SECTION BL

BODY, LOCK & SECURITY SYSTEM

CONTENTS

PRECAUTIONS

PFP:00001

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

EIS009DU

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 Necessary for Steering Wheel Rotation After Battery Disconnect

EIS009CG

NOTE:

- This procedure is applied only to models with Intelligent Key system and NVIS/IVIS (NISSAN/INFINITI VEHICLE IMMOBILIZER SYSTEM - NATS).
- Remove and install all control units after disconnecting both battery cables with the ignition in the ″LOCK″ position.
- Always use CONSULT-II to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NVIS/IVIS, an electrically controlled steering lock mechanism is adopted on the key cylinder.
For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.
If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

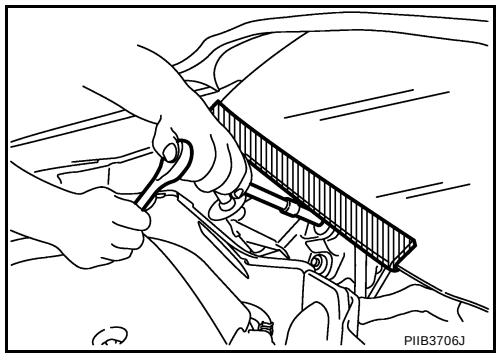
1. Connect both battery cables.

   NOTE:
   Supply power using jumper cables if battery is discharged.
2. Use the Intelligent Key or mechanical key to turn the ignition switch to the ″ACC″ position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.
5. When the repair work is completed, return the ignition switch to the ″LOCK″ position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT-II.

Precautions for Procedures without Cowl Top Cover

EIS0090H

When performing the procedure after removing cowl top cover, cover the lower end of windshield.



Precautions for Work

EIS0090I

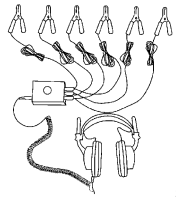
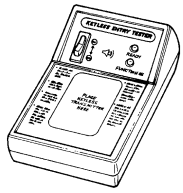
- After removing and installing the opening/closing parts, be sure to carry out fitting adjustments to check their operation.
- Check the lubrication level, damage, and wear of each part. If necessary, grease or replace it.

PREPARATION

PFP:00002

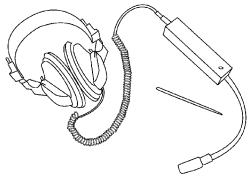
Special service tool

EIS0090K

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

Commercial Service Tools

EIS009D3

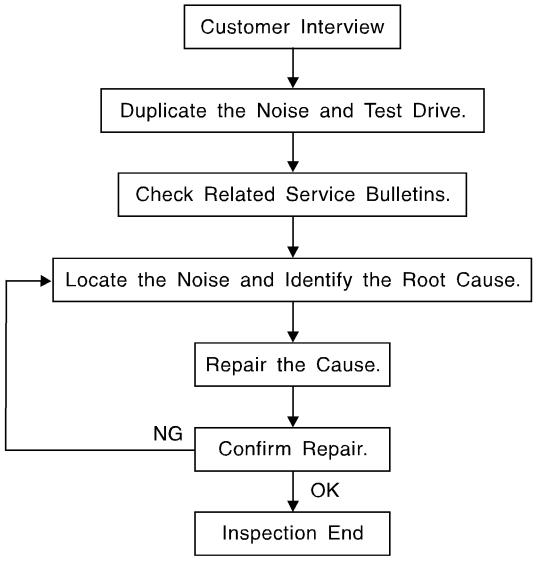
Tool name		Description
Engine ear	 SIIA0995E	Locating the noise

SQUEAK AND RATTLE TROUBLE DIAGNOSES

PFP:00000

Work Flow

EIS009DG



SBT842

CUSTOMER INTERVIEW

Interview the customer if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any customer's comments; refer to BL-12, "Diagnostic Worksheet" . This information is necessary to duplicate the conditions that exist when the noise occurs.

- The customer may not be able to provide a detailed description or the location of the noise. Attempt to obtain all the facts and conditions that exist when the noise occurs (or does not occur).
- If there is more than one noise in the vehicle, be sure to diagnose and repair the noise that the customer is concerned about. This can be accomplished by test driving the vehicle with the customer.
- After identifying the type of noise, isolate the noise in terms of its characteristics. The noise characteristics are provided so the customer, service adviser and technician are all speaking the same language when defining the noise.
- Squeak —(Like tennis shoes on a clean floor)
  Squeak characteristics include the light contact/fast movement/brought on by road conditions/hard surfaces = higher pitch noise/softer surfaces = lower pitch noises/edge to surface = chirping.
- Creak—(Like walking on an old wooden floor)
  Creak characteristics include firm contact/slow movement/twisting with a rotational movement/pitch dependent on materials/often brought on by activity.
- Rattle—(Like shaking a baby rattle)
  Rattle characteristics include the fast repeated contact/vibration or similar movement/loose parts/missing clip or fastener/incorrect clearance.
- Knock —(Like a knock on a door)
  Knock characteristics include hollow sounding/sometimes repeating/often brought on by driver action.
- Tick—(Like a clock second hand)
  Tick characteristics include gentle contacting of light materials/loose components/can be caused by driver action or road conditions.
- Thump—(Heavy, muffled knock noise)
  Thump characteristics include softer knock/dead sound often brought on by activity.
- Buzz—(Like a bumble bee)
  Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending upon the person. A noise that you may judge as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

DUPLICATE THE NOISE AND TEST DRIVE

If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when you confirm the repair.
If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

1) Close a door.
2) Tap or push/pull around the area where the noise appears to be coming from.
3) Rev the engine.
4) Use a floor jack to recreate vehicle “twist”.
5) At idle, apply engine load (electrical load, half-clutch on M/T model, drive position on A/T model).
6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.

- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
- If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

CHECK RELATED SERVICE BULLETINS

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.
If a TSB relates to the symptom, follow the procedure to repair the noise.

LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

1. Narrow down the noise to a general area.To help pinpoint the source of the noise, use a listening tool (Chassis Ear: J-39570, Engine Ear: J-39565 and mechanic's stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:

- removing the components in the area that you suspect the noise is coming from.
  Do not use too much force when removing clips and fasteners, otherwise clips and fasteners can be broken or lost during the repair, resulting in the creation of new noise.
- tapping or pushing/pulling the component that you suspect is causing the noise.
  Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
- feeling for a vibration with your hand by touching the component(s) that you suspect is (are) causing the noise.
- placing a piece of paper between components that you suspect are causing the noise.
- looking for loose components and contact marks.
  Refer to BL-10, "Generic Squeak and Rattle Troubleshooting" .

REPAIR THE CAUSE

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

CAUTION:
Do not use excessive force as many components are constructed of plastic and may be damaged.
Always check with the Parts Department for the latest parts information.
The following materials are contained in the NISSAN Squeak and Rattle Kit (J-43980). Each item can be ordered separately as needed.
URETHANE PADS [1.5 mm (0.059 in) thick]
Insulates connectors, harness, etc.
76268-9E005: 100×135 mm (3.94×5.31 in)/76884-71L01: 60×85 mm (2.36×3.35 in)/76884-71L02: 15×25 mm (0.59×0.98 in)
INSULATOR (Foam blocks)
Insulates components from contact. Can be used to fill space behind a panel.
73982-9E000: 45 mm (1.77 in) thick, 50×50 mm (1.97×1.97 in)/73982-50Y00: 10 mm (0.39 in) thick, 50×50 mm (1.97×1.97 in)
INSULATOR (Light foam block)

80845-71L00: 30 mm (1.18 in) thick, 30×50 mm (1.18×1.97 in)
FELT CLOTH TAPE
Used to insulate where movement does not occur. Ideal for instrument panel applications.
68370-4B000: 15×25 mm (0.59×0.98 in) pad/68239-13E00: 5 mm (0.20 in) wide tape roll. The following materials not found in the kit can also be used to repair squeaks and rattles.
UHMW (TEFLON) TAPE
Insulates where slight movement is present. Ideal for instrument panel applications.
SILICONE GREASE
Used instead of UHMW tape that will be visible or not fit.
Note: Will only last a few months.
SILICONE SPRAY
Use when grease cannot be applied.
DUCT TAPE
Use to eliminate movement.

CONFIRM THE REPAIR

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

Generic Squeak and Rattle Troubleshooting

EIS009DH

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

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

1. The cluster lid A and instrument panel
2. Acrylic lens and combination meter housing
3. Instrument panel to front pillar garnish
4. Instrument panel to windshield
5. Instrument panel mounting pins
6. Wiring harnesses behind the combination meter
7. A/C defroster duct and duct joint

These incidents can usually be located by tapping or moving the components to duplicate the noise or by pressing on the components while driving to stop the noise. Most of these incidents can be repaired by applying felt cloth tape or silicone spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.

CAUTION:
Do not use silicone spray to isolate a squeak or rattle. If you saturate the area with silicone, you will not be able to recheck the repair.

CENTER CONSOLE

Components to pay attention to include:

1. Shifter assembly cover to finisher
2. A/C control unit and cluster lid C
3. Wiring harnesses behind audio and A/C control unit

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

DOORS

Pay attention to the:

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

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

TRUNK

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

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

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

SUNROOF/HEADLINING

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

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

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

OVERHEAD CONSOLE (FRONT AND REAR)

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

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

SEATS

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

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

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

UNDERHOOD

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

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

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

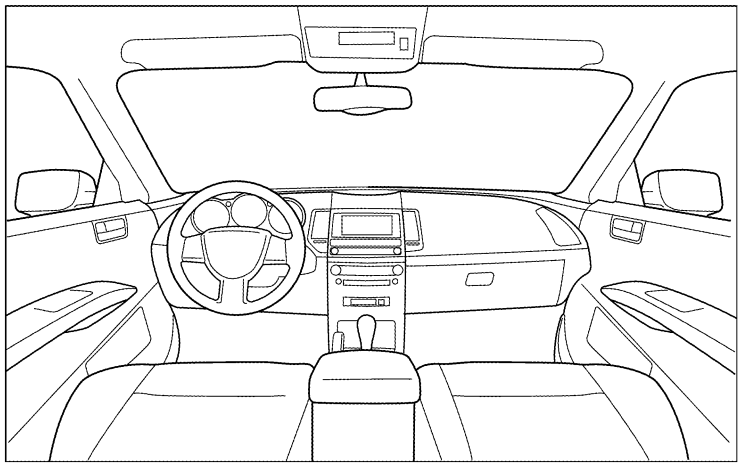
Diagnostic Worksheet

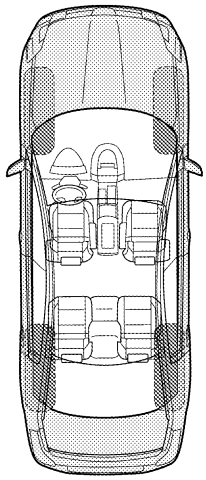
EIS009DI

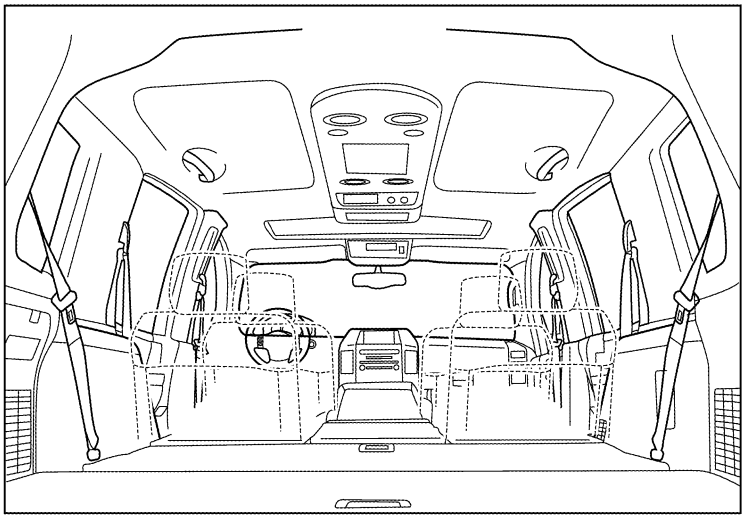
Dear Customer:
We are concerned about your satisfaction with your vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your vehicle right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions.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

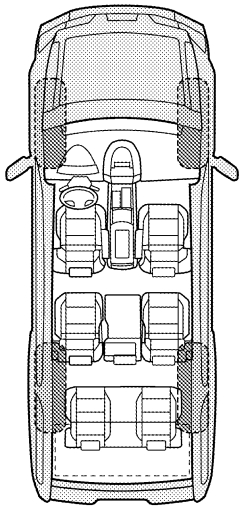
SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)
The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.









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

LAIA0072E

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

_____

_____

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

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

III. WHEN DRIVING:

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

IV. WHAT TYPE OF NOISE

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

TO BE COMPLETED BY DEALERSHIP PERSONNEL

Test Drive Notes:

_____

_____

_____

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

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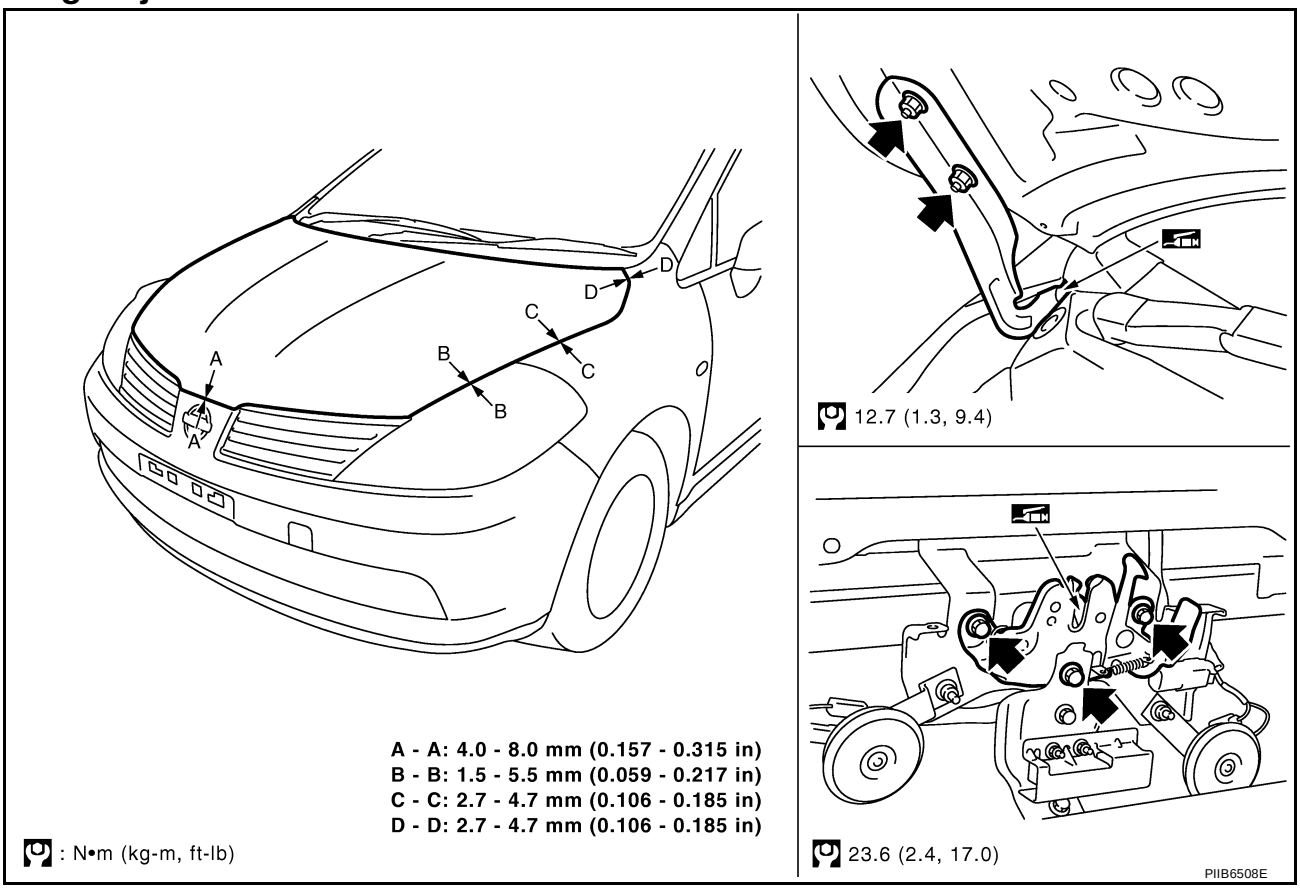
HOOD

PFP:F5100

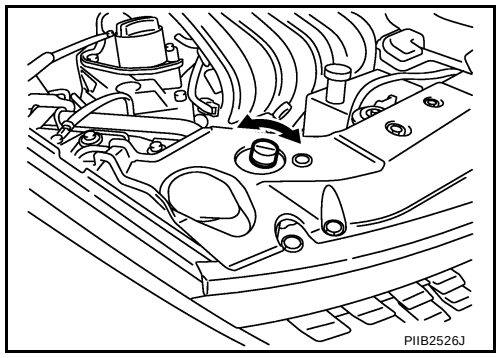
Fitting Adjustment

EIS0090O



FRONT END HEIGHT ADJUSTMENT AND LATERAL/LONGITUDINAL CLEARANCE ADJUSTMENT

1. Remove the front grille. Refer to EI-19, "FRONT GRILLE" .
2. Remove hood lock. Rotate bumper rubber to adjust height until hood becomes 1.0 to 1.5 mm lower than the fender.
3. Position hood lock and engage striker. Check hood lock and striker for looseness. Tighten lock bolts to the specified torque.
4. Install the front grille. Refer to EI-19, "FRONT GRILLE" .



CAUTION:

Adjust the clearance between hood and other parts so that the dimensional difference left and right is as follows.

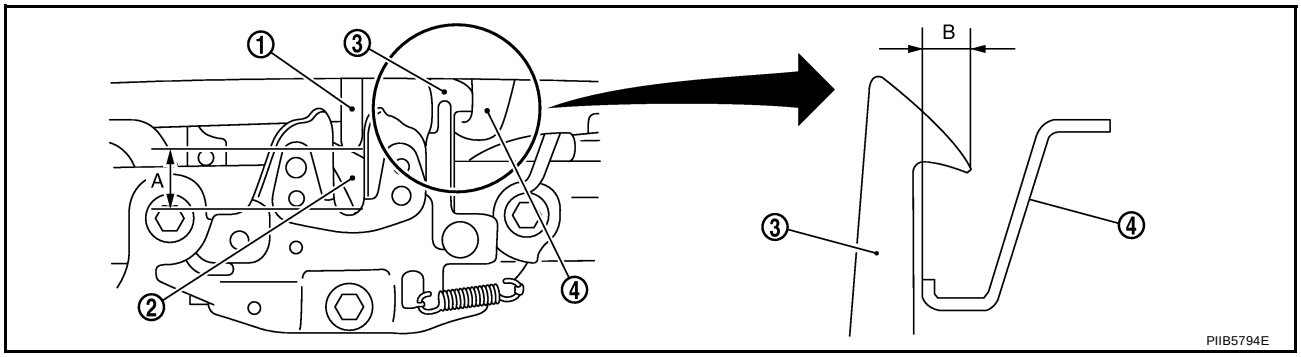
Hood and headlamp (B - B) : Less than 2.0 mm (0.08 in)
Hood and fender (C - C) : Less than 1.5 mm (0.06 in)
Hood and fender (D - D) : Less than 1.5 mm (0.06 in)

SURFACE MISMATCH ADJUSTMENT

1. Remove the front grille. Refer to EI-19, "FRONT GRILLE" .
2. Release hood lock, and adjust surface level difference of hood, fender, and headlamp according to the fitting standard dimension, using RH and LH bumper rubbers.

Hood and front bumper (A - A) : -1.3 - 2.7 mm (-0.05 - 0.11 in)
Hood and fender (D - D) : -0.4 - 1.7 mm (-0.16 - 0.07 in)

3. Install and align the hood lock until the center of the striker and the hood lock are vertically aligned.
4. Press the hood lightly with [approx. 29 N (3 kg] of force and adjust A and B as shown.



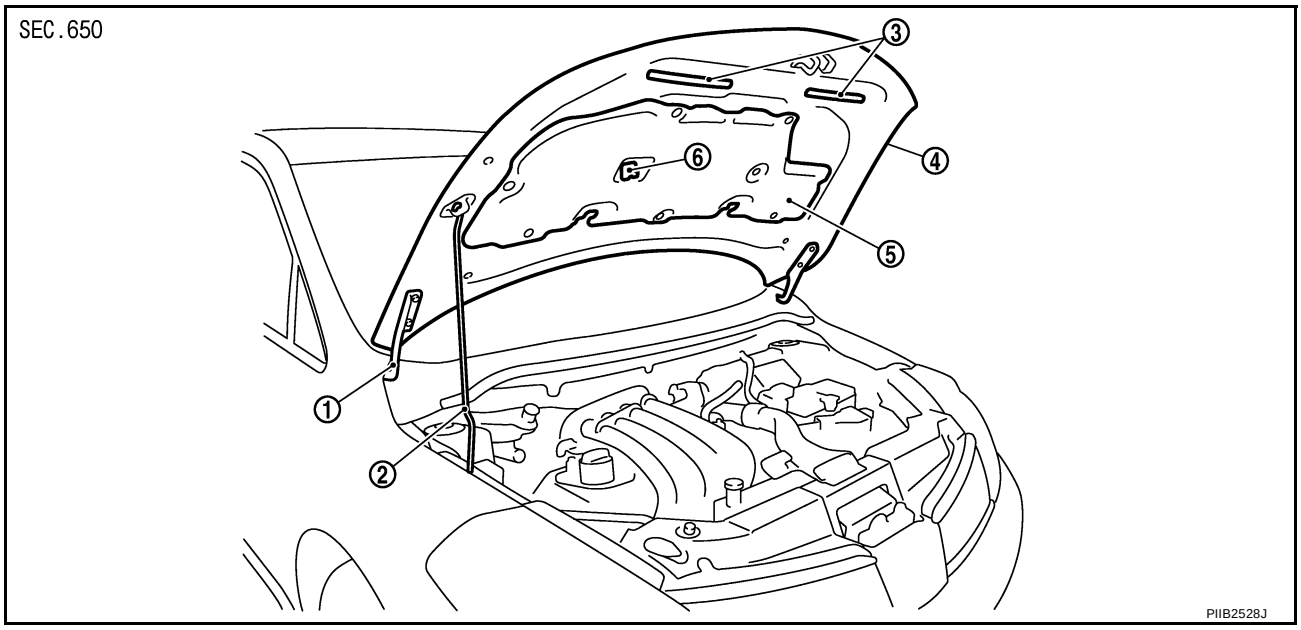
1. Hood striker
2. Primary latch
3. Secondary striker
4. Secondary latch

A : 20 mm (0.79 in)
B : 6.8 mm (0.268 in) min.

5. After adjustment tighten lock bolts to the specified torque.
6. Install the front grille. Refer to EI-19, "FRONT GRILLE" .

Removal and Installation

EIS0090P



1. Hood hinge
2. Hood stay
3. Radiator core seal rubber
4. Hood assembly
5. Hood insulator
6. Hood stay holder

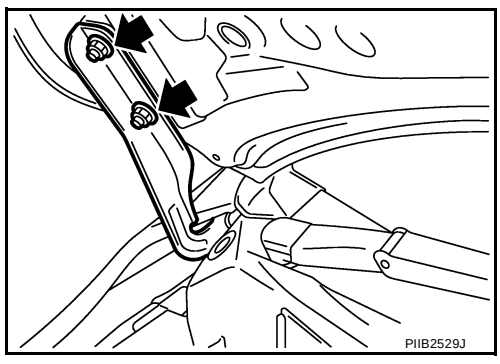
HOOD ASSEMBLY

Removal

1. Remove hinge nuts on hood and remove hood assembly.

CAUTION:
Two technicians should be used to avoid damaging the hood during removal.

12.7 N·m (1.3 kg-m, 9.4 ft-lb)



Installation

Installation is in the reverse order of removal.

CAUTION:

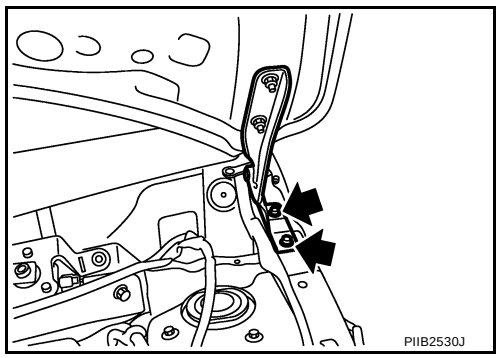
- **Before installing hood hinge, apply anticorrosive agent onto the surfaces that make contact with the vehicle body.**
- **After installing, perform hood fitting adjustment. Refer to BL-14, "Fitting Adjustment" .**

HOOD HINGE

Removal

1. Remove hood assembly. Refer to BL-15, "Removal and Installation" .
2. Remove front fender. Refer to BL-22, "Removal and Installation" .
3. Remove bolts and the hood hinge.

12.7 N·m (1.3 kg-m, 9.4 ft-lb)

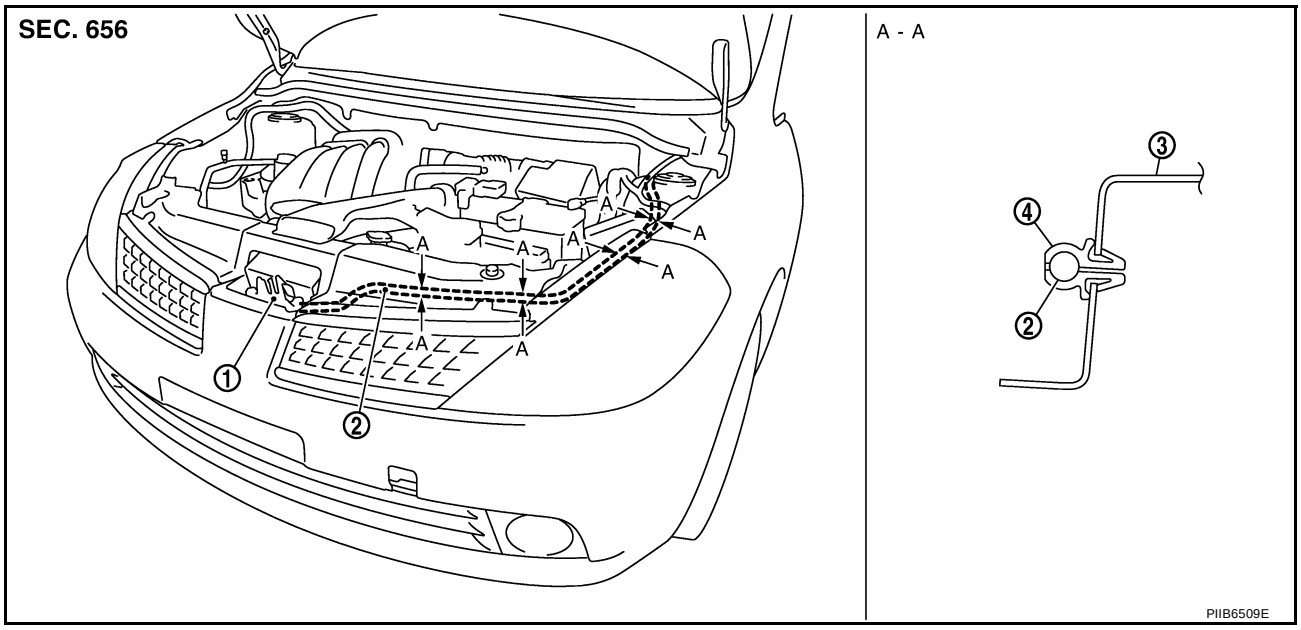


Installation

Installation is in the reverse order of removal.

Removal and Installation of Hood Lock Control

EIS0090Q



1. Hood lock
2. Hood lock cable
3. Hood ledge upper front
4. Clip

REMOVAL

Hood Lock

1. Remove front grille (LH). Refer to EI-19, "Removal and Installation" .
2. Remove hood lock bolts.

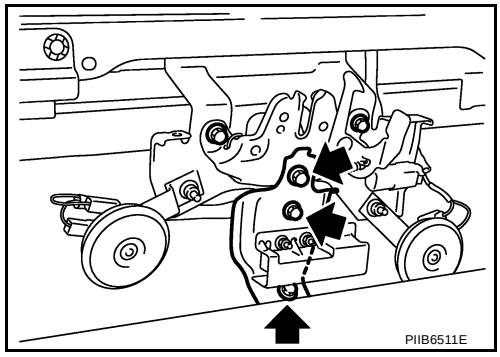
23.6 N·m (2.4 kg-m, 17 ft-lb)

3. Remove hood lock from hood lock cable.

Hood Lock Reinforcement

1. Remove front bumper. Refer to EI-14, "Removal and Installation" .
2. Remove crash zone sensor. Refer to SRS-49, "Removal and Installation" .
3. Remove bolts, and the hood lock reinforcement.

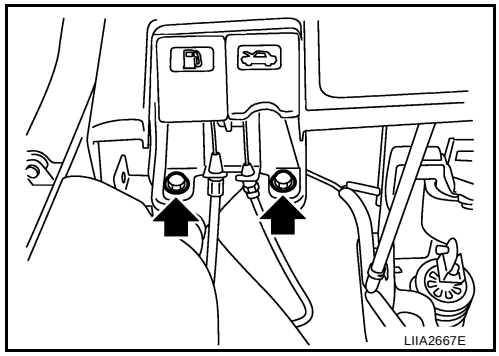
23.6 N·m (2.4 kg-m, 17 ft-lb)



Hood Lock Cable

1. Remove front grille (LH/RH). Refer to EI-19, "Removal and Installation" .
2. Remove fender protector (LH). Refer to EI-22, "Components" .
3. Remove hood lock, and remove hood lock cable from hood lock.
4. Remove radiator core upper support, hood ledge, and then remove hood lock cable.
5. Remove hood opener on bottom left of instrument panel, and then remove hood lock cable.
6. Remove grommet on lower dashboard, and pull out hood lock cable from passenger room side.

CAUTION:
While pulling the cable, be careful not to damage (peel) hood opener cable outer surface on edges of body through hole.



INSTALLATION

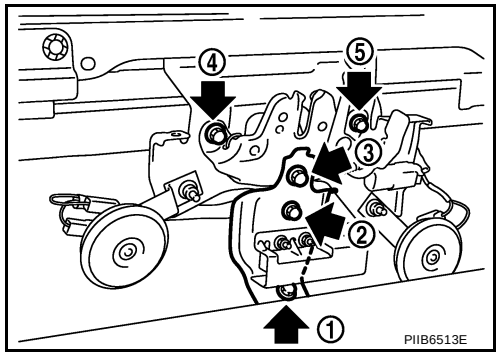
Installation is in the reverse order of removal.

- Perform hood fitting adjustment. Refer to BL-14, "Fitting Adjustment" .

Hood Lock Reinforcement

When installing hood lock reinforcement, loosen hood bolts, and then tighten bolts in the order as shown.

23.6 N·m (2.4 kg-m, 17 ft-lb)

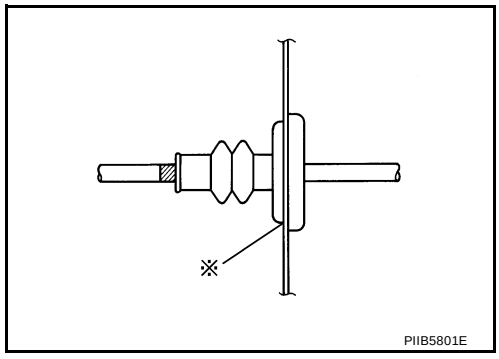


Hood Lock Cable

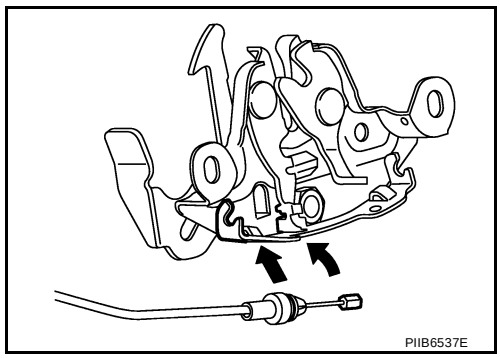
1. Pull the hood lock cable through the panel hole to the engine compartment.

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

2. Check that the cable is not offset from the positioning grommet, and push the grommet into the panel hole securely.
3. Apply the sealant around the grommet (at * mark).



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

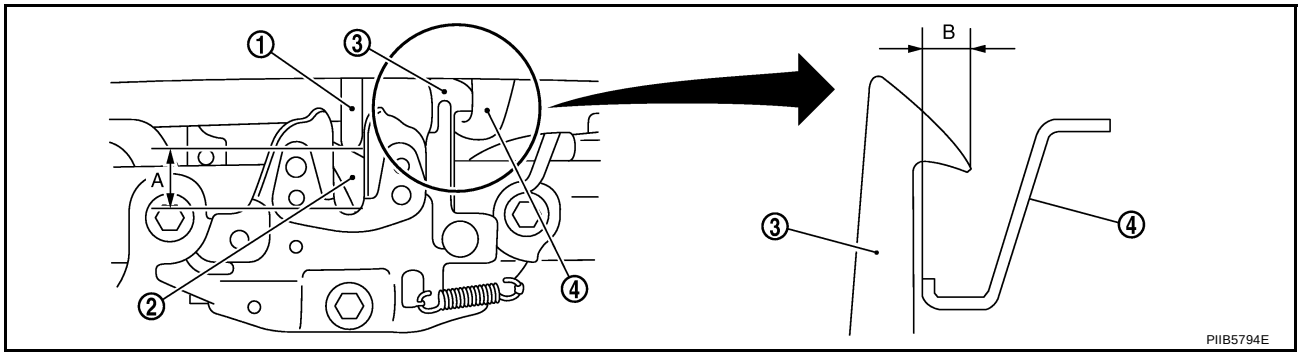


Hood Lock Control Inspection

EIS0090R

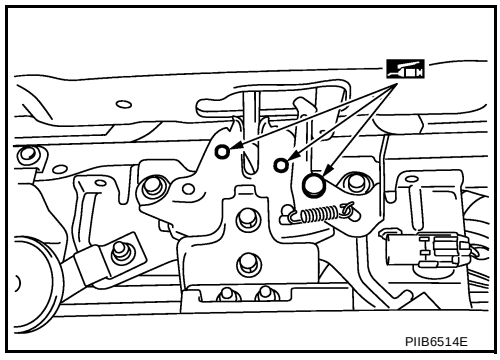
CAUTION:
If the hood lock cable is bent or deformed, replace it.

1. Check that the secondary latch is properly engaged with the secondary striker (B: 6.8 mm (0.268 in) with hood's own weight.



1. Hood striker
2. Primary latch
3. Secondary striker
4. Secondary latch

2. While operating the hood release handle, carefully check that the front end of the hood is raised by approx. 20 mm (0.79 in). Also check that the hood release handle returns to the original position.
3. Check that the secondary hood release operates at 29.4 N (3.0 kg) or below.
4. Confirm static closing force of the hood is 343 – 441 N·m (35 – 44 kg-m).
5. Check the hood lock lubrication condition. If necessary, apply “body grease” to the points as shown.

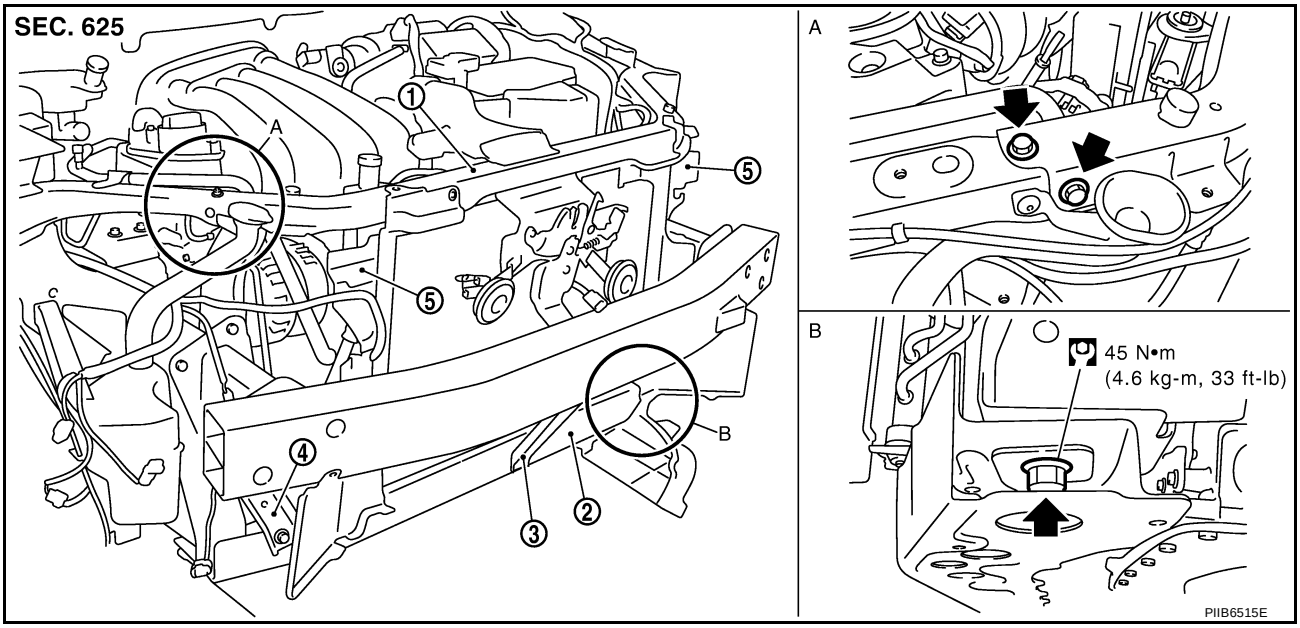


RADIATOR CORE SUPPORT

PFP:62500

Removal and Installation

EIS0090S



1. Radiator core support upper
2. Radiator core support lower
3. Radiator core support lower stay
4. Radiator core support side stay
5. Air guide

REMOVAL

Radiator Core Support Upper

1. Remove the air duct. Refer to EM-16, "Removal and Installation" .
2. Remove the headlamp (LH/RH). Refer to LT-25, "Removal and Installation" .
3. Remove the hood lock assembly, and remove hood lock cable. Refer to BL-17 .
4. Remove the air guide and hood lock cable clip.
5. Remove the washer tank inlet. Refer to WW-28, "Removal and Installation of Washer Tank" .
6. Remove the radiator core support upper.

Radiator Core Support Lower

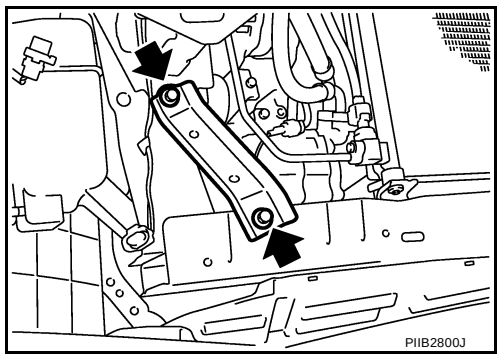
1. Remove the air duct. Refer to EM-16, "Removal and Installation" .
2. Remove the front bumper. Refer to EI-14, "Removal and Installation" .
3. Remove the headlamp (LH/RH). Refer to LT-25, "Removal and Installation" .
4. Remove the hood lock assembly, and remove hood lock cable. Refer to BL-17 .
5. Remove the air guide and hood lock cable mounting clip.
6. Remove the front bumper reinforcement. Refer to EI-14, "Removal and Installation" .
7. Remove the radiator core lower stay.

   24.5 N·m (2.5 kg-m, 18 ft-lb)

8. Remove the undercover.

9. Remove radiator core support lower side stay.

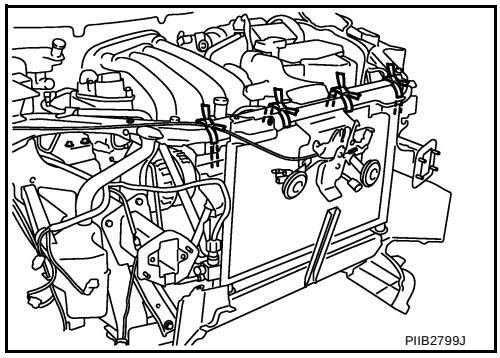
55.0 N·m (5.6 kg-m, 41 ft-lb)



10. Tie a cord to all radiator core upper supports of the radiator and condenser.

NOTE:
To prevent the compressor and radiator from being dropped when the radiator core lower support is removed.

11. Remove the bolts, and lower radiator core lower supports.
12. Remove the radiator core lower supports.



INSTALLATION

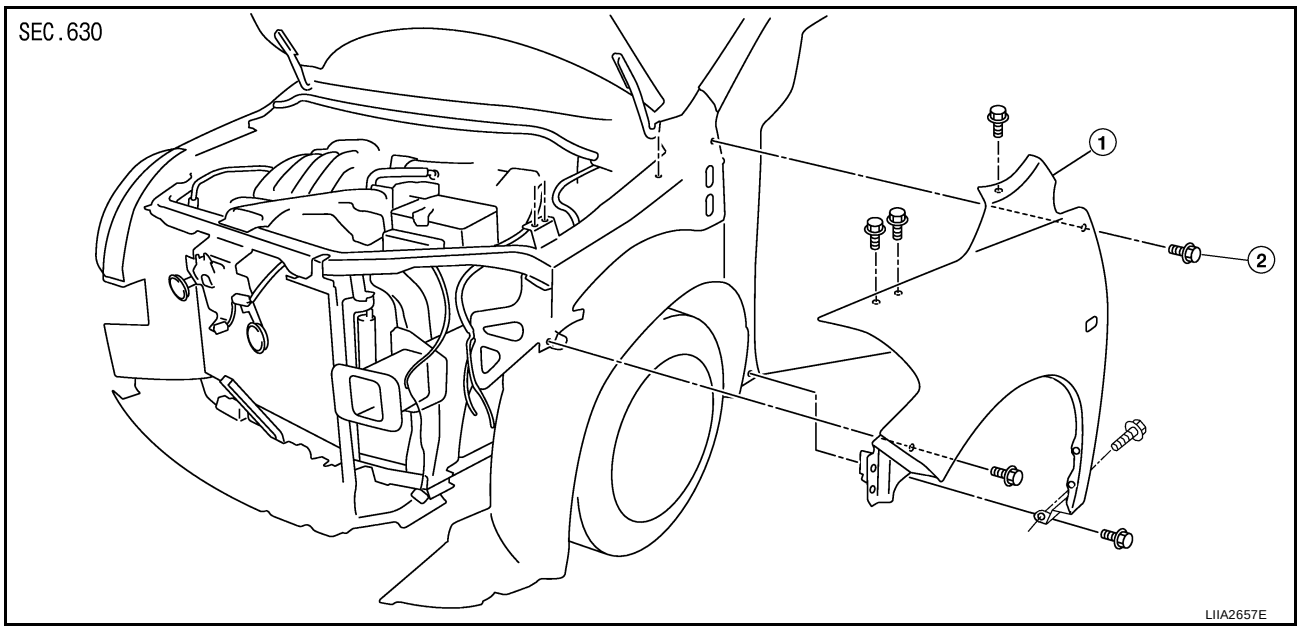
Installation is in the reverse order of removal.

FRONT FENDER

PFP:63100

Removal and Installation

EIS0090T



1. Front fender
2. Bolt (LH 7 bolts required) (RH 8 bolts required)

REMOVAL

1. Remove the headlamp assemblies. Refer to LT-25, "Removal and Installation" .
2. Remove the cowl top cover (LH/RH). Refer to EI-20, "Removal and Installation" .
3. Remove the front fender protector. Refer to EI-22, "Components" .
4. Remove the bolt and the front fender.

CAUTION:

While removing use a shop cloth to protect the vechicle body from damage.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

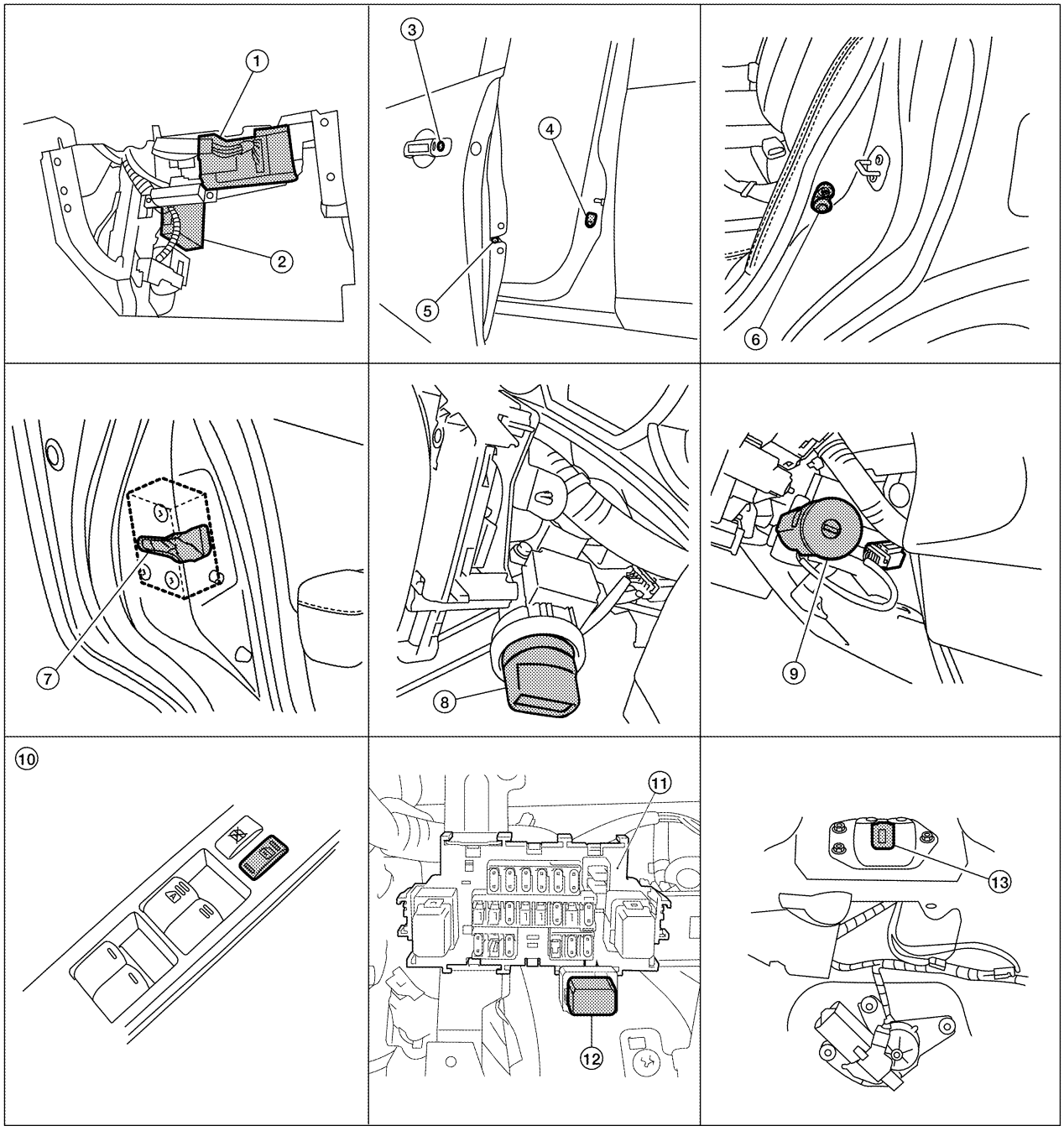
- **After installing, apply touch-up paint onto the head of the front fender bolts.**
- **After installing, check front fender adjustment. Refer to BL-14, "Fitting Adjustment" and BL-161, "Fitting Adjustment" .**

POWER DOOR LOCK SYSTEM

PFP:24814

Component Parts and Harness Connector Location

EIS0090U



LIIA2593E

1. BCM M18, M19, M20 (view with glove box removed)
2. Intelligent Key unit M52 (if equipped)
3. Front door key cylinder switch LH D14
4. Front door switch LH B8, RH B108
5. Front door lock actuator LH D3, RH D114
6. Rear door switch LH B6, RH B116
7. Rear door lock actuator LH D205, RH D305
8. Key switch and ignition knob switch M73 (with Intelligent Key)
9. Key switch and key lock solenoid M27 (without Intelligent key)
10. Main power window and door lock/ unlock switch D7, D8
    Power window and door lock/unlock switch RH D105
11. Fuse block (with Intelligent Key) (view with instrument panel LH removed)
12. Passenger select unlock relay M2 (with Intelligent Key)
13. Back door lock assembly (back door switch) D405 (view with back door open)

System Description

EIS0090V

Power is supplied at all times

- through 40A fusible link (letter **g** , located in the fuse and fusible link box)
- to BCM terminal 70
- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to BCM terminal 57
- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to key switch terminal 2 (without Intelligent Key system)
- through 10A fuse [No. 31, located in the fuse block (J/B)]
- to key switch and ignition knob switch terminals 2 and 4 (with Intelligent Key system).

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

- through key switch terminal 1 (without Intelligent Key system) or key switch and ignition knob terminal 1 (with Intelligent Key system)
- to BCM terminal 37.

Ground is supplied

- to BCM terminal 67
- through body grounds M57 and M61.

LOCK OPERATION

When the door is locked with main power window and door lock/unlock switch, ground is supplied

- to BCM terminal 45
- through main power window and door lock and unlock switch terminals 17 and 18
- through body grounds M57 and M61.

When the door is locked with power window and door lock/unlock switch RH, ground is supplied

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

When the door is locked with front door key cylinder switch LH, ground is supplied

- to BCM terminal 8
- through front door key cylinder switch LH terminals 1 and 2
- through body grounds M57 and M61.

UNLOCK OPERATION

When the door is unlocked with main power window and door lock/unlock switch, ground is supplied

- to BCM terminal 46
- through main power window and door lock/unlock switch terminals 6 and 17
- through body grounds M57 and M61.

When the door is unlocked with power window and door lock/unlock switch RH, ground is supplied

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

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

- to BCM terminal 7
- through front door key cylinder switch LH terminals 2 and 3
- through body grounds M57 and M61.

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

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

When the front door switch RH is ON (door is OPEN), ground is supplied
- to BCM terminal 12
- through front door switch RH terminal 2
- through front door switch RH case ground.

When the rear door switch LH is ON (door is OPEN), ground is supplied
- to BCM terminal 48
- through rear door switch LH terminal 1
- through rear door switch LH case ground.

When the rear door switch RH is ON (door is OPEN), ground is supplied
- to BCM terminal 13
- through rear door switch RH terminal 1
- through rear door switch RH case ground.

When the back door switch is ON (back door is OPEN), ground is supplied
- to BCM terminal 43
- through back door switch terminals 3 and 4
- through body grounds B117, B132 and D402.

OUTLINE

Functions available by operating the inside door lock and unlock switches

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

Functions available by operating the front door key cylinder switch LH

- Interlocked with the locking operation of front door key cylinder switch LH, door lock actuators of all doors are locked.
- When front door key cylinder switch LH is unlocked, front door lock actuator LH is unlocked.
- When front door key cylinder switch LH is unlocked for the second time within 5 seconds after the first operation, door lock actuators on all doors are unlocked.

Key reminder door system

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

CAN Communication System Description

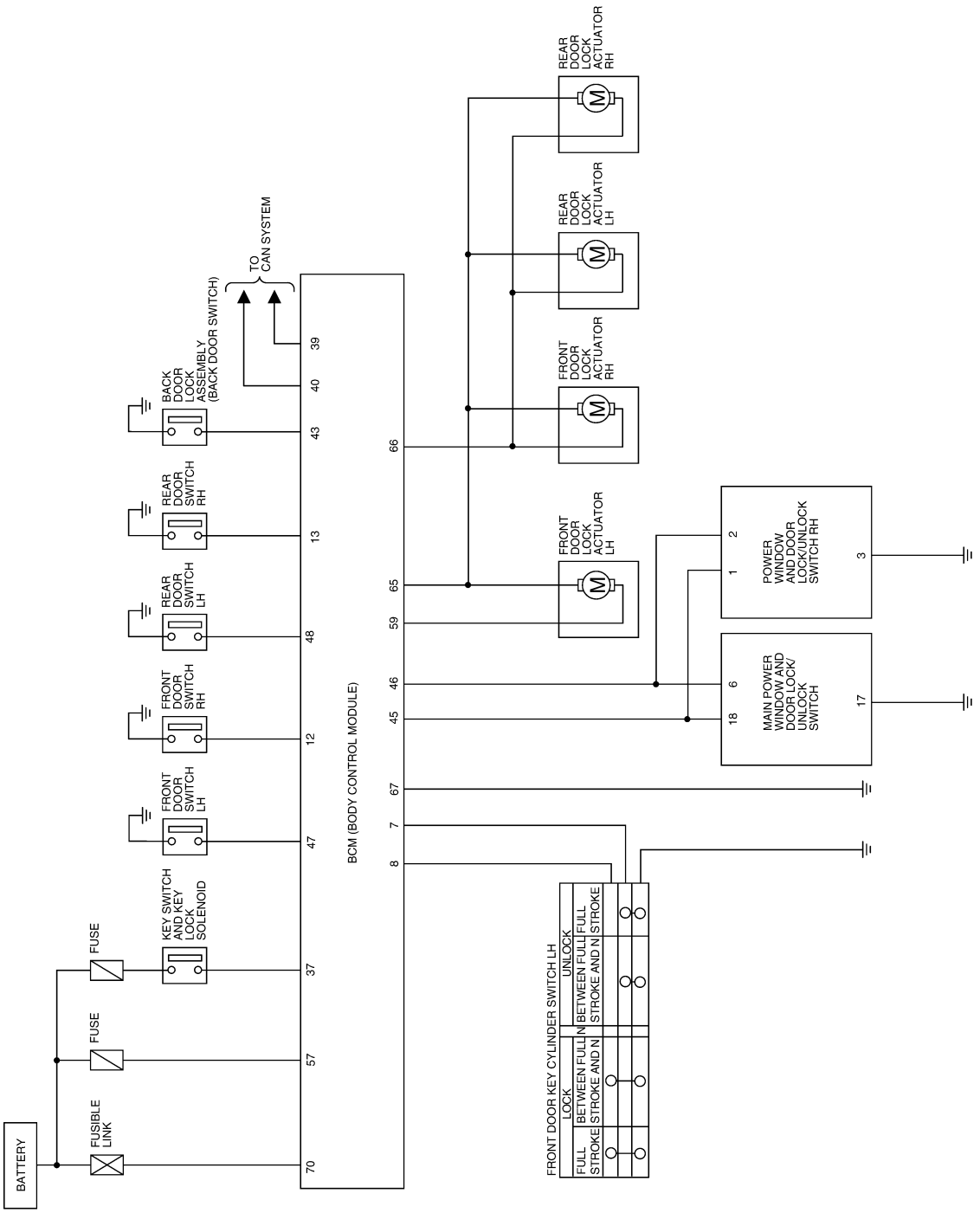
EIS0090W

Refer to LAN-4, "SYSTEM DESCRIPTION" .

