Activating the Alarm Operation of the Vehicle Security System

Make sure the system is in the armed phase. (The security indicator lamp blinks every 2.4 seconds.)

When the following operation 1 or 2 is performed, the system sounds the horns and flashes the headlamps for about 50 seconds.

1. Hood, back door or any door is opened during armed phase.
2. Disconnecting and connecting the battery connector before canceling armed phase.

## POWER SUPPLY

Power is supplied at all times

- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to combination meter (security indicator lamp) terminal 21.

Power is supplied at all times

- through 50A fusible link (letter **F** , located in the fuse and fusible link box)
- to BCM terminal 7.

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

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to BCM terminal 36.

## INITIAL CONDITION TO ACTIVATE THE SYSTEM

The operation of the vehicle security system is controlled by the doors, hood and back door.

To activate the vehicle security system, BCM must receive signals indicating the doors, hood and back door are closed and the doors are locked by key fob.

When a door is open, BCM terminal 10 or 14 receives a ground signal from each door switch. (Auxiliary circuit.)

When a door is open, unified meter and A/C amp. terminal 7 (passenger side door), 8 (driver side door), 17 (rear RH door), 18 (rear LH door) receives a ground signal from each door switch.

The unified meter and A/C amp. then sends a signal to the BCM through the CAN SYSTEM.

When front door LH is unlocked by power window main switch (door lock and unlock switch), BCM terminal 74 receives a signal from terminal 14 of power window main switch.

When front door RH is unlocked by power window switch (passenger side) (door lock and unlock switch), BCM terminal 74 receives a signal from terminal 16 of front power window switch (passenger side).

When the hood is open, IPDM E/R receives a ground signal

- from hood switch terminal 1
- to IPDM E/R terminal 51
- through body grounds E13, E26 and E28.

The IPDM E/R then sends a signal to the BCM through the CAN SYSTEM.

When the back door is open, BCM terminal 18 receives a ground signal

- from terminal 1 of the back door switch
- through body grounds B7 and B20.

## VEHICLE SECURITY SYSTEM ALARM OPERATION

The vehicle security system is triggered by

- opening a door
- opening the back door
- opening the hood
- detection of battery disconnect and connect.

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

When BCM receives a ground signal at terminals 10, 14 receives a signal from the unified meter and A/C amp. (door switch), 18 (back door switch) or receives a signal from the IPDM E/R (hood switch).

Power is supplied at all times

- to horn relay terminal 2
- through 10A fuse (No. 32, located in fuse and fusible link box).

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

When the vehicle security system is triggered, ground is supplied intermittently from IPDM E/R terminals 14 and 45.

When headlamp high relay (with built-in IPDM E/R) and horn relay are energized and then power is supplied to headlamps (LH and RH) and horns (HIGH and LOW).

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 or the back door must be unlocked with the key or key fob.

When the key is used to unlock a door, BCM terminal 74 receives signal

- from terminal 14 of the power window main switch (door lock and unlock switch).

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

## PANIC ALARM OPERATION

Remote control entry system may or may not operate vehicle security system (horn and headlamps) as required.

When the remote control entry system is triggered, ground is supplied intermittently from IPDM E/R terminals 14 and 45.

When headlamp relay (with built-in IPDM E/R) and horn relay are energized and then power is supplied to headlamps (LH and RH) and horns (HIGH and LOW).

The headlamp flashes and the horn sounds intermittently.

The alarm automatically turns off after 30 seconds or when BCM receives any signal from key fob.

## CAN Communication System Description

AIS001VQ

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

## CAN COMMUNICATION UNIT FOR 2WD MODELS

Body type	Wagon															
Axle	2WD															
Engine	VQ35DE															
Transmission	CVT															
Brake control	ABS								VDC							
Low tire pressure warning system		×			×	×		×		×			×	×		×
Navigation system			×		×		×	×			×		×		×	×
Automatic drive positioner				×		×	×	×				×		×	×	×

### CAN communication unit

ECM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Low tire pressure warning control unit		×			×	×		×		×			×	×		×
Display unit	×	×		×		×			×	×		×		×		
Display control unit			×		×		×	×			×		×		×	×
Data link connector	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
BCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Steering angle sensor									×	×	×	×	×	×	×	×
Driver seat control unit				×		×	×	×				×		×	×	×

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

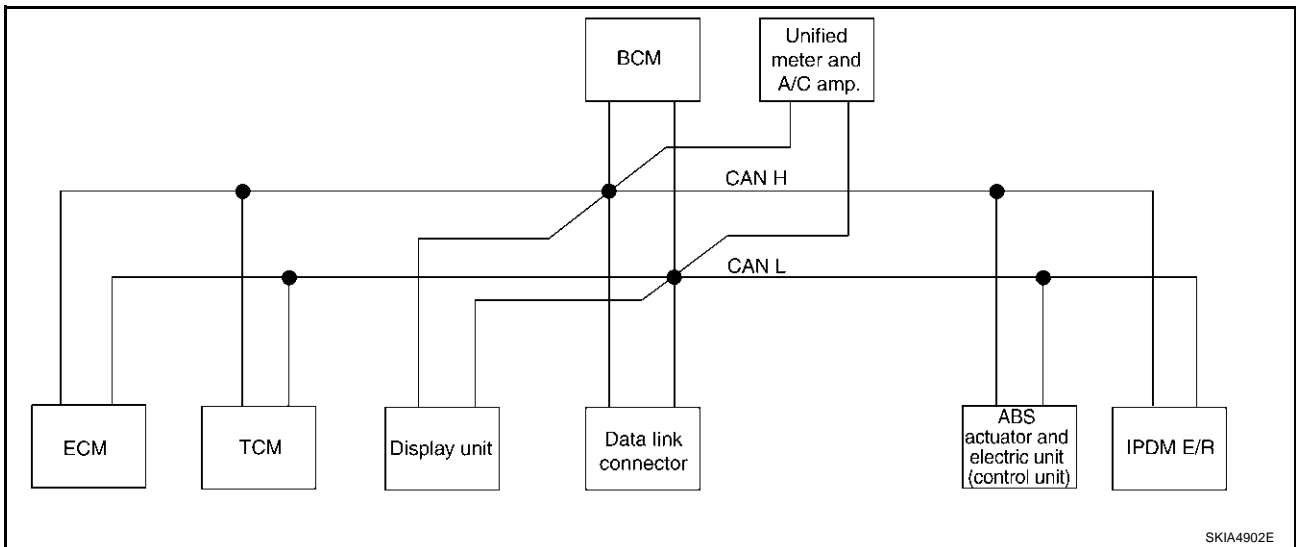
Body type	Wagon														
Axle	2WD														
Engine	VQ35DE														
Transmission	CVT														
Brake control	ABS							VDC							
Low tire pressure warning system		×			×	×		×				×	×		×
Navigation system			×		×		×	×			×		×		×
Automatic drive positioner				×		×	×	×				×		×	×
CAN communication unit															
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
IPDM E/R	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
CAN communication type	<u>BL-146. "TYPE 1/TYPE 2/TYPE 3/TYPE 4/TYPE 5/TYPE 6/TYPE 7/TYPE 8"</u>							<u>BL-151. "TYPE 9/TYPE 10/TYPE 11/TYPE 12/TYPE 13/TYPE 14/TYPE 15/TYPE 16"</u>							

×: Applicable

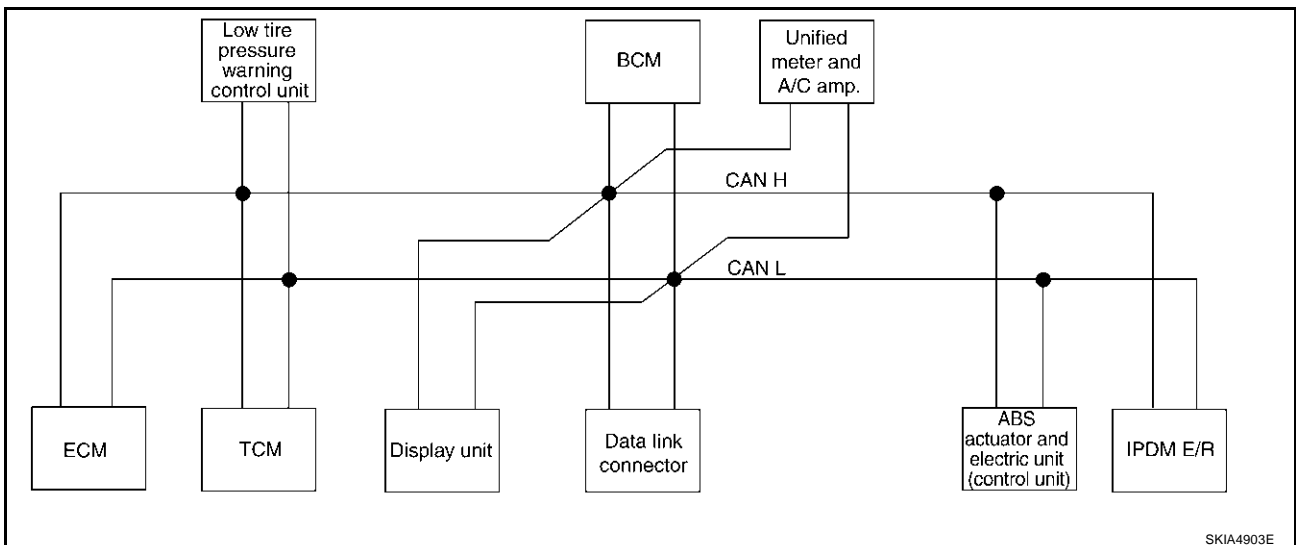
## TYPE 1/TYPE 2/TYPE 3/TYPE 4/TYPE 5/TYPE 6/TYPE 7/TYPE 8

### System Diagram

- Type1

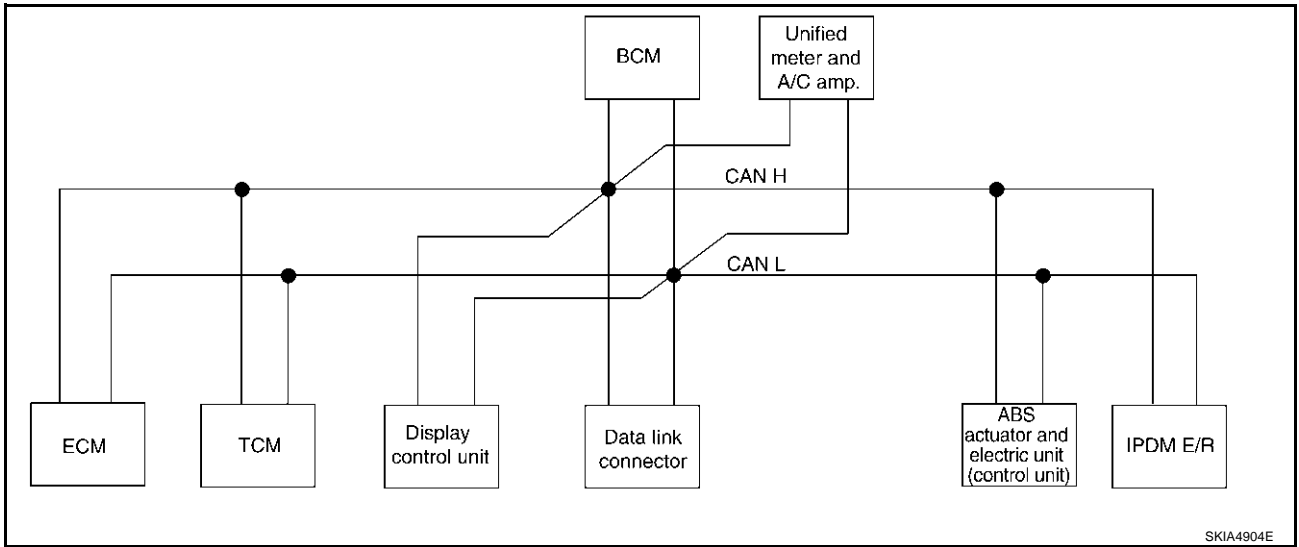


- Type2

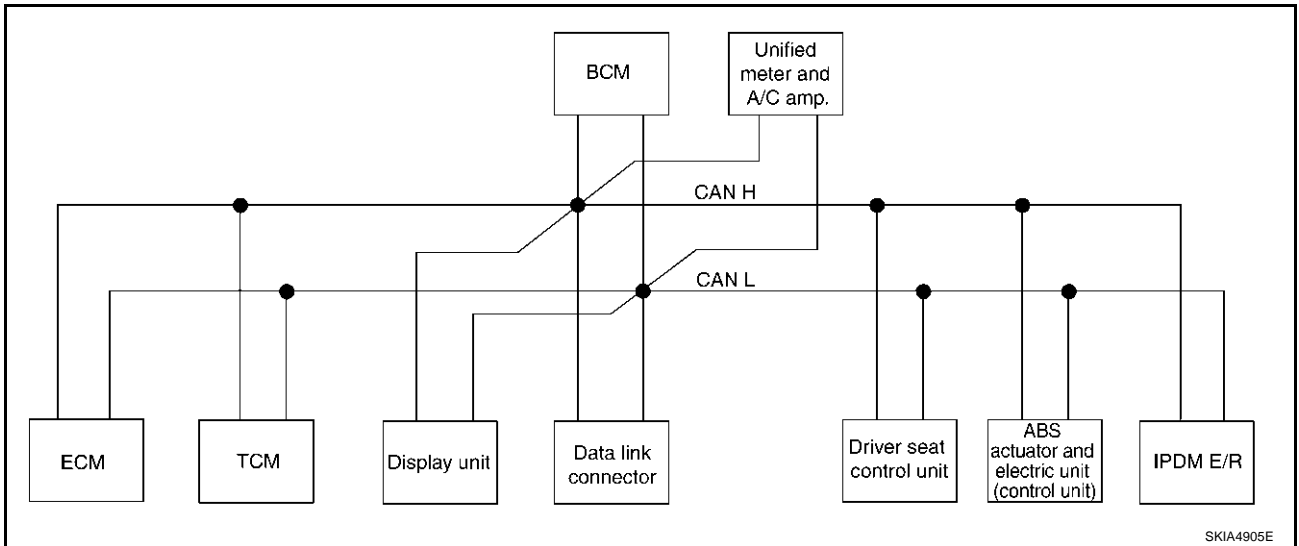


# VEHICLE SECURITY (THEFT WARNING) SYSTEM

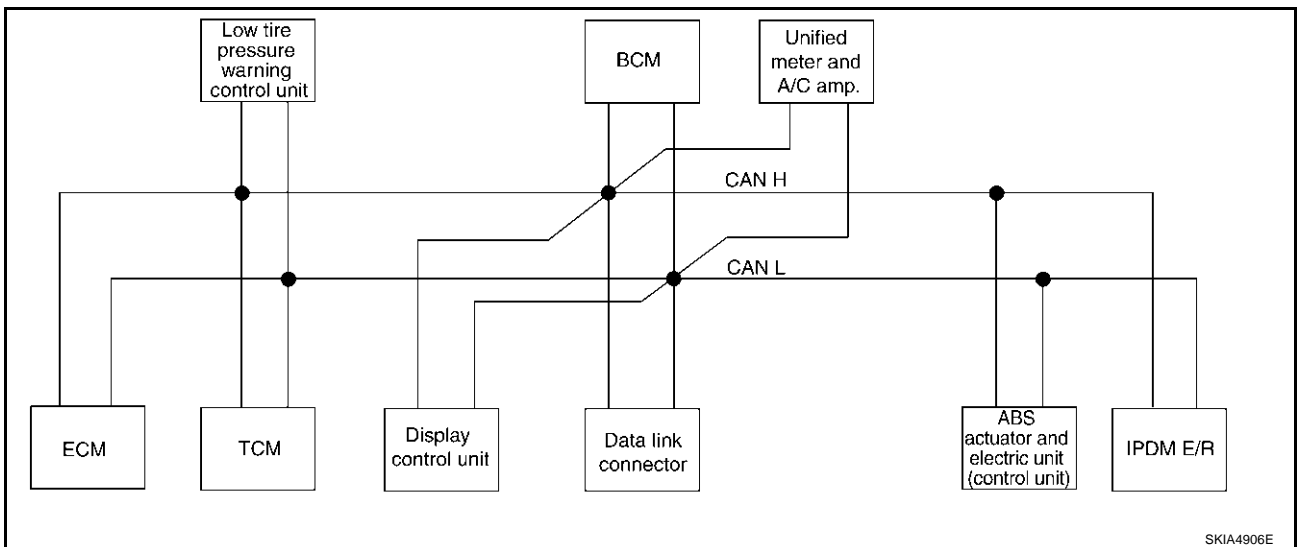
- Type3



- Type4



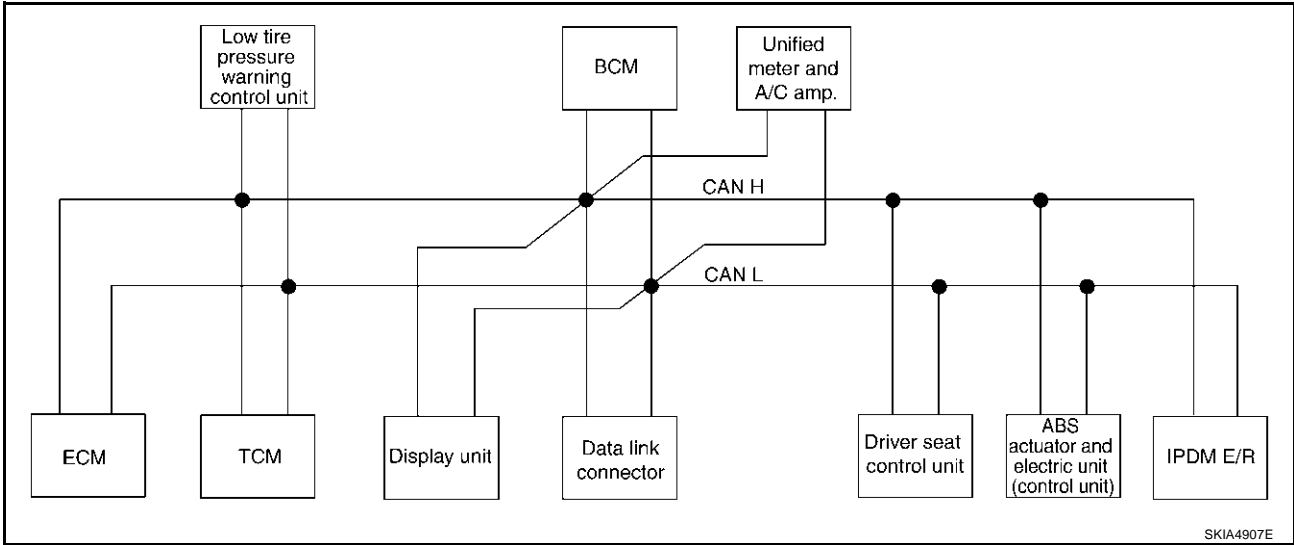
- Type5



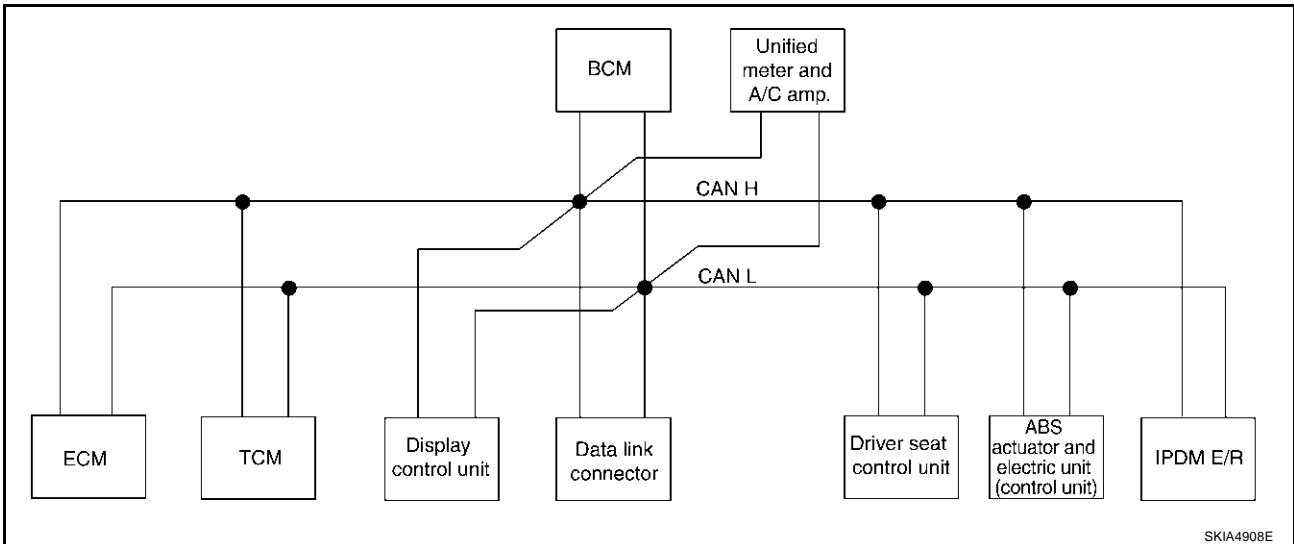
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# VEHICLE SECURITY (THEFT WARNING) SYSTEM

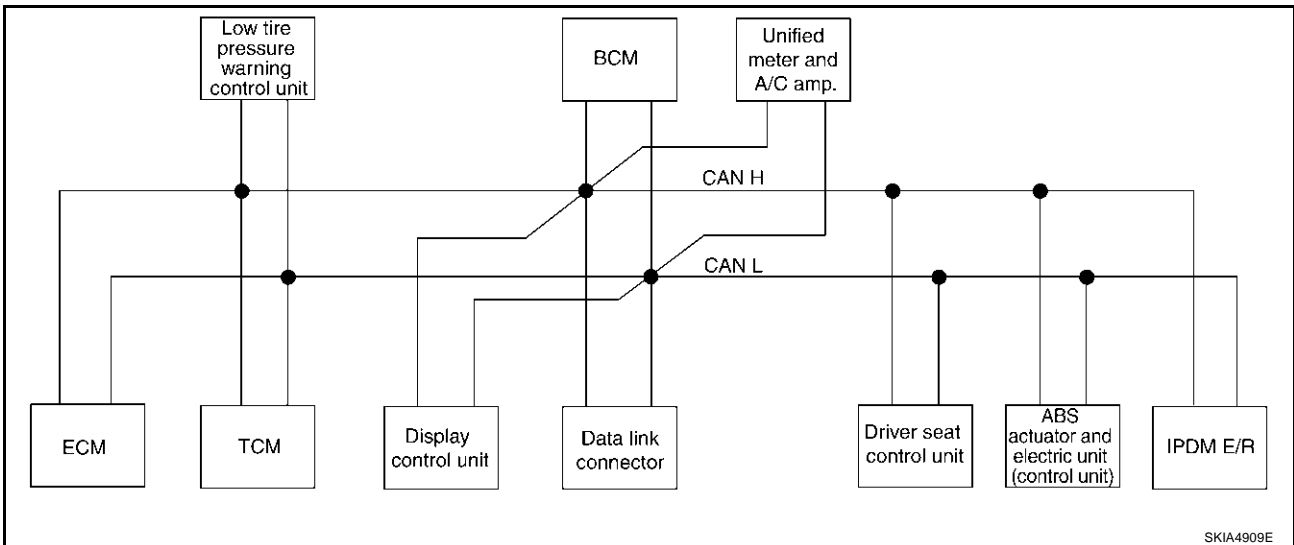
- Type6



- Type7



- Type8





# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Driver seat control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R			R	R	R			
Engine status signal	T					R				
Engine coolant temperature signal	T						R			
CVT position indicator signal		T					R			
Second position signal		R					T			
Second position indicator signal		T					R			
Engine and CVT integrated control signal	T	R								
	R	T								
Accelerator pedal position signal	T	R								
Closed throttle position signal	T	R								
Wide open throttle position signal	T	R								
Key switch signal						T		R		
Ignition switch signal						T		R		R
P range signal		T						R		
Stop lamp switch signal		R					T			
Fuel consumption monitor signal	T						R			
CVT self-diagnosis signal	R	T								
ABS operation signal		R							T	
Air conditioner switch signal	R					T				
A/C compressor request signal	T									R
A/C compressor feedback signal	T						R			
Blower fan motor switch signal	R					T				
A/C control signal				T	T		R			
				R	R		T			
Cooling fan speed request signal	T									R
Position lights request signal						T	R			R
Low beam request signal						T				R
Low beam status signal	R									T
High beam request signal						T	R			R
High beam status signal	R									T
Front fog lights request signal						T				R
Vehicle speed signal		R					R		T	
	R		R		R	R	T	R		
Sleep request 1 signal						T	R			
Sleep request 2 signal						T				R
Door switch signal						R	T			
				R	R	T	R	R		R
Turn indicator signal						T	R			

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## VEHICLE SECURITY (THEFT WARNING) SYSTEM

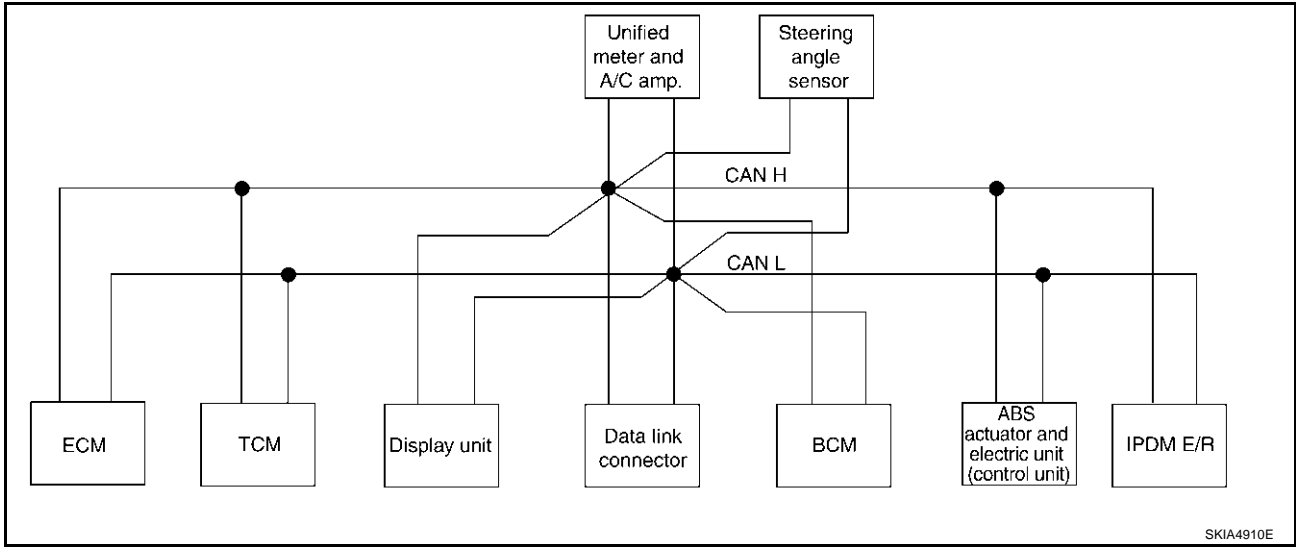
Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Driver seat control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Key fob ID signal						T		R		
Key fob door unlock signal						T		R		
Seat belt buckle switch signal						R	T			
Oil pressure switch signal						R				T
						T	R			
Buzzer output signal						T	R			
Fuel level sensor signal	R						T			
Fuel level low warning signal				R	R		T			
Malfunction indicator lamp signal	T						R			
ASCD SET lamp signal	T						R			
ASCD CRUISE lamp signal	T						R			
Input shaft revolution signal	R	T								
Output shaft revolution signal	R	T								
Front wiper request signal						T				R
Front wiper stop position signal						R				T
Rear window defogger switch signal						T				R
Rear window defogger control signal	R			R	R					T
Hood switch signal						R				T
Theft warning horn request signal						T				R
Horn chirp signal						T				R
Tire pressure signal			T				R			
Tire pressure data signal			T	R	R					
ABS warning lamp signal							R		T	
Brake warning lamp signal							R		T	
System setting signal				T	T			R		
Parking brake switch signal						R	T			

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

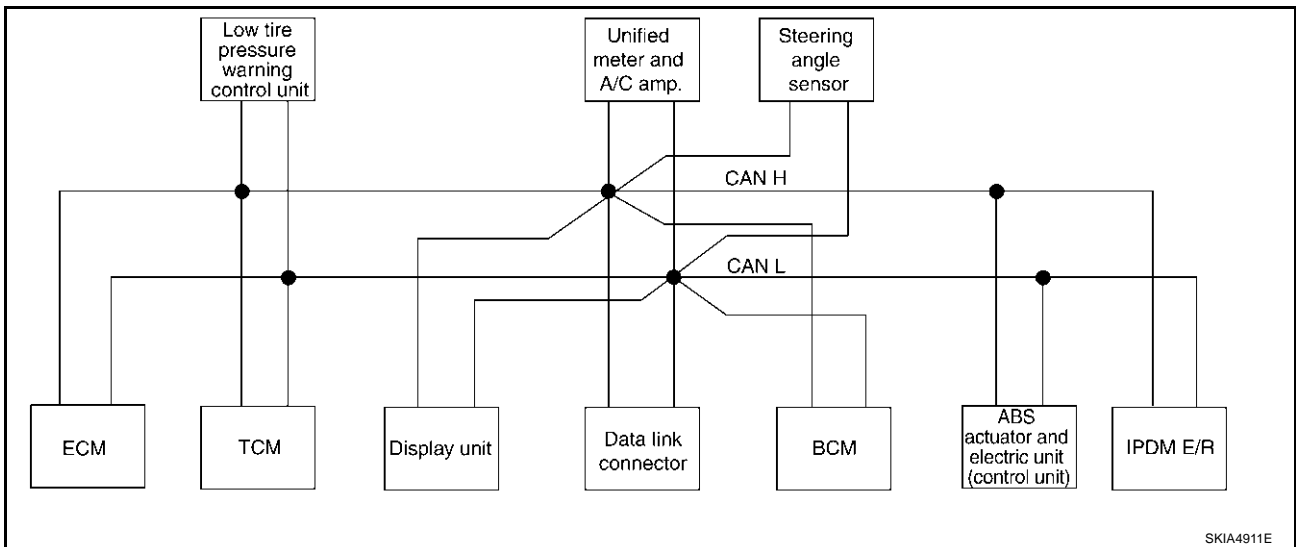
TYPE 9/TYPER10/TYPER 11/TYPER 12/TYPER 13/TYPER 14/TYPER 15/TYPER 16

## System Diagram

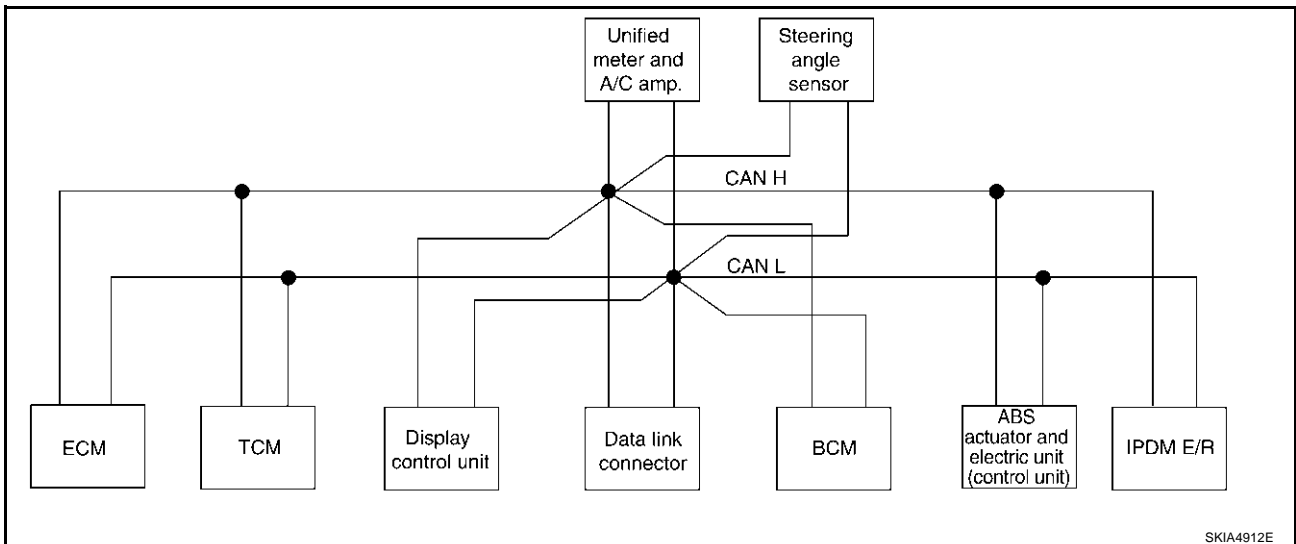
- Type9



- Type10



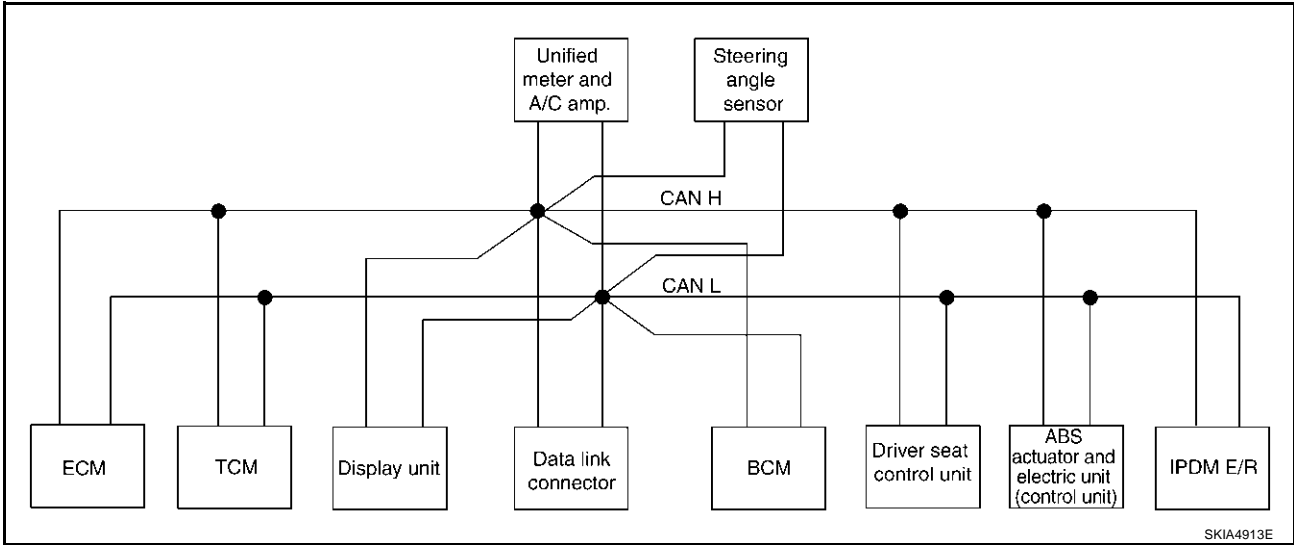
- Type11



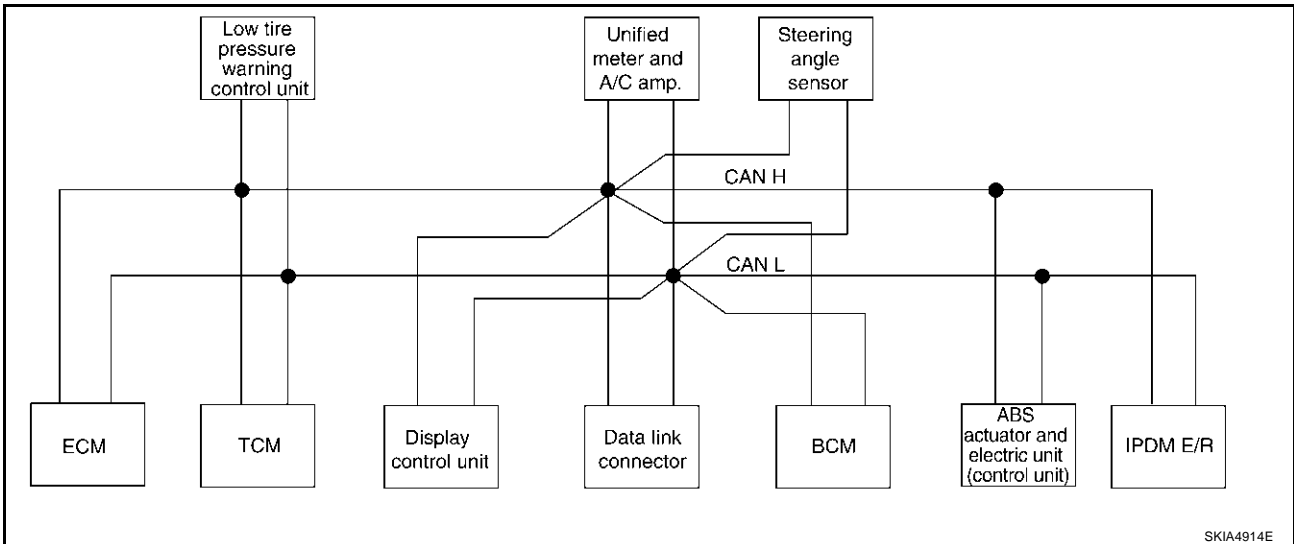
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# VEHICLE SECURITY (THEFT WARNING) SYSTEM

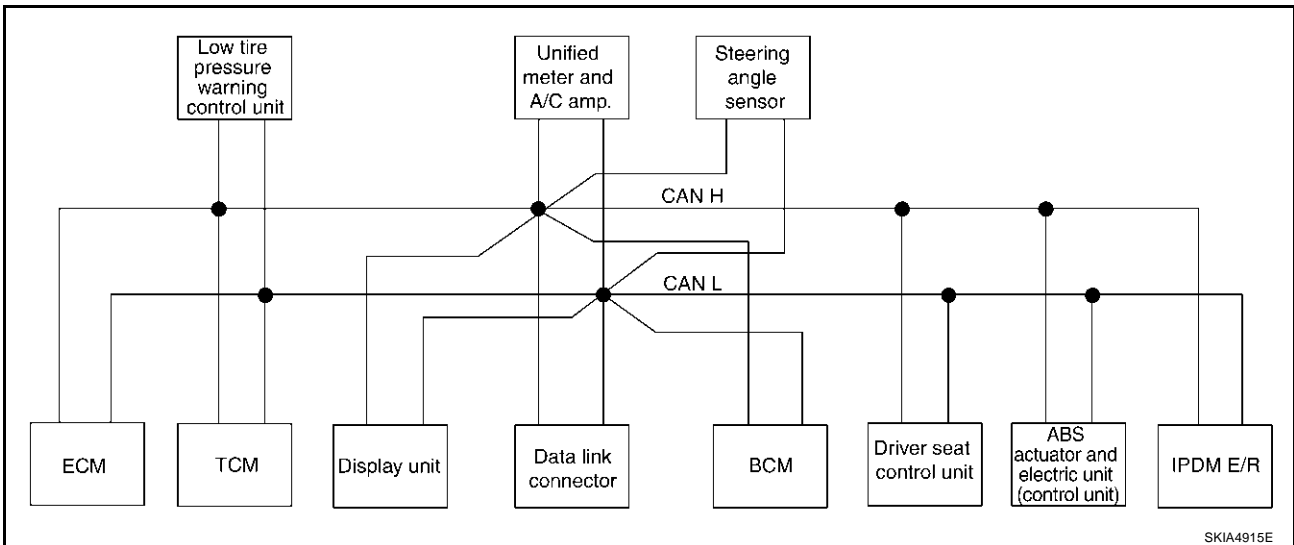
- Type12



- Type13

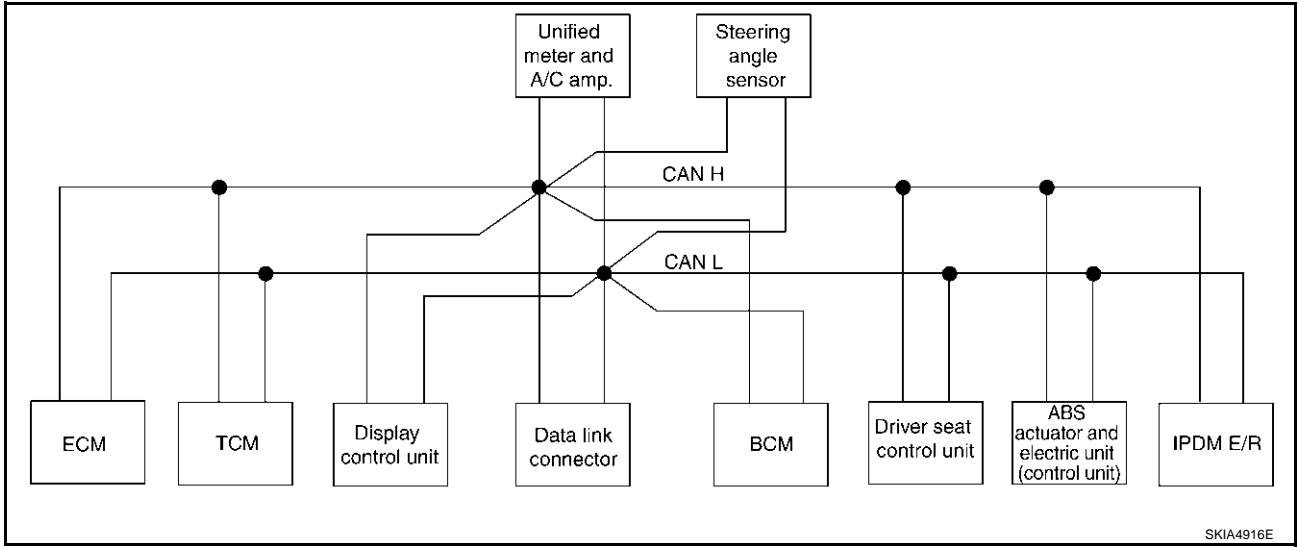


- Type14

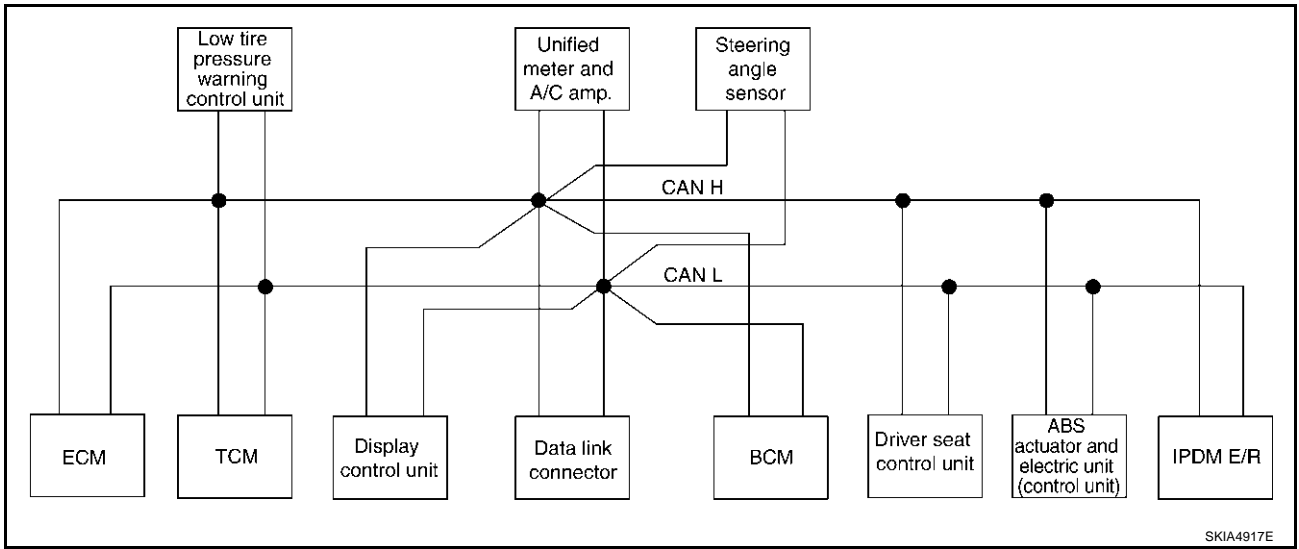


# VEHICLE SECURITY (THEFT WARNING) SYSTEM

- Type15



- Type16



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# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Steering angle sensor	Driver seat control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R			R	R	R			R	
Engine status signal	T					R					
Engine coolant temperature signal	T						R				
Engine and CVT integrated control signal	T	R									
	R	T									
Accelerator pedal position signal	T	R								R	
Closed throttle position signal	T	R									
Wide open throttle position signal	T	R									
Key switch signal						T			R		
Ignition switch signal						T			R		R
P range signal		T							R	R	
Stop lamp switch signal		R					T				
VDC operation signal		R								T	
Second position indicator signal		T					R			R	
Second position signal		R					T				
Fuel consumption monitor signal	T						R				
CVT self-diagnosis signal	R	T									
Input shaft revolution signal	R	T								R	
Output shaft revolution signal	R	T								R	
Air conditioner switch signal	R					T					
A/C compressor request signal	T										R
A/C compressor feedback signal	T						R				
Blower fan motor switch signal	R					T					
A/C control signal				T	T		R				
				R	R		T				
Cooling fan speed request signal	T										R
Position lights request signal						T	R				R
Low beam request signal						T					R
Low beam status signal	R										T
High beam request signal						T	R				R
High beam status signal	R										T
Front fog lights request signal						T					R
Vehicle speed signal		R					R			T	
	R		R		R	R	T		R		
Sleep request 1 signal						T	R				
Sleep request 2 signal						T					R