Schematic

EIS0090X

WITHOUT INTELLIGENT KEY SYSTEM

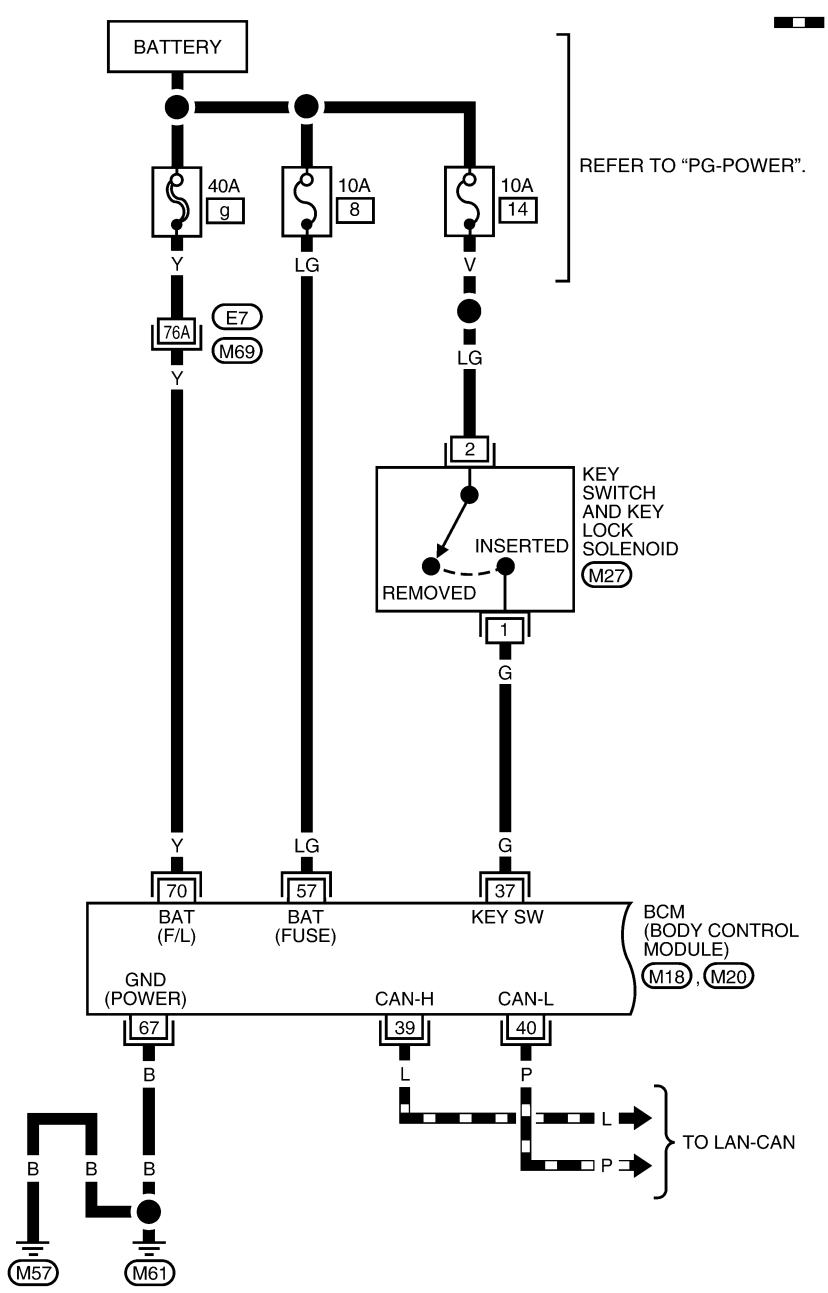


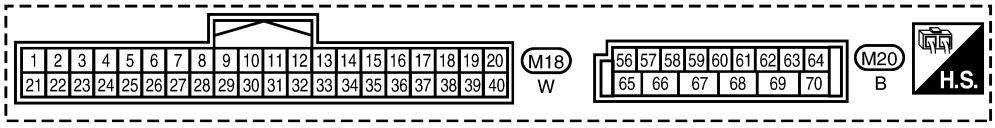
WIWA1952E

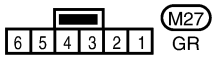
Wiring Diagram — D/LOCK —
WITHOUT INTELLIGENT KEY SYSTEM

EIS009BX

BL-D/LOCK-01



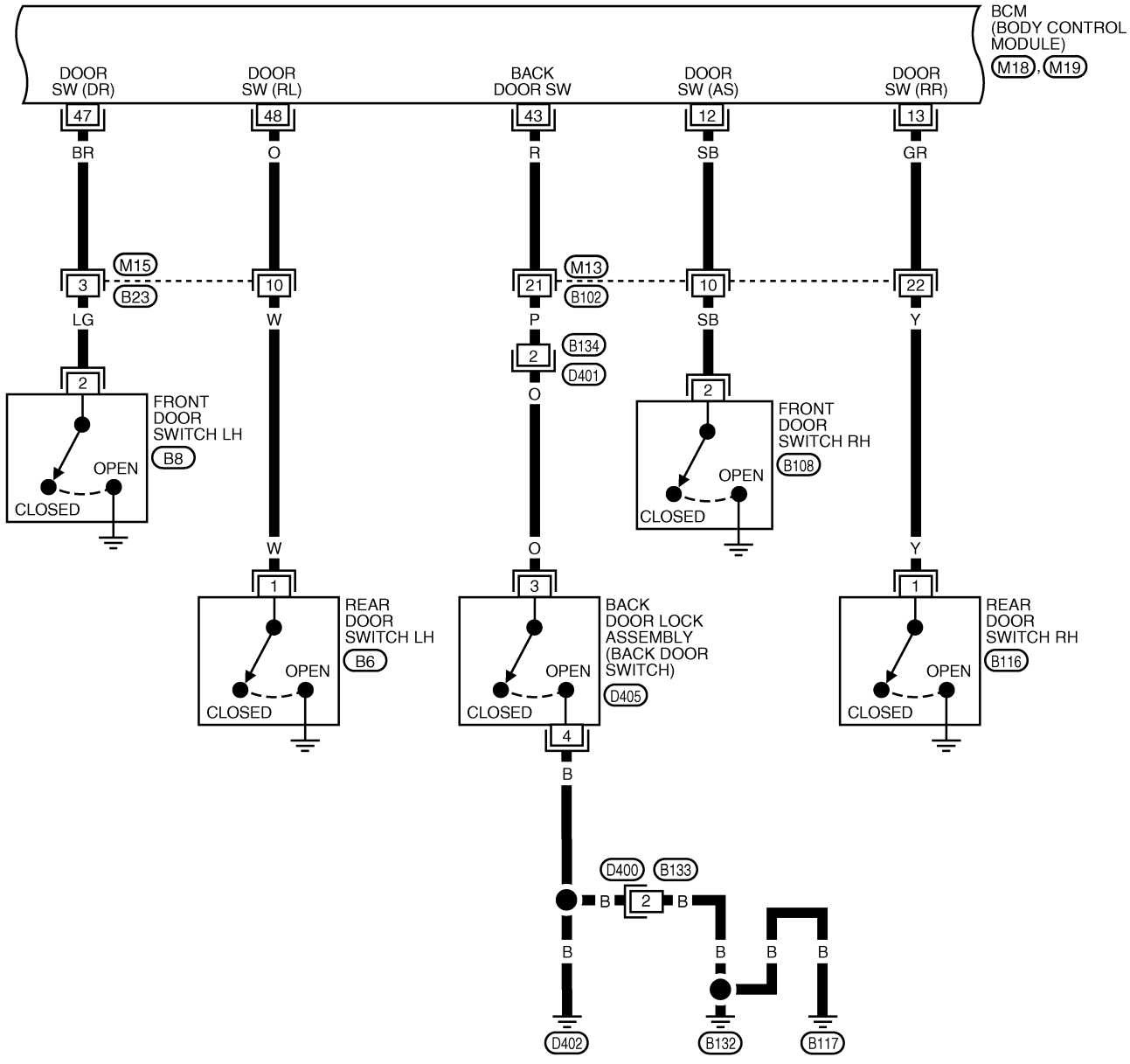




REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)

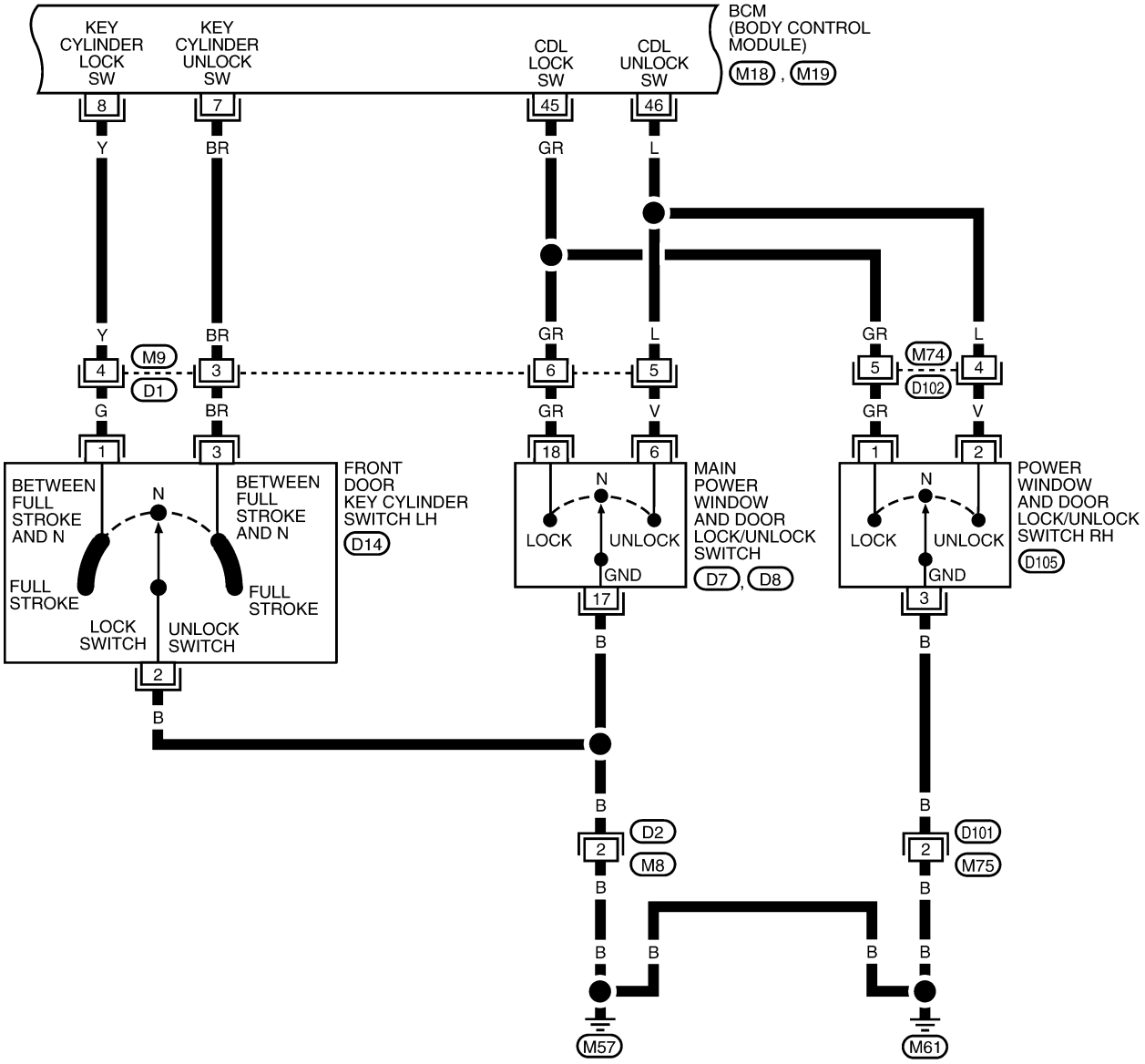
LIWA0546E

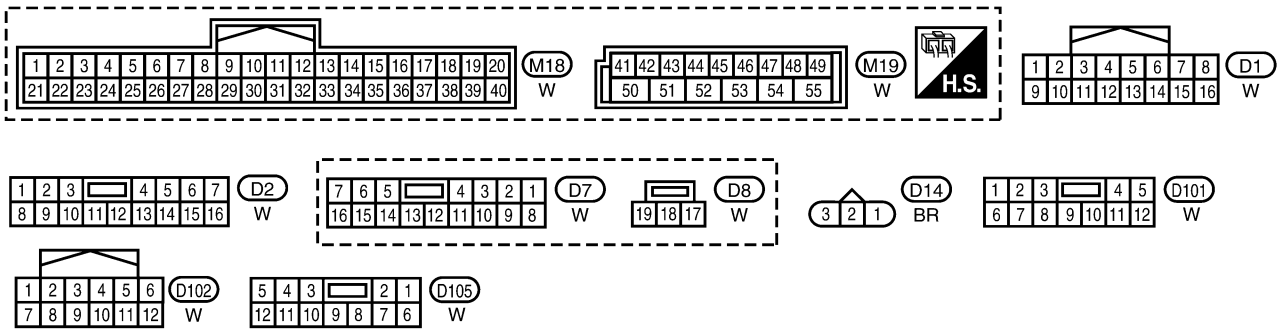
BL-D/LOCK-02



WIWA1953E

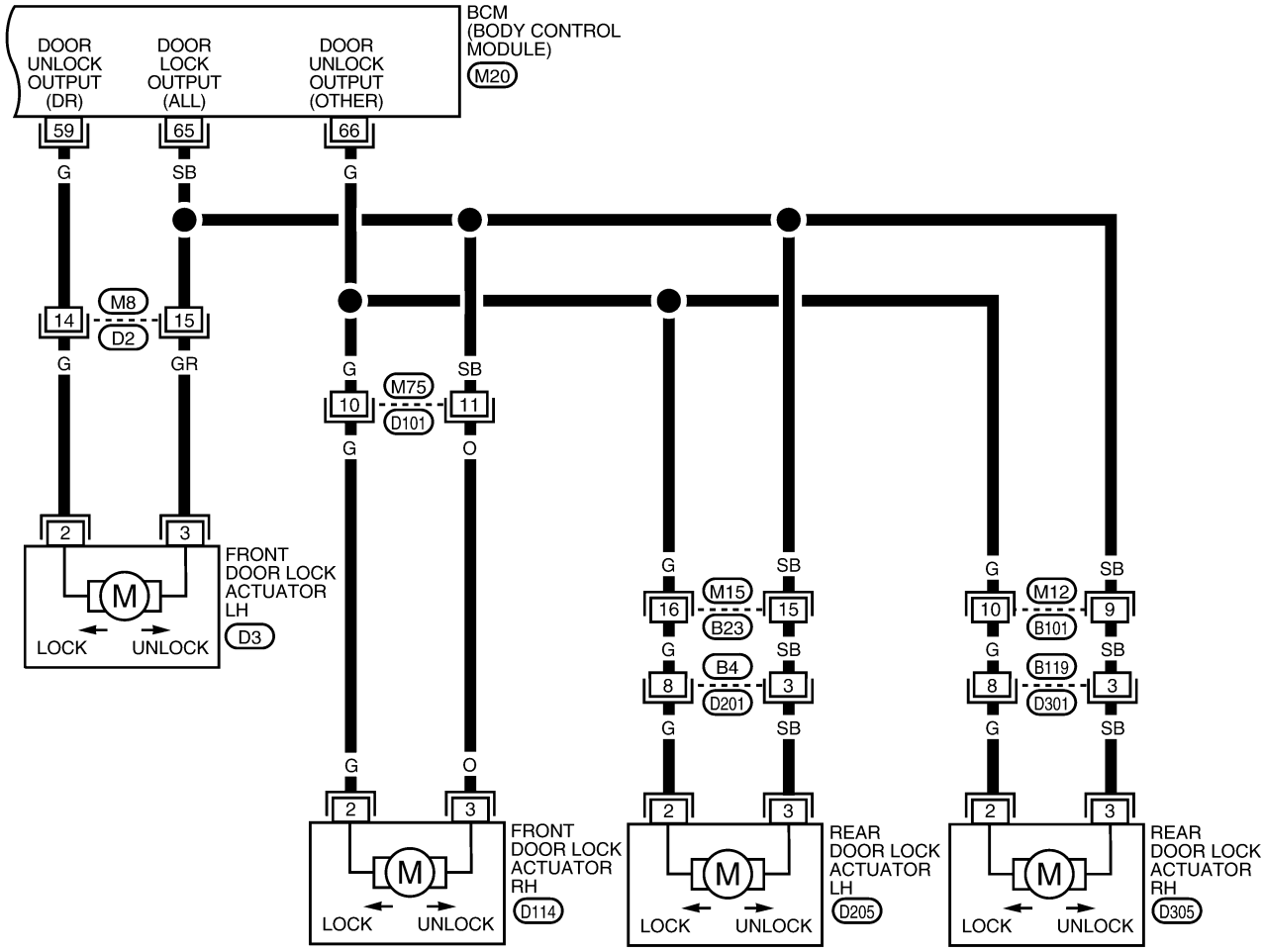
BL-D/LOCK-03

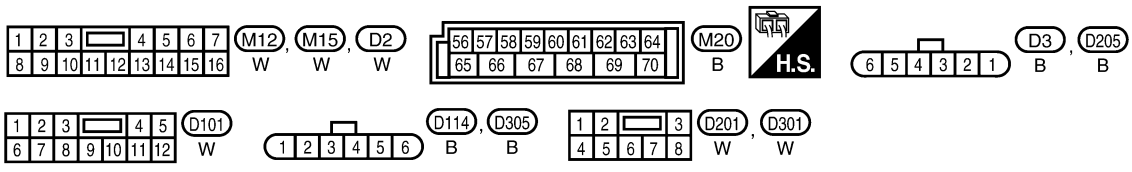




WIWA1954E

BL-D/LOCK-04

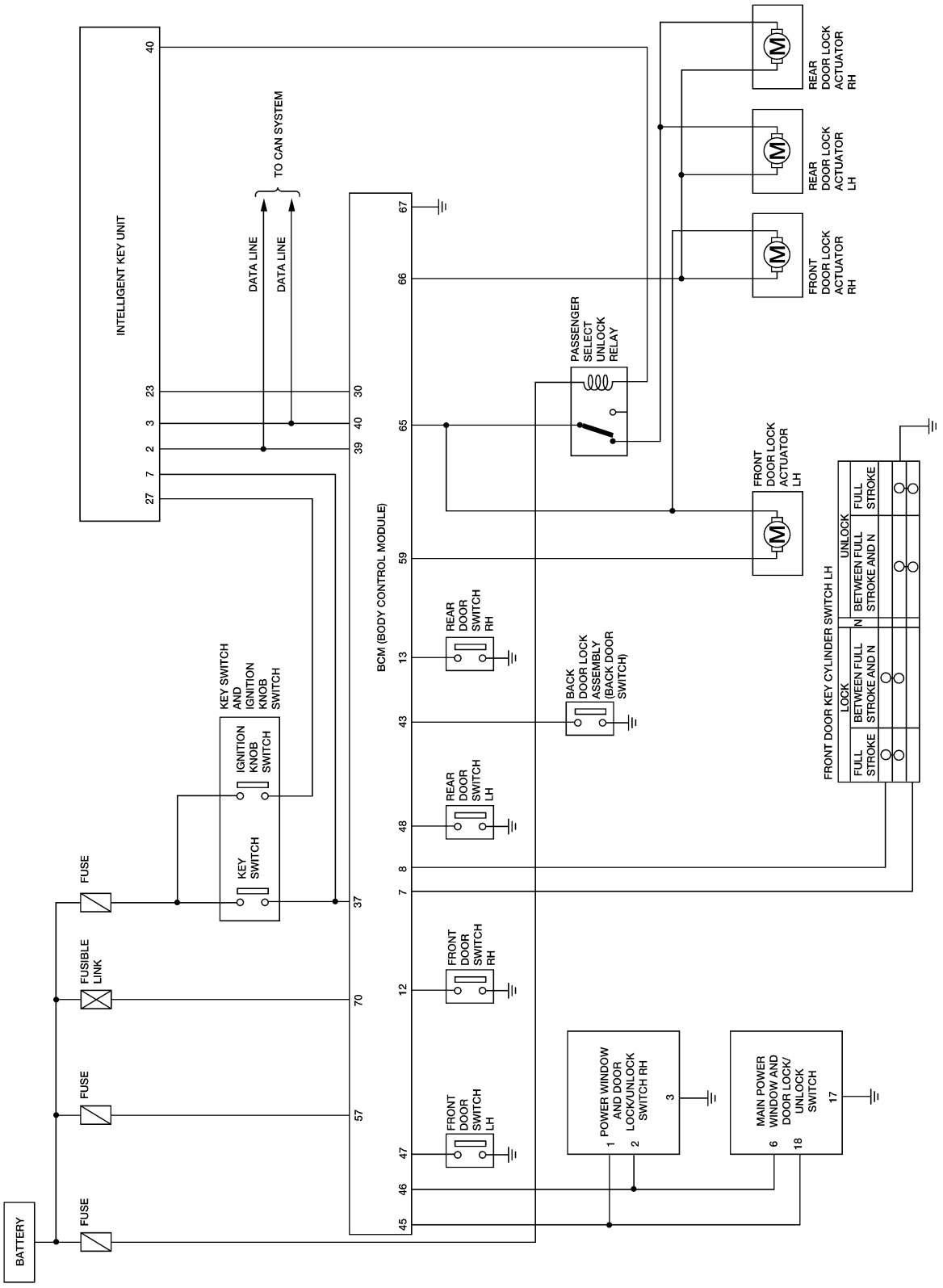




WIWA1955E

Schematic
WITH INTELLIGENT KEY SYSTEM

EIS009C4

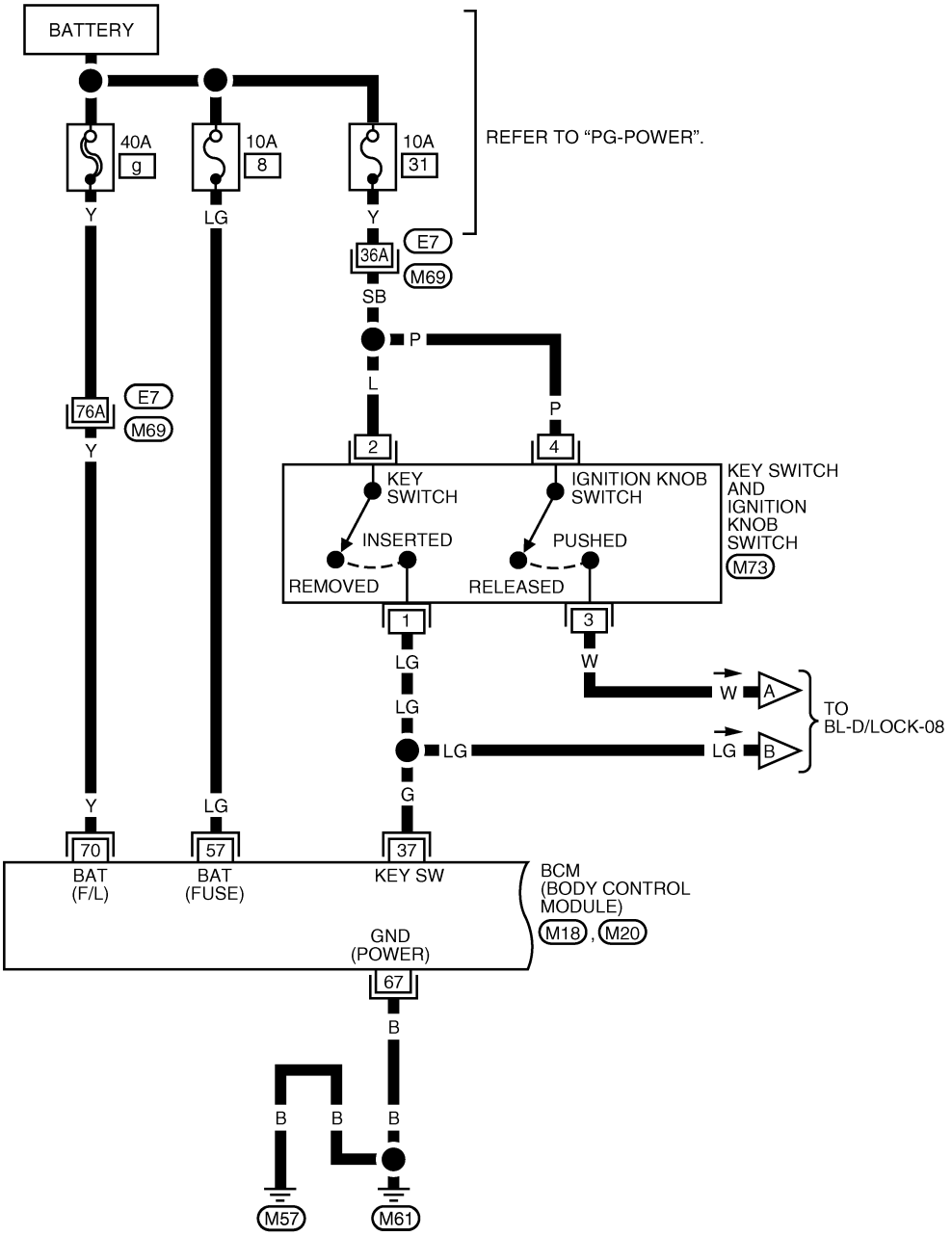


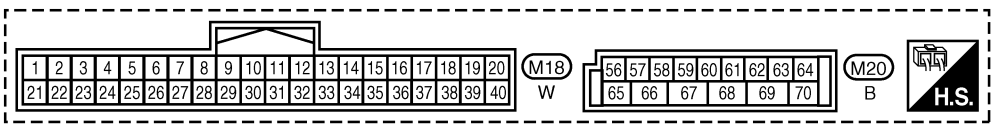
WIWA1956E

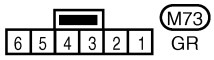
Wiring Diagram — D/LOCK —
WITH INTELLIGENT KEY SYSTEM

EIS009C5

BL-D/LOCK-05



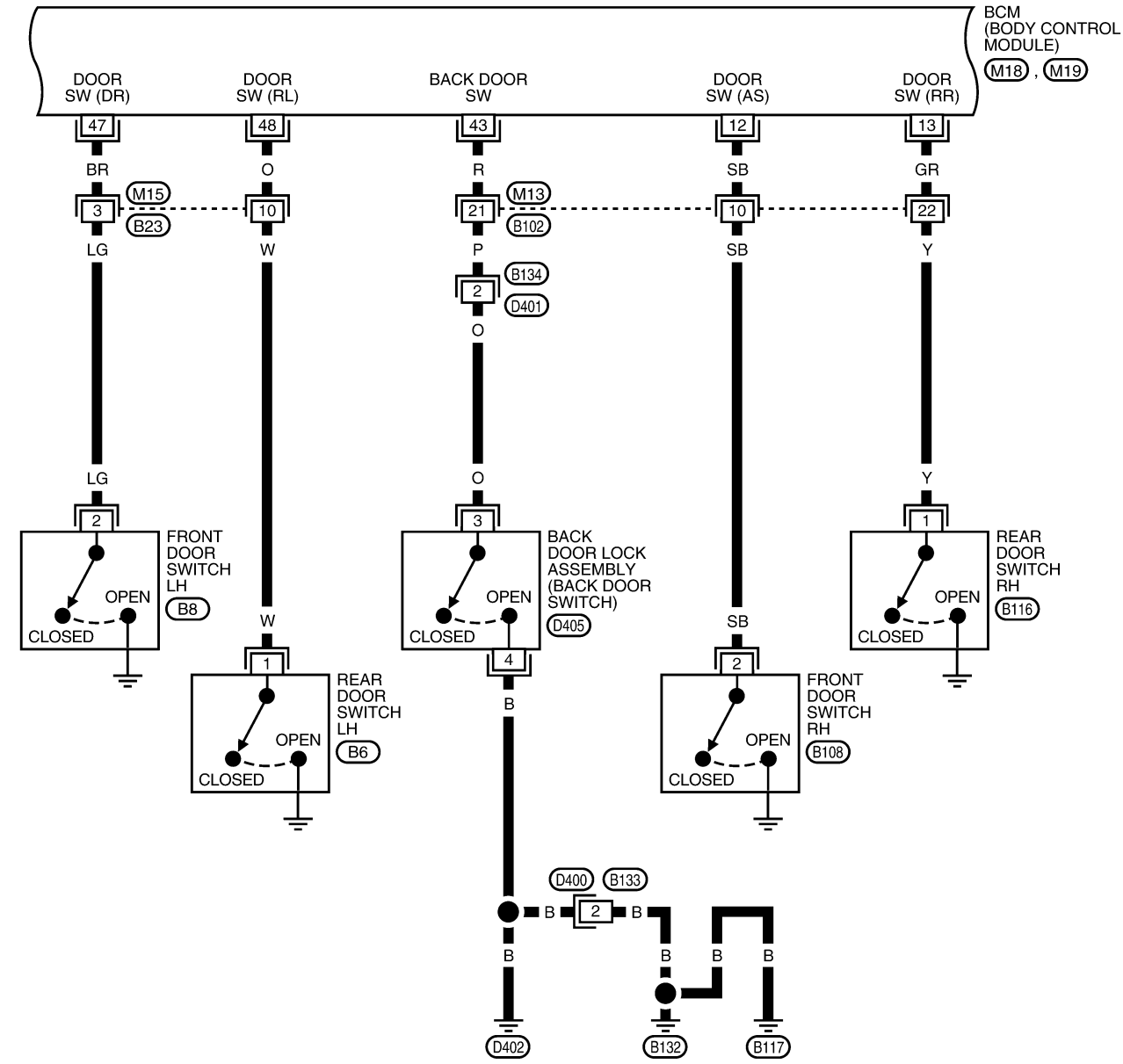


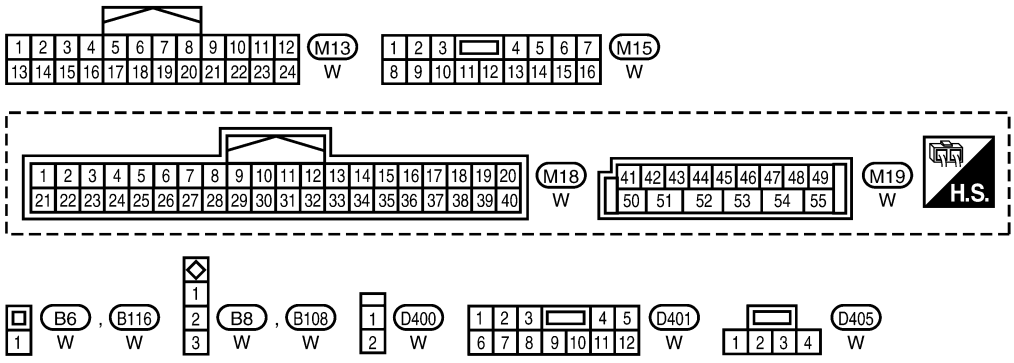


REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA1957E

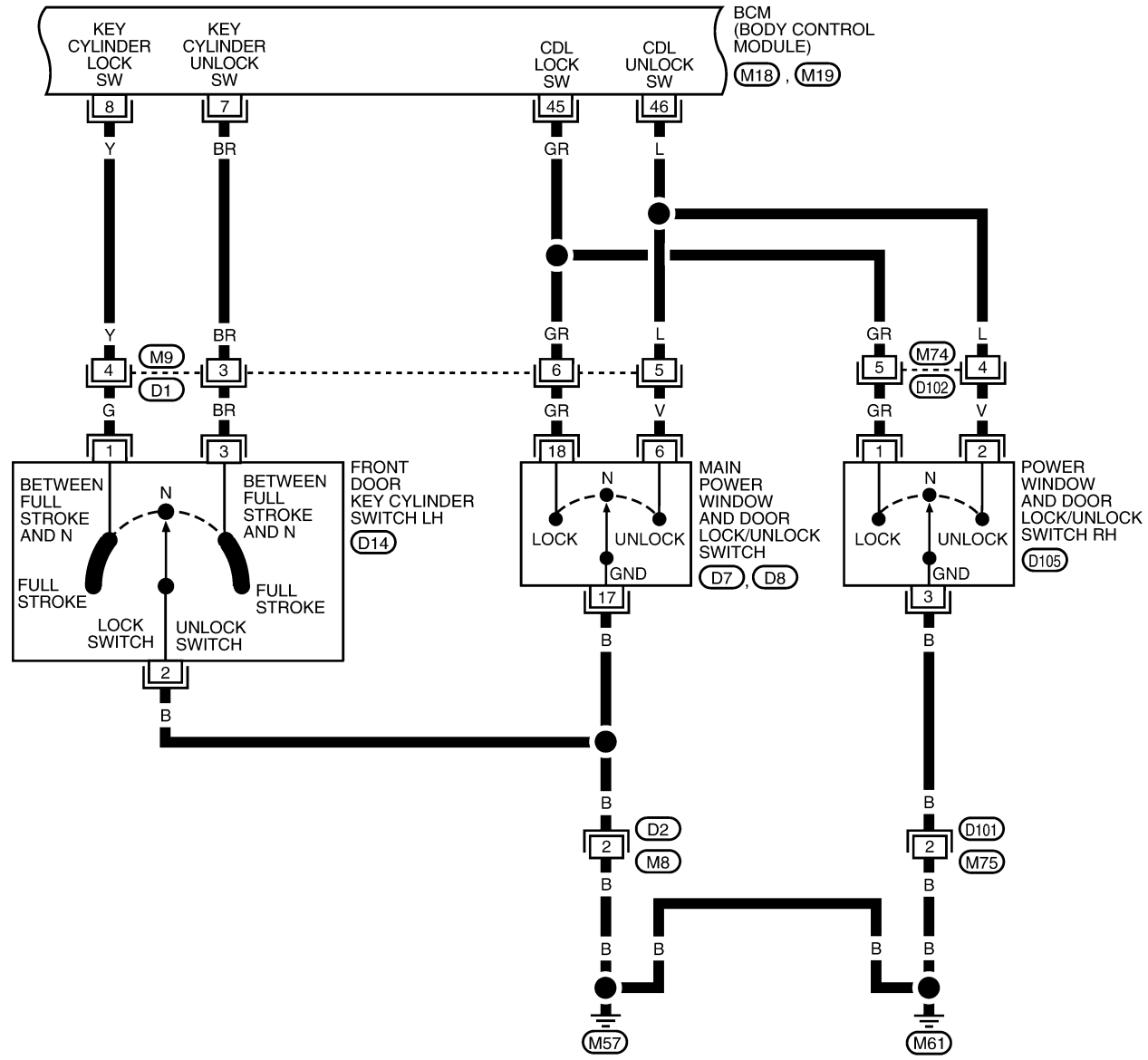
BL-D/LOCK-06

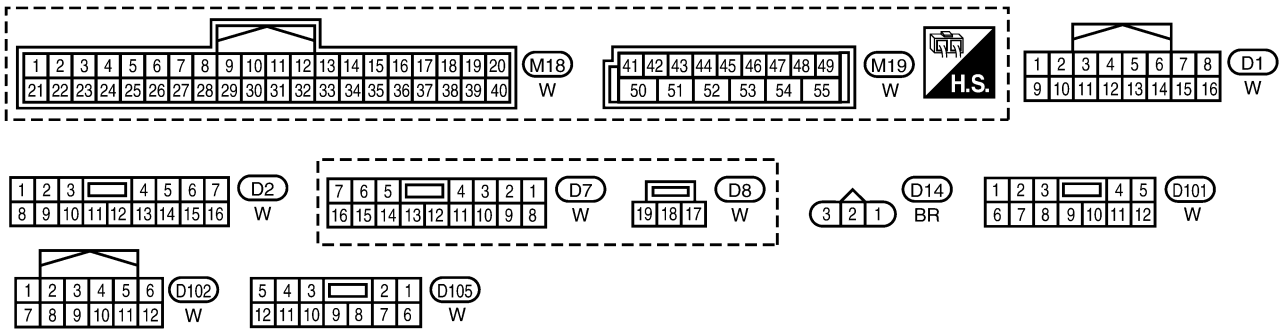




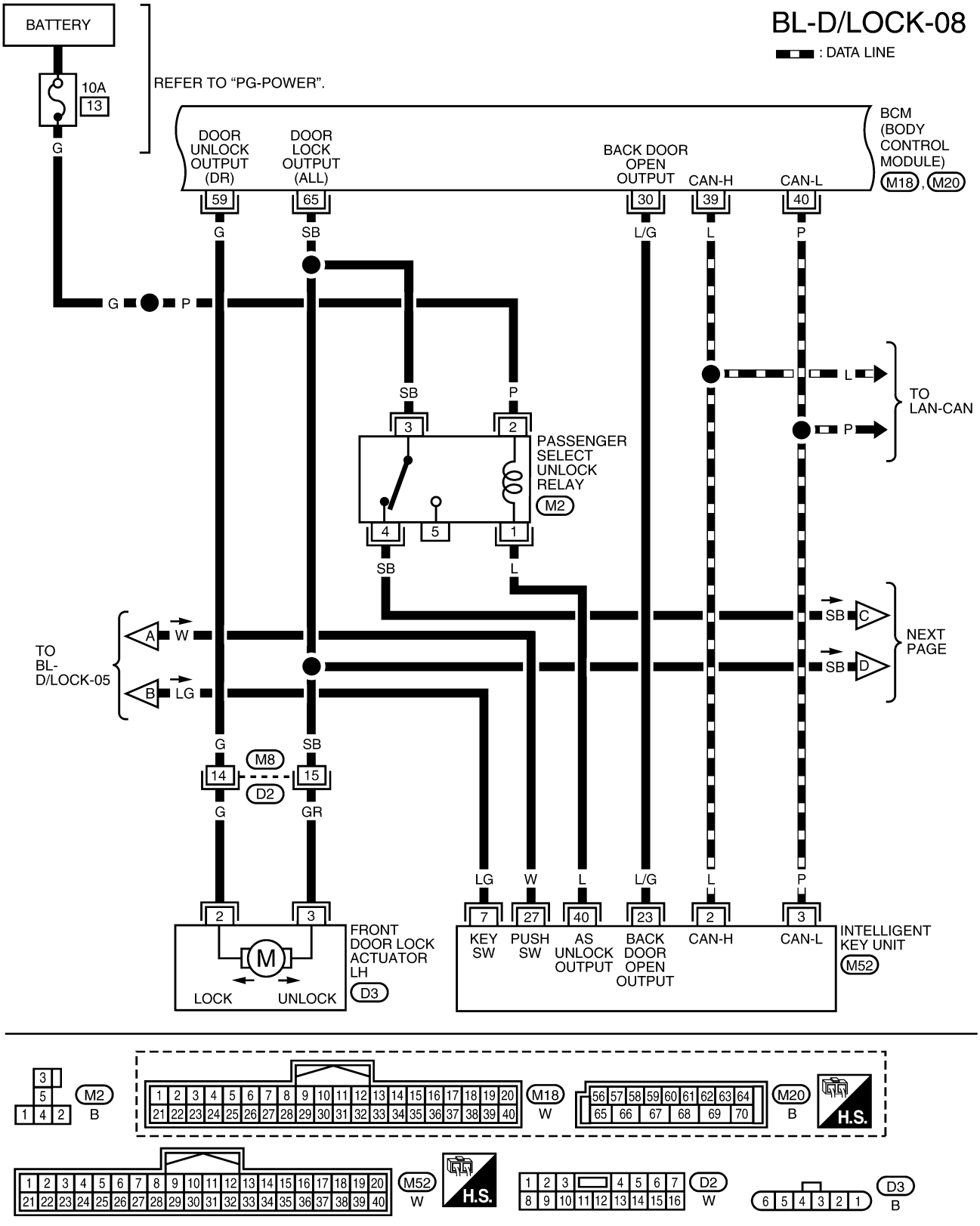
WIWA1976E

BL-D/LOCK-07



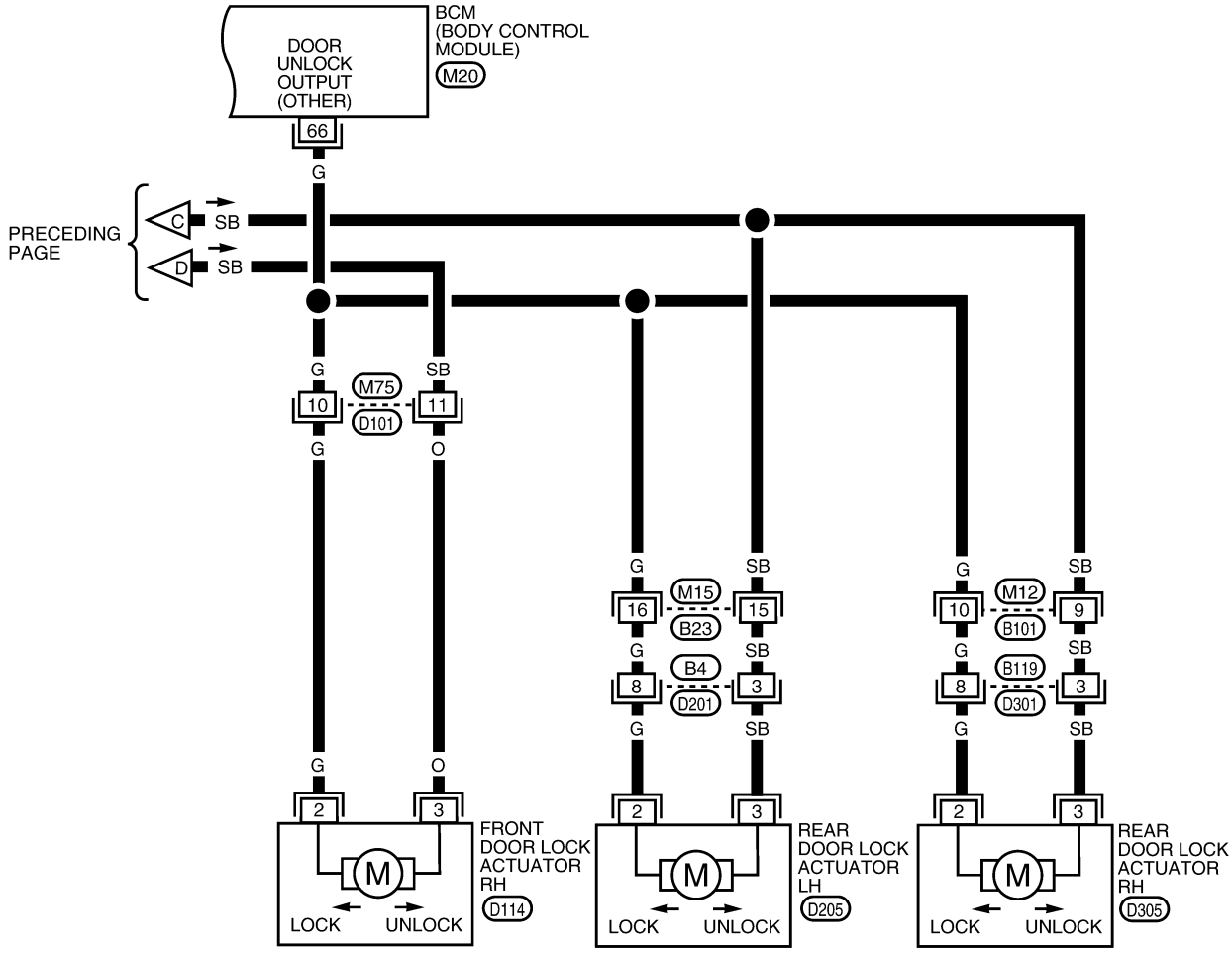


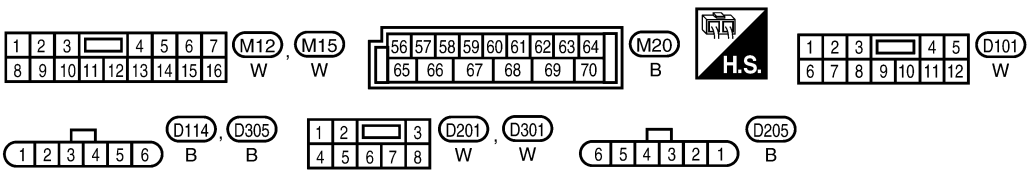
WIWA1958E


BL-D/LOCK-08
: DATA LINE
BATTERY
10A
13
REFER TO "PG-POWER".
BCM
(BODY
CONTROL
MODULE)
M18, M20
DOOR
UNLOCK
OUTPUT
(DR)
DOOR
LOCK
OUTPUT
(ALL)
BACK DOOR
OPEN
OUTPUT
CAN-H
CAN-L
59
65
30
39
40
G
SB
L/G
L
P
TO
LAN-CAN
PASSENGER
SELECT
UNLOCK
RELAY
M2
TO
BL-
D/LOCK-05
NEXT
PAGE
M8
D2
GR
LG
W
FRONT
DOOR LOCK
ACTUATOR
LH
D3
LOCK
UNLOCK
KEY
SW
PUSH
SW
AS
UNLOCK
OUTPUT
INTELLIGENT
KEY UNIT
M52
M2
B
M18
W
M20
B
H.S.
M52
W
D2
W
D3
B

WIWA1959E

BL-D/LOCK-09





WIWA1960E

Terminals and Reference Value for BCM

EIS0090Z

Refer to BCS-12, "Terminals and Reference Values for BCM" .

Work Flow

EIS009BY

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to BL-24, "System Description" .
3. According to the trouble diagnosis chart, repair or replace the cause of the malfunction. Refer to BL-114, "Trouble Diagnosis Symptom Chart" .
4. Does power door lock system operate normally? OK: GO TO 5, NG: GO TO 3.
5. Inspection End.

CONSULT–II Function (BCM)

EIS009BZ

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

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

CONSULT–II START PROCEDURE

Refer to GI-38, "CONSULT-II Start Procedure" .

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	Content
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock and unlock 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 switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from key cylinder.
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from key cylinder.
KEYLESS LOCK*	Indicates [ON/OFF] condition of lock signal from keyfob.
KEYLESS UNLOCK*	Indicates [ON/OFF] condition of unlock signal from keyfob.

Monitor item	Content
I-KEY LOCK**	Indicates [ON/OFF] condition of lock signal from door request switch.
I-KEY UNLOCK**	Indicates [ON/OFF] condition of unlock signal from door request switch.

*: With Remote Keyless Entry system
**: With Intelligent Key system

ACTIVE TEST

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

Trouble Diagnoses Symptom Chart

EIS009C6

Symptom	Repair order	Refer to page
Key reminder door function does not operate properly.	1. BCM power supply and ground circuit check	BCS-16
	2. Door switch check	BL-40
	3. Key switch (insert) check	BL-43
	4. Replace BCM.	BCS-25
Power door lock does not operate with door lock and unlock switch on main power window and door lock/ unlock switch or power window and door lock/unlock switch RH	1. Door lock/unlock switch check	BL-45
	2. Replace BCM.	BCS-25
One or both rear door lock actuators do not operate.	1. Passenger select unlock relay circuit check	BL-51
Front door lock assembly LH (actuator) does not operate.	1. Front door lock assembly LH (actuator) check	BL-48
Specific door lock actuator does not operate.	1. Door lock actuator check (Front RH, Rear LH/RH)	BL-49
Power door lock does not operate with front door key cylinder switch operation.	1. Front door key cylinder switch check	BL-50
	2. Replace BCM.	BCS-25
All power door locks do not operate.	1. BCM power supply and ground circuit check	BCS-16
	2. Door lock/unlock switch check	BL-45
	3. Replace BCM.	BCS-25

BCM Power Supply and Ground Circuit

EIS00913

Refer to BCS-16, "BCM Power Supply and Ground Circuit Check" .

Door Switch Check

EIS009C7

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in DATA MONITOR mode with CONSULT–II. Refer to BL-37, "DATA MONITOR" .

- When doors are open:

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

- When doors are closed:

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

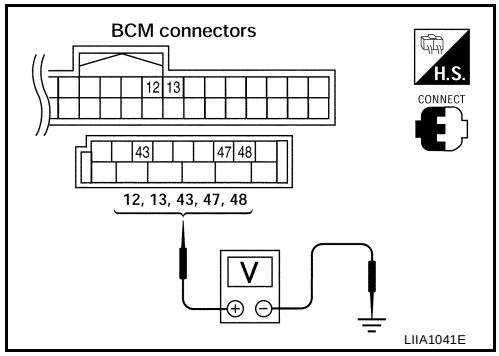
DATA MONITOR	
MONITOR	
DOOR SW - DR	OFF
DOOR SW - AS	OFF
DOOR SW - RR	OFF
DOOR SW - RL	OFF
BACK DOOR SW	OFF

LIIA0665E

Without CONSULT-II

Check voltage between BCM connector M18 or M19 terminals 12, 13, 43, 47, 48 and ground.

Connector	Item	Terminals (+)	Terminals (–)	Condition	Voltage (V) (Approx.)
M18	Front door switch RH	12	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Rear door switch RH	13			
M19	Back door switch	43			
	Front door switch LH	47			
	Rear door switch LH	48			



LIIA1041E

OK or NG

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

2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector (B) B8 (front LH), B108 (front RH) terminal 2 or (C) B6 (rear LH), B116 (rear RH) terminal 1 or back door lock assembly connector (D) D405 terminal 3 and BCM connectors (A) M18, M19 terminals 12, 13, 43, 47 and 48.

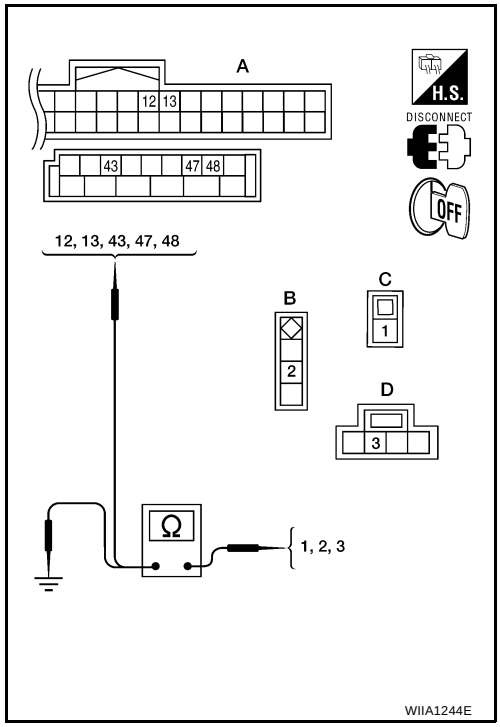
1 - 13 : Continuity should exist.
1 - 48 : Continuity should exist.
2 - 12 : Continuity should exist.
2 - 47 : Continuity should exist.
3 - 43 : Continuity should exist.

4. Check continuity between door switch connector (B) B8 (front LH), B108 (front RH) terminal 2 or (C) B6 (rear LH), B116 (rear RH) terminal 1 or back door lock assembly connector (D) D405 terminal 3 and ground.

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

OK or NG

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

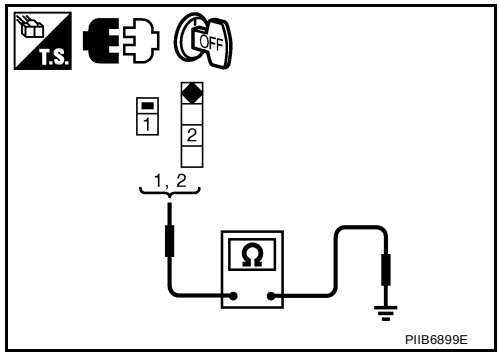


3. CHECK DOOR SWITCHES

FRONT AND REAR DOORS

Check continuity between front door switch terminal 2 or rear door switch terminal 1 and exposed metal of switch while pressing and releasing switch.

Door switch is released : Continuity should exist.
Door switch is pushed : Continuity should not exist.



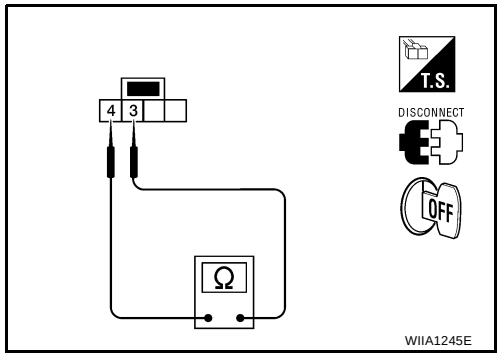
BACK DOOR

Check continuity between back door lock assembly connector (back door switch) terminals 3 and 4 while pressing (closing back door) and releasing (opening back door) switch.

When back door is open : Continuity should exist.
When back door is closed : Continuity should not exist.

OK or NG

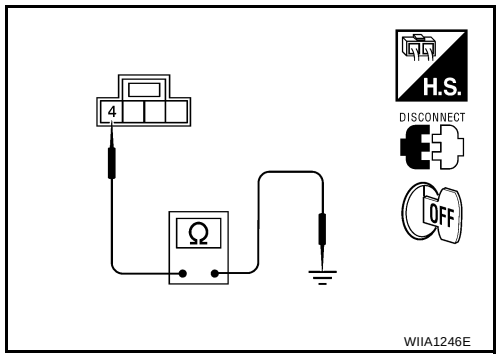
OK1 >> (Front and rear doors) Switch circuit is OK.
OK2 >> (Back door) GO TO 4.
NG >> Replace door switch.



4. CHECK BACK DOOR SWITCH GROUND

Check continuity between back door lock assembly connector D405 terminal 4 and ground.

4 - Ground : Continuity should exist.



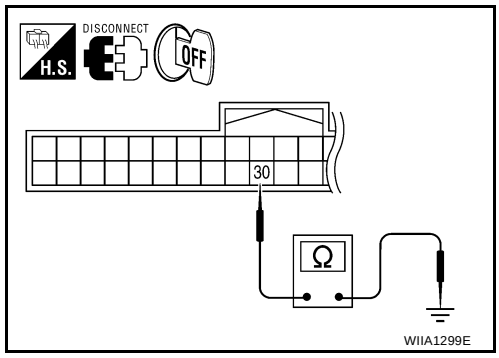
OK or NG

OK1 >> Back door switch circuit is OK (without Intelligent Key).
OK2 >> GO TO 5 (with Intelligent Key).
NG >> Repair or replace harness.

5. CHECK BACK DOOR SWITCH SIGNAL FOR SHORT

1. Disconnect Intelligent Key unit.
2. Check continuity between BCM connector M18 terminal 30 and ground.

30 - Ground : Continuity should not exist.



OK or NG

OK >> Back door switch circuit is OK.
NG >> Repair or replace harness.

Key Switch (Insert) Check

EIS00915

1. CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

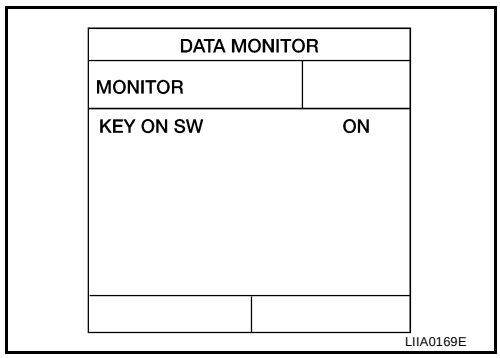
Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT–II. Refer to BL-37, "DATA MONITOR" .

- When key is inserted into ignition key cylinder:

  KEY ON SW : ON

- When key is removed from ignition key cylinder:

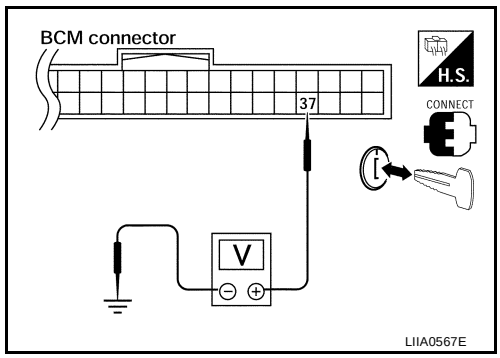
  KEY ON SW : OFF



Without CONSULT-II

Check voltage between BCM connector and ground.

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



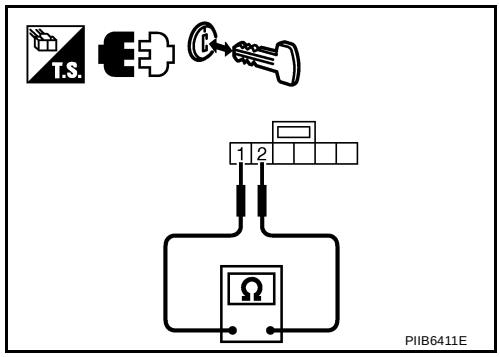
OK or NG

OK >> Key switch circuit is OK.
NG-1 >> GO TO 2 (with Intelligent Key).
NG-2 >> GO TO 3 (without Intelligent Key).

2. CHECK KEY SWITCH (WITH INTELLIGENT KEY)

1. Turn ignition switch OFF.
2. Disconnect key switch and ignition knob switch connector.
3. Check ignition knob switch key switch and ignition knob key switch.

Terminal		Condition		Continuity
Key switch and ignition knob switch				
1	2	Key	Inserted	Yes
			Removed	No



OK or NG

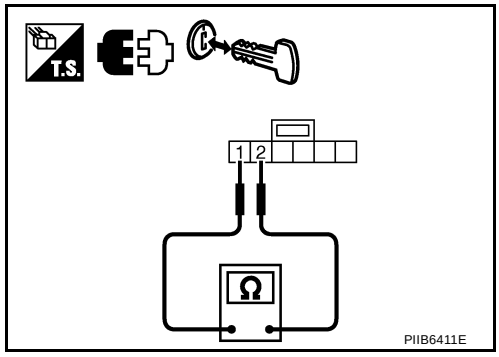
OK >> Check the following.
- 10A fuse (No. 31, located in fuse and fusible link block)
- Harness for open or short between key switch and ignition knob switch and fuse
- Harness for open or short between BCM and key switch and ignition knob switch

NG >> Replace key switch and ignition knob switch.

3. CHECK KEY SWITCH (WITHOUT INTELLIGENT KEY)

1. Turn ignition switch OFF.
2. Disconnect key switch and key lock solenoid connector.
3. Check key switch.

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



OK or NG

OK >> Check the following.

- 10A fuse [No. 14, 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 and key lock solenoid.

Door Lock and Unlock Switch Check

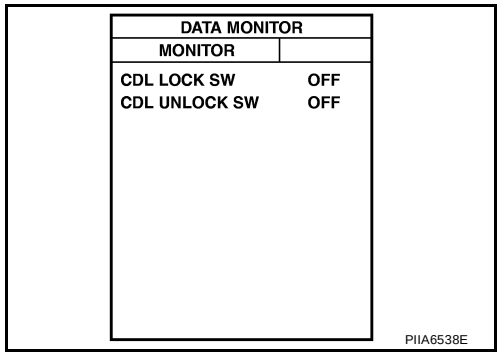
EIS00916

1. CHECK DOOR LOCK AND UNLOCK INPUT SIGNAL

With CONSULT-II

Check door lock and unlock switch (“CDL LOCK SW” and “CDL UNLOCK SW”) in DATA MONITOR mode with CONSULT-II.

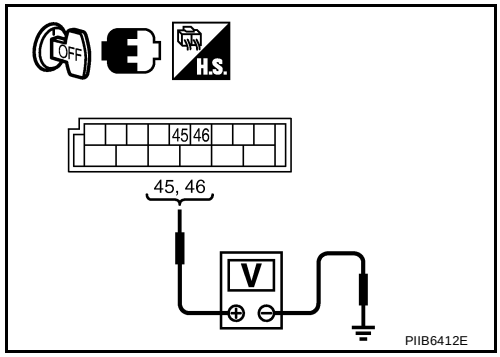
Test item	Condition	
CDL LOCK SW	Door lock and unlock switch is turned to LOCK	: ON
	Other than above	: OFF
CDL UNLOCK SW	Door lock and unlock switch is turned to UNLOCK	: ON
	Other than above	: OFF



Without CONSULT-II

Check voltage between BCM connector and ground

Terminals			Door lock and unlock switch condition	Voltage (V) (Approx.)
(+)		(–)		
BCM connector	Terminal			
M19	45	Ground	Lock	0
			Neutral / Unlock	Battery voltage
	46		Unlock	0
			Neutral / Lock	Battery voltage



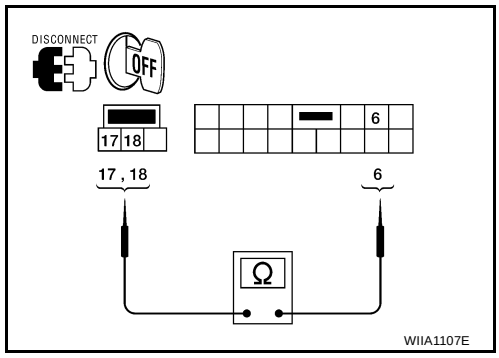
OK or NG

OK >> Door lock and unlock switch is OK.
NG >> GO TO 2.