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Steering angle sensor	Driver seat control unit	ABS actuator and electric unit (control unit)	IPDM E/R	
Door switch signal						R	T					A
				R	R	T	R		R		R	B
Turn indicator signal						T	R					C
Key fob ID signal						T			R			D
Key fob door unlock signal						T			R			E
Seat belt buckle switch signal						R	T					F
Oil pressure switch signal						R					T	G
						T	R					H
Buzzer output signal						T	R					I
Fuel level sensor signal	R						T					J
Fuel level low warning signal				R	R		T					K
Malfunction indicator signal	T						R					L
ASCD SET lamp signal	T						R					M
ASCD CRUISE lamp signal	T						R					
Front wiper request signal						T					R	BL
Front wiper stop position signal						R					T	
Rear window defogger switch signal						T					R	J
Rear window defogger control signal	R			R	R						T	
Hood switch signal						R					T	
Theft warning horn request signal						T					R	K
Horn chirp signal						T					R	
Steering angle sensor signal								T		R		L
Tire pressure signal			T				R					
Tire pressure data signal			T	R	R							
CVT position indicator signal		T					R			R		M
ABS warning lamp signal							R			T		
VDC OFF indicator lamp signal							R			T		
SLIP indicator lamp signal							R			T		
Brake warning lamp signal							R			T		
System setting signal				T	T				R			
Parking brake switch signal						R	T					

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## CAN COMMUNICATION UNIT FOR AWD MODELS

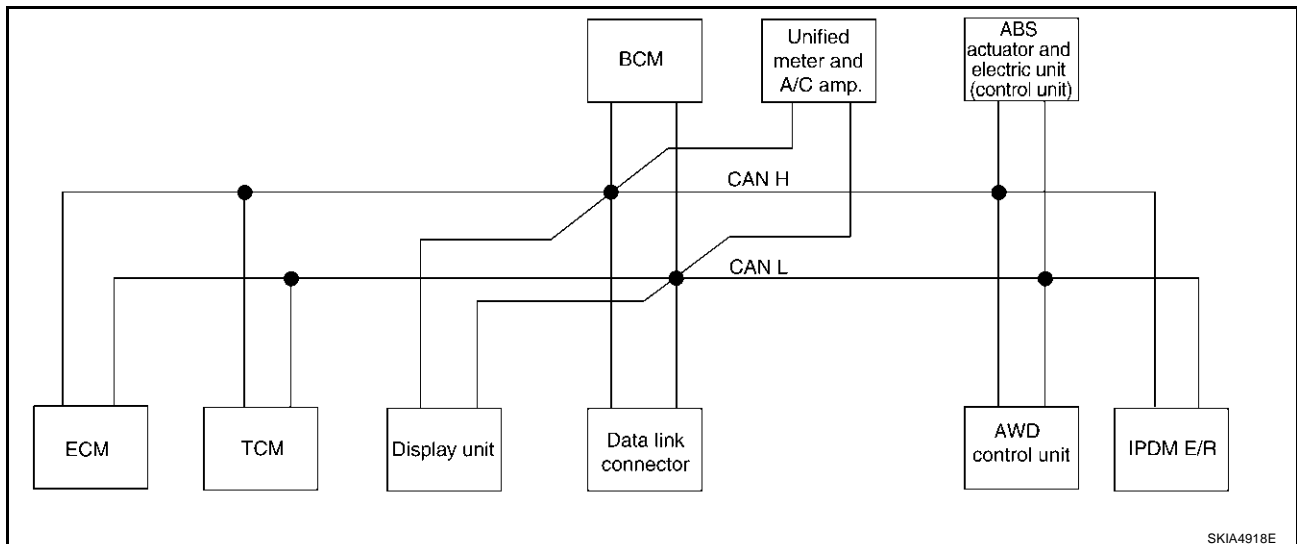
Body type	Wagon															
Axle	AWD															
Engine	VQ35DE															
Transmission	CVT															
Brake control	ABS								VDC							
Low tire pressure warning system		×			×	×		×		×			×	×		×
Navigation system			×		×		×	×			×		×		×	×
Automatic drive positioner				×		×	×	×				×		×	×	×
CAN communication unit																
ECM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Low tire pressure warning control unit		×			×	×		×		×			×	×		×
Display unit	×	×		×		×			×	×		×		×		
Display control unit			×		×		×	×			×		×		×	×
Data link connector	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
BCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Steering angle sensor									×	×	×	×	×	×	×	×
Driver seat control unit				×		×	×	×				×		×	×	×
AWD control unit	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
IPDM E/R	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
CAN communication type	<u>BL-156. "TYPE 17/TYPE 18/TYPE 19/TYPE 20/TYPE 21/TYPE 22/TYPE 23/TYPE 24"</u>								<u>BL-162. "TYPE 25/TYPE 26/TYPE 27/TYPE 28/TYPE 29/TYPE 30/TYPE 31/TYPE 32"</u>							

×: Applicable

### TYPE 17/TYPE 18/TYPE 19/TYPE 20/TYPE 21/TYPE 22/TYPE 23/TYPE 24

#### System Diagram

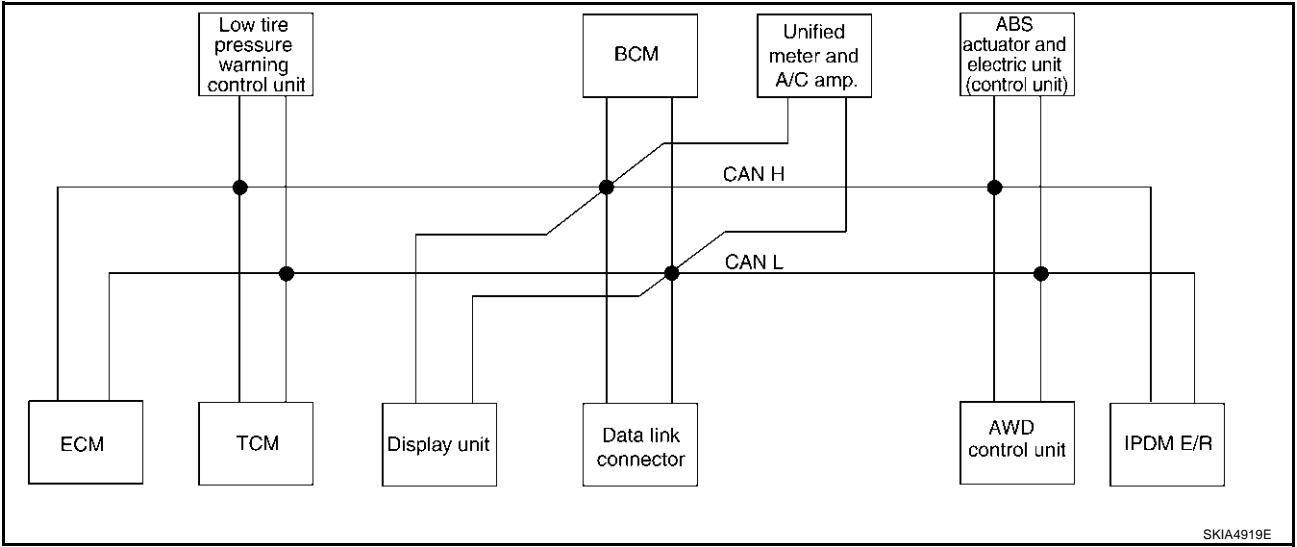
- Type17



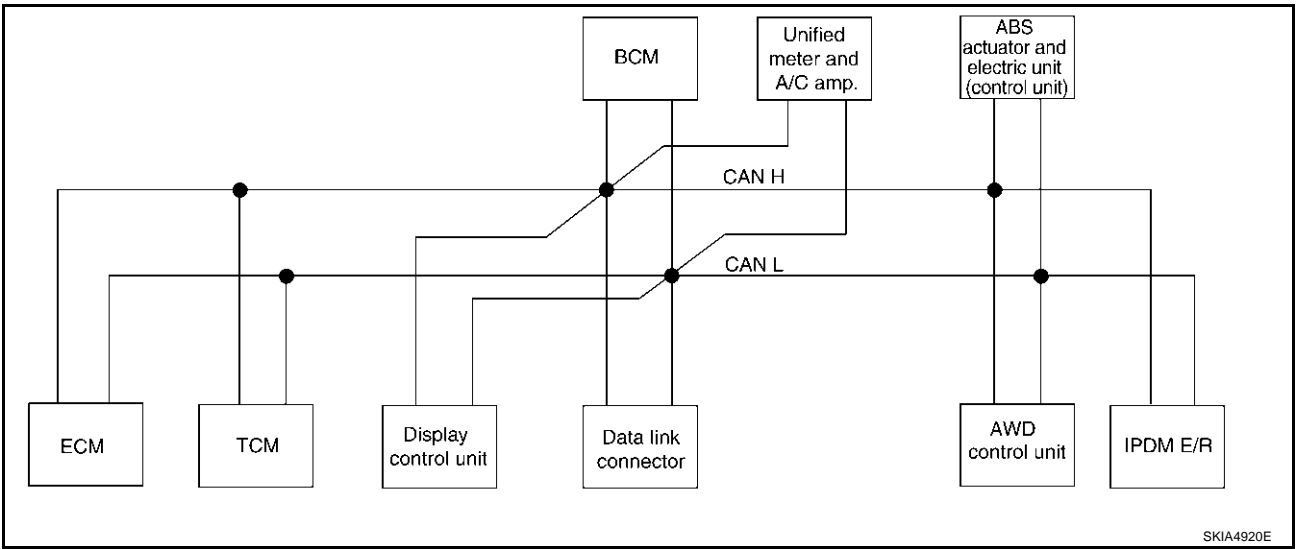


# VEHICLE SECURITY (THEFT WARNING) SYSTEM

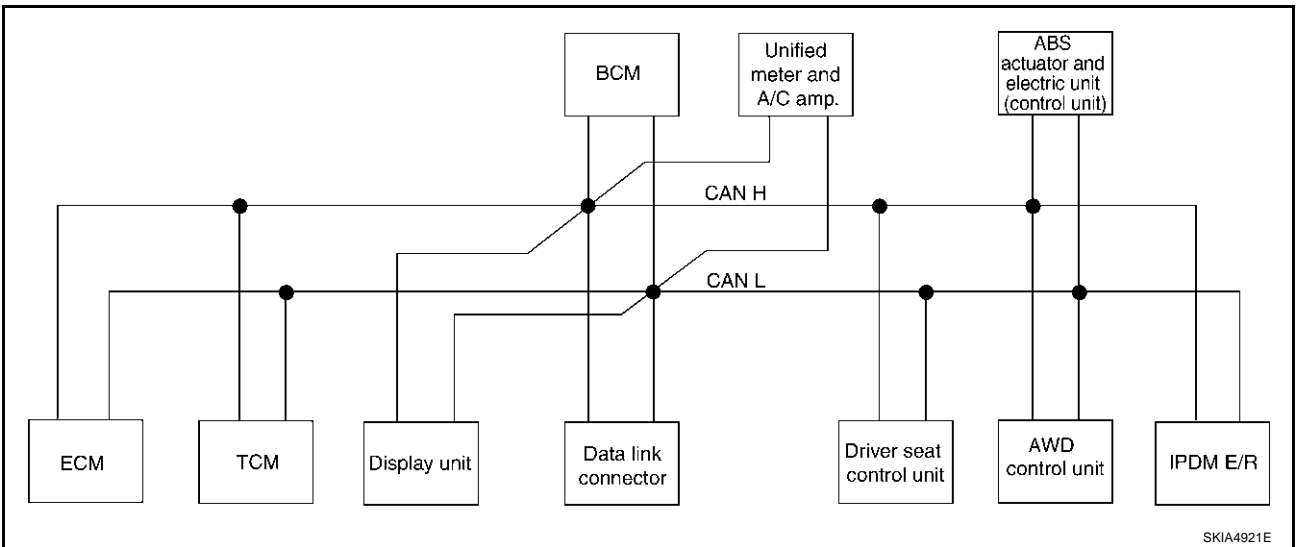
- Type18



- Type19



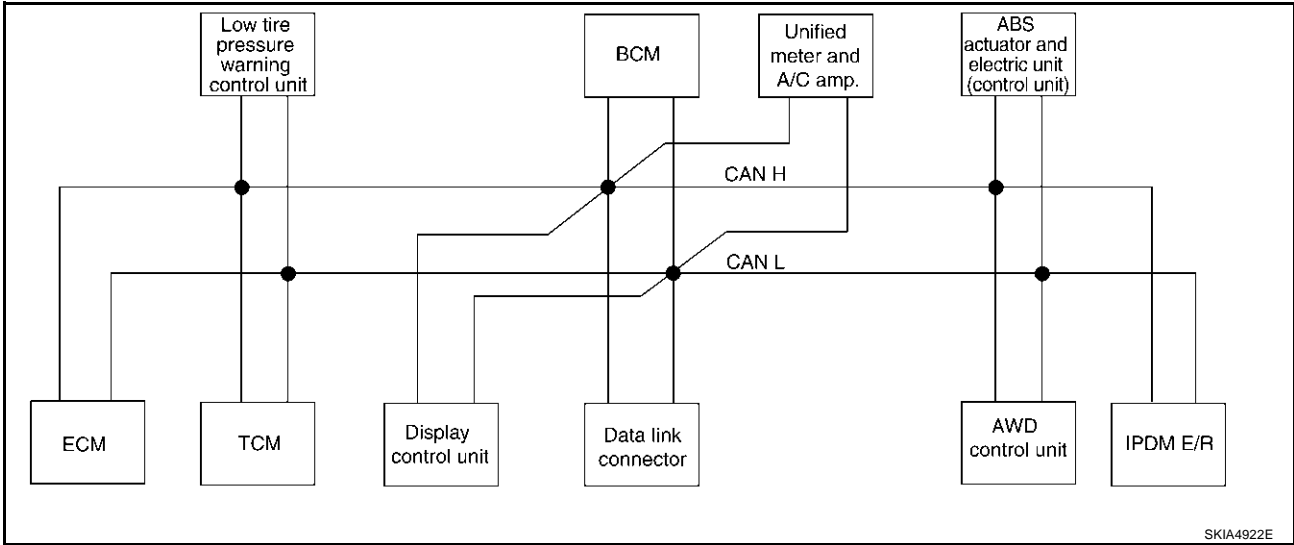
- Type20



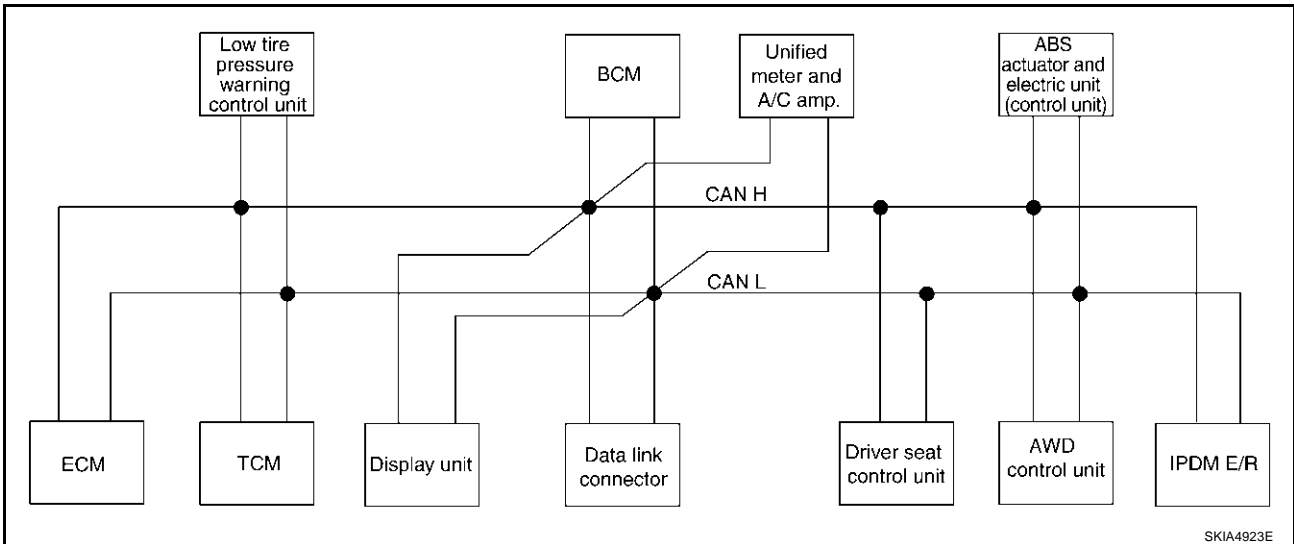
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# VEHICLE SECURITY (THEFT WARNING) SYSTEM

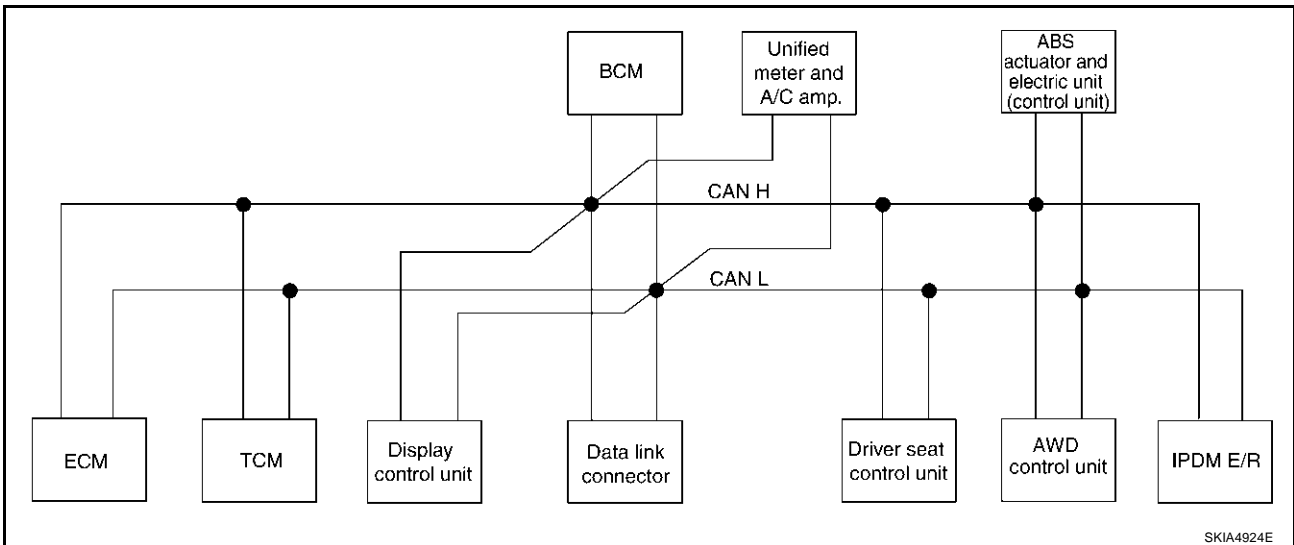
- Type21



- Type22

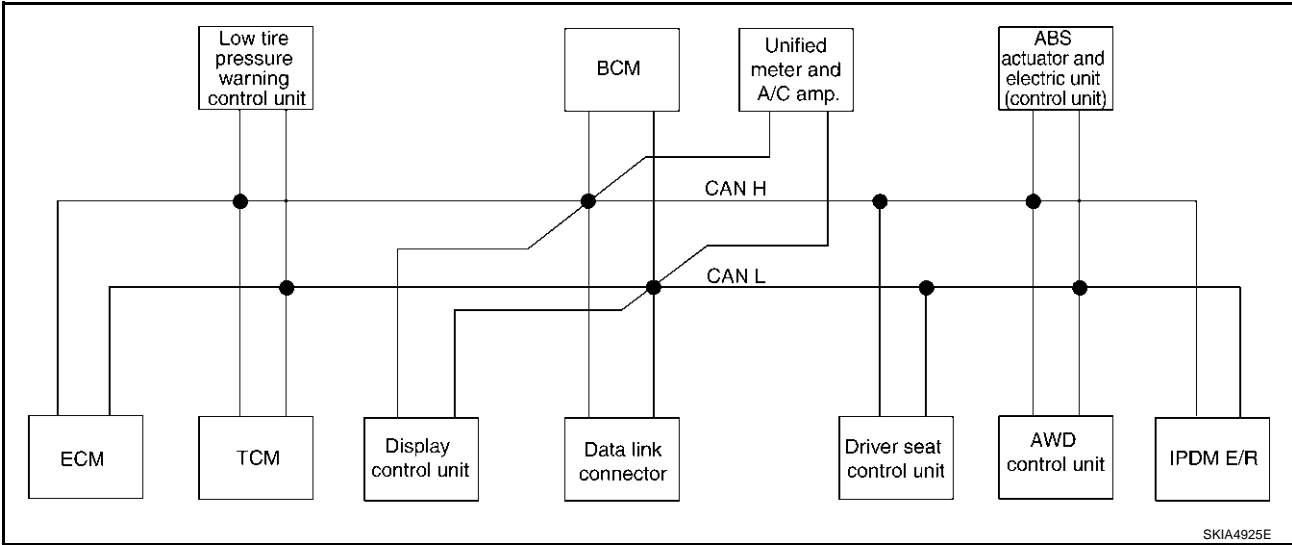


- Type23



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

- Type24



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**BL**

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# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Driver seat control unit	AWD control unit	ABS actuator and electric unit (control unit)	IPDM E/R
CVT position indicator signal		T					R				
Second position signal		R					T				
Second position indicator signal		T					R				
Engine speed signal	T	R	R		R	R	R		R		
Engine status signal	T					R					
Engine coolant temperature signal	T						R				
Accelerator pedal position signal	T	R							R		
Closed throttle position signal	T	R									
Wide open throttle position signal	T	R									
Key switch signal						T		R			
Ignition switch signal						T		R			R
P range signal		T						R			
Stop lamp switch signal		R					T		R		
Fuel consumption monitor signal	T						R				
CVT self-diagnosis signal	R	T									
ABS operation signal		R							R	T	
Air conditioner switch signal	R					T					
A/C compressor request signal	T										R
A/C compressor feedback signal	T						R				
Blower fan motor switch signal	R					T					
A/C control signal				T	T		R				
				R	R		T				
Cooling fan speed request signal	T										R
Position lights request signal						T	R				R
Low beam request signal						T					R
Low beam status signal	R										T
High beam request signal						T	R				R
High beam status signal	R										T
Front fog lights request signal						T					R
Vehicle speed signal		R					R		R	T	
	R		R		R	R	T	R			
Sleep request 1 signal						T	R				
Sleep request 2 signal						T					R
Door switch signal						R	T				
				R	R	T	R	R			R
Key fob ID signal						T		R			
Key fob door unlock signal						T		R			

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

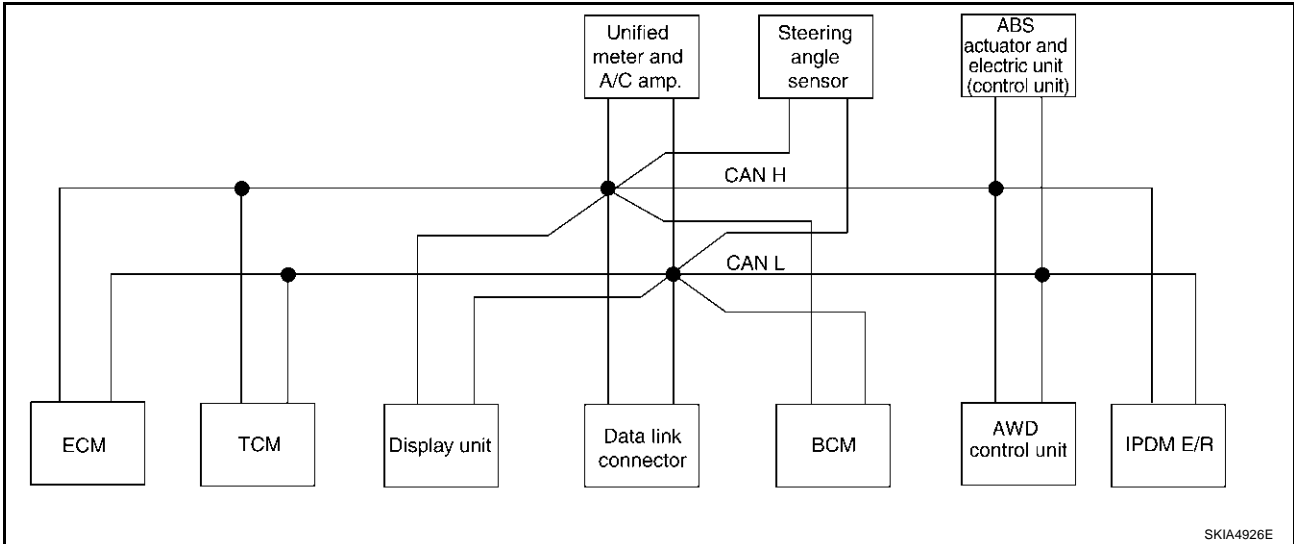
Signals	ECM	TCM	Low tire pres- sure warn- ing con- trol unit	Dis- play unit	Dis- play con- trol unit	BCM	Uni- fied meter and A/ C amp.	Driver seat con- trol unit	AWD con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	A
Turn indicator signal						T	R					B
Seat belt buckle switch signal						R	T					C
Oil pressure switch signal						R					T	D
						T	R					E
Buzzer output signal						T	R					F
Fuel level sensor signal	R						T					G
Fuel level low warning signal				R	R		T					H
Malfunction indicator lamp signal	T						R					I
ASCD SET lamp signal	T						R					J
ASCD CRUISE lamp signal	T						R					K
Input shaft revolution signal	R	T										L
Output shaft revolution signal	R	T										M
Front wiper request signal						T					R	BL
Front wiper stop position signal						R					T	BL
Rear window defogger switch signal						T					R	BL
Rear window defogger control signal	R			R	R						T	BL
Engine and CVT integrated control signal	T	R										J
	R	T										J
Hood switch signal						R					T	K
Theft warning horn request signal						T					R	K
Horn chirp signal						T					R	K
Tire pressure signal			T				R					L
Tire pressure data signal			T	R	R							L
ABS warning lamp signal							R			T		M
Brake warning lamp signal							R			T		M
System setting signal				T	T			R				M
AWD warning lamp signal							R		T			M
AWD lock indicator lamp signal							R		T			M
AWD lock switch signal							T		R			M
Parking brake switch signal						R	T		R			M

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

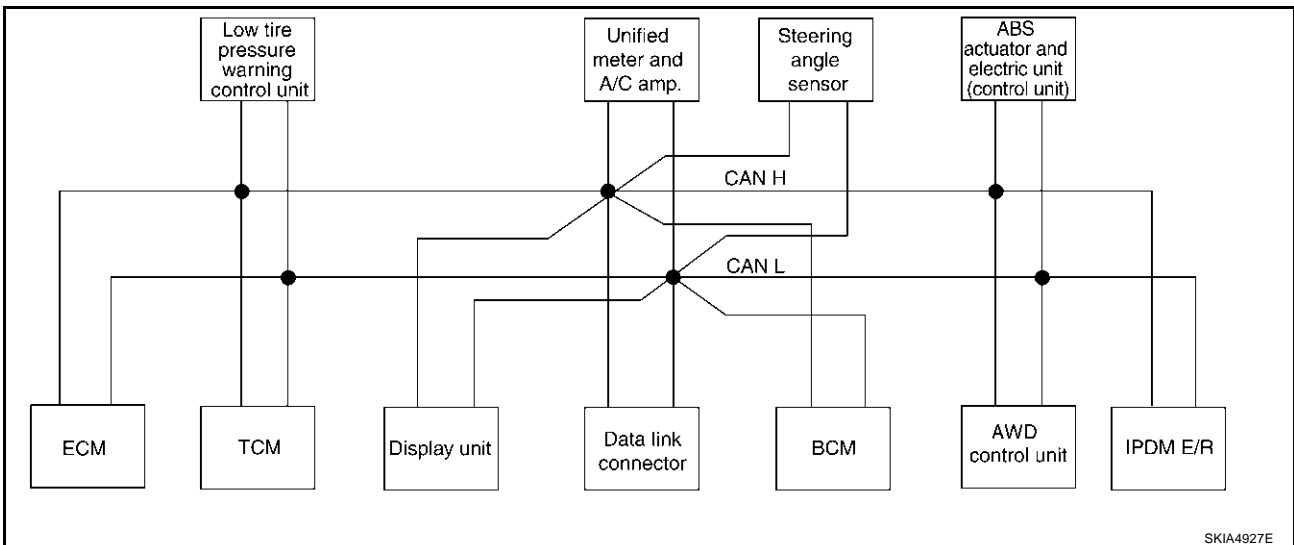
TYPE 25/TYPER26/TYPER 27/TYPER 28/TYPER 29/TYPER 30/TYPER 31/TYPER 32

## System Diagram

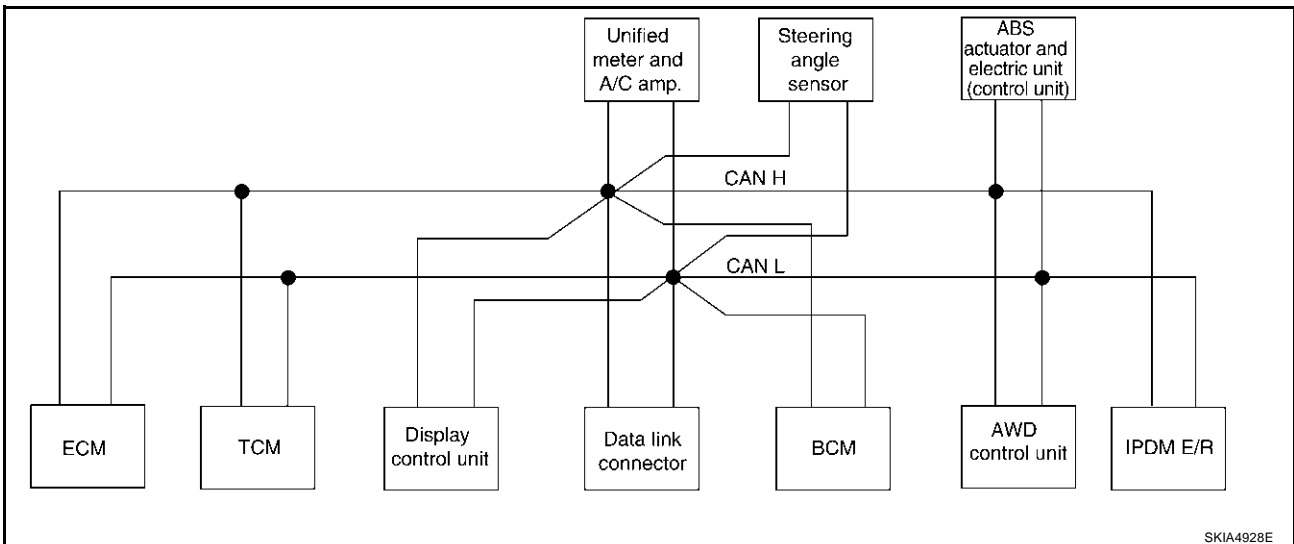
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- Type26

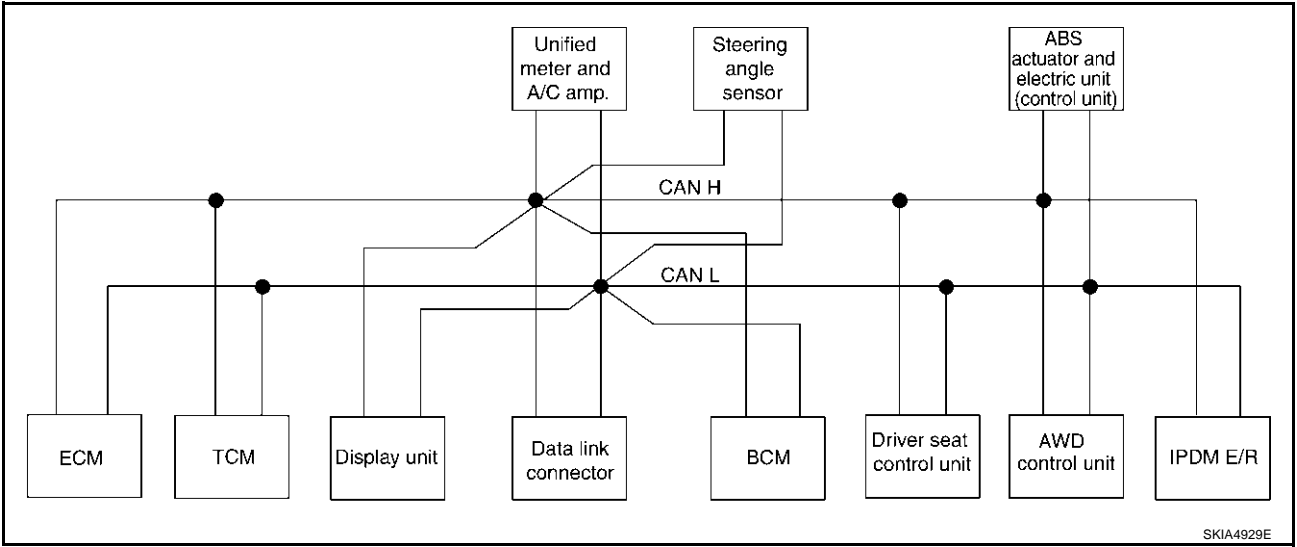


- Type27

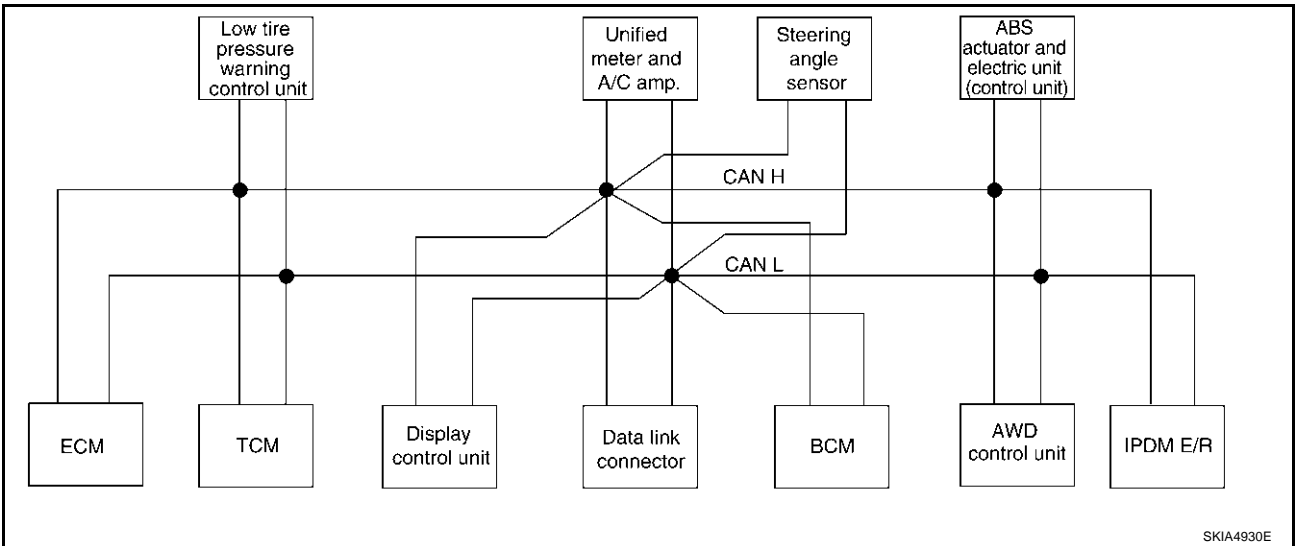


# VEHICLE SECURITY (THEFT WARNING) SYSTEM

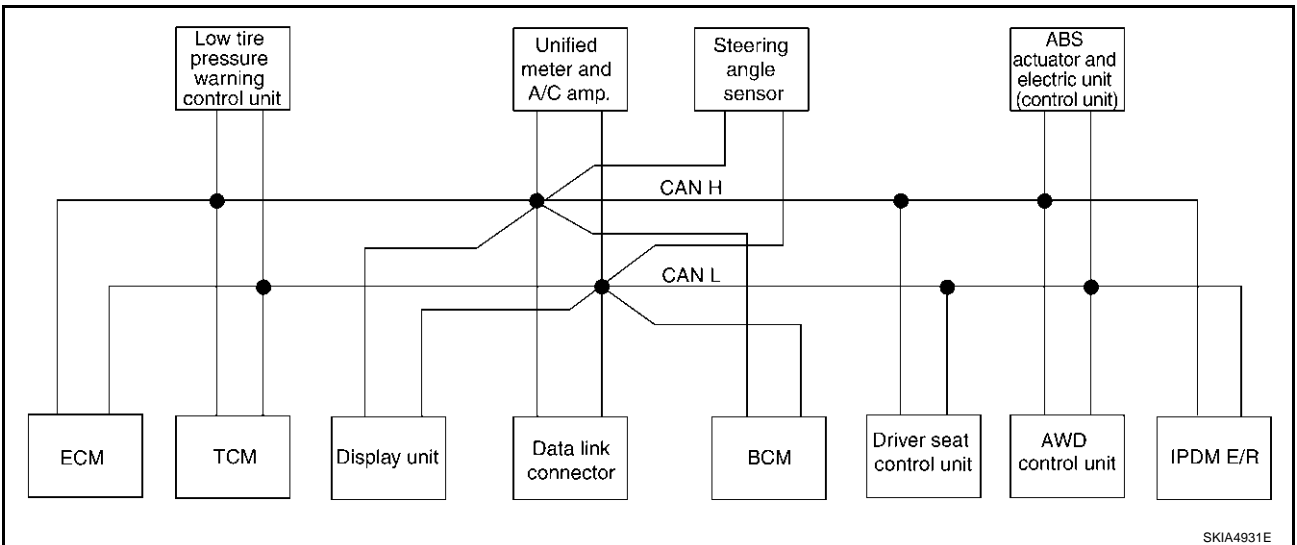
- Type28



- Type29



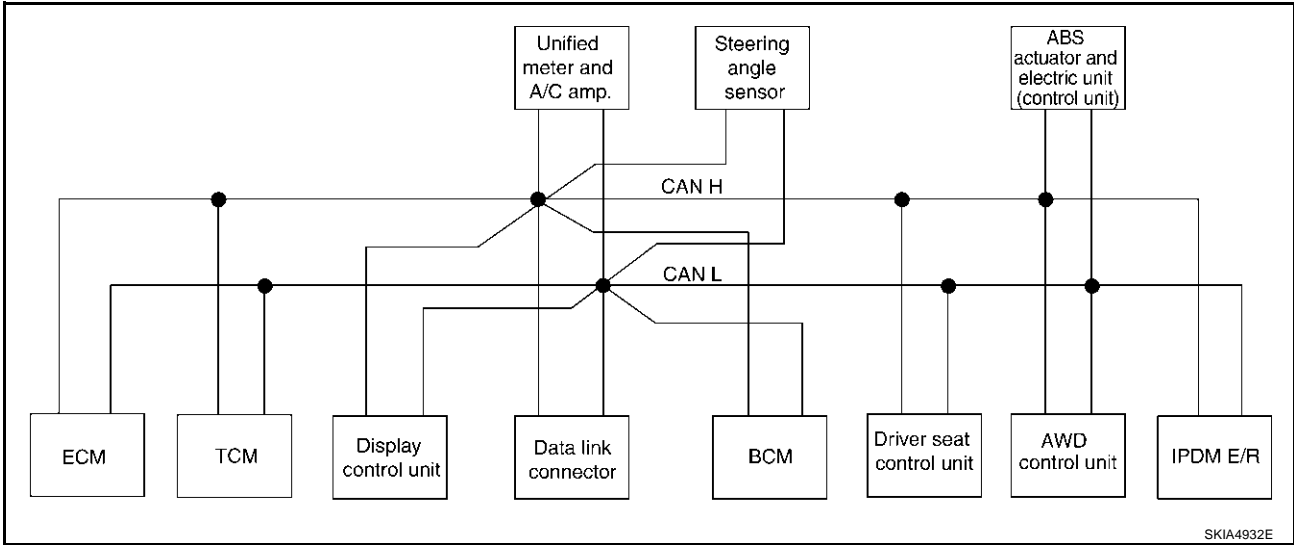
- Type30



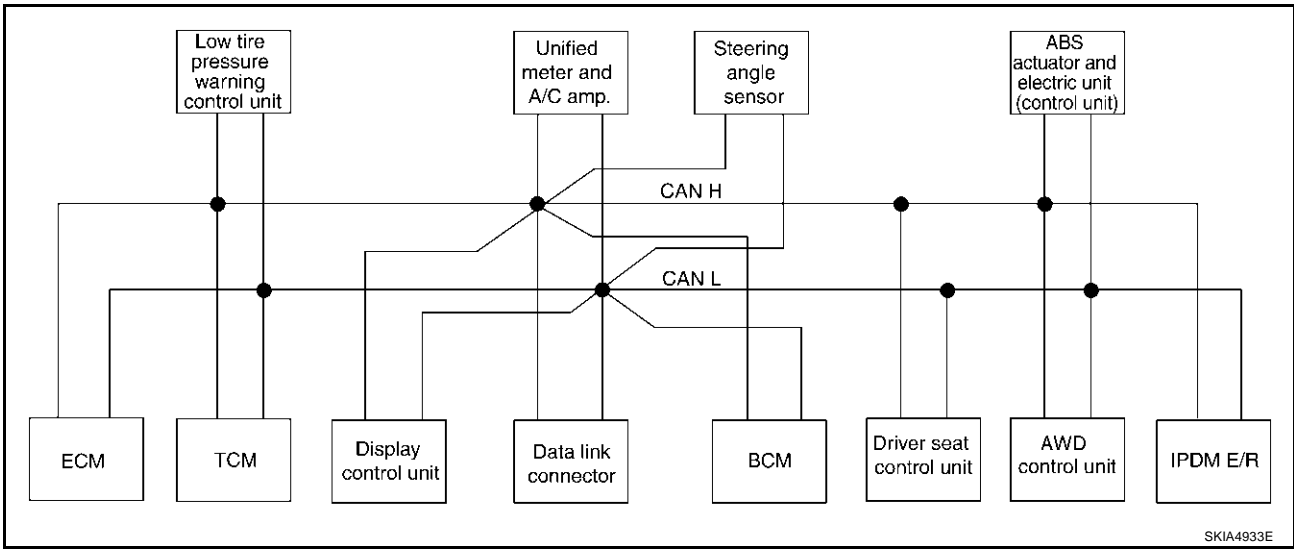
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# VEHICLE SECURITY (THEFT WARNING) SYSTEM