2. CHECK DOOR LOCK/UNLOCK SWITCH

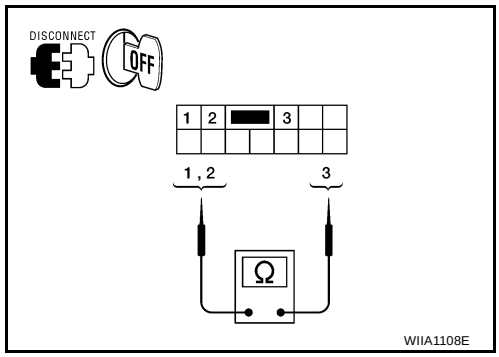
1. Turn ignition switch OFF.
2. Disconnect door lock/unlock switch.
3. Check continuity between main power window and door lock/unlock switch terminals 6, 17 and 18.

Terminal		Condition	Continuity
18	17	Lock	Yes
		Unlock/Neutral	No
6		Unlock	Yes
		Lock/Neutral	No



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

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



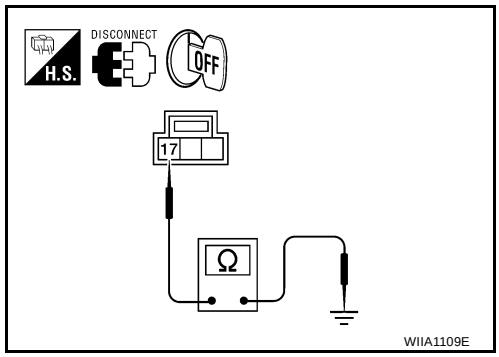
OK or NG

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

3. CHECK DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

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

17 - Ground : Continuity should exist.

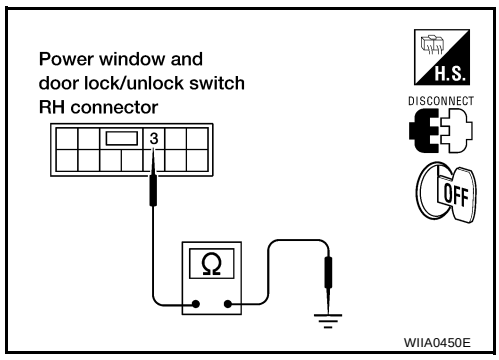


3. Check continuity between power window and door lock/unlock switch RH connector D105 terminal 3 and ground

3 - Ground : Continuity should exist.

OK or NG

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



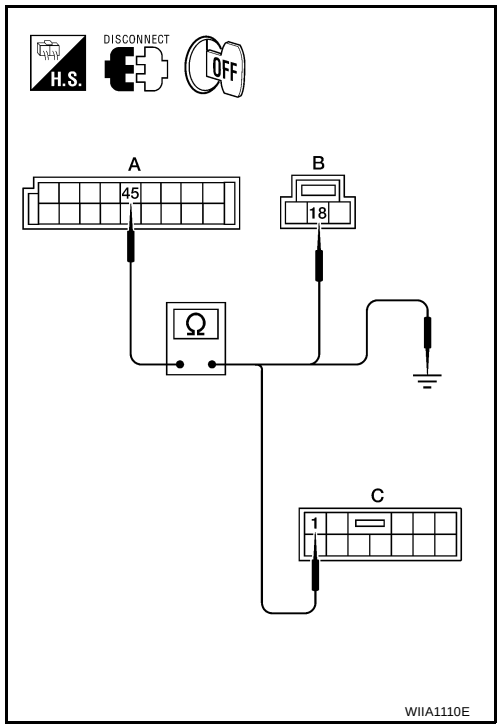
4. CHECK DOOR LOCK SWITCH CIRCUIT

1. Disconnect BCM.
2. Check continuity between BCM connector M19 (A) terminal 45 and main power window and door lock/unlock switch connector D8 (B) terminal 18 or power window and door lock/unlock switch RH connector D105 (C) terminal 1.

1 - 45 : Continuity should exist.
18 - 45 : Continuity should exist.

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

45 - Ground : Continuity should not exist.



4. Check continuity between BCM connector M19 (A) terminal 46 and main power window and door lock/unlock switch LH connector D7 (B) terminal 6 or power window and door lock/unlock switch RH connector D105 (C) terminal 2.

2 - 46 : Continuity should exist.
6 - 46 : Continuity should exist.

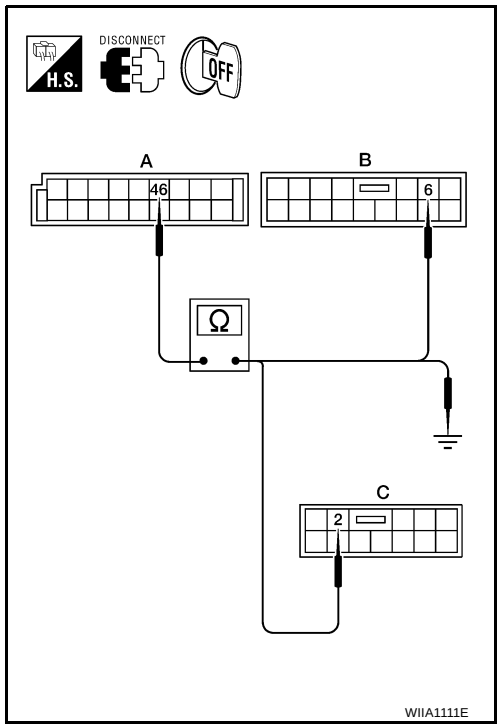
5. Check continuity between BCM connector M19 terminal 46 and ground.

46 - Ground : Continuity should not exist.

OK or NG

OK >> Replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .

NG >> Repair or replace harness.

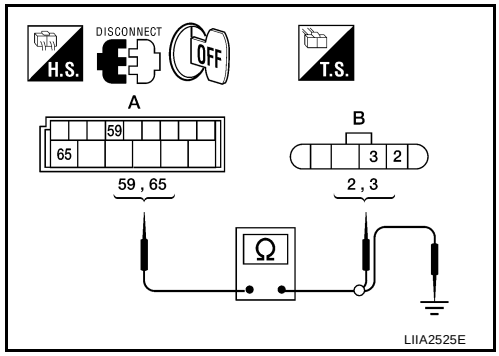


Front Door Lock Assembly LH (Actuator) Check

EIS009CA

1. CHECK FRONT DOOR LOCK ASSEMBLY LH (ACTUATOR) HARNESS

1. Turn ignition switch OFF.
2. Disconnect BCM and front door lock assembly LH (actuator).
3. Check continuity between BCM connector (A) M20 terminals 59, 65 and front door lock assembly LH (actuator) connector (B) D3 terminals 2, 3.



Connector	Terminal	Connector	Terminal	Continuity
A: M20	59	B: D3	2	Yes
	65		3	Yes

4. Check continuity between BCM connector (A) M20 terminals 59, 65 and body ground.

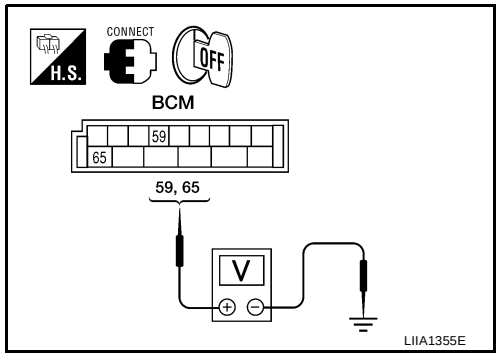
Connector	Terminals		Continuity
A: M20	59	Ground	No
	65		No

OK or NG

OK >> GO TO 2.
NG >> Repair or replace harness.

2. CHECK FRONT DOOR LOCK ASSEMBLY LH SIGNAL

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



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

OK or NG

OK >> Replace front door lock assembly LH (actuator). Refer to BL-169, "Removal and Installation" .
NG >> Replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .

Door Lock Actuator Check (Front RH and Rear LH/RH)

EIS009CB

1. CHECK DOOR LOCK ACTUATOR HARNESS

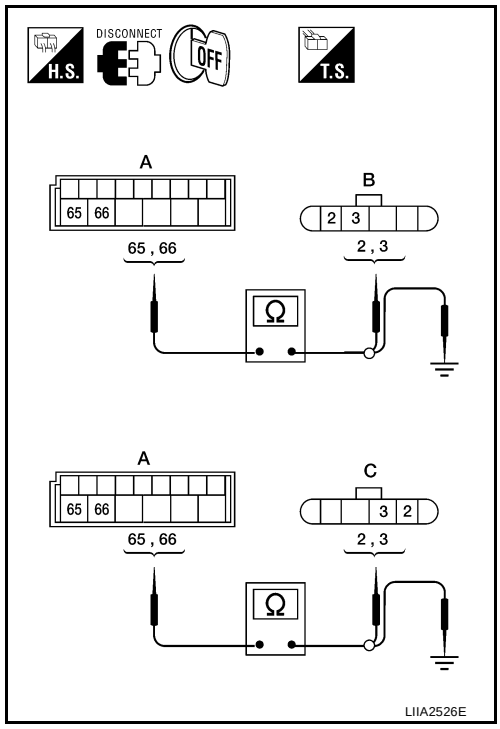
NOTE:
For models with Intelligent Key, insure that passenger select unlock relay remains connected during this test.

1. Turn ignition switch OFF.
2. Disconnect BCM and each door lock actuator.
3. Check continuity between BCM connector (A) M20 terminals 65, 66 and front door lock actuator RH connector (B) D114, rear door lock actuator RH connector (B) D305, rear door lock actuator LH connector (C) D205 terminals 2, 3.

Connector	Terminal	Connector	Terminal	Continuity
A: M20	65	B: D114 C: D205 D: D305	3	Yes
	66		2	Yes

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

Connector	Terminals		Continuity
A: M20	65	Ground	No
	66		No



OK or NG

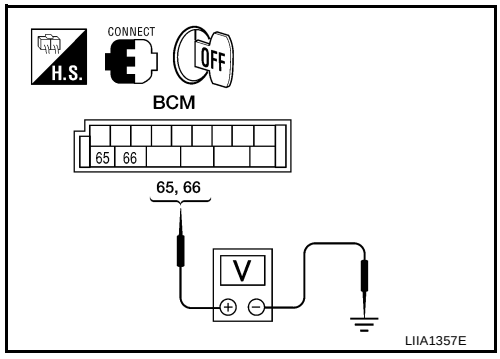
OK >> GO TO 2.
NG >> Check the following:

- Without Intelligent Key: Repair or replace harness.
- With Intelligent Key: For front doors, repair or replace harness.
- With Intelligent Key: For rear door, repair or replace harness or passenger select unlock relay.

2. CHECK DOOR LOCK ACTUATOR SIGNAL

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

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



OK or NG

OK >> Replace front door lock assembly RH or rear door lock actuator LH/RH. Refer to BL-169, "Removal and Installation" or BL-172, "Removal and Installation" .
NG >> Replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .

Front Door Key Cylinder Switch LH Check

EIS009CC

1. CHECK FRONT DOOR KEY CYLINDER SWITCH LH

With CONSULT-II

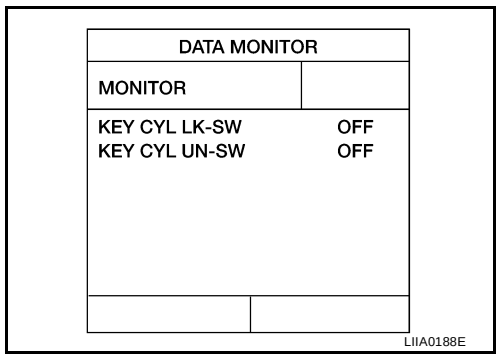
Check front door key cylinder switch ("KEY CYL LK-SW") and ("KEY CYL UN-SW) in DATA MONITOR mode in CONSULT–II. Refer to BL-37, "DATA MONITOR" .

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

  KEY CYL LK-SW : ON

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

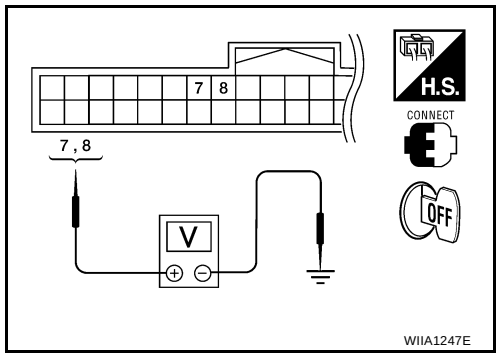
  KEY CYL UN-SW : ON



Without CONSULT-II

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

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



OK or NG

OK >> Front door key cylinder switch LH signal is OK.
NG >> GO TO 2.

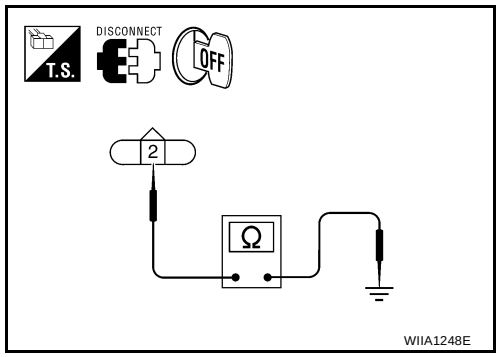
2. CHECK FRONT DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

1. Turn ignition switch OFF.
2. Disconnect front door key cylinder switch LH.
3. Check continuity between front door key cylinder switch LH connector D14 terminal 2 and body ground.

Connector	Terminals	Continuity
D14	2 – Ground	Yes

OK or NG

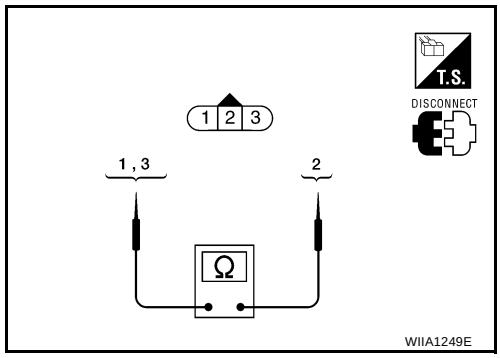
OK >> GO TO 3.
NG >> Repair or replace harness.



3. CHECK DOOR KEY CYLINDER SWITCH LH

Check continuity between front door key cylinder switch LH terminals.

Terminals	Door key cylinder switch position	Continuity
2 – 1	Neutral/Unlock	No
	Lock	Yes
2 – 3	Neutral/Lock	No
	Unlock	Yes



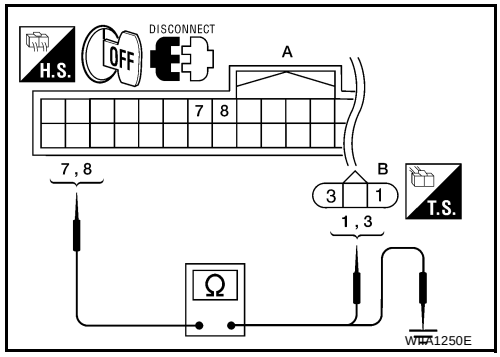
OK or NG

OK >> GO TO 4.
NG >> Replace front door key cylinder switch LH. Refer to BL-169, "FRONT DOOR LOCK" .

4. CHECK DOOR KEY CYLINDER HARNESS

1. Disconnect BCM connector M18.
2. Check continuity between BCM connector (A) M18 terminals 7, 8 and front door key cylinder switch LH connector (B) D14 terminals 1, 3 and body ground.

Connector	Terminal	Connector	Terminal	Continuity
A: M18	7	B: D14	3	Yes
	8		1	Yes
	7	Ground		No
	8	Ground		No



OK or NG

OK >> Front door key cylinder switch LH circuit is OK.
NG >> Repair or replace harness.

Passenger Select Unlock Relay Circuit Check (With Intelligent Key)

EIS009CD

1. CHECK PASSENGER SELECT UNLOCK RELAY CIRCUIT

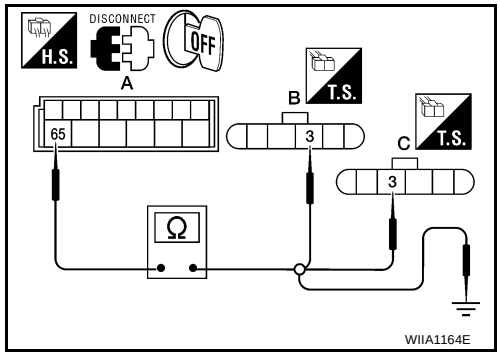
NOTE:
Passenger select unlock relay must remain connected during this step.

1. Turn ignition switch OFF.
2. Disconnect BCM and inoperative rear door lock actuator.
3. Check continuity between BCM connector (A) M20 terminal 65 and rear door lock actuator LH connector (B) D205 terminal 3 or rear door lock actuator RH connector (C) D305 Terminal 3.

65 - 3 : Continuity should exist.

4. Check continuity between BCM connector M20 terminal 65 and body ground.

65 - Ground : Continuity should not exist.



OK or NG

OK >> GO TO 4.
NG >> GO TO 2.

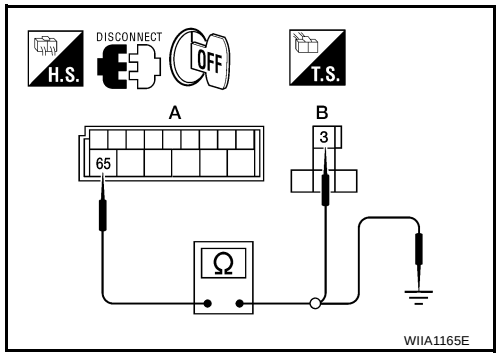
2. CHECK PASSENGER SELECT UNLOCK RELAY INPUT

1. Disconnect passenger select unlock relay.
2. Check continuity between BCM connector (A) M20 terminal 65 and passenger select unlock relay connector (B) M2 terminal 3.

65 - 3 : Continuity should exist.

3. Check continuity between BCM connector (A) M20 terminal 65 and body ground.

65 - Ground : Continuity should not exist.



OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness between BCM and relay.

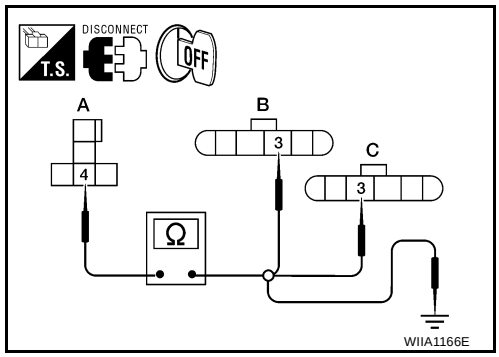
3. CHECK PASSENGER SELECT UNLOCK RELAY OUTPUT

1. Disconnect inoperative rear door lock actuator.
2. Check continuity between passenger select unlock relay connector (A) M2 terminal 4 and rear door lock actuator LH connector (B) D205 or rear door lock actuator RH connector (C) D305 terminal 3.

4 - 3 : Continuity should exist.

3. Check continuity between passenger select unlock relay connector (A) M2 terminal 4 and ground.

4 - Ground : Continuity should not exist.



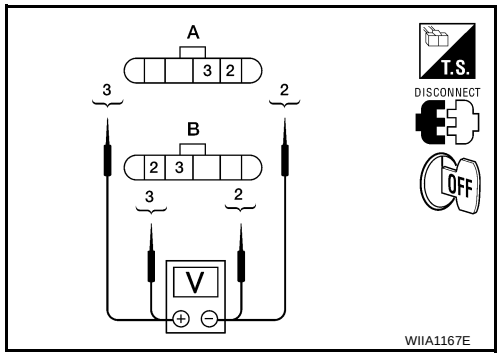
OK or NG

OK >> Replace passenger select unlock relay.
NG >> Repair or replace harness between relay and actuator.

4. CHECK REAR DOOR LOCK ACTUATOR ASSEMBLY

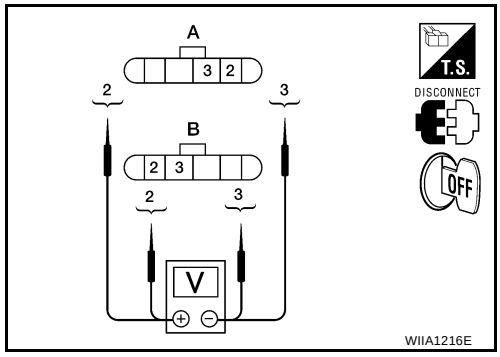
1. Reconnect BCM.
2. Check voltage between rear door lock actuator connector LH (A) D205 or rear door lock actuator connector RH (B) D305 terminals 2 and 3.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
A: D205 (LH) B: D305 (RH)	3	2	Main power window and door lock/unlock switch is turned to LOCK	0 → Battery voltage



3. Check voltage between rear door lock actuator connector LH (A) D205 or rear door lock actuator connector RH (B) D305 terminals 2 and 3.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
A: D205 (LH) B: D305 (RH)	2	3	Main power window and door lock/unlock switch is turned to UNLOCK	0 → Battery voltage



OK or NG

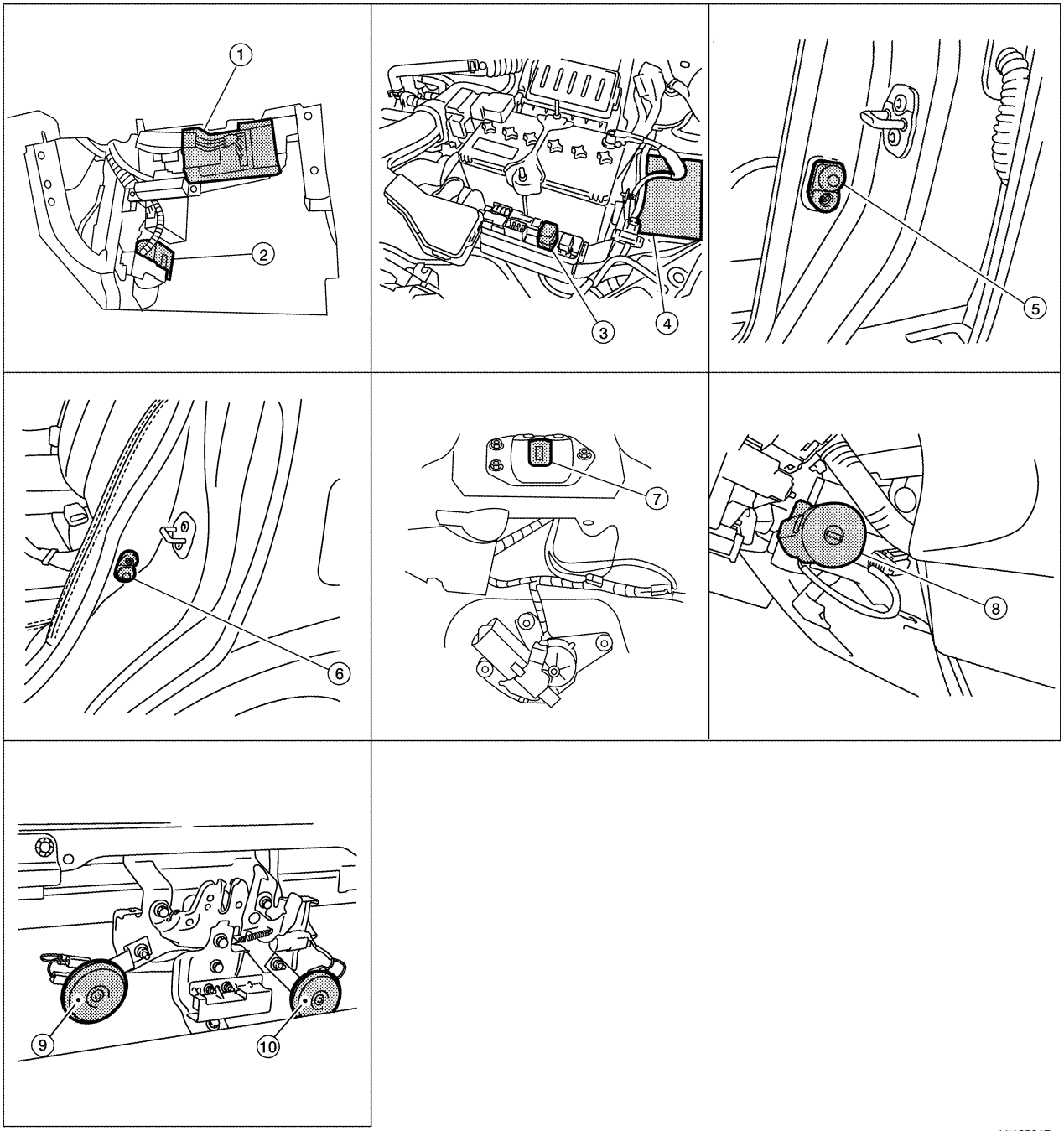
OK >> Replace rear door lock actuator. Refer to BL-172, "Removal and Installation" .
NG >> Repair or replace harness between actuator and splice.

REMOTE KEYLESS ENTRY SYSTEM

PFP:28596

Component Parts and Harness Connector Location

EIS00919



LIIA2594E

1. BCM M18, M19, M20 (view with glove box removed)
2. Remote keyless entry receiver M23
3. Horn relay H-1 (front of battery)
4. IPDM E/R E46, E48
5. Front door switch LH B8, RH B108
6. Rear door switch LH B6, RH B116
7. Back door lock assembly (back door switch) D405 (with back door open)
8. Key switch and key lock solenoid M27
9. Horn (low) E18, E20
10. Horn (high) E21, E22

System Description

EIS0091A

INPUTS

Power is supplied at all times

- through 40A fusible link (letter **g** , located in the fuse and fusible link box)
- to BCM terminal 70
- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to BCM terminal 57.

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

- through 10A fuse [No. 14, located in the fuse block (J/B)]
- through key switch terminals 2 and 1
- to BCM terminal 37.

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

- through 10A fuse [No. 20, located in the fuse block (J/B)]
- to BCM terminal 11.

Ground is supplied

- to BCM terminal 67
- through body grounds M57 and M61.

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

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

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

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

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

- to BCM terminal 48
- through rear door switch LH terminal 1
- through rear door switch LH case ground.

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

- to BCM meter terminal 13
- through rear door switch RH terminal 1
- through rear door switch RH case ground.

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

- to BCM terminal 43
- through back door lock assembly (back door switch) terminals 3 and 4
- through body grounds B117, B132 and D402.

Keyfob signal is inputted to BCM from remote keyless entry receiver.
The remote keyless entry system controls operation of the

- power door lock
- hazard reminder
- auto door lock
- panic alarm
- room lamp

OPERATED PROCEDURE

Power Door Lock Operation

BCM receives a LOCK signal from keyfob. BCM locks all doors with input of LOCK signal from keyfob.
BCM receives a UNLOCK signal from keyfob. BCM unlocks all doors with input of UNLOCK signal from keyfob.

Hazard and Horn Reminder

When the doors are locked or unlocked by keyfob, power is supplied to sound horns and flash hazard warning lamps as follows

- LOCK operation: 3 or 4 mode (lamps flash twice)
- UNLOCK operation: 2 or 4 mode (lamps flash once)
- Horns sound once with LOCK function when this feature is set ON.

The hazard reminder has modes 1, 2, 3 or 4. The horn reminder can be turned ON/OFF with any LOCK mode.

Operating function of hazard reminder

	Mode 1		Mode 2		Mode 3		Mode 4	
Keyfob operation	Lock	Unlock	Lock	Unlock	Lock	Unlock	Lock	Unlock
Hazard warning lamp flash	—	—	—	Twice	Once	—	Once	Twice
Horns sound (ON/OFF)	ON: once	—	ON: once	—	ON: once	—	ON: once	—

Hazard and horn reminders do not operate if any door switch is ON (any door is OPEN).

How to change hazard and horn reminder modes

With CONSULT-II

Hazard reminder can be changed using “HAZARD LAMP SET” mode in “WORK SUPPORT”.
Horn reminder can be changed using “HORN CHIRP SET” mode in “WORK SUPPORT”.
Refer to BL-61, "Work Support" .

Without CONSULT-II

Refer to Owner's Manual for instructions.

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 keyfob:

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

Auto door lock mode can be changed using “AUTO LOCK SET” mode in “WORK SUPPORT”.
Refer to BL-61, "Work Support" .

Panic Alarm Operation

When key switch is OFF (when ignition key is not inserted in key cylinder), BCM turns on and off horn intermittently with input of PANIC ALARM signal from keyfob.
BCM outputs to IPDM E/R for panic alarm signal (horn signal) as DATA LINE (CAN H line and CAN L line).
The alarm automatically turns off after 25 seconds or when BCM receives any signal from keyfob.
Panic alarm operation mode can be changed using “PANIC ALARM SET” mode in “WORK SUPPORT”.
Refer to BL-61, "Work Support" .

Interior Lamp Operation

When the following conditions come:

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

Remote keyless entry system turns on interior lamp (for 30 seconds) with input of UNLOCK signal from keyfob. For detailed description, refer to LT-91, "INTERIOR ROOM LAMP" .

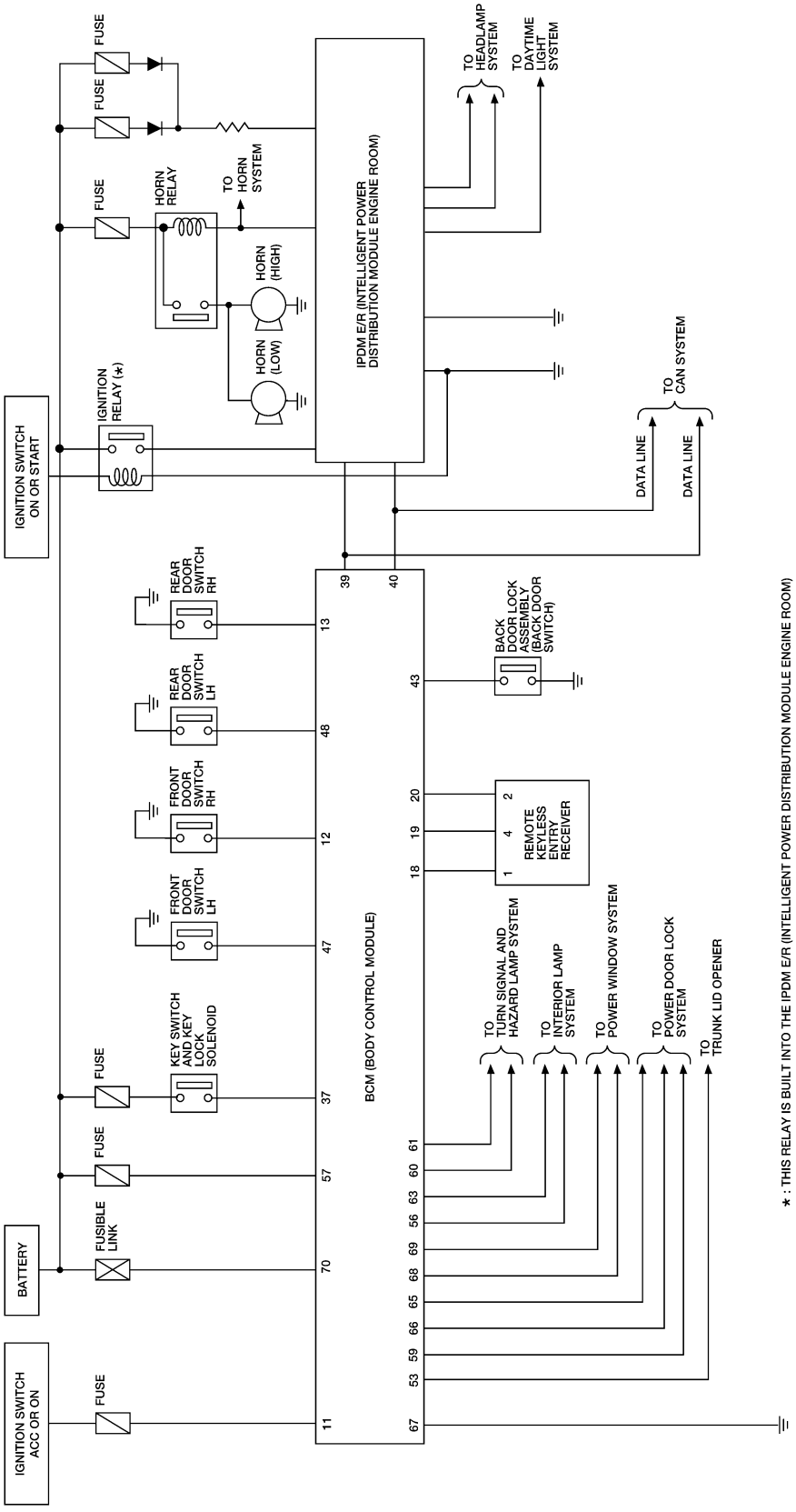
CAN Communication System Description

EIS0091B

Refer to LAN-4, "SYSTEM DESCRIPTION" .

Schematic

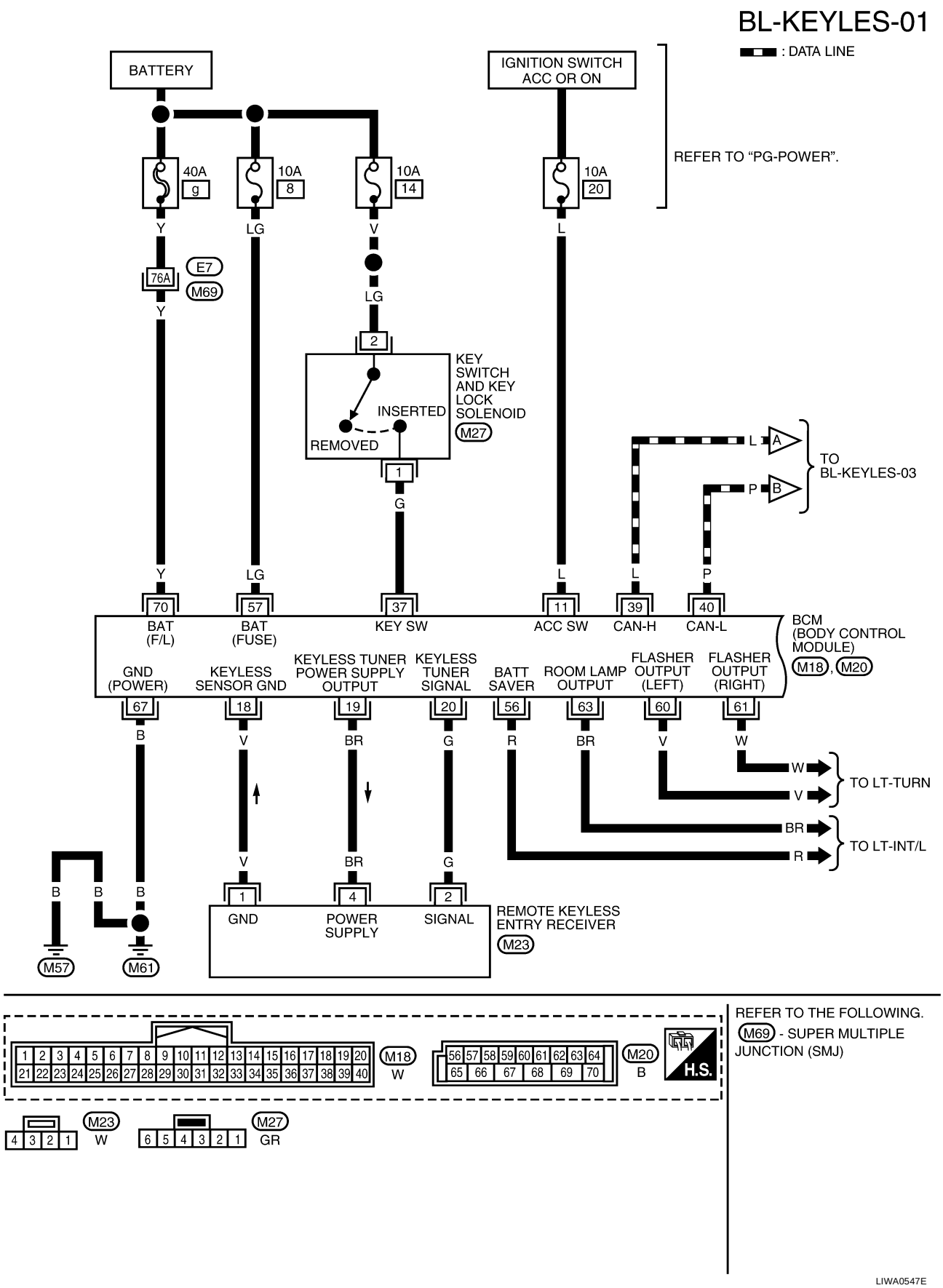
EIS0091C

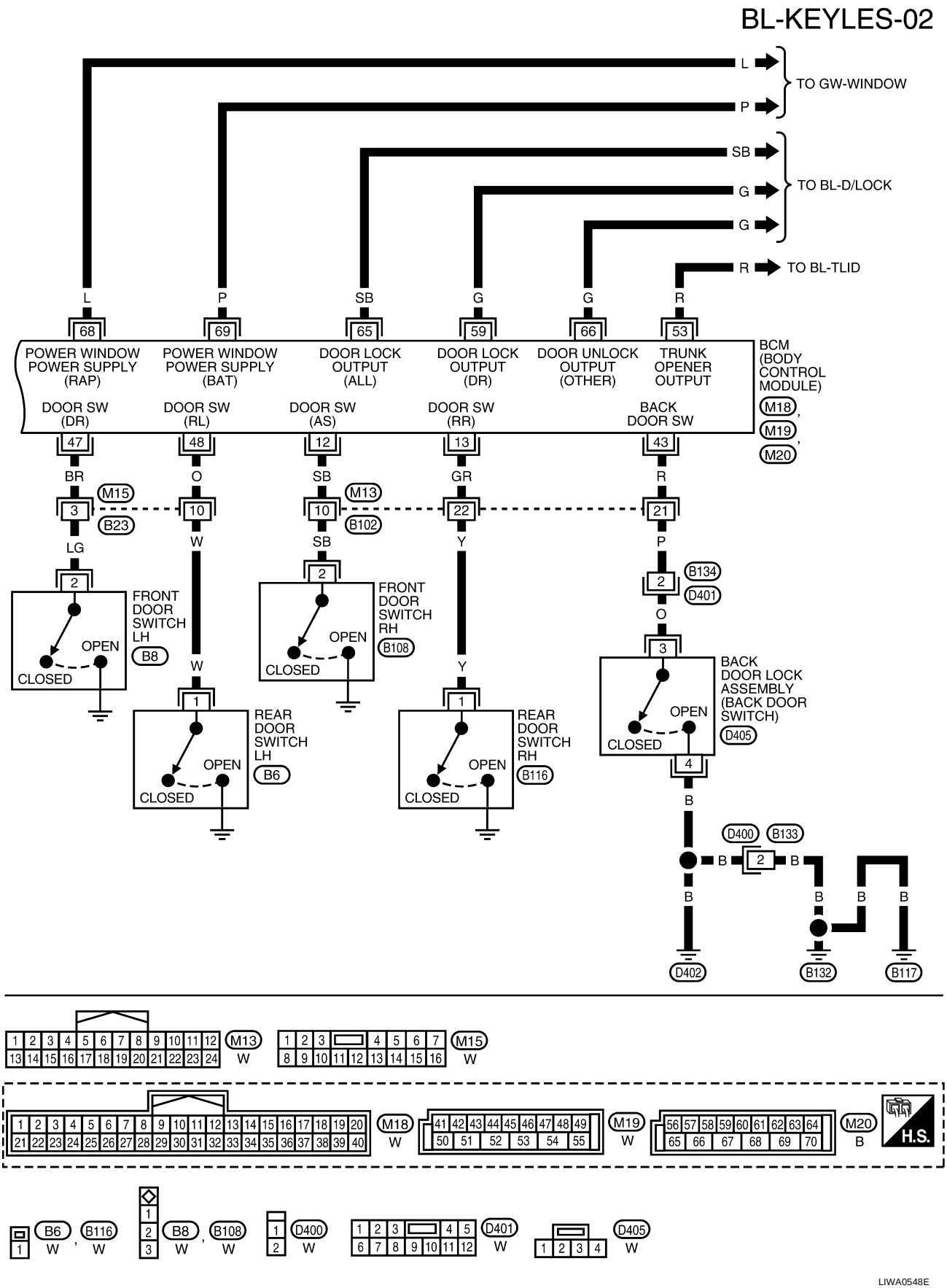


WIWA1961E

Wiring Diagram — KEYLES —

EIS0091D




BL-KEYLES-02
L
P
SB
G
G
R
TO GW-WINDOW
TO BL-D/LOCK
TO BL-TLID
68
69
65
59
66
53
POWER WINDOW POWER SUPPLY (RAP)
POWER WINDOW POWER SUPPLY (BAT)
DOOR LOCK OUTPUT (ALL)
DOOR LOCK OUTPUT (DR)
DOOR UNLOCK OUTPUT (OTHER)
TRUNK OPENER OUTPUT
BCM (BODY CONTROL MODULE)
M18, M19, M20
DOOR SW (DR)
DOOR SW (RL)
DOOR SW (AS)
DOOR SW (RR)
BACK DOOR SW
47
48
12
13
43
BR
O
SB
GR
R
M15
M13
3
10
10
22
21
B23
B102
LG
W
SB
Y
P
2
2
2
B134
D401
FRONT DOOR SWITCH LH
B8
FRONT DOOR SWITCH RH
B108
O
3
BACK DOOR LOCK ASSEMBLY (BACK DOOR SWITCH)
D405
OPEN
CLOSED
W
Y
1
1
REAR DOOR SWITCH LH
B6
REAR DOOR SWITCH RH
B116
4
B
D400
B133
2
D402
B132
B117
M13
W
M15
W
M18
W
M19
W
M20
B
H.S.
B6
W
B116
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B8
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B108
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D400
W
D401
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D405
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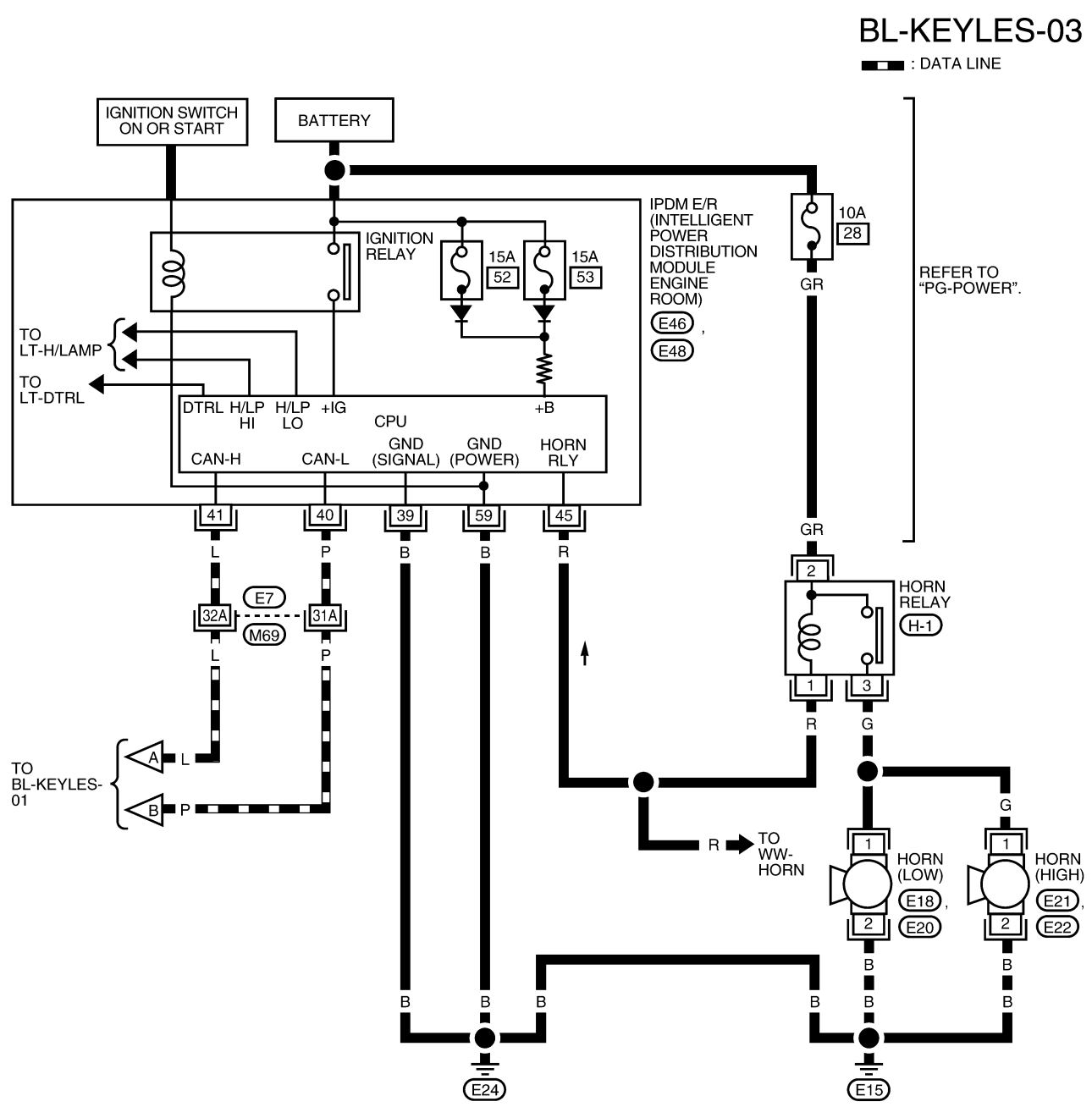
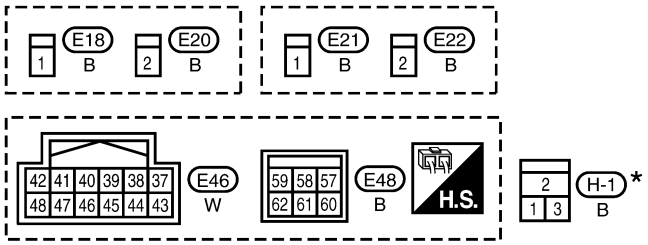
LIWA0548E





REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)

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

LIWA0549E

Terminals and Reference Values for BCM

EIS0091E

Refer to BCS-12, "Terminals and Reference Values for BCM" .

How to Perform Trouble Diagnoses

EIS00A3F

1. Confirm the symptom or customer complaint.
2. Understand operation, description and function description. Refer to BL-55, "System Description" .
3. Perform the Preliminary Check. Refer to LT-12, "Preliminary Check" .
4. Check symptom and repair or replace the component.
5. Does the remote keyless entry system operate normally? If YES, GO TO 6. If NO, GO TO 4.
6. INSPECTION END

Preliminary Check

EIS00A3G

CHECK BCM CONFIGURATION

1. CHECK BCM CONFIGURATION

Confirm BCM configuration for "KEYLESS ENTRY" is set to "WITH". Refer to BCS-19, "READ CONFIGURATION PROCEDURE" .

OK or NG

OK >> Refer to BL-64, "Work Flow" .
NG >> Change BCM configuration for "KEYLESS ENTRY" to "WITH". Refer to BCS-21, "WRITE CONFIGURATION PROCEDURE" .

CONSULT-II Function (BCM)

EIS0091F

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

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

CONSULT-II START PROCEDURE

Refer to GI-38, "CONSULT-II Start Procedure" .

CONSULT-II APPLICATION ITEMS

Work Support

Test Item	Description
REMO CONT ID REGIST	Keyfob ID code can be registered.
REMO CONT ID ERASER	Keyfob ID code can be erased.
REMO CONT ID CONFIR	It can be checked whether keyfob ID code is registered or not in this mode.
PANIC ALRM SET	Panic alarm operation mode can be changed in this mode. The operation mode will be changed when “CURRENT SETTING” on CONSULT-II screen is touched.
HAZARD LAMP SET	Hazard reminder mode can be changed in this mode. The hazard reminder mode will be changed when “CURRENT SETTING” on CONSULT-II screen is touched.

Test Item	Description
AUTO LOCK SET	Auto locking function mode can be changed in this mode. The function mode will be changed when “CURRENT SETTING” on CONSULT-II screen is touched.
TRUNK OPEN	Keyless trunk open operation mode can be changed in this mode. The operation mode will be changed when “CURRENT SETTING” on CONSULT-II screen is touched.

PANIC ALARM SET

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

HAZARD LAMP BACK SET

	MODE 1	MODE 2	MODE 3	MODE 4
Hazard lamp operation mode	Nothing	Unlock only	Lock only	Lock and Unlock

AUTO LOCK SET

	MODE 1	MODE 2	MODE 3
Auto locking function	30 seconds	Nothing	1 minutes

TRUNK OPEN

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

Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEYLESS LOCK	Indicates [ON/OFF] condition of lock signal from keyfob.
KEYLWSS UNLOCK	Indicates [ON/OFF] condition of unlock signal from keyfob.
KYLS TRNK/HAT	This is displayed even when it is not equipped.
KEYLESS PSD	This is displayed even when it is not equipped.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch driver side.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch passenger side.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	This is displayed even when it is not equipped.
TRNK/HAT MNTR	Indicates [ON/OFF] condition of trunk room lamp switch.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock and unlock switch.
KEYLESS PANIC	Indicates [ON/OFF] condition of panic alarm signal from keyfob.

Active Test

Test Item	Description
INT LAMP	This test is able to check interior room lamp operation. The interior room lamp turns on when “ON” on CONSULT-II screen is touched.
FLASHER	This test is able to check right hazard reminder operation. The right hazard lamp turns on when “ON” on CONSULT-II screen is touched.
DOOR LOCK	This test is able to check door lock actuator operation. ● The all door lock actuator are locked when “ALL LOCK” on CONSULT-II screen is touched. ● The all door lock actuator are unlocked when “ALL UNLOCK” on CONSULT-II screen is touched.

Test Item	Description
TRUNK/BACK DOOR	This is displayed even when it is not equipped.
POWER SLIDE DOOR	This is displayed even when it is not equipped.

Work Flow

EIS0091G

1. Check the symptom and customer's requests.
2. Understand outline of system. Refer to BL-55, "System Description" .
3. Confirm that power door lock system operates normally.
   Refer to BL-23, "POWER DOOR LOCK SYSTEM" .
4. Repair or replace any malfunctioning parts.
   Refer to BL-64, "Trouble Diagnosis Symptom Chart" .
5. Does remote keyless entry system operate normally? If Yes, GO TO 6. If No, GO TO 4.
6. INSPECTION END

Trouble Diagnosis Symptom Chart

EIS0091H

NOTE:

- Always check the “Work Flow” before troubleshooting. Refer to BL-64, "Work Flow" .
- Always check keyfob battery before replacing keyfob.

Symptom	Diagnoses/service procedure	Reference page
All function of remote keyless entry system do not operate.	1. Check key switch.	BL-70
	2. Check keyfob battery and function. **NOTE:** If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning.	BL-66
	3. Check remote keyless entry receiver.	BL-73
	4. Refer to ID Code Entry Procedure.	BL-76
	5. Replace BCM.	BCS-25
The new ID of keyfob cannot be entered.	1. Check keyfob battery and function. **NOTE:** If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning.	BL-66
	2. Check key switch.	BL-70
	3. Check door switch.	BL-68
	4. Check ACC switch.	BL-67
	5. Replace keyfob. Refer to ID Code Entry Procedure.	BL-76
	6. Replace BCM.	BCS-25
Door lock does not function with keyfob. (Power door lock system is “OK”.)	1. Check keyfob function. (Lock) **NOTE:** If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning.	BL-75
	2. Replace keyfob. Refer to ID Code Entry Procedure.	BL-76
	3. Check door switch.	BL-68
	4. Replace BCM.	BCS-25
Door unlock does not function with keyfob (Power door lock system is “ON”)	1. Check keyfob function. (Unlock)	BL-75
	2. Replace keyfob. Refer to ID Code Entry Procedure. **NOTE:** If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning.	BL-76
	3. Replace BCM.	BCS-25
Hazard reminder does not activate properly when pressing lock or unlock button of keyfob.	1. Check hazard reminder mode.* *: Hazard reminder mode can be changed. First check the hazard reminder setting.	BL-61
	2. Check hazard function.	BL-71
	3. Replace BCM.	BCS-25

Symptom	Diagnoses/service procedure	Reference page
Panic alarm does not activate when panic alarm button is continuously pressed.	1. Check panic alarm mode.* *: Panic alarm mode can be changed. First check the panic alarm setting.	BL-61
	2. Check keyfob battery and function. **NOTE:** If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning.	BL-66
	3. Check horn function.	BL-71
	4. Check key switch.	BL-70
	5. Replace keyfob. Refer to ID Code Entry Procedure.	BL-76
	6. Replace BCM.	BCS-25
Auto door lock operation does not activate properly. (All other remote keyless entry system functions are OK.)	1. Check auto door lock operation mode.* *: Auto door lock operation mode can be changed. First check the auto door lock operation setting.	BL-61
	2. Replace BCM.	BCS-25
Interior lamp operation does not activate properly.	1. Check interior lamp operation.	BL-72
	2. Replace BCM.	BCS-25

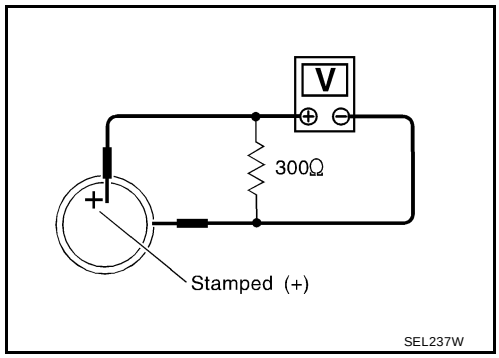
Keyfob Battery and Function Check

EIS0091I

1. CHECK KEYFOB BATTERY

1. Remove keyfob battery. Refer to BL-78, "Keyfob Battery Replacement" .
2. Measure voltage between battery positive and negative terminals, (+) and (–).

Voltage : 2.5 – 3.0V



NOTE:
Keyfob does not function if battery is not set correctly.

OK or NG

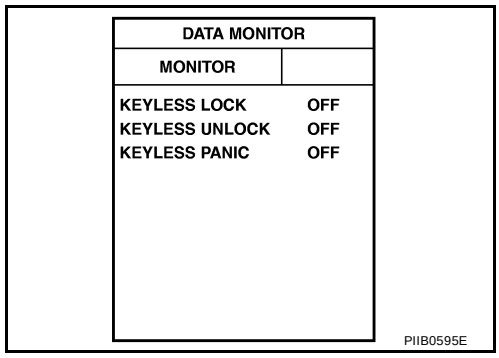
OK >> GO TO 2.
NG >> Replace battery.

2. CHECK KEYFOB FUNCTION

With CONSULT-II

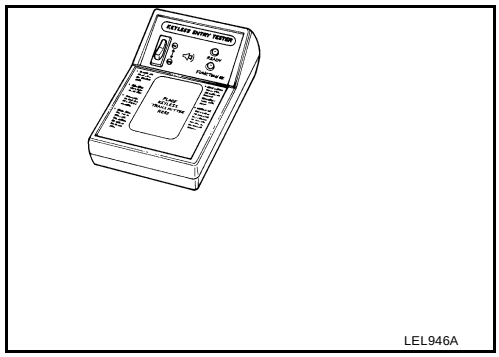
Check keyfob function in “DATA MONITOR” mode with CONSULT-II. When pushing each button of keyfob, the corresponding monitor item should be turned as follows.

Condition	Monitor item	
Pushing LOCK	KEYLESS LOCK	: ON
Pushing UNLOCK	KEYLESS UNLOCK	: ON
Pushing PANIC	KEYLESS PANIC	: ON



Without CONSULT-II

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



OK or NG

OK >> Keyfob is OK.
NG >> Replace keyfob.

ACC Switch Check

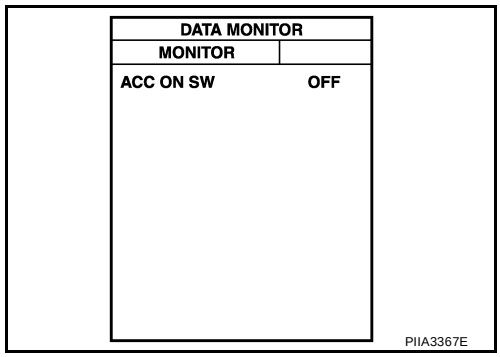
EIS0091J

1. CHECK ACC SWITCH

With CONSULT-II

Check ACC switch (“ACC ON SW”) in “DATA MONITOR” mode with CONSULT-II.

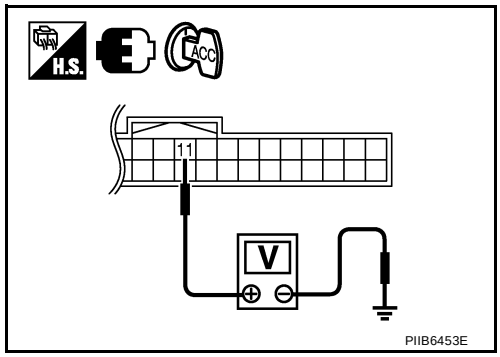
Monitor item	Condition	
ACC ON SW	Ignition switch position is ACC or ON	: ON
	Ignition switch position is OFF	: OFF



Without CONSULT-II

Check voltage between BCM connector and ground.

Terminals			Ignition switch condition	Voltage (V) (Approx.)
(+)		(–)		
BCM connector	Terminal			
M18	11	Ground	ACC or ON	Battery voltage
			OFF	0



OK or NG

OK >> ACC switch is OK.

NG >> Check the following.

- 10A fuse [No. 20, located in fuse block (J/B)]
- Harness for open or short between BCM and fuse.

Door Switch Check

EIS009CF

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

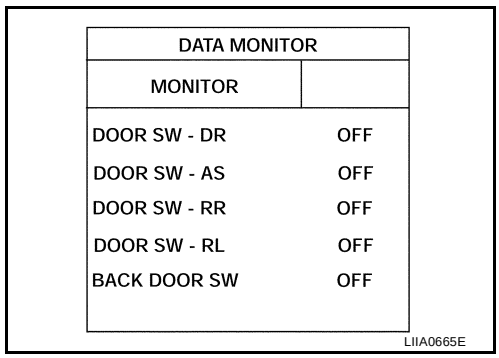
Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in DATA MONITOR mode with CONSULT–II. Refer to BL-37, "DATA MONITOR" .

- When doors are open:

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

- When doors are closed:

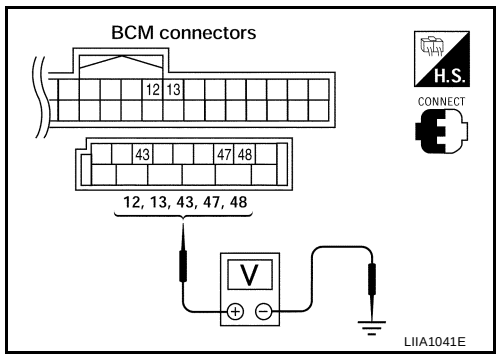
DOOR SW-DR : OFF
DOOR SW-AS : OFF
DOOR SW-RL : OFF
DOOR SW-RR : OFF
BACK DOOR SW : OFF



Without CONSULT-II

Check voltage between BCM connector M18 or M19 terminals 12, 13, 43, 47, 48 and ground.

Connector	Item	Terminals (+)	Terminals (–)	Condition	Voltage (V) (Approx.)
M18	Front door switch RH	12	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Rear door switch RH	13			
M19	Back door switch	43			
	Front door switch LH	47			
	Rear door switch LH	48			



OK or NG

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

2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector (B) B8 (front LH), B108 (front RH) terminal 2 or (C) B6 (rear LH), B116 (rear RH) terminal 1 or back door lock assembly connector (D) D405 terminal 3 and BCM connectors (A) M18, M19 terminals 12, 13, 43, 47 and 48.

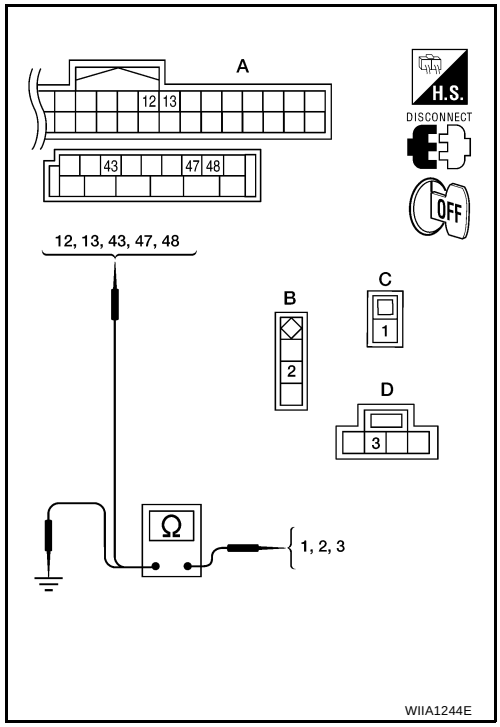
1 - 13 : Continuity should exist.
1 - 48 : Continuity should exist.
2 - 12 : Continuity should exist.
2 - 47 : Continuity should exist.
3 - 43 : Continuity should exist.

4. Check continuity between door switch connector (B) B8 (front LH), B108 (front RH) terminal 2 or (C) B6 (rear LH), B116 (rear RH) terminal 1 or back door lock assembly connector (D) D405 terminal 3 and ground.

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

OK or NG

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

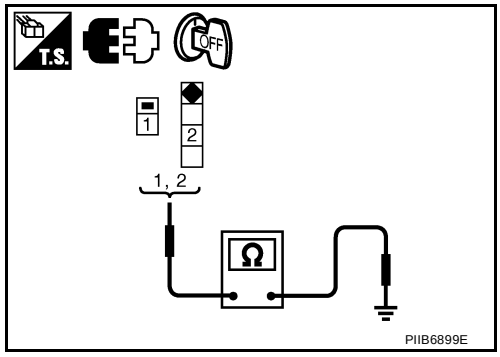


3. CHECK DOOR SWITCHES

FRONT AND REAR DOORS

Check continuity between front door switch terminal 2 or rear door switch terminal 1 and exposed metal of switch while pressing and releasing switch.

Door switch is released : Continuity should exist.
Door switch is pushed : Continuity should not exist.



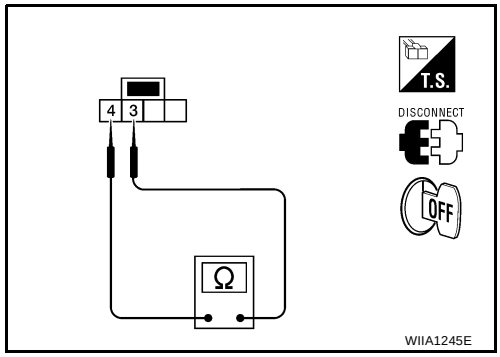
BACK DOOR

Check continuity between back door lock assembly connector (back door switch) terminals 3 and 4 while pressing (closing back door) and releasing (opening back door) switch.

When back door is open : Continuity should exist.
When back door is closed : Continuity should not exist.

OK or NG

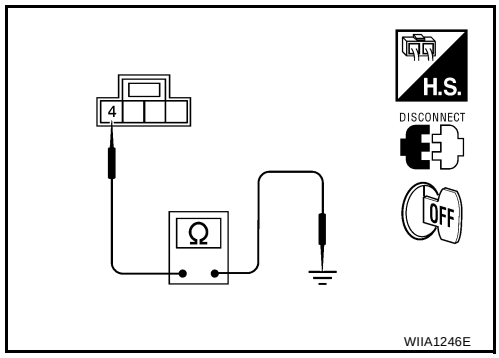
OK >> (Front and rear doors) Switch circuit is OK.
OK >> (Back door) GO TO 4.
NG >> Replace door switch.



4. CHECK BACK DOOR SWITCH GROUND

Check continuity between back door lock assembly connector D405 terminal 4 and ground.

4 - Ground : Continuity should exist.



OK or NG

OK >> Back door switch circuit is OK.
NG >> Repair or replace harness.

Key Switch (Insert) Check

EIS0091L

1. CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

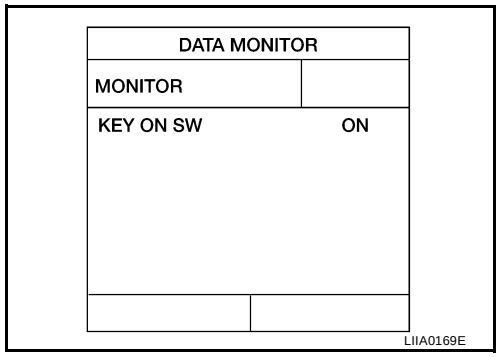
Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT–II. Refer to BL-37, "DATA MONITOR" .

- When key is inserted into ignition key cylinder:

  KEY ON SW : ON

- When key is removed from ignition key cylinder:

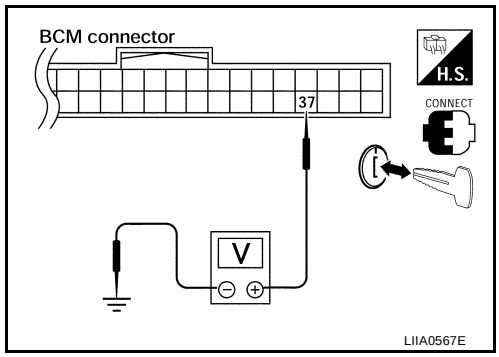
  KEY ON SW : OFF



Without CONSULT-II

Check voltage between BCM connector and ground.

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



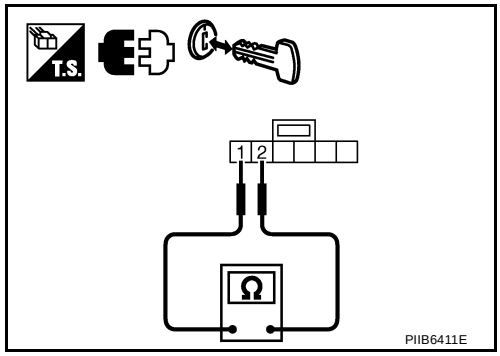
OK or NG

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

2. CHECK KEY SWITCH

1. Turn ignition switch OFF.
2. Disconnect key switch and key lock solenoid connector.
3. Check key switch.

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



OK or NG

OK >> Check the following.
- 10A fuse [No. 14, 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 and key lock solenoid.

Hazard Function Check

EIS0091M

1. CHECK HAZARD WARNING LAMP

Does hazard warning lamp flash with hazard switch?

OK or NG

OK >> Hazard warning lamp circuit is OK.
NG >> Check hazard circuit. Refer to LT-51, "TURN SIGNAL AND HAZARD WARNING LAMPS" .

Horn Function Check

EIS0091N

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 BCS-18, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)" .

1. CHECK HORN FUNCTION

Does horn sound with horn switch?

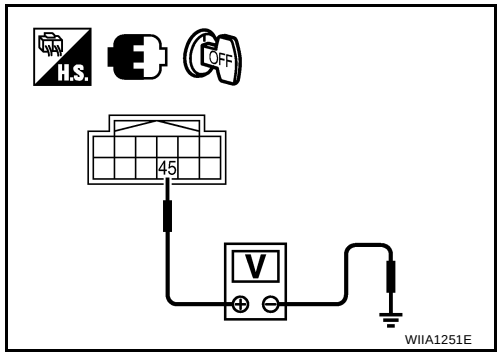
OK or NG

OK >> GO TO 2.
NG >> Check horn circuit. Refer to WW-46, "HORN" .

2. CHECK IPDM E/R INPUT SIGNAL

Check voltage between IPDM E/R connector and ground.

Terminals			Voltage (V) (Approx.)
(+)		(–)	
IPDM E/R connector	Terminal		
E46	45	Ground	Battery voltage



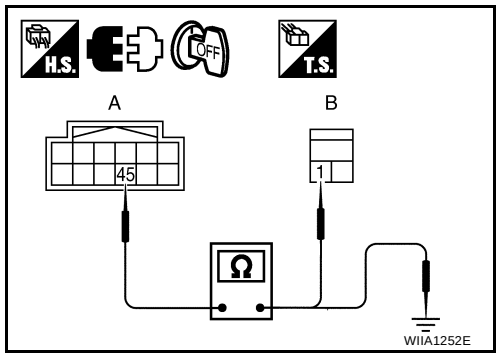
OK or NG

OK >> Replace IPDM E/R. Refer to PG-29, "Removal and Installation of IPDM E/R"
NG >> GO TO 3.

3. CHECK HORN RELAY CIRCUIT

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

A		B		Continuity
IPDM E/R connector	Terminal	Horn relay connector	Terminal	
E46	45	H-1	1	Yes



4. Check continuity between IPDM E/R harness connector and ground.

A		Ground	Continuity
IPDM E/R connector	Terminal		
E46	45		No

OK or NG

OK >> Check condition of harness and connector.
NG >> Repair or replace harness.

Interior Lamp and Ignition Keyhole Illumination Function Check

EIS0091O

1. CHECK INTERIOR LAMP AND IGNITION KEYHOLE ILLUMINATION FUNCTION

When map lamp switch is in “DOOR” position, open the front door (LH or RH).

Does interior lamp illuminate?

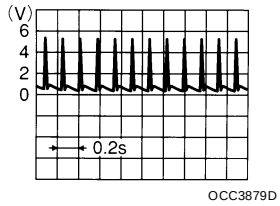
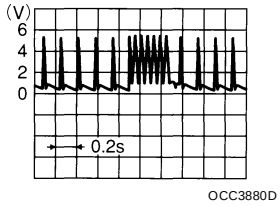
YES >> Replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .
NO >> Check interior lamp circuit. Refer to LT-91, "INTERIOR ROOM LAMP" .

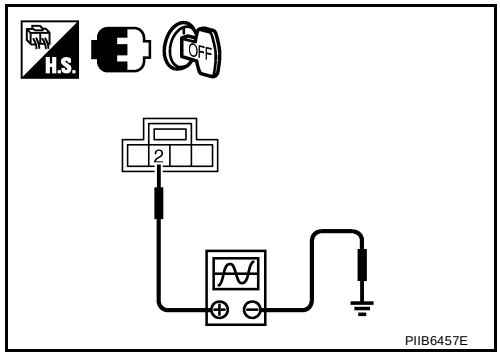
Remote Keyless Entry Receiver Check

EIS0091P

1. CHECK REMOTE KEYLESS ENTRY RECEIVER OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Check remote keyless entry receiver connector and ground signal with oscilloscope.

Terminals			Keyfob condition	Signal (Reference value)
(+)		(–)		
Remote keyless entry receiver connector	Terminal			
M23	2	Ground	No function	 OCC3879D
			Any button is pressed	 OCC3880D



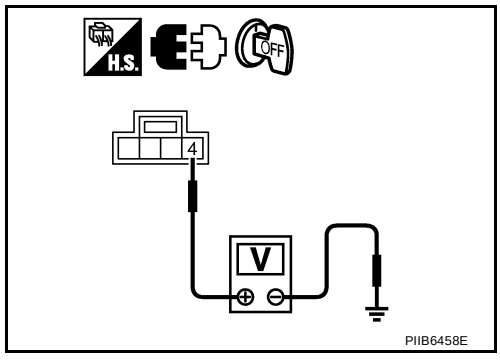
OK or NG

OK >> Remote keyless entry receiver circuit is OK.
NG >> GO TO 2.

2. CHECK REMOTE KEYLESS ENTRY RECEIVER INPUT VOLTAGE

1. Disconnect remote keyless entry receiver connector.
2. Check voltage between remote keyless entry receiver connector M23 terminal 4 and ground.

Terminals			Voltage (V) (Approx.)
(+)		(–)	
Remote keyless entry receiver connector	Terminal		
M23	4	Ground	4.5



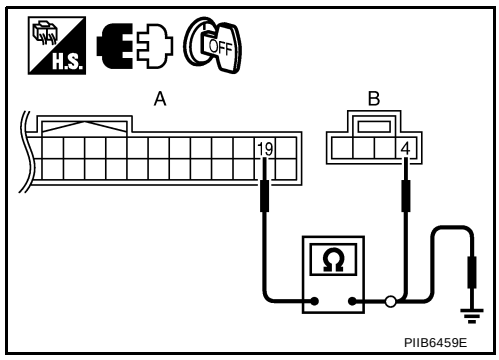
OK or NG

OK >> GO TO 4.
NG >> GO TO 3.

3. CHECK REMOTE KEYLESS ENTRY RECEIVER POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM connector (A) M18 terminal 19 and remote keyless entry receiver connector (B) M23 terminal 4.

A		B		Continuity
BCM connector	Terminal	Remote keyless entry receiver connector	Terminal	
M18	19	M23	4	Yes



3. Check continuity between BCM connector (A) M18 terminal 19 and ground.

A		Ground	Continuity
BCM connector	Terminal		
M18	19		No

OK or NG

OK >> Replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .
NG >> Repair or replace the harness.

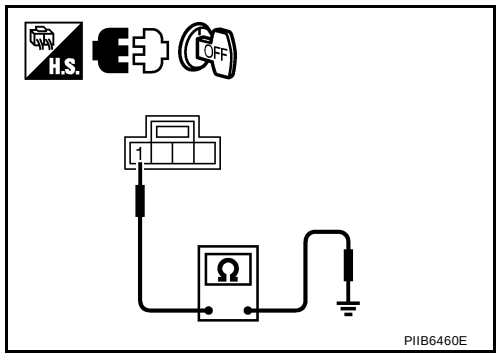
4. CHECK REMOTE KEYLESS ENTRY RECEIVER GROUND CIRCUIT

Check continuity between remote keyless entry receiver connector M23 terminal 1 and ground.

Remote keyless entry receiver connector	Terminal	Ground	Continuity
M23	1		Yes

OK or NG

OK >> GO TO 6.
NG >> GO TO 5.



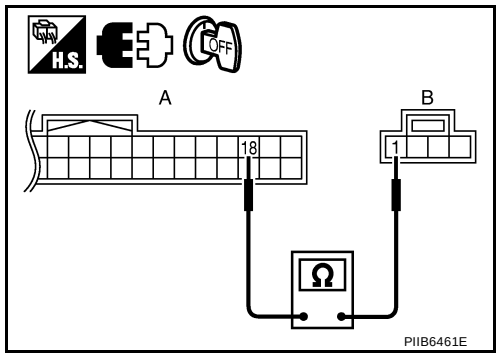
5. CHECK REMOTE KEYLESS ENTRY RECEIVER GROUND CIRCUIT

Check continuity between BCM connector (A) M18 terminal 18 and remote keyless entry receiver connector (B) M23 terminal 1.

A		B		Continuity
BCM connector	Terminal	Remote keyless entry receiver connector	Terminal	
M18	18	M23	1	Yes

OK or NG

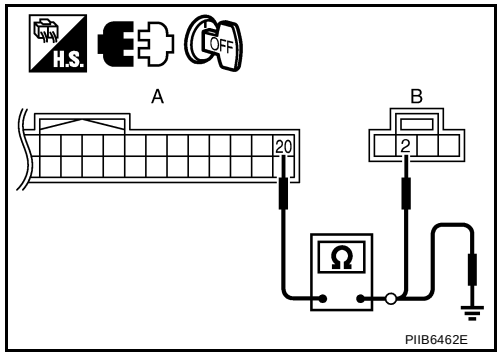
OK >> Replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .
NG >> Repair or replace the harness.



6. CHECK REMOTE KEYLESS ENTRY RECEIVER SIGNAL CIRCUIT

1. Check continuity between BCM connector (A) M18 terminal 20 and remote keyless entry receiver connector (B) M23 terminal 2.

A		B		Continuity
BCM connector	Terminal	Remote keyless entry receiver connector	Terminal	
M18	20	M23	2	Yes



2. Check continuity between BCM connector (A) M18 terminal 20 and ground.

A		Ground	Continuity
BCM connector	Terminal		
M18	20		No

OK or NG

OK >> Replace remote keyless entry receiver. Refer to BL-79, "Removal and Installation of Remote Keyless Entry Receiver" .

NG >> Repair or replace harness.

Keyfob Function (Lock) Check

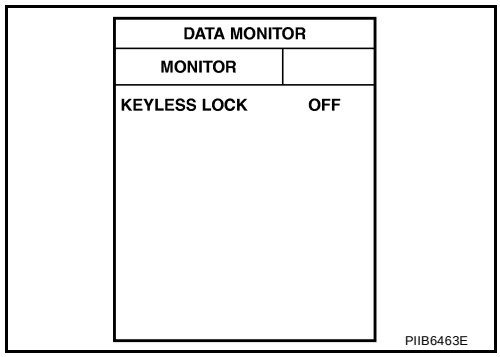
EIS0091Q

1. CHECK KEYFOB FUNCTION

With CONSULT-II

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

Test item	Condition
KEYLESS LOCK	Pushing LOCK button: ON
	Other than above: OFF



OK or NG

OK >> Keyfob is OK.

NG >> Replace keyfob.

Keyfob Function (Unlock) Check

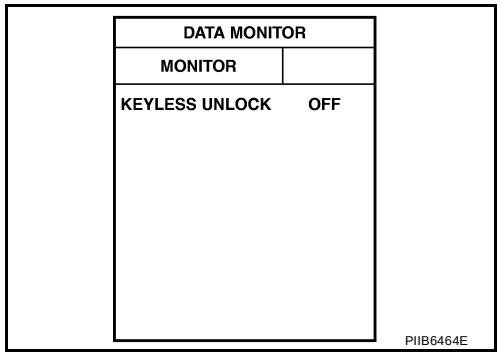
EIS0091R

1. CHECK KEYFOB FUNCTION

With CONSULT-II

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

Test item	Condition
KEYLESS UNLOCK	Pushing UNLOCK button: ON
	Other than above: OFF



OK or NG

OK >> Keyfob is OK.

NG >> Replace keyfob.

ID Code Entry Procedure

EIS0091S

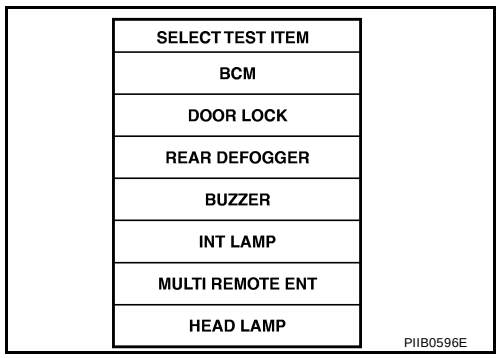
KEYFOB ID SET UP WITH CONSULT-II

NOTE:

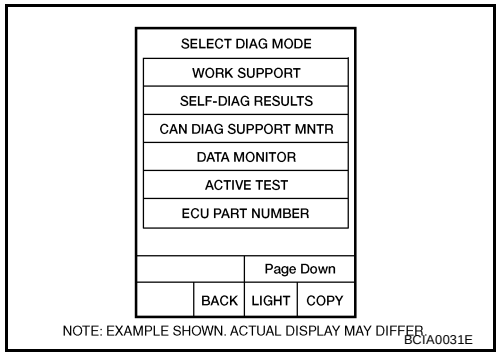
- **If a keyfob is lost, the ID code of the lost keyfob must be erased to prevent unauthorized use. A specific ID code can be erased with CONSULT-II. However, when the ID code of a lost keyfob is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new keyfobs must be re-registered.**
- **When registering an additional keyfob, the existing ID codes in memory may or may not be erased. If five ID codes are stored in memory, when an additional code is registered, only the oldest code is erased. If less than five 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. Refer to GI-38, "CONSULT-II Start Procedure" .

2. Touch “MULTI REMOTE ENT”.

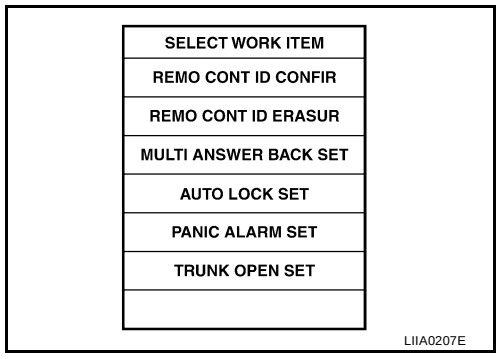


3. Touch “WORK SUPPORT”.

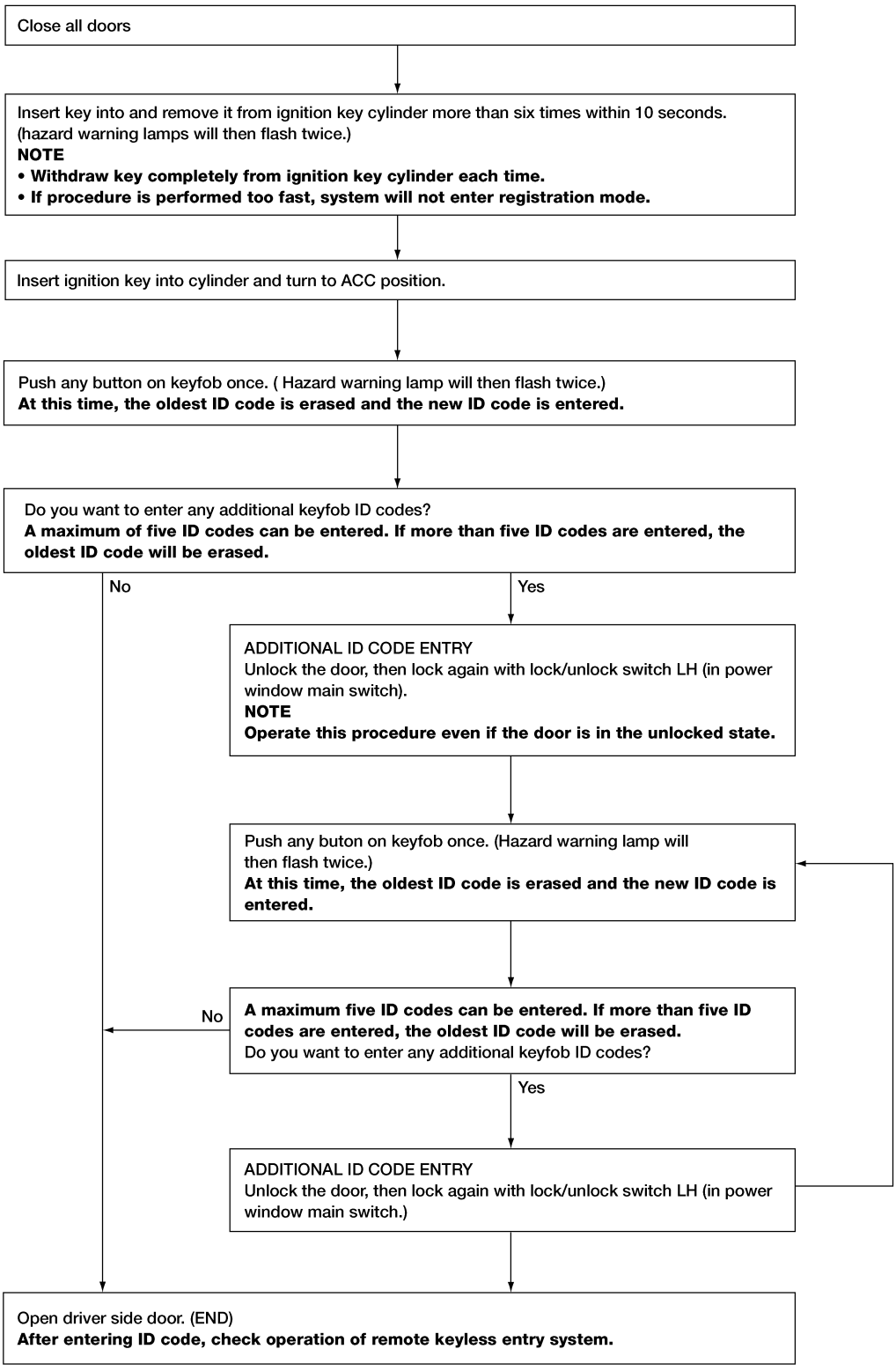


4. The items are shown on the figure can be set up.
   - “REMO CONT ID CONFIR”
     Use this mode to confirm if a keyfob ID code is registered or not.
   - “REMO CONT ID REGIST”
     Use this mode to register a keyfob ID code.

     NOTE:
     Register the ID code when keyfob or BCM is replaced, or when additional keyfob is required.
   - “REMO CONT ID ERASUR”
     Use this mode to erase a keyfob ID code.



KEYFOB ID SET UP WITHOUT CONSULT-II



LIIA1513E

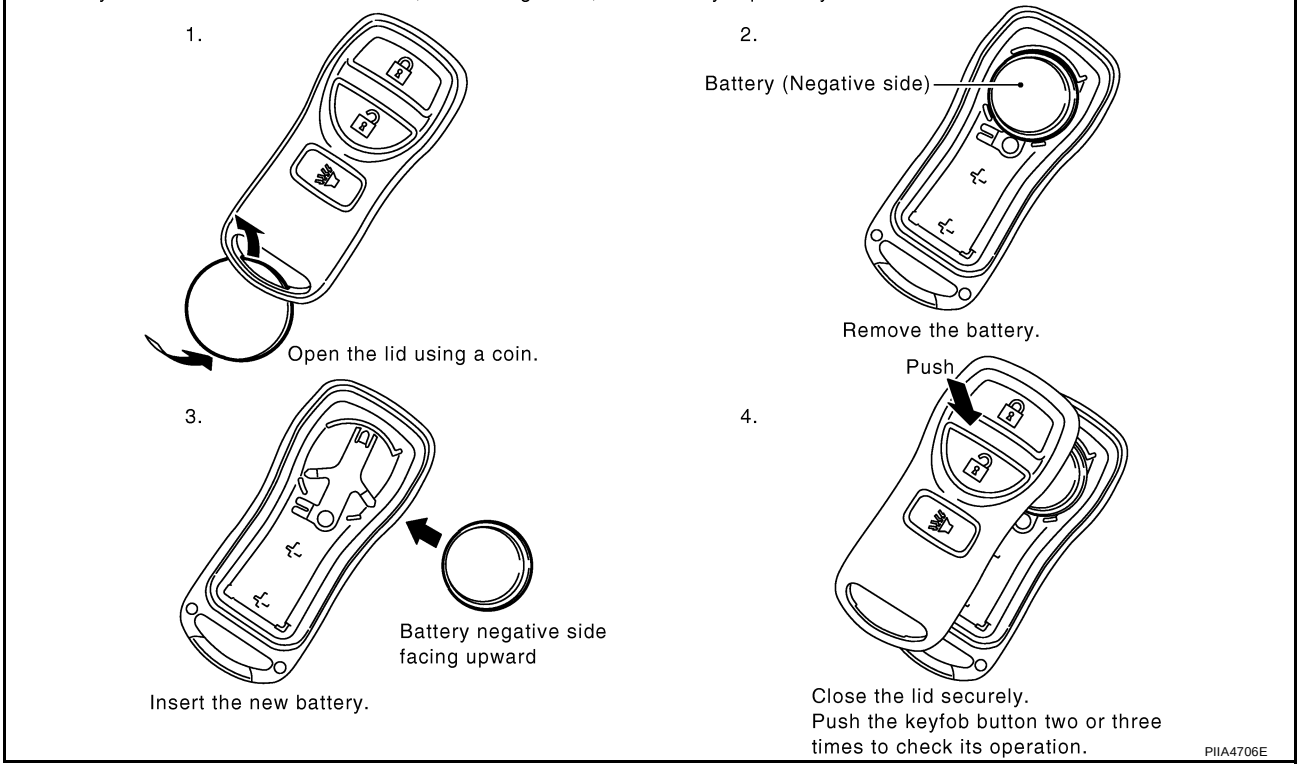
NOTE:

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

Keyfob Battery Replacement

EIS0091T

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.

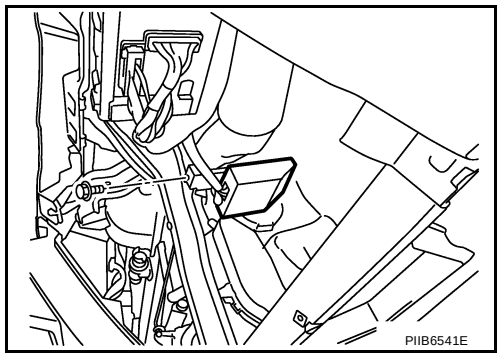


Removal and Installation of Remote Keyless Entry Receiver

EIS0091U

REMOVAL

1. Remove glove box assembly. Refer to IP-11, "Removal and Installation" .
2. Disconnect remote keyless entry receiver connector, remove screw and remote keyless entry receiver.



INSTALLATION

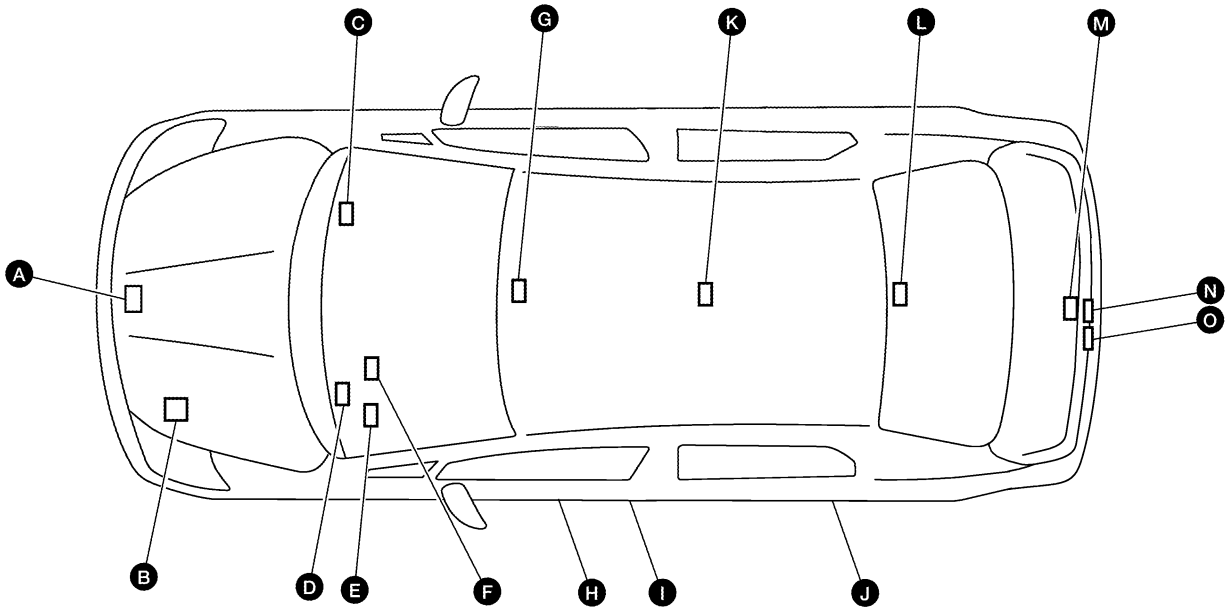
Installation is in the reverse order of removal.

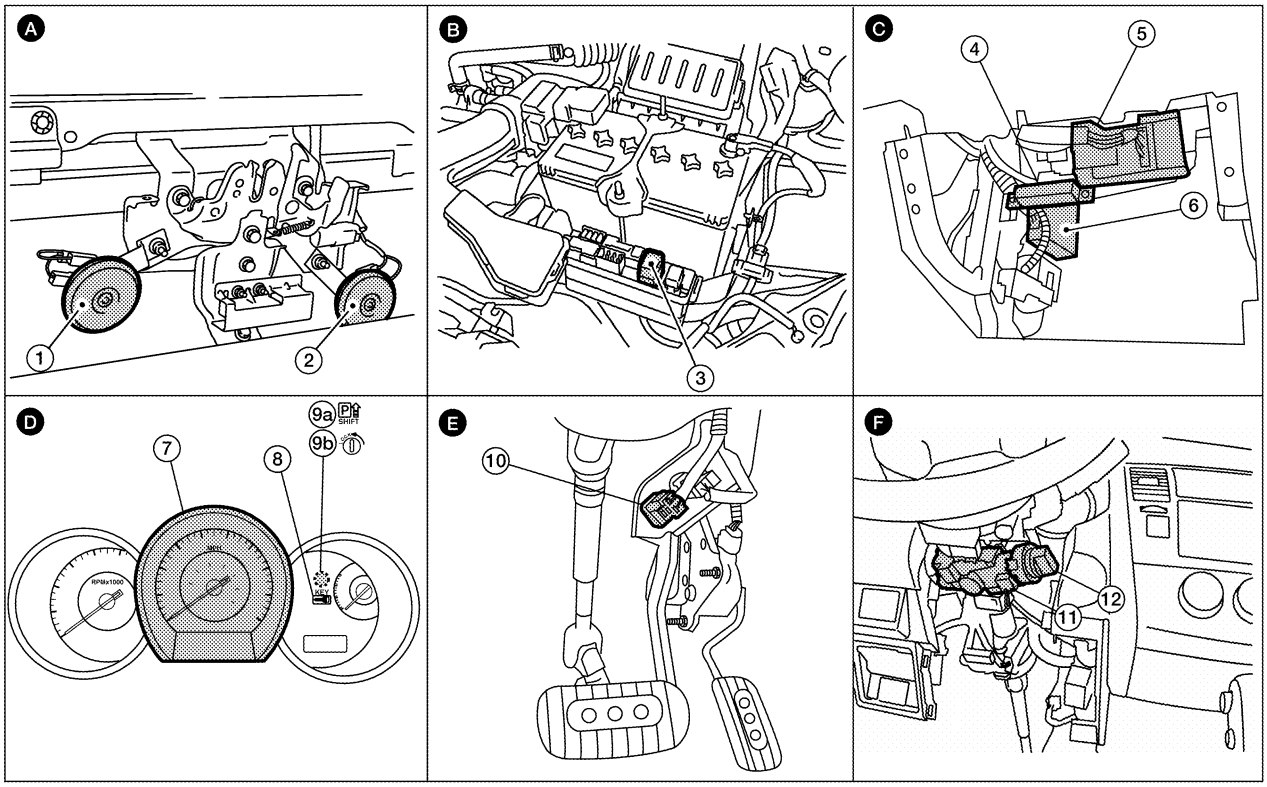
INTELLIGENT KEY SYSTEM

PFP:285e2

Component Parts and Harness Connector Location

EIS0091V





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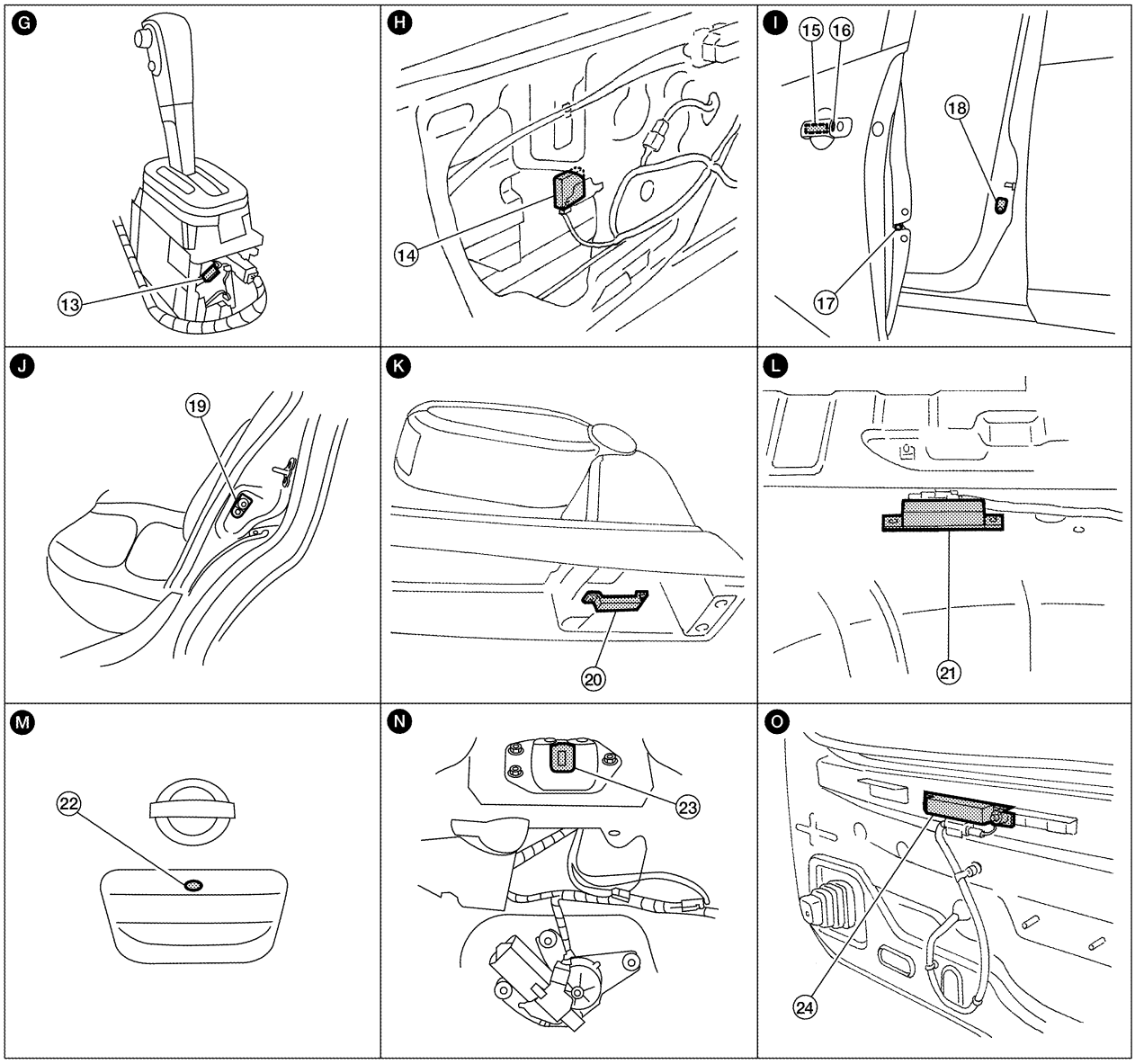


LIIA2592E

1. Horn (Low) E18, E20 (view with front fascia removed)
2. Horn (High) E21, E22
3. Horn relay H-1
4. Instrument panel antenna M10 (view with glove box removed)
5. BCM M18, M19, M20
6. Intelligent Key Unit M52
7. Combination meter M24
8. Intelligent key "KEY" warning indicator
9a. Intelligent key warning indicator (CVT)
9b. Intelligent key warning indicator (M/T)
10. Stop lamp switch E13
11. Steering lock solenoid M6 (bottom view of steering column)
12. Key switch and ignition knob switch M73
13. CVT device (park position switch) M38
14. Intelligent key warning buzzer D6 (view with front door finisher LH removed)
15. Front outside antenna LH D10, RH D106
16. Front door request switch LH D5, RH D103
17. Front door lock actuator LH (door unlock sensor) D3
18. Front door switch LH B8, RH B108
19. Rear door switch LH B6, RH B116
20. Front console antenna B3 (view with front console removed)
21. Rear floor antenna B12 (behind rear seat)
22. Back door request switch D406
23. Back door lock assembly (back door switch) D405 (with back door open)
24. Rear bumper antenna B2 (view with rear fascia removed)

System Description

EIS0091W

- The Intelligent Key system is a system that makes it possible to lock and unlock the door locks (door lock/unlock function), and start the engine (engine start function) by carrying around the Intelligent Key (without some key operation), which operates based on the results of electronic ID verification using two-way communications between the Intelligent Key and the vehicle (Intelligent Key unit).
- Vehicles equipped with a manual transmission include a key interlock solenoid located in the steering column to prevent accidental shut-off of the ignition switch and locking of the steering wheel during driving condition when the vehicle is moving.

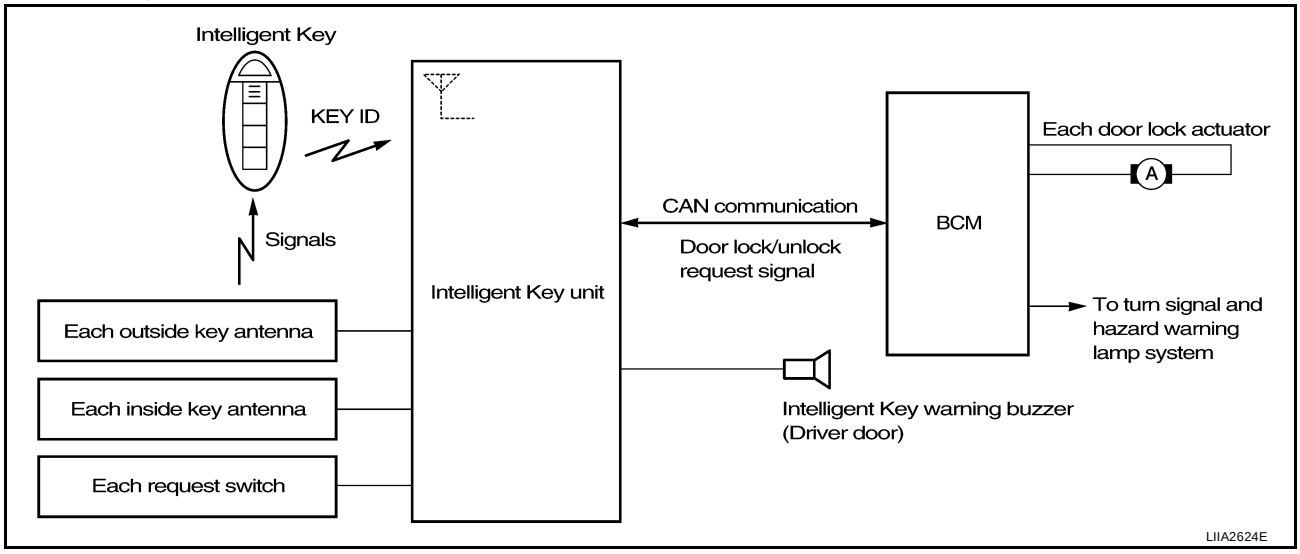
CAUTION:
The driver should always carry the Intelligent Key

- Operation of the remote controller buttons on the Intelligent Key also provides the same functions as the remote control entry system. (Remote keyless entry functions)
- If an action that does not meet the operating conditions of the Intelligent Key system is taken, the buzzer goes off to inform the driver. (Warning chime functions)
- When a door lock is locked or unlocked with request switch or remote controller button operation, the hazard lamps flash and the buzzer (outside vehicle) sounds (Hazard and buzzer reminder function).
- Even if the Intelligent Key battery is completely discharged, the door locks can be locked and unlocked and the engine started with the mechanical key built into the Intelligent Key.
- The settings for each function can be changed with the CONSULT-II.
- If an Intelligent Key is lost, a new Intelligent Key can be registered. A maximum of 4 Intelligent Keys can be registered.
- It has been made possible to diagnose the system and register an Intelligent Key with the CONSULT-II.

DOOR LOCK/UNLOCK FUNCTION

Only when pressing the request switch, it is possible to lock and unlock the door by carrying around the Intelligent Key (without some key operation).

System Diagram



Operation Description

- When the Intelligent Key unit detects that each request switch is pressed, it starts the outside key antenna and inside key antenna corresponding to the pressed request switch and sends the request signal to the Intelligent Key. And then, make sure that the Intelligent Key is near door.
- If the Intelligent Key is within the outside key antenna detection area, it receives the request signal and sends the key ID signal to the Intelligent Key unit.
- Intelligent Key unit receives the key ID signal and compares it with the registered key ID.
- If the key ID check result is OK, the Intelligent Key unit sends the door lock/unlock request signal to BCM (Body control module) via CAN communication line.
- Intelligent Key unit sends the door lock/unlock signal and sounds Intelligent Key warning buzzer (lock: 2 times, unlock: 1 time) at the same time.
- When BCM receives the door lock/unlock signal, it operates door lock actuator and flashes the hazard warning lamp (lock: 2 times, unlock: 1 time) at the same time as reminder.

Operation Condition

If the following conditions are not satisfied, door lock/unlock operations are not performed even if the request switch is operated.

Each request switch operation	Operation condition	Operation
Lock operation	● All doors are closed ● Intelligent Key is outside of the vehicle ● Intelligent Key is within outside key antenna detection area	All doors lock
Unlock Operation	● All doors are closed ● Intelligent Key is outside of the vehicle ● Intelligent Key is within outside key antenna detection area*	All doors unlock

*: Even with a registered Intelligent Key remaining inside the vehicle, door locks can be unlocked from outside of the vehicle with a spare Intelligent Key as long as Key IDs are different.

Outside Key Antenna Detection Area

The outside key antenna detection area of door lock/unlock function is in the range of approximately 80 cm (31.50 in) surrounding the request switch (driver side, passenger side and back door area).

Hazard and Buzzer Reminder

When all doors are locked or unlocked by each request switch, Intelligent Key unit sends hazard request signal to BCM via CAN communication line.
BCM flashes hazard warning lamps as a reminder and Intelligent Key unit sounds Intelligent Key warning buzzer (driver door) as a reminder.

Operating function of hazard and buzzer reminder

Request switch operation	Hazard warning lamp flash	Intelligent Key warning buzzer (driver door)
Unlock	Once	Once
Lock	Twice	Twice

Auto Door Lock Function

When all doors are locked, ignition knob switch is OFF (when ignition switch is not pressed) and key switch is OFF (when mechanical key is out of ignition key cylinder), all doors are unlocked with each request switch.
When Intelligent Key unit does not receive the following signals within 30 seconds, all doors are locked.

- Door switch is ON (door is opened)
- Door lock signal from Intelligent Key button
- Ignition knob switch is ON (ignition switch is pressed)
- Key switch is ON (mechanical key is inserted in ignition key cylinder)

Auto door lock mode can be changed by “AUTO RELOCK TIMER” mode in “WORK SUPPORT”. Refer to BL-113, "WORK SUPPORT" .

List of Operation Related Parts

Parts marked with × are the parts related to operation.

Door lock open function	Intelligent Key	Key switch	Ignition knob switch	Door switch	Back door lock assembly (back door switch)	Request switch (driver, passenger, back)	Door lock actuator	Inside key antenna	Outside key antenna	Intelligent Key warning buzzer (driver door)	Intelligent Key unit	CAN communication system	BCM	Hazard warning lamp
Door lock/unlock function by request switch	×			×	×	×	×	×	×		×	×	×	
Door lock/unlock function by mechanical key							×						×	
Hazard and buzzer reminder function										×	×	×	×	×
Auto door lock function		×	×	×	×		×				×	×	×	

KEY REMINDER FUNCTION

Key reminder functions have the following 2 functions.

Key reminder function	Operation condition	Operation
Door is open to close	Right after all doors are closed under the following conditions. ● Intelligent Key is inside the vehicle ● Any door is opened ● All doors are locked by door lock and unlock switch or door lock knob	● All doors unlock operation ● Sound Intelligent Key warning buzzer for 3 seconds

CAUTION:

- **The above function operates when the Intelligent Key is inside the vehicle. However, there may be times when the Intelligent Key cannot be detected, and this function will not operate when the Intelligent Key is on the instrument panel, rear parcel shelf or in the glove box. Also, this system sometimes does not operate if the Intelligent Key is in the door pocket of an open door.**

List of Operation Related Parts

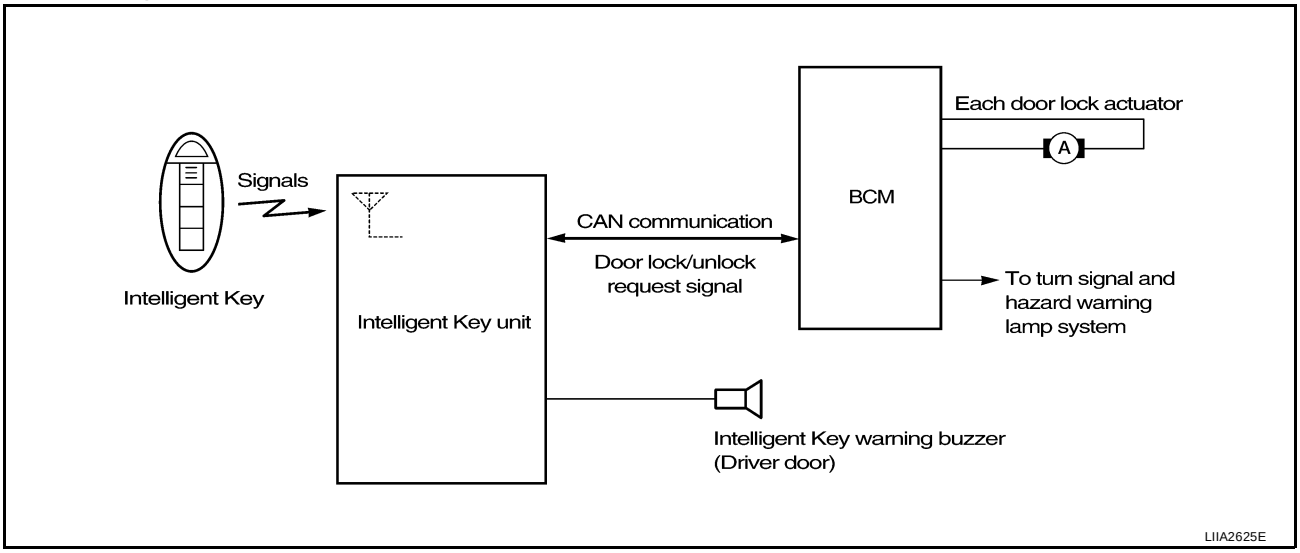
Parts marked with × are the parts related to operation

Key reminder functions	Intelligent Key	Door switch	Unlock sensor	Door lock actuator	Inside key antenna	Intelligent Key warning buzzer	Intelligent Key unit	CAN communication system	BCM
Any door open to close	×	×	×	×	×	×	×	×	×

REMOTE KEYLESS ENTRY FUNCTIONS

The Intelligent Key has the same functions as the remote keyless entry system. Therefore, it can be used in the same manner as the keyfob by operating the door lock/unlock button.

System Diagram



Door Lock/Unlock Function

- When door lock/unlock button of the Intelligent Key is pressed, lock signal or unlock signal is sent from Intelligent Key to Intelligent Key unit.
- Intelligent Key unit sends the door lock/unlock request signal to BCM via CAN communication line.
- Intelligent Key unit sends the door lock/unlock signal and sounds Intelligent Key warning buzzer (lock: 2 times, unlock: 1 time) at the same time.
- When BCM receives the door lock/unlock signal, it operates door lock actuator and flashes the hazard warning lamp (lock: 2 times, unlock: 1 time) at the same time as reminder.

Operation Condition

Remote controller operation	Operation condition	Operation
Lock	All doors are closed	All doors lock

Hazard and Buzzer Reminder

When all doors are locked or unlocked by Intelligent Key button, Intelligent Key unit sends hazard request signal to BCM via CAN communication line.
BCM flashes hazard warning lamps as a reminder and Intelligent Key unit sounds Intelligent Key warning buzzer as a reminder.

Operating function of hazard and buzzer reminder

Intelligent Key button operation	Hazard warning lamp flash	Intelligent Key warning buzzer (driver door)	Horns (High and low)
Lock	Twice	—	Once
Unlock	Once	—	—

Auto Door Lock Function

When all doors are locked, ignition knob switch is OFF (when ignition switch is not pressed) and key switch is OFF (when mechanical key is out of ignition key cylinder), doors are unlocked with Intelligent Key button. When Intelligent Key unit does not receive the following signals within 30 seconds, all doors are locked.

- Door switch is ON (door is opened)
- Door is locked
- Ignition knob switch is ON (ignition switch is pressed)
- Key switch is ON (mechanical key is inserted in ignition switch)

Auto door lock mode can be changed by “AUTO RELOCK TIMER” mode in “WORK SUPPORT”. Refer to BL-113, "WORK SUPPORT" .

Panic Alarm Function

When ignition knob switch is OFF (ignition switch is not pressed), or key switch is OFF (mechanical key is not inserted in key cylinder), by press and holding the panic alarm button on Intelligent Key will send a panic alarm signal to Intelligent Key unit.
Intelligent Key unit sends alarm request signal to BCM via CAN communication line.
BCM sends headlamp request signal and horn signal to IPDM E/R. Then, IPDM E/R turns on and off headlamp and horn intermittently.
The headlamp flashes and the horn sounds intermittently.
The alarm automatically turns off:

- After 25 seconds
- When Intelligent Key unit receives any signal from remote controller of Intelligent Key
- When door request switch is pressed (Intelligent Key is outside vehicle)

Panic alarm function's press and holding time value can be changed in “PANIC ALARM DELAY” mode in “WORK SUPPORT”. Refer to BL-113, "WORK SUPPORT" .

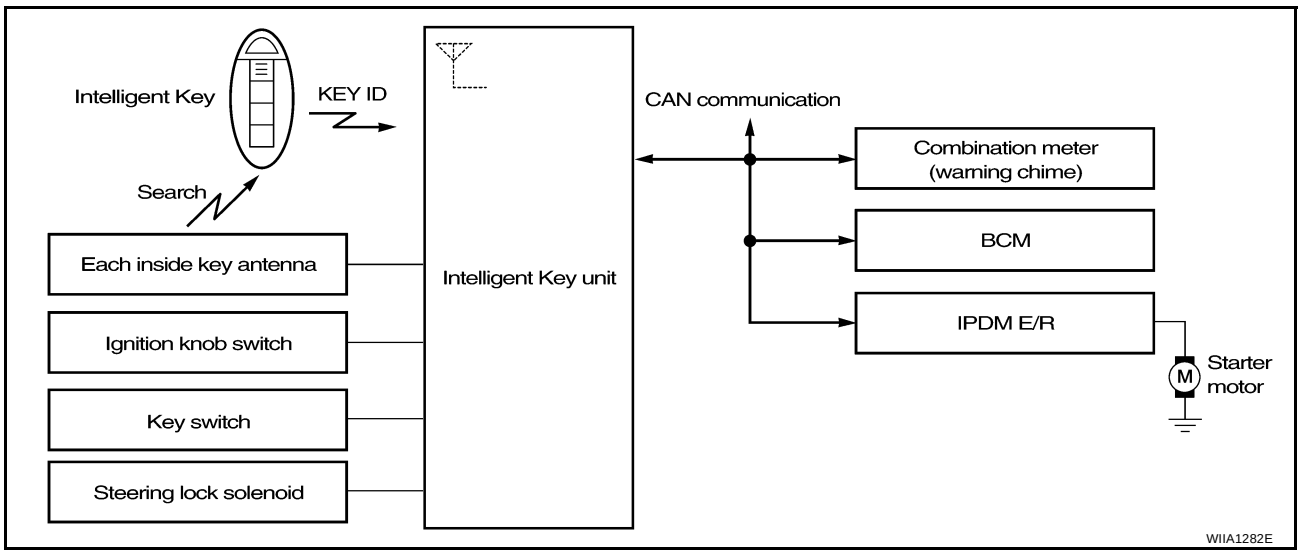
List of Operation Related Parts

Parts marked with × are the parts related to operation.

Remote keyless entry functions	Intelligent Key	Key switch	Ignition knob switch	Door request switch	Door switch	Back door lock assembly (back door switch)	Door lock actuator	Intelligent Key warning buzzer	Intelligent Key unit	CAN communication system	BCM	Hazard warning lamp	Horn	IPDM E/R	Head lamp
Door lock/unlock function by Intelligent Key button	×				×	×	×		×	×	×				
Hazard and buzzer reminder function								×	×	×	×	×			
Auto door lock function		×	×		×	×	×		×	×	×				
Panic alarm function	×	×	×	×					×	×	×		×	×	×

ENGINE START FUNCTION

When the registered Intelligent Key is carried, the engine can be started without inserting the key.



When ignition knob switch is ON (press ignition switch), Intelligent Key unit searches Intelligent Key in the vehicle using inside key antenna.
Then Intelligent Key is inside the vehicle, it performs the following operation.

- Illuminate green “KEY” warning lamp in combination meter.
- Released steering lock and ignition switch can be turned from OFF to ACC, ON or START position.

  NOTE:
  If Intelligent Key is not registered, “KEY” warning lamp in combination meter illuminates red.
- Intelligent Key sends engine start signal to BCM via CAN communication line.

When ignition switch turns to START position, BCM sends starter request signal to IPDM E/R. Then, engine starts.
Even if Intelligent Key battery runs down, Intelligent key unit can start engine with mechanical key built Intelligent Key. For details, refer toBL-212, "NATS (Nissan Anti-Theft System)" .
All of the originally supplied Intelligent Key IDs (except for key) have been registered in Intelligent Key system. If requested by the vehicle owner, a maximum of four Intelligent Key IDs can be registered into the Intelligent Key system components.