- Type31



- Type32





# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Steering angle sensor	Driver seat control unit	AWD control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Engine and CVT integrated control signal	T	R										
	R	T										
Second position signal		R					T					
VDC operation signal		R								R	T	
Stop lamp switch signal		R					T			R		
Key switch signal						T			R			
Ignition switch signal						T			R			R
P range signal		T							R		R	
Closed throttle position signal	T	R										
Wide open throttle position signal	T	R										
Second position indicator signal		T					R				R	
Engine speed signal	T	R			R	R	R			R	R	
Engine status signal	T					R						
Engine coolant temperature signal	T						R					
Accelerator pedal position signal	T	R								R	R	
Fuel consumption monitor signal	T						R					
CVT self-diagnosis signal	R	T										
Input shaft revolution signal	R	T									R	
Output shaft revolution signal	R	T									R	
Air conditioner switch signal	R					T						
A/C compressor request signal	T											R
A/C compressor feedback signal	T						R					T
Blower fan motor switch signal	R					T						
A/C control signal				T	T		R					
				R	R		T					
Cooling fan speed request signal	T											R
Position lights request signal						T	R					R
Low beam request signal						T						R
Low beam status signal	R											T
High beam request signal						T	R					R
High beam status signal	R											T
Front fog lights request signal						T						R
Vehicle speed signal		R					R			R	T	
	R		R		R	R	T		R			
Sleep request 1 signal						T	R					
Sleep request 2 signal						T						R

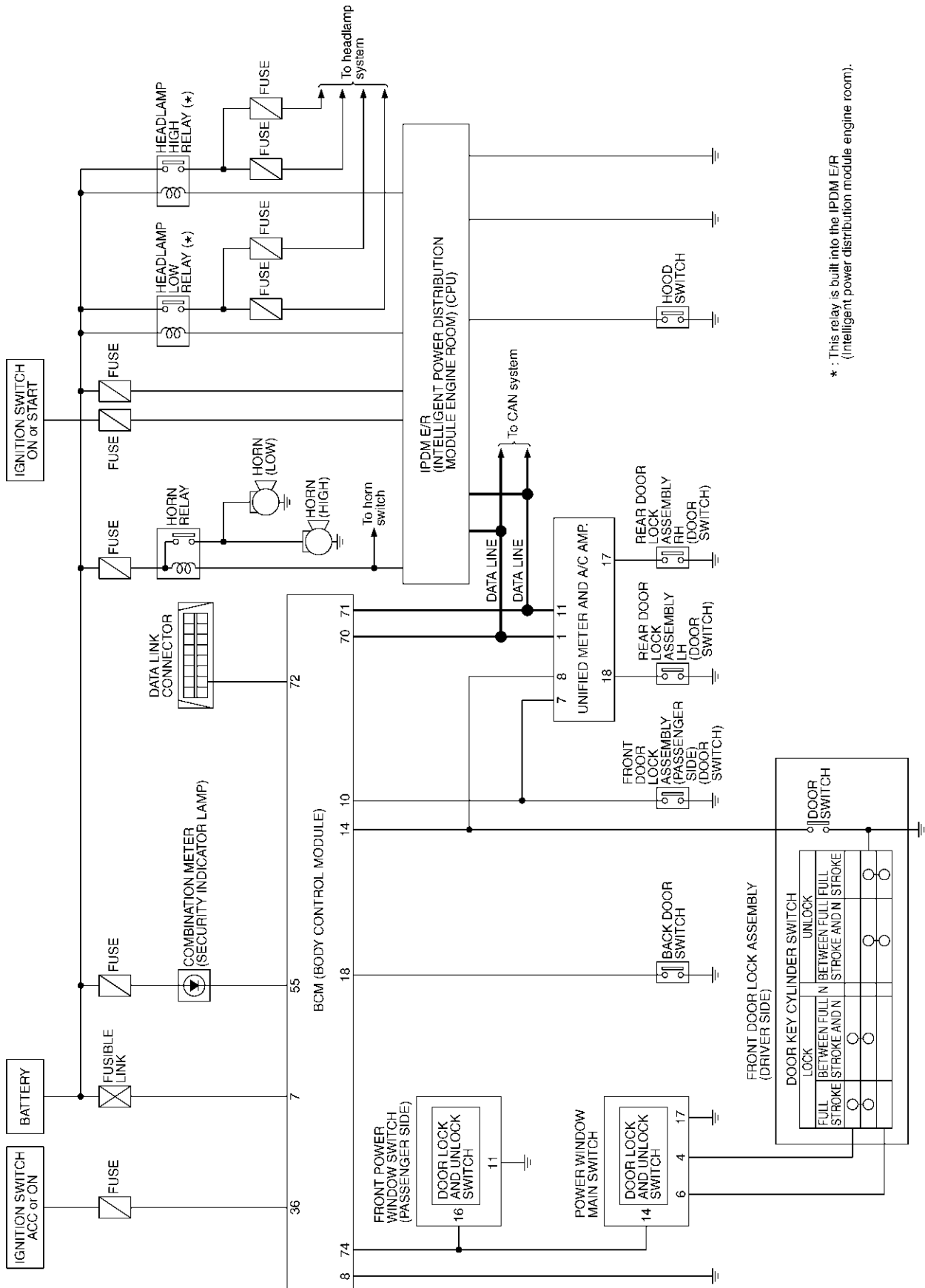
## VEHICLE SECURITY (THEFT WARNING) SYSTEM

Signals	ECM	TCM	Low tire pressure warning control unit	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Steering angle sensor	Driver seat control unit	AWD control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Door switch signal						R	T					
Turn indicator signal				R	R	T	R		R			R
Key fob ID signal						T			R			
Key fob door unlock signal						T			R			
Seat belt buckle switch signal						R	T					
Oil pressure switch signal						R						T
Buzzer output signal						T	R					
Fuel level sensor signal	R						T					
Fuel level low warning signal				R	R		T					
Malfunction indicator signal	T						R					
ASCD SET lamp signal	T						R					
ASCD CRUISE lamp signal	T						R					
Front wiper request signal						T						R
Front wiper stop position signal						R						T
Rear window defogger switch signal						T						R
Rear window defogger control signal	R			R	R							T
Hood switch signal						R						T
Theft warning horn request signal						T						R
Horn chirp signal						T						R
Steering angle sensor signal								T			R	
Tire pressure signal			T				R					
Tire pressure data signal			T	R	R							
CVT position indicator signal		T					R				R	
ABS warning lamp signal							R				T	
VDC OFF indicator lamp signal							R				T	
SLIP indicator lamp signal							R				T	
Brake warning lamp signal							R				T	
System setting signal				T	T				R			
AWD warning lamp signal							R			T		
AWD lock indicator lamp signal							R			T		
AWD lock switch signal							T			R		
Parking brake switch signal						R	T			R		

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Schematic

AIS001VR



\* : This relay is built into the IPDM E/R (Intelligent power distribution module engine room).

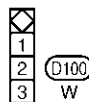
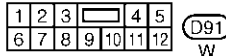
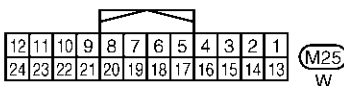
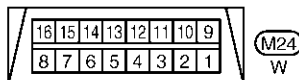
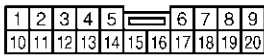
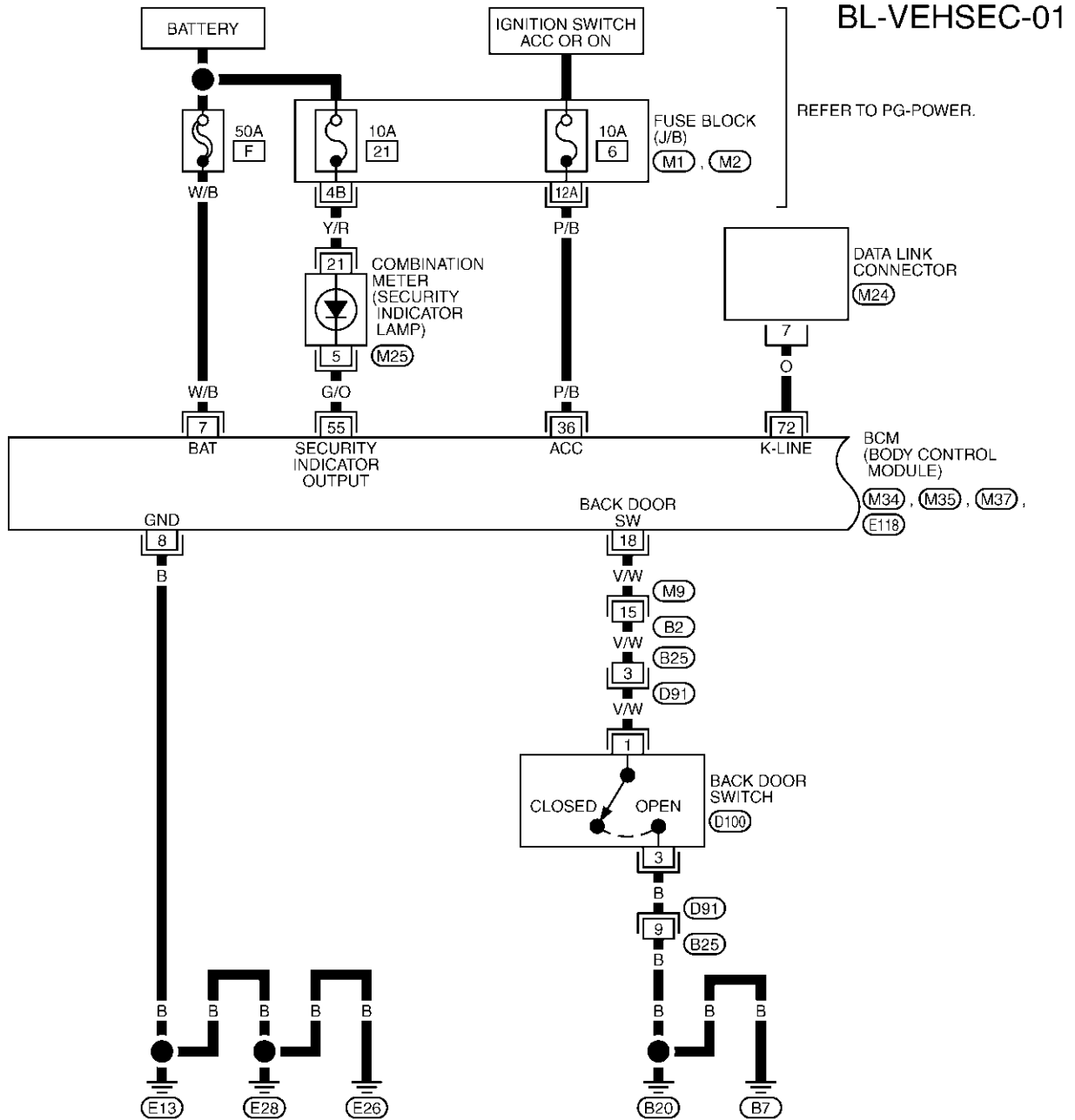
A  
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BL

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

AIS001VS

**Wiring Diagram -VEHSEC-**  
**FIG. 1**



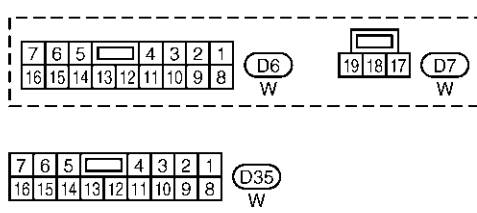
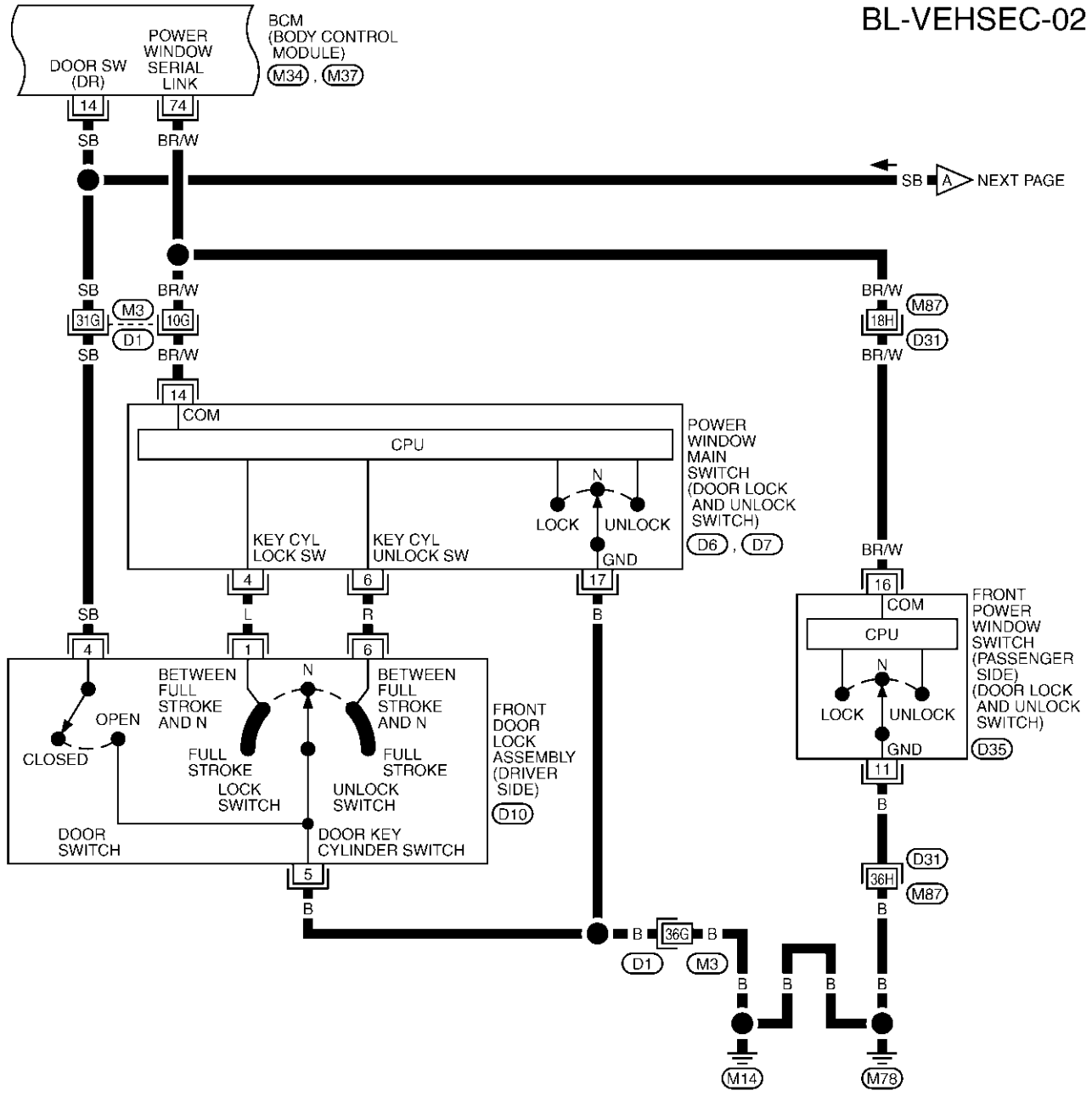
REFER TO THE FOLLOWING.  
 (M1), (M2) - FUSE BLOCK-JUNCTION BOX (J/B)  
 (M34), (M35), (M37), (E118) - ELECTRICAL UNITS

TIWA0278E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

FIG. 2

BL-VEHSEC-02



REFER TO THE FOLLOWING.  
 (D1), (D31) - SUPER MULTIPLE JUNCTION (SMJ)  
 (M34), (M37) - ELECTRICAL UNITS

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

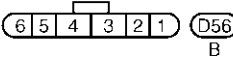
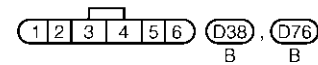
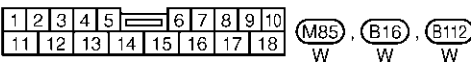
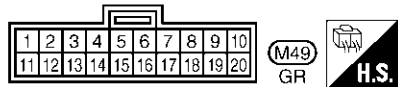
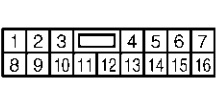
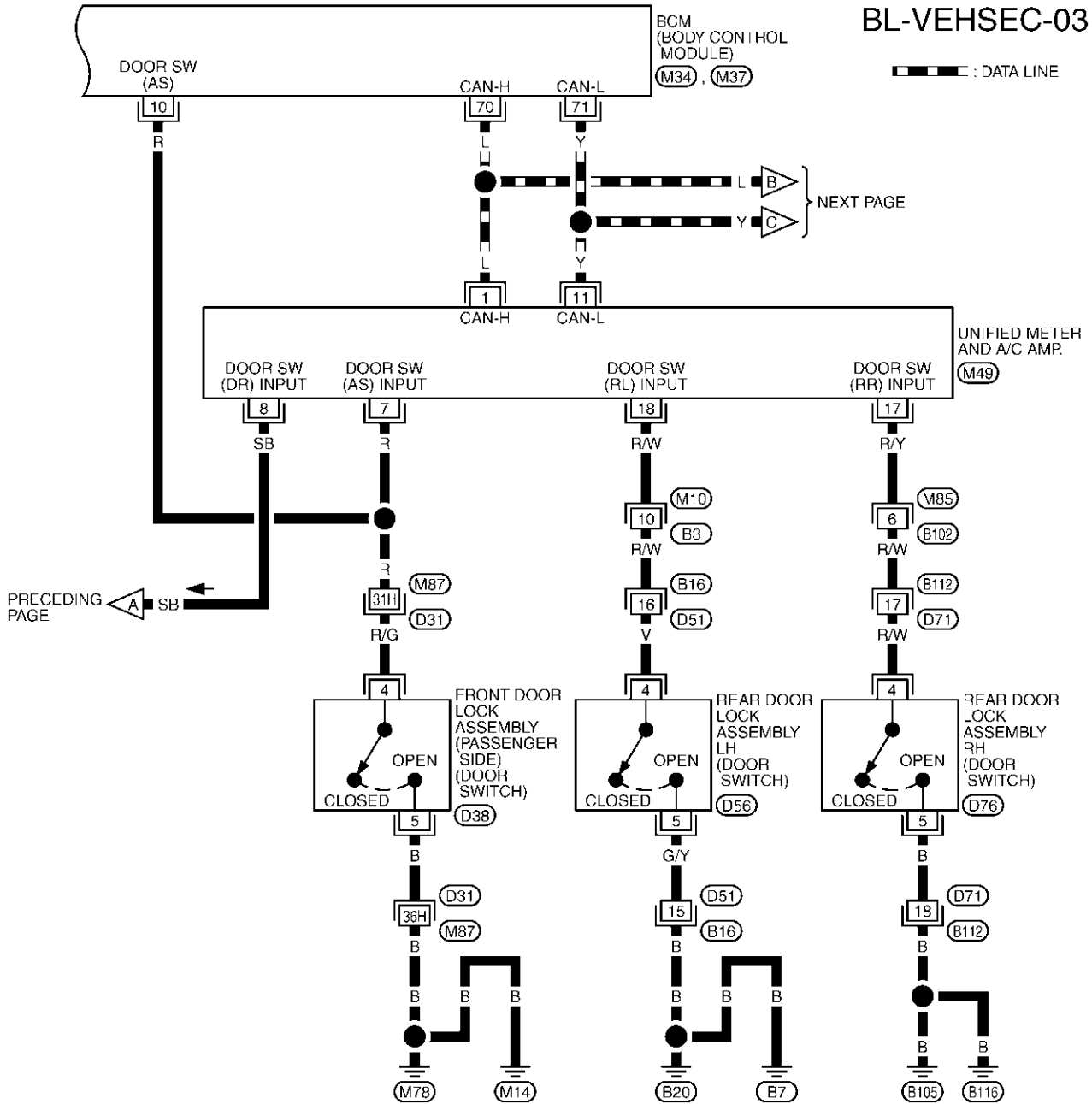
BL

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

FIG. 3

BL-VEHSEC-03

▬ : DATA LINE



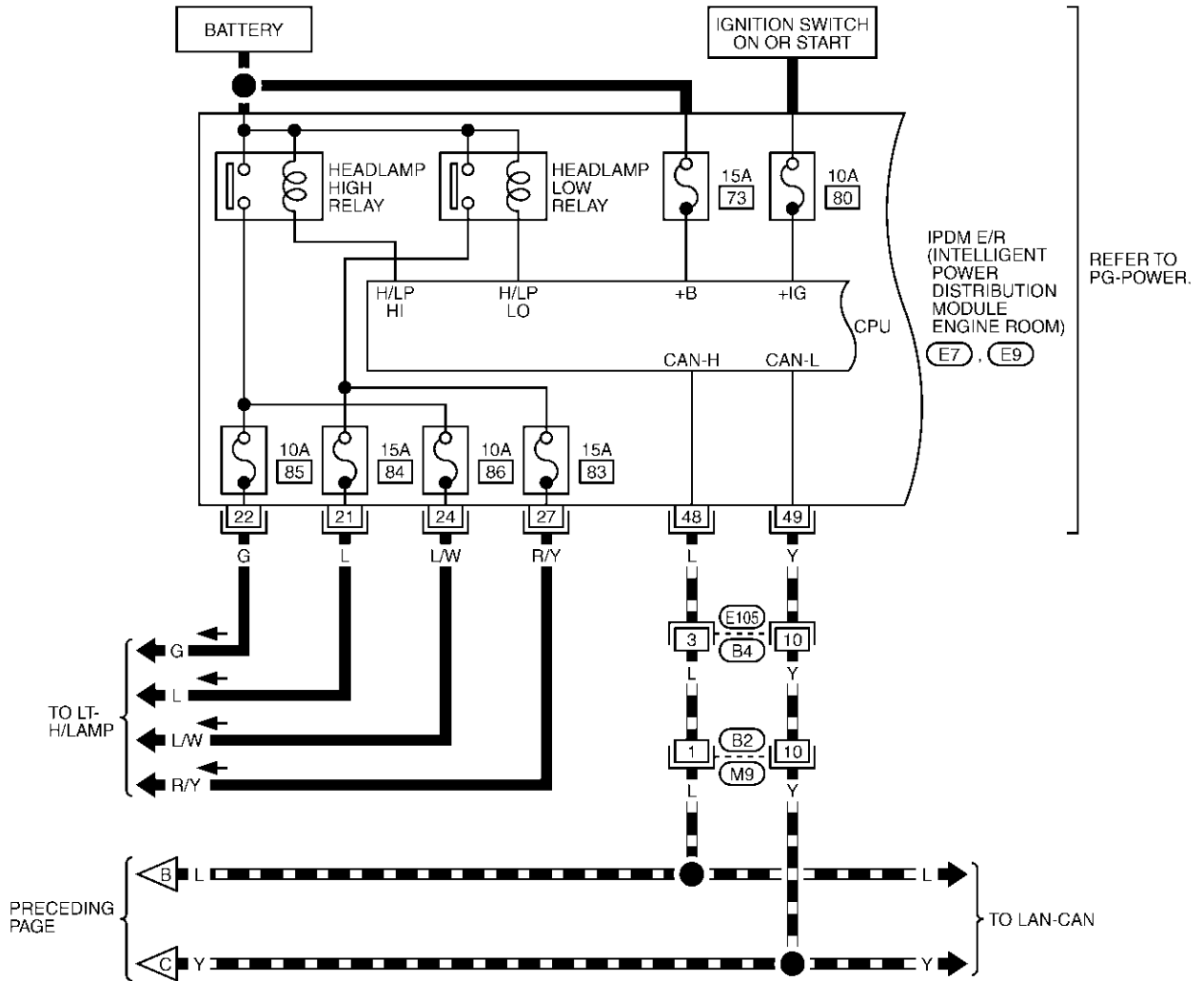
REFER TO THE FOLLOWING.  
 (D31) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M34), (M37) -ELECTRICAL UNITS

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

FIG. 4

BL-VEHSEC-04

▬ : DATA LINE



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

M9  
W

21	20	19	18	17		
28	27	26	25	24	23	22

E7  
W

49	48	47	46	45		
56	55	54	53	52	51	50

E9  
W



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

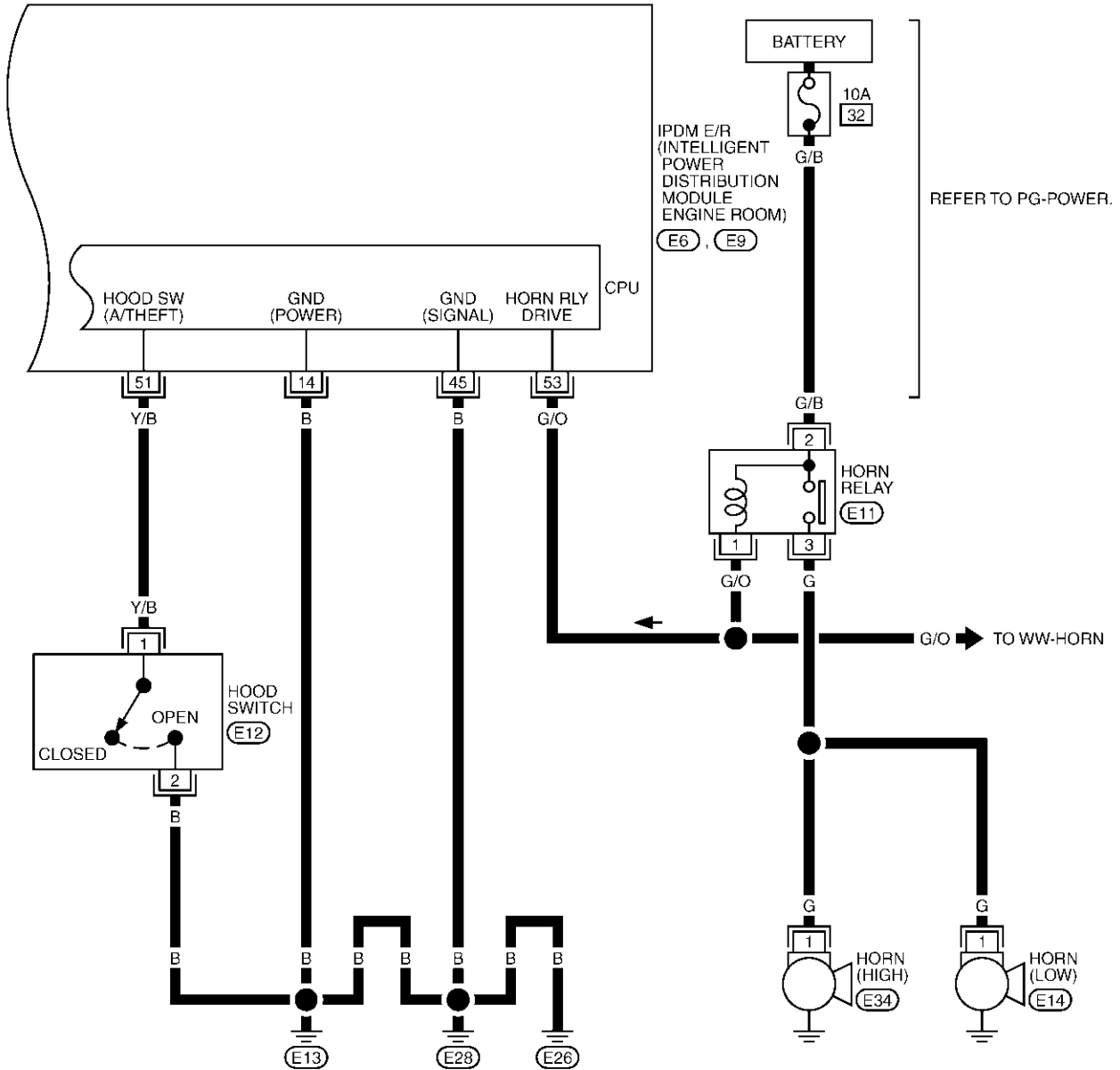
E105  
W

TWA0281E

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

FIG. 5

BL-VEHSEC-05



REFER TO PG-POWER.



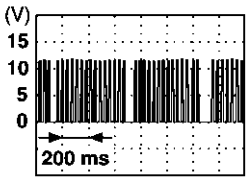
TIWA0282E



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Terminals and Reference Value for BCM

AIS001VT

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE
7	W/B	Power source (Fusible link)	—	Battery voltage
8	B	Ground	—	0V
10	R	Passenger door switch	ON (Open) → OFF (Closed)	0V → Battery voltage
14	SB	Driver door switch	ON (Open) → OFF (Closed)	0V → Battery voltage
18	V/W	Back door switch	ON (Open) → OFF (Closed)	0V → Battery voltage
36	P/B	ACC power supply (ACC or ON)	Ignition switch (ACC position)	Battery voltage
55	G/O	Combination meter (security indicator lamp)	Goes off → Illuminates	Battery voltage → 0V
70	L	CAN-H	—	—
71	Y	CAN-L	—	—
72	O	Data link connector	—	—
74	BR/W	Power window switch (Serial link)	Ignition switch is ON or power window retained power operation is activated.	 <p style="text-align: right; font-size: small;">PIIA2344J</p>

\*: Without navigation system.

## Terminals and Reference Value for IPDM E/R

AIS001VU

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE
14	B	Ground	—	0V
45	B	Ground	—	0V
48	L	CAN-H	—	—
49	Y	CAN-L	—	—
51	Y/B	Hood switch	ON (Open) → OFF (closed)	0V → Battery voltage
53	G/O	Horn relay	ON → OFF	0V → Battery voltage

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

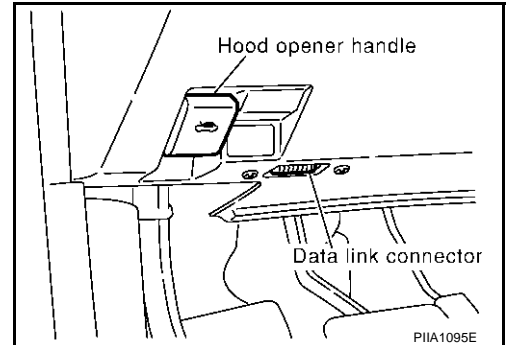
AIS001VV

## CONSULT-II Function CONSULT-II INSPECTION PROCEDURE

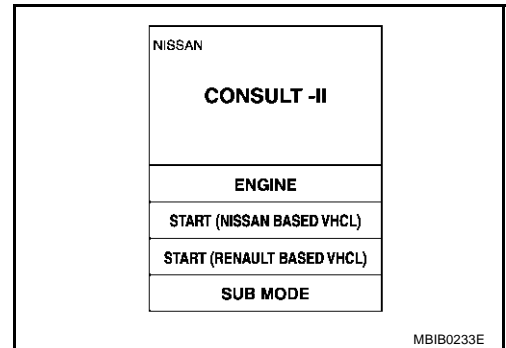
### CAUTION:

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

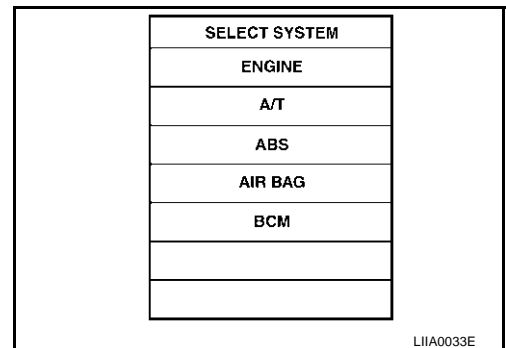
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to data link connector.



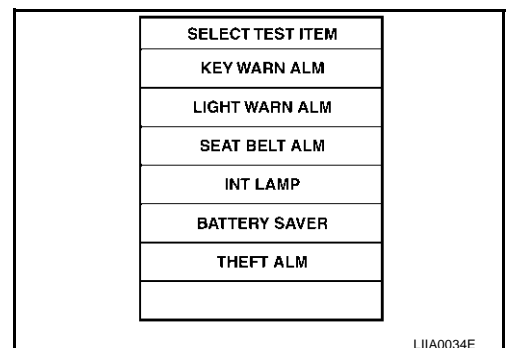
3. Turn ignition switch ON.
4. Touch "START" (NISSAN BASED VHCL).



5. Touch "BCM".  
If "BCM" is not indicated, go to [GI-38, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



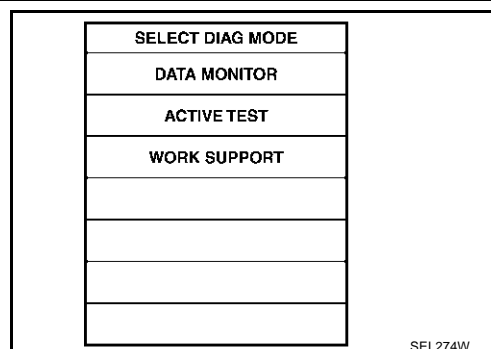
6. Touch "THEFT ALM".



7. Select diagnosis mode.

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

“DATA MONITOR”, “ACTIVE TEST” AND “WORK SUPPORT”



## CONSULT-II APPLICATION ITEM

### Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY CYL LK SW	Indicates [ON/OFF] condition of lock signal from key cylinder switch.
KEY CYL UN SW	Indicates [ON/OFF] condition of unlock signal from key cylinder switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switches.
TRUNK OPNR SW	This is displayed even when it is not equipped.
TRUNK OPN MNTR	This is displayed even when it is not equipped.
HOOD SW	Indicates [ON/OFF] condition of hood switch.
LOCK SW DR/AS	Indicates [ON/OFF] condition of lock signal from door lock/unlock switch LH and RH.
UNLK SW DR/AS	Indicates [ON/OFF] condition of unlock signal from door lock/unlock switch LH and RH.
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from key fob.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from key fob.
TRUNK BTN/SIG	This is displayed even when it is not equipped.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.

### 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.
HEADLAMP	This test is able to check vehicle security lamp operation. The headlamps will be activated for 0.5 seconds after “ON” on CONSULT-II screen is touched.
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.

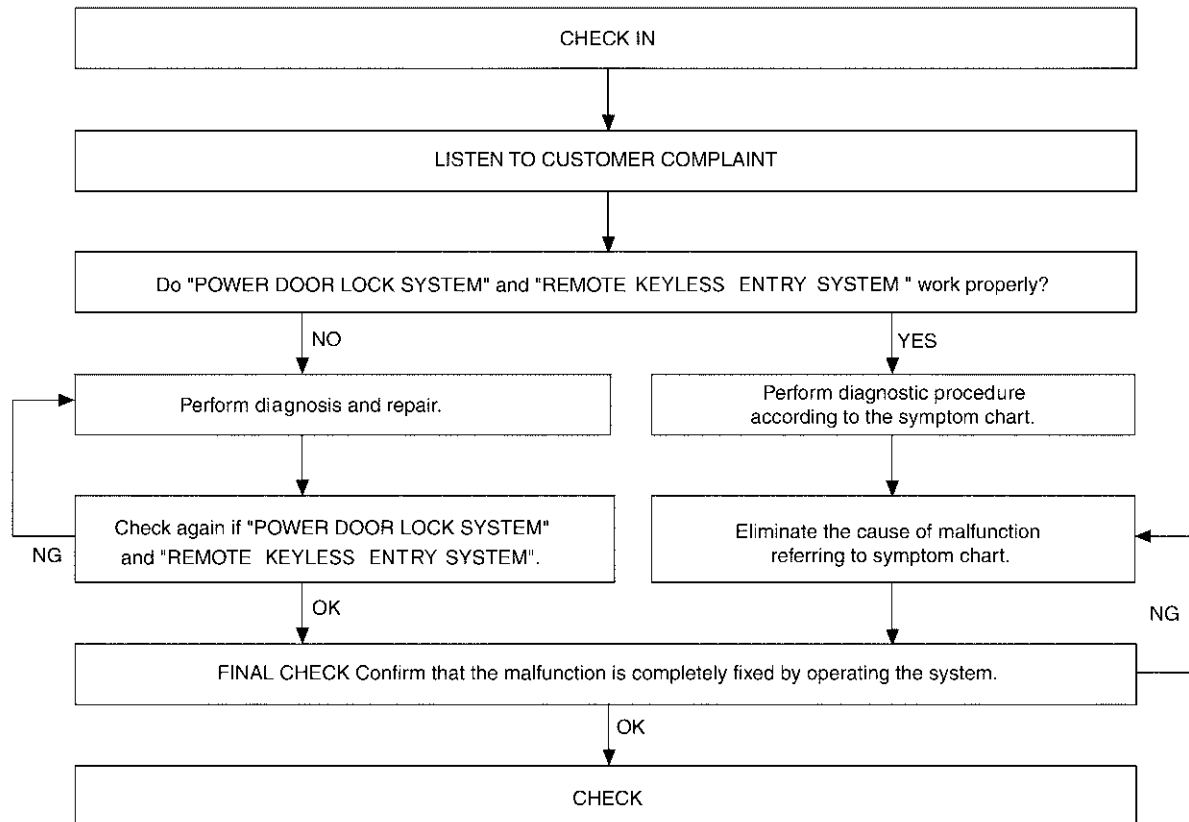
### Work Support

Test Item	Description
SECURITY ALARM SET	This mode is able to confirm and change 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.

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Trouble Diagnosis WORK FLOW

AIS001VW



LIA0123E

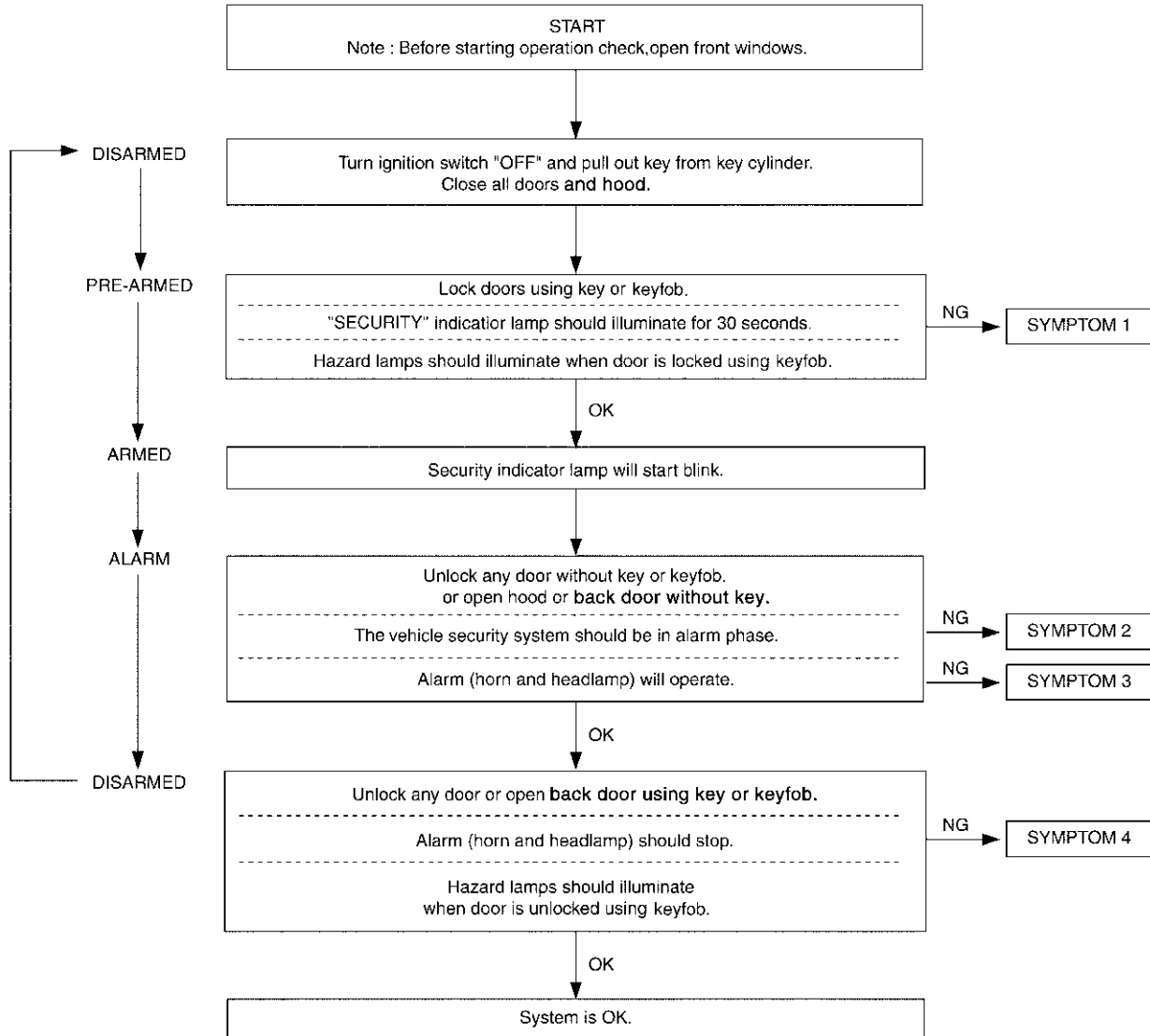
- "POWER DOOR LOCK SYSTEM" Diagnosis; refer to [BL-56, "Work Flow"](#) .
- "REMOTE CONTROL SYSTEM" Diagnosis; refer to [BL-111, "Work Flow"](#) .