List of Operation Related Parts

Parts marked with × are the parts related to operation.

Engine start functions	Intelligent Key	Key switch	Ignition knob switch	Inside key antenna	Intelligent Key unit	CAN communication system	BCM	Combination meter	IPDM E/R	NATS antenna amp.	Steering lock solenoid
Engine start function by the Intelligent Key	×	×	×	×	×	×	×	×	×		×
Engine start function by the mechanical key		×			×	×	×		×	×	×

WARNING CHIME/BUZZER/LAMPS FUNCTION

Operation Description

The following warning chime (combination meter), Intelligent Key warning buzzer (driver door), warning lamps "KEY" and “P-SHIFT” (with CVT) or "LOCK" (with M/T) are given to the user as warning information while using the intelligent key system.

- Ignition switch warning chime
- Ignition key warning chime
- OFF position warning chime
- Take away warning chime
- Door lock operation warning chime
- Intelligent key low battery warning
- P position warning (with CVT)
- LOCK position warning (with M/T)

NOTE:
For key-in-ignition warning chime related concerns only, refer to DI-47, "WARNING CHIME" .

Operation Condition

Operation		Condition	Warning chime/buzzer		Warning lamp		
			Chime (combination meter)	Buzzer (driver door)	KEY	LOCK (M/T)	P-SHIFT (CVT)
Ignition switch warning chime		● Mechanical key is out of ignition switch (Key switch is OFF) ● Ignition switch is in the ACC, OFF or LOCK position. [ignition switch is pressed (ignition knob switch is ON).] ● Driver door is open.	activate	—	—	—	—
Ignition key warning chime (When mechanical key is used)		● Mechanical key is inserted in ignition switch (key switch is ON). ● Ignition switch is in the ACC, OFF or LOCK position. ● Driver door is open.	activate	—	—	—	—
P position warning (CVT)		When selector lever is in other than P position, ignition switch is turned from ON to OFF.	activate	—	—	—	Flash
OFF position warning chime	For internal	● Ignition switch is turned from ACC to OFF. [ignition switch is pressed (ignition knob switch is ON).] ● Ignition switch is in the LOCK position and pressed for 1 second.	activate	—	—	Flash	—
	For external	When driver door is opened and then closed while the OFF position warning chime above is operating	—	activate	—	—	—
Take away warning	Right after door is closed	Right after door is closed and the following conditions are met. ● Ignition knob is pressed and in rotatable or rotated state ● Intelligent Key can not be detected inside the vehicle	—	activate	Flash (red)	—	—
	Any door is opened	Any door is opened and the following conditions are met. ● Ignition knob is pressed and in rotatable or rotated state ● Intelligent Key unit will perform key ID verification with Intelligent Key through inside key antenna every 5 second, if the key ID verification is NG.	—	—	Flash (red)	—	—
	Take away from the window	Take away from the window and the following conditions are met. ● Ignition knob is pressed and in rotatable or rotated state ● Vehicle speed below 5 km/h (3 m.p.h.) ● Intelligent Key unit will perform key ID verification with Intelligent Key through inside key antenna every 30 second, if the key ID verification is NG. (This warning function will be disabled if mechanical key is inserted into the key cylinder.) **NOTE:** Default setting of this function is OFF.	activate	—	Flash (red)	—	—

Operation		Condition	Warning chime/buzzer		Warning lamp		
			Chime (combination meter)	Buzzer (driver door)	KEY	LOCK (M/T)	P-SHIFT (CVT)
Door lock operation warning	Lock operation with request switch	Lock operation with request switch and the following condition is met. ● Intelligent Key is inside the vehicle	—	activate	—	—	—
Intelligent Key low battery warning		When Intelligent Key is low battery, Intelligent Key unit is detected after ignition switch is turned ON.	—	—	Flash (green)	—	—

List of Operation Related Parts

Parts marked with × are the parts related to operation.

Warning and alarm functions		Intelligent Key	Key switch	Ignition knob switch	Ignition switch ACC position input signal	Ignition switch ON position input signal	Door switch	Door request switch	Inside key antenna	Outside key antenna (Driver, Passenger)	Outside key antenna (rear bumper)	Intelligent Key warning buzzer	Intelligent Key unit	CAN communication system	BCM	Warning lamp	Warning chime (combination meter)
Ignition switch warning chime				×		×	×						×	×	×		×
Ignition key warning chime (When mechanical key used)			×			×	×							×	×		×
OFF position warning chime	For internal			×	×	×						×	×	×	×	×	×
	For external			×	×	×	×					×	×	×	×	×	
Take away warning chime	Right after door is closed	×	×	×			×		×			×	×	×	×	×	
	Any door is open	×	×	×			×		×				×	×	×	×	
	Take away from window	×	×	×			×		×			×	×	×	×	×	×
Door lock operation warning chime		×						×	×	×	×	×	×	×	×		
Intelligent Key low battery warning		×				×			×				×	×		×	

CHANGE SETTINGS FUNCTION

The settings for each function can be changed with the CONSULT-II.

Changing Settings Using CONSULT-II

The settings for the Intelligent Key system functions can be changed using CONSULT-II (WORK SUPPORT). Refer to BL-113, "WORK SUPPORT" .

NOTE:
Once a function setting is changed, it will remain effective even if the battery is disconnected.

INTELLIGENT KEY REGISTRATION

Intelligent Key-ID registration is performed using the CONSULT-II.

CAUTION:

- **After a new Intelligent Key-ID is registered, be sure to check the function.**
- **When registering an additional Intelligent Key-ID, take any Intelligent Keys already registered and Intelligent Keys for any other vehicles out of the vehicle before starting.**

CONSULT-II can be used to check and delete Intelligent Key-IDs.
For further information, see the CONSULT-II Operation Manual NATS.

STEERING LOCK SOLENOID REGISTRATION

Steering Lock Solenoid ID Registration

CAUTION:

- **The method for registering a steering lock solenoid ID depends on the status of the steering lock solenoid and Intelligent Key unit (new or old unit).**
- **After registration is completed, press ignition switch with an Intelligent Key in the vehicle so that it can be turned, and confirm that it cannot be turned even when ignition switch is pressed without an Intelligent Key in the vehicle.**

For further information, see the CONSULT-II Operation Manual NATS-IVIS/NVIS.

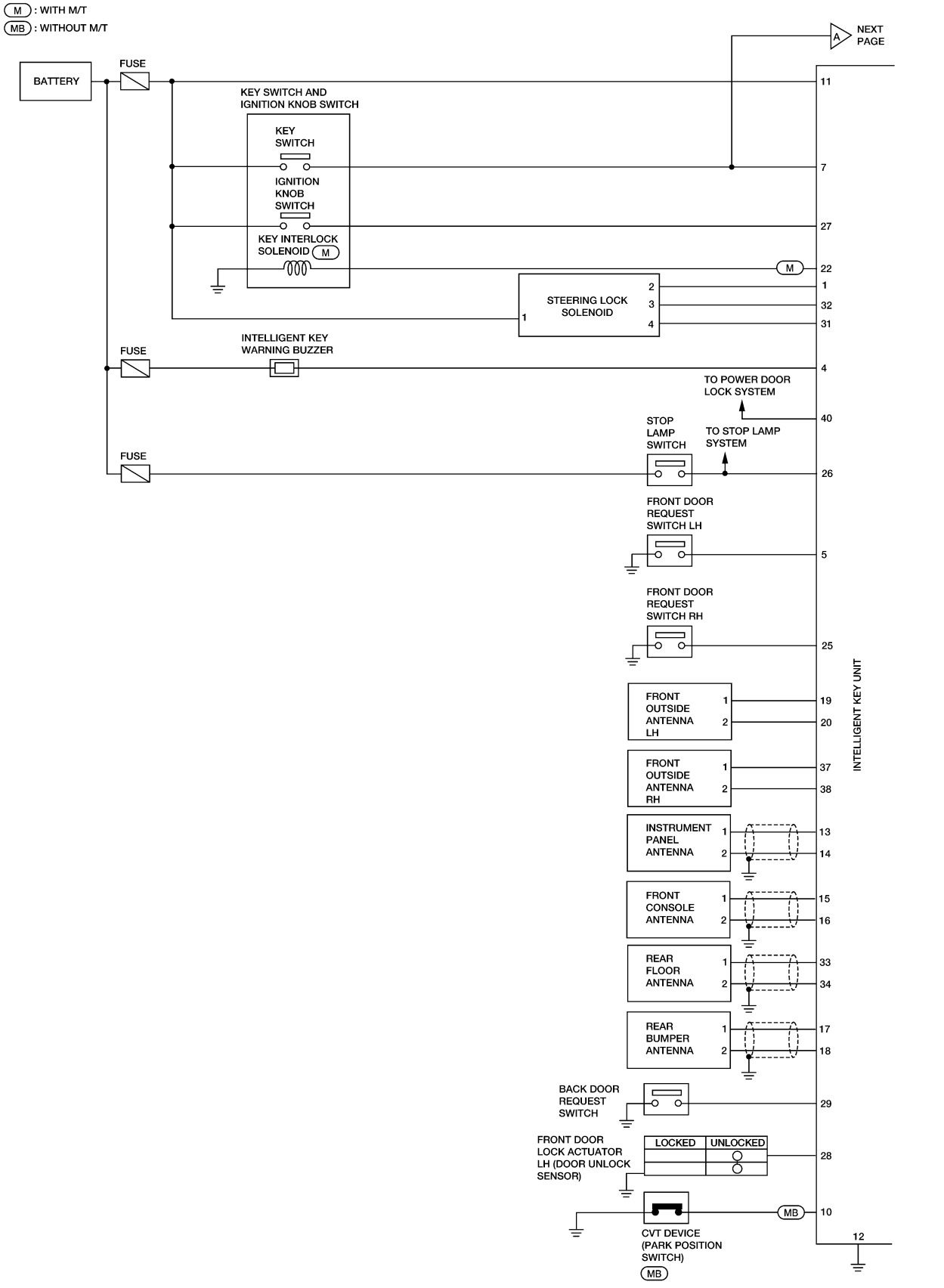
CAN Communication System Description

EIS0091X

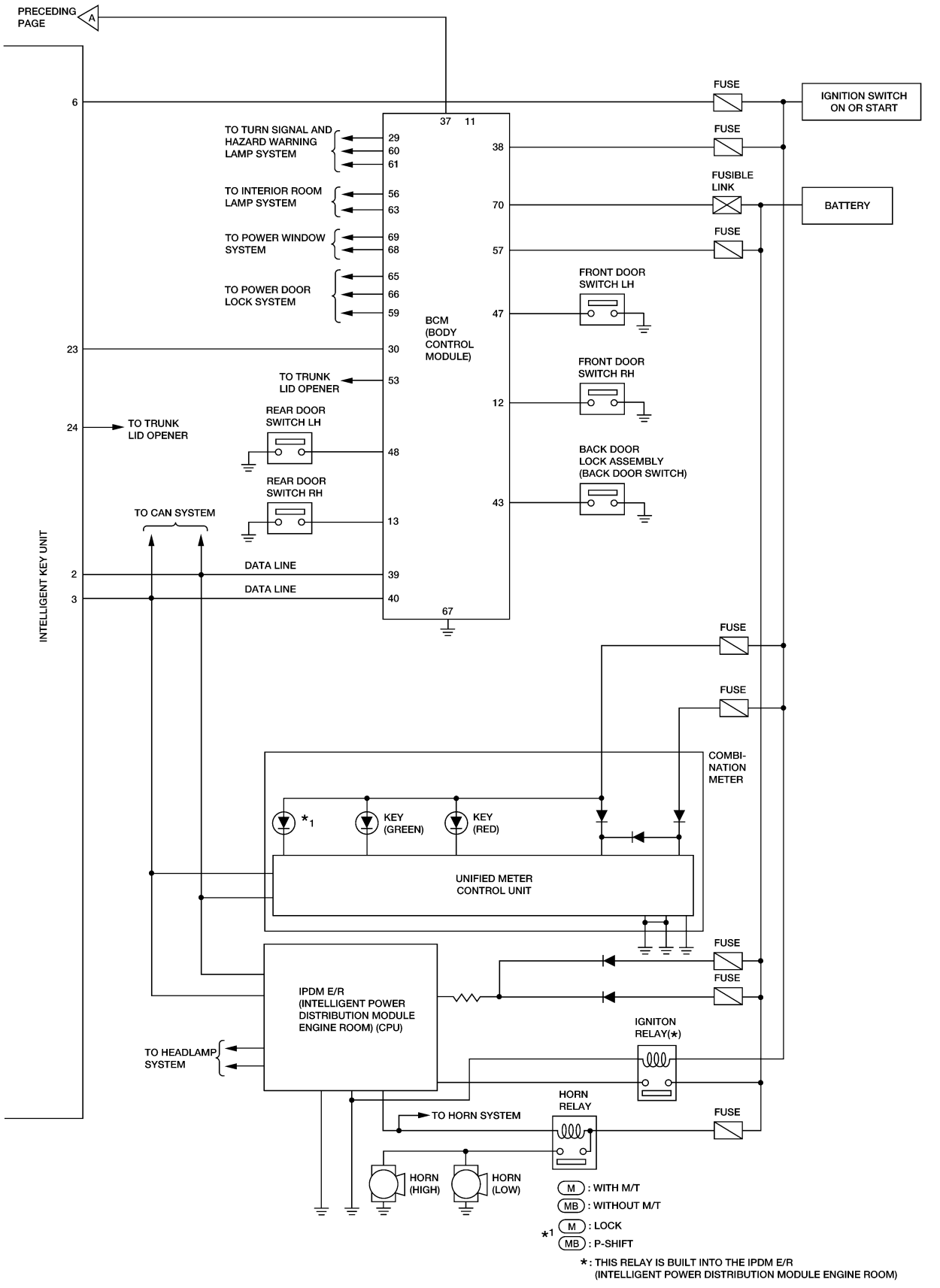
Refer to LAN-4, "SYSTEM DESCRIPTION" .

Schematic

EIS0091Z



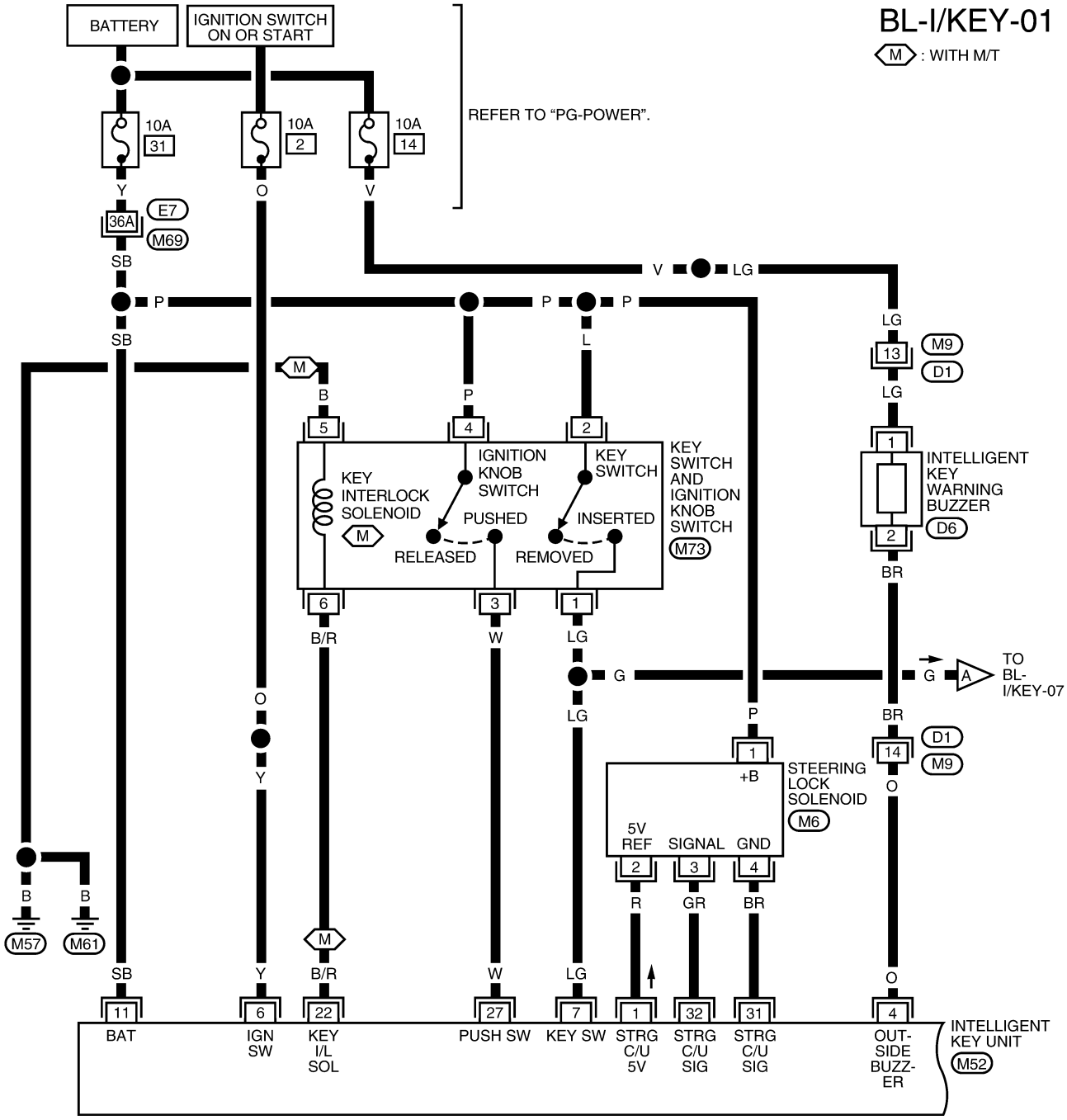
WIWA1962E

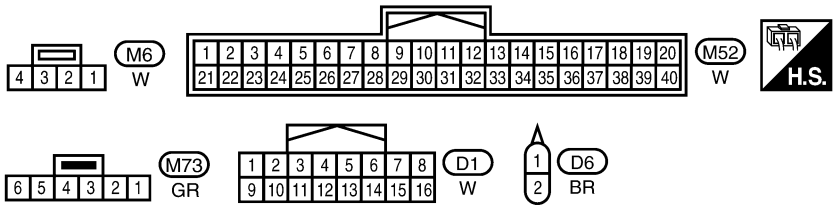

PRECEDING PAGE
A
6
FUSE
IGNITION SWITCH ON OR START
37 11
TO TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM
29
60
61
FUSE
38
FUSIBLE LINK
TO INTERIOR ROOM LAMP SYSTEM
56
63
70
BATTERY
TO POWER WINDOW SYSTEM
69
68
FUSE
57
TO POWER DOOR LOCK SYSTEM
65
66
59
FRONT DOOR SWITCH LH
47
BCM (BODY CONTROL MODULE)
23
30
FRONT DOOR SWITCH RH
TO TRUNK LID OPENER
53
12
24
TO TRUNK LID OPENER
REAR DOOR SWITCH LH
48
BACK DOOR LOCK ASSEMBLY (BACK DOOR SWITCH)
REAR DOOR SWITCH RH
43
TO CAN SYSTEM
13
INTELLIGENT KEY UNIT
2
DATA LINE
39
3
DATA LINE
40
67
FUSE
FUSE
COMBI-NATION METER
*1
KEY (GREEN)
KEY (RED)
UNIFIED METER CONTROL UNIT
FUSE
FUSE
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (CPU)
IGNITON RELAY(*)
TO HEADLAMP SYSTEM
HORN RELAY
TO HORN SYSTEM
FUSE
HORN (HIGH)
HORN (LOW)
M : WITH M/T
MB : WITHOUT M/T
*1 M : LOCK
MB : P-SHIFT
* : THIS RELAY IS BUILT INTO THE IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

WIWA1963E

Wiring Diagram — I/KEY —

EIS00920

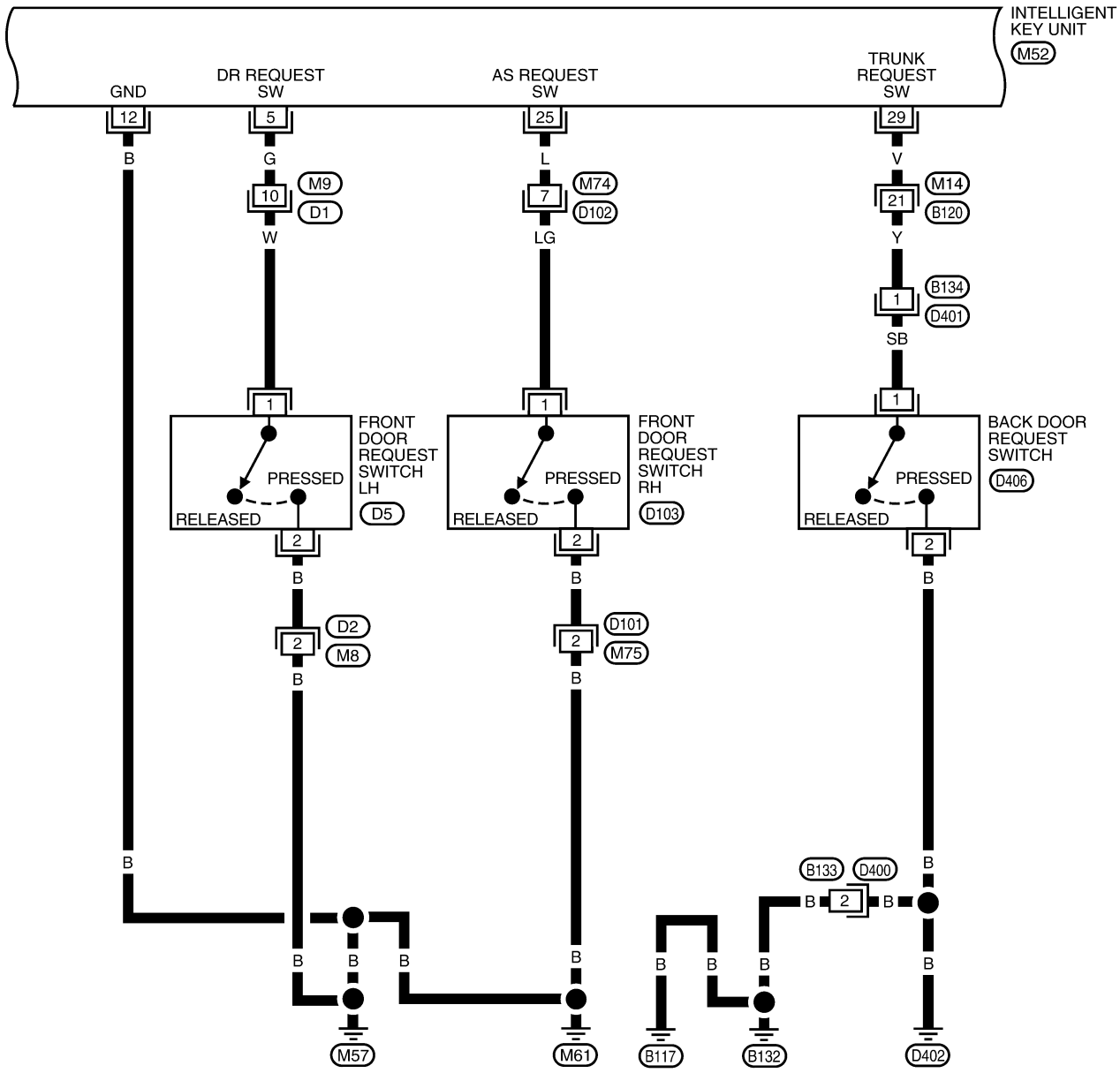


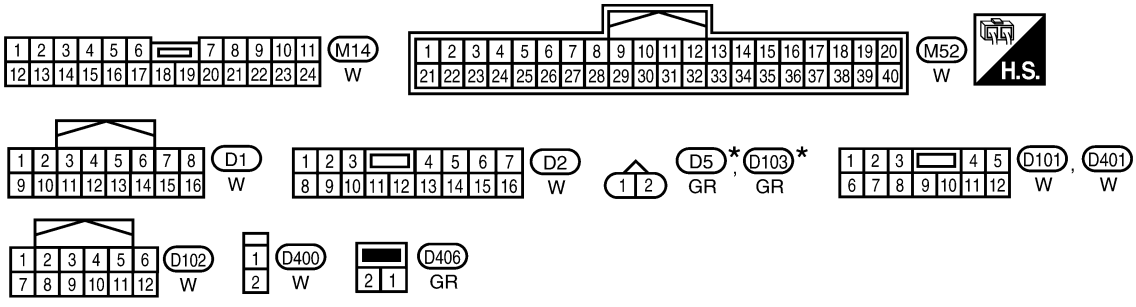


REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA1964E

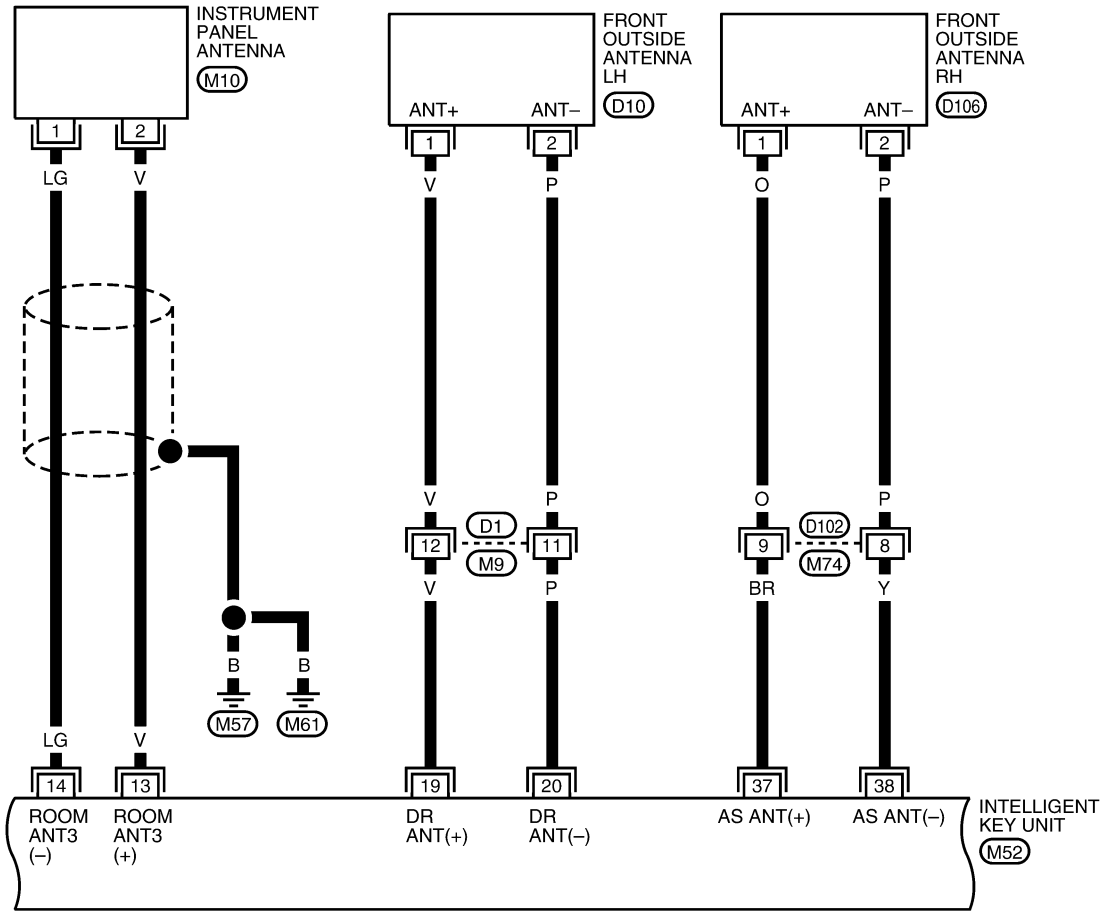
BL-I/KEY-02

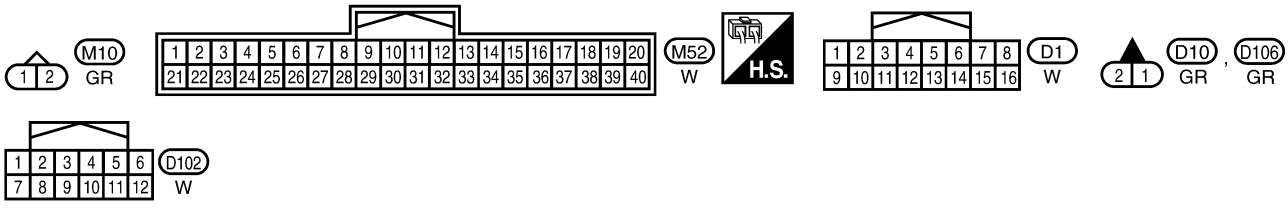




*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

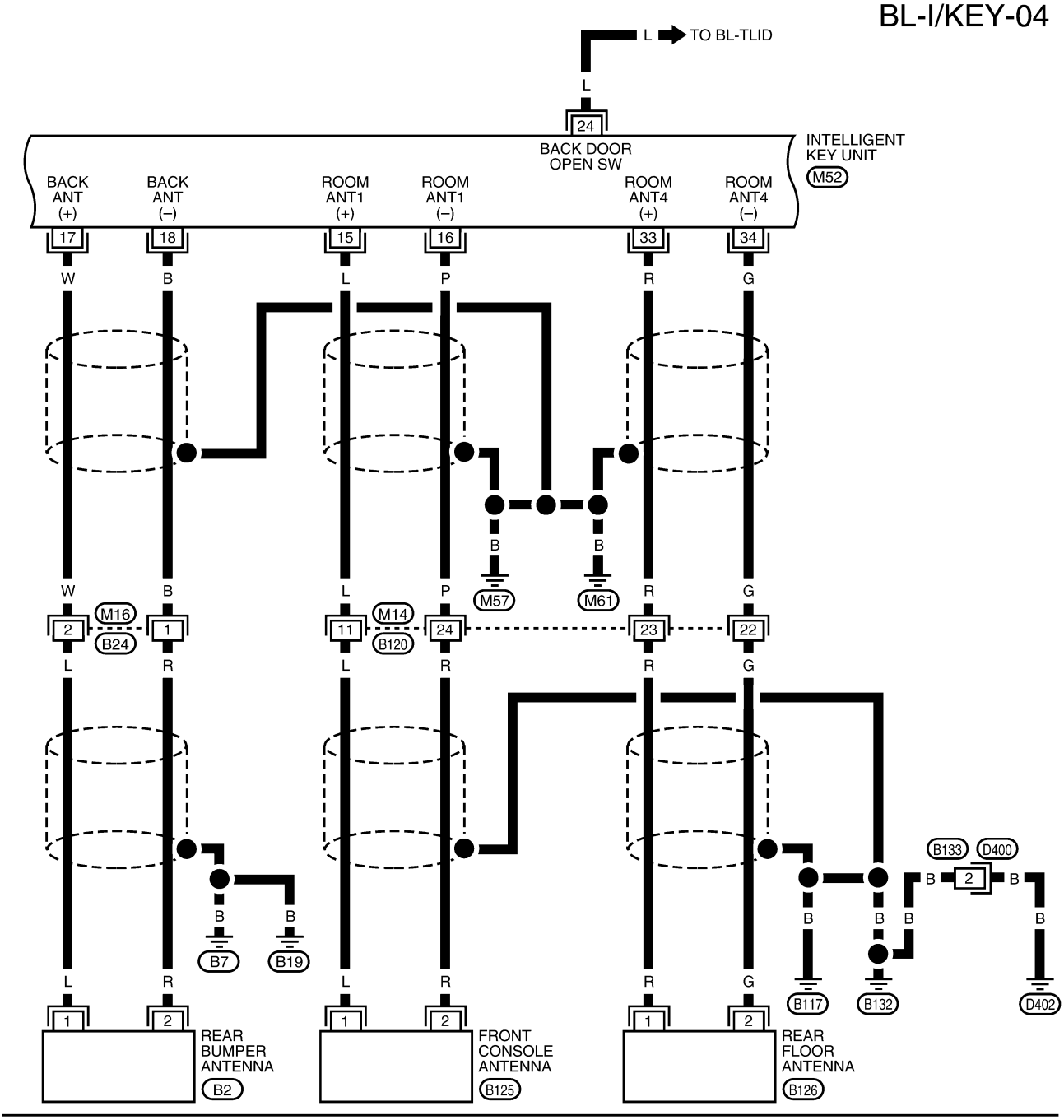
WIWA1965E

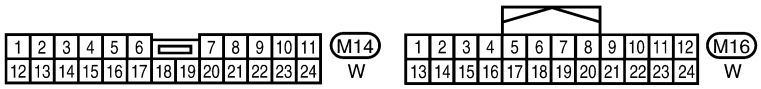

INSTRUMENT PANEL ANTENNA
M10
1
2
LG
V
FRONT OUTSIDE ANTENNA LH
D10
ANT+
ANT–
FRONT OUTSIDE ANTENNA RH
D106
O
P
D1
M9
D102
M74
B
M57
M61
BR
Y
14
13
19
20
37
38
ROOM ANT3 (–)
ROOM ANT3 (+)
DR ANT(+)
DR ANT(–)
AS ANT(+)
AS ANT(–)
INTELLIGENT KEY UNIT
M52

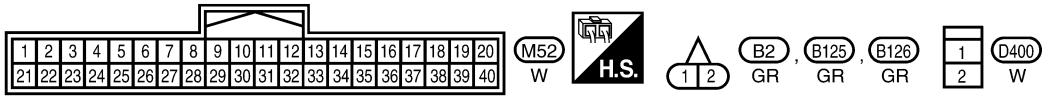

M10
GR
M52
W
H.S.
D1
W
D10
GR
D106
GR
D102
W

WIWA1966E

BL-I/KEY-04

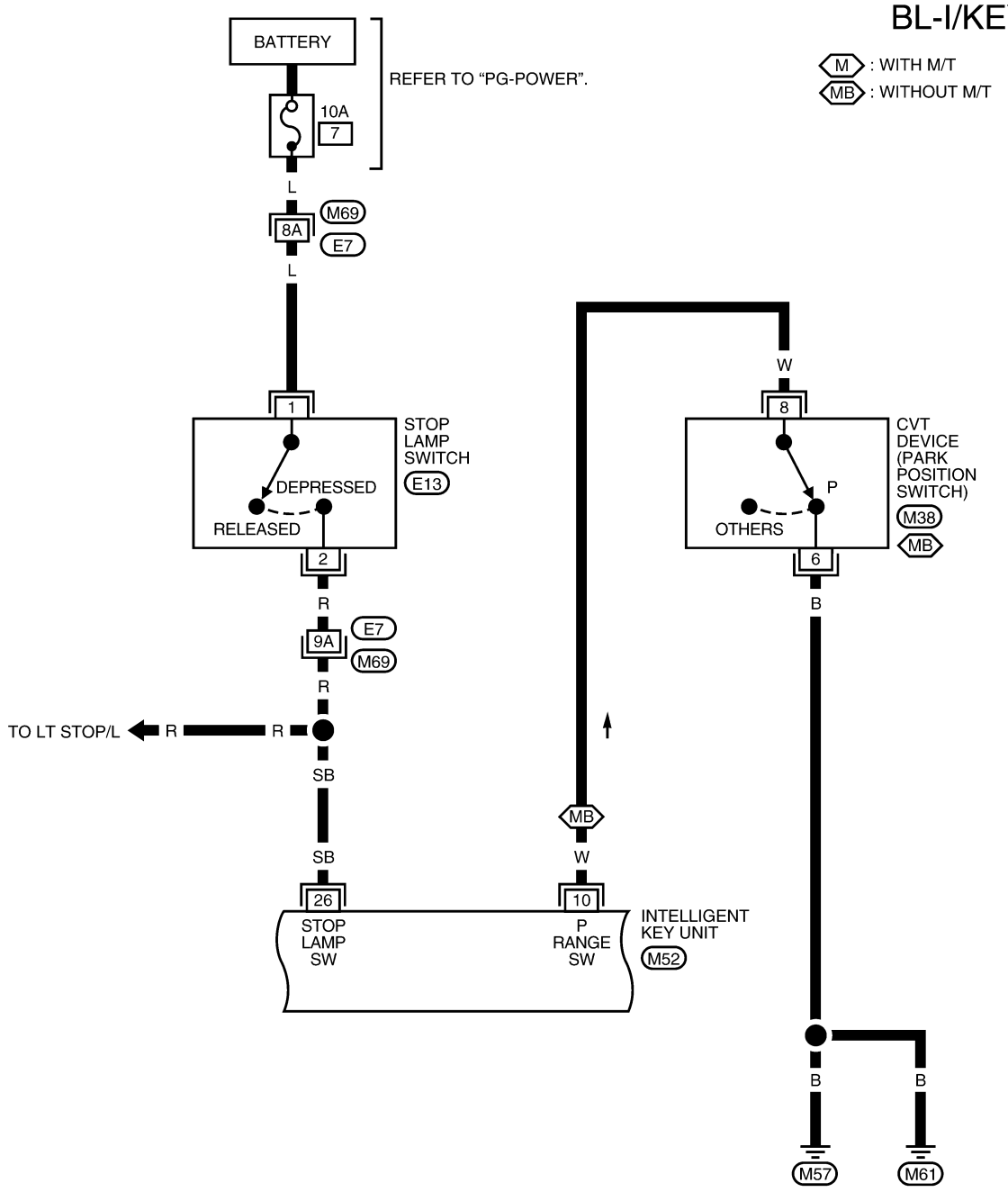


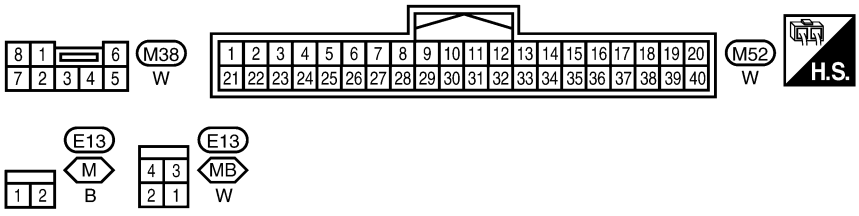




WIWA1967E

BL-I/KEY-05



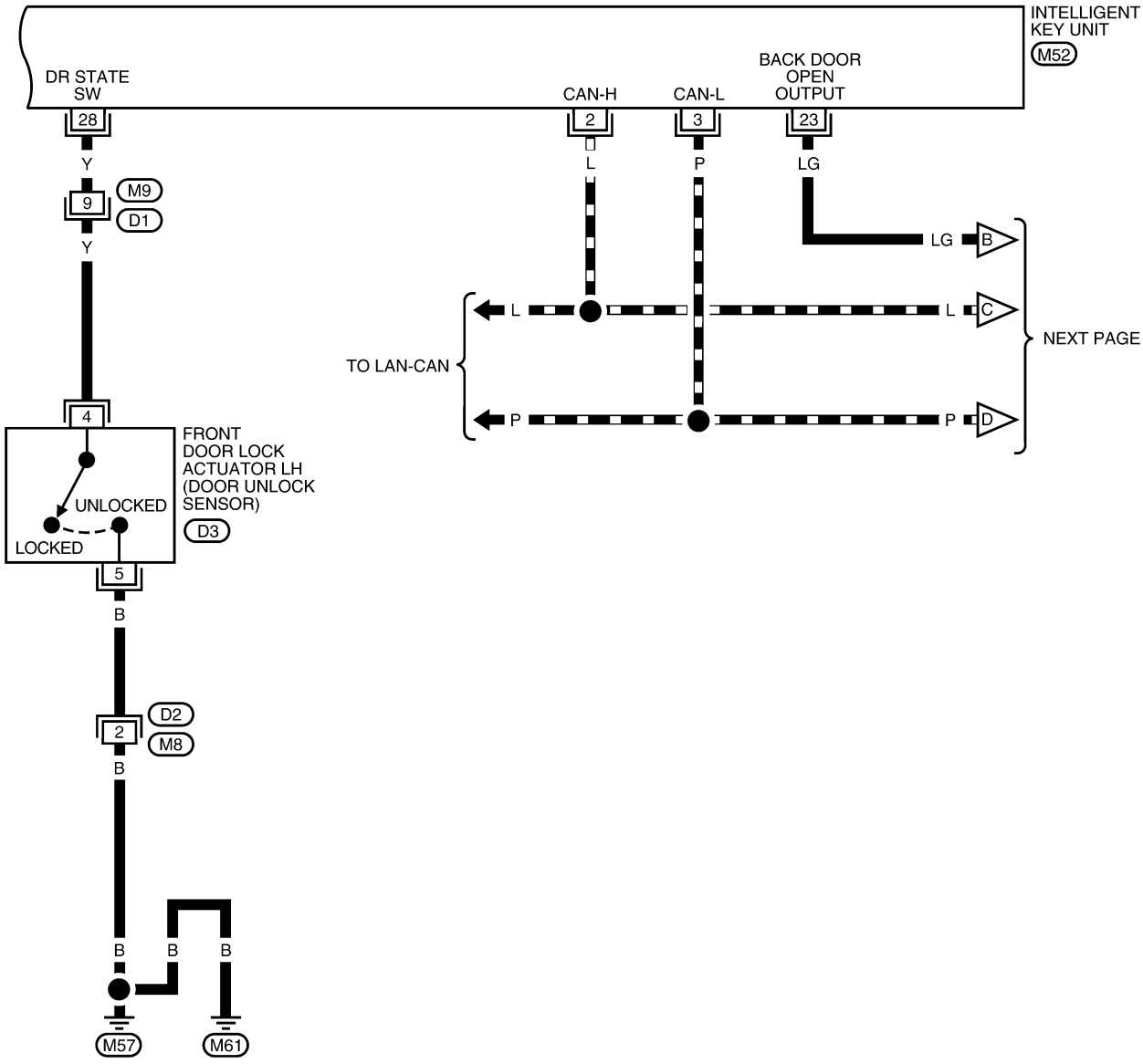


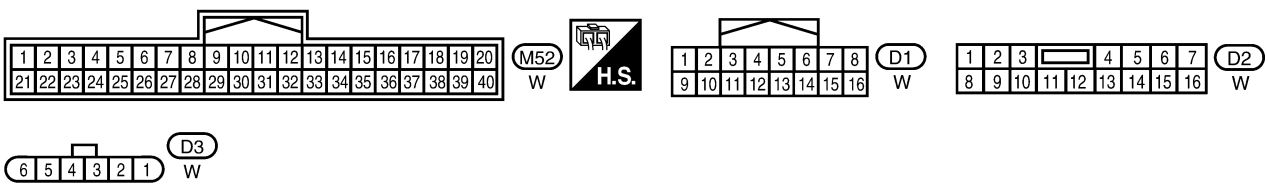
REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)

LIWA0550E

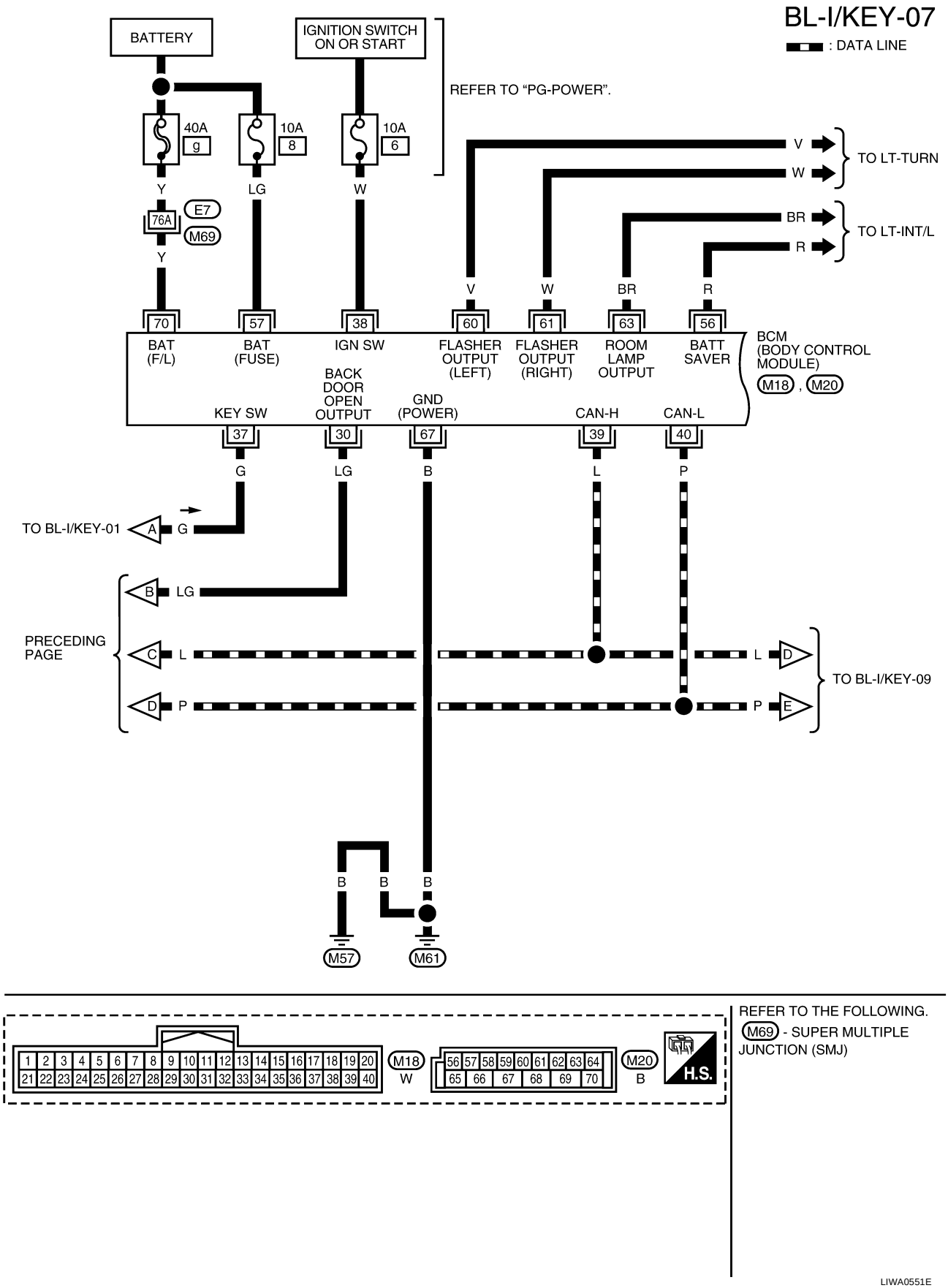
BL-I/KEY-06

: DATA LINE

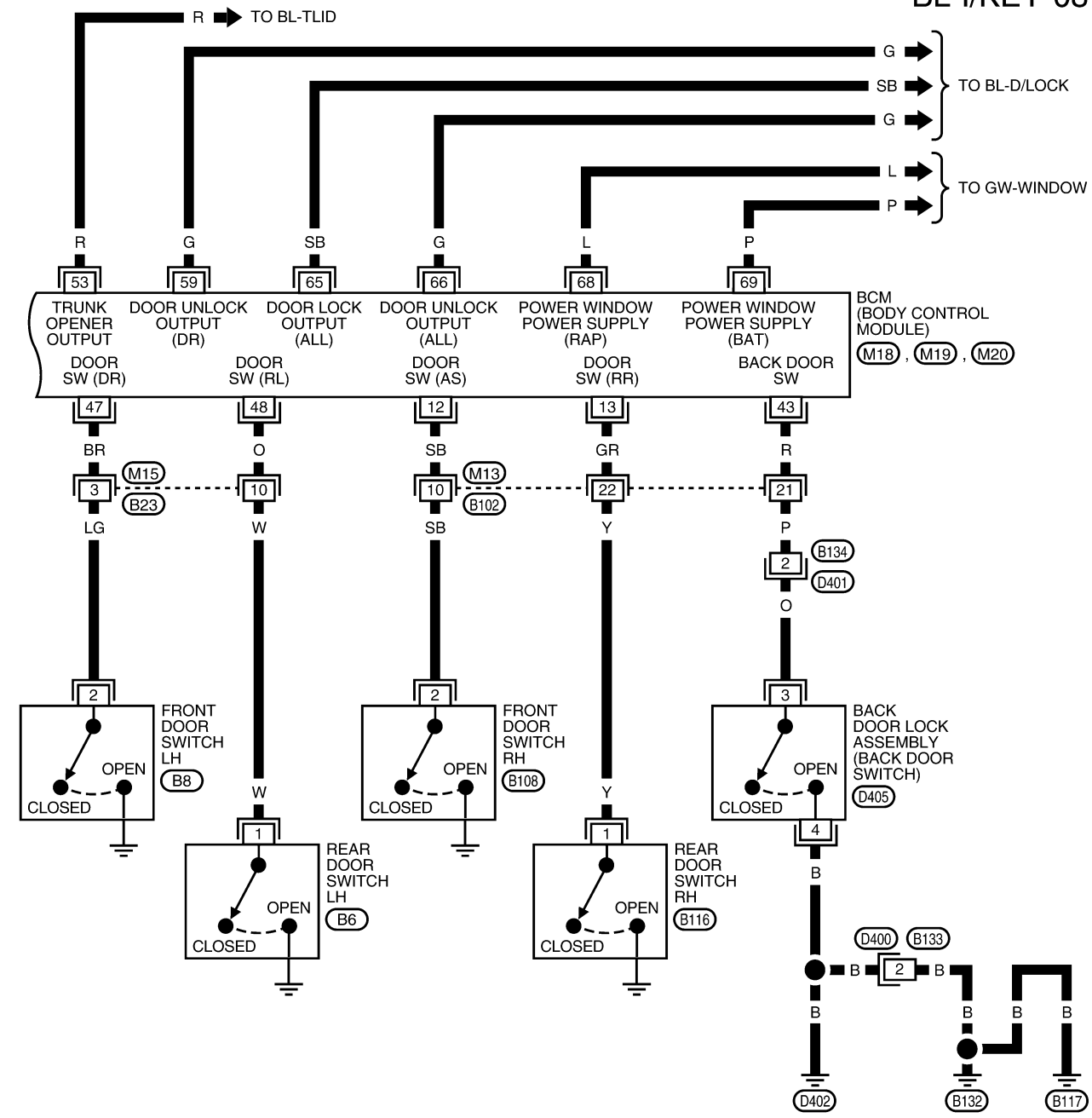


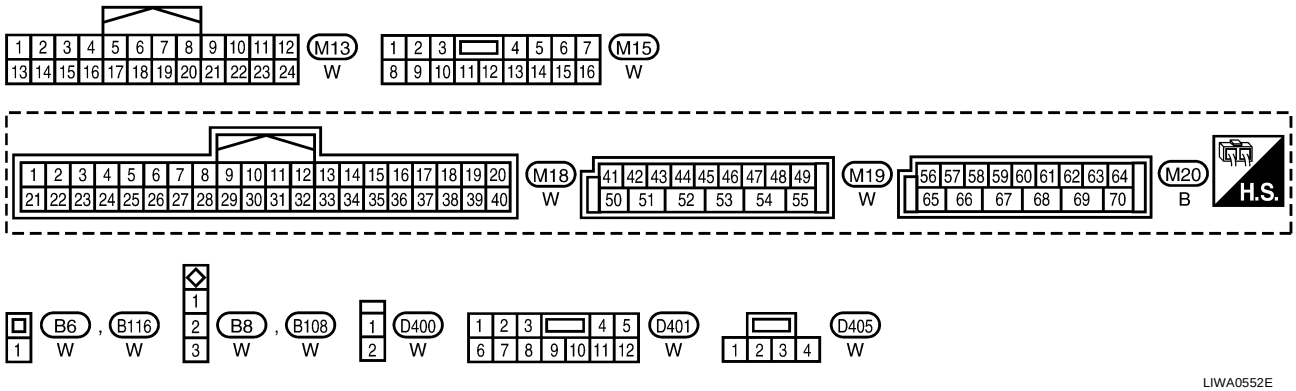


WIWA1968E

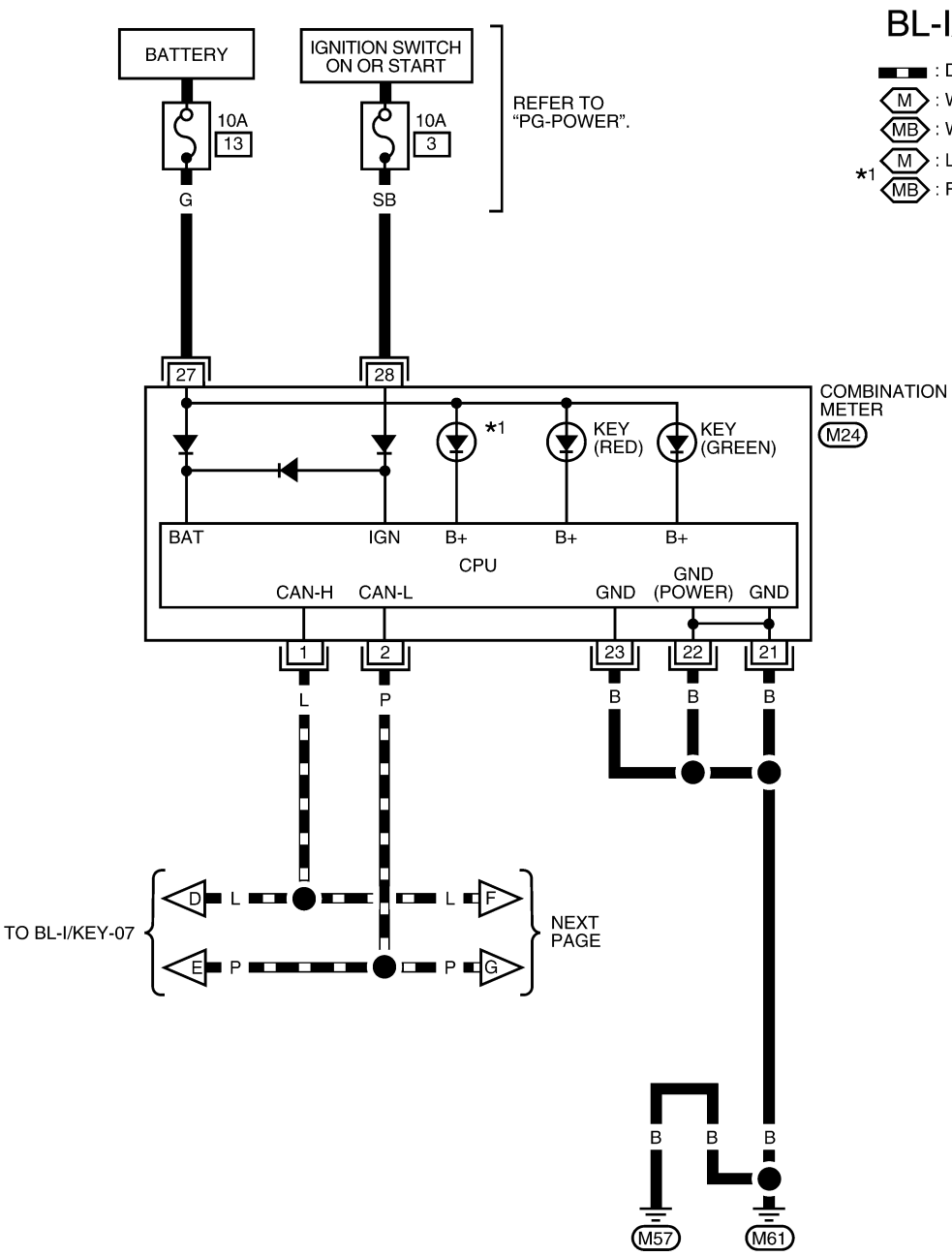

BL-I/KEY-07
: DATA LINE
BATTERY
IGNITION SWITCH ON OR START
REFER TO "PG-POWER".
40A g
10A 8
10A 6
Y
LG
W
E7
76A
M69
Y
V
W
BR
R
TO LT-TURN
TO LT-INT/L
70
57
38
60
61
63
56
BAT (F/L)
BAT (FUSE)
IGN SW
FLASHER OUTPUT (LEFT)
FLASHER OUTPUT (RIGHT)
ROOM LAMP OUTPUT
BATT SAVER
BCM (BODY CONTROL MODULE)
M18 , M20
KEY SW
BACK DOOR OPEN OUTPUT
GND (POWER)
CAN-H
CAN-L
37
30
67
39
40
G
LG
B
L
P
TO BL-I/KEY-01
A G
B LG
PRECEDING PAGE
C L
D P
L D
P E
TO BL-I/KEY-09
B B B
M57
M61
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
M18
W
56 57 58 59 60 61 62 63 64
65 66 67 68 69 70
M20
B
H.S.
REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)
LIWA0551E