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

AIS001VX

## 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.



PIIA2494E

After performing preliminary check, go to symptom chart. Refer to [BL-178, "Symptom Chart"](#).

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Symptom Chart

AIS001VY

PROCEDURE		Diagnostic procedure	Reference page
SYMPTOM			
1	Vehicle security system cannot be set by ....	Door switch	Diagnostic Procedure 1 (Check door, hood and back door switch) <a href="#">BL-179</a>
		Lock/unlock switch	Diagnostic Procedure 6 (Check door lock/unlock switch) <a href="#">BL-186</a>
		Door outside key	Diagnostic Procedure 3 (Check door key cylinder switch) <a href="#">BL-186</a>
		Key fob	Check remote keyless entry. <a href="#">BL-111</a>
		—	If the above systems are "OK", replace BCM. <a href="#">BCS-36</a>
Security indicator does not turn "ON".		Diagnostic Procedure 2 (Check security indicator lamp) <a href="#">BL-185</a>	<a href="#">BL-185</a>
		If the above systems are "OK", replace BCM. <a href="#">BCS-36</a>	<a href="#">BCS-36</a>
2	*1 Vehicle security system does not alarm when ....	Any door is opened.	Diagnostic Procedure 1 (Check door, hood and back door switch) <a href="#">BL-179</a>
			If the above systems are "OK", replace BCM. <a href="#">BCS-36</a>
3	Vehicle security alarm does not activate.	Horn alarm	Diagnostic Procedure 4 (Check vehicle security horn alarm) <a href="#">BL-186</a>
			Check horn function. <a href="#">WW-73</a>
		Headlamp alarm	If the above systems are "OK", replace BCM. <a href="#">BCS-36</a>
			Diagnostic Procedure 5 (Check vehicle security headlamp alarm) <a href="#">BL-186</a>
		If the above systems are "OK", replace BCM. <a href="#">BCS-36</a>	<a href="#">BCS-36</a>
4	Vehicle security system cannot be canceled by ....	Door outside key	Diagnostic Procedure 3 (Check door key cylinder switch) <a href="#">BL-186</a>
			If the above systems are "OK", check power window main switch. <a href="#">GW-30</a>
		Key fob	Check remote keyless entry function. <a href="#">BL-111</a>
			If the above systems are "OK", replace BCM. <a href="#">BCS-36</a>

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

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

AIS001VZ

## Diagnostic Procedure 1 1 – 1 DOOR SWITCH CHECK

First perform the "SELF-DIAG RESULTS" in "BCM" with CONSULT-II, when perform the each trouble diagnosis. Refer to [SE-66, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#).

### 1. CHECK DOOR SWITCH INPUT SIGNAL

#### Ⓜ With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS" and "DOOR SW-RR") in "DATA MONITOR" mode with CONSULT-II.

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

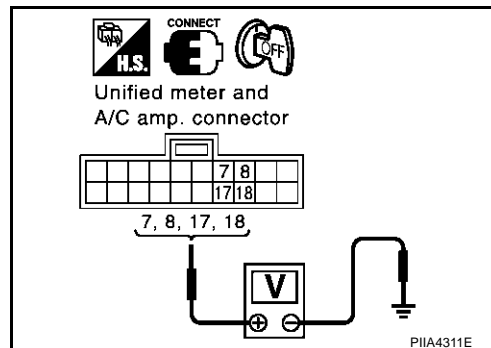
DATA MONITOR	
MONITOR	
DOOR SW - DR	OFF
DOOR SW - AS	OFF
DOOR SW - RR	OFF

LIIA0035E

#### ⊗ Without CONSULT-II

Check voltage between unified meter and A/C amp. connector M49 terminals 8 (SB), 7 (R), 18 (R/W), 17 (R/W) and ground.

	Terminals		Condition	Voltage (V)
	(+)	(-)		
Front door switch driver side	8 (SB)	Ground	OPEN	0
			CLOSE	Approx. 12
Front door switch passenger side	7 (R)		OPEN	0
			CLOSE	Approx. 12
Rear door switch LH	18 (R/W)		OPEN	0
			CLOSE	Approx. 12
Rear door switch RH	17 (R/W)	OPEN	0	
		CLOSE	Approx. 12	



#### OK or NG

OK >> Door switch circuit is OK.

NG >> GO TO 2

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

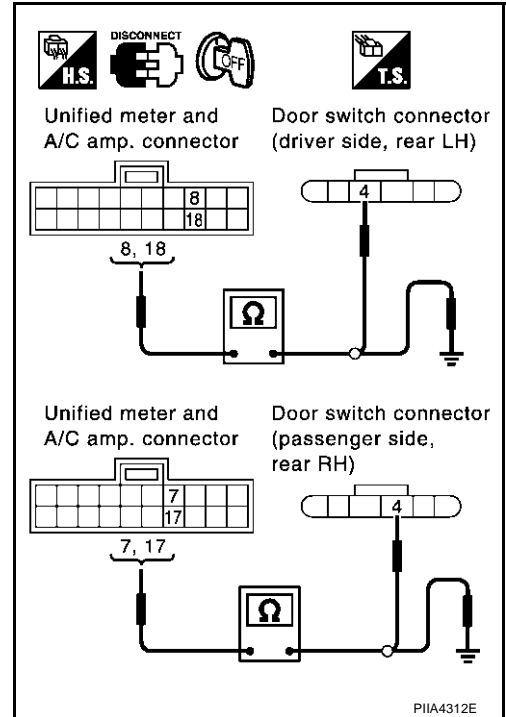
## 2. CHECK DOOR SWITCH

1. Turn ignition switch OFF.
2. Disconnect door switch and unified meter and A/C amp. connectors.
3. Check continuity between door switch connectors D10, D38, D56, D76 terminals 4 (SB, R/G, V, R/W) and unified meter and A/C amp. connector M49 terminals 8 (SB), 7 (R), 18 (R/W), 17 (R/Y).

Front door switch driver side	4 (SB) – 8 (SB)	Continuity should exist.
Front door switch passenger side	4 (R/G) – 7 (R)	
Rear door switch LH	4 (V) – 18 (R/W)	
Rear door switch RH	4 (R/W) – 17 (R/Y)	

4. Check continuity between unified meter and A/C amp. connectors M49 terminals 8 (SB), 7 (R), 18 (R/W), 17 (R/W) and ground.

Front door switch driver side	8 (SB) – Ground	Continuity should not exist.
Front door switch passenger side	7 (R) – Ground	
Rear door switch LH	18 (R/W) – Ground	
Rear door switch RH	17 (R/Y) – Ground	



### OK or NG

- OK >> GO TO 3.
- NG >> Repair or replace harness.

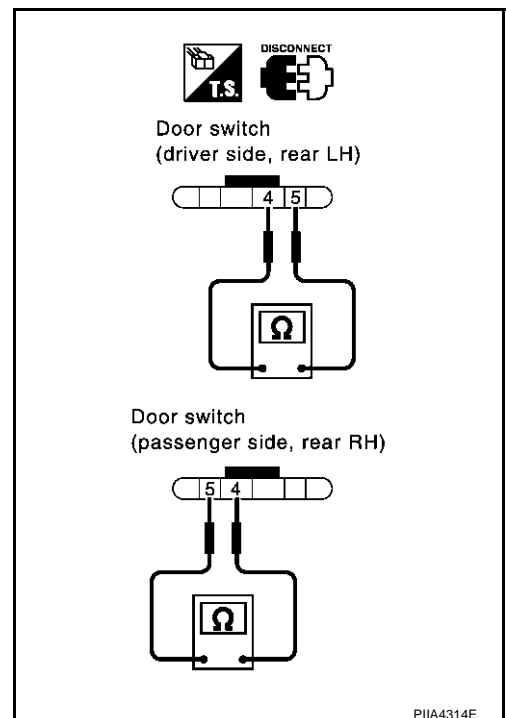
## 3. CHECK DOOR SWITCH

Check continuity between door switch connectors D10, D38, D56, D76 terminals 4 and 5.

Terminal	Door switch condition	Continuity
4 - 5	Open position	Yes
	Closed position	No

### OK or NG

- OK >> GO TO 4.
- NG >> Replace door switch.





# VEHICLE SECURITY (THEFT WARNING) SYSTEM

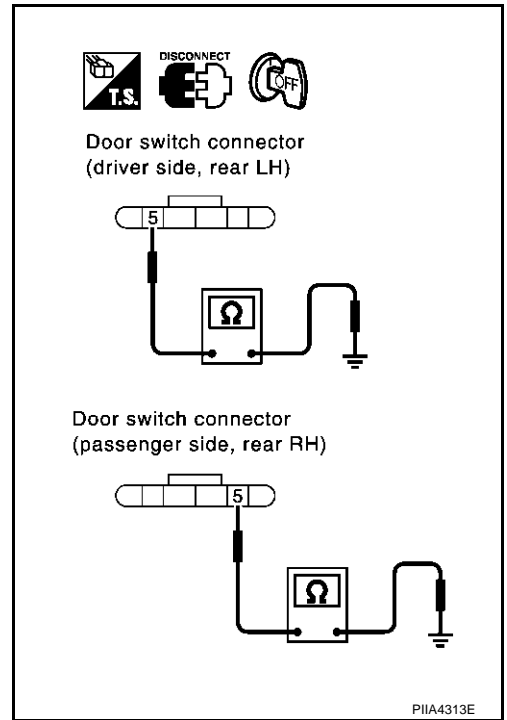
## 4. CHECK DOOR SWITCH GROUND HARNESS

Check continuity between door switch connectors D10, D38, D56, D76 terminal 5 (B or G/Y) and ground.

**5 (B or G/Y) - Ground : Continuity should exist.**

OK or NG

- OK >> Door switch circuit is OK.
- NG >> Repair or replace harness.



A  
B  
C  
D  
E  
F  
G  
H

BL

J  
K  
L  
M

# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## 1 – 2 HOOD SWITCH CHECK

First perform the “SELF-DIAG RESULTS” in “BCM” with CONSULT-II, when performing the each trouble diagnosis. Refer to [SE-66, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#) .

### 1. CHECK HOOD SWITCH

Check hood switch and hood fitting condition.

OK or NG

OK >> GO TO 2.

NG >> Adjust installation of hood switch.

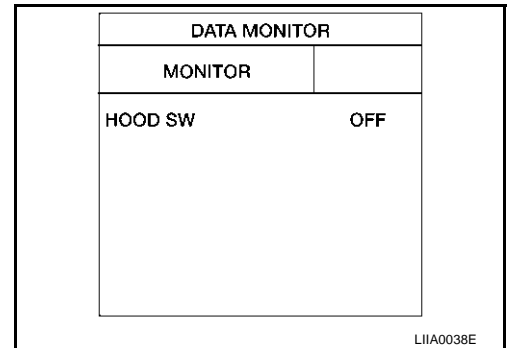
### 2. CHECK HOOD SWITCH INPUT SIGNAL

#### Ⓟ With CONSULT-II

- Check “HOOD SW” in “DATA MONITOR” mode with CONSULT-II.

When hood is open : HOOD SW ON

When hood is closed : HOOD SW OFF



#### ⊗ Without CONSULT-II

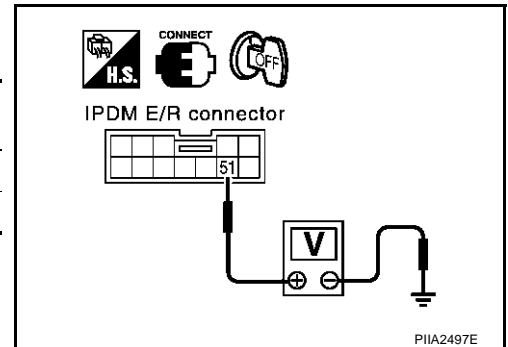
- Check voltage between IPDM E/R harness connector E9 terminal 51 (Y/B) and ground.

Connector	Terminals (Wire color)	Condition	Voltage (V)
E9	51 (Y/B) – Ground	Closed	Approx. 12
		Open	0

OK or NG

OK >> Hood switch is OK.

NG >> GO TO 3.



### 3. CHECK HOOD SWITCH

1. Disconnect hood switch connector.
2. Check continuity between hood switch connector E12 terminals 1 and 2.

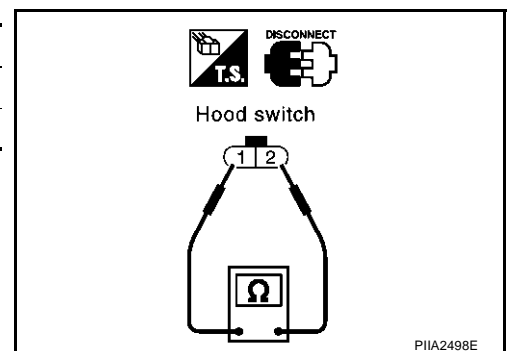
Connector	Terminals	Condition	Continuity
E12	1 – 2	Pressed	No
		Released	Yes

OK or NG

OK >> Check the following.

- Hood switch ground circuit
- Harness for open or short between hood switch and IPDM E/R

NG >> Replace hood switch.



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

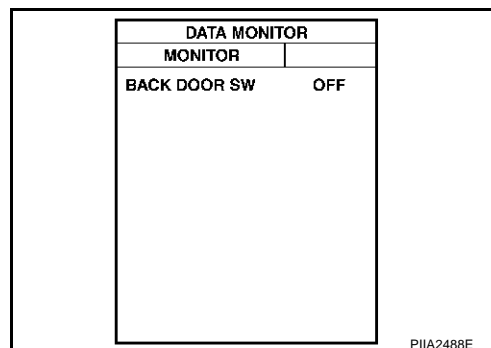
## 1 – 3 BACK DOOR SWITCH CHECK

### 1. CHECK BACK DOOR SWITCH INPUT SIGNAL

#### ④ With CONSULT-II

Check back door switch (“BACK DOOR SW”) in “DATA MONITOR” mode with CONSULT-II.

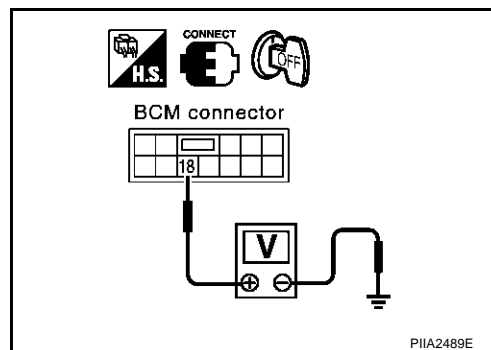
Monitor item	Condition
BACK DOOR SW	OPEN : ON
	CLOSE : OFF



#### ⊗ Without CONSULT-II

Check voltage between BCM connector and ground.

Item	Terminals (Wire color)		Condition	Voltage (V)
	(+)	(-)		
Back door switch	M34	18 (V/W)	Ground	OPEN : 0
			CLOSE : Approx. 12	



#### OK or NG

- OK >> Back door switch circuit is OK.
- NG >> GO TO 2.

### 2. CHECK BACK DOOR SWITCH HARNESS

#### NOTE:

There is diode in the back door circuit.

1. Turn ignition switch OFF.
2. Disconnect BCM and back door switch connectors.
3. Check continuity between BCM connector M34 terminal 18 (V/W) and back door switch connector D100 terminal 1 (V/W).

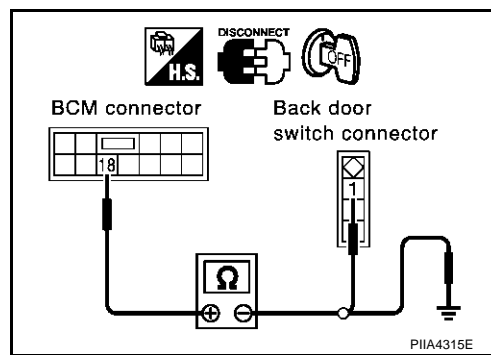
Terminal		Continuity
(+)	(-)	
18 (V/W)	1 (V/W)	Yes

4. Check continuity between BCM connector M34 terminal 18 (V/W) and ground.

Terminal		Continuity
(+)	(-)	
18 (V/W)	Ground	No

#### OK or NG

- OK >> GO TO 3
- NG >> Check the diode. If the diode is OK, repair or replace harness.



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## 3. CHECK BACK DOOR SWITCH

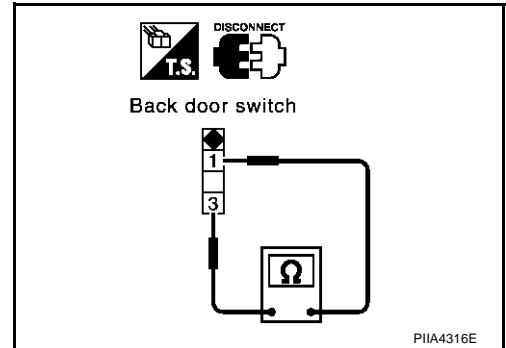
Check continuity between door switch terminals 1 and 3.

Terminal	Back door switch condition	Continuity
1 - 3	Open position	Yes
	Closed position	No

OK or NG

OK >> GO TO 4.

NG >> Replace back door switch.



## 4. CHECK BACK DOOR SWITCH GROUND HARNESS

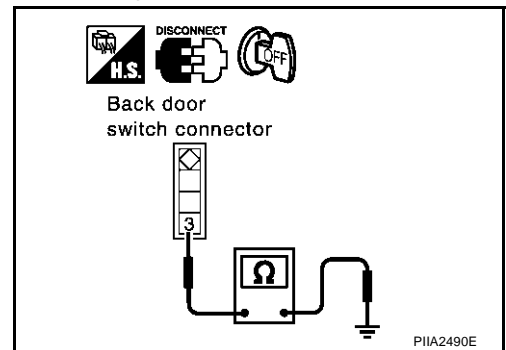
Check continuity between back door switch connector D100 terminal 3 (B) and ground.

**3 (B) - Ground : Continuity should exist.**

OK or NG

OK >> Back door switch circuit is OK.

NG >> Repair or replace harness.



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Diagnostic Procedure 2 SECURITY INDICATOR LAMP CHECK

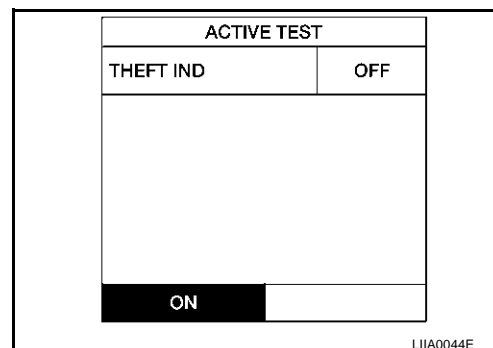
AIS001W0

### 1. SECURITY INDICATOR LAMP ACTIVE TEST

#### ④ With CONSULT-II

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

**Perform operation shown on display indicator lamp should illuminate.**



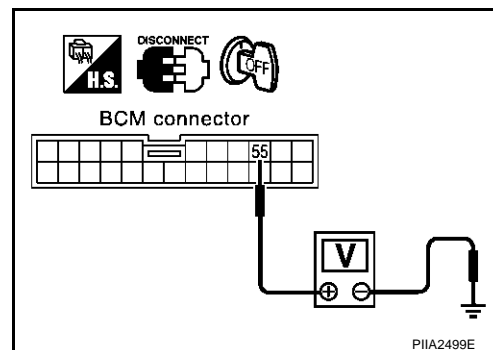
#### ⊗ Without CONSULT-II

1. Disconnect BCM harness connector M37.
2. Check voltage between BCM harness connector M37 terminal 55 (G/O) and ground.

**Battery voltage should exist.**

OK or NG

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



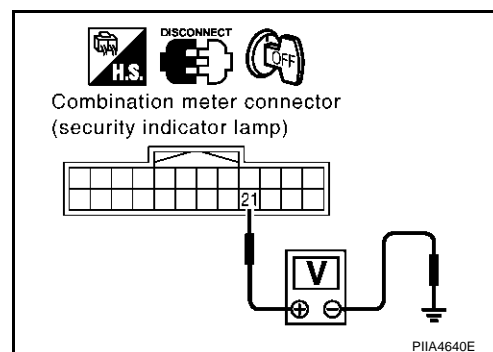
### 2. CHECK POWER SUPPLY CIRCUIT FOR SECURITY INDICATOR LAMP

1. Disconnect security indicator lamp connector.
2. Check voltage between combination meter (security indicator lamp) connector M25 terminal 21 (Y/R) and ground.

**Battery voltage should exist.**

OK or NG

- OK >> Check the following.
- Harness for open or short between combination meter (security indicator lamp) and BCM.
  - Indicator lamp condition
- NG >> Check the following.
- 10A fuse [No. 21, located in fuse block (J/B)]
  - Harness for open or short between security indicator lamp and fuse



# VEHICLE SECURITY (THEFT WARNING) SYSTEM

## Diagnostic Procedure 3 DOOR KEY CYLINDER SWITCH CHECK

AIS001W1

### 1. CHECK DOOR KEY CYLINDER SWITCH DRIVER SIDE OPERATION

Do doors lock/unlock when using the key?

OK or NG

OK >> Door key cylinder switch operation is OK.

NG >> Check door key cylinder switch circuit. Refer to [BL-71, "Check Door Key Cylinder Switch \(Lock\)"](#) or [BL-72, "Check Door Key Cylinder Switch \(Unlock\)"](#) .

## Diagnostic Procedure 4 VEHICLE SECURITY HORN ALARM CHECK

AIS001W2

First perform the "SELF-DIAG RESULTS" in "BCM" with CONSULT-II, when perform the each trouble diagnosis. Refer to [SE-66, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#) .

### 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-73, "HORN"](#) .

## Diagnostic Procedure 5 VEHICLE SECURITY HEADLAMP ALARM CHECK

AIS001W3

### 1. CHECK HEADLAMP OPERATION

Does headlamp come on when turning lighting switch "ON"?

YES or NO

YES >> Headlamp alarm circuit is OK.

NO >> Check headlamp system. Refer to [LT-8, "HEADLAMP - XENON TYPE -"](#) or [LT-58, "HEADLAMP - CONVENTIONAL TYPE-"](#) .

## Diagnostic Procedure 6 DOOR LOCK AND UNLOCK SWITCH CHECK

AIS001W4

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

Do doors lock/unlock when using power window main switch (door lock and unlock switch) or power window switch (passenger side) (door lock and unlock switch)?

YES or NO?

YES >> Door lock and unlock switch is OK.

NO >> Refer to [BL-67, "Check Door Lock and Unlock Switch"](#) .

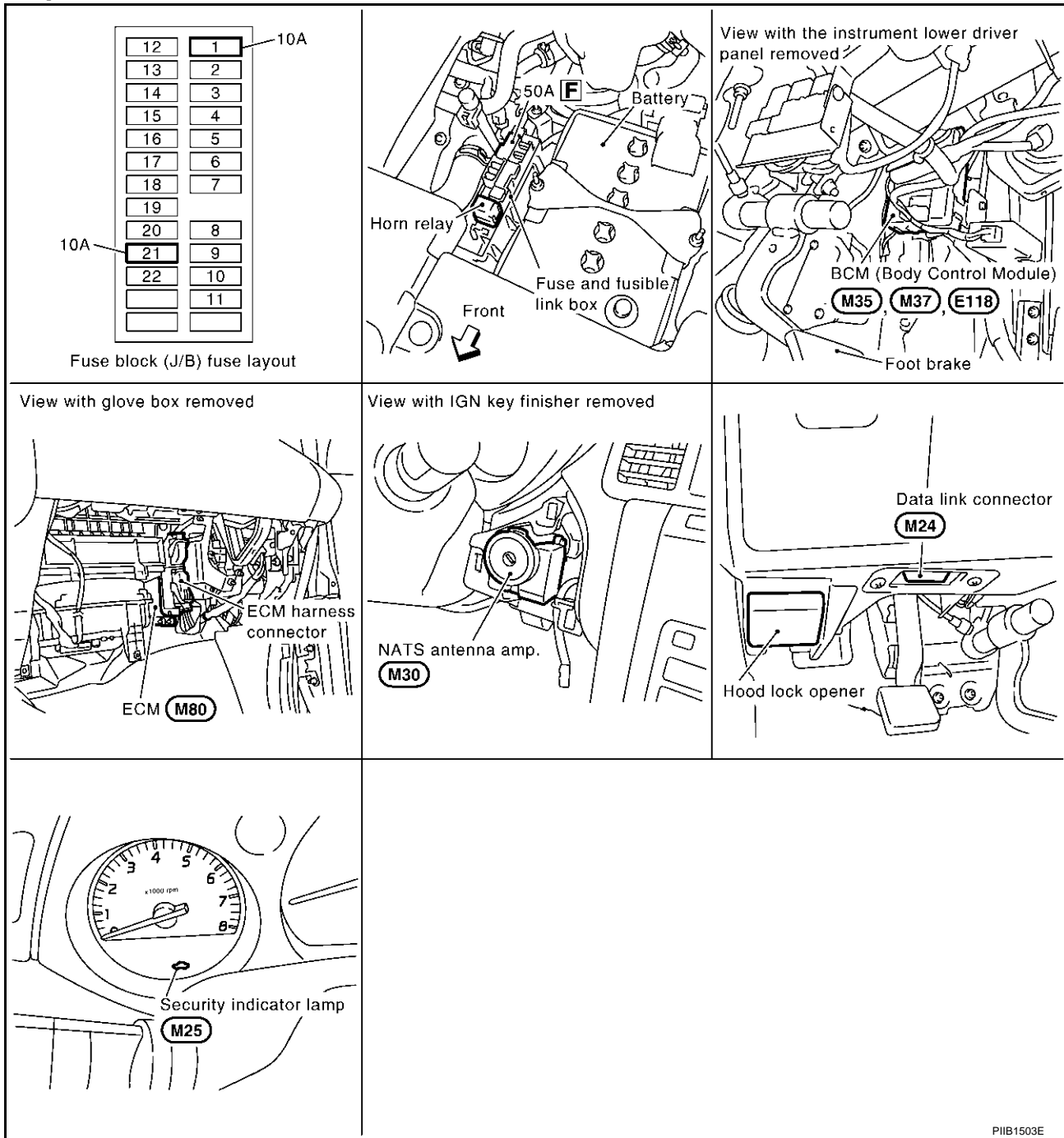
# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

## NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

PF25386

### Component Parts and Harness Connector Location

AIS002KQ



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

BL

**NOTE:**

If customer reports a "NO START" condition, request ALL KEYS to be brought to an NISSAN dealer in case of a NVIS (NATS) malfunction.

# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

## System Description

AIS002KR

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

- Since only NVIS (NATS) ignition keys, whose ID nos. 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).  
That is to say, 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. Therefore, 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 no., it may be necessary to re-register original key identification. Therefore, be sure to receive ALL KEYS from vehicle owner.**



# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

AIS002KS

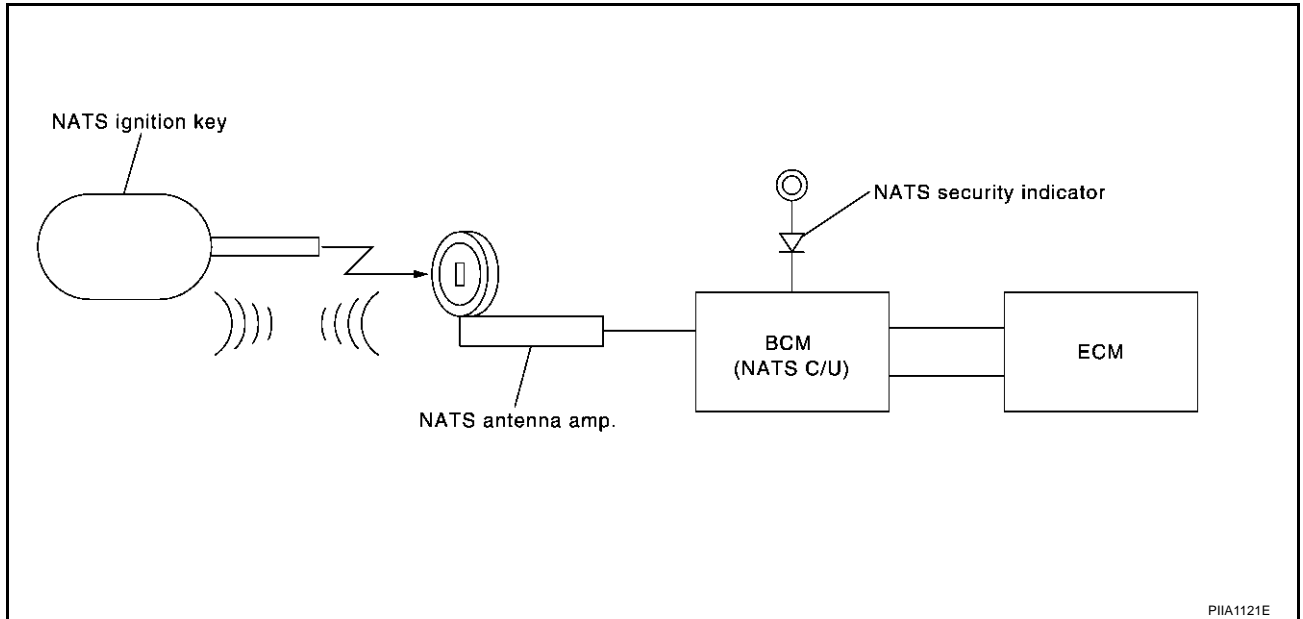
## System Composition

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.



## ECM Re-communicating Function

AIS002KT

Performing following procedure can automatically perform re-communication of ECM and BCM, but only when the ECM has been replaced with a new one (\*1).

\*1: New one means a virgin ECM 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 (\*2), turn ignition switch to "ON".
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.

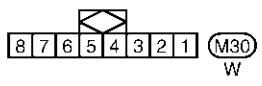
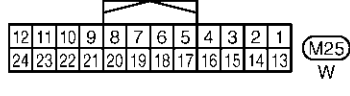
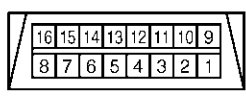
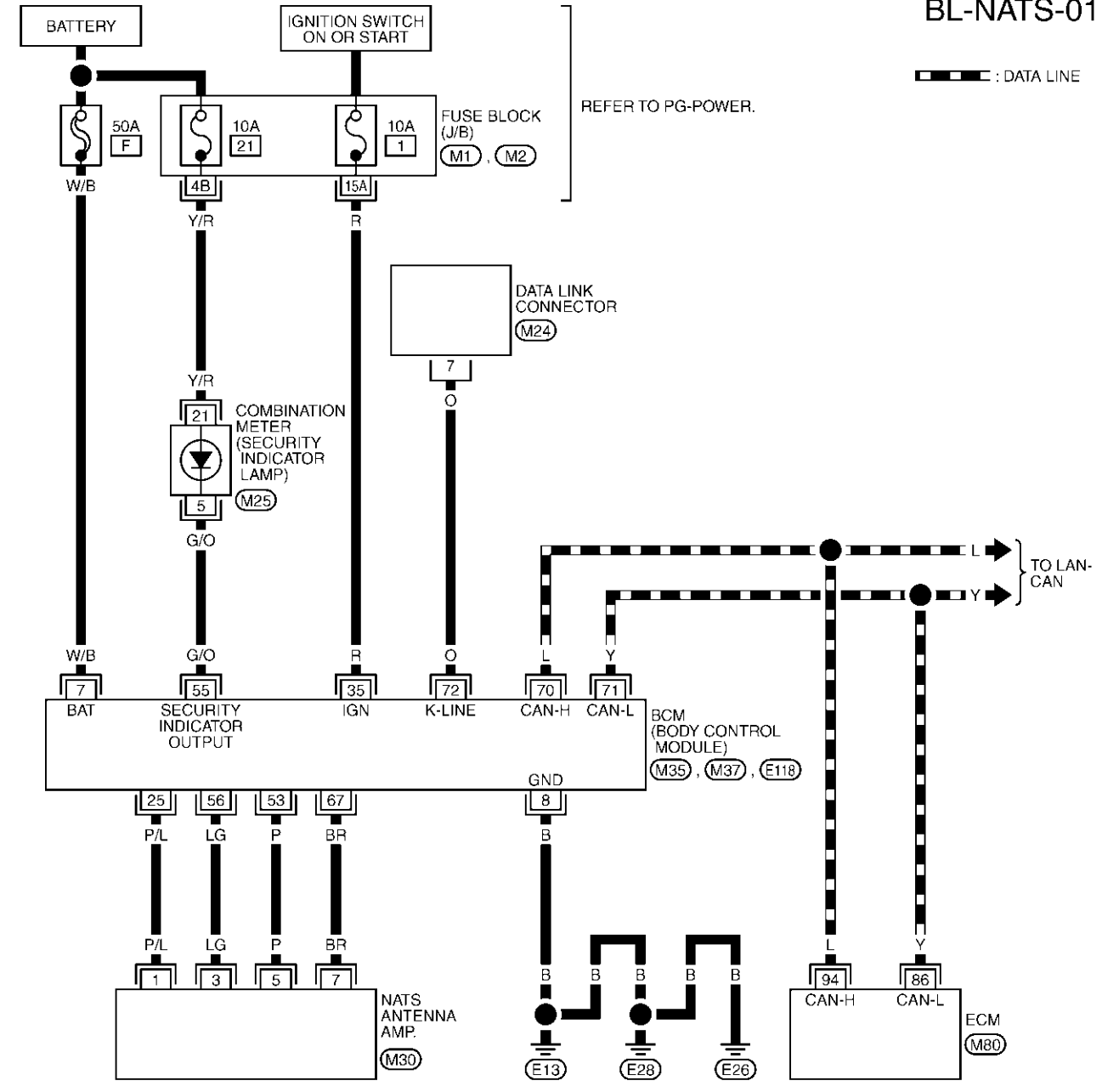
# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

AIS002KU

## Wiring Diagram — NATS —

BL-NATS-01

▬ : DATA LINE



REFER TO THE FOLLOWING.  
 (M1), (M2) - FUSE BLOCK-JUNCTION BOX  
 (M35), (M37), (M80), (E118) - ELECTRICAL UNITS

TIWA0283E

# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

## Terminals and Reference Value for BCM

AIS002KV

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE
7	W/B	Power source (Fusible link)	—	Battery voltage
8	B	Ground	—	0V
25	P/L	NATS antenna amp.	Ignition switch: OFF → ON	0V → 5V (for 3 seconds)
35	R	Ignition switch (ON or START)	Ignition switch (ON or START position)	Battery voltage
53	P	NATS antenna amp.	—	0V
55	G/O	Security indicator lamp	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
56	LG	NATS antenna amp.	Ignition switch (OFF → ON)	Just after turning ignition switch "ON": Pointer of tester should move.
67	BR	NATS antenna amp.	Ignition switch (OFF → ON)	Just after turning ignition switch "ON": Pointer of tester should move.
70	L	CAN-H	—	—
71	Y	CAN-L	—	—
72	O	Data link connector	—	—

## CONSULT-II

### CONSULT-II INSPECTION PROCEDURE

AIS002KW

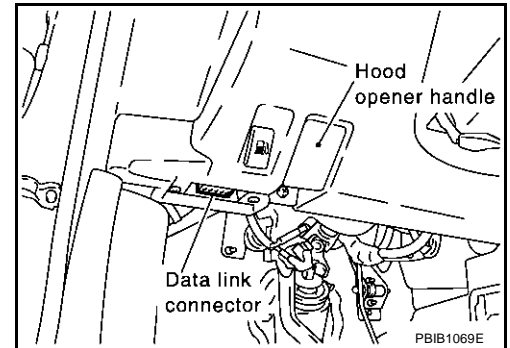
#### CAUTION:

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

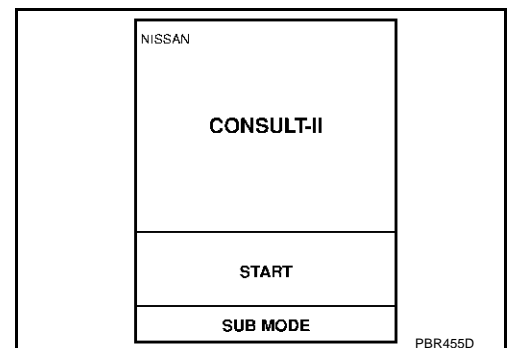
1. Turn ignition switch OFF.
2. Insert NVIS (NATS) program card into CONSULT-II.

**Program card : NATS (AEN02B)**

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

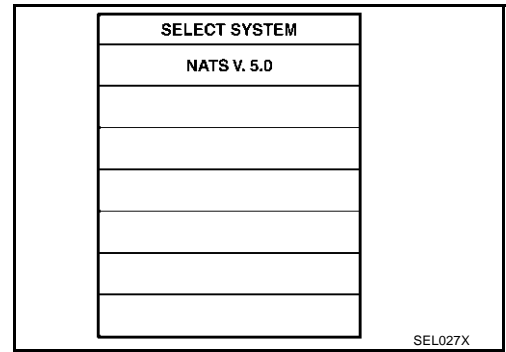


4. Turn ignition switch ON.
5. Touch "START".

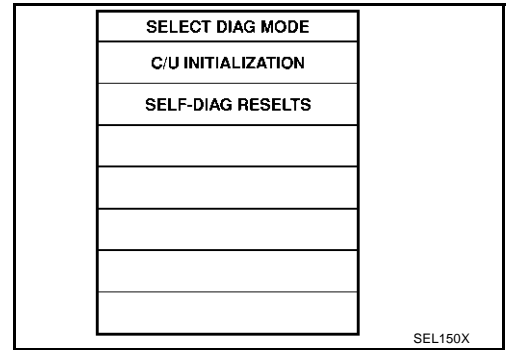


# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

6. Select "NATS V.5.0".  
If "NATS V5.0" is not indicated, go to [GI-38, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#) .



7. 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-193, "NVIS (NATS) SELF-DIAGNOSTIC RESULTS ITEM CHART"</a> .

### NOTE:

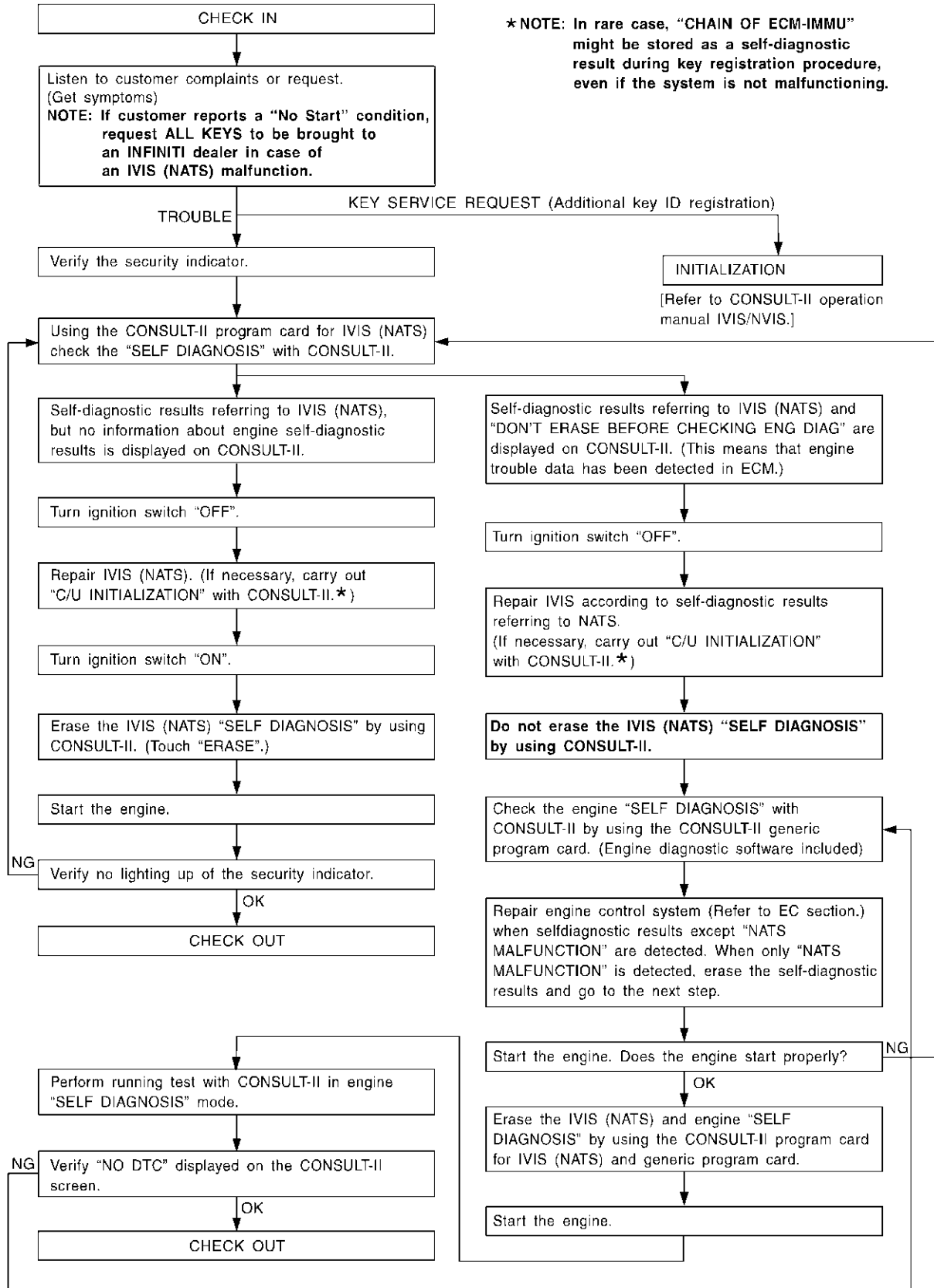
- When any initialization is performed, all ID previously registered will be erased and all NATS ignition keys must be registered again.
- The engine cannot be started with an unregistered key. In this case, the system will show "DIFFERENCE OF KEY" or "LOCK MODE" as a self-diagnostic result on the CONSULT-II 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)

## Work Flow

AIS002KX



SEL024X

# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

AIS002KY

## 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-197)	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-198)	Unregistered key	D
			BCM	A
	CHAIN OF IMMU-KEY [P1614]	PROCEDURE 3 (BL-199)	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 4 (BL-201)	System initialization has not yet been completed.	F
			ECM	B
LOCK MODE [P1610]	PROCEDURE 6 (BL-203)	LOCK MODE	D	
Security indicator lighting up*	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (BL-194)	Engine trouble data and NVIS (NATS) trouble data have been detected in ECM	—

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

# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

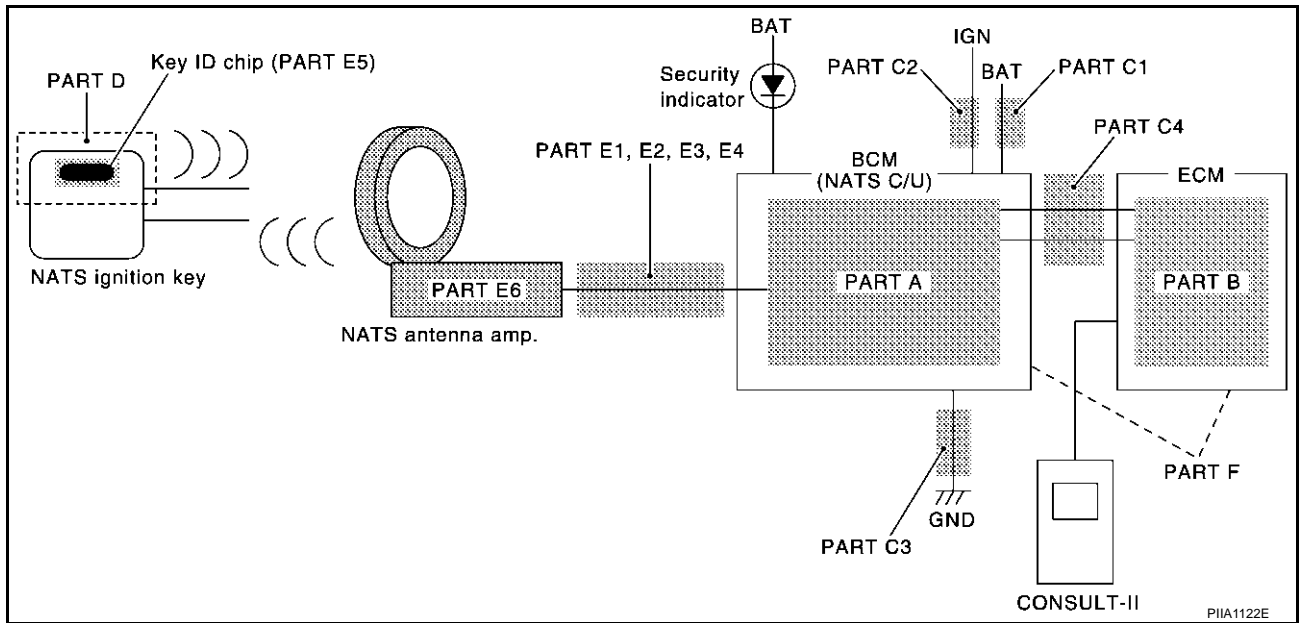
## SYMPTOM MATRIX CHART 2

### 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 5 (BL-202)	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)

AI5002KZ

## 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 [SE-66, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#) .

### 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 shown in figure?

Yes >> GO TO 2.

No >> GO TO [BL-195, "SYMPTOM MATRIX CHART 1"](#) .

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

PIIA1260E

### 2. CHECK POWER SUPPLY CIRCUIT FOR BCM

1. Disconnect BCM connector.
2. Check voltage between BCM connector E118 terminal 7 (W/B) and ground with CONSULT-II or tester.

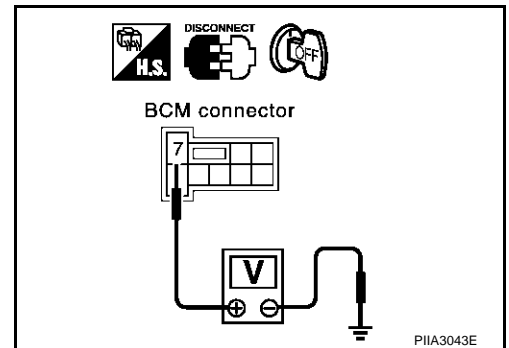
**Battery voltage should exist.**

OK or NG

OK >> GO TO 3.

NG >> Check the following.

- 40A fusible link (letter **F** , located in fuse and fusible link box)
  - Harness for open or short between fuse and BCM connector
- Ref. part No. C1**



### 3. CHECK IGNITION SWITCH ON SIGNAL

1. Turn ignition switch ON.
2. Check voltage between BCM connector M35 terminal 35 (R) and ground with CONSULT-II or tester.

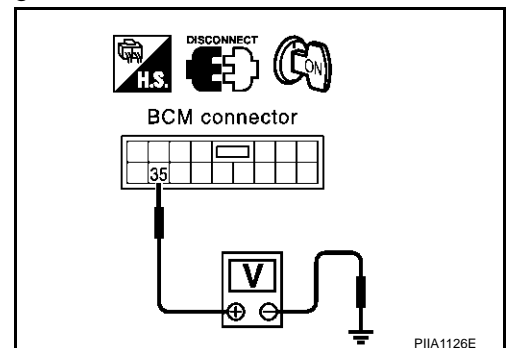
**Battery voltage should exist.**

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)

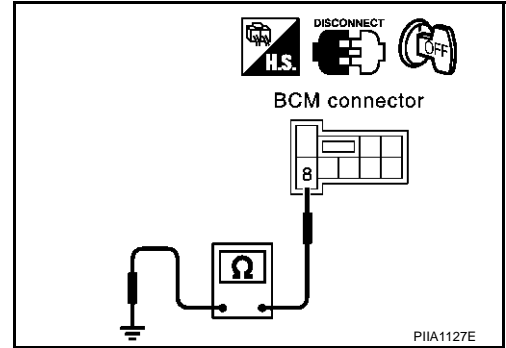
## 4. CHECK GROUND CIRCUIT FOR BCM

1. Turn ignition OFF.
2. Check continuity between BCM connector E118 terminal 8 (B) and ground.

**Continuity should exist.**

OK or NG

- OK >> GO TO 5.  
NG >> Repair 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-189, "ECM Re-communicating Function"](#).

## Diagnostic Procedure 2

AIS002L0

**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 shown in figure?

- Yes >> GO TO 2.  
No >> GO TO [BL-195, "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

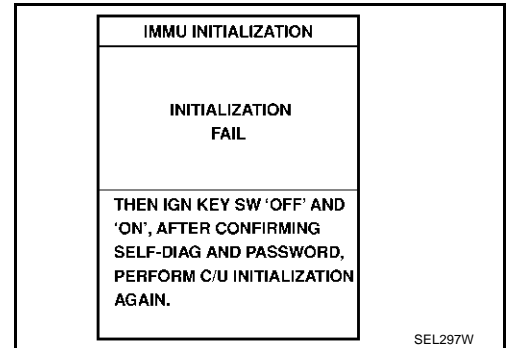
Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs.  
For initialization and registration of NATS ignition key IDs, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

### 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

AIS002L1

### 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 shown in figure?

- Yes >> GO TO 2.
- No >> GO TO [BL-195, "SYMPTOM MATRIX CHART 1"](#).

The screenshot shows a table with the following structure:

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

In the bottom right corner of the box, it says "PIA1263E".

## 2. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to [BL-204, "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 "ON".
2. Check voltage between NATS antenna amp. connector M30 terminal 1 (P/L) and ground with CONSULT-II or tester.

**Just after turning ignition switch "ON"**

**Voltage: Approx. 5V (For 3 seconds)**

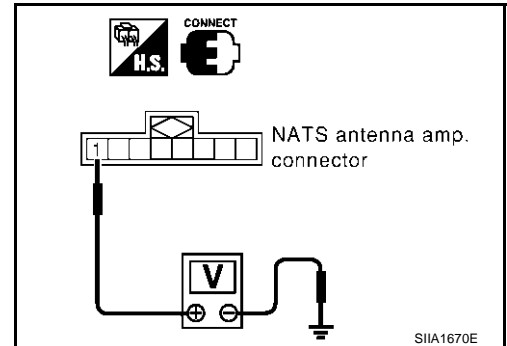
OK or NG

OK >> GO TO 5.

NG >> ● Check harness for open or short between NATS antenna amp. and BCM.

**NOTE:**

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



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

Check voltage between NATS antenna amp. connector M30 terminal 3 (LG) and ground with analogue tester.

**Before turning ignition switch "ON"**

**Voltage: 0V**

**Just after turning ignition switch "ON"**

**: Pointer of tester should move.**

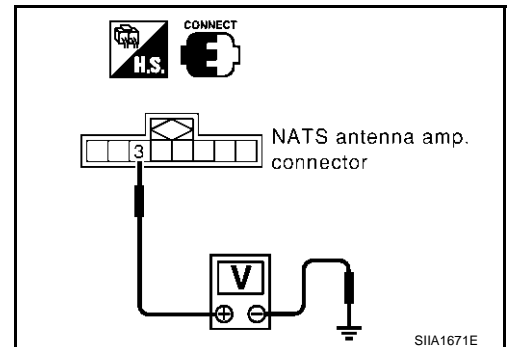
OK or NG

OK >> GO TO 6.

NG >> ● Check harness for open or short between NATS antenna amp. and BCM.

**NOTE:**

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



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

Check voltage between NATS antenna amp. connector M30 terminal 7 (BR) and ground with analogue tester.

**Before turning ignition switch "ON"**

**Voltage: 0V**

**Just after turning ignition switch "ON"**

**: Pointer of tester should move.**

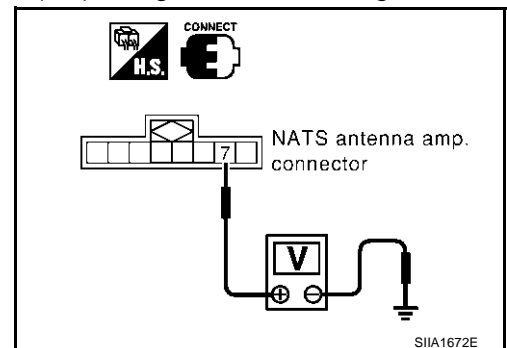
OK or NG

OK >> GO TO 7.

NG >> ● Check harness for open or short between NATS antenna amp. and BCM.

**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)

## 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 M30 terminal 5 (P) and ground.

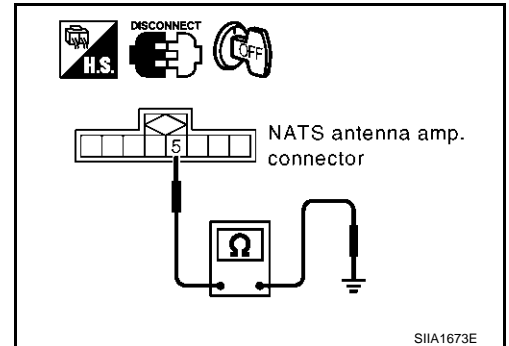
**5 (P) – Ground : Continuity should exist.**

OK or NG

- OK >> ● NATS antenna amp. is malfunctioning.  
**Ref. part No. E6**
- NG >> ● Check harness for open or short between NATS antenna amp. and BCM.

**NOTE:**

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



## Diagnostic Procedure 4

**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 shown in figure?

- Yes >> GO TO 2.  
No >> GO TO [BL-195, "SYMPTOM MATRIX CHART 1"](#) .

The screenshot shows the 'SELF DIAG RESULTS' screen. It has a table with two columns: 'DTC RESULTS' and 'TIME'. The 'DTC RESULTS' column contains 'ID DISCORD, IMM-ECM [P1611]' and the 'TIME' column contains '0'. The reference code 'PIIA1262E' is at the bottom right.

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

### 2. PERFORM INITIALIZATION WITH CONSULT-II

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

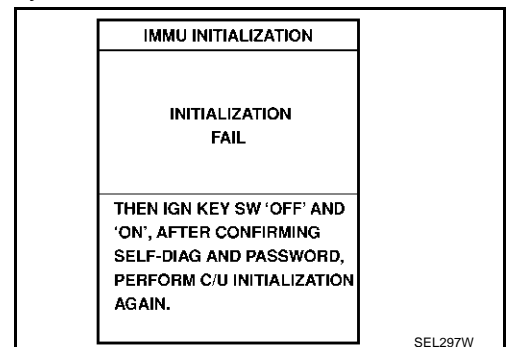
For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

**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)

AI5002L3

## Diagnostic Procedure 5

### “SECURITY INDICATOR LAMP DOES NOT LIGHT UP”

#### 1. CHECK FUSE

Check 10A fuse [No. 21, 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. Make sure the security indicator lamp lights up.

**Security indicator lamp should light up.**

OK or NG

- OK >> INSPECTION END
- NG >> GO TO 3.

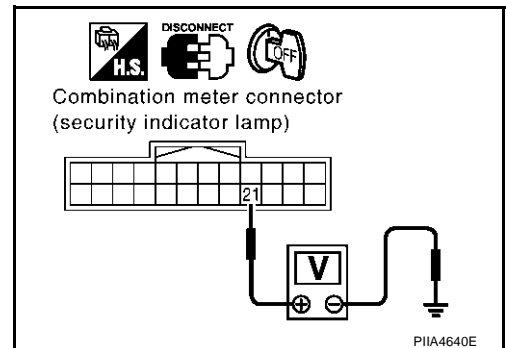
#### 3. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

1. Disconnect combination meter (security indicator lamp) connector.
2. Check voltage between combination meter (security indicator lamp) connector M25 terminal 21 (Y/R) and ground.

**Battery voltage should exist.**

OK or NG

- OK >> GO TO 4.
- NG >> Check harness for open or short between fuse and combination meter (security indicator lamp).



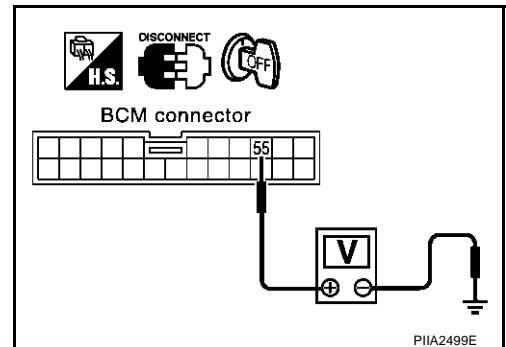
#### 4. CHECK BCM FUNCTION

1. Connect combination meter (security indicator lamp) connector.
2. Disconnect BCM connector M37.
3. Check voltage between BCM connector M37 terminal 55 (G/O) and ground.

**Battery voltage should exist.**

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 (security indicator lamp) and BCM.
  - Indicator lamp condition



# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

AI5002L4

## Diagnostic Procedure 6

### 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 shown in figure?

- Yes >> GO TO 2.  
No >> GO TO [BL-195, "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”).  
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

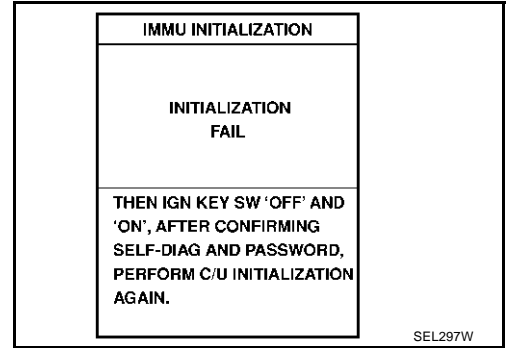
1. Replace BCM.
2. Perform initialization with CONSULT-II.  
For initialization, refer to "CONSULT-II Operation Manual NATS-IVIS/NVIS".

### 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".

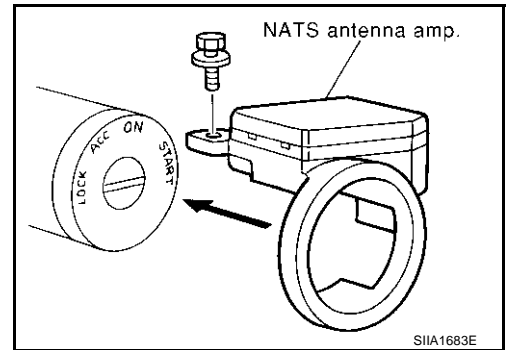


## How to Replace NATS Antenna Amp.

AIS002L5

### 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.





# INTEGRATED HOMELINK TRANSMITTER

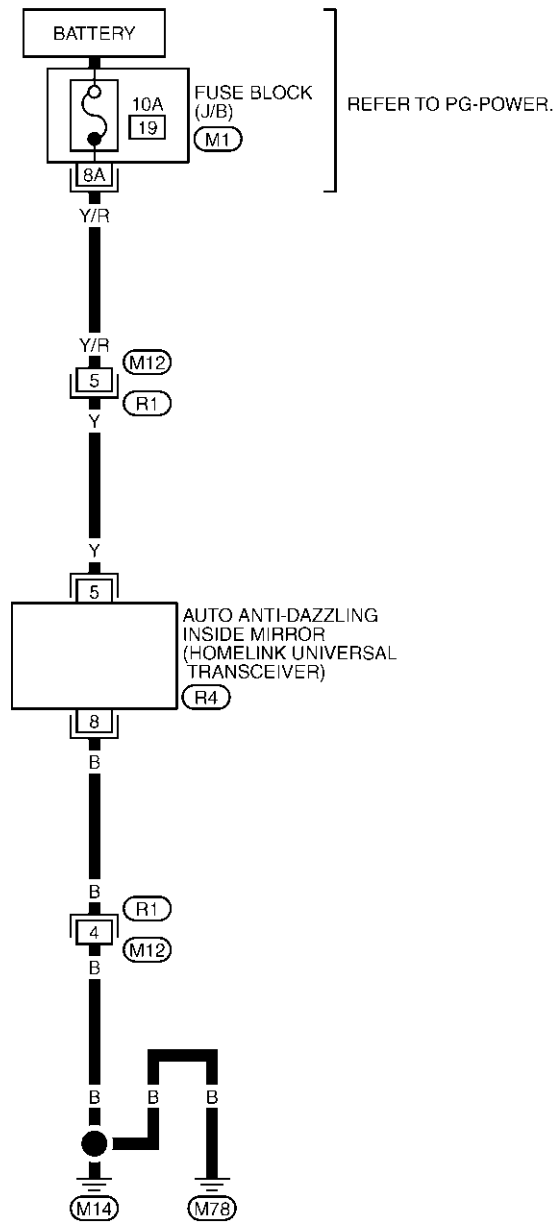
## INTEGRATED HOMELINK TRANSMITTER

### Wiring Diagram —TRNSCV—

PPF:96401

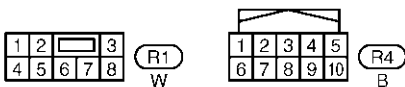
AIS002WQ

## BL-TRANSCV-01



REFER TO PG-POWER.

AUTO ANTI-DAZZLING  
INSIDE MIRROR  
(HOMELINK UNIVERSAL  
TRANSCEIVER)



REFER TO THE FOLLOWING.

(M1) - FUSE BLOCK-JUNCTION BOX (J/B)

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

# INTEGRATED HOMELINK TRANSMITTER

AIS002WR

## 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 malfunctioning, not vehicle related.

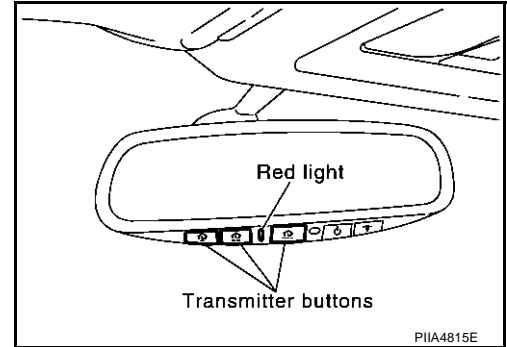
### 1. CHECK ILLUMINATION

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

YES or NO

YES >> GO TO 2.

NO >> GO TO 3.



### 2. CHECK TRANSMITTER

Check transmitter with Tool\*.

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

OK or NG

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

NG >> Replace inside mirror assembly.

### 3. CHECK POWER SUPPLY

1. Disconnect transmitter connector.
2. Check voltage between auto anti-dazzling inside mirror (integrated homelink transmitter) connector R4 terminal 5 (Y) and ground.

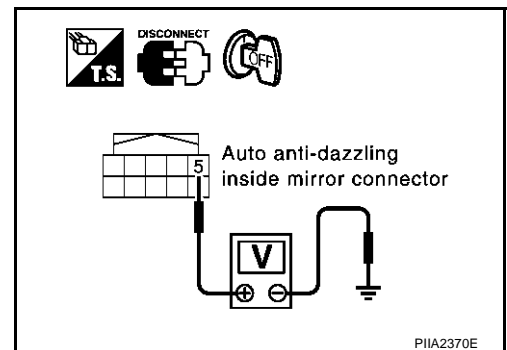
**5 (Y) – Ground**

**: Battery voltage**

OK or NG

OK >> GO TO 4.

- NG >> ● Check 10A fuse. [No. 19 located in the fuse block (J/B)]
- Repair or replace harness between fuse and anti-dazzling inside mirror (integrated homelink transmitter).



# INTEGRATED HOMELINK TRANSMITTER

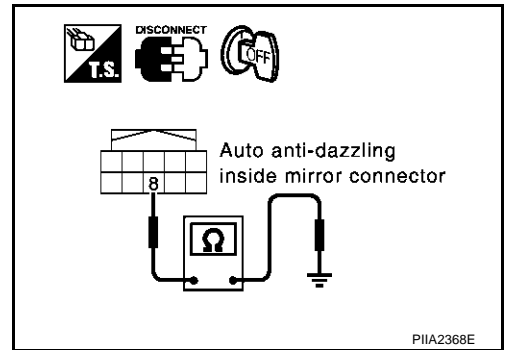
## 4. CHECK GROUND CIRCUIT

Check continuity between anti-dazzling inside mirror (integrated homelink transmitter) connector R4 terminal 8 (B) and ground.

**8 (B) – Ground :Continuity should exist.**

OK or NG

- OK >> Replace inside mirror assembly.
- NG >> Harness for open or short between anti-dazzling inside mirror (integrated homelink transmitter) ground.



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

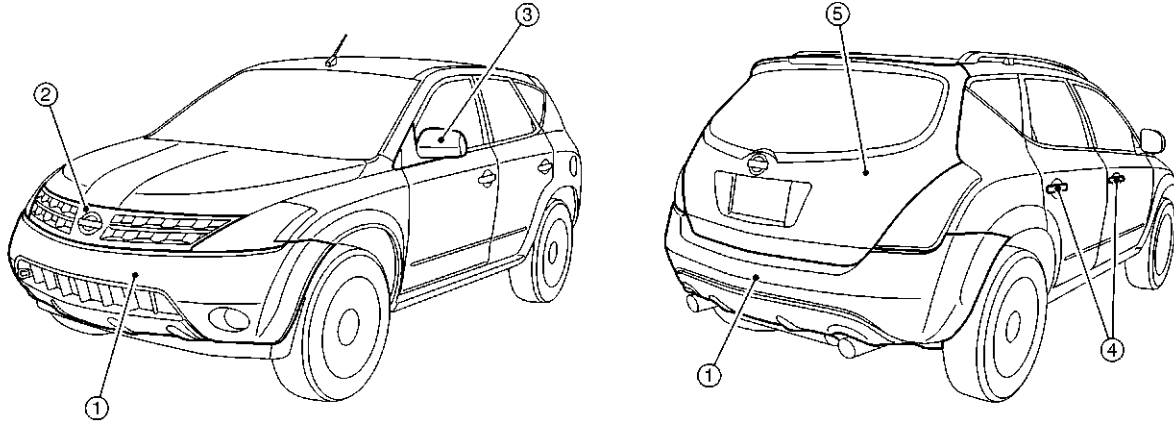
# BODY REPAIR

## BODY REPAIR

PFP:60100

### Body Exterior Paint Color

AIS001XT



SIAA2069E

Component			Color code	BBW9	BC15	BE12	BKH3	BKY0	BKY2	BQX1	BR10
			Description	Dark Blue	Brown	Light Gold	Black	Silver	Gray	White	Orange
			Paint type	2P	FM	M	2S	M	M	3P	M
			Hard clear coat	×	×	-	×	-	-	-	-
1	Bumper fascia	Upper	Body color	BBW9	BC15	BE12	BKH3	BKY0	BKY2	BQX1	BR10
		Lower	Gray Metallic (M)	BKR2	BKR2	BKR2	BKR2	BKR2	BKR2	BKR2	BKR2
2	Front grille		Chromium-plate + Color clear coat	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p
3	Door outside mirror	Housing	Body color	BBW9	BC15	BE12	BKH3	BKY0	BKY2	BQX1	BR10
		Base	Black	BKH3	BKH3	BKH3	BKH3	BKH3	BKH3	BKH3	BKH3
4	Door outside handle		Chromium-plate	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p	Cr2p
			Body color	BBW9	BC15	BE12	BKH3	BKY0	BKY2	BQX1	BR10
5	Back door		Body color	BBW9	BC15	BE12	BKH3	BKY0	BKY2	BQX1	BR10




2S:Solid + Clear, M:Metallic, 2P:2-Coat pearl, 3P:3-Coat pearl, FM: Iron oxide metallic

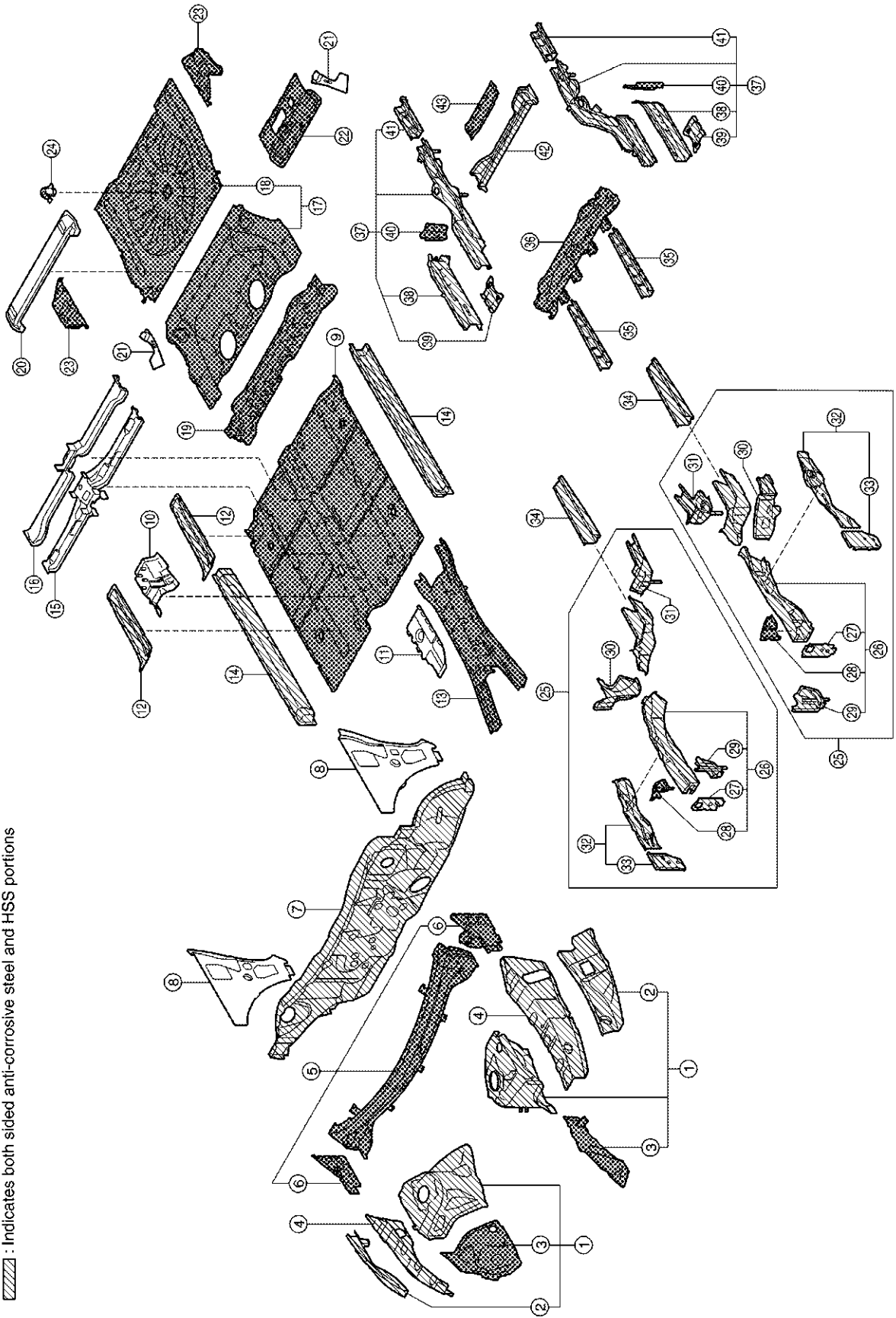
# BODY REPAIR

## Body Component Parts UNDERBODY COMPONENT PARTS

AIS001XU

\* Indicates aluminum portion

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



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




# BODY REPAIR

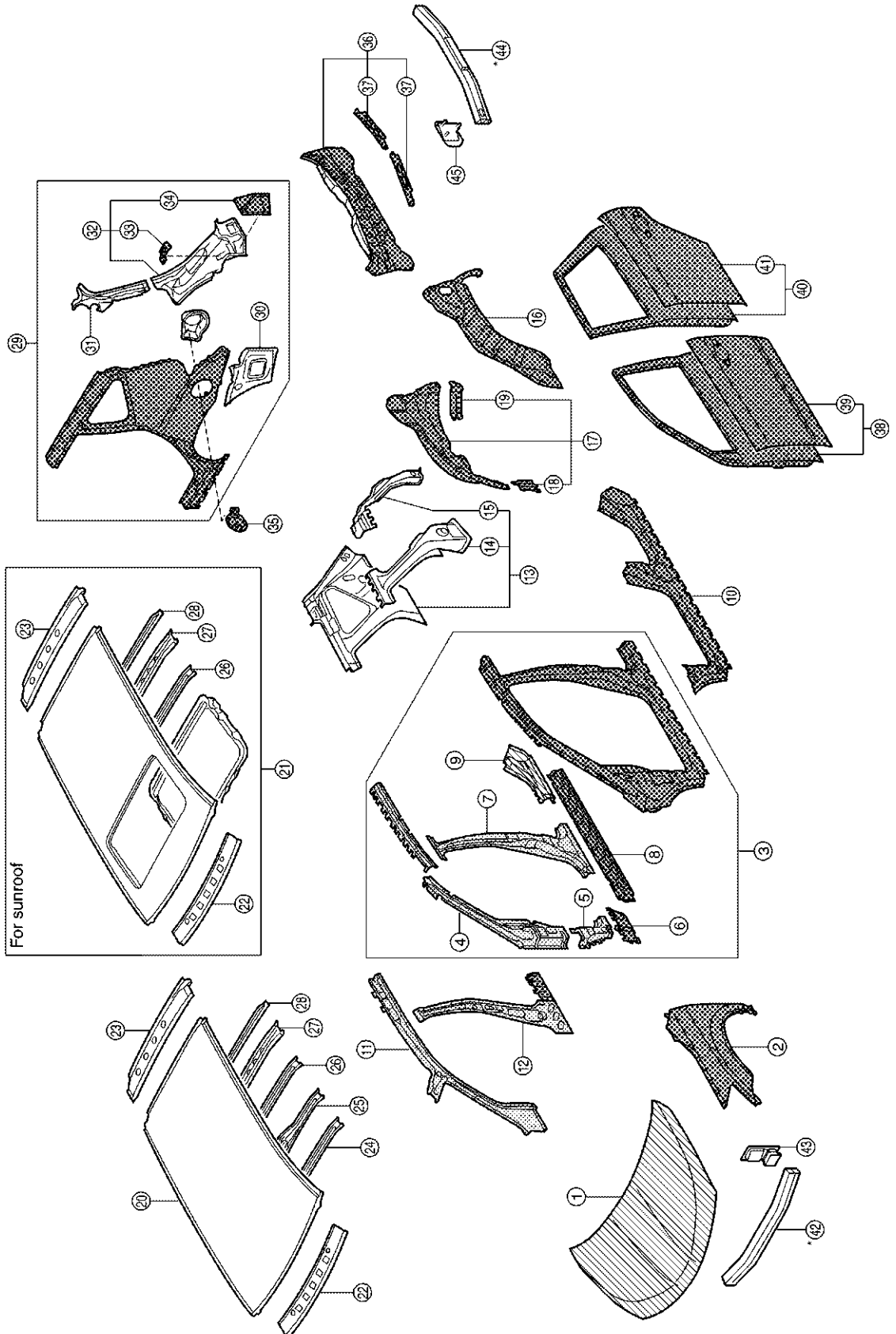
---

1. Hoodledge assembly
2. Upper hoodledge
3. Lower front hoodledge
4. Hoodledge reinforcement
5. Air box assembly
6. Side cowl top
7. Lower dash
8. Side dash
9. Front floor
10. Center front floor reinforcement
11. Front floor reinforcement (RH&LH)
12. Front side member stiffener
13. Center floor member assembly
14. Inner sill
15. 2ND crossmember assembly
16. 3RD crossmember assembly
17. Rear floor
18. Rear floor rear
19. Rear floor front extension
20. Rear seat back support assembly
21. Outer rear seat belt anchor reinforcement
22. 2ND seat mounting bracket
23. Rear floor side
24. Spare tire clamp bracket
25. Front side member assembly
26. Front side member
27. Front side member connector
28. Bumper stay reinforcement assembly
29. Front suspension mounting bracket
30. Front side member outrigger assembly
31. Lower dash crossmember
32. Front side member closing plate assembly
33. Front side member front closing plate
34. Front side member center extension
35. Front side member rear extension
36. Rear seat crossmember
37. Rear side member assembly
38. Inner sill extension
39. Jack up point bracket
40. Sill closing plate
41. Rear side member extension
42. Center rear crossmember assembly
43. Spare wheel crossmember

# BODY REPAIR

## BODY COMPONENT PARTS

-  Indicates both sided anti-corrosive pre-coated steel portions
-  Indicates high strength steel (HSS) portions
-  Indicates both sided anti-corrosive steel and HSS portions
- \* Indicates aluminum portion



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

# BODY REPAIR

---

1. Hood
2. Front fender (RH&LH)
3. Side body assembly (RH&LH)
4. Outer front side body (RH&LH)
5. Upper pillar hinge brace assembly (RH&LH)
6. Lower front pillar hinge brace (RH&LH)
7. Lower front pillar reinforcement (RH&LH)
8. Center pillar reinforcement (RH&LH)
9. Outer sill reinforcement assembly (RH&LH)
10. Rear outer sill reinforcement (RH&LH)
11. Outer sill (RH&LH)
12. Inner side roof rail (RH&LH)
13. Inner center pillar (RH&LH)
14. Inner rear pillar assembly (RH&LH)
15. Inner rear pillar reinforcement (RH&LH)
16. Back pillar reinforcement (RH&LH)
17. Outer rear wheelhouse (RH&LH)
18. Inner rear wheelhouse assembly (RH&LH)
19. Inner rear wheelhouse front extension (RH&LH)
20. Inner rear wheelhouse rear extension (RH&LH)
21. Roof
22. Roof assembly (for sunroof)
23. Front roof rail assembly
24. Rear roof rail assembly
25. Roof bow No.1
26. Roof bow No.2
27. Roof bow No.3
28. Roof bow No.4
29. Roof bow No.5
30. Rear fender assembly (RH&LH)
31. Rear fender extension (RH&LH)
32. Back pillar assembly (RH&LH)
33. Rear combination lamp base assembly (RH&LH)
34. Rear bumper fascia rear bracket (RH&LH)
35. Rear combination lamp base extension (RH&LH)
36. Fuel filler lid (LH)
37. Rear panel assembly
38. Rear bumper fascia bracket
39. Front door assembly (RH&LH)
40. Outer front door panel (RH&LH)
41. Rear door assembly (RH&LH)
42. Outer rear door panel (RH&LH)
43. Front bumper reinforcement
44. Front bumper stay (RH&LH)
45. Rear bumper reinforcement
46. Rear bumper stay (RH&LH)



# BODY REPAIR

## Corrosion Protection DESCRIPTION

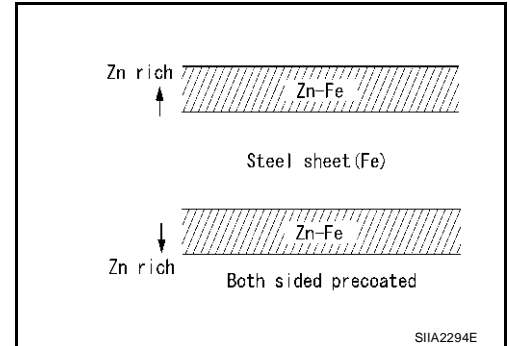
AIS001XV

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 Precoated Steel (Galvannealed Steel)

To improve repairability and corrosion resistance, a new type of anti-corrosive precoated 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 electrodeposition primer.



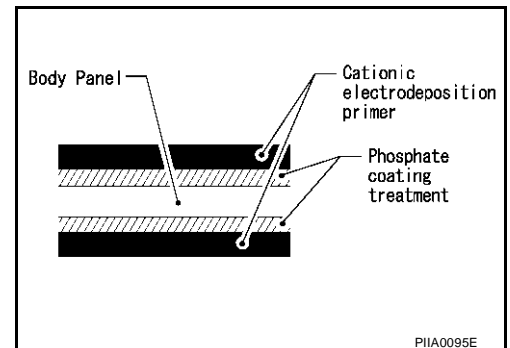
Nissan Genuine Service Parts are fabricated from galvannealed steel. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

### Phosphate Coating Treatment and Cationic Electrodeposition Primer

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

#### **CAUTION:**

**Confine paint removal during welding operations to an absolute minimum.**

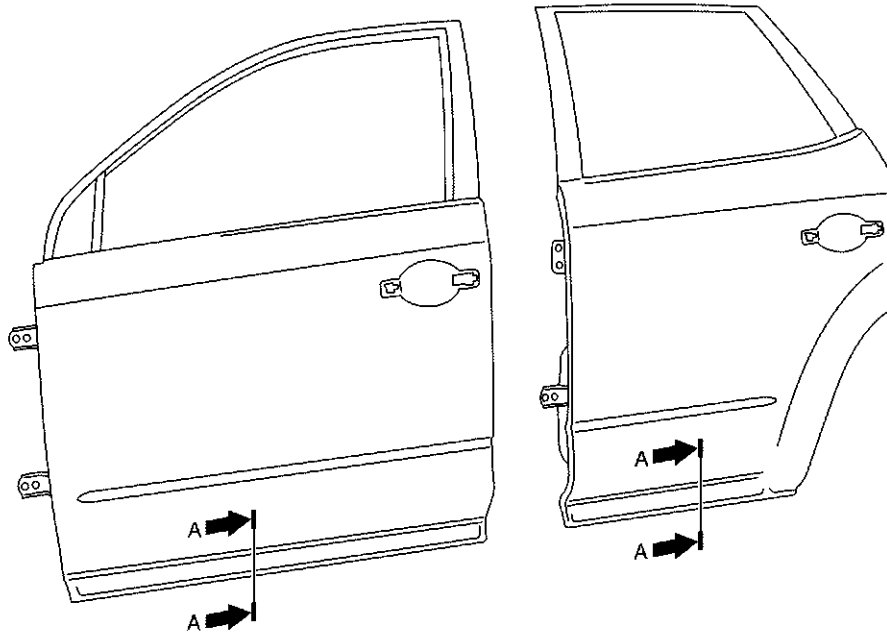



Nissan Genuine Service Parts are also treated in the same manner. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain anti-corrosive performance built into the vehicle at the factory.

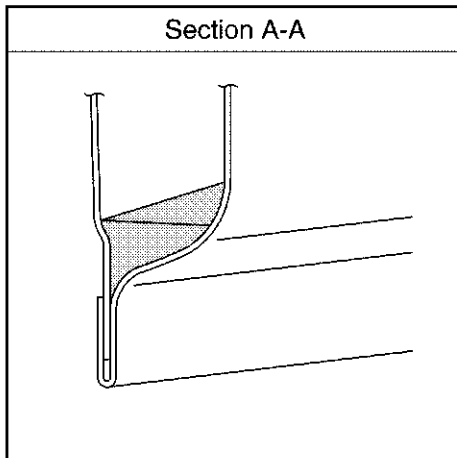
# BODY REPAIR

## 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 anti-corrosive wax coated portions.




# BODY REPAIR

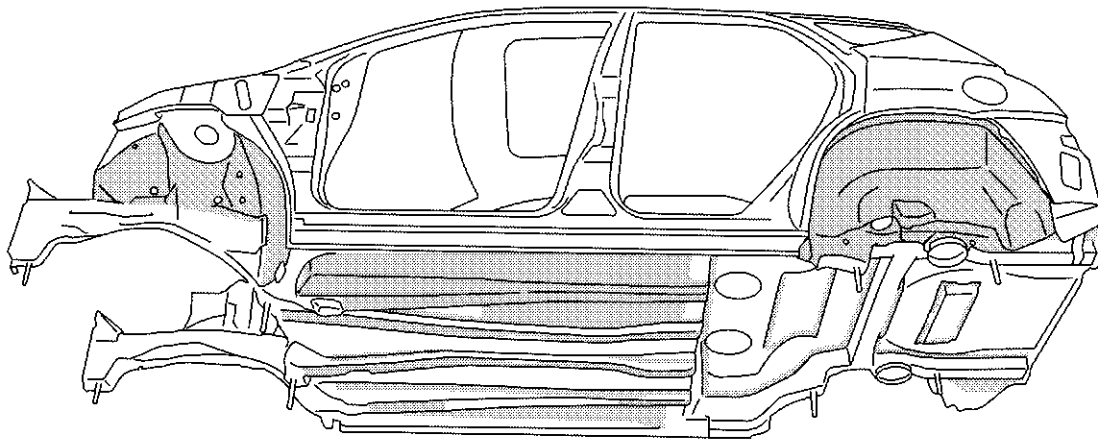
## UNDERCOATING

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.
5. After putting seal on the vehicle, put undercoating on it.