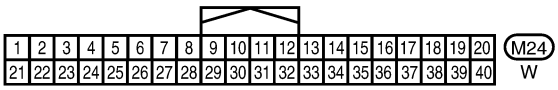
BL-I/KEY-08



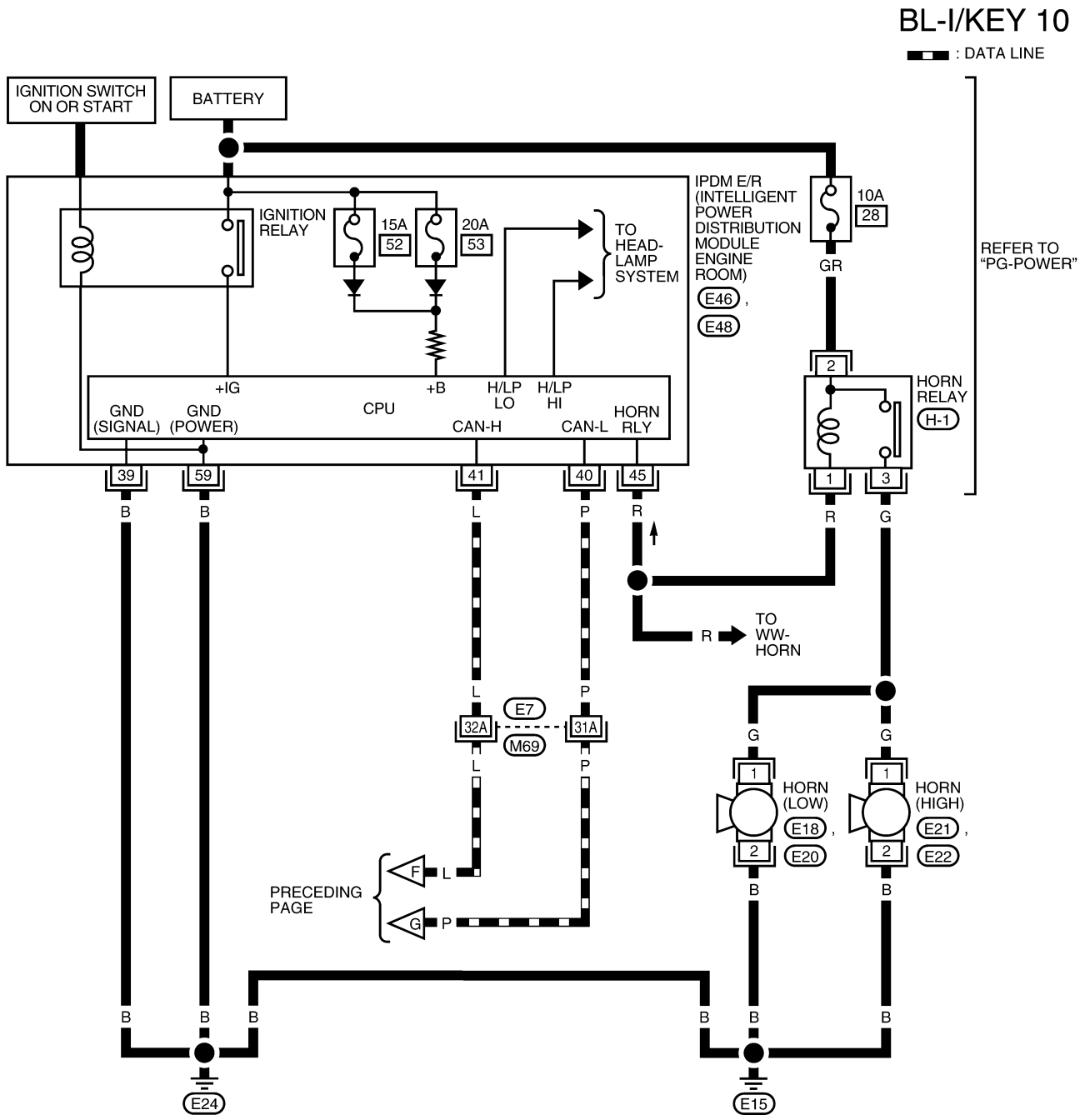


LIWA0552E

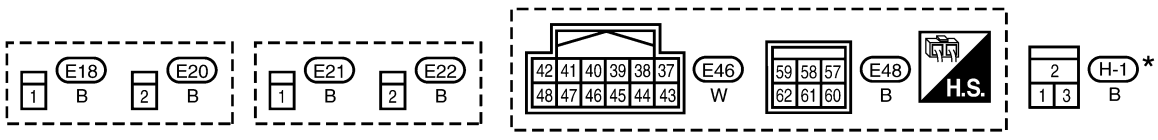

BL-I/KEY-09
: DATA LINE
M : WITH M/T
MB : WITHOUT M/T
*1 M : LOCK
MB : P-SHIFT
BATTERY
IGNITION SWITCH ON OR START
10A 13
10A 3
REFER TO "PG-POWER".
G
SB
27
28
COMBINATION METER
M24
*1
KEY (RED)
KEY (GREEN)
BAT
IGN
B+
B+
B+
CPU
CAN-H
CAN-L
GND
GND (POWER)
GND
1
2
23
22
21
L
P
B
B
B
TO BL-I/KEY-07
D L
L F
E P
P G
NEXT PAGE
B
B
B
M57
M61


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
M24
W

WIWA1969E



REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)

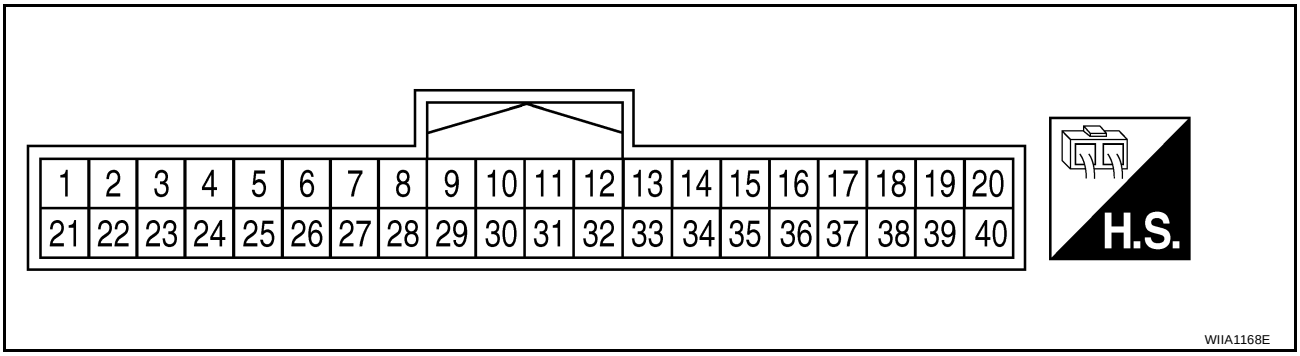


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

WIWA1970E

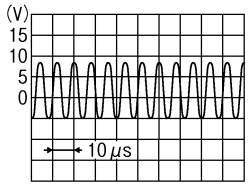
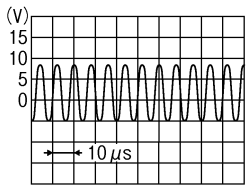
Intelligent Key Unit Harness Connector Terminal Layout

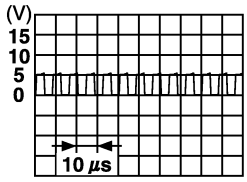
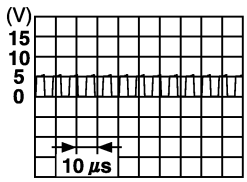
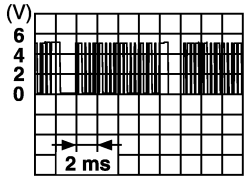
EIS009D4

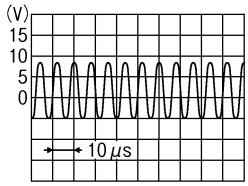
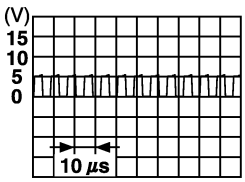


Terminals and Reference Values for Intelligent Key Unit

EIS00921

Terminal	Wire Color	Item	Condition			Voltage (V) Approx.
			Ignition Switch Position	Operation or Conditions		
1	R	Steering lock solenoid power supply	LOCK	—		5
2	L	CAN-H	—	—		—
3	P	CAN-L	—	—		—
4	O	Intelligent Key warning buzzer	LOCK	Operate door request switch.	Buzzer OFF	Battery voltage
					Sound buzzer	0
5	G	Front door request switch LH	—	Press door request switch (driver side).		0
				Other than above		5
6	Y	Ignition switch (ON)	ON	—		Battery voltage
7	LG	Key switch	LOCK	Insert mechanical key into ignition switch.		Battery voltage
				Remove mechanical key from ignition switch.		0
10*1	W	CVT device (park position switch)	ON	Shift lever in park position.		0
				Other than above		Battery voltage
11	SB	Power source (Fuse)	—	—		Battery voltage
12	B	Ground	—	—		0
13	V	Instrument panel antenna (+) signal	LOCK	● Any door open → all door close ● Press ignition knob switch: ON (Ignition knob switch)		 PIIB5502J
14	LG	Instrument panel antenna (-) signal				
15	L	Front console antenna (+) signal	LOCK	● Any door open → all door close ● Press ignition knob switch: ON (Ignition knob switch)		 PIIB5502J
16	P	Front console antenna (-) signal				

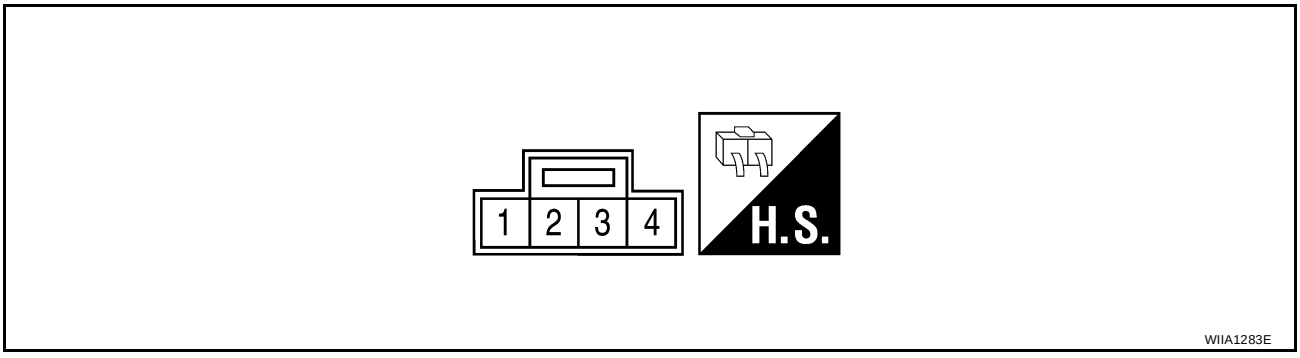
Terminal	Wire Color	Item	Condition		Voltage (V) Approx.
			Ignition Switch Position	Operation or Conditions	
17	W	Rear bumper antenna (+) signal	LOCK	Press back door request switch.	 SIIA1910J
18	B	Rear bumper antenna (-) signal			
19	V	Front outside antenna LH (+) signal	LOCK	Press door request switch LH.	 SIIA1910J
20	P	Front outside antenna LH (-) signal			
22*2	BR	Key interlock solenoid	—	With Intelligent Key present or mechanical key in ignition cylinder, press "PUSH" button on ignition cylinder.	Battery voltage
				Other than above	0
23		Back door open output	—	Back door open (switch closed)	0
				Back door closed (switch open)	5
24	V	Back door opener switch	—	Press and hold back door switch.	0
				Other than above	5
25	L	Front door request switch RH	—	Press front door request switch RH.	0
				Other than above	5
26	SB	Stop lamp switch	—	Depress brake pedal	Battery voltage
				Other than above	0
27	W	Ignition knob switch	—	Press ignition switch.	Battery voltage
				Release ignition switch.	0
28	Y	Unlock sensor (driver side)	—	Door (driver side) is locked.	5
				Door (driver side) is unlocked.	0
29	V	Back door request switch	—	Press back door request switch.	0
				Other than above	5
31	BR	Steering lock solenoid ground	—	—	0
32	GR	Steering lock solenoid communication signal	LOCK	When Intelligent Key is inside vehicle, press ignition knob switch.	 SIIA1911J
				Other than above	5

Terminal	Wire Color	Item	Condition		Voltage (V) Approx.
			Ignition Switch Position	Operation or Conditions	
33	R	Rear floor antenna (+) signal	LOCK	● Any door open → all door close ● Press ignition knob switch: ON (Ignition knob switch)	 PIIB5502J
34	G	Rear floor antenna (-) signal			
37	BR	Front outside antenna RH (+) signal	LOCK	Press door request switch RH.	 SIIA1910J
38	Y	Front outside antenna RH (-) signal			

*1: With continuously variable transmission (CVT).
*2: With manual transmission (M/T).

Steering Lock Solenoid Harness Connector Terminal Layout

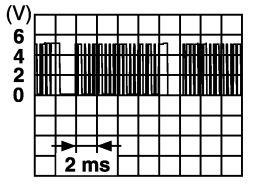
EIS009D5



WIIA1283E

Terminals and Reference Values for Steering Lock Solenoid

EIS00922

Terminal	Wire Color	Signal Designation	Condition		Voltage (V) Approx.
			Ignition Switch Position	Operation or Conditions	
1	P	Battery power supply	LOCK	—	Battery voltage
2	R	Steering lock solenoid power supply	LOCK	—	5
3	GR	Steering lock solenoid communication signal	LOCK	When Intelligent Key is inside vehicle, press ignition knob switch.	 SIIA1911J
				Other than the above	5
4	BR	Steering lock solenoid ground	—	—	0

Terminals and Reference Values for BCM

EIS00923

Refer to BCS-12, "Terminals and Reference Values for BCM" .

Trouble Diagnosis Procedure

EIS00924

PRELIMINARY CHECK

1. GET SYMPTOMS

Listen to customer concerns. (Get symptoms)

NOTE:
If customer reports a “No start” condition, request all Intelligent Keys to be brought to the dealer in case of Intelligent Key system malfunction.

Intelligent Key or mechanical key service request>>For further information, refer to CONSULT-II operation manual.
Malfunctions>>GO TO 2.

2. CHECK BCM CONFIGURATION

Confirm BCM configuration for "I-KEY" is set to "WITH". Refer to BCS-19, "READ CONFIGURATION PROCEDURE" .

OK or NG

OK >> GO TO 3.
NG >> Change BCM configuration for "I-KEY" to "WITH". Refer to BCS-21, "WRITE CONFIGURATION PROCEDURE" .

3. START ENGINE WITH INTELLIGENT KEY

Check if the engine could be started by all registered Intelligent Keys.

The engine cannot be started by some Intelligent Keys>>Intelligent Key is low battery or malfunction. Refer to BL-159, "INTELLIGENT KEY BATTERY INSPECTION" .
The engine cannot be started by all Intelligent Keys>>GO TO 4.
The engine can be started by all Intelligent Keys>>GO TO 5.

4. CHECK “KEY” WARNING LAMP ILLUMINATION

When pushing the ignition switch, check if “KEY” warning lamp in combination meter illuminates.

KEY warning lamp illuminates green>>GO TO BL-114, "KEY WARNING LAMP (GREEN) ILLUMINATES" .
KEY warning lamp illuminates red>>GO TO BL-114, "KEY WARNING LAMP (RED) ILLUMINATES" .
Does not illuminate>>GO TO BL-115, "KEY WARNING LAMP DOES NOT ILLUMINATE" .

5. START ENGINE WITH MECHANICAL KEY

Check if the engine could be started by all registered mechanical keys.

No start by some mechanical keys>>Register mechanical key. Refer to CONSULT-II operation manual.
Engine starts by mechanical or Intelligent Key>>GO TO BL-116, "ENGINE START CONDITION CHECK" .
No start by mechanical key or Intelligent Key>>GO TO NATS BL-220, "WORK FLOW" .
Engine starts with Intelligent Key or mechanical key>>GO TO BL-110, "WORK FLOW" .
The engine can be started by all mechanical keys>>GO TO 6.

6. PERFORM SELF-DIAGNOSIS

1. Turn ignition switch to ON by carrying the Intelligent Key.
2. Perform self-diagnosis of Intelligent Key system with CONSULT-II.

DTC is displayed>>GO TO BL-111, "SELF-DIAGNOSTIC RESULTS" .
DTC is not displayed>>GO TO BL-115, "NON DTC ITEM" .

WORK FLOW

Before performing the work flow, carry out preliminary check. Refer to BL-109, "PRELIMINARY CHECK" .

1. CHECK FUNCTION OF INTELLIGENT KEY SYSTEM

Check if the function related to Intelligent Key system operates normally.

All functions of Intelligent Key system do not operate>>GO TO BL-116, "ALL FUNCTIONS OF INTELLIGENT KEY SYSTEM DO NOT OPERATE" .
Specific function of Intelligent Key system does not operate>>GO TO 2.

2. CHECK POWER DOOR LOCK OPERATION

Check if door lock/unlock function operates with door lock and unlock switch.

OK or NG

OK >> GO TO 3.
NG >> GO TO BL-23, "POWER DOOR LOCK SYSTEM" .

3. CHECK DOOR REQUEST SWITCH OPERATION

Check if door lock/unlock function operates with request switch.

OK or NG

OK >> GO TO 4.
NG >> GO TO BL-116, "DOOR LOCK/UNLOCK FUNCTION MALFUNCTION" .

4. CHECK REMOTE KEYLESS FUNCTION

Check if the following function responds with Intelligent Key button.

- Door lock/unlock function
- Panic alarm function

OK or NG

OK >> GO TO 5.
NG >> GO TO BL-118, "REMOTE KEYLESS ENTRY FUNCTION MALFUNCTION" .

5. CHECK HAZARD AND BUZZER REMINDER FUNCTION

Check if hazard and buzzer reminder function responds with the following switches.

- Door request switch
- Intelligent Key button

OK or NG

OK >> GO TO 6.
NG >> GO TO BL-119, "HAZARD AND BUZZER REMINDER FUNCTION MALFUNCTION" .

6. CHECK WARNING CHIME FUNCTION

Check if warning chime function operates normally according to system description. Refer to BL-90, "WARNING CHIME/BUZZER/LAMPS FUNCTION" .

OK or NG

OK >> GO TO 7.
NG >> GO TO BL-120, "WARNING CHIME/BUZZER FUNCTION MALFUNCTION" .

7. CHECK WARNING LAMP FUNCTION

Check if warning lamp could be turn on normally according to system description. Refer to BL-90, "WARNING CHIME/BUZZER/LAMPS FUNCTION" .

OK or NG

OK >> End of inspection.
NG >> GO TO BL-122, "WARNING LAMP FUNCTION MALFUNCTION" .

CONSULT-II Functions (INTELLIGENT KEY)

EIS00925

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

Part to be diagnosed	Test item, Diagnosis mode	Description
Intelligent Key	WORK SUPPORT	Changes settings for each function.
	SELF-DIAG RESULTS	Intelligent Key unit performs CAN communication diagnosis.
	DATA MONITOR	Displays Intelligent Key unit input data in real time.
	CAN DIAGNOSTIC SUPPORT MONITOR	The results of transmit/receive diagnosis of CAN Communication can be read.
	ACTIVE TEST	Operation of electrical loads can be checked by sending driving signal to them.
	ECU PART NUMBER	Displays Intelligent Key unit part No.

CONSULT-II Start Procedure

EIS00926

BASIC OPERATION

Refer to GI-38, "CONSULT-II Start Procedure" .

CONSULT-II Application Items

EIS00927

SELF-DIAGNOSTIC RESULTS

Self-diag results	Description	Diagnosis procedure	Reference page
CAN COMM	Malfunction is detected in CAN communication.	Check CAN communication system.	BL-122
CAN COMM2	Intelligent Key unit internal malfunction	Check CAN communication system.	BL-122
STRG COMM	Malfunction is detected in communication of Intelligent Key unit and steering lock solenoid.	Check steering lock solenoid.	BL-144
I-KEY C/U	Intelligent Key unit internal malfunction	Replace Intelligent Key unit.	BL-160
IMMU	NATS malfunction	Check NATS.	BL-212

DATA MONITOR

Monitor item	Content
PUSH SW	Indicates [ON/OFF] condition of ignition knob switch.
KEY SW	Indicates [ON/OFF] condition of key switch.
DR REQ SW	Indicates [ON/OFF] condition of door request switch (driver side).
AS REQ SW	Indicates [ON/OFF] condition of door request switch (passenger side).
BD/TR REQ SW	Indicates [ON/OFF] condition of back door request switch.
IGN SW	Indicates [ON/OFF] condition of ignition switch in ON position.
ACC SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
STOP LAMP SW	Indicates [ON/OFF] condition of stop lamp switch.
P RANGE SW	Indicates [ON/OFF] condition of shift lever park position.
BD OPEN SW	Indicates [ON/OFF] condition of back door open switch.
DOOR LOCK SIG*	Indicates [ON/OFF] condition of door lock signal from Intelligent Key button.
DOOR UNLOCK SIG*	Indicates [ON/OFF] condition of door unlock signal from Intelligent Key button
DOOR SW DR*	Indicates [OPEN/CLOSE] condition of front door switch driver side from BCM via CAN communication line.
DOOR SW AS*	Indicates [OPEN/CLOSE] condition of front door switch passenger side from BCM via CAN communication line.
DOOR SW RR*	Indicates [OPEN/CLOSE] condition of rear door switch RH from BCM via CAN communication line.
DOOR SW RL*	Indicates [OPEN/CLOSE] condition of rear door switch LH from BCM via CAN communication line.
TRUNK SW*	This is displayed even when it is not equipped.
VEHICLE SPEED*	Indicates [km/h] condition of vehicle speed.

*: Select “SELECTION FROM MENU”.

ACTIVE TEST

Test item	Description
DOOR LOCK/UNLOCK	This test is able to check door lock/unlock operation. ● The all door lock actuators are unlocked when “ALL UNLK” on CONSULT-II screen is touched. ● The all door lock actuators are locked when “LOCK” on CONSULT-II screen is touched.
ANTENNA	This test is able to check Intelligent Key antenna operation. When the following conditions are met, hazard warning lamps flash. ● Inside key antenna (front console) detects Intelligent Key, when “ROOM ANT1” on CONSULT-II screen is touched. ● Inside key antenna (instrument panel and rear floor) detects Intelligent Key, when “ROOM ANT2” on CONSULT-II screen is touched. ● Outside key antenna (driver side) detects Intelligent Key, when “DRIVER ANT” on CONSULT-II screen is touched. ● Outside key antenna (passenger side) detects Intelligent Key, when “ASSIST ANT” on CONSULT-II screen is touched. ● Outside key antenna (rear bumper) detects Intelligent Key, when “BK DOOR ANT” on CONSULT-II screen is touched.
OUTSIDE BUZZER (DRIVER DOOR)	This test is able to check Intelligent Key warning buzzer operation. Intelligent Key warning buzzer sounds when “ON” on CONSULT-II screen is touched.
INSIDE BUZZER (CHIME)	This test is able to check Intelligent Key warning chime (Instrument panel) operation. ● Take away warning chime sounds when “TAKE OUT” on CONSULT-II screen is touched. ● Ignition switch warning chime sounds when “KNOB” on CONSULT-II screen is touched. ● Ignition key warning chime sounds when “KEY” on CONSULT-II screen is touched.
INDICATOR	This test is able to check warning lamp operation. ● “KEY” Warning lamp (Green) illuminates when “BLUE ON” on CONSULT-II screen is touched. ● “KEY” Warning lamp (Red) illuminates when “RED ON” on CONSULT-II screen is touched. ● “LOCK” Warning lamp illuminates when “KNOB ON” on CONSULT-II screen is touched. ● “KEY” Warning lamp (Green) flashes when “BLUE IND” on CONSULT-II screen is touched. ● “KEY” Warning lamp (RED) flashes when “BLUE IND” on CONSULT-II screen is touched. ● “P-SHIFT” Warning lamp flashes when “KNOB ON” on CONSULT-II screen is touched.

WORK SUPPORT

Monitor item	Description
CONFIRM KEY FOB ID	It can be checked whether Intelligent Key ID code is registered or not in this mode.
TAKE OUT FROM WINDOW WARN	Take away warning chime (from window) mode can be changed to operate (ON) or not operate (OFF) with this mode. The operation mode will be changed when “CHANGE SETT” on CONSULT-II screen is touched.
LOW BAT OF KEY FOB WARN	Intelligent Key low battery warning mode can be changed to operate (ON) or not operate (OFF) with this mode. The operation mode will be changed when “CHANGE SETT” on CONSULT-II screen is touched.
ANSWER BACK FUNCTION	Buzzer reminder function mode by Intelligent button can be changed to operate (ON) or not operate (OFF) with this mode. The operation mode will be changed when “CHANGE SETT” on CONSULT-II screen is touched.
SELECTIVE UNLOCK FUNCTION	Selective unlock function mode can be changed to operate (ON) or not operate (OFF) with this mode. The operation mode will be changed when “CHANGE SETT” on CONSULT-II screen is touched.
ANTI KEY LOCK IN FUNCTION	Key reminder function mode can be changed to operate (ON) or not operate (OFF) with this mode. The operation mode will be changed when “CHANGE SETT” on CONSULT-II screen is touched.
HORN WITH KEYLESS LOCK	Horn reminder function mode by Intelligent Key remote control button can be changed to operate (ON) or not operate (OFF) with this mode. The operation mode will be changed when “CHANGE SETT” on CONSULT-II screen is touched.
HAZARD ANSWER BACK	Hazard reminder function mode can be selected from the following with this mode. The operation mode will be changed when “CHANGE SETT” on CONSULT-II screen is touched. ● LOCK ONLY: Door lock operation only ● UNLOCK ONLY: Door unlock operation only ● LOCK/UNLOCK: Lock/Unlock operation ● OFF: Non-operation
ANSWER BACK WITH I-KEY LOCK	Buzzer reminder function (lock operation) mode by door request switch (driver side, passenger side and back door side) can be selected from the following with this mode. The operation mode will be changed when “CHANGE SETT” on CONSULT-II screen is touched. ● BUZZER: Sound buzzer ● OFF: Non-operation
ANSWER BACK WITH I-KEY UNLOCK	Buzzer reminder function (unlock operation) mode by door request switch can be changed to operate (ON) or not operate (OFF) with this mode.
AUTO RELOCK TIMER	Auto door lock timer mode can select the following with this mode. ● 0.5 minute ● OFF: Non-operation
PANIC ALARM DELAY	Panic alarm button's pressing time on Intelligent Key remote control button can be selected from the following with this mode. The operation mode will be changed when “CHANGE SETT” on CONSULT-II screen is touched. ● 0.5 second ● 1.5 second ● OFF: Non-operation
P/W DOWN DELAY	Unlock button's pressing time on Intelligent Key remote control button can be selected from the following with this mode. The operation mode will be changed when “CHANGE SETT” on CONSULT-II screen is touched. ● 3 seconds ● 5 seconds ● OFF: Non-operation
ENGINE START BY I-KEY	Engine start function mode can be changed to operate (ON) or not operate (OFF) with this mode. The operation mode will be changed when “CHANGE SETT” on CONSULT-II screen is touched.
LOCK/UNLOCK BY I-KEY	Door lock/unlock function by door request switch (driver side, passenger side and back door side) mode can be changed to operate (ON) or not operate (OFF) with this mode. The operation mode will be changed when “CHANGE SETT” on CONSULT-II screen is touched.

Trouble Diagnosis Symptom Chart

EIS00928

KEY WARNING LAMP (GREEN) ILLUMINATES

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-109, "Trouble Diagnosis Procedure" .
- Make sure that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.
- If the following “symptoms” are detected, check systems shown in the “Diagnoses/service procedure” column in this order.

Conditions of Vehicle (Operating Conditions)

- Intelligent Key is registered.
- Key is not inserted in ignition switch.
- One or more registered Intelligent Keys are in the vehicle.

Symptom	Diagnosis/service procedure	Reference page
Ignition switch does not turn on with Intelligent Key. [KEY warning lamp (green) illuminates].	1. Check steering lock solenoid.	BL-144
	2. Replace Intelligent Key unit.	BL-160

KEY WARNING LAMP (RED) ILLUMINATES

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-109, "Trouble Diagnosis Procedure" .
- Make sure that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.
- If the following “symptoms” are detected, check systems shown in the “Diagnoses/service procedure” column in this order.

Conditions of Vehicle (Operating Conditions)

- Intelligent Key is registered.
- Key is not inserted in ignition switch.
- One or more registered Intelligent Keys are in the vehicle.

Symptom	Diagnosis/service procedure	Reference page
Ignition switch does not turn on with Intelligent Key. [KEY warning lamp (red) illuminates].	1. Check inside key antenna.	BL-143
	2. Replace Intelligent Key unit.	BL-160

KEY WARNING LAMP DOES NOT ILLUMINATE

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-109, "Trouble Diagnosis Procedure" .
- Make sure that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.
- If the following “symptoms” are detected, check systems shown in the “Diagnoses/service procedure” column in this order.
- Check if ignition switch turns using mechanical key. If it turns, check if “ENGINE START BY I-KEY” in “WORK SUPPORT” mode is ON.

Conditions of Vehicle (Operating Conditions)

- Intelligent Key is registered.
- Mechanical key is out of ignition switch.
- One or more registered Intelligent Keys are in the vehicle.

Symptom	Diagnosis/service procedure	Reference page
Ignition switch does not turn on with Intelligent Key. [GREEN key warning lamp does not illuminate].	1. Check Intelligent Key unit power supply and ground circuit.	BL-123
	2. Check ignition knob switch.	BL-127
	3. Check key switch.	BL-124
	4. Check "KEY" warning lamp (GREEN).	BL-156
	5. Replace Intelligent Key unit.	BL-160
RED key warning lamp does not illuminate [Without Intelligent Key].	1. Check "KEY" warning lamp (RED).	BL-155
	2. Replace Intelligent Key unit.	BL-160

NON DTC ITEM

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-109, "Trouble Diagnosis Procedure" .
- Make sure that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.
- If the following “symptoms” are detected, check systems shown in the “Diagnoses/service procedure” column in this order.

Conditions of Vehicle (Operating Conditions)

- Intelligent Key is registered.
- Multiple mechanical keys are not set in a keyfob.
  (If mechanical keys are near the ignition switch, the operation may not work properly.)

Symptom	Diagnosis/service procedure	Reference page
Non DTC Item	1. Check key switch.	BL-124
	2. Check NATS antenna amp.	BL-212

ENGINE START CONDITION CHECK

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-109, "Trouble Diagnosis Procedure" .
- If the following “symptoms” are detected, check systems shown in the ”Diagnoses/service procedure” column in this order.

Symptom	Diagnosis/service procedure	Reference page
Engine start condition check	1. Check CVT device (park position switch). (With CVT)	BL-151
	2. Check key interlock solenoid (with M/T).	BL-147
	3. Check stop lamp switch (With CVT).	BL-148
	4. Check stop lamp switch (with M/T).	BL-149

ALL FUNCTIONS OF INTELLIGENT KEY SYSTEM DO NOT OPERATE

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-109, "Trouble Diagnosis Procedure" .
- Make sure that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.
- If the following “symptoms” are detected, check systems shown in the “Diagnosis/service procedure” column in this order.

Conditions of Vehicle (Operating Conditions)

- “ENGINE START BY I-KEY” and “LOCK/UNLOCK BY I-KEY” are ON when setting on CONSULT-II.
- Mechanical key is out of ignition switch.
- Ignition switch is not depressed.
- All doors are closed.
- Intelligent key is registered.

Symptom	Diagnosis/service procedure	Reference page
All function of Intelligent Key system dose not operate.	1. Check Intelligent Key unit power supply and ground circuit.	BL-123
	2. Check Intelligent Key battery inspection.	BL-159
	3. Replace Intelligent Key unit.	BL-160

DOOR LOCK/UNLOCK FUNCTION MALFUNCTION

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-109, "Trouble Diagnosis Procedure" .
- Make sure that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.
- If the following “symptoms” are detected, check systems shown in the “Diagnosis/procedure” column in this order.

Conditions of Vehicle (Operating Conditions)

- “LOCK/UNLOCK BY I-KEY” is ON when setting on CONSULT-II.
- Mechanical key is out of ignition switch.
- Ignition switch is not depressed.
- All doors are closed.
- Intelligent Key is registered.

Symptom	Diagnosis/service procedure	Reference page
Door lock/unlock do not operate by all request switch.	1. Check door switch.	BL-129
	2. Check key switch.	BL-124
	3. Check ignition knob switch.	BL-127
	4. Replace Intelligent Key unit.	BL-160
Door lock/unlock does not operate by request switch (driver side).	1. Check door request switch (driver side).	BL-132
	2. Check outside key antenna (driver side).	BL-139
	3. Replace Intelligent Key unit.	BL-160
Door lock/unlock does not operate by request switch (passenger side).	1. Check door request switch (passenger side).	BL-132
	2. Check outside key antenna (passenger side).	BL-139
	3. Replace Intelligent Key unit.	BL-160
Door lock/unlock does not operate by back door request switch.	1. Check back door request switch.	BL-134
	2. Check outside key antenna (rear bumper).	BL-141
	3. Replace Intelligent Key unit.	BL-160
Auto lock function does not operate.	1. Check “AUTO RELOCK TIMER” setting in “WORK SUPPORT”.	BL-113
	2. Replace Intelligent Key unit.	BL-160
Key reminder function does not operate.	1. Check door switch.	BL-129
	2. Check inside key antenna.	BL-143
	3. Check unlock sensor.	BL-136
	4. Check Intelligent Key battery.	BL-159
	5. Replace Intelligent Key unit.	BL-160

REMOTE KEYLESS ENTRY FUNCTION MALFUNCTION

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-109, "Trouble Diagnosis Procedure" .
- Make sure that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.
- If the following “symptoms” are detected, check systems shown in the “Diagnosis/service procedure” column in this order.

Conditions of Vehicle (Operating Conditions)

- Ignition switch is not depressed.
- All doors are closed.

Symptom	Diagnosis/service procedure	Reference page
All of the remote keyless entry functions do not operate.	1. Check Intelligent Key unit power supply and ground circuit.	BL-123
	2. Check key switch (BCM input).	BL-126
	3. Check Intelligent Key battery.	BL-159
	4. Remote Keyless Entry function inspection.	BL-159
	5. Replace Intelligent Key unit.	BL-160
Auto lock function does not operate.	1. Check “AUTO RELOCK TIMER” setting in “WORK SUPPORT”.	BL-113
	2. Replace Intelligent Key unit.	BL-160
Key reminder function does not operate.	1. Check door switch.	BL-129
	2. Check inside key antenna.	BL-143
	3. Check unlock sensor.	BL-136
	4. Check Intelligent Key battery.	BL-159
	5. Replace Intelligent Key unit.	BL-160
Panic alarm function does not operate.	1. Check “PANIC ALARM DELAY” setting in “WORK SUPPORT”.	BL-113
	2. Check Intelligent Key battery inspection.	BL-159
	3. Check horn function.	BL-157
	4. Check headlamp function.	BL-158
	5. Check key switch.	BL-124
	6. Check ignition knob switch.	BL-127
	7. Replace Intelligent Key unit.	BL-160

HAZARD AND BUZZER REMINDER FUNCTION MALFUNCTION

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-109, "Trouble Diagnosis Procedure" .
- Make sure that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.
- If the following “symptoms” are detected, check systems shown in the “Diagnosis/service procedure” column in this order.

Conditions of Vehicle (Operating Conditions)

- Ignition switch is not depressed.
- All doors are closed.

Symptom		Diagnosis/service procedure	Reference page
Hazard reminder does not operate by request switch. (Buzzer reminder operate).		1. Check “HAZARD ANSWER BACK” setting in “WORK SUPPORT”.	BL-113
		2. Check hazard function with hazard switch.	BL-157
		3. Replace Intelligent Key unit.	BL-160
Buzzer reminder does not operate by request switch. (Hazard reminder operates).	Intelligent Key warning buzzer does not operate.	1. Check “ANSER BACK WITH I-KEY LOCK” or “ANSER BACK WITH I-KEY UNLOCK” setting in “WORK SUPPORT”.	BL-113
		2. Check Intelligent Key warning buzzer.	BL-138
		3. Replace Intelligent Key unit.	BL-160
Hazard reminder does not operate by Intelligent Key (door lock/unlock button). (Buzzer reminder operate properly).		1. Check “HAZARD ANSWER BACK” setting in “WORK SUPPORT”.	BL-113
		2. Check hazard function with hazard switch.	BL-157
		3. Replace Intelligent Key.	BL-160
Buzzer reminder does not operate by Intelligent Key (door lock/unlock button). (Hazard reminder operates).	Intelligent Key warning buzzer does not operate.	1. Check “HORN WITH KEYLESS LOCK” setting in “WORK SUPPORT”.	BL-113
		2. Check Intelligent Key warning buzzer.	BL-138
		3. Replace Intelligent Key unit.	BL-160

WARNING CHIME/BUZZER FUNCTION MALFUNCTION

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-109, "Trouble Diagnosis Procedure" .
- Make sure that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.
- If the following “symptoms” are detected, check systems shown in the “Diagnosis/service procedure” column in this order.

Conditions of Vehicle (Operating Conditions)

Warning chime/buzzer functions operating condition is extremely complicated, during operating confirmations, reconfirm the list above twice in order to ensure proper operation.

Symptom		Diagnosis/service procedure	Reference page
Ignition switch warning chime does not operate.		1. Check ignition knob switch.	BL-127
		2. Check door switch.	BL-129
		3. Check key switch.	BL-124
		4. Check Intelligent Key warning chime.	BL-156
		5. Replace Intelligent Key unit.	BL-160
Ignition key warning chime does not operate. (When mechanical key used).		1. Check key switch (Intelligent Key unit input).	BL-124
		2. Check key switch (BCM input).	BL-126
		3. Check door switch.	BL-129
		4. Check Intelligent Key warning chime.	BL-156
		5. Replace Intelligent Key unit.	BL-160
OFF position warning chime (For internal) does not operate.		1. Check ignition switch position.	BL-148
		2. Check ignition knob switch.	BL-127
		3. Check key switch.	BL-124
		4. Check combination meter warning chime.	BL-156
		5. Replace Intelligent Key unit.	BL-160
OFF position warning chime/buzzer (for external) does not operate.	Both Intelligent Key warning chime and buzzer do not operate.	1. Check ignition switch position.	BL-148
		2. Check ignition knob switch.	BL-127
		3. Check key switch.	BL-124
		4. Check Intelligent Key warning chime.	BL-156
		5. Check Intelligent Key warning buzzer.	BL-138
		6. Replace Intelligent Key unit.	BL-160
	Intelligent Key warning buzzer does not operate.	Check Intelligent Key warning buzzer.	BL-138
Take away warning chime/buzzer (door open to close) does not operate.	Both Intelligent Key warning chime and buzzer do not operate.	1. Check door switch.	BL-129
		2. Check inside key antenna.	BL-143
		3. Check key switch.	BL-124
		4. Check Intelligent Key warning chime.	BL-138
		5. Check Intelligent Key warning buzzer.	BL-138
		6. Replace Intelligent Key unit.	BL-160
	Intelligent Key warning buzzer does not operate.	Check Intelligent Key warning buzzer.	BL-138

Symptom	Diagnosis/service procedure	Reference page
Take away warning chime (through window) does not operate.	1. Check “TAKE OUT FROM WINDOW WARN” setting in “WORK SUPPORT”.	BL-113
	2. Check inside key antenna.	BL-143
	3. Check key switch.	BL-124
	4. Check Intelligent Key battery.	BL-159
	5. Check Intelligent Key warning chime.	BL-156
	6. Replace Intelligent Key unit.	BL-160
Door lock operation warning buzzer does not operate.	1. Check door switch.	BL-129
	3. Check ignition knob switch.	BL-127
	4. Check door request switch.	BL-132
	5. Check back door request switch.	BL-134
	6. Check outside key antenna (driver side and passenger side).	BL-139
	7. Check outside key antenna (rear bumper).	BL-141
	8. Check inside key antenna.	BL-143
	9. Check Intelligent Key warning buzzer.	BL-138
	10 Replace Intelligent Key unit.	BL-160

WARNING LAMP FUNCTION MALFUNCTION

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-109, "Trouble Diagnosis Procedure" .
- If the following “symptoms” are detected, check systems shown in the “Diagnosis/service procedure” column in this order.

Symptom	Diagnosis/service procedure		Reference page
When Intelligent Key low battery warning operate, “KEY” warning lamp (green) does not illuminate.	1.	Check “LOW BAT OF KEY FOB WARN” setting in “WORK SUPPORT”.	BL-113
	2.	Check Intelligent Key battery.	BL-159
	3.	Check KEY warning lamp (green).	BL-156
	4.	Replace Intelligent Key unit.	BL-160
P position warning lamp does not illuminate properly. (With CVT)	1.	Check CVT device (park position switch).	BL-151
	2.	Check “P-SHIFT” warning lamp (red).	BL-153
	3.	Replace Intelligent Key unit.	BL-160
LOCK warning lamp does not illuminate properly. (With M/T)	1.	Check key interlock solenoid.	BL-147
	2.	Check "LOCK" warning lamp.	BL-154
	3.	Replace Intelligent Key unit.	BL-160
Take away warning lamp does not illuminate properly. (Take away warning chime is operated).	1.	Check KEY warning lamp (red).	BL-160
	2.	Replace Intelligent Key unit.	BL-160
Ignition switch warning lamp does not illuminate properly. (Ignition switch warning chime is operated).	1.	Check KEY warning lamp (red).	BL-155
	2.	Replace Intelligent Key unit.	BL-160

CAN Communication System Check

EIS00929

1. CHECK SELF-DIAGNOSTIC RESULTS

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 performs CAN communication.

With CONSULT-II

- Connect CONSULT-II, and turn ignition switch ON.
- Touch “INTELLIGENT KEY” on “SELECT SYSTEM” screen.
- Touch “SELF-DIAG RESULTS” on “SELECT DIAG MODE” screen.
- Check display content in self-diagnostic results.

CONSULT-II display item	DTC code
NO DTC IS DETECTED	—
CAN COMM	U1000
CAN COMM2	U1010

OK or NG

NO DTC IS DETECTED>> INSPECTION END

CAN COMM [U1000]>> After printing “SELF-DIAGNOSIS RESULTS”, go to “CAN SYSTEM”. Refer to LAN-42, "Precautions When Using CONSULT-II" .

CAN COMM2 [U1010]>> Replace Intelligent Key unit.

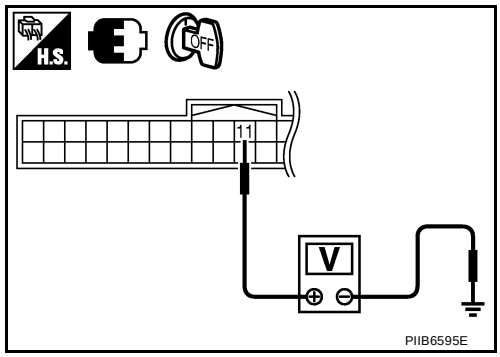
Power Supply and Ground Circuit Check

EIS0092A

1. CHECK POWER SUPPLY CIRCUIT

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

Terminals			Voltage (V) (Approx.)
(+)		(–)	
Intelligent Key unit connector	Terminal		
M52	11	Ground	Battery voltage



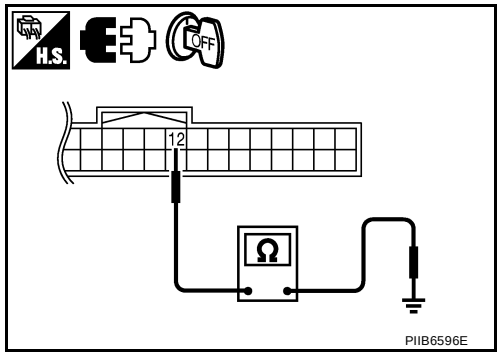
OK or NG

OK >> GO TO 2.
NG >> Repair or replace Intelligent Key power supply circuit.

2. CHECK GROUND CIRCUIT

Check continuity between Intelligent Key unit harness connector and ground.

Intelligent Key unit connector	Terminal	Ground	Continuity
M52	12		Yes



OK or NG

OK >> Power supply and ground circuits are OK.
NG >> Repair or replace the Intelligent Key unit ground circuit.

Key Switch (Intelligent Key Unit Input) Check

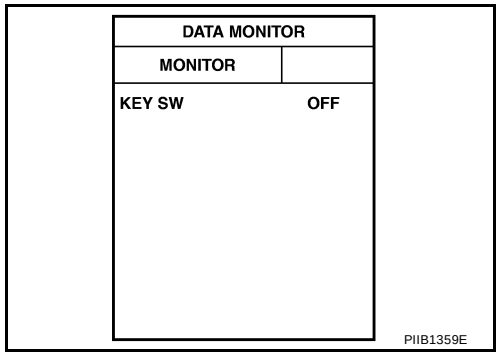
EIS0092B

1. CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

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

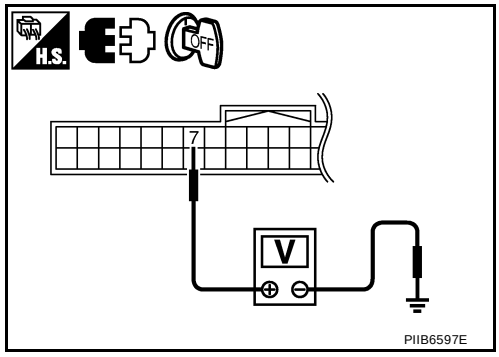
Monitor item	Condition
KEY SW	Insert mechanical key into ignition switch: ON
	Remove mechanical key from ignition switch: OFF



Without CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect Intelligent Key unit connector.
3. Check voltage between Intelligent Key unit and ground.

Terminals			Condition of key switch	Voltage (V) (Approx.)
(+)		(–)		
Intelligent Key unit connector	Terminal			
M52	7	Ground	Insert mechanical key into ignition switch	Battery voltage
			Remove mechanical key from ignition switch	0



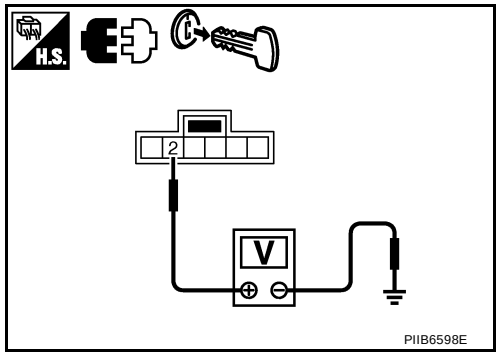
OK or NG

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

2. CHECK KEY SWITCH POWER SUPPLY CIRCUIT

1. Remove mechanical key from ignition switch.
2. Disconnect key switch and ignition knob switch connector.
3. Check voltage between key switch and ignition knob switch and ground.

Terminals			Voltage (V) (Approx.)
(+)		(–)	
Key switch and ignition knob switch connector	Terminal		
M73	2	Ground	Battery voltage



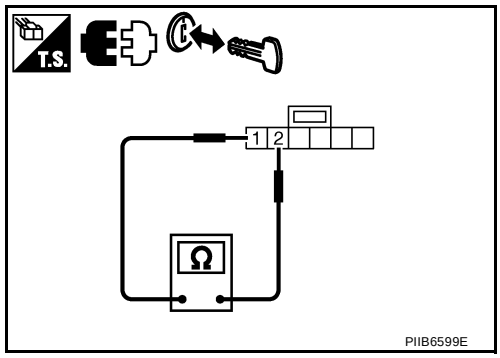
OK or NG

OK >> GO TO 3.
NG >> Repair or replace key switch and ignition knob switch power supply circuit.

3. CHECK KEY SWITCH

Check continuity of key switch and ignition knob switch.

Terminal		Condition of key switch	Continuity
Key switch and ignition knob switch			
1	2	Insert mechanical key into ignition switch	Yes
		Remove mechanical key from ignition switch	No



OK or NG

OK >> GO TO 4.
NG >> Replace key cylinder assembly (built-in key switch).

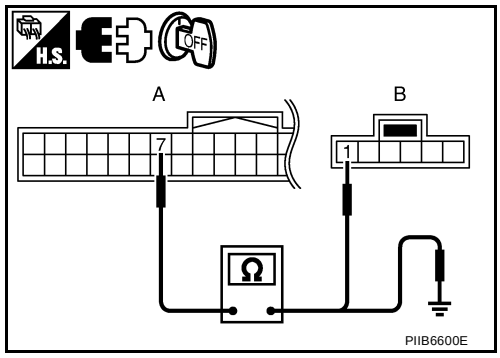
4. CHECK KEY SWITCH CIRCUIT

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit and key switch and ignition knob switch.

A		B		Continuity
Intelligent Key unit connector	Terminal	Key switch and ignition knob switch connector	Terminal	
M52	7	M73	1	Yes

3. Check continuity between Intelligent Key unit and ground.

A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	7		No



OK or NG

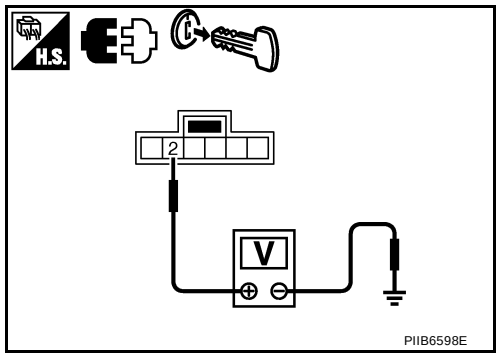
OK >> Check the condition of harness and harness connector.
NG >> Repair or replace harness between Intelligent Key unit and key switch and ignition knob switch.

Key Switch (BCM Input) Check

EIS0092C

1. CHECK KEY SWITCH POWER SUPPLY CIRCUIT

1. Remove mechanical key from ignition switch.
2. Disconnect key switch and ignition knob switch connector.
3. Check voltage between key switch and ignition knob switch and ground.



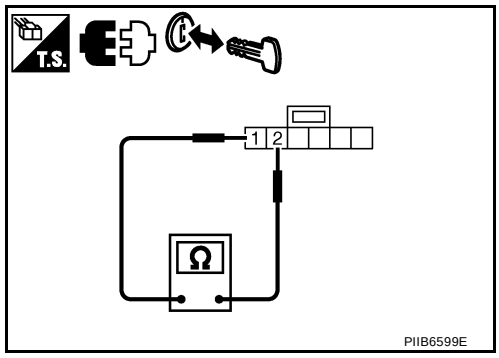
Terminals			Voltage (V) (Approx.)
(+)		(–)	
Key switch and ignition knob switch connector	Terminal		
M73	2	Ground	Battery voltage

OK or NG

OK >> GO TO 2.
NG >> Check harness between key switch and ignition knob switch and fuse.

2. CHECK KEY SWITCH OPERATION

Check continuity of key switch and ignition knob switch.



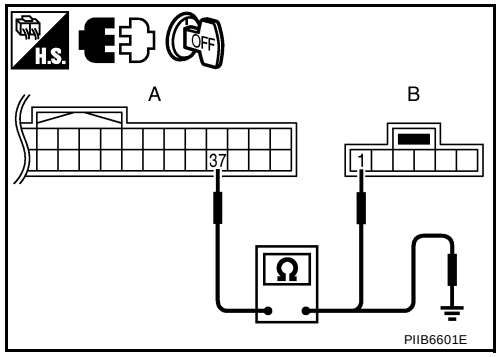
Terminal		Condition of key switch	Continuity
Key switch and ignition knob switch			
1	2	Insert mechanical key into ignition switch	Yes
		Remove mechanical key from ignition switch	No

OK or NG

OK >> GO TO 3.
NG >> Replace key cylinder assembly (built-in key switch).

3. CHECK KEY SWITCH CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM connector (A) M18 terminal 37 and key switch and ignition knob switch connector (B) terminal 1.



A		B		Continuity
BCM connector	Terminal	Key switch and ignition knob switch connector	Terminal	
M18	37	M73	1	Yes

3. Check continuity between BCM connector (A) M18 terminal 37 and ground.

A		Ground	Continuity
BCM connector	Terminal		
M18	37		No

OK or NG

OK >> Key switch (BCM input) circuit is OK.
NG >> Repair or replace harness between key switch and ignition knob switch and BCM.

Ignition Knob Switch Check

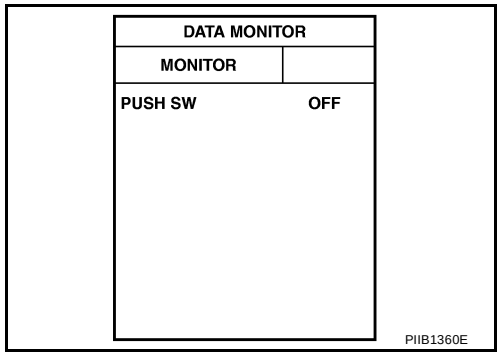
EIS0092D

1. CHECK IGNITION KNOB SWITCH INPUT SIGNAL

With CONSULT-II

Display “PUSH SW” on DATA MONITOR screen, and check if ON/OFF display is linked to ignition switch operation.

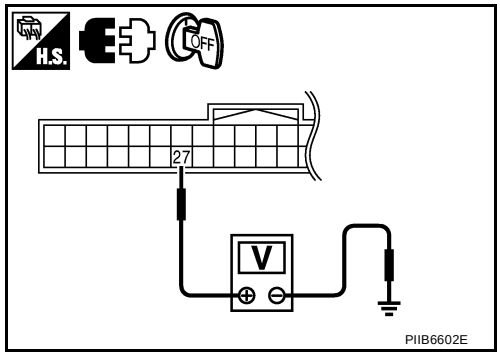
Monitor item	Condition
PUSH SW	Ignition switch is pressed: ON
	Ignition switch is released: OFF



Without CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect Intelligent Key unit connector.
3. Check voltage between Intelligent Key unit and ground.

Terminals			Condition of key switch	Voltage (V) (Approx.)
(+)		(–)		
Intelligent Key unit connector	Terminal			
M52	27	Ground	Ignition switch is pressed	Battery voltage
			Ignition switch is released	0



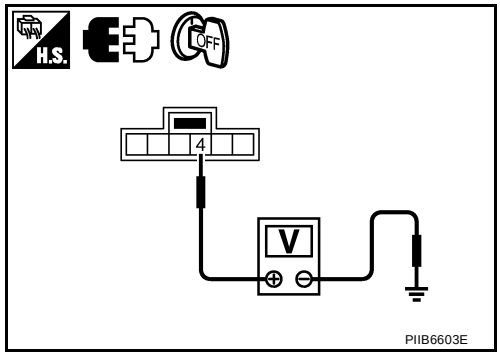
OK or NG

OK >> Ignition knob switch circuit is OK.
NG >> GO TO 2.

2. CHECK IGNITION KNOB SWITCH POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect key switch and ignition knob switch connector.
3. Check voltage between key switch and ignition knob switch and ground.

Terminals			Voltage (V) (Approx.)
(+)		(–)	
Key switch and ignition knob switch connector	Terminal		
M73	4	Ground	Battery voltage



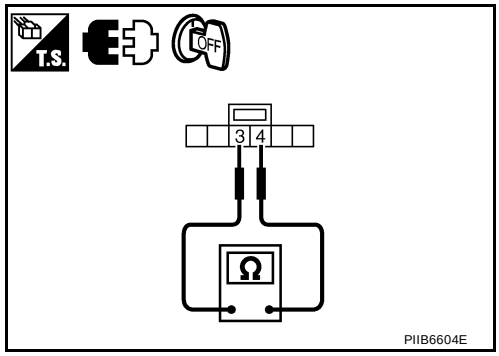
OK or NG

OK >> GO TO 3.
NG >> Repair or replace key switch and ignition knob switch power supply circuit.

3. CHECK IGNITION KNOB SWITCH

Check continuity of ignition knob switch.

Terminal		Condition of key switch	Continuity
Key switch and ignition knob switch			
3	4	Ignition switch is pressed	Yes
		Ignition switch is released	No



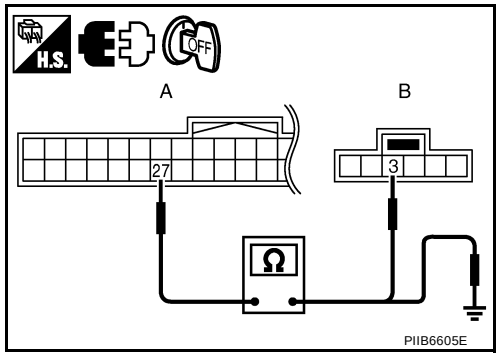
OK or NG

OK >> GO TO 4.
NG >> Replace key switch and ignition knob switch.

4. CHECK IGNITION KNOB SWITCH CIRCUIT

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit connector (A) terminal 27 and key switch and ignition knob switch connector (B) terminal 3.

A		B		Continuity
Intelligent Key unit connector	Terminal	Key switch and ignition knob switch connector	Terminal	
M52	27	M73	3	Yes



3. Check continuity between Intelligent Key unit connector (A) terminal 27 and ground.

A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	27		No

OK or NG

OK >> Check the condition of harness and harness connector.
NG >> Repair or replace harness between Intelligent Key unit and key switch and ignition knob switch.

Door Switch Check

EIS0092E

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

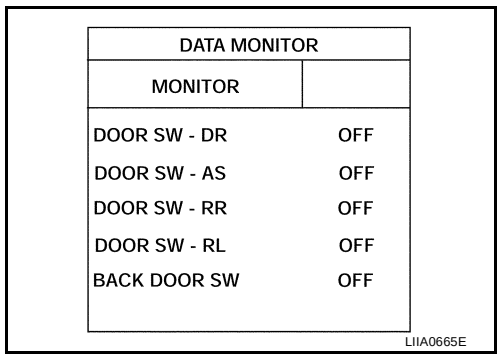
Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in DATA MONITOR mode with CONSULT–II. Refer to BL-37, "DATA MONITOR" .

- When doors are open:

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

- When doors are closed:

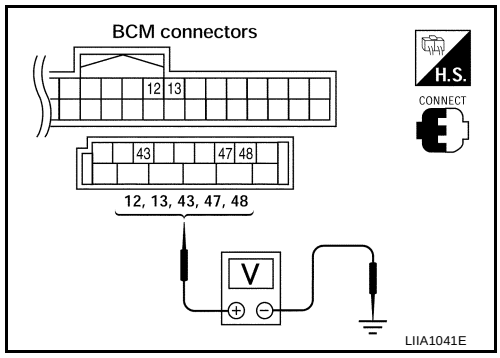
DOOR SW-DR : OFF
DOOR SW-AS : OFF
DOOR SW-RL : OFF
DOOR SW-RR : OFF
BACK DOOR SW : OFF



Without CONSULT-II

Check voltage between BCM connector M18 or M19 terminals 12, 13, 43, 47, 48 and ground.