 : Indicates undercoated portions.

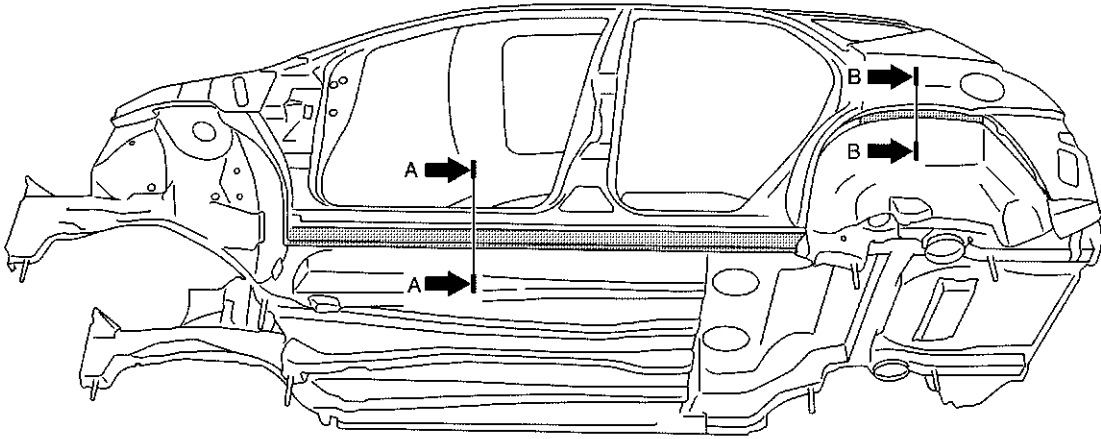



SIA2161E

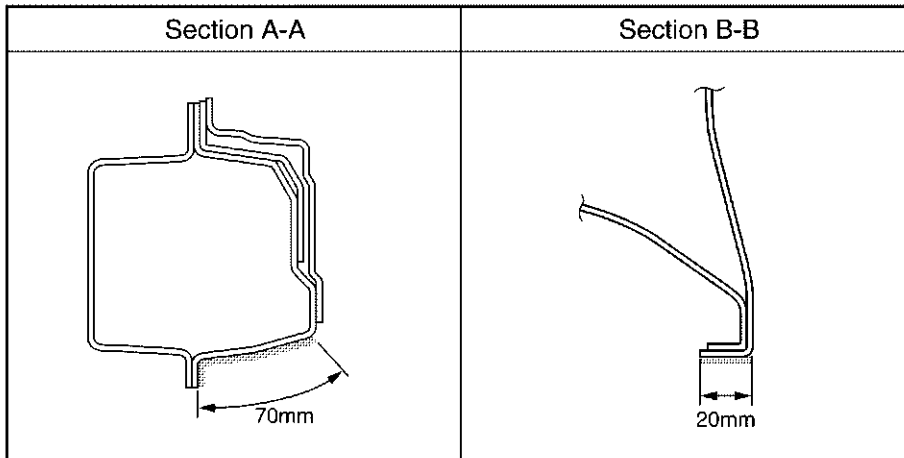
# BODY REPAIR

## STONE GUARD COAT

To prevent damage caused by stones, the lower outer body panel (fender, door, etc.) have an additional layer of Stone Guard Coating over the ED primer coating. When replacing or repairing these panels, apply Stone Guard coating to the same portions as before. Use a coating which is rust preventive, durable, shock-resistant and has a long shelf life.



 : Indicates stone guard coated portions.



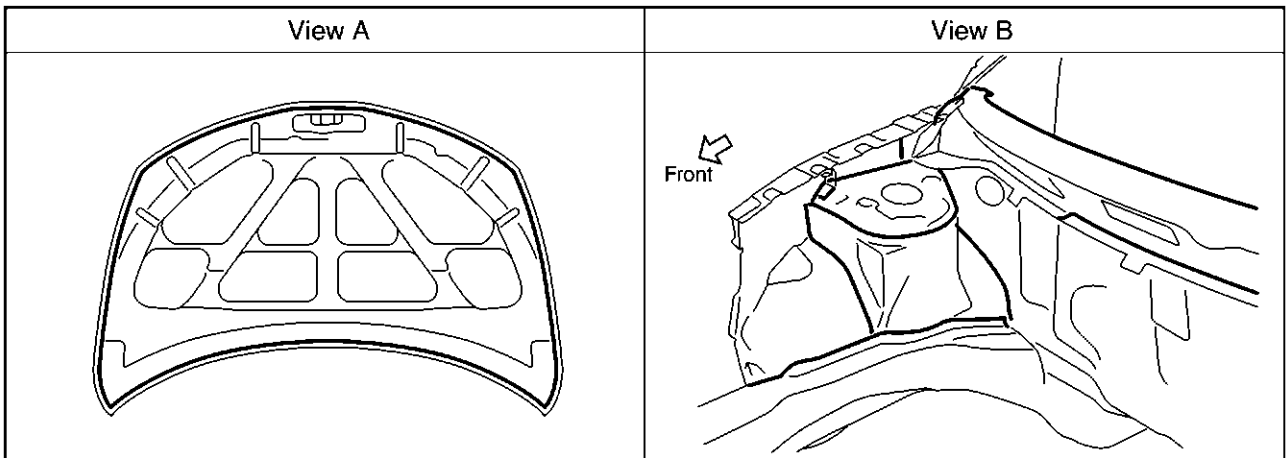
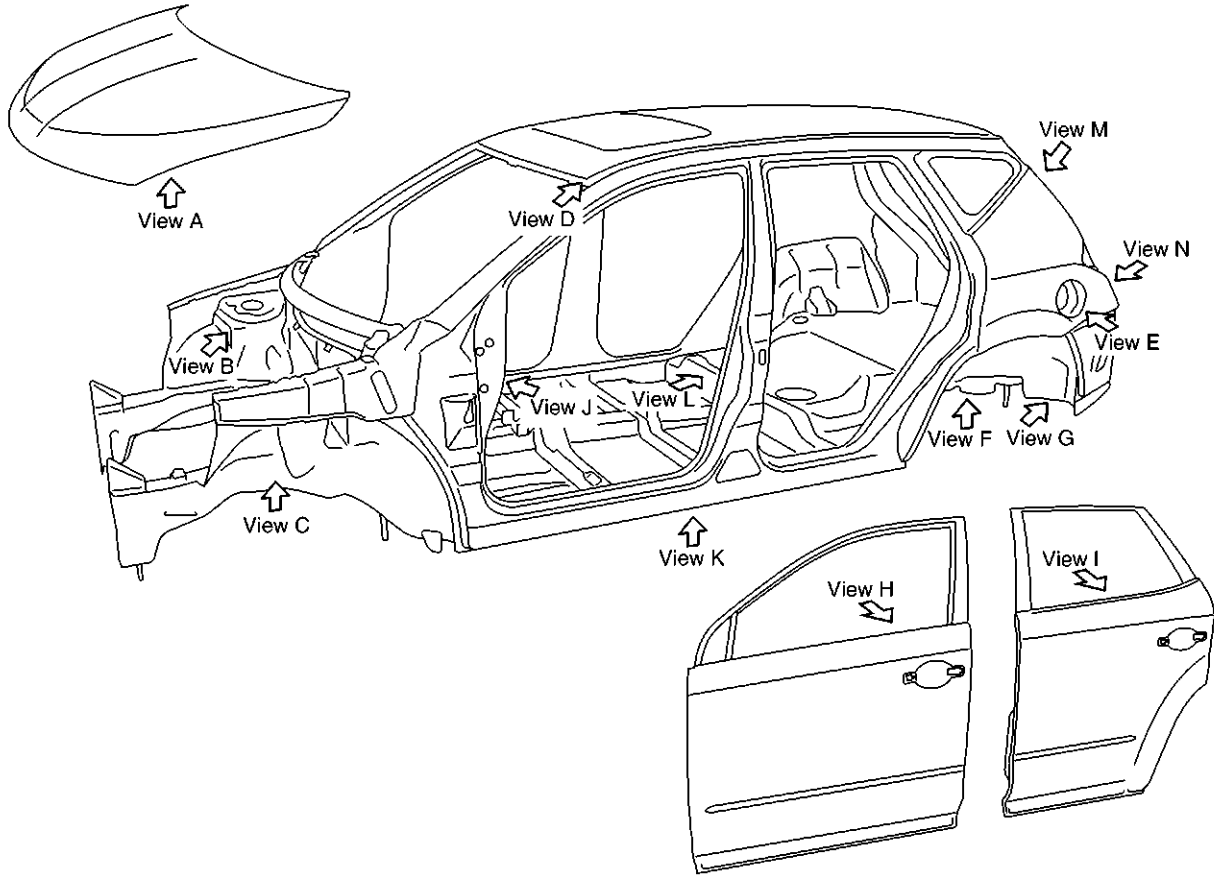
SIIA2162E

# BODY REPAIR

## Body Sealing DESCRIPTION

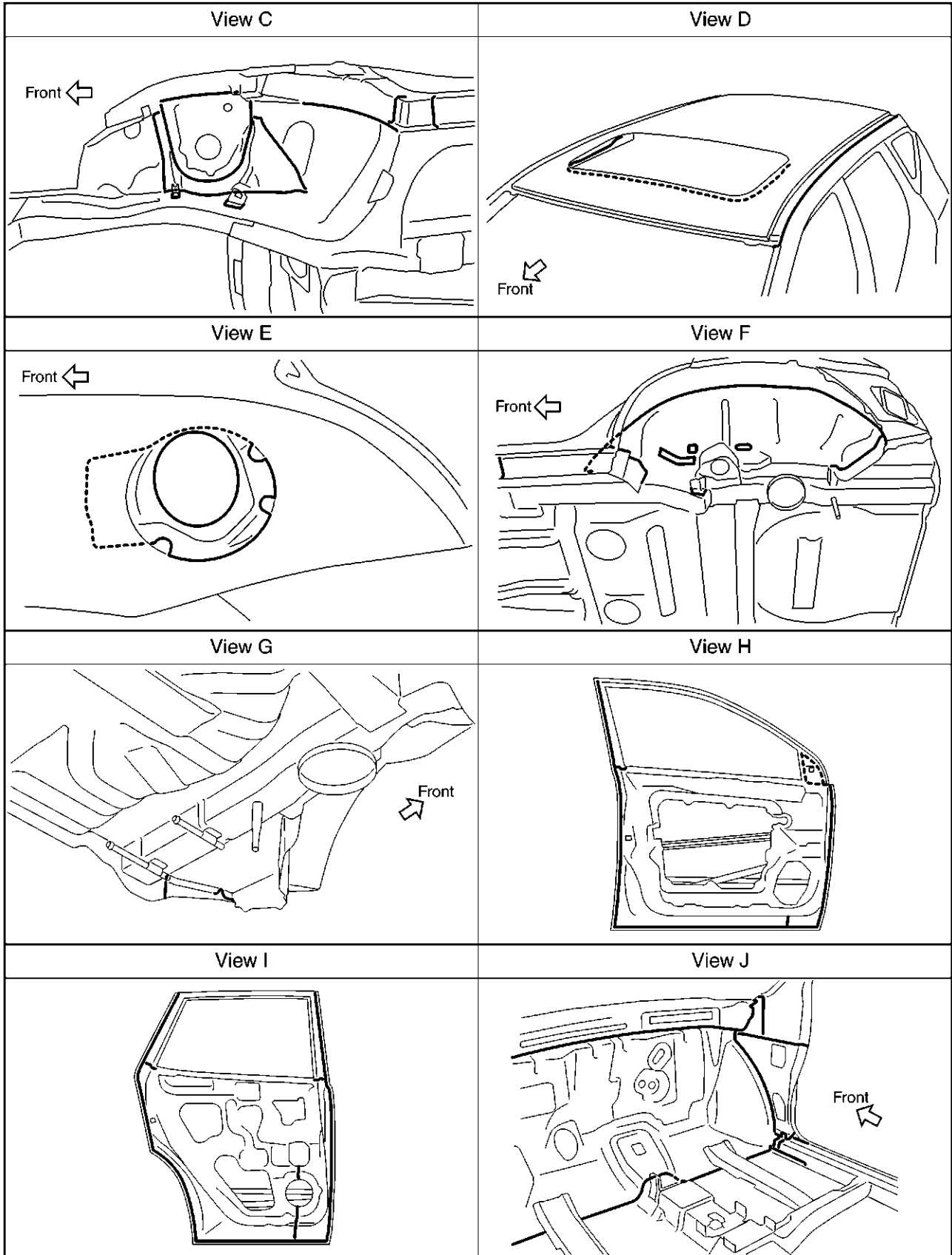
AIS001.XW

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.



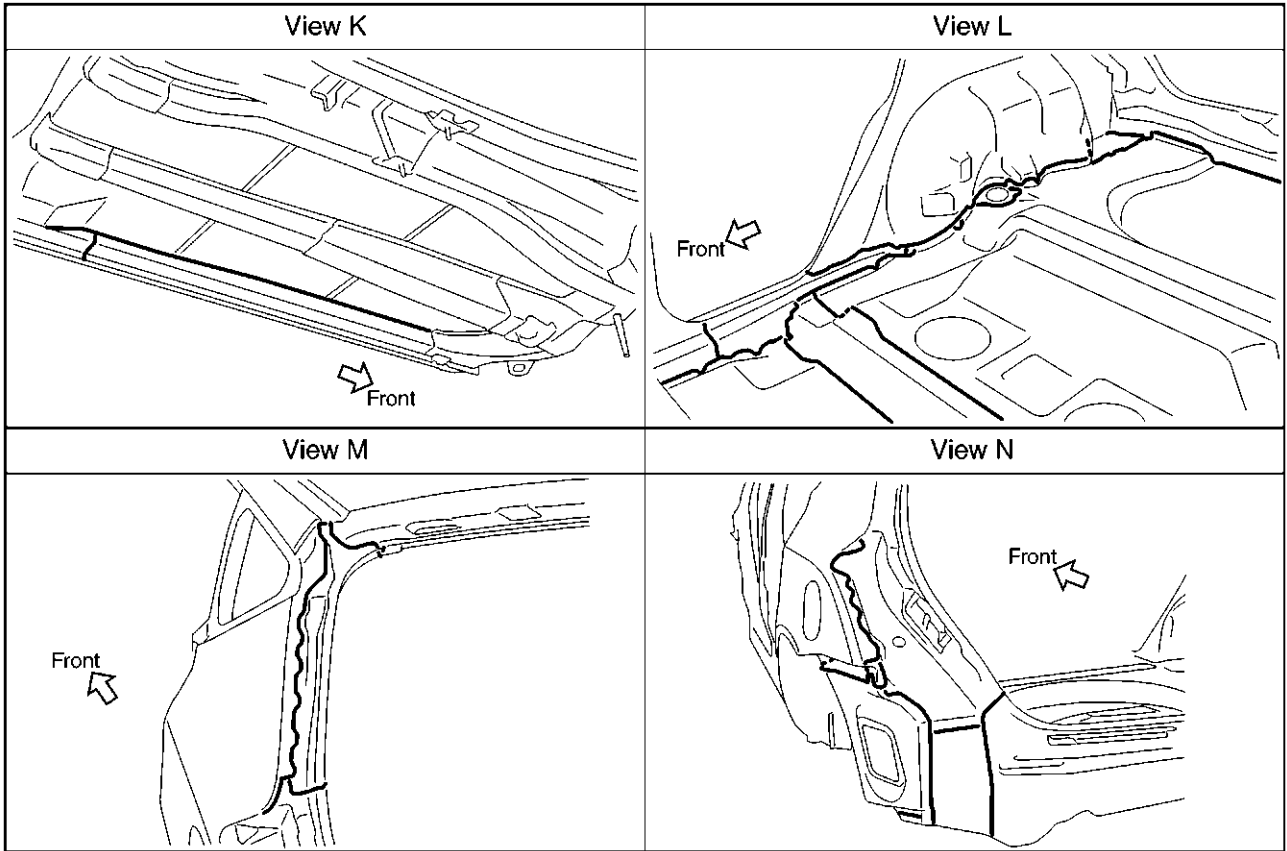
SIA2163E

# BODY REPAIR



SIA2164E

# BODY REPAIR



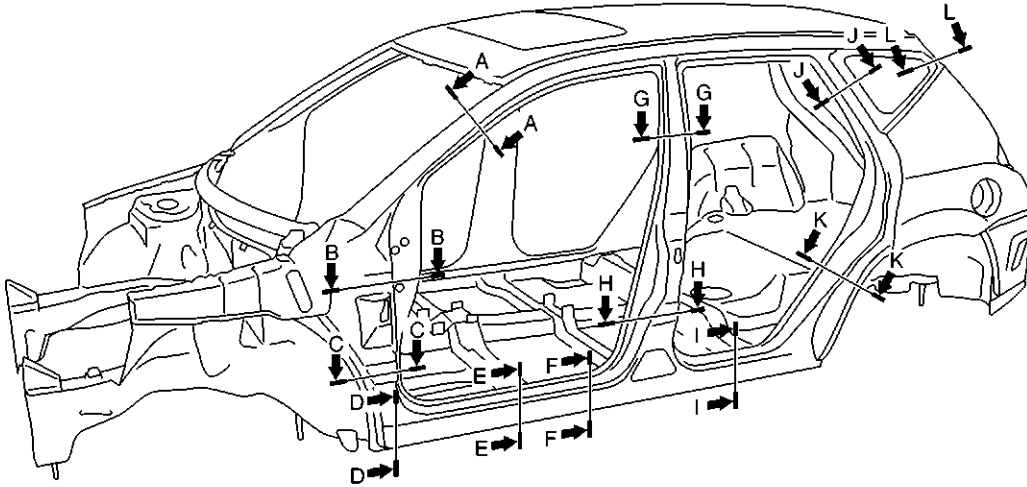
A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

SIIA2165E

# BODY REPAIR

## Body Construction BODY CONSTRUCTION

AIS001XX



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	Section L-L

SIIA2166E

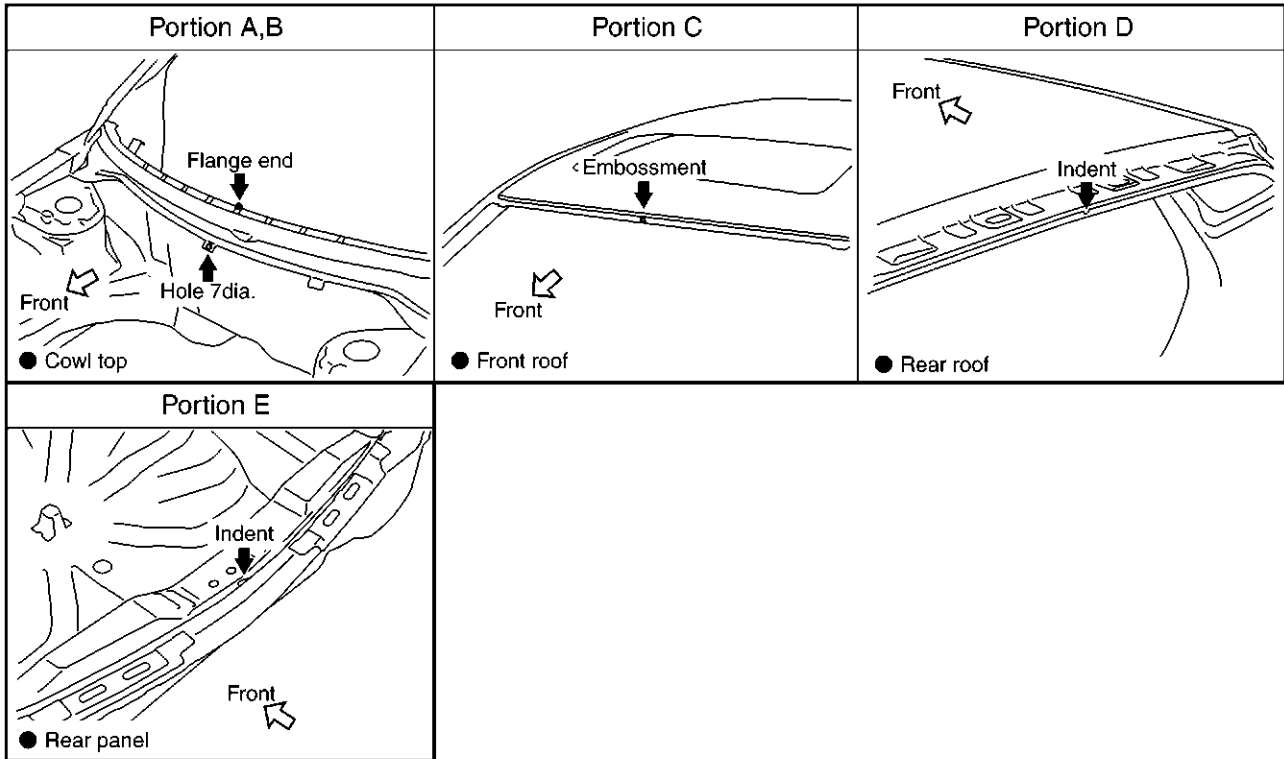
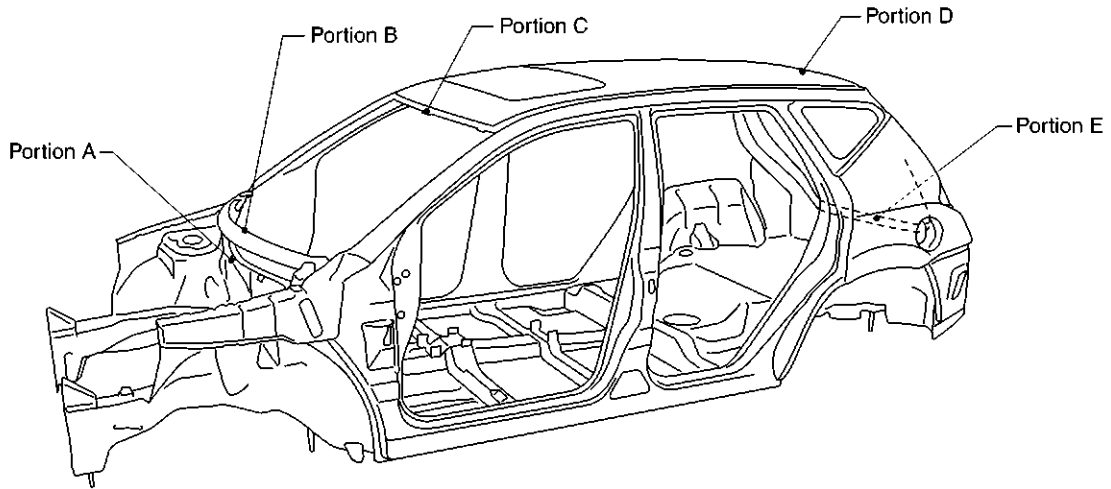


# BODY REPAIR

## Body Alignment BODY CENTER MARKS

AIS001XY

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.



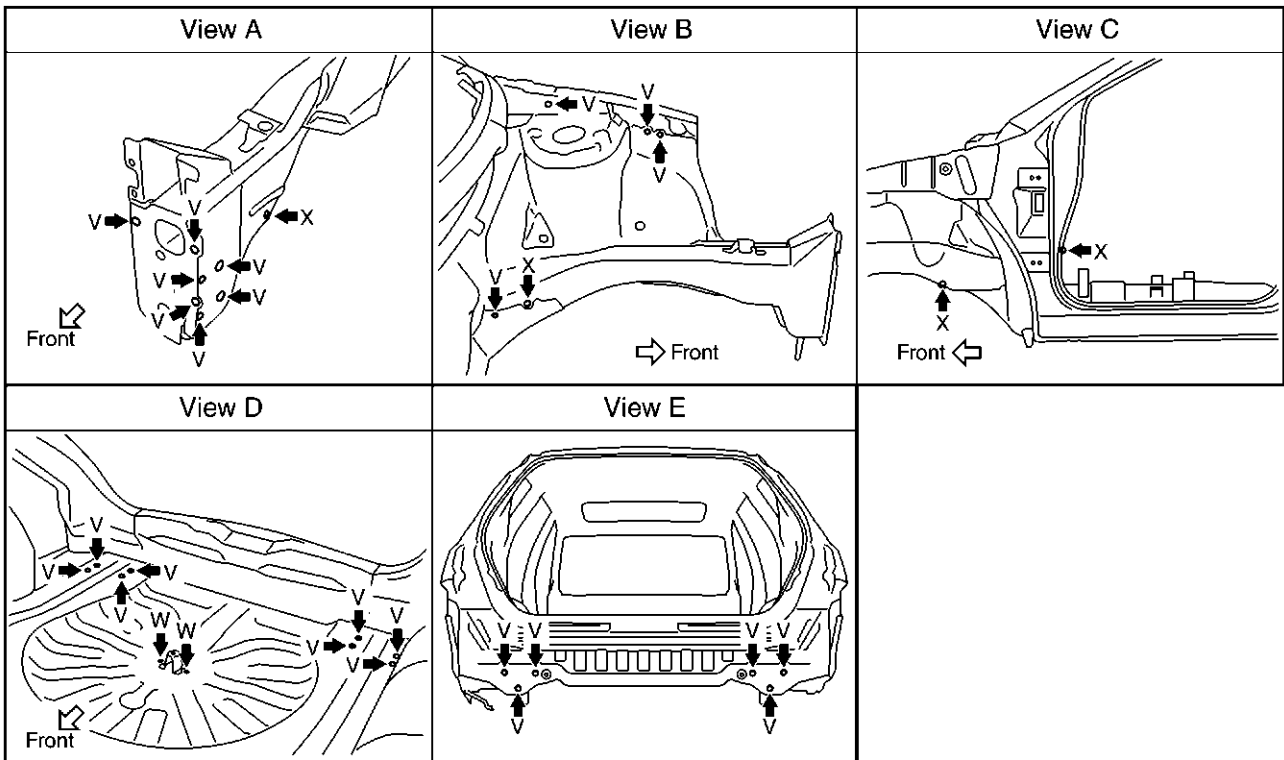
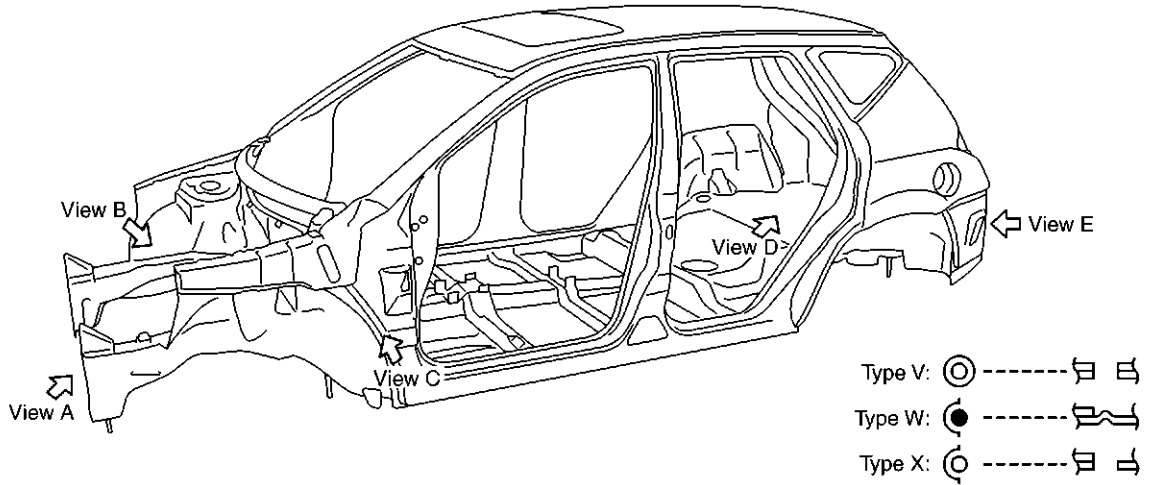
SIA2167E

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

# BODY REPAIR

## 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.

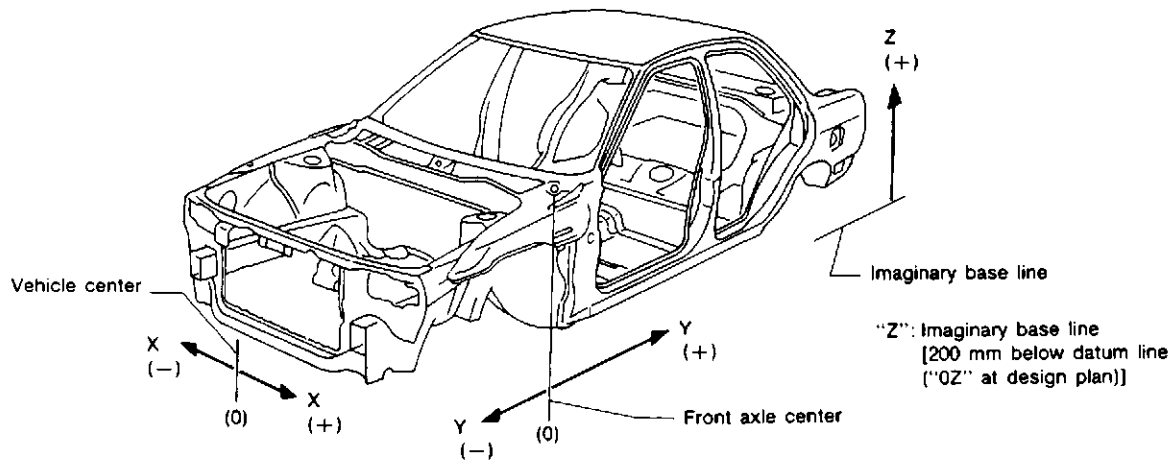


SIA2168E

# 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".



PIIA0104E

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

BL

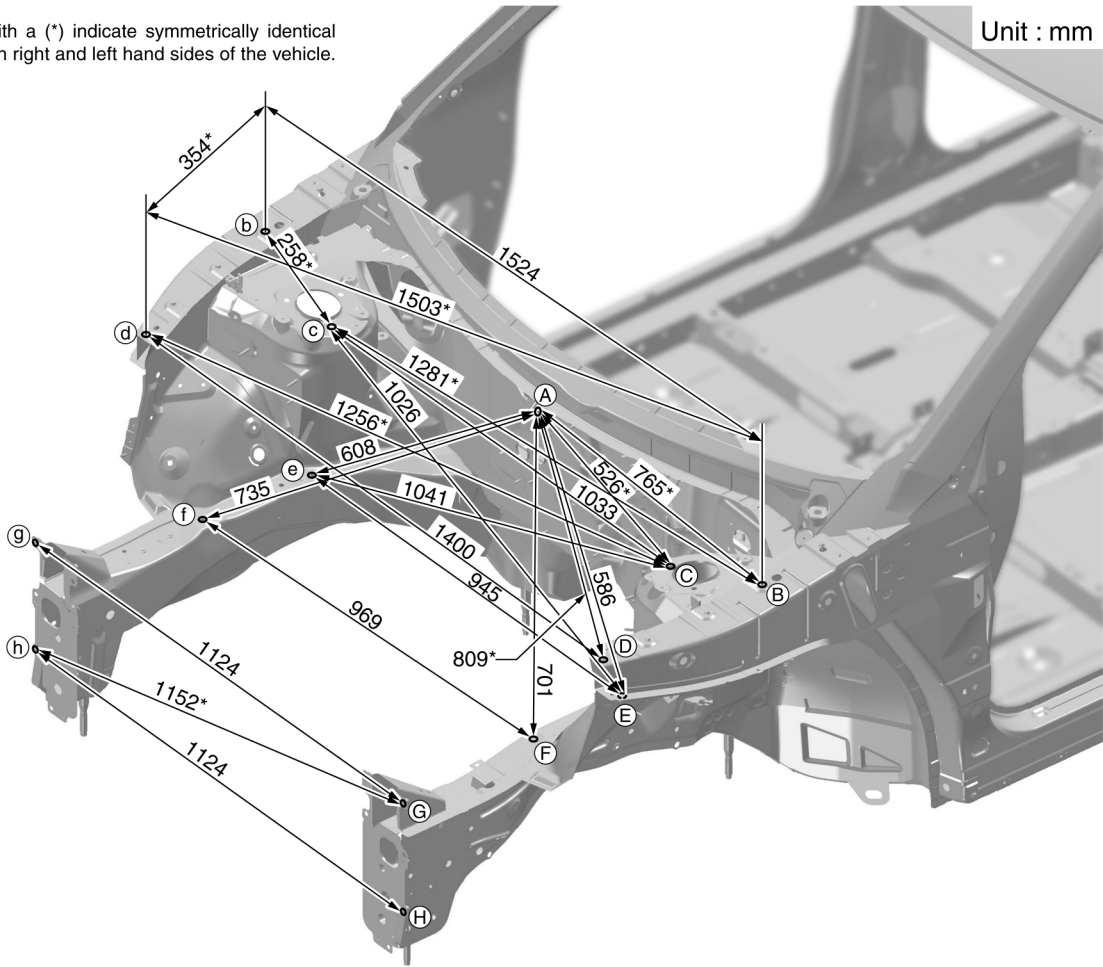
# BODY REPAIR

## ENGINE COMPARTMENT

### Measurement

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

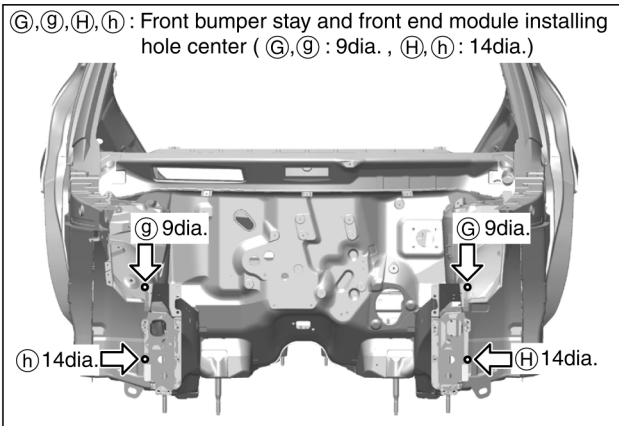
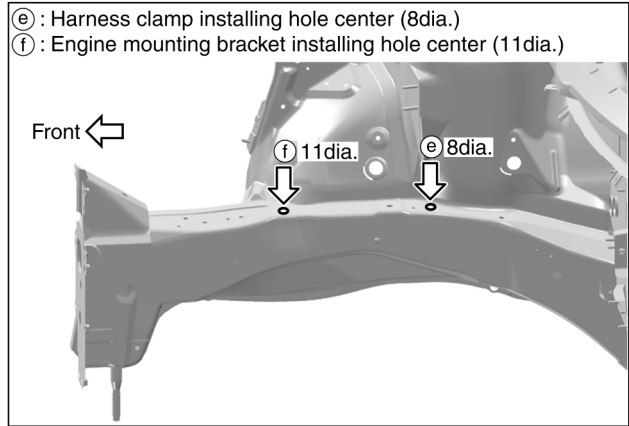
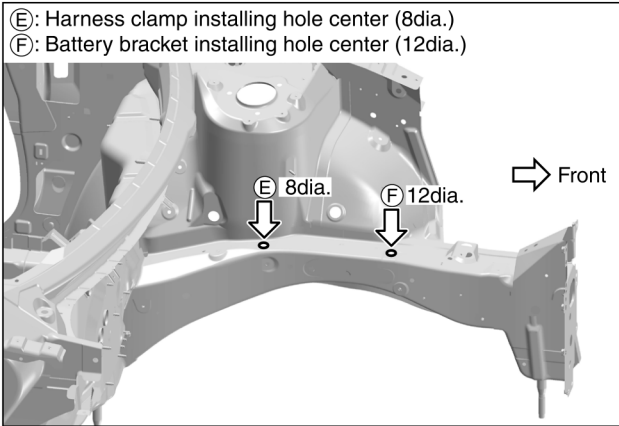
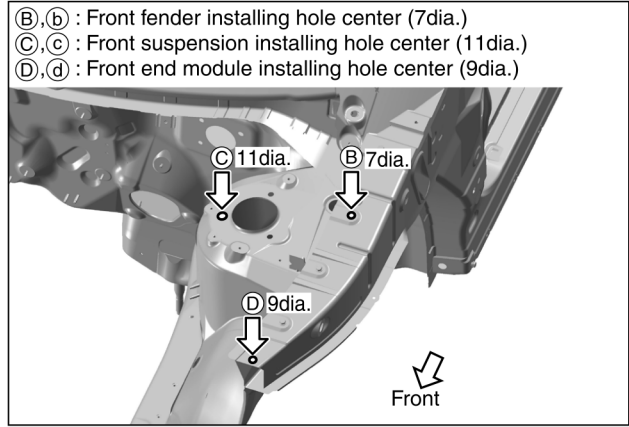
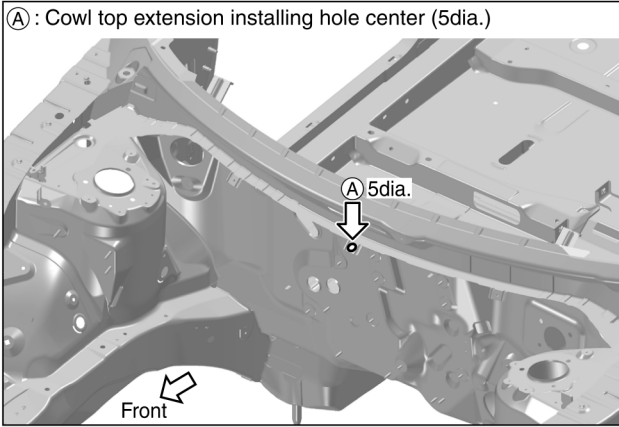
Unit : mm



SIIA2169E

# BODY REPAIR

## Measurement Points



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

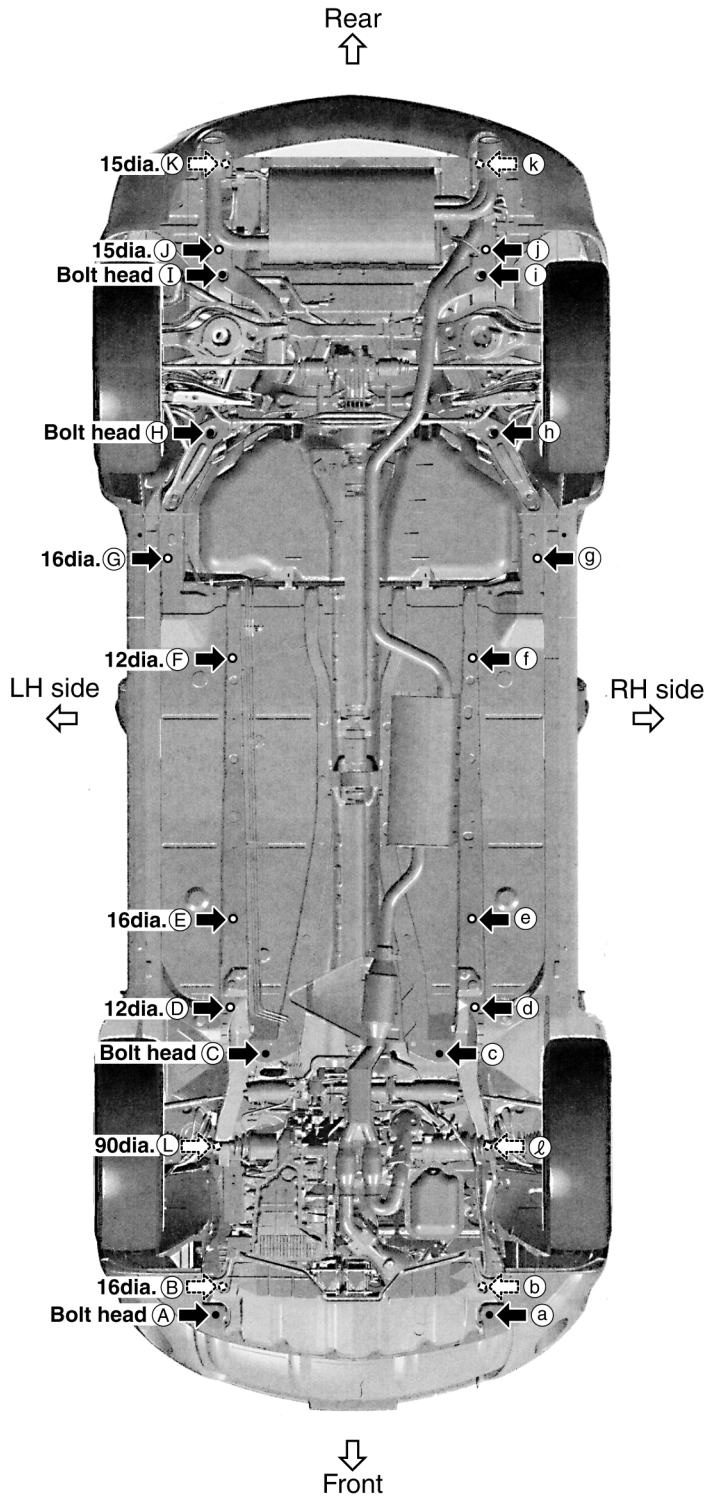


# BODY REPAIR

## Measurement Points

Unit : mm

As viewed from underside.



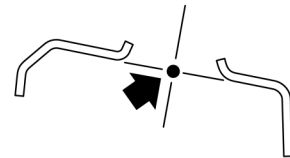
Coordinates:

(A), a	(G), g
X:494	X:665
Y:-618	Y:2105
Z:136	Z:169
(B), b	(H), h
X:495	X:510
Y:-500	Y:2588
Z:357	Z:152
(C), c	(I), i
X:310	X:466
Y:328	Y:3157
Z:57	Z:227
(D), d	(J), j
X:445	X:482
Y:503	Y:3255
Z:120	Z:352
(E), e	(K), k
X:429	X:487
Y:820	Y:3553
Z:126	Z:353
(F), f	
X:429	
Y:1727	
Z:165	

Front and rear strut tower centers

Coordinates:

(L), l
X:574
Y:32
Z:810



Front: (L), l 90dia.