Connector	Item	Terminals		Condition	Voltage (V) (Approx.)
		(+)	(–)		
M18	Front door switch RH	12	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Rear door switch RH	13			
M19	Back door switch	43			
	Front door switch LH	47			
	Rear door switch LH	48			



OK or NG

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

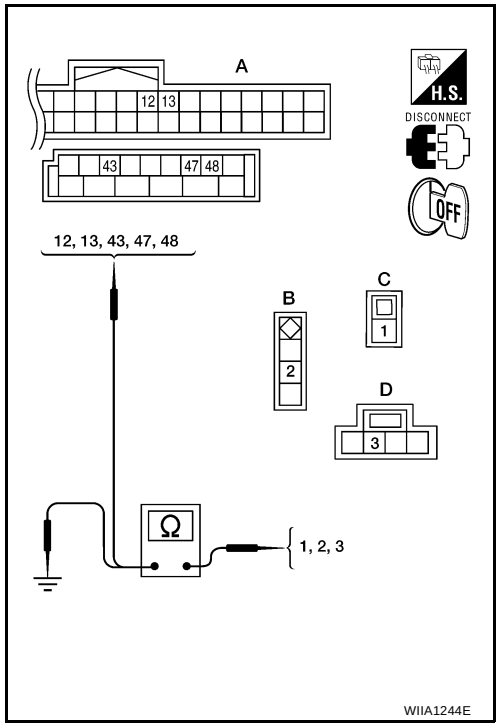
2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector (B) B8 (front LH), B108 (front RH) terminal 2 or (C) B6 (rear LH), B116 (rear RH) terminal 1 or back door lock assembly connector (D) D405 terminal 3 and BCM connectors (A) M18, M19 terminals 12, 13, 43, 47 and 48.

1 - 13 : Continuity should exist.
1 - 48 : Continuity should exist.
2 - 12 : Continuity should exist.
2 - 47 : Continuity should exist.
3 - 43 : Continuity should exist.

4. Check continuity between door switch connector (B) B8 (front LH), B108 (front RH) terminal 2 or (C) B6 (rear LH), B116 (rear RH) terminal 1 or back door lock assembly connector (D) D405 terminal 3 and ground.

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



OK or NG

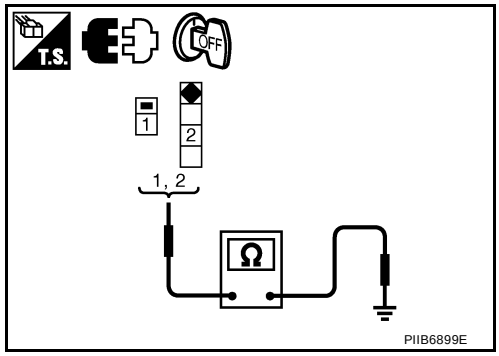
OK >> GO TO 3.
NG >> Repair or replace harness.

3. CHECK DOOR SWITCHES

FRONT AND REAR DOORS

Check continuity between front door switch terminal 2 or rear door switch terminal 1 and exposed metal of switch while pressing and releasing switch.

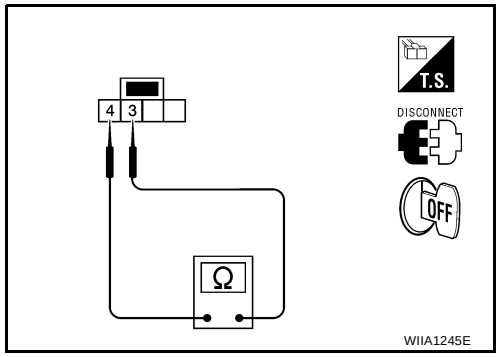
Door switch is released : Continuity should exist.
Door switch is pushed : Continuity should not exist.



BACK DOOR

Check continuity between back door lock assembly connector (back door switch) terminals 3 and 4 while pressing (closing back door) and releasing (opening back door) switch.

When back door is open : Continuity should exist.
When back door is closed : Continuity should not exist.



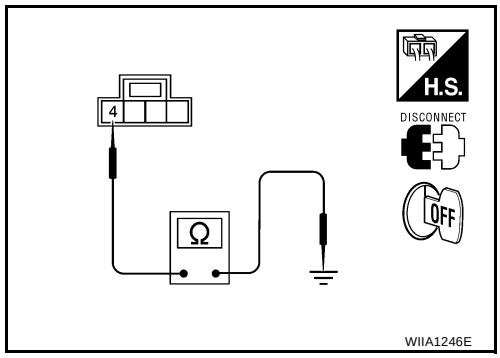
OK or NG

OK1 >> (Front and rear doors) Switch circuit is OK.
OK2 >> (Back door) GO TO 4.
NG >> Replace door switch.

4. CHECK BACK DOOR SWITCH GROUND

Check continuity between back door lock assembly connector D405 terminal 4 and ground.

4 - Ground : Continuity should exist.



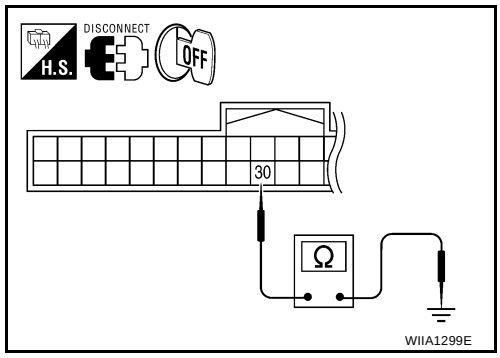
OK or NG

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

5. CHECK BACK DOOR SWITCH SIGNAL FOR SHORT

1. Disconnect Intelligent Key unit.
2. Check continuity between BCM connector M18 terminal 30 and ground.

30 - Ground : Continuity should not exist.



OK or NG

OK >> Back door switch circuit is OK.
NG >> Repair or replace harness.

Door Request Switch Check

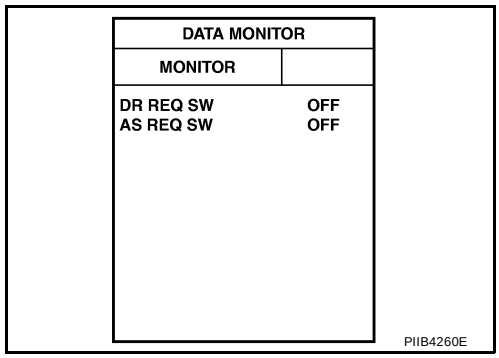
EIS0092G

1. CHECK DOOR REQUEST SWITCH

With CONSULT-II

Check door request switch (“DR REQ SW” or “AS REQ SW”) in “DATA MONITOR” mode.

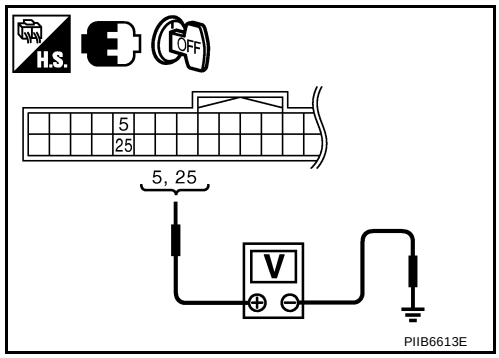
Monitor item	Condition
DR REQ SW AS REQ SW	Door request switch is pressed: ON
	Door request switch is released: OFF



Without CONSULT-II

1. Turn ignition switch OFF.
2. Check voltage between Intelligent Key unit harness connector and ground.

Terminals				Door request switch Condition	Voltage (V) (Approx.)
(+)			(–)		
Intelligent Key unit connector		Terminal			
M52	Front door request switch LH	5	Ground	Pressed	0
				Released	5
	Front door request switch RH	25		Pressed	0
				Released	5



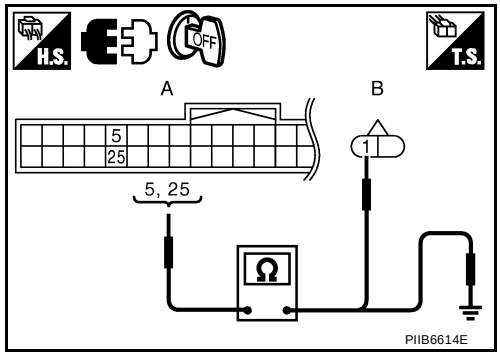
OK or NG

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

2. CHECK DOOR REQUEST SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Intelligent Key unit and front door request switch connector.
3. Check continuity between Intelligent Key unit connector and front door request switch connector.

A		B		Continuity
Intelligent Key unit connector	Terminal	Front door request switch connector	Terminal	
M52	5	LH D5	1	Yes
	25	RH D103		



4. Check continuity between Intelligent Key unit connector and ground.

A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	5		No
	25		

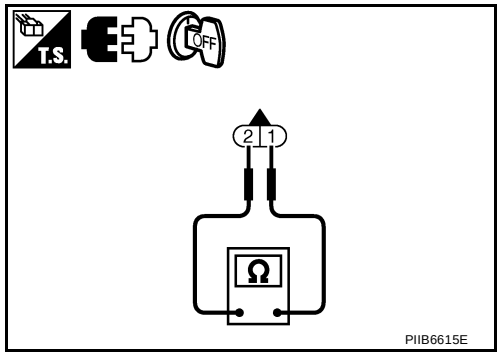
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness between Intelligent Key unit and front door request switch.

3. CHECK DOOR REQUEST SWITCH OPERATION

Check front door request switch.

Terminal		Door request switch condition	Continuity
Front outside handle			
1	2	Pressed	Yes
		Released	No



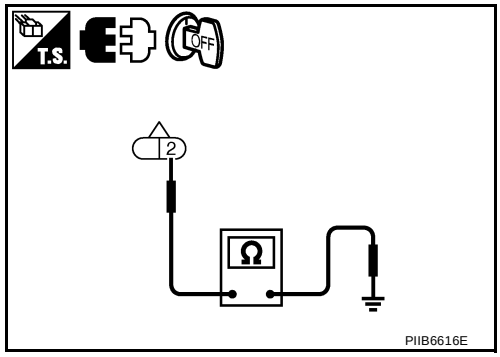
OK or NG

OK >> GO TO 4.
NG >> Replace front door request switch.

4. CHECK DOOR REQUEST SWITCH GROUND CIRCUIT

Check continuity between front door request switch connector and ground.

Front outside handle connector		Terminal	Ground	Continuity
Driver side	D5	2		Yes
Passenger side	D103			



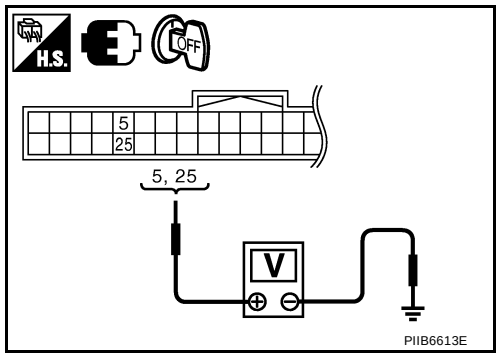
OK or NG

OK >> GO TO 5.
NG >> Repair or replace front door request switch ground circuit.

5. CHECK INTELLIGENT KEY UNIT OUTPUT SIGNAL

1. Connect Intelligent Key unit connector.
2. Check voltage between Intelligent Key unit connector and ground.

Terminals			Voltage (V) (Approx.)
(+)		(–)	
Intelligent Key unit connector	Terminal		
M52	5	Ground	5
	25		



OK or NG

OK >> Check the condition of harness and connector.
NG >> Replace Intelligent Key unit. Refer to BL-160, "Removal and Installation of Intelligent Key Unit" .

Back Door Request Switch Check

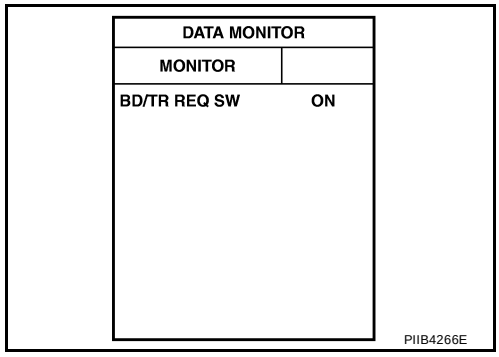
EIS0092H

1. CHECK BACK DOOR REQUEST SWITCH

With CONSULT-II

Check back door request switch (“BD/TR REQ SW”) in “DATA MONITOR” mode.

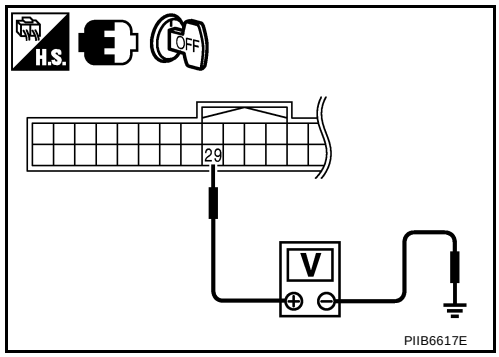
Monitor item	Condition
BD/TR REQ SW	Back door request switch is pressed: ON
	Back door request switch is released: OFF



Without CONSULT-II

1. Turn ignition switch OFF.
2. Check voltage between Intelligent Key unit connector and ground.

Terminals			Back door request switch condition	Voltage (V) (Approx.)
(+)		(–)		
Intelligent Key unit connector	Terminal			
M52	29	Ground	Pressed	0
			Released	5



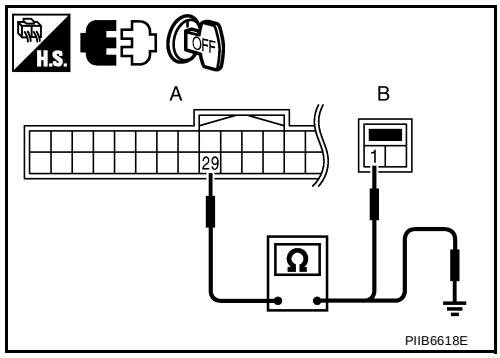
OK or NG

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

2. CHECK BACK DOOR REQUEST SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Intelligent Key unit and back door request switch connector.
3. Check continuity between Intelligent Key unit connector (A) M52 terminal 29 and back door request switch connector (B) D406 terminal 1.

A		B		Continuity
Intelligent Key unit connector	Terminal	back door request switch connector	Terminal	
M52	29	D406	1	Yes



4. Check continuity between Intelligent Key unit connector (A) M52 terminal 29 and ground.

A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	29		No

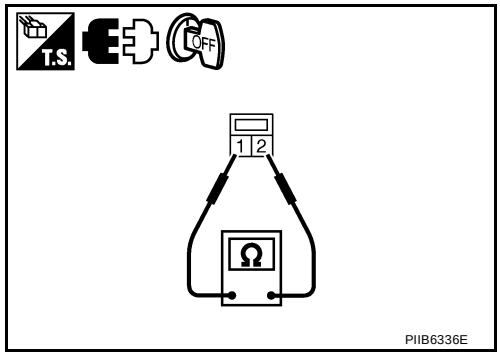
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness between Intelligent Key unit and back door request switch.

3. CHECK BACK DOOR REQUEST SWITCH OPERATION

Check continuity of back door request switch.

Terminal		Back door request switch condition	Continuity
Back door request switch			
1	2	Pressed	Yes
		Released	No



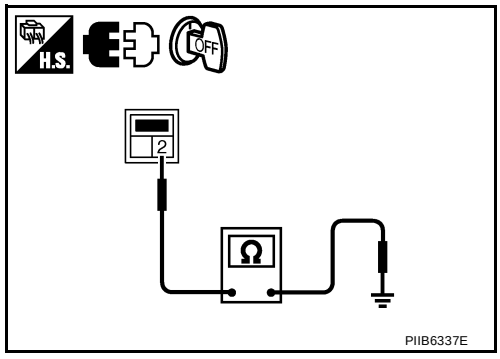
OK or NG

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

4. CHECK BACK DOOR REQUEST SWITCH GROUND CIRCUIT

Check continuity between back door request switch connector D406 terminal 2 and ground.

Back door request switch connector	Terminal	Ground	Continuity
D406	2		Yes



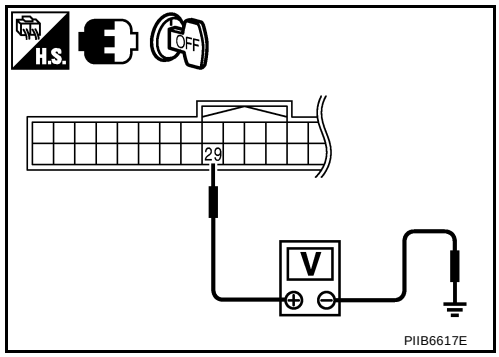
OK or NG

OK >> GO TO 5.
NG >> Repair or replace back door request switch ground circuit.

5. CHECK INTELLIGENT KEY UNIT OUTPUT SIGNAL

1. Connect Intelligent Key unit connector.
2. Check voltage between Intelligent Key unit connector M52 terminal 29 and ground.

Terminals			Voltage (V) (Approx.)
(+)		(–)	
Intelligent Key unit connector	Terminal		
M52	29	Ground	5



OK or NG

OK >> Check the condition of harness and connector.
NG >> Replace Intelligent Key unit. Refer to BL-160, "Removal and Installation of Intelligent Key Unit" .

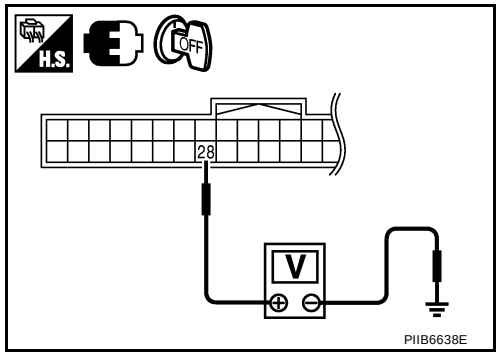
EIS0092I

Unlock Sensor Check

1. CHECK UNLOCK SENSOR INPUT SIGNAL

Check voltage between Intelligent Key unit connector and ground.

Terminals			Front door lock (driver side) condition	Voltage (V) (Approx.)
(+)		(–)		
Intelligent Key unit connector	Terminal			
M52	28	Ground	Locked	5
			Unlocked	0



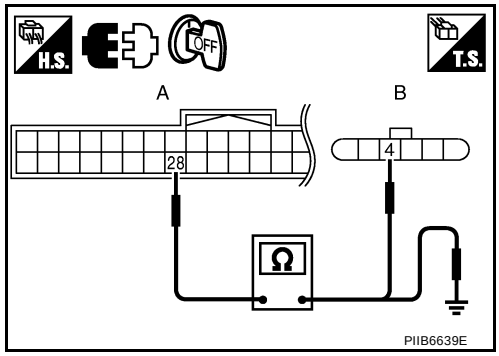
OK or NG

OK >> Unlock sensor circuit is OK.
NG >> GO TO 2.

2. CHECK UNLOCK SENSOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Intelligent Key unit and front door lock actuator LH (door unlock sensor) connector.
3. Check continuity between Intelligent Key unit connector (A) terminal 28 and front door lock actuator LH (door unlock sensor) connector (B) terminal 4.

A		B		Continuity
Intelligent Key unit connector	Terminal	Front door lock actuator LH (door unlock sensor) connector	Terminal	
M52	28	D3	4	Yes



4. Check continuity between Intelligent Key unit connector and ground.

A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	28		No

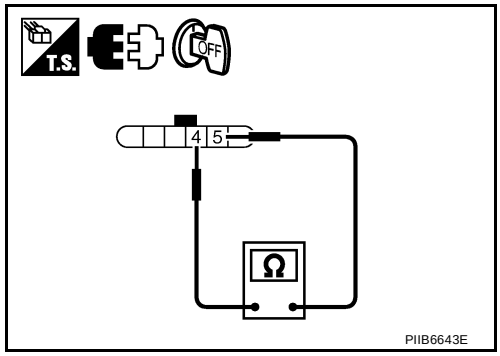
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness between Intelligent Key unit and front door lock actuator LH (door unlock sensor).

3. CHECK UNLOCK SENSOR OPERATION

Check unlock sensor.

Terminal		Driver side door condition	Continuity
Unlock sensor			
4	5	Lock	No
		Unlock	Yes



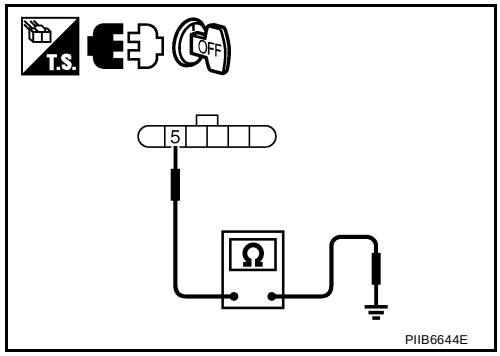
OK or NG

OK >> GO TO 4.
NG >> Replace unlock sensor.

4. CHECK UNLOCK SENSOR GROUND CIRCUIT

Check continuity between front door lock actuator LH (door unlock sensor) connector and ground.

Front door lock actuator LH (door unlock sensor) connector	Terminal	Ground	Continuity
D3	5		Yes



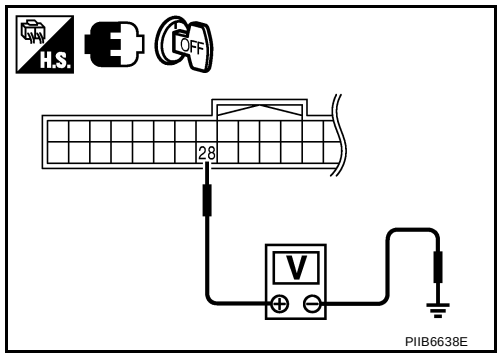
OK or NG

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

5. CHECK INTELLIGENT KEY UNIT OUTPUT SIGNAL

1. Connect Intelligent Key unit harness connector.
2. Check voltage between Intelligent Key unit connector and ground.

Terminals			Voltage (V) (Approx.)
(+)		(–)	
Intelligent Key unit connector	Terminal		
M52	28	Ground	5



OK or NG

OK >> Replace front door lock actuator LH (door unlock sensor). Refer to BL-169, "Removal and Installation" .
NG >> Replace Intelligent Key unit. Refer to BL-160, "Removal and Installation of Intelligent Key Unit" .

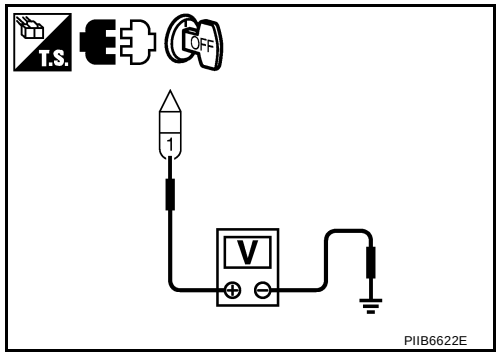
Intelligent Key Warning Buzzer (Driver Door) Check

EIS0092K

1. CHECK INTELLIGENT KEY WARNING BUZZER POWER SUPPLY CIRCUIT

1. Disconnect Intelligent Key warning buzzer connector.
2. Check voltage between Intelligent Key warning buzzer connector and ground.

Terminals				Voltage (V) (Approx.)
(+)			(–)	
Intelligent Key warning buzzer connector		Terminal		
LH	D6	1	Ground	Battery voltage



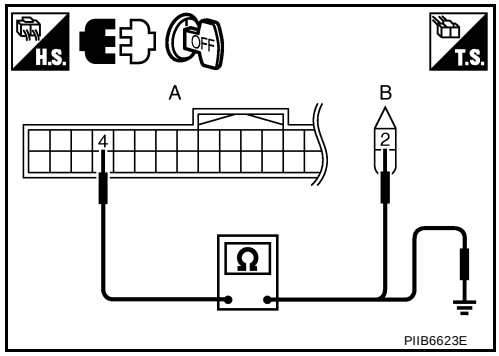
OK or NG

OK >> GO TO 2.
NG >> Repair or replace Intelligent Key warning buzzer power supply circuit.

2. CHECK INTELLIGENT KEY WARNING BUZZER CIRCUIT

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit connector and Intelligent Key warning buzzer connector.

A		B			Continuity
Intelligent Key unit connector	Terminal	Intelligent Key warning buzzer connector		Terminal	
M52	4	Driver side	D6	2	Yes



3. Check continuity between Intelligent Key unit connector and ground.

A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	4		No

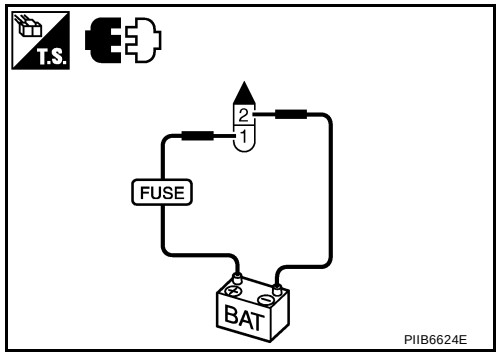
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness between Intelligent Key unit and Intelligent Key warning buzzer.

3. CHECK INTELLIGENT KEY WARNING BUZZER OPERATION

Connect battery power supply to Intelligent Key warning buzzer terminals 1 and 2, and check the operation.

1 (BAT+) - 2 (BAT-) : the buzzer sounds



OK or NG

OK >> Intelligent Key warning buzzer is OK.
NG >> Replace Intelligent Key warning buzzer.

Outside Key Antenna (Driver Side and Passenger Side) Check

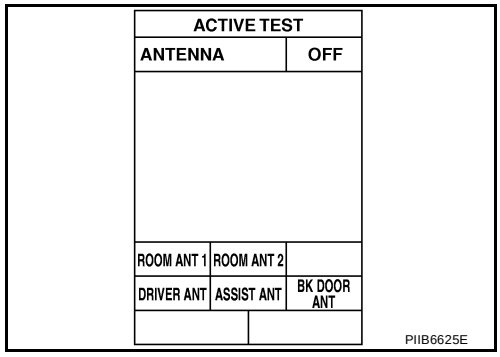
EIS0092L

1. CHECK OUTSIDE KEY ANTENNA FUNCTION

With CONSULT-II

1. Check the operation with (“ANTENNA”) in the ACTIVE TEST.
2. Touch “DRIVER ANT” and “ASSIST ANT” on screen.
3. Carry the Intelligent Key into the antenna detection area.

Test item	Corresponding antenna
DRIVER ANT	Outside key antenna driver side
ASSIST ANT	Outside key antenna passenger side

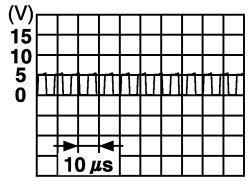


Do the hazard lamps flash?

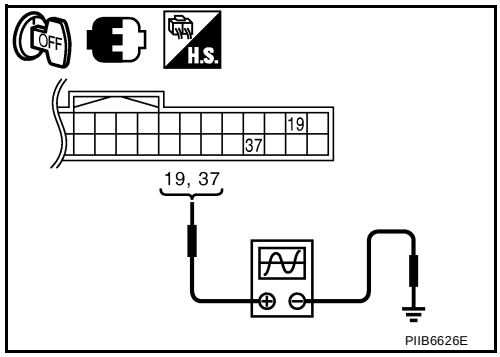
Yes >> Outside key antenna (driver side or passenger side) is OK.
No >> GO TO 2.

2. CHECK OUTSIDE KEY ANTENNA INPUT SIGNAL 1

1. Turn ignition switch OFF.
2. Check signal between Intelligent Key unit connector and ground with oscilloscope.

Terminals (+) Intelligent Key unit connector		Terminals (+) Terminal	Terminals (–)	Condition	Signal (Reference value.)
M52	Driver side	19	Ground	Door request switch is pushed	
	Passenger side	37			

SIIA1910J



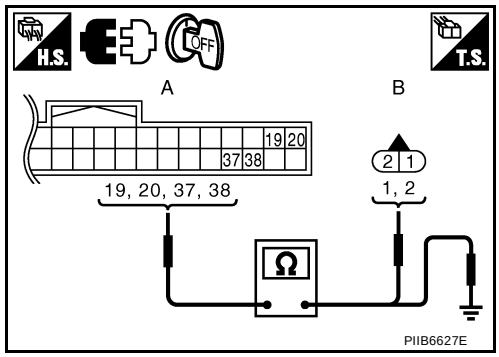
OK or NG

OK >> Outside key antenna is OK.
NG >> GO TO 3.

3. CHECK OUTSIDE KEY ANTENNA CIRCUIT

1. Disconnect Intelligent Key unit and outside key antenna connector.
2. Check continuity between Intelligent Key unit connector and outside key antenna connector.

A		B		Continuity
Intelligent Key unit connector	Terminal	Outside key antenna connector	Terminal	
M52	19	D10	1	Yes
	20		2	
	37	D106	1	
	38		2	



3. Check continuity between Intelligent Key unit connector and ground.

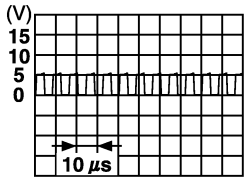
A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	19		No
	20		
	37		
	38		

OK or NG

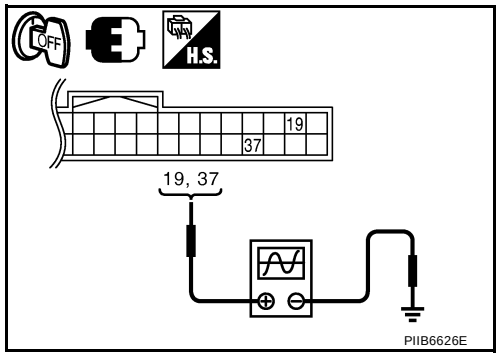
OK >> GO TO 4.
NG >> Repair or replace harness between Intelligent Key unit and outside key antenna.

4. CHECK OUTSIDE KEY ANTENNA INPUT SIGNAL 2

1. Replace outside key antenna (New antenna or other antenna).
2. Connect Intelligent Key unit and outside key antenna connector.
3. Check signal between Intelligent Key unit connector and ground with oscilloscope.

Terminals				Condition	Signal (Reference value.)
(+)			(–)		
Intelligent Key unit connector		Terminal			
M52	Driver side	19	Ground	Door request switch is pushed	
	Passenger side	37			

SIIA1910J



OK or NG

OK >> Replace malfunctioning outside key antenna.
NG >> Replace Intelligent Key unit. Refer to BL-160, "Removal and Installation of Intelligent Key Unit" .

Outside Key Antenna (Rear Bumper) Check

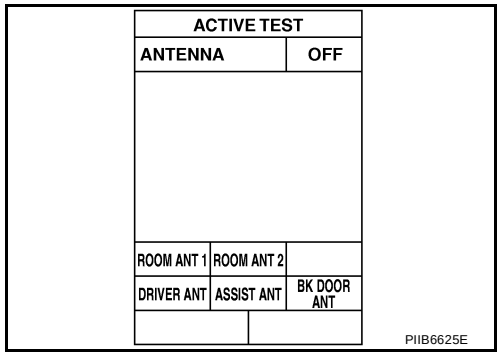
EIS0092M

1. CHECK REAR BUMPER ANTENNA FUNCTION

With CONSULT-II

1. Check the operation with (“ANTENNA”) in the ACTIVE TEST.
2. Touch “BD/TR ANT” on screen.
3. Carry the Intelligent Key into the antenna detection area.

Test item	Corresponding antenna
BK DOOR ANT	Rear bumper antenna

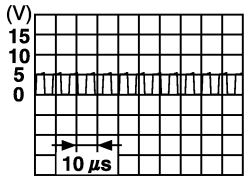


Do the hazard lamps flash?

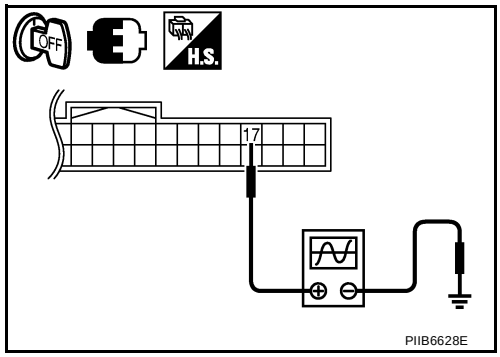
Yes >> Rear bumper antenna is OK.
No >> GO TO 2.

2. CHECK REAR BUMPER ANTENNA INPUT SIGNAL 1

1. Turn ignition switch OFF.
2. Check signal between Intelligent Key unit connector and ground with oscilloscope.

Terminals (+) Intelligent Key unit connector	Terminals (+) Terminal	Terminals (–)	Condition	Signal (Reference value.)
M52	17	Ground	Back door request switch is pushed	

SIIA1910J



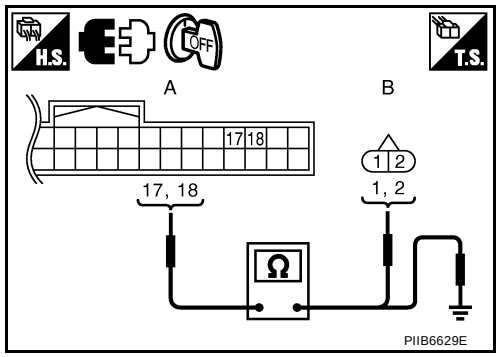
OK or NG

OK >> Rear bumper antenna is OK.
NG >> GO TO 3.

3. CHECK REAR BUMPER ANTENNA CIRCUIT

1. Disconnect Intelligent Key unit and rear bumper antenna connector.
2. Check continuity between Intelligent Key unit connector and rear bumper antenna connector.

A		B		Continuity
Intelligent Key unit connector	Terminal	Rear bumper antenna connector	Terminal	
M52	17	B2	1	Yes
	18		2	



3. Check continuity between Intelligent Key unit connector and ground.

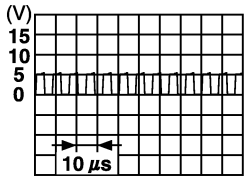
A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	17		No
	18		

OK or NG

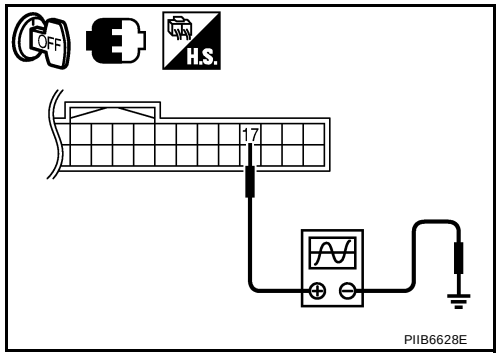
OK >> GO TO 4.
NG >> Repair or replace harness between Intelligent Key unit and rear bumper antenna.

4. CHECK REAR BUMPER ANTENNA INPUT SIGNAL 2

1. Replace rear bumper antenna (new antenna or other antenna).
2. Connect Intelligent Key unit and rear bumper antenna connector.
3. Check signal between Intelligent Key unit connector and ground with oscilloscope.

Terminals			Condition	Signal (Reference value.)
(+)		(–)		
Intelligent Key unit connector	Terminal			
M52	17	Ground	Back door request switch is pushed	

SIIA1910J



OK or NG

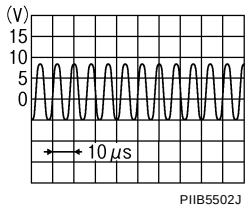
OK >> Replace rear bumper antenna.
NG >> Replace Intelligent Key unit. Refer to BL-160, "Removal and Installation of Intelligent Key Unit" .

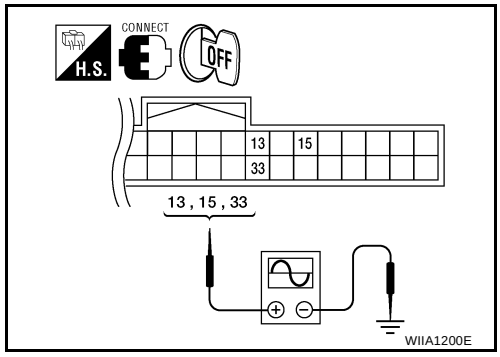
Inside Key Antenna Check

EIS0092N

1. CHECK INSIDE KEY ANTENNA INPUT SIGNAL 1

1. Turn ignition switch OFF.
2. Check signal between Intelligent Key unit connector and ground with oscilloscope.

Terminals (+)			(–)	Condition	Signal (Reference value.)
Intelligent Key unit connector		Terminal			
M52	Instrument panel area	13	Ground	Any door is open → close	 PIIB5502J
	Front console area	15			
	Rear floor area	33			



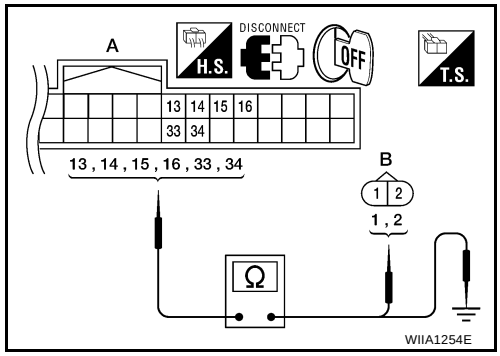
OK or NG

OK >> Check the condition of harness and connector.
NG >> GO TO 2.

2. CHECK INSIDE KEY ANTENNA CIRCUIT

1. Disconnect Intelligent Key unit and inside key antenna connector.
2. Check continuity between Intelligent Key unit connector and inside key antenna connector.

A		B			Continuity
Intelligent Key unit connector	Terminal	Inside key antenna connector		Terminal	
M52	13	M10	Instrument panel	2	Yes
	14			1	
	15	B3	Front console	1	
	16			2	
	33	B12	Rear floor	1	
	34			2	



3. Check continuity between Intelligent Key unit connector and ground.

A				Continuity
Intelligent Key unit connector		Terminal		
M52	Instrument panel	13	Ground	No
		14		
	Front console	15		
		16		
	Rear floor	33		
		34		

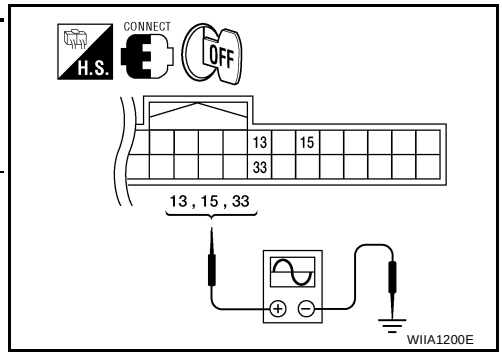
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness between Intelligent Key unit and inside key antenna.

3. CHECK INSIDE KEY ANTENNA INPUT SIGNAL 2

1. Replace inside key antenna. (New antenna or other antenna)
2. Connect Intelligent Key unit and inside key antenna connector.
3. Check signal between Intelligent Key unit connector and ground with oscilloscope.

Terminals (+) Intelligent Key unit connector		Terminals (+) Terminal	Terminals (–)	Condition	Signal (Reference value.)
M52	Instrument panel area	13	Ground	Any door is open → close	PIIB5502J
	Front console area	15			
	Rear floor area	33			



OK or NG

OK >> Replace malfunction inside key antenna.
NG >> Replace Intelligent Key unit.

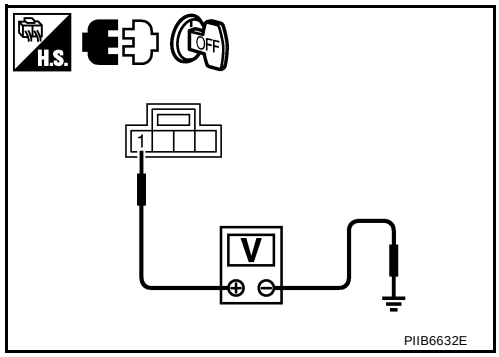
Steering Lock Solenoid Check

EIS0092O

1. CHECK STEERING LOCK SOLENOID POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect steering lock solenoid connector.
3. Check voltage between steering lock solenoid and ground.

Terminals (+) Steering lock solenoid	Terminals (+) Terminal	Terminals (–)	Voltage (V) (Approx.)
M6	1	Ground	Battery voltage



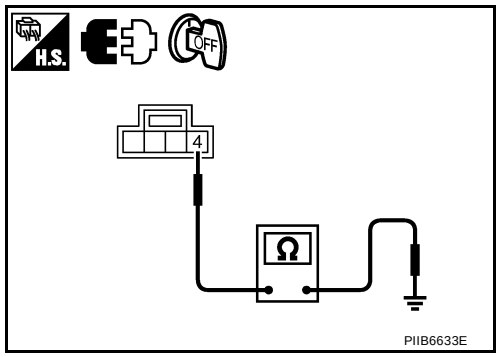
OK or NG

OK >> GO TO 2.
NG >> Repair or replace steering lock solenoid power supply circuit.

2. CHECK STEERING LOCK SOLENOID GROUND CIRCUIT

Check continuity between steering lock solenoid and ground.

Steering lock solenoid connector	Terminal	Ground	Continuity
M6	4		Yes



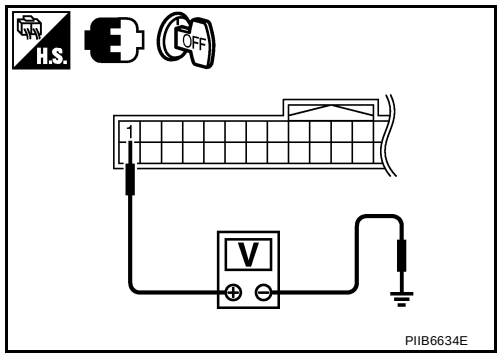
OK or NG

OK >> GO TO 3.
NG >> GO TO 6.

3. CHECK INTELLIGENT KEY UNIT OUTPUT SIGNAL

1. Connect steering lock solenoid connector.
2. Check voltage between Intelligent Key unit and ground.

Terminals			Voltage (V) (Approx.)
(+)		(–)	
Intelligent Key unit connector	Terminal		
M52	1	Ground	5



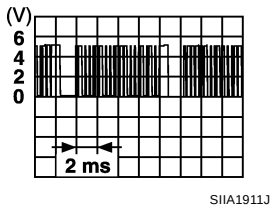
OK or NG

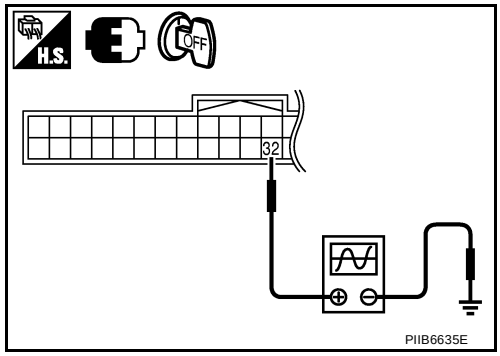
OK >> GO TO 4.

NG >> Replace Intelligent Key unit. Refer to BL-160, "Removal and Installation of Intelligent Key Unit" .

4. CHECK STEERING LOCK COMMUNICATION SIGNAL

Check signal between Intelligent Key unit and ground with oscilloscope.

Terminals			Condition of key switch	Voltage (V) (Approx.)
(+)		(–)		
Intelligent Key unit connector	Terminal			
M52	32	Ground	Ignition switch is pressed, when Intelligent Key is into the vehicle.	
			Other than above	5



OK or NG

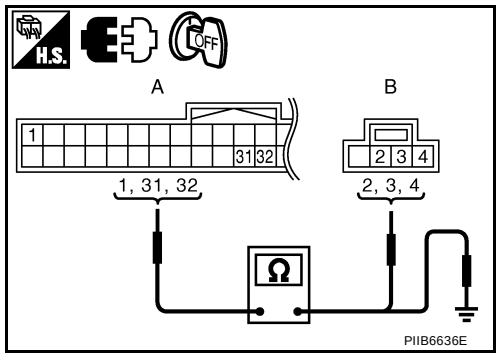
OK >> GO TO 5.

NG >> Replace Intelligent Key unit. Refer to BL-160, "Removal and Installation of Intelligent Key Unit" .

5. CHECK STEERING LOCK SOLENOID COMMUNICATION CIRCUIT

1. Disconnect Intelligent Key unit and steering lock solenoid connectors.
2. Check continuity between Intelligent Key unit and steering lock solenoid.

A		B		Continuity
Intelligent Key unit connector	Terminal	Steering lock solenoid connector	Terminal	
M52	1	M6	2	Yes
	31		4	
	32		3	



3. Check continuity between steering lock solenoid and ground.

A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	1		No
	31		
	32		

OK or NG

OK >> Replace steering lock solenoid.
NG >> Repair or replace harness between steering lock solenoid and Intelligent Key unit.

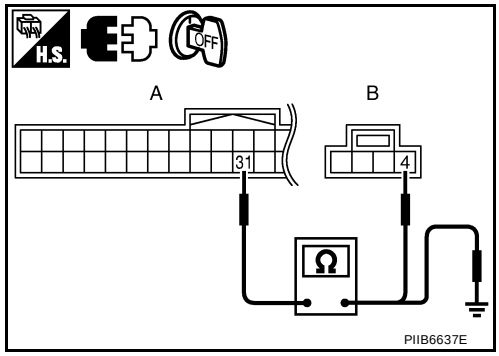
6. CHECK STEERING LOCK SOLENOID GROUND CIRCUIT

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit and steering lock solenoid.

A		B		Continuity
Intelligent Key unit connector	Terminal	Steering lock solenoid connector	Terminal	
M52	31	M6	4	Yes

3. Check continuity between steering lock solenoid and ground.

A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	31		No



OK or NG

OK >> Check the following.
- Intelligent Key unit ground circuit.
- Intelligent Key unit.

NG >> Repair or replace harness between steering lock solenoid and Intelligent Key unit.

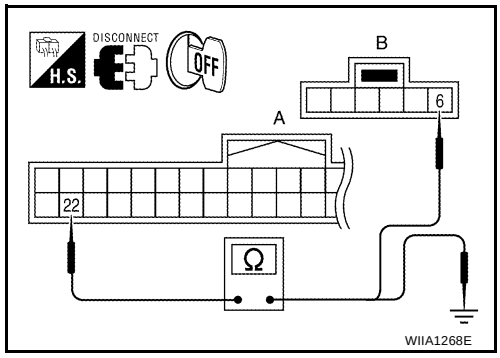
Key Interlock Solenoid (With M/T) Check

EIS009D7

1. CHECK INTERLOCK SOLENOID POWER CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Intelligent Key unit and key switch and ignition knob switch connector.
3. Check continuity between Intelligent Key unit connector M52 (A) terminal 22 and key switch and ignition knob switch connector M73 (B) terminal 6.

A		B		Continuity
Intelligent Key unit connector	Terminal	Key switch and ignition knob switch connector	Terminal	
M52	22	M73	6	Yes



4. Check continuity between Intelligent Key unit connector (A) terminal 22 and ground.

A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	22		No

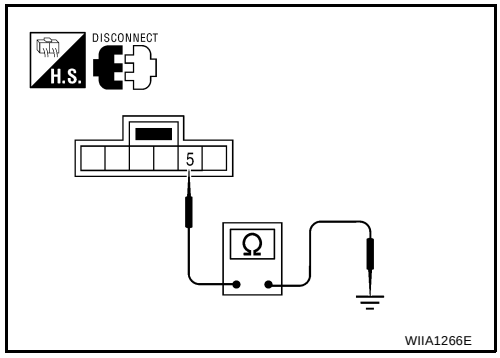
OK or NG

OK >> GO TO 2.
NG >> Repair or replace harness between Intelligent Key unit and key switch and ignition knob switch.

2. CHECK INTERLOCK SOLENOID GROUND CIRCUIT

Check continuity between key switch and ignition knob switch connector M73 terminal 5 and ground.

Key switch and ignition knob switch connector	Terminal	Ground	Continuity
M73	5		Yes



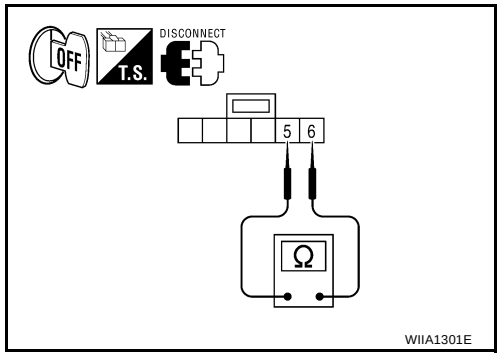
OK or NG

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

3. CHECK INTELLIGENT KEY SOLENOID RESISTANCE

Check resistance between key switch and ignition knob switch terminals 5 and 6.

Key switch and ignition knob switch	Terminal	Terminal	Resistance
	5	6	1-10 Ω



OK or NG

OK >> Key switch and ignition knob switch is OK.
NG >> Replace key switch and ignition knob switch.

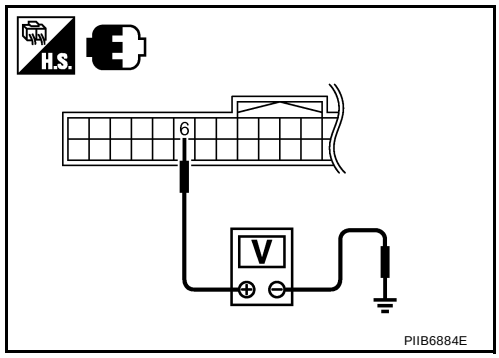
Ignition Switch Position Check

EIS0092P

1. CHECK IGNITION POWER SUPPLY

Check voltage between Intelligent Key unit connector and ground.

Terminals			Ignition switch position		
(+)		(–)			
Intelligent Key unit connector	Terminal		OFF	ACC	ON
M52	6	Ground	0	0	Battery voltage



OK or NG

OK >> Ignition power supply is OK.
NG >> Check the following.

- Intelligent Key unit power supply circuit.
- 10A fuse [No. 2, located in the fuse block (J/B)]

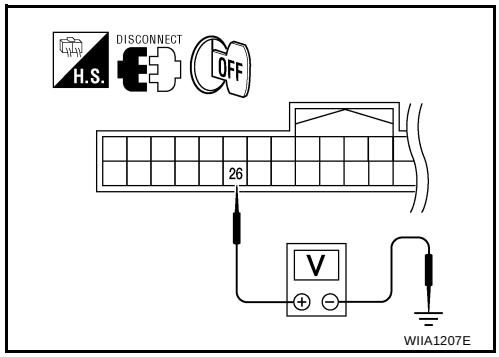
Stop Lamp Switch Check (With CVT)

EIS009D8

1. CHECK STOP LAMP SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect Intelligent Key unit connector.
3. Check voltage between Intelligent Key unit harness connector M52 terminal 26 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M52	26	Ground	Brake pedal depressed	Battery voltage
			Brake pedal released	0



OK or NG

OK >> Stop lamp switch is OK.
NG >> GO TO 2.

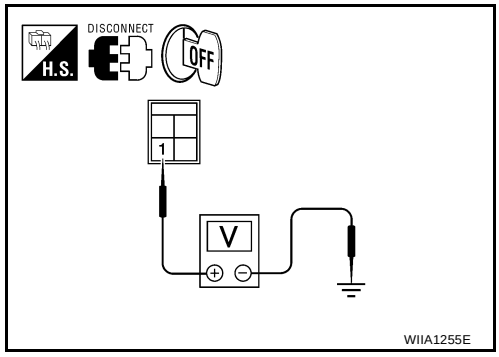
2. CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

1. Disconnect stop lamp switch connector.
2. Check voltage between stop lamp switch harness connector E13 terminal 1 and ground.

1 - Ground : Battery voltage

OK or NG

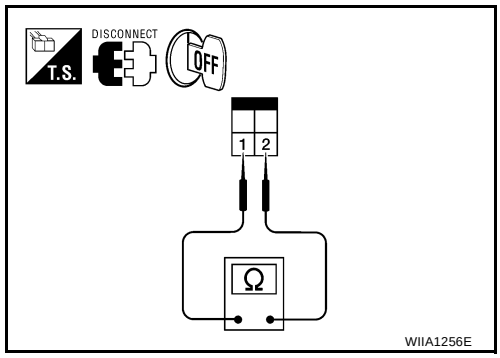
OK >> GO TO 3.
NG >> Repair or replace harness between stop lamp switch power supply circuit and fuse.



3. CHECK STOP LAMP SWITCH OPERATION

Check continuity between stop lamp switch terminals 1 and 2.

Component	Terminals		Condition	Continuity
Stop lamp switch	1	2	Brake pedal depressed	Yes
			Brake pedal not depressed	No



OK or NG

OK >> GO TO 4.
NG >> Replace stop lamp switch.

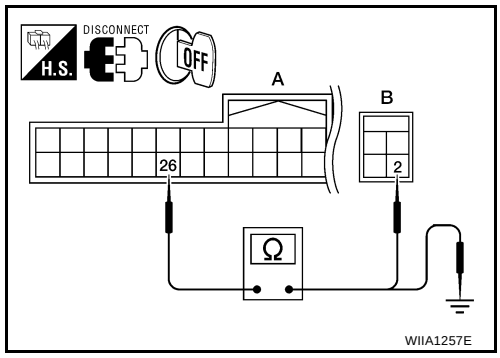
4. CHECK STOP LAMP SWITCH CIRCUIT

1. Check continuity between Intelligent Key unit harness connector (A) M52 terminal 26 and stop lamp switch harness connector (B) E13 terminal 2.

26 - 2 : Continuity should exist.

2. Check continuity between Intelligent Key unit harness connector M52 terminal 26 and ground.

26 - Ground : Continuity should not exist.



OK or NG

OK >> Check condition of harness and connector.
NG >> Repair or replace harness.

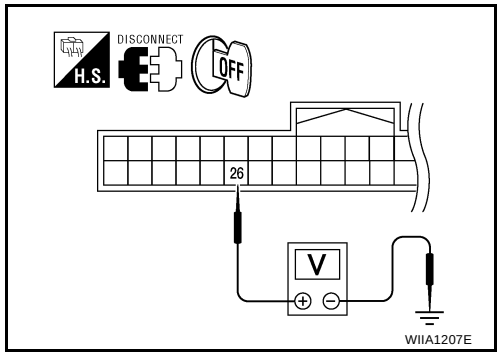
Stop Lamp Switch Check (With M/T)

EIS009D9

1. CHECK STOP LAMP SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect Intelligent Key unit connector.
3. Check voltage between Intelligent Key unit harness connector M52 terminal 26 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M52	26	Ground	Brake pedal depressed	Battery voltage
			Brake pedal released	0



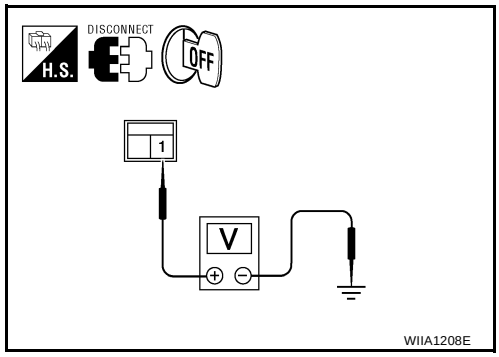
OK or NG

OK >> Stop lamp switch is OK.
NG >> GO TO 2.

2. CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

1. Disconnect stop lamp switch connector.
2. Check voltage between stop lamp switch harness connector E13 terminal 1 and ground.

1 - Ground : Battery voltage



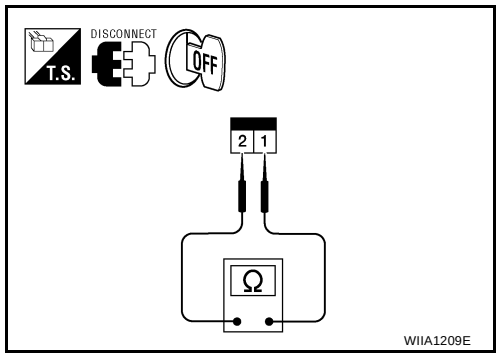
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness between stop lamp switch power supply circuit and fuse.

3. CHECK STOP LAMP SWITCH OPERATION

Check continuity between stop lamp switch terminals 1 and 2.

Component	Terminals		Condition	Continuity
Stop lamp switch	1	2	Brake pedal depressed	Yes
			Brake pedal not depressed	No



OK or NG

OK >> GO TO 4.
NG >> Replace stop lamp switch.

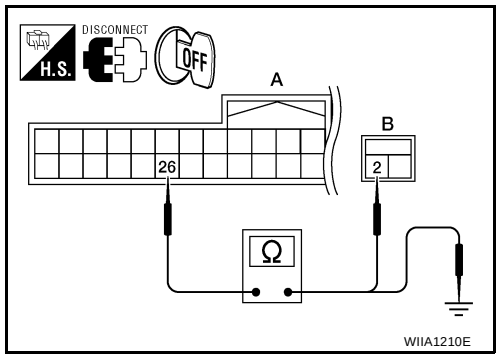
4. CHECK STOP LAMP SWITCH CIRCUIT

1. Check continuity between Intelligent Key unit harness connector (A) M52 terminal 26 and stop lamp switch harness connector (B) E13 terminal 2.

26 - 2 : Continuity should exist.

2. Check continuity between Intelligent Key unit harness connector M52 terminal 26 and ground.

26 - Ground : Continuity should not exist.



OK or NG

OK >> Check condition of harness and connector.
NG >> Repair or replace harness.

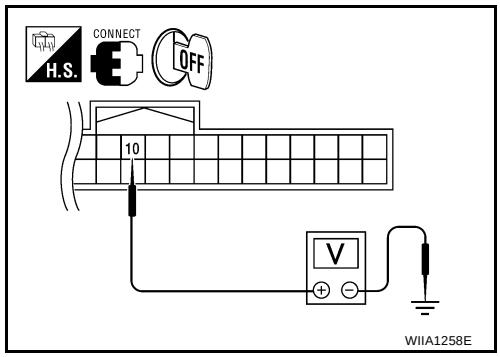
Check CVT Device (Park Position Switch) Check

EIS009DA

1. CHECK CVT DEVICE (PARK POSITION SWITCH) INPUT SIGNAL

1. Turn ignition switch OFF.
2. While pressing the ignition knob switch, check voltage between Intelligent Key unit harness connector M52 terminal 10 and ground.

Connector	Terminals (+)	Terminals (-)	Condition	Voltage (V) (Approx.)
M52	10	Ground	Selector lever is in "P" position	0
			Other than above	Battery voltage



WIIA1258E

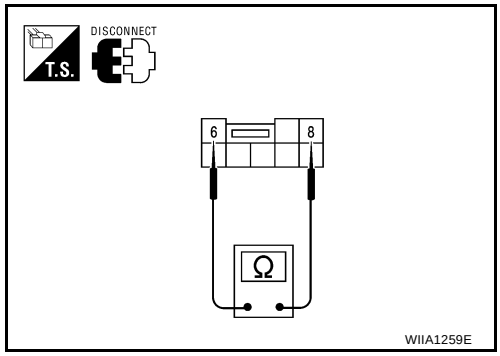
OK or NG

OK >> Replace Intelligent Key unit. Refer to BL-160, "Removal and Installation of Intelligent Key Unit" .
NG >> GO TO 2.