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

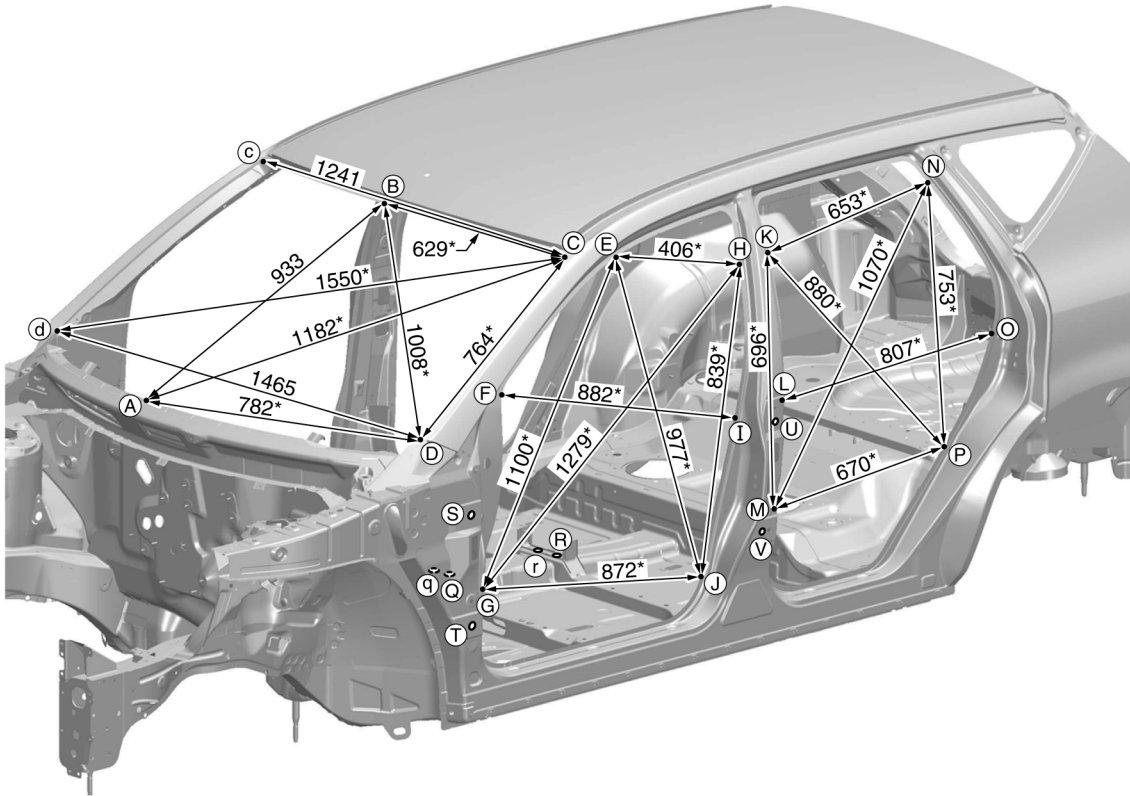
# BODY REPAIR

## PASSENGER COMPARTMENT

### Measurement

Unit : mm

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

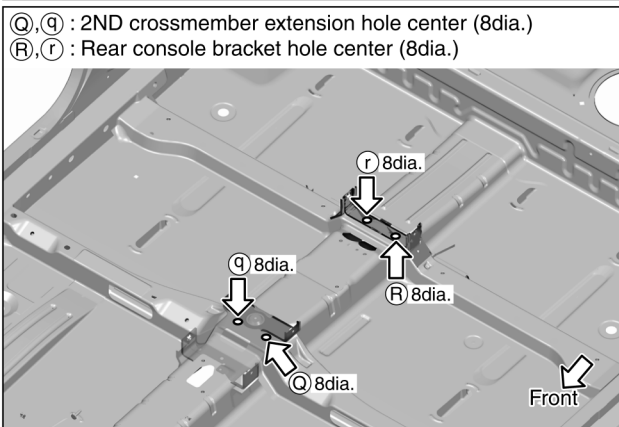
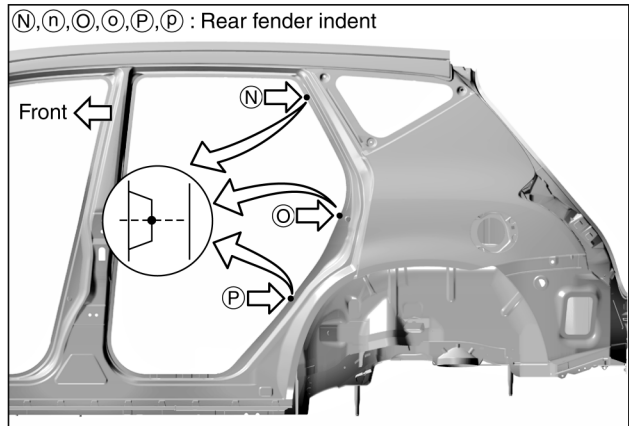
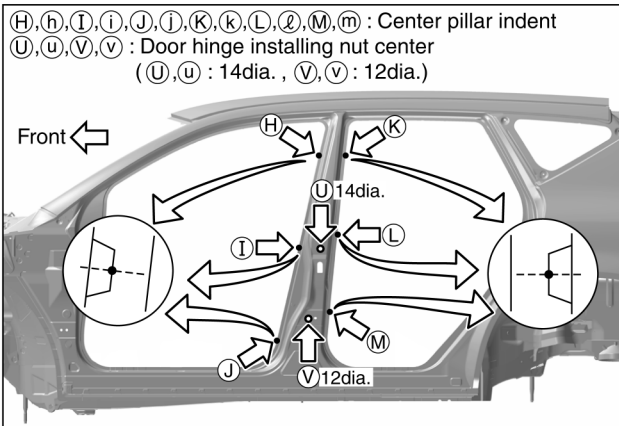
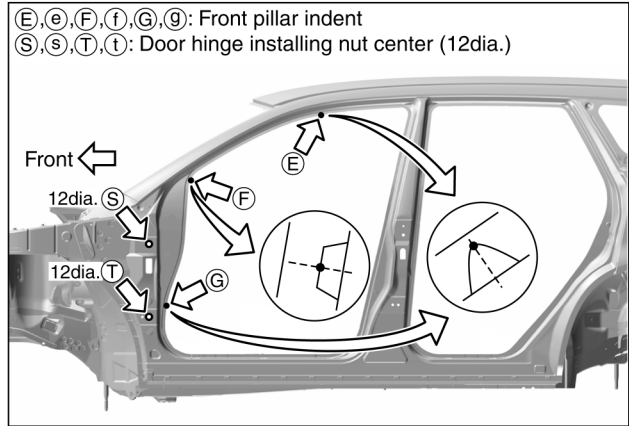
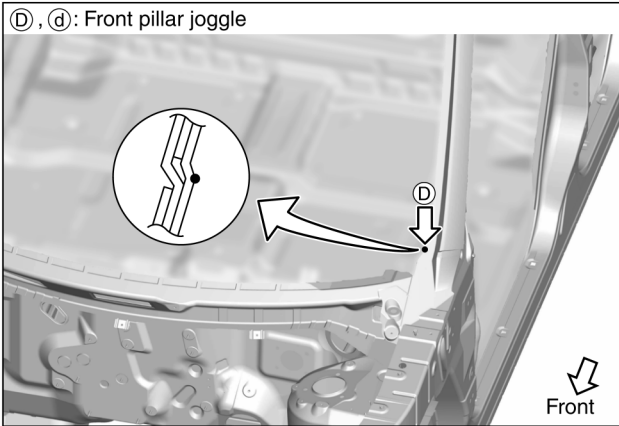
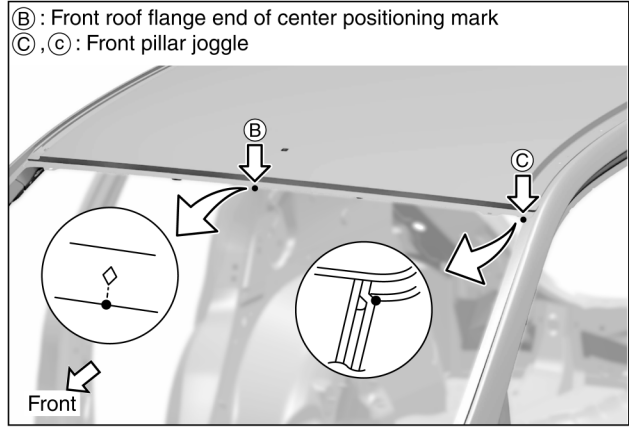
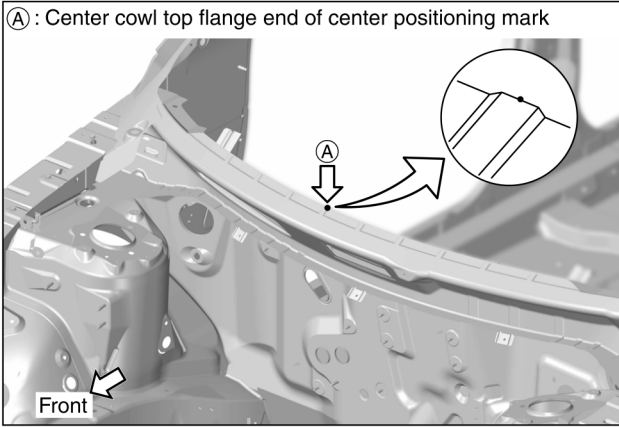


Point	Dimension	Point	Dimension	Point	Dimension
E~e	1,277	K~k	1,509*	Q~I	1,006*
E~g	1,772*	K~P	1,717*	Q~J	806*
E~h	1,407*	L~l	1,564	R~K	1,184*
E~J	1,699*	M~m	1,523	R~L	971*
F~f	1,502	M~n	1,768*	R~M	779*
G~g	1,512	M~P	1,667*	R~N	1,479*
G~h	1,946*	N~n	1,300	R~O	1,354*
G~J	1,746*	N~P	1,598*	R~P	1,118*
H~h	1,423	O~o	1,547	S~U	1,134*
H~J	1,690*	P~P	1,529	S~V	1,118*
I~i	1,561	Q~E	1,214*	T~U	1,189*
J~J	1,514	Q~F	1,105*	T~V	1,086*
K~k	1,422	Q~G	898*		
K~m	1,628*	Q~H	1,253*		



# BODY REPAIR

## Measurement Points



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

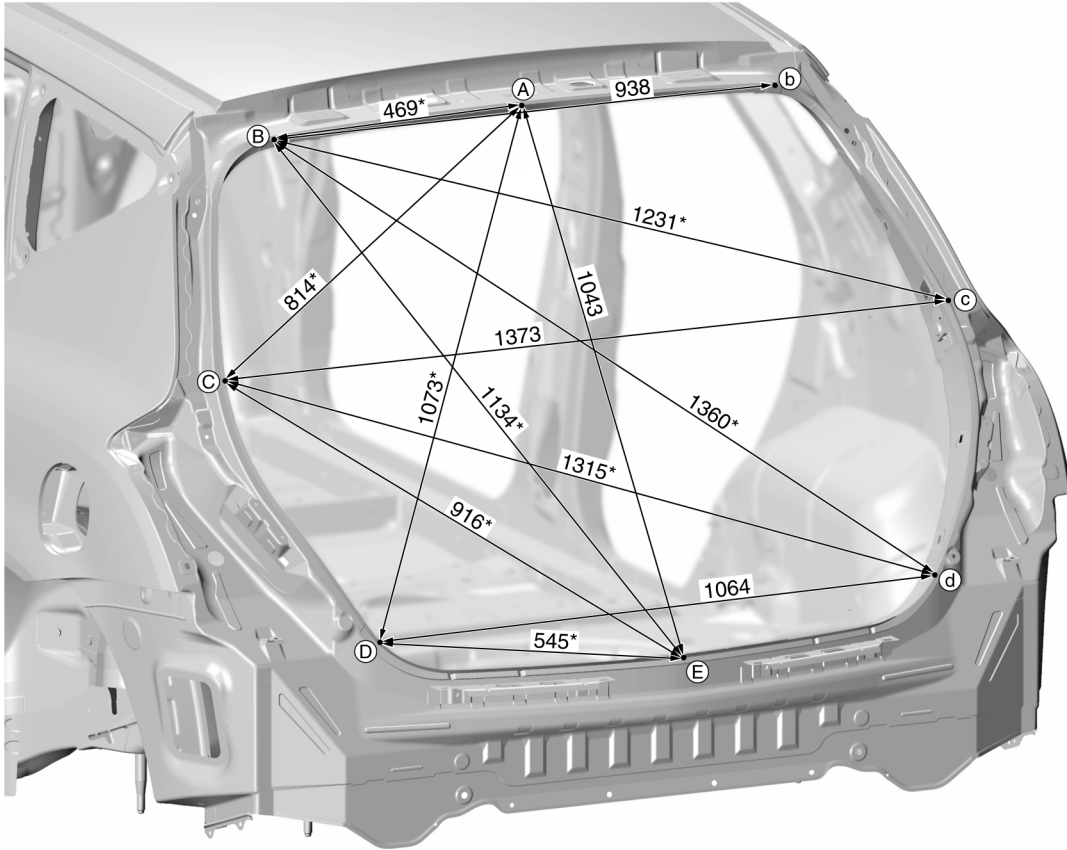
BL

# BODY REPAIR

## REAR BODY Measurement

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

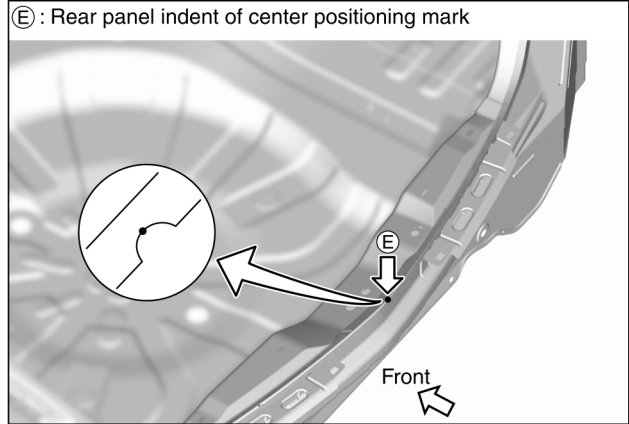
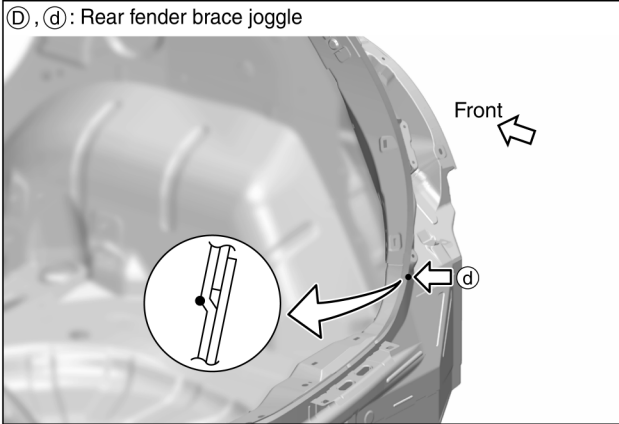
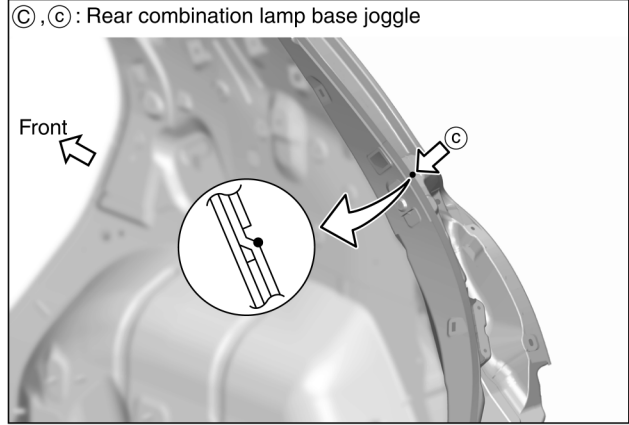
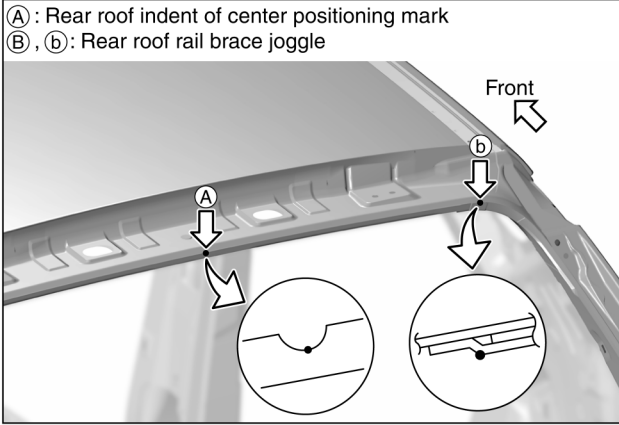
Unit : mm



SIIA2175E

# BODY REPAIR

## Measurement Points



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

BL

# BODY REPAIR

## Handling Precautions For Plastics HANDLING PRECAUTIONS FOR PLASTICS

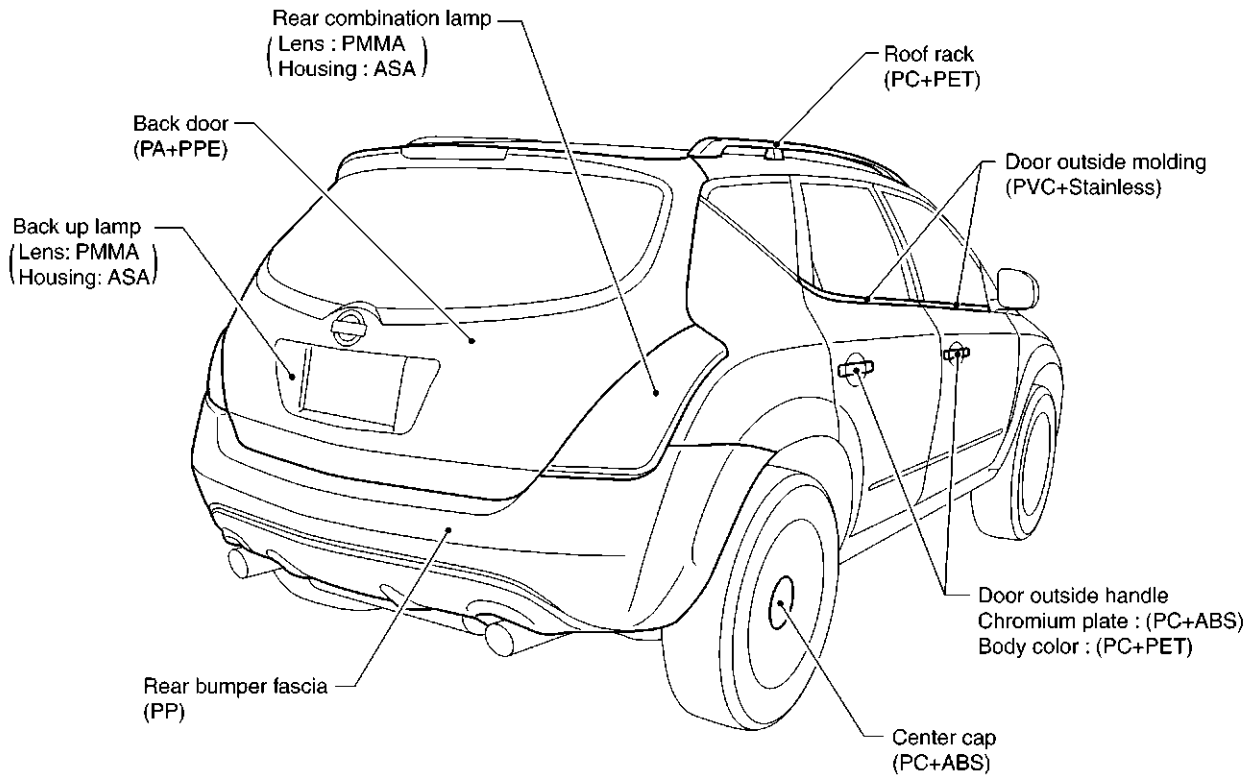
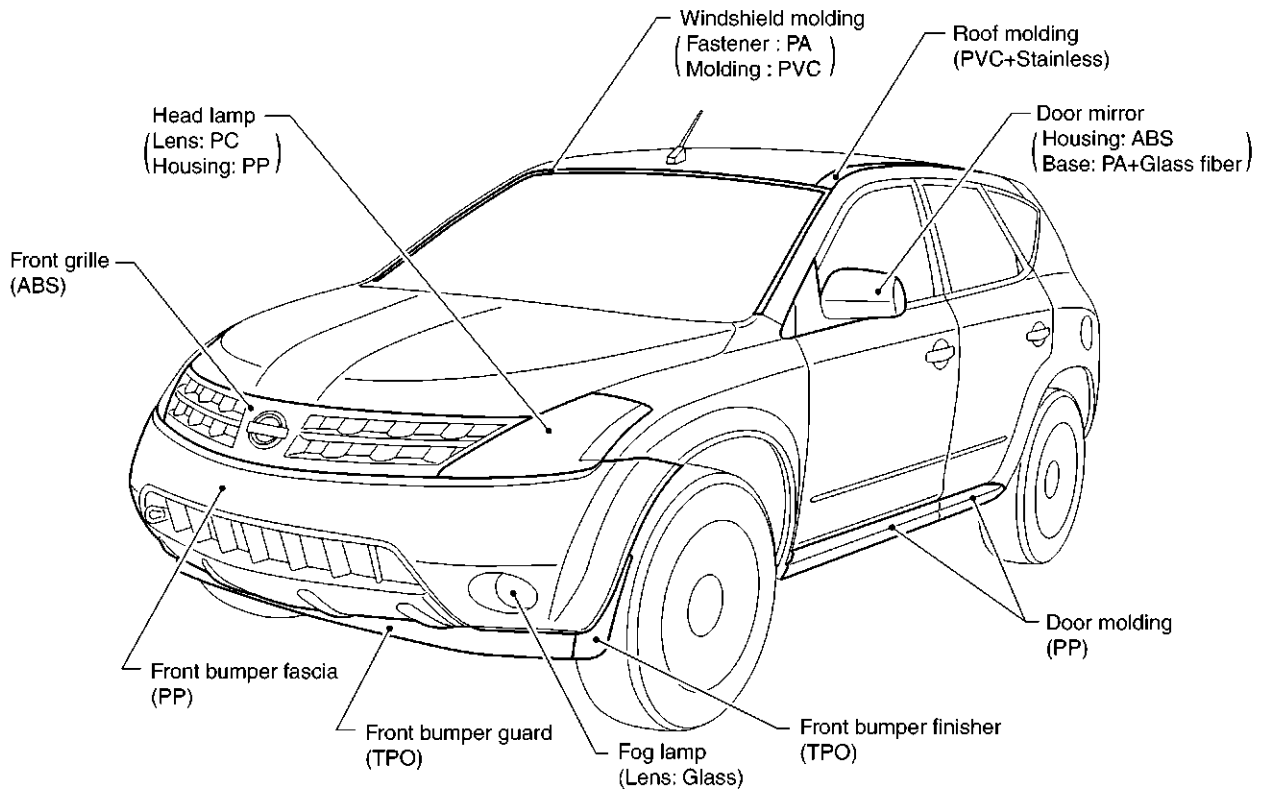
AIS001XZ

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	Poly Vinyl Chloride	80(176)	Same as above.	Poison gas is emitted when burned.
EPM/EPDM	Ethylene Propylene (Diene) copolymer	80(176)	Same as above.	Flammable
TPO	Thermoplastic Olefine	80(176)	Same as above.	Flammable
PP	Polypropylene	90(194)	Same as above.	Flammable, avoid battery acid.
UP	Unsaturated Polyester	90(194)	Same as above.	Flammable
PS	Polystyrene	80(176)	Avoid solvents.	Flammable
ABS	Acrylonitrile Butadiene Styrene	80(176)	Avoid gasoline and solvents.	
PMMA	Poly Methyl Methacrylate	85(185)	Same as above.	
EVAC	Ethylene Vinyl Acetate	90(194)	Same as above.	
ASA	Acrylonitrile Styrene Acrylate	100(222)	Same as above.	Flammable
PPE	Poly Phenylene Ether	110(230)	Same as above.	
PC	Polycarbonate	120(248)	Same as above.	
PAR	Polyarylate	180(356)	Same as above.	
PUR	Polyurethane	90(194)	Same as above.	
POM	Poly Oxymethylene	120(248)	Same as above.	Avoid battery acid.
PBT+PC	Poly Butylene Terephthalate + Polycarbonate	120(248)	Same as above.	Flammable
PA	Polyamide	140(284)	Same as above.	Avoid immersing in water.
PBT	Poly Butylene Terephthalate	140(284)	Same as above.	
PET	Polyester	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.

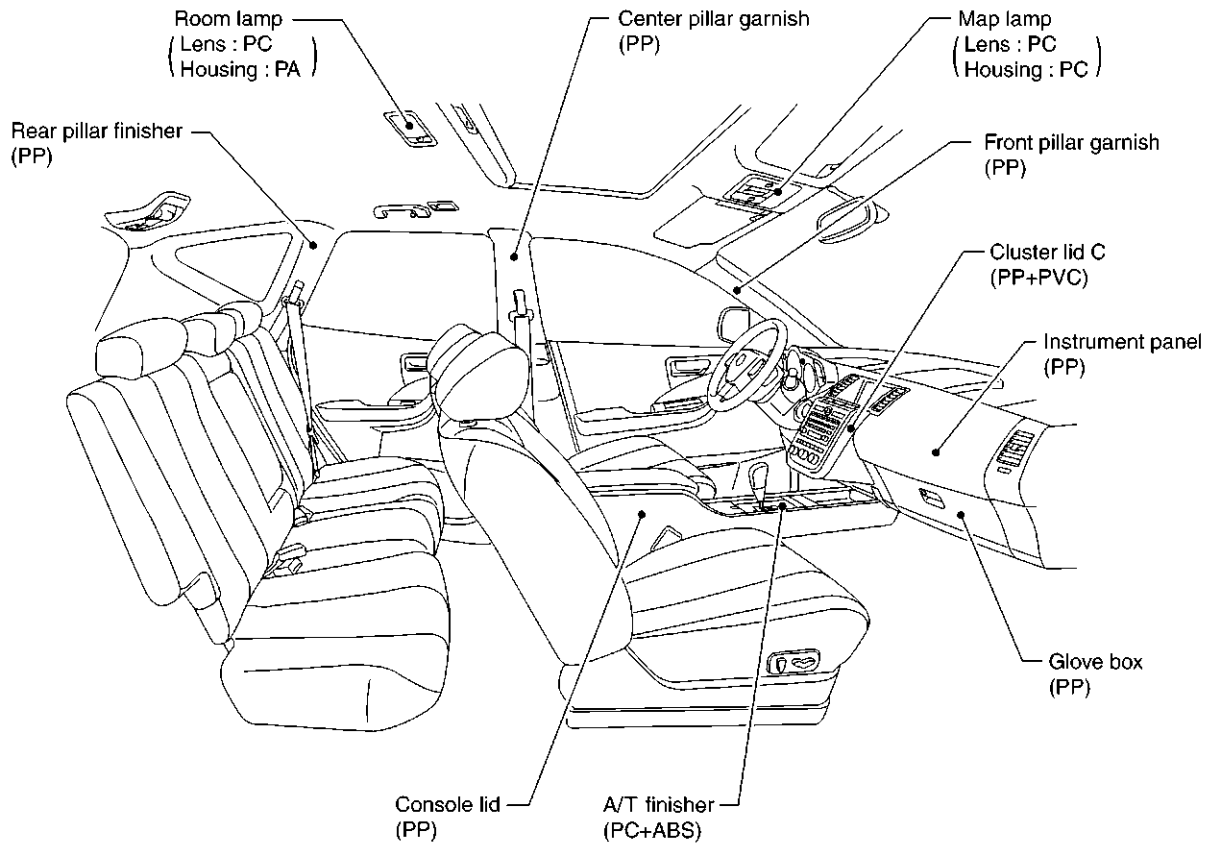
# BODY REPAIR

## LOCATION OF PLASTIC PARTS



SIIA2177E

# BODY REPAIR



SIIA2178E

# BODY REPAIR

## Precautions In Repairing High Strength Steel

AIS001Y0

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 &amp; rear side member assembly</li><li>● Hoodledge assembly</li><li>● Lower dash</li><li>● Hood</li><li>● Other reinforcements</li></ul>

SP130 is the most commonly used HSS.

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

A

B

C

D

E

F

G

H

BL

J

K

L

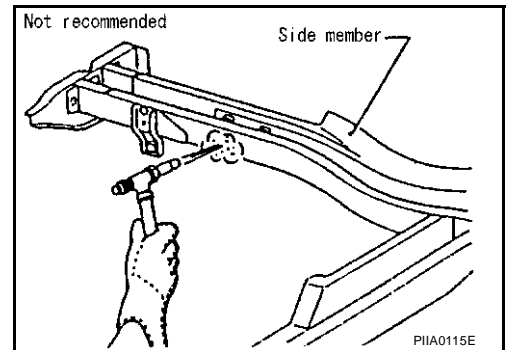
M

# BODY REPAIR

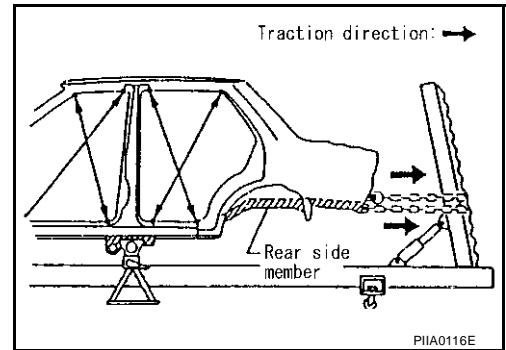
## Read the Following Precautions When Repairing HSS:

### 1. Additional points to consider

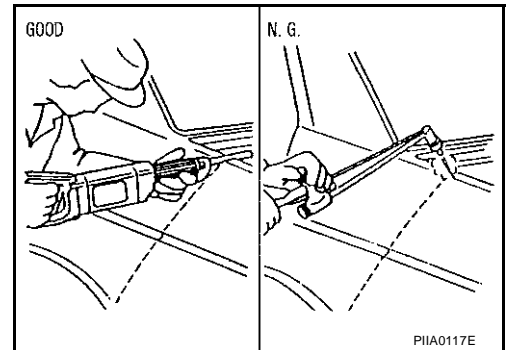
- The repair of reinforcements (such as side members) by heating is not recommended since it may weaken the component. When heating is unavoidable, do not heat HSS parts above 550°C (1,022°F). Verify heating temperature with a thermometer. (Crayon-type and other similar type thermometer are appropriate.)



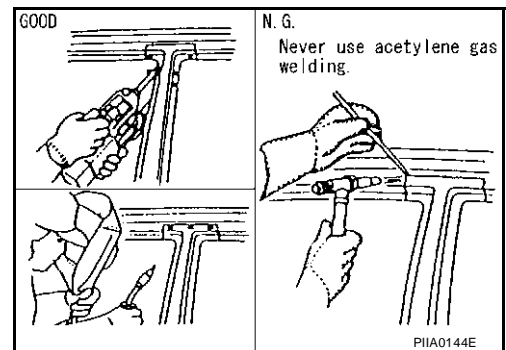
- When straightening body panels, use caution in pulling any HSS panel. Because HSS is very strong, pulling may cause deformation in adjacent portions of the body. In this case, increase the number of measuring points, and carefully pull the HSS panel.



- 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).



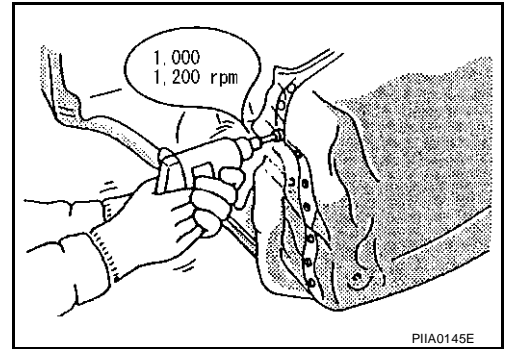
- When welding HSS panels, use spot welding whenever possible in order to minimize weakening surrounding areas due to heat. If spot welding is impossible, use M.I.G. welding. Do not use gas (torch) welding because it is inferior in welding strength.





# BODY REPAIR

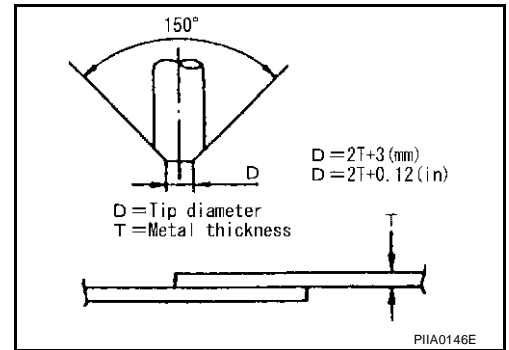
- The spot weld on HSS panels is harder than that of an ordinary steel panel.  
Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.



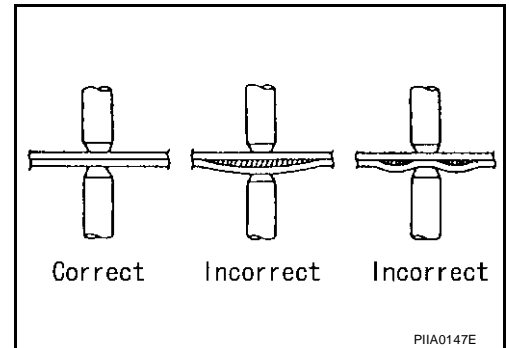
## 2. Precautions in spot welding HSS

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.



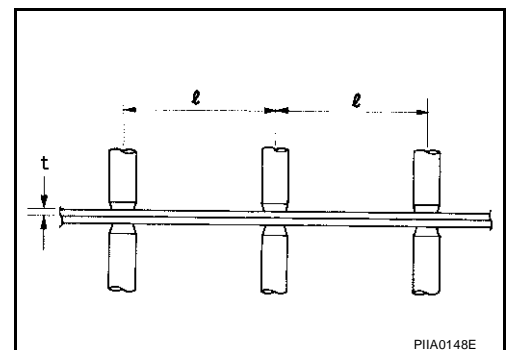
- The panel surfaces must fit flush to each other, leaving no gaps.



- Follow the specifications for the proper welding pitch.

Unit: mm

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

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## Replacement Operations

AIS001Y1

### DESCRIPTION


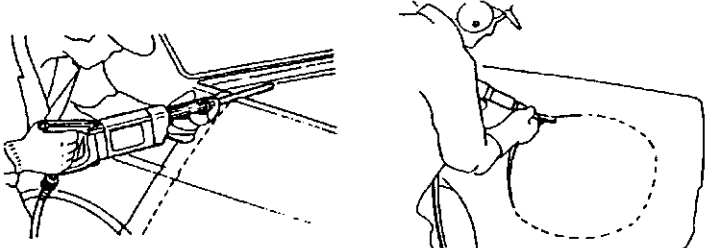

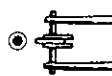
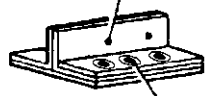
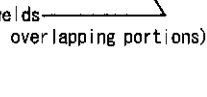
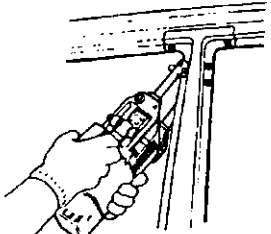

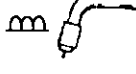
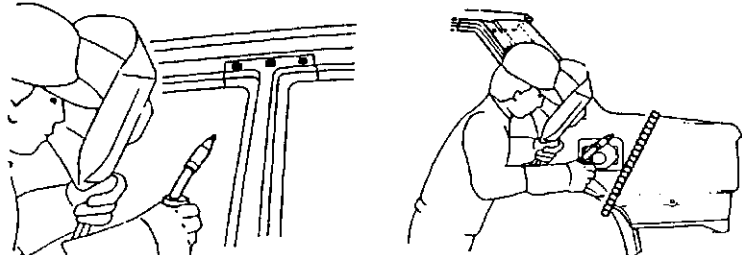

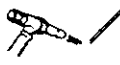
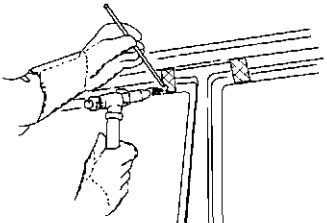

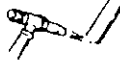
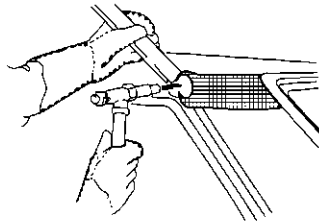
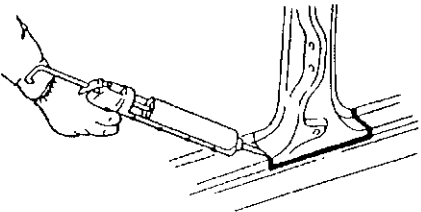
This section is prepared for technicians who have attained a high level of skill and experience in repairing collision-damaged vehicles and also use modern service tools and equipment. Persons unfamiliar with body repair techniques should not attempt to repair collision-damaged vehicles by using this 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 warning, that are not including in this manual. Technicians should refer to both manuals to ensure proper repairs.

Please note that these information are prepared for worldwide usage, and as such, certain procedures might not apply in some regions or countries.

# BODY REPAIR

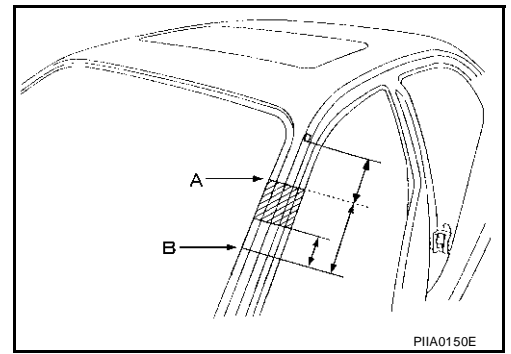
The symbols used in this section for cutting and welding / brazing operations are shown below.

 <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>■ ■ ■ ■ MIG plug weld</p>  <p>~~~~~ MIG seam weld/ Point weld</p> 		
<p>▨ ▨ ▨ ▨ Brazing</p>  		
<p>▩ ▩ ▩ ▩ Soldering</p>  		
<p>————— Sealing</p>		

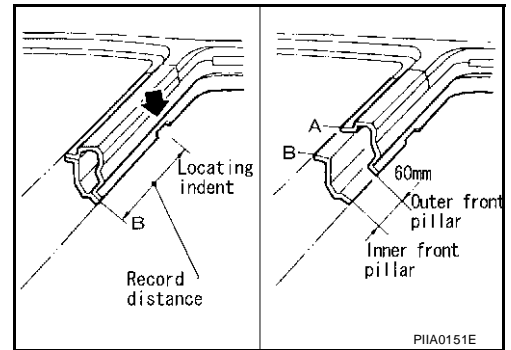
A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

## BODY REPAIR

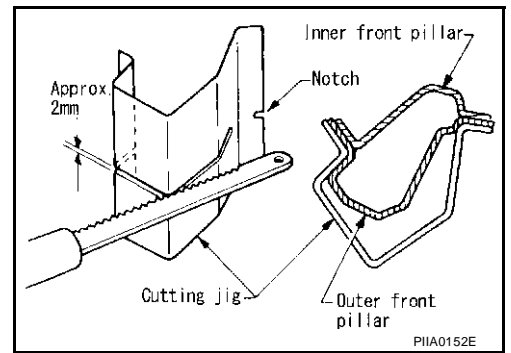
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle. Refer to the front pillar section.



- 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.

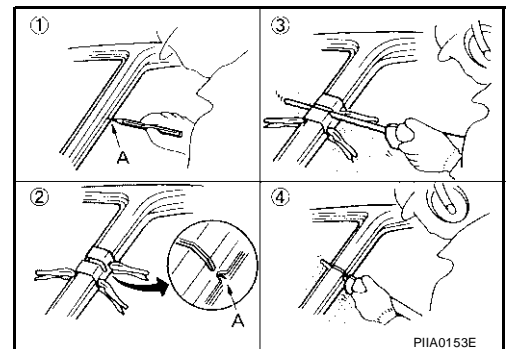


- Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit service part to be accurately cut at joint position.



- 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.

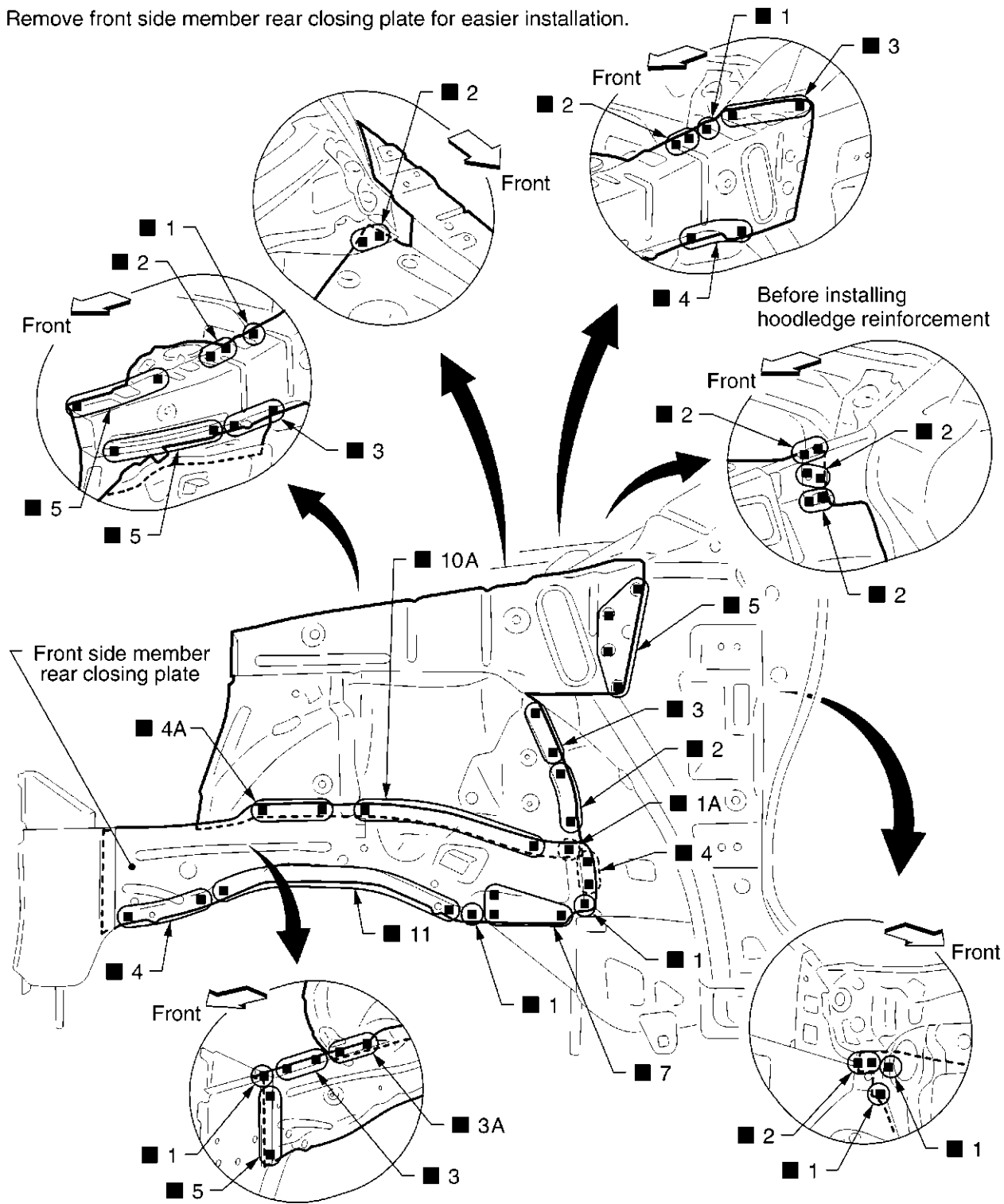


# BODY REPAIR

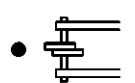
## HOODLEDGE

### Service Joint

Remove front side member rear closing plate for easier installation.



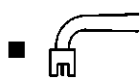
2-spot welds



3-spot welds



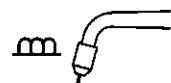
M I G plug weld



( For 3 panels plug weld method )



M I G seam weld/  
Point weld



SIIA2180E

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

# BODY REPAIR

---

## Change parts

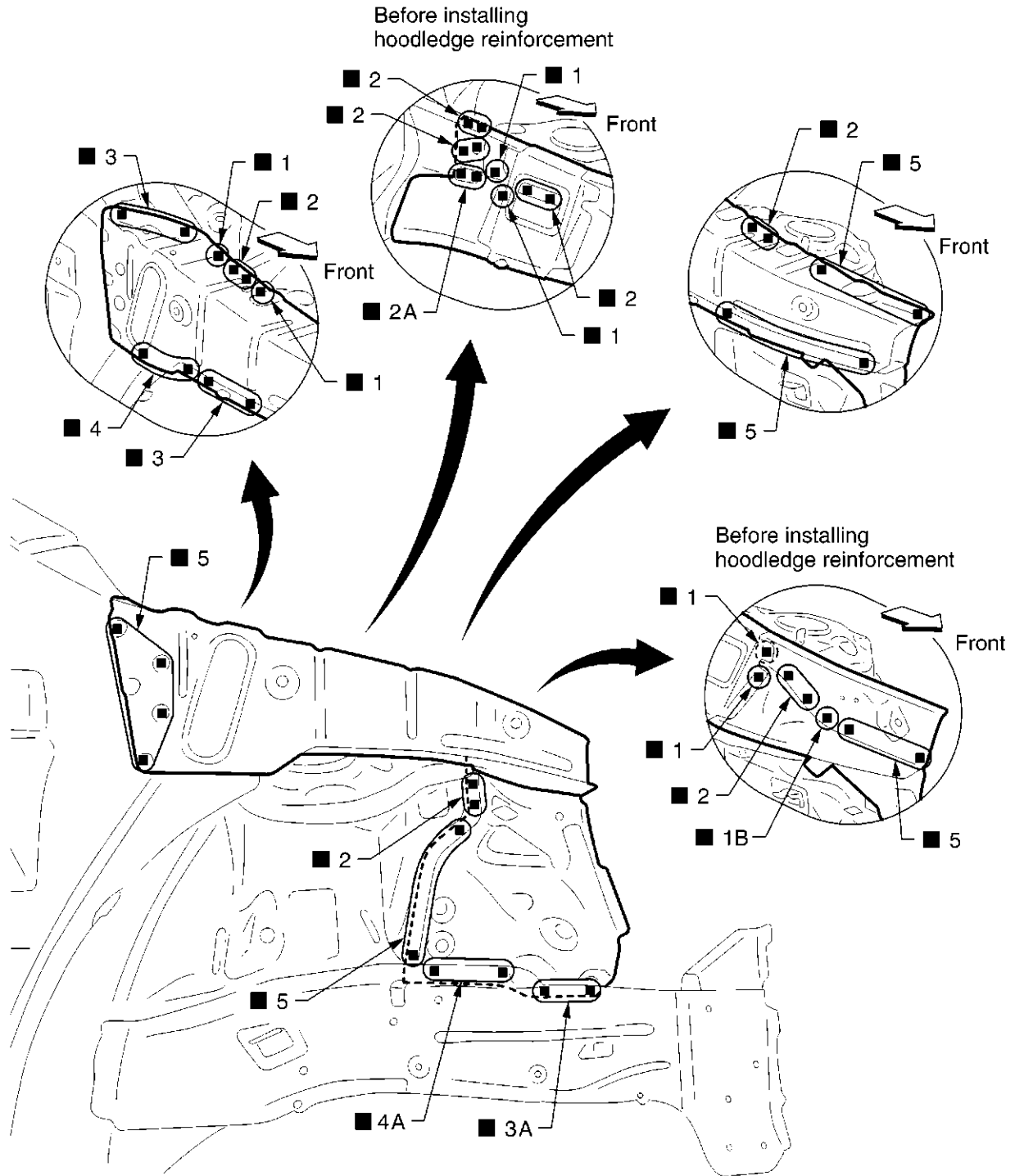
- Hoodledge assembly (LH)
- Hoodledge reinforcement (LH)

# BODY REPAIR

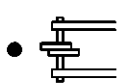
## HOODLEDGE (PARTIAL REPLACEMENT)

### Service Joint

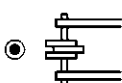
(This figure shows right side hoodledge)



2-spot welds



3-spot welds



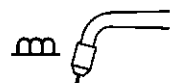
M I G plug weld



( For 3 panels plug weld method )



M I G seam weld/  
Point weld



SIIA2181E

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

# BODY REPAIR

---

## Change parts

- Upper hoodledge (RH)
- Lower front hoodledge (RH)
- Hoodledge reinforcement (RH)

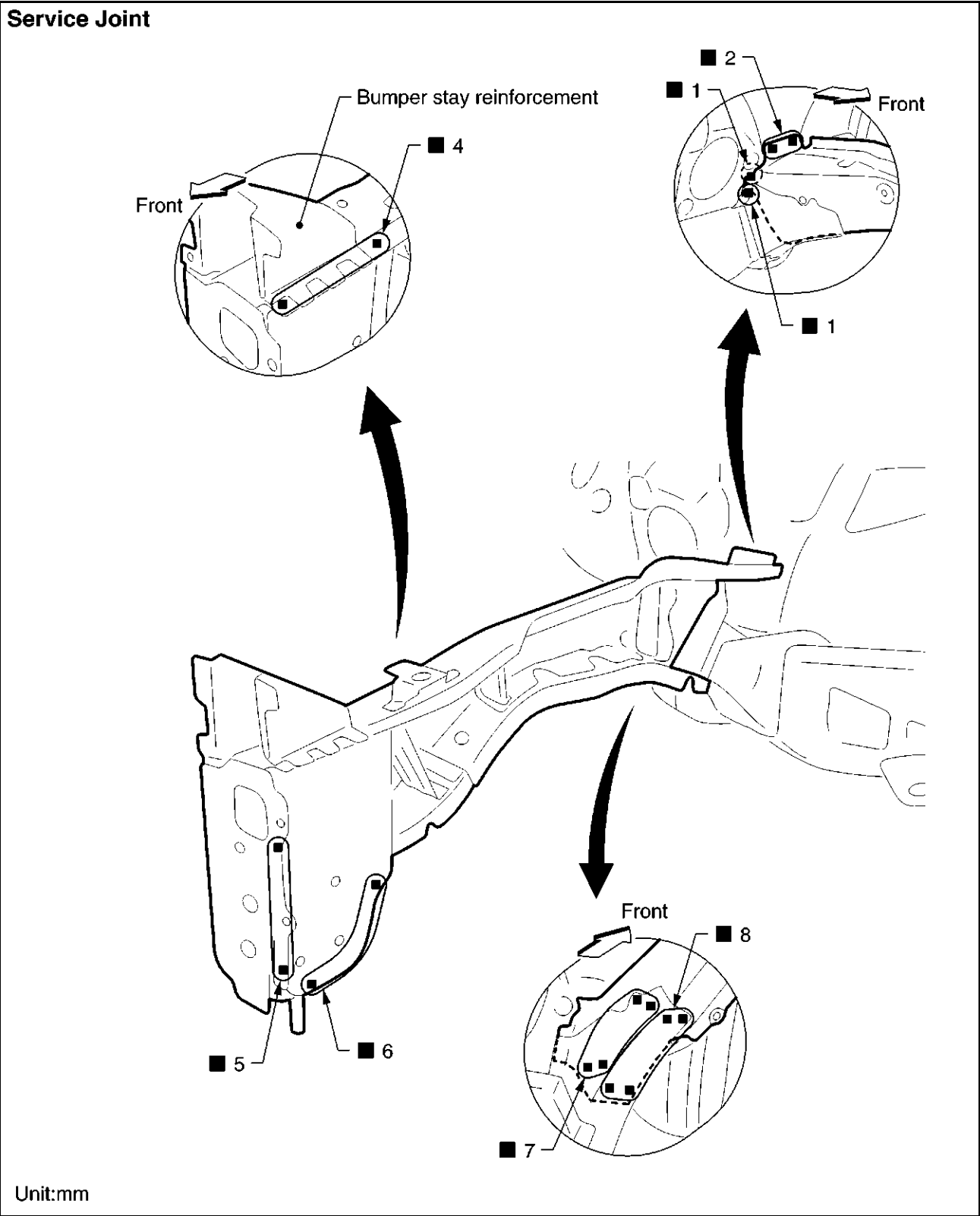


# BODY REPAIR

## FRONT SIDE MEMBER

- Work after hoodledge has been removed.

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



Unit:mm

2-spot welds



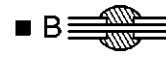
3-spot welds



MIG plug weld



For 3 panels plug weld method



MIG seam weld/  
Point weld



SIIA2182E

# BODY REPAIR

---

## Change parts

- Front side member (LH)
- Front side member closing plate assembly (LH)

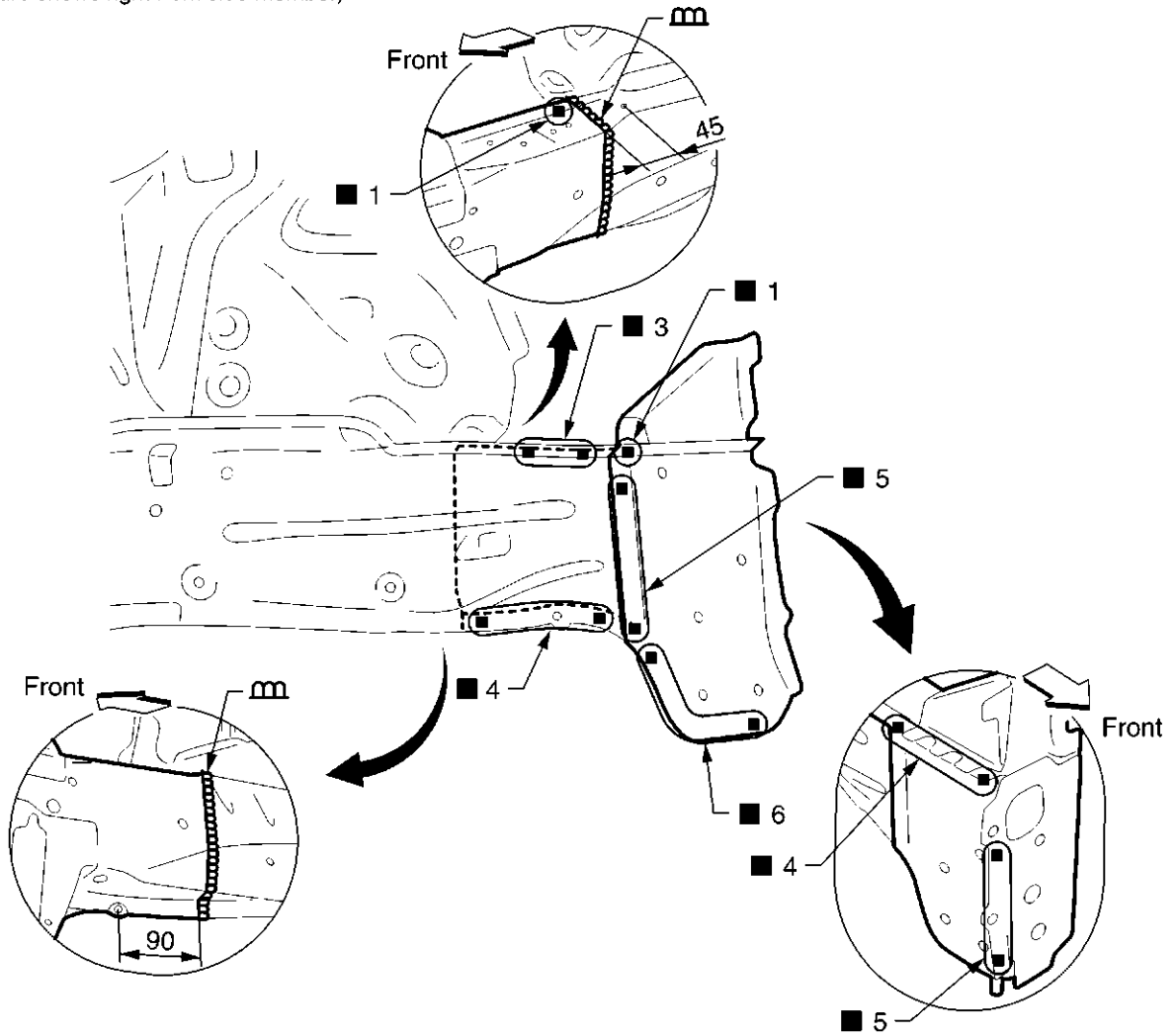
# BODY REPAIR

## FRONT SIDE MEMBER (PARTIAL REPLACEMENT)

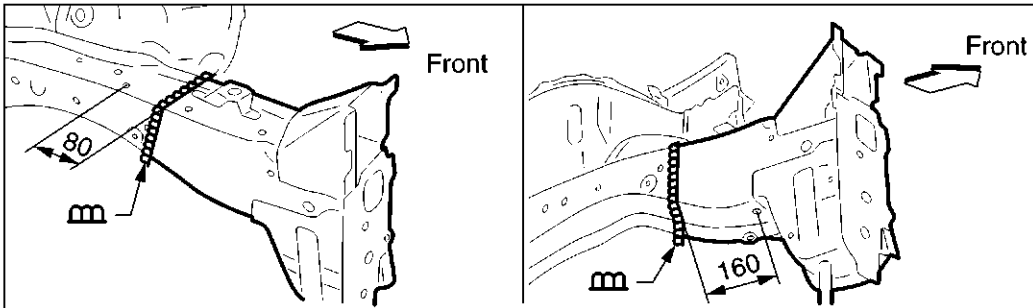
A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

### Service Joint

(This figure shows right front side member)



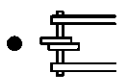
- Left front side member cut portion.
- Repairing of front side member on left side is for only front side member.



(Never cutting of front side member reinforcement together.)

Unit:mm

2-spot welds



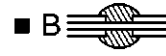
3-spot welds



M I G plug weld



( For 3 panels plug weld method )



M I G seam weld/  
Point weld



SIIA2183E

# BODY REPAIR

---

## Change parts

- Front side member (RH)
- Front side member front closing plate (RH)

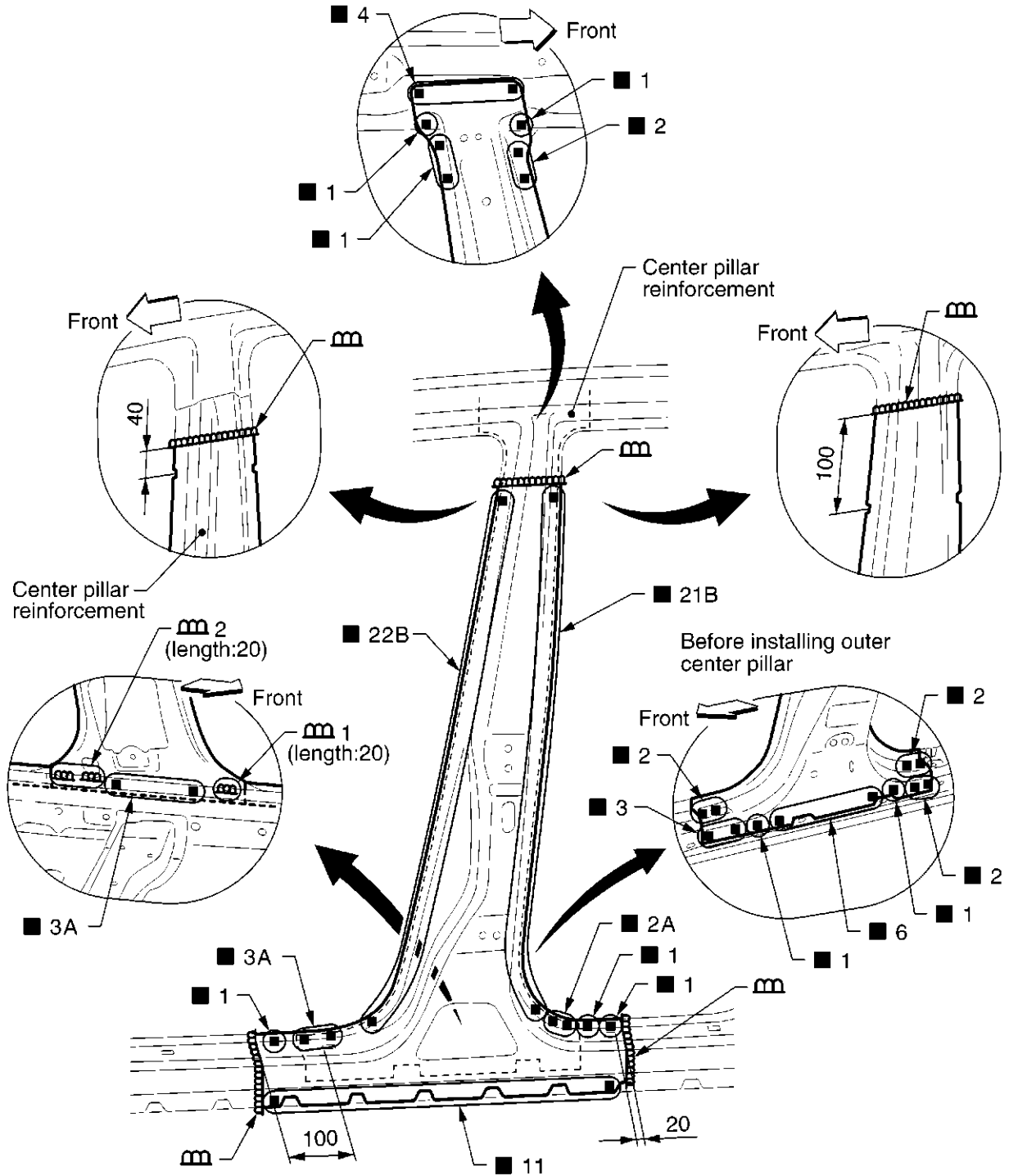




# BODY REPAIR

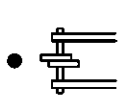
## CENTER PILLAR

### Service Joint

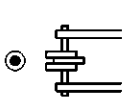


Unit:mm

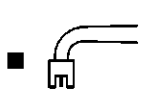
2-spot welds



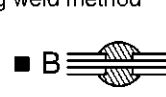
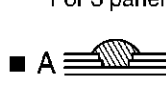
3-spot welds



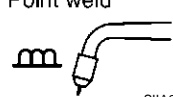
MIG plug weld



( For 3 panels plug weld method )



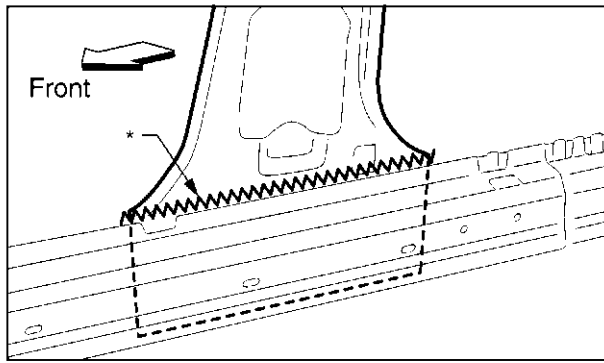
MIG seam weld/  
Point weld



SIIA2186E

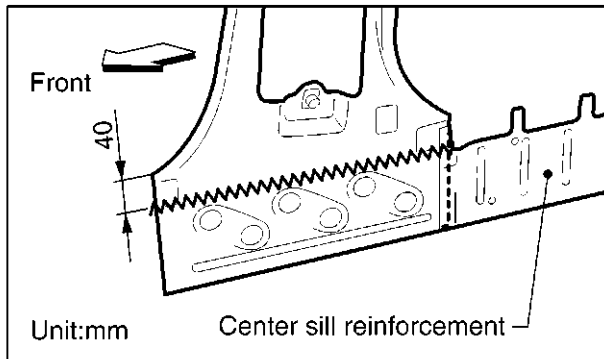
A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

# BODY REPAIR



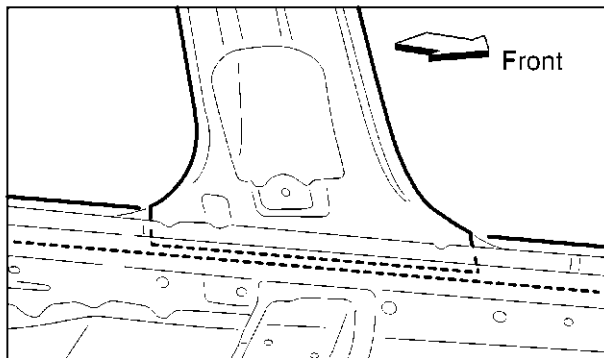
## REMOVAL NOTES

- Cut off inner center pillar along with outer sill reinforcement frange end (Position "\*" as shown in the left figure.)



## INSTALLATION NOTES

- Remove center sill reinforcement from inner center pillar service part, then cut off inner center pillar service part as shown in the left figure.



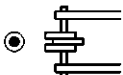
- Install inner center pillar service part by putting between inner sill and outer sill reinforcement, then do M.I.G seam welding and M.I.G plug welding.

Unit:mm

2-spot welds



3-spot welds



M I G plug weld



For 3 panels plug weld method



M I G seam weld/  
Point weld



SIIA2187E

Change parts

- Side body assembly (LH)

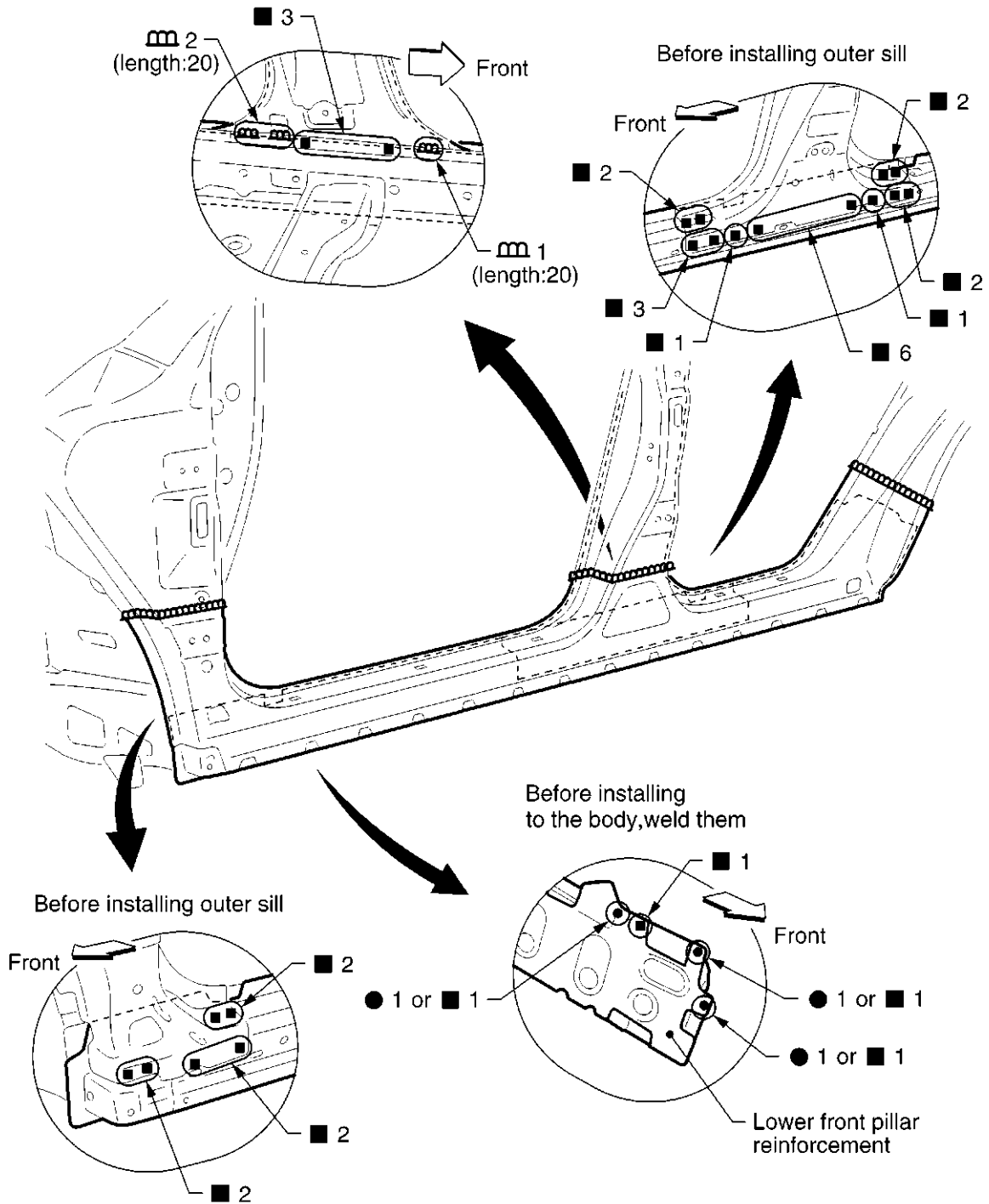
- Inner center pillar (LH)





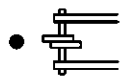
# BODY REPAIR

## Service Joint

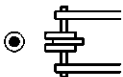


Unit:mm

2-spot welds



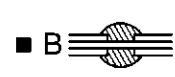
3-spot welds



M I G plug weld



For 3 panels plug weld method



M I G seam weld/  
Point weld



SIIA2189E

Change parts

● Outer sill (LH)

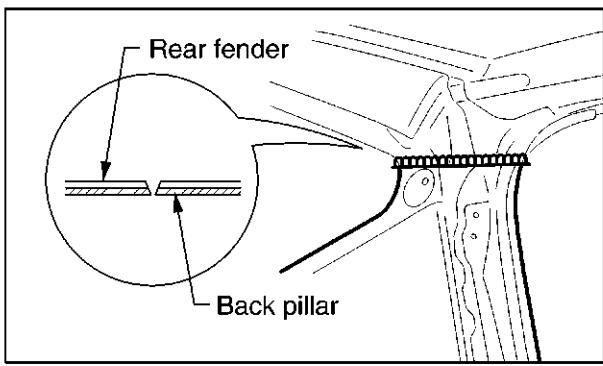
● Outer sill reinforcement assembly (LH)

● Lower front pillar reinforcement (LH)

● Rear outer sill reinforcement (LH)



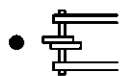
# BODY REPAIR



## INSTALLATION NOTES

- As shown in the left figure, make "V" shape with rear fender and back pillar by using an air grinder or air belt sander.
- Weld surface on rear fender assembly service parts by M.I.G seam welding.

2-spot welds



3-spot welds



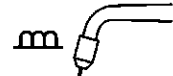
M I G plug weld



For 3 panels plug weld method



M I G seam weld/  
Point weld



SIIA2191E

Change parts

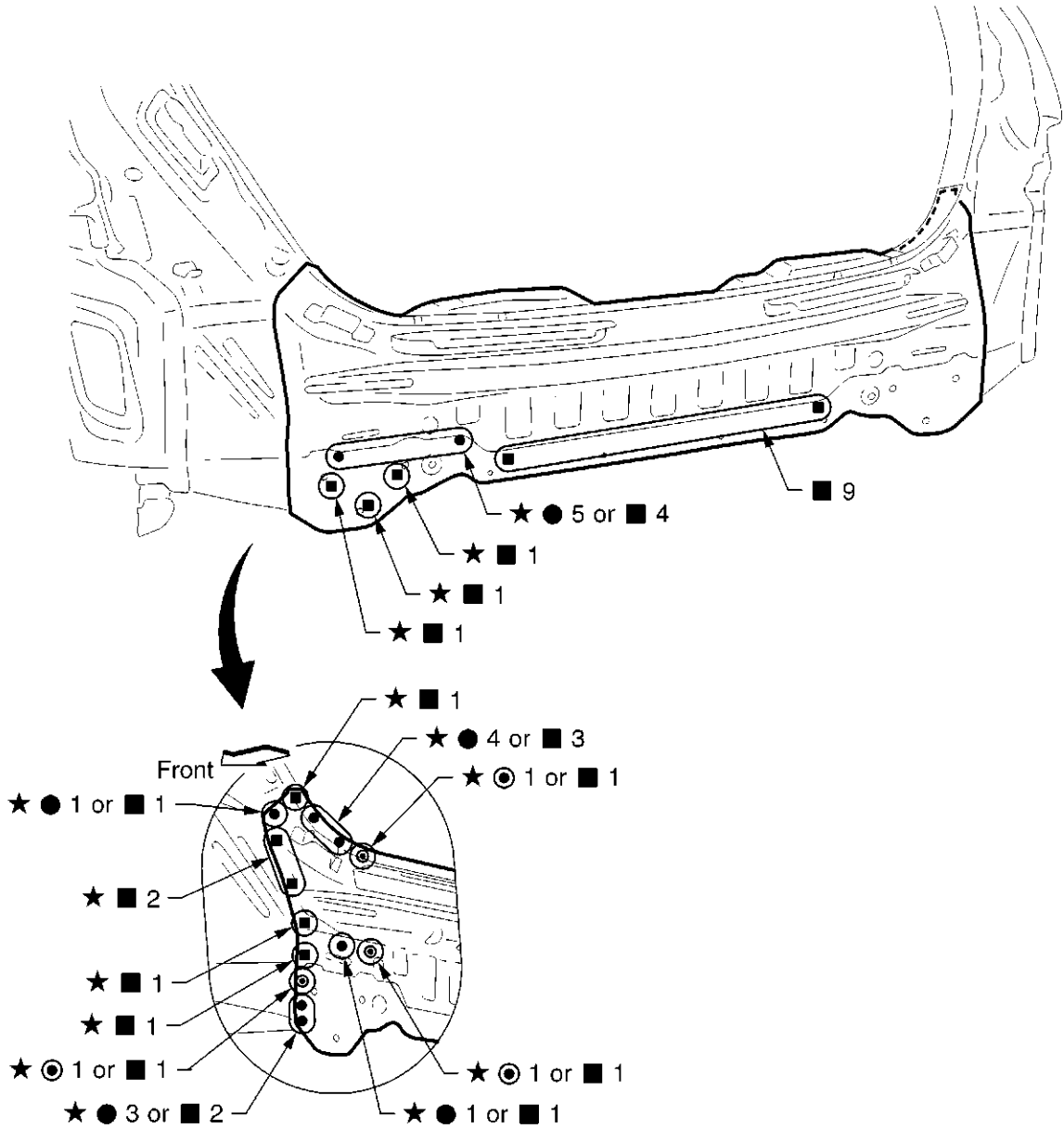
- Rear fender assembly (LH)

# BODY REPAIR

## REAR PANEL

### Service Joint

★ indicates that there is an equivalent welding portion with the same dimensions on the opposite side.



A

B

C

D

E

F

G

H

BL

J

K

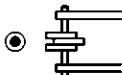
L

M

2-spot welds



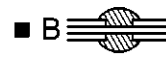
3-spot welds



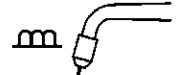
MIG plug weld



( For 3 panels plug weld method )



MIG seam weld/  
Point weld



SIIA2192E

# BODY REPAIR

---

Change parts

- Rear panel assembly

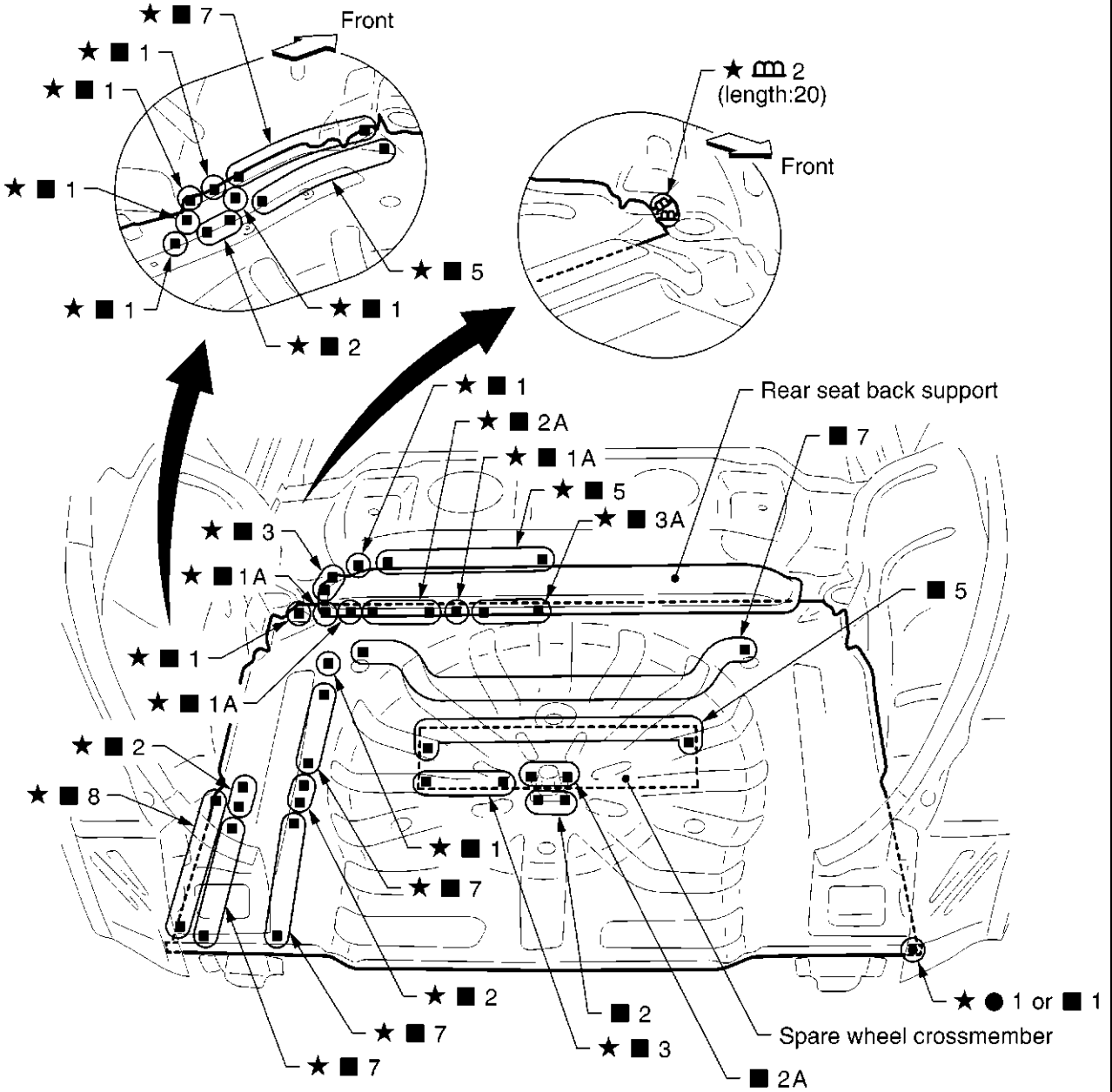
# BODY REPAIR

## REAR FLOOR REAR

- Work after rear panel has been removed.

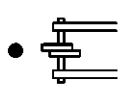
### Service Joint

★ indicates that there is an equivalent welding portion with the same dimensions on the opposite side.

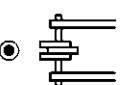


Unit:mm

2-spot welds



3-spot welds



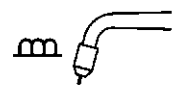
M I G plug weld



For 3 panels plug weld method



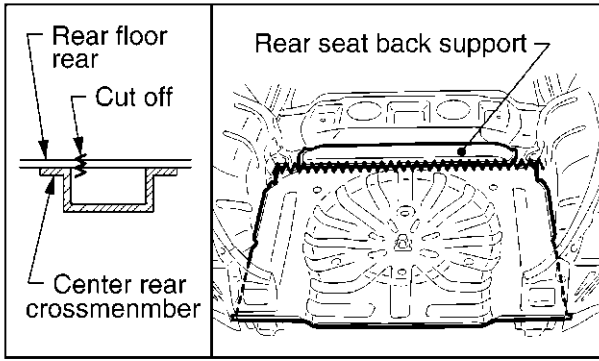
M I G seam weld/  
Point weld



SIIA2193E

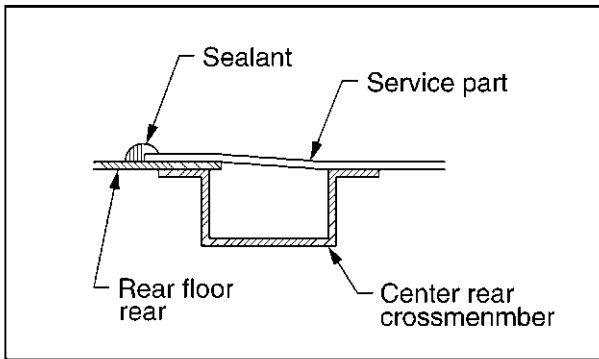
A  
B  
C  
D  
E  
F  
G  
H  
BL  
J  
K  
L  
M

# BODY REPAIR



## REMOVAL NOTES

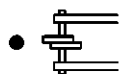
- Remove lower rear seat back support assembly for easier installation.
- Cut off rear floor rear along with center rear crossmember assembly flange.



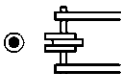
## INSTALLATION NOTES

- Position rear floor rear service part as overlapped old part, then weld them.
- Apply sealant and anti-corrosive wax to the inside of center rear crossmember shown in the left figure.
- Then, re-weld rear seat back support assembly

2-spot welds



3-spot welds



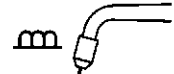
M I G plug weld



For 3 panels plug weld method



M I G seam weld/  
Point weld



SIIA2194E

Change parts

- Rear floor rear

- Spare tire clamp bracket

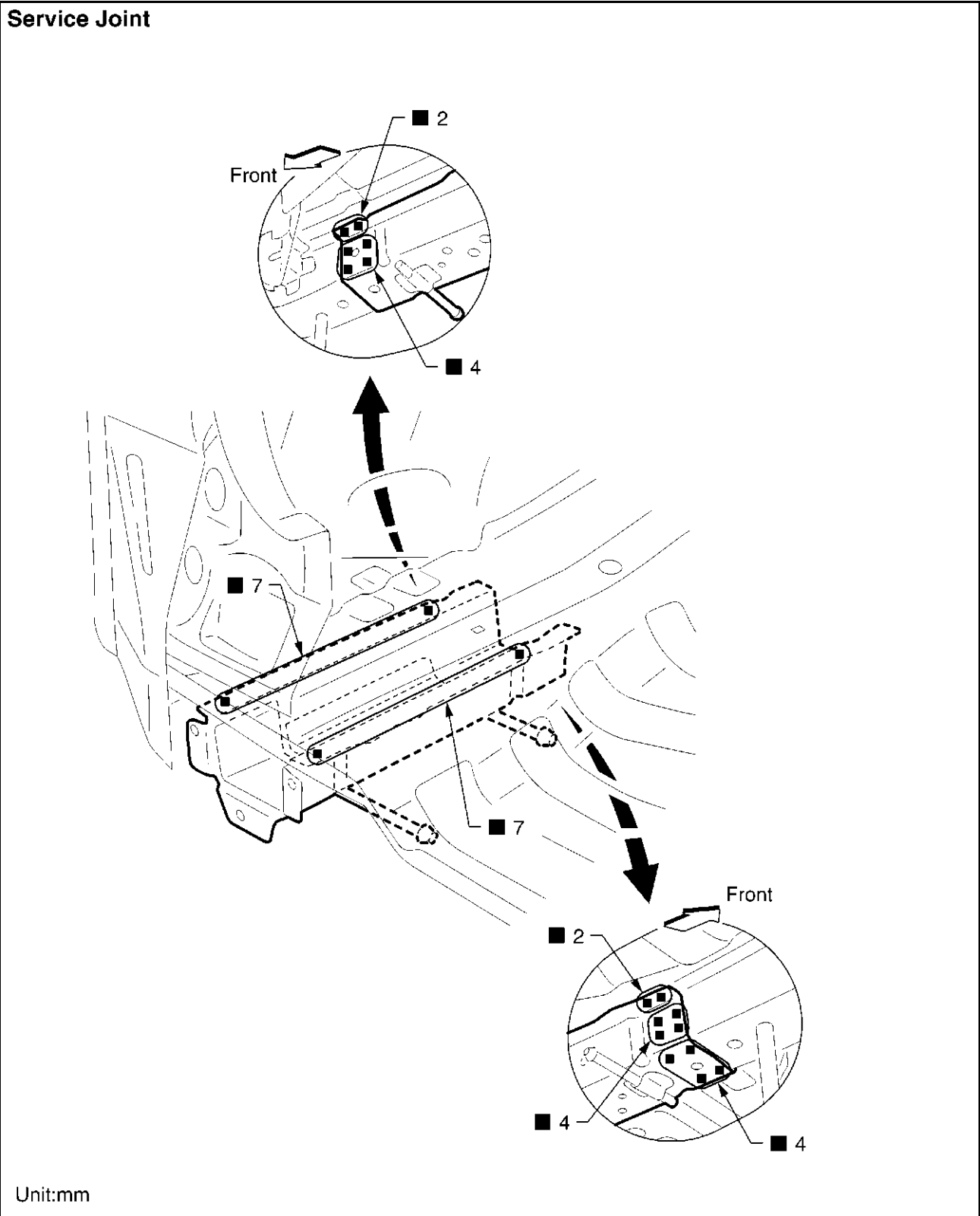


# BODY REPAIR

## REAR SIDE MEMBER EXTENSION

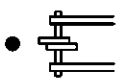
- Work after rear panel has been removed.

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

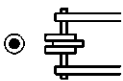


Unit:mm

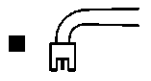
2-spot welds



3-spot welds



M I G plug weld



For 3 panels plug weld method



M I G seam weld/  
Point weld



SIIA2195E

# BODY REPAIR

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Change parts

- Rear side member extension (LH)