2. CHECK CVT DEVICE (PARK POSITION SWITCH)

1. Disconnect CVT device (park position switch) connector.
2. Check continuity between CVT device (park position switch) terminals 6 and 8.

Component	Terminals		Condition	Continuity
CVT device (park position switch)	6	8	Selector lever is in "P" position	Yes
			Other than above	No



WIIA1259E

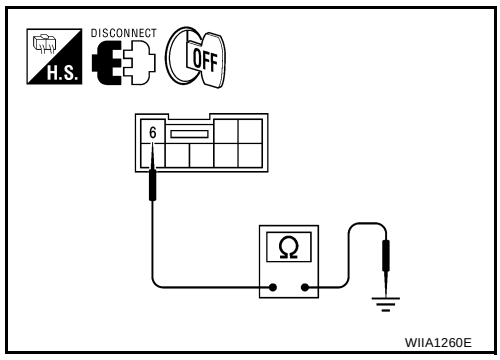
OK or NG

OK >> GO TO 3.
NG >> Replace CVT device (park position switch).

3. CHECK PARK POSITION SWITCH GROUND CIRCUIT

Check continuity between CVT device (park position switch) harness connector M38 terminal 6 and ground.

6 – Ground : Continuity should exist.



WIIA1260E

OK or NG

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

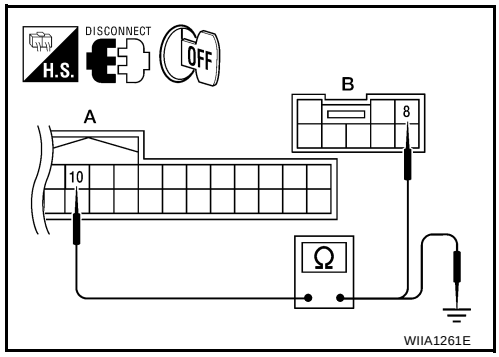
4. CHECK PARK POSITION SWITCH CIRCUIT

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit harness connector (A) M52 terminal 10 and CVT device (park position switch) harness connector (B) M38 terminal 8.

10 – 8 : Continuity should exist.

3. Check continuity between Intelligent Key unit harness connector (A) M52 terminal 10 and ground.

10 – Ground : Continuity should not exist.



OK or NG

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

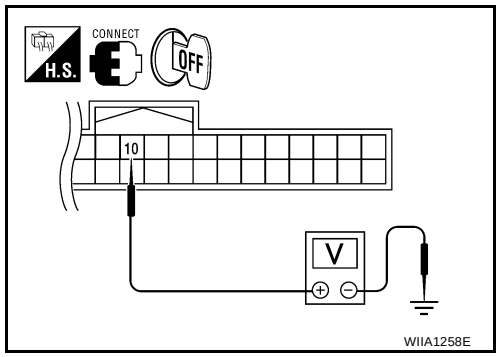
5. CHECK INTELLIGENT KEY OUTPUT SIGNAL

1. Connect Intelligent Key unit connector and CVT device (park position switch) connector.
2. Check voltage between Intelligent Key unit connector M52 terminal 10 and ground.

Connector	Terminal		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M52	10	Ground	Selector lever is in “P” position	0
			Other than above	Battery voltage

OK or NG

OK >> CVT device (park position switch) circuit is OK.
NG >> Replace Intelligent Key unit. Refer to BL-160, "Removal and Installation of Intelligent Key Unit" .



“P-SHIFT” Warning Lamp (With CVT) Check

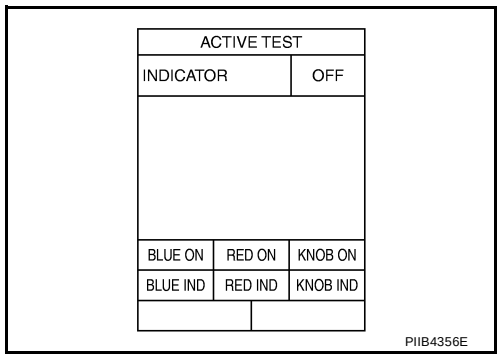
EIS009DB

1. CHECK WARNING LAMP OPERATION

With CONSULT-II

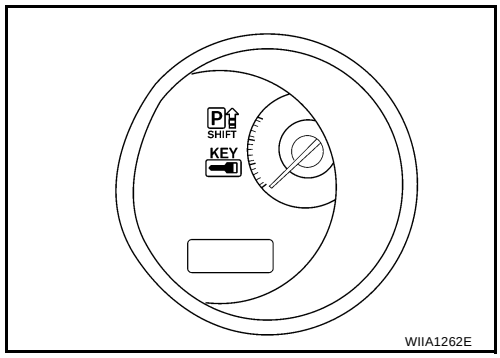
- Check “INDICATOR” in “ACTIVE TEST” mode with CONSULT-II.
- Select “KNOB ON”.

“P-SHIFT” warning lamp should illuminate.



Without CONSULT-II

1. Turn ignition switch OFF.
2. While monitoring the combination meter warning lamps, turn ignition switch ON. "P-SHIFT" warning lamp should illuminate for 1 second to perform a bulb check.



OK or NG

OK >> INSPECTION END
NG >> Check combination meter. Refer to DI-5, "COMBINATION METERS" .

“LOCK” Warning Lamp (With M/T) Check

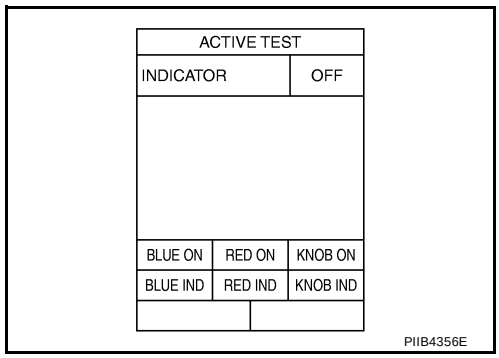
EIS009DC

1. CHECK WARNING LAMP OPERATION

With CONSULT-II

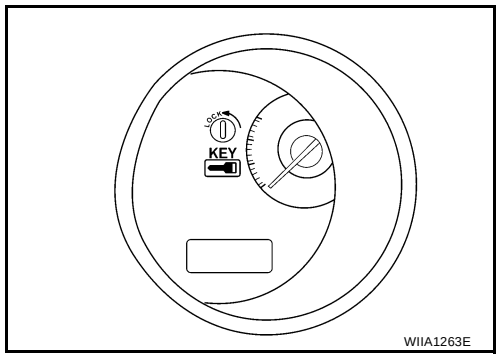
- Check “INDICATOR” in “ACTIVE TEST” mode with CONSULT-II.
- Select “KNOB ON”.

“LOCK” warning lamp should illuminate.



Without CONSULT-II

1. Turn ignition switch OFF.
2. While monitoring the combination meter warning lamps, turn ignition switch ON. "LOCK" warning lamp should illuminate for 1 second to perform a bulb check.



OK or NG

OK >> INSPECTION END
NG >> Check combination meter. Refer to DI-5, "COMBINATION METERS" .

“KEY” Warning Lamp (RED) Check

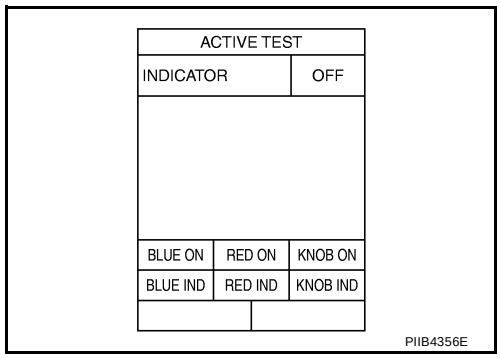
EIS009DD

1. CHECK WARNING LAMP OPERATION

With CONSULT-II

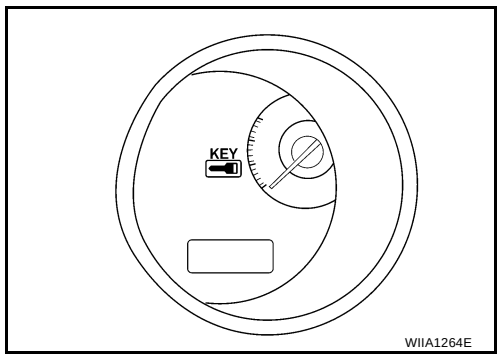
- Check “INDICATOR” in “ACTIVE TEST” mode with CONSULT-II.
- Select “RED ON”.

“KEY” warning lamp (red) should illuminate.



Without CONSULT-II

1. Turn ignition switch OFF.
2. Ensure Intelligent Key is outside and away from the vehicle.
3. While monitoring the combination meter warning lamps, push the ignition knob switch.
4. The "KEY" warning lamp (red) should illuminate indicating that the Intelligent Key is not nearby.



OK or NG

OK >> INSPECTION END
NG >> Check combination meter. Refer to DI-5, "COMBINATION METERS" .

“KEY” Warning Lamp (GREEN) Check

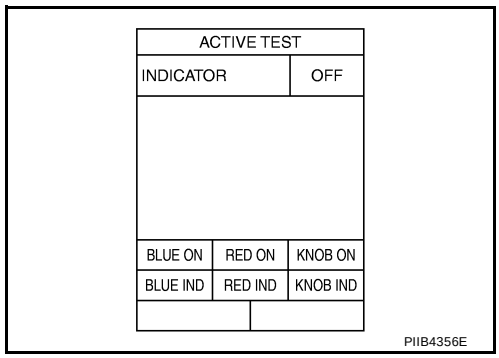
EIS009DE

1. CHECK WARNING LAMP OPERATION

With CONSULT-II

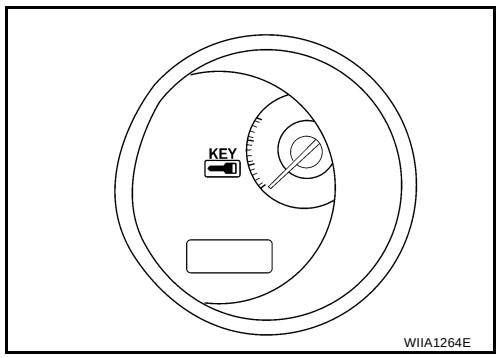
- Check “INDICATOR” in “ACTIVE TEST” mode with CONSULT-II.
- Select “BLUE ON”.

“KEY” warning lamp (green) should illuminate.



Without CONSULT-II

1. Turn ignition switch OFF.
2. Ensure Intelligent Key is in your possession inside the vehicle.
3. While monitoring the combination meter warning lamps, push the ignition knob switch.
4. The "KEY" warning lamp (green) should illuminate indicating that the Intelligent Key is nearby.



OK or NG

OK >> INSPECTION END
NG >> Check combination meter. Refer to DI-5, "COMBINATION METERS" .

Check Warning Chime in Combination Meter

EIS0092R

1. CHECK WARNING CHIME OPERATION

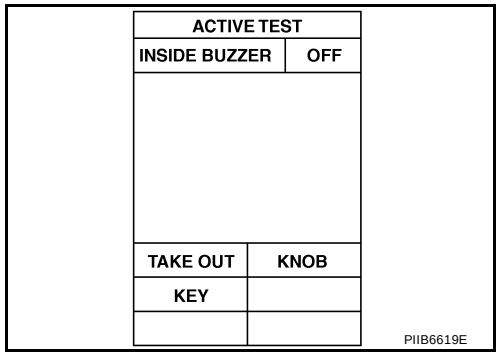
With CONSULT-II

- Check “INSIDE BUZZER” in “ACTIVE TEST” mode with CONSULT-II.
- Touch “TAKE OUT”, “KNOB” and “KEY” on “ACTIVE TEST” screen.

Does each warning chime sound?

OK or NG

OK >> INSPECTION END
NG >> GO TO 2.



2. CHECK OTHER WARNING CHIME OPERATION

Check other warning chime operation using combination meter.

Does warning chime in combination meter sound?

OK or NG

OK >> INSPECTION END
NG >> GO TO DI-47, "WARNING CHIME" .

Hazard Function Check

EIS0092S

1. CHECK HAZARD WARNING LAMP

Do hazard warning lamps flash with hazard switch?

YES or NO

YES >> Hazard warning lamp circuit is OK.
NO >> Check hazard circuit. Refer to LT-51, "TURN SIGNAL AND HAZARD WARNING LAMPS" .

Horn Function Check

EIS0092T

First perform the "SELF-DIAG RESULTS" of "BCM" with CONSULT-II, then perform the trouble diagnosis of malfunction system indicated in "SELF-DIAG RESULTS" of "BCM". Refer to BCS-18, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)".

1. CHECK HORN OPERATION

Check if horn sounds with horn switch.

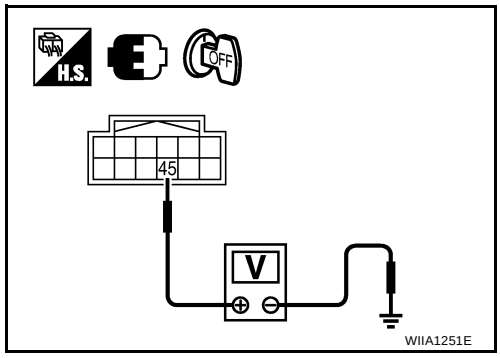
Does horn operate?

Yes >> GO TO 2.
No >> Check horn circuit. Refer to WW-46, "HORN" .

2. CHECK IPDM E/R INPUT SIGNAL

Check voltage between IPDM E/R connector and ground.

Terminals			Voltage (V) (Approx.)
(+)		(–)	
IPDM E/R connector	Terminal		
E46	45	Ground	Battery voltage

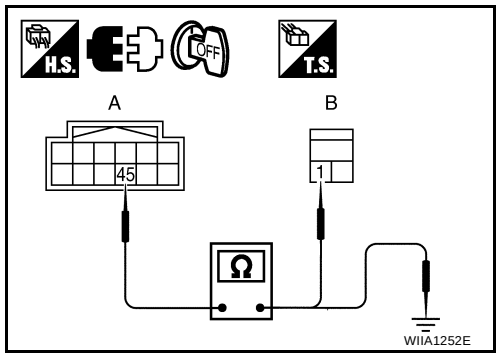


OK or NG

OK >> Replace IPDM E/R. Refer to PG-29, "Removal and Installation of IPDM E/R" .
NG >> GO TO 3.

3. CHECK HORN RERAY CIRCUIT

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



A		B		Continuity
IPDM E/R connector	Terminal	Horn relay connector	Terminal	
E46	45	H-1	1	Yes

4. Check continuity between IPDM E/R harness connector and ground.

A		Ground	Continuity
IPDM E/R connector	Terminal		
E46	45		No

OK or NG

OK >> Check condition of harness and connector.
NG >> Repair or replace harness.

Headlamp Function Check

EIS0092U

1. CHECK HEADLAMP OPERATION

Check if headlamps operate by lighting switch.

Do headlamps come on when turning lighting switch ON?

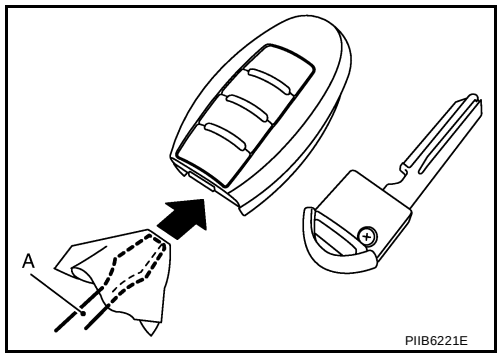
YES >> Headlamp circuit is OK.
NO >> Check headlamp system. Refer to LT-5, "HEADLAMP (FOR USA)" or LT-27, "HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -" .

Intelligent Key Battery Replacement

EIS0092W

DISASSEMBLY AND ASSEMBLY OF INTELLIGENT KEY

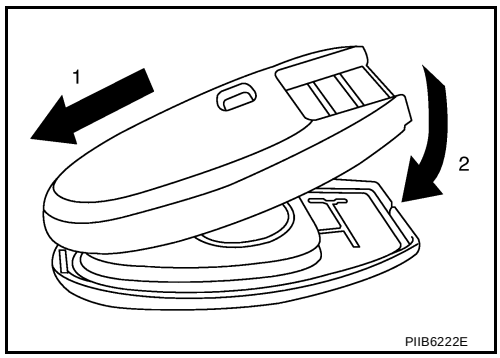
1. Release the lock knob at the back of the Intelligent Key and remove the mechanical key.
2. Insert a flat-blade screwdriver (A) wrapped with a cloth into the slit of the corner and twist it to separate the upper part from the lower part.



CAUTION:

- **Be careful not to touch the circuit board or battery terminal.**
- **The key fob is water-resistant. However, if it does get wet, immediately wipe it dry.**

3. Replace the battery with new one.
4. Align the tips of the upper and lower parts, and then push them together until it is securely closed.



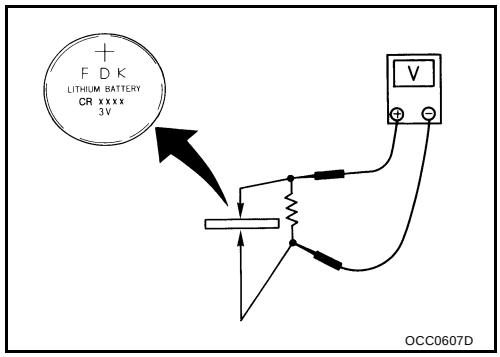
CAUTION:

- **When replacing battery, be sure to keep dirt, grease, and other foreign materials off the electrode contact area.**
- **After replacing the battery, check to make sure all Intelligent Key functions work normally.**

INTELLIGENT KEY BATTERY INSPECTION

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

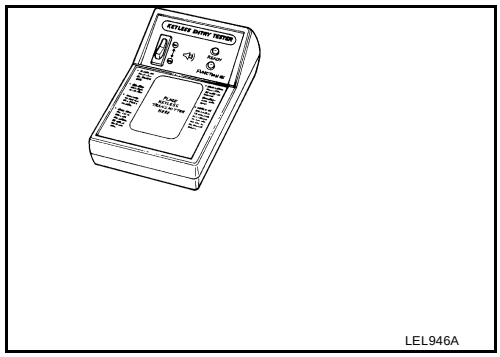
Standard : Approx. 2.5 - 3.0V



Remote Keyless Entry Function

EIS009DF

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

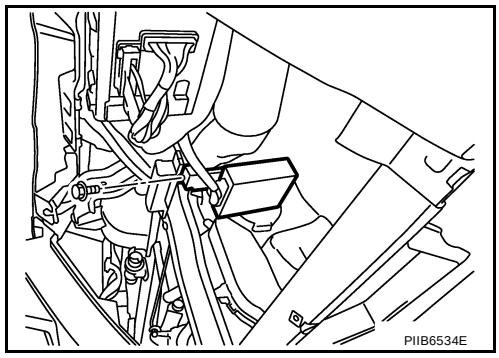


Removal and Installation of Intelligent Key Unit

EIS0092V

REMOVAL

1. Remove glove box assembly. Refer to IP-11, "Removal and Installation" .
2. Disconnect Intelligent Key unit connector, remove screw and Intelligent Key unit.



INSTALLATION

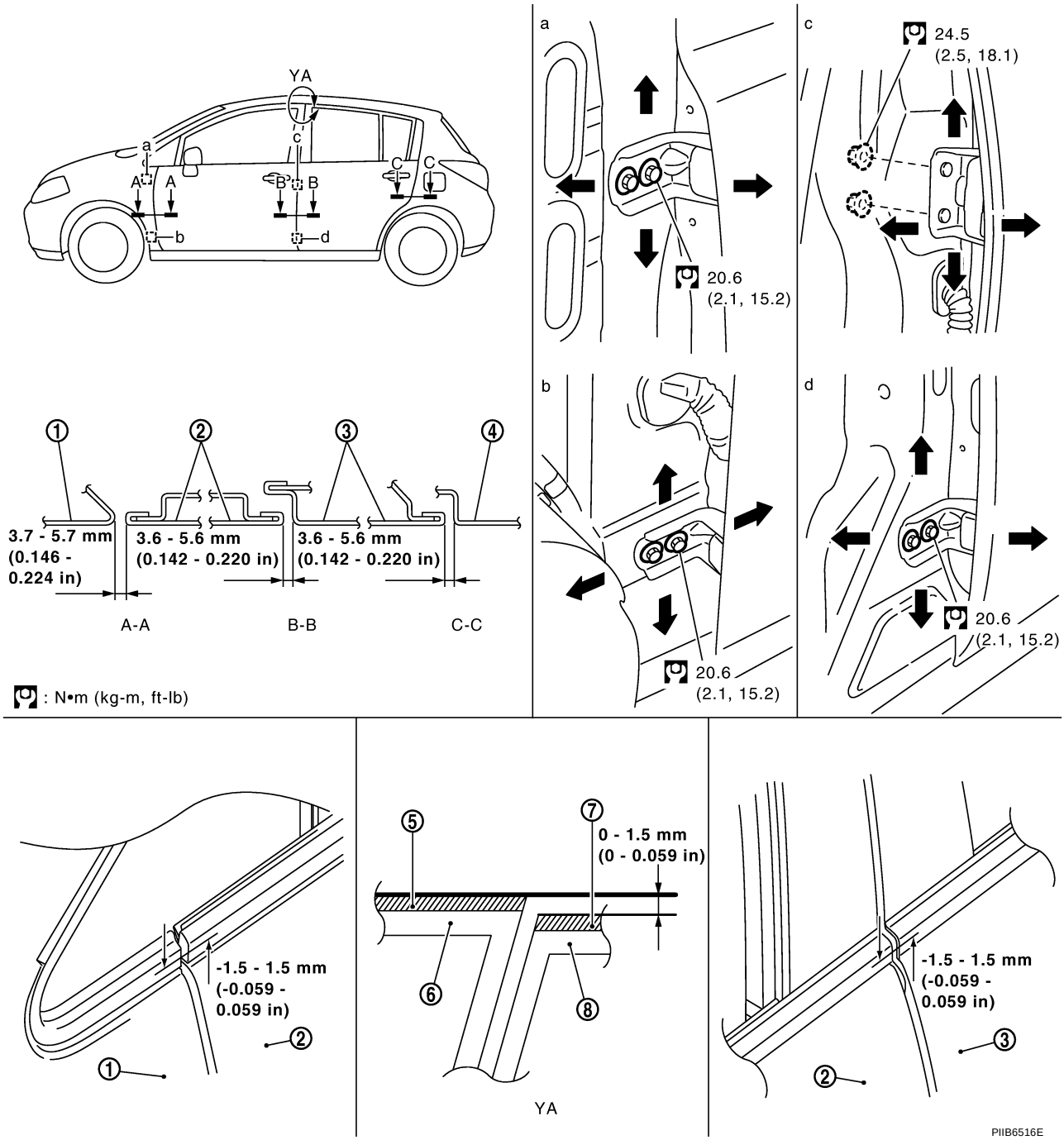
Installation is in the reverse order of removal.

DOOR

PFP:80100

Fitting Adjustment

EIS0092X



1. Front fender
2. Front door outer
3. Rear door outer
4. Rear fender
5. Front door weatherstrip
6. Front door sash
7. Rear door weatherstrip
8. Rear door sash

FRONT DOOR

Longitudinal Clearance and Surface Height Adjustment at Front End

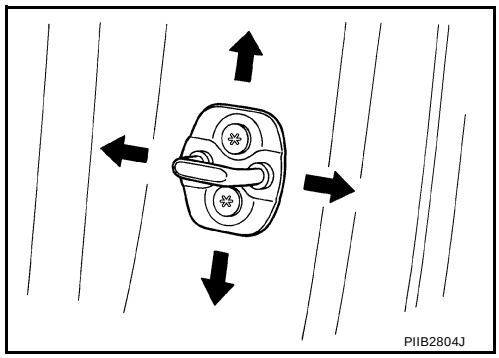
Access from inside the fender to loosen the hinge bolts. Raise the front door at rear end to adjust.

Surface Height Adjustment

Loosen the front door bolts, and adjust the surface height difference of fender and front door according to the fitting standard dimension.

Striker Adjustment

16.7 N·m (1.7 kg-m, 12 ft-lb)



REAR DOOR

Longitudinal Clearance and Surface Height Adjustment at Front End

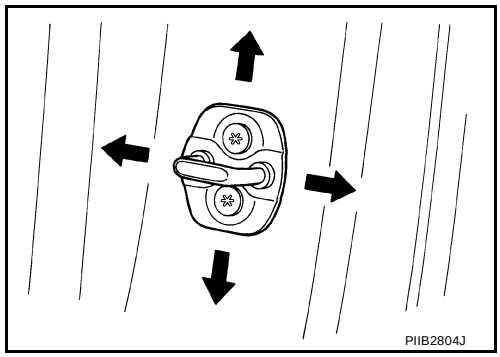
1. Remove the center pillar upper and lower garnishes. Refer to EI-32, "BODY SIDE TRIM" .
2. Access from inside the vehicle to loosen the hinge nuts. Open the rear door, and raise the rear door at rear end to adjust.

Surface Height Adjustment

Loosen the front door striker bolts and rear door hinge nuts, and adjust the surface height difference of front and rear doors according to the fitting standard dimension.

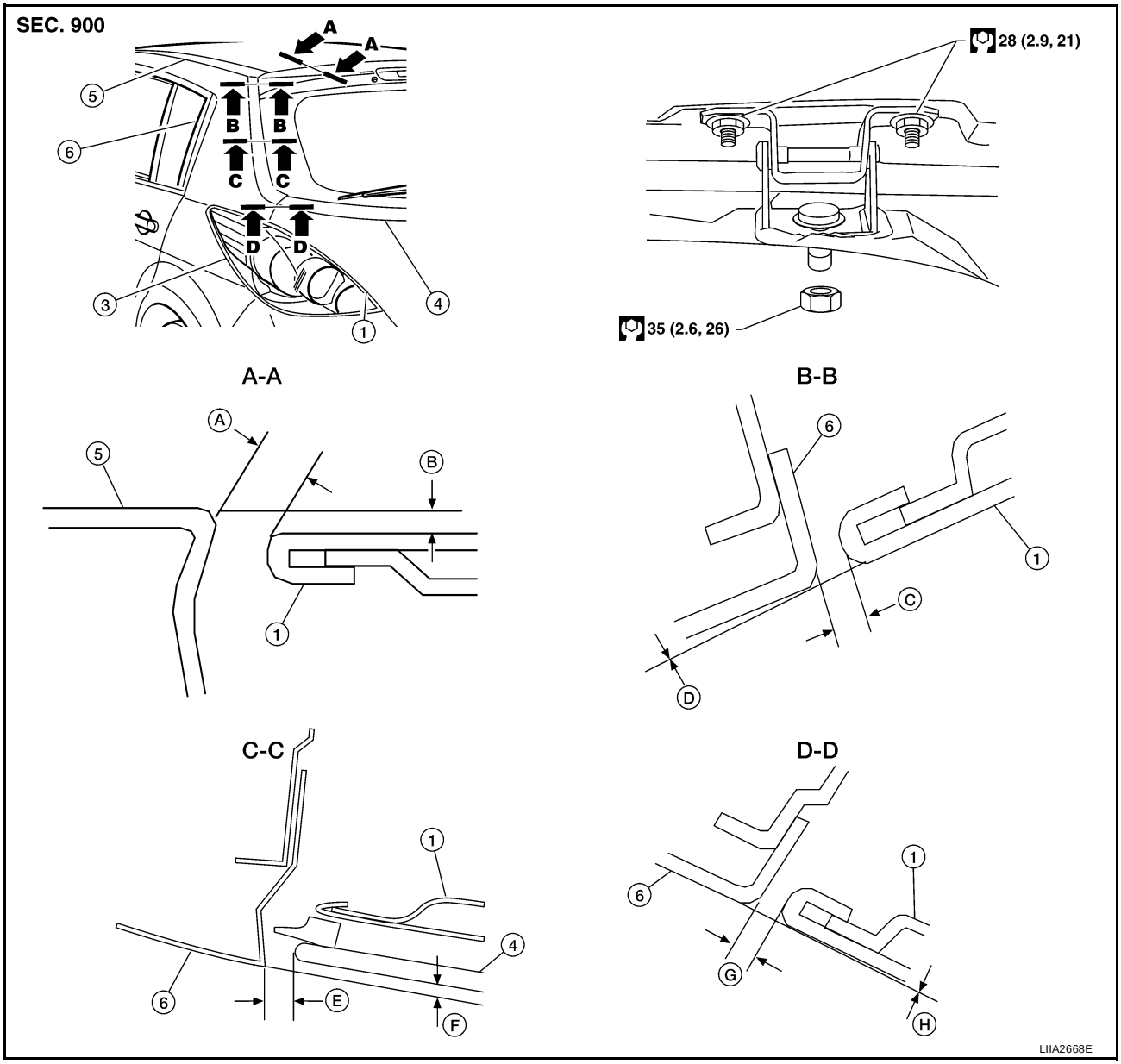
Striker Adjustment

16.7 N·m (1.7 kg-m, 12 ft-lb)



BACK DOOR

Longitudinal Clearance and Surface Height Adjustment

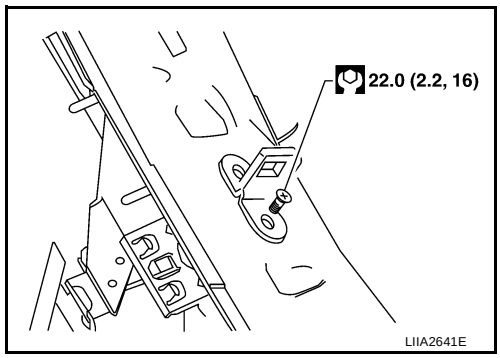


1. Back door assembly
2. Back door hinge
3. Tail lamp assembly
4. Back window glass
5. Roof
6. Rear pillar
A. 6.0 ± 1.0 mm (0.24 ± 0.04 in)
B. -0.5 ± 1.0 mm (-0.02 ± 0.04 in)
C. 5.0 ± 1.2 mm (0.20 ± 0.05 in)
D. 0.0 ± 1.5 mm (0.0 ± 0.06 in)
E. 5.0 ± 2.3 mm (0.20 ± 0.9 in)
F. 2.7 +1.6 -2.1 mm (0.11 + 0.06 - 0.08 in)
G. 5.0 ± 1.2 mm (0.20 ± 0.05 in)
H. 0.0 ± 1.5 mm (0.0 ± 0.06 in)

1. Open and support the back door.
2. Slightly loosen the hinge nuts.
3. Reposition the door as necessary and tighten the nuts.
4. Confirm the adjustment. Repeat as necessary to obtain the desired fit.

Striker Adjustment

20 N·m (2.2 kg-m, 16 ft-lb)



Removal and Installation

EIS009C1

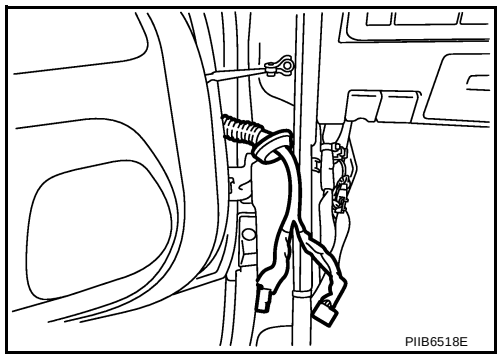
FRONT DOOR

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-161, "Fitting Adjustment" .**
- **After installing, apply touch-up paint onto the head of the hinge nuts.**
- **Check the hinge rotating part for lubrication. If necessary, apply “body grease”.**
- **Operate with two workers, because of its heavy weight.**
- **Check front door open/close operation after installation.**

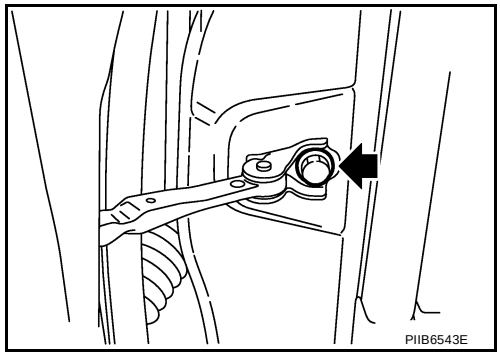
Removal

1. Remove dash side finisher. Refer to EI-32, "Removal and Installation" .
2. Disconnect the front door harness connectors.
3. Remove the front door harness grommet, and then remove the harness from the vehicle.



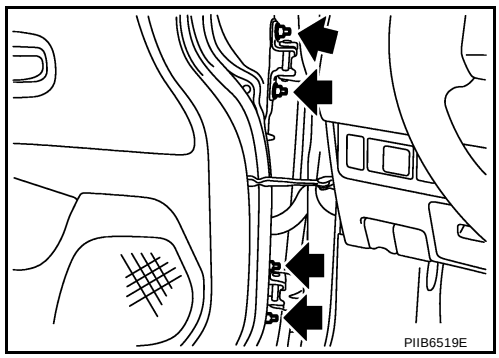
4. Remove the check link bolt.

14.7 N·m (1.5 kg-m, 11 ft-lb)



5. Remove the hinge nuts and then the door assembly.

24.5 N·m (2.5 kg-m, 18 ft-lb)



Installation

Installation is in the reverse order of removal.

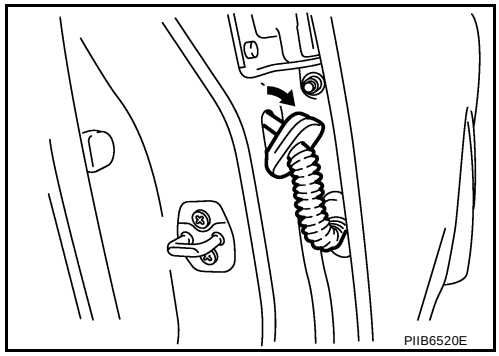
REAR DOOR

CAUTION:

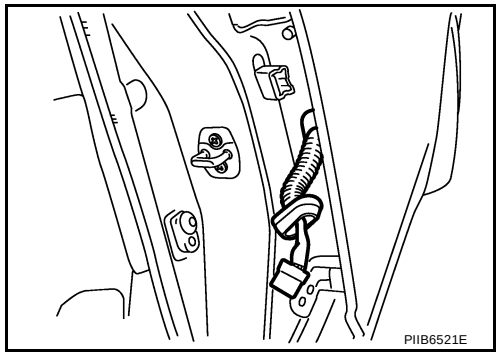
- **When removing and installing the rear door assembly, support the door with a jack and cloth to protect the door and body.**
- **When removing and installing rear door assembly, be sure to carry out the fitting adjustment. Refer to BL-161, "Fitting Adjustment" .**
- **After installing, apply touch-up paint onto the head of the hinge nuts.**
- **Check the hinge rotating part for poor lubrication. If necessary, apply “body grease”.**
- **Operate with two workers, because of its heavy weight.**
- **Check rear door open/close operation after installation.**

Removal

1. Remove the rear door harness grommet.

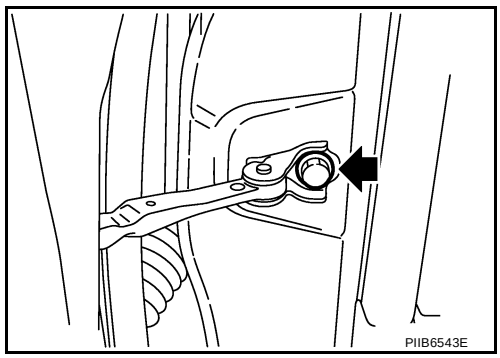


2. Disconnect the rear door harness connector.



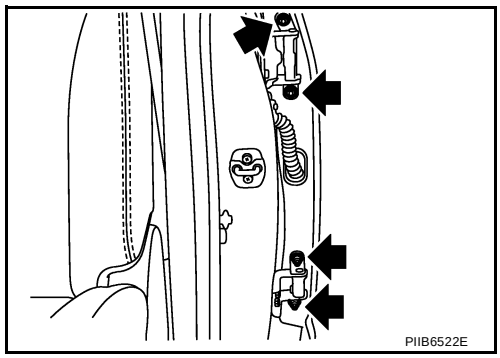
3. Remove the check link bolt.

14.7 N·m (1.5 kg-m, 11 ft-lb)



4. Remove the hinge nuts and the door assembly.

24.5 N·m (2.5 kg-m, 18 ft-lb)



Installation

Installation is in the reverse order of removal.

BACK DOOR

Removal

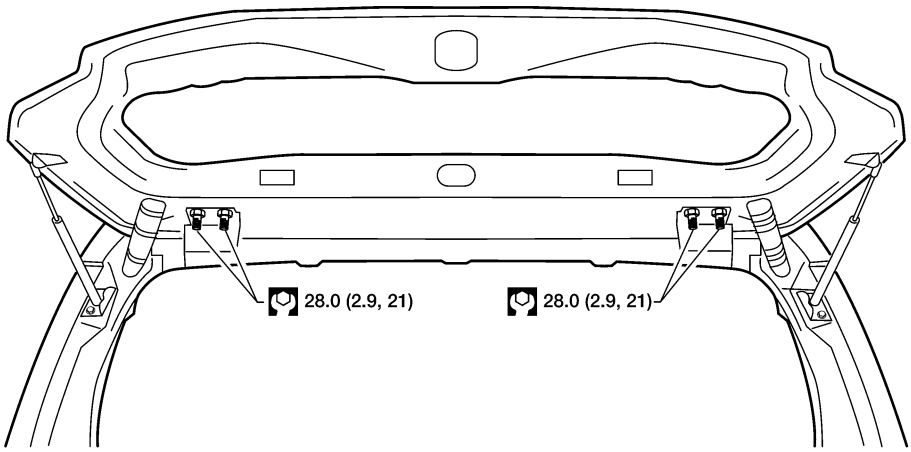
1. Remove the back door glass. Refer toGW-15, "REAR WINDOW GLASS AND MOLDING" .
2. Remove the back door lock assembly. Refer to BL-175, "BACK DOOR LOCK" .
3. Remove the back door wire harness.
4. Remove the rear washer nozzle and hose from the back door. Refer to WW-42, "REAR WASHER NOZZLE" .
5. Support the back door.

CAUTION:

Two technicians should be used to avoid damaging the back door during removal.

6. Remove the back door stays.
7. Remove the door side nuts and the back door assembly.

SEC. 900



Installation

Installation is in the reverse order of removal.

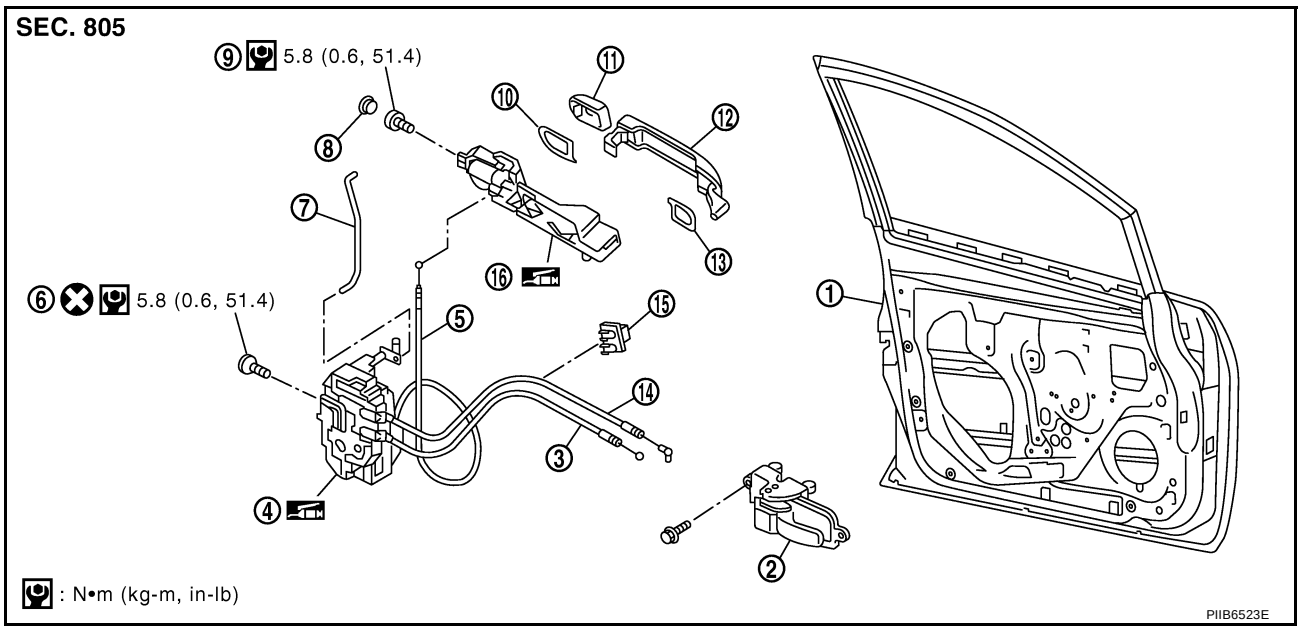
- Align the back door. Refer to BL-164, "BACK DOOR" .

FRONT DOOR LOCK

PFP:80502

Component Parts Location

EIS00932



1. Front door	2. Inside handle	3. Inside handle cable
4. Door lock assembly	5. Outside handle cable	6. TORX bolt (T30)
7. Key cylinder connecting rod	8. Grommet	9. TORX bolt (T30)
10. Rear gasket	11. Door key cylinder assembly (Driver's side) Outside handle escutcheon (passenger's side)	12. Outside handle
13. Front gasket	14. Lock knob cable	15. Holder
16. Outside handle bracket		

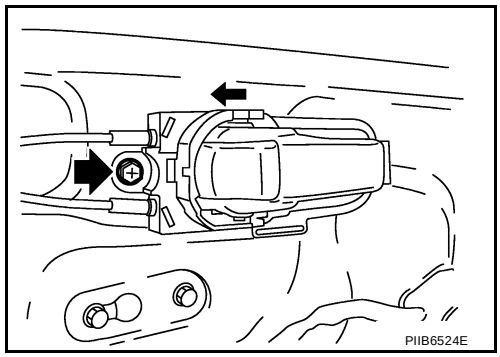
Removal and Installation

EIS00933

REMOVAL

1. Remove front door finisher. Refer to EI-27, "Removal and Installation" .
2. Fully close front door window.
3. Remove the front door sealing screen.

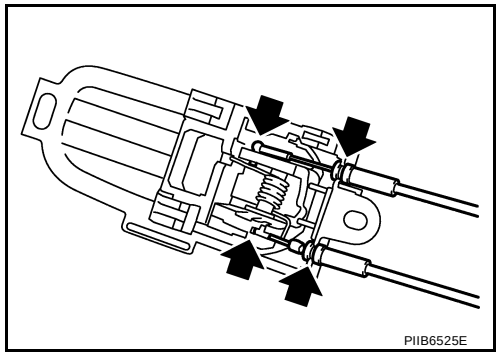
   NOTE:
   If sealing screen is reused, cut butyl tape in a way that leaves it on the sealing screen.
4. Remove front door rear glass run channel. Refer to GW-43, "Removal and Installation" .
5. Remove the cables from the holder.
6. Remove inside handle bolt, and slide the handle toward the rear of the vehicle. disengage the handle from the door panel, and remove the inside handle.



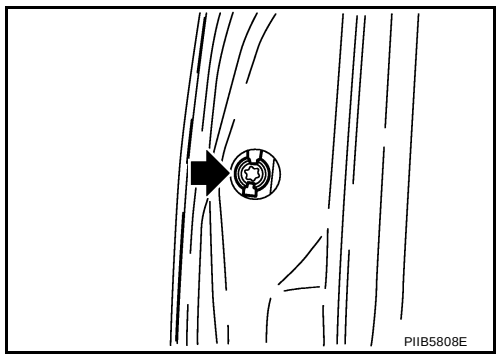
7. Disengage the handle from the door panel, and remove the inside handle.

8. Disconnect the inside handle cable and lock knob cable from the inside handle.

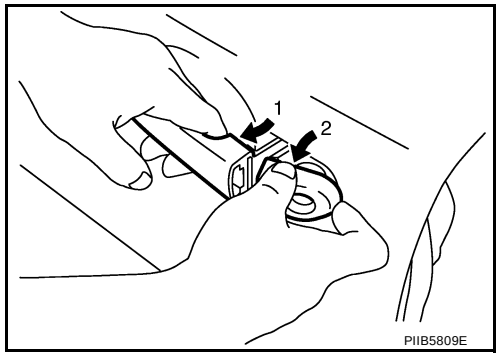
CAUTION:
During removal and installation, work so as not to bend the ends of the lock knob cable and inside handle cable.



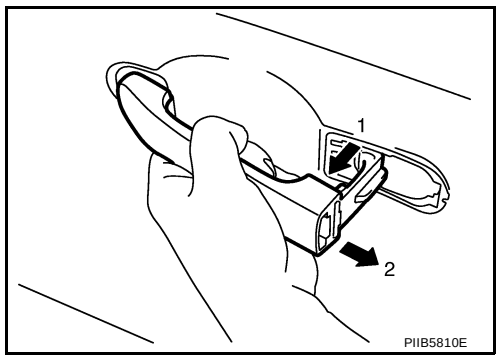
9. Remove the door side grommet, and the door key cylinder assembly (escutcheon) bolt.
10. Remove the key cylinder connecting rod (key cylinder side).
11. If equipped, disconnect the door antenna, the door request switch connector and remove the harness clamp. (Vehicle with intelligent key systems only).



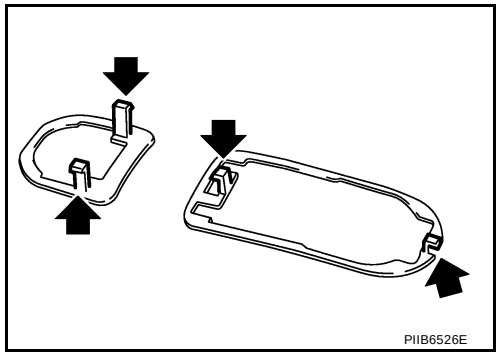
12. Remove the door cylinder assembly while pulling the outside handle forward.



13. Pull the outside door handle forward and then slide it toward the rear of the vehicle to remove.

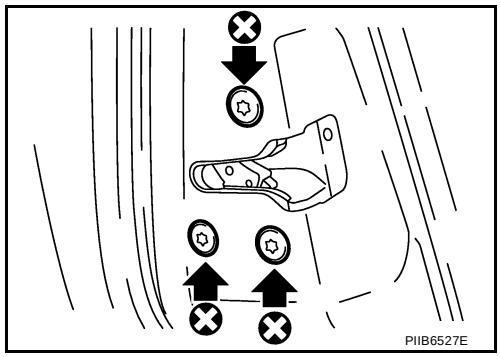


14. Remove the front and rear gaskets.

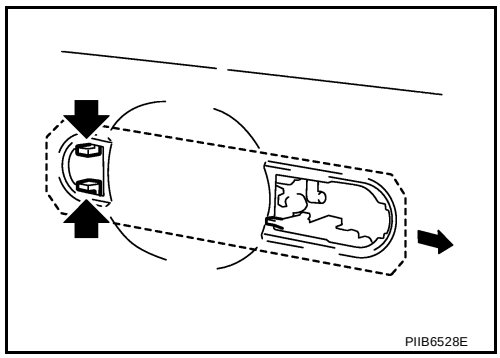


15. Remove the door lock assembly bolts.

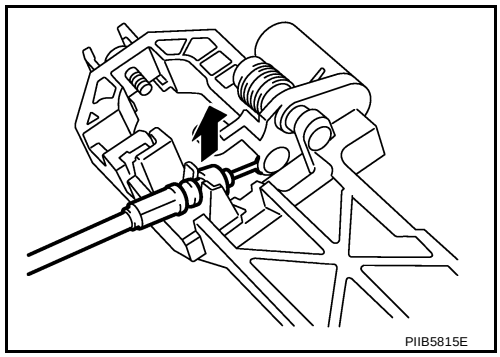
5.8 N·m (0.6 kg-m, 51.4 in-lb)



16. Slide the outside handle bracket toward the rear of the vehicle, and remove the assembly.



17. If equipped, disconnect the door lock assembly electrical connector.
18. Separate the outside handle cable from the outside handle bracket.



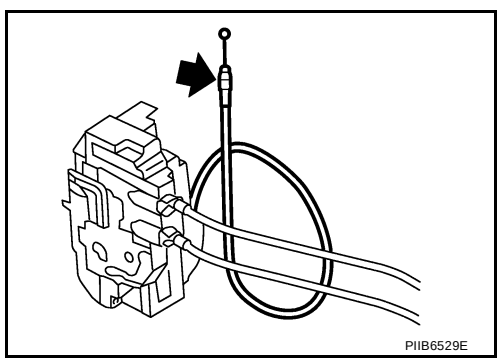
INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- **To install each rod, be sure to rotate the rod holder until a click is felt.**
- **When installing door lock assembly, be careful when rotating the outside handle cable as shown in the figure.**

- **Place the outside handle bracket cable on the inside of door lock assembly before installing.**

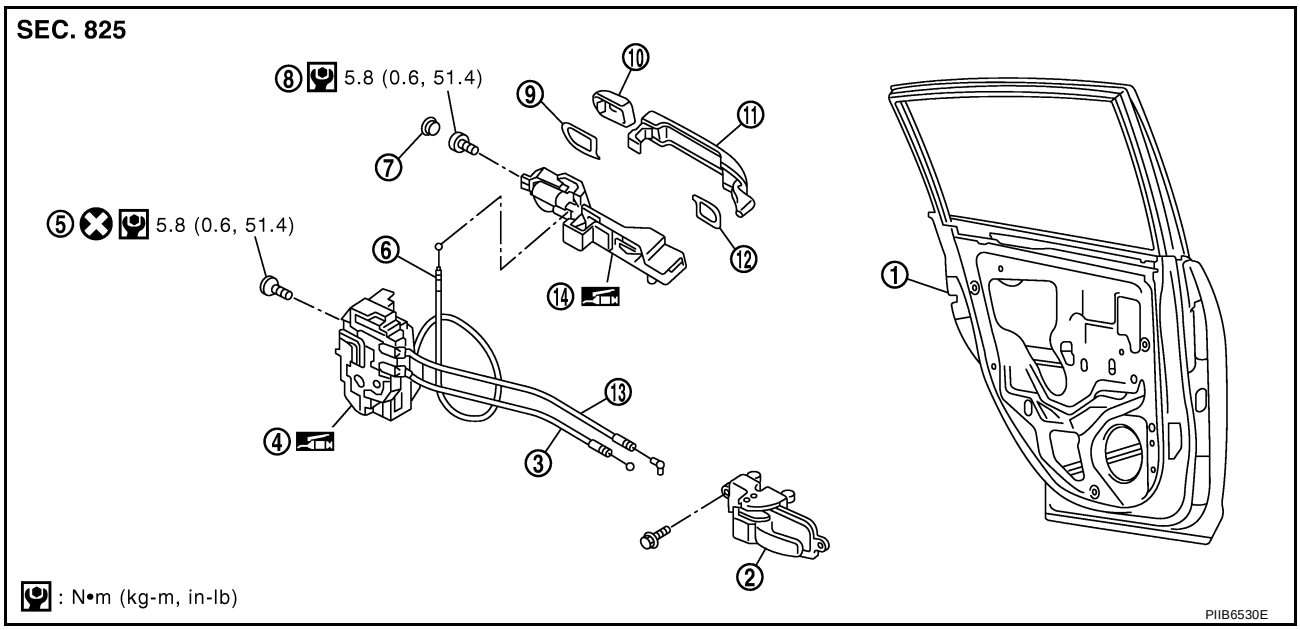


REAR DOOR LOCK

PFP:82502

Component Parts Location

EIS00934



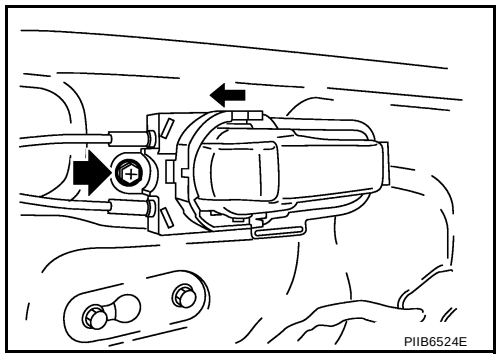
1. Rear door
2. Inside handle
3. Inside handle cable
4. Door lock assembly
5. TORX bolt (T30)
6. Outside handle cable
7. Grommet
8. TORX bolt (T30)
9. Rear gasket
10. Outside handle escutcheon
11. Outside handle
12. Front gasket
13. Lock knob cable
14. Outside handle bracket

Removal and Installation

EIS00935

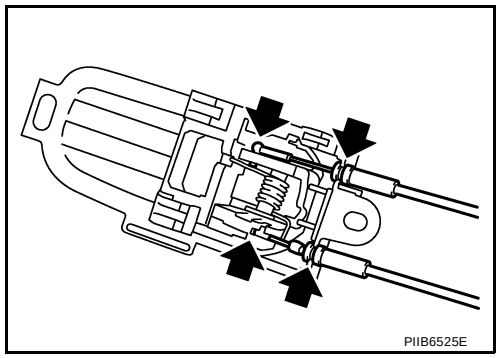
REMOVAL

1. Remove the partition glass. Refer to GW-47, "REAR DOOR GLASS AND REGULATOR" .
2. Support door glass while lifting it up to the door window completely closed position.
3. Remove inside handle bolt, slide handle toward rear of vehicle, disconnect it from the door panel, and remove the inside handle.

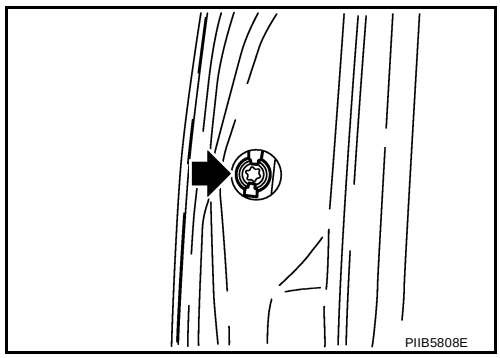


4. Disconnect the inside handle and lock knob cables from the inside handle.

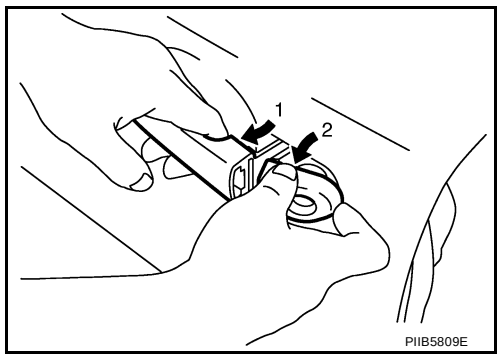
CAUTION:
During removal and installation, do not to bend the ends of the lock knob cable and inside handle cable.



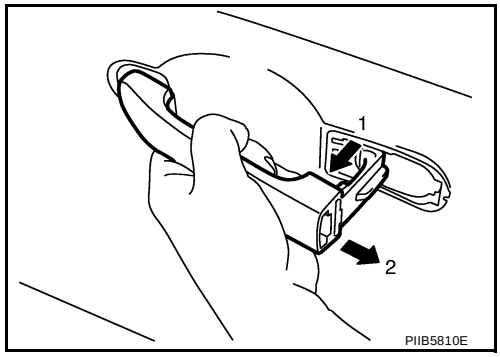
5. Remove the door side grommet, and the outside handle escutcheon screw.



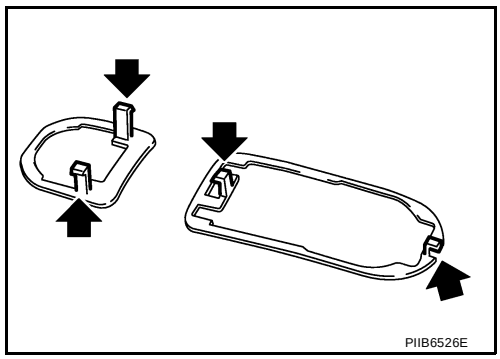
6. Pull the outside handle forward (1), while removing outside handle escutcheon (2).



7. Pull outside door handle forward (1), and slide it toward the rear of the vehicle to remove (2).

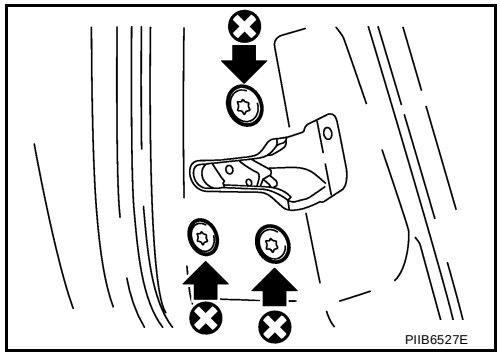


8. Remove the front and rear gaskets.

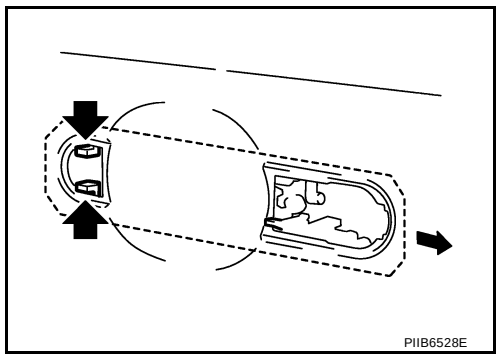


9. Remove the door lock assembly screws.

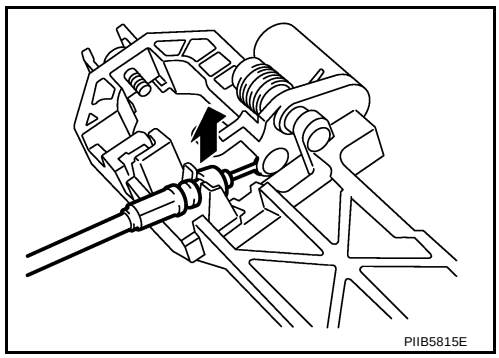
: 5.8 N·m (0.6 kg-m, 51.4 in-lb)



10. Slide the outside handle bracket toward the rear of vehicle, remove the outside handle bracket and the door lock assembly.



11. If equipped, disconnect the door lock assembly electrical connector.
12. Disconnect the outside handle cable from the outside handle bracket.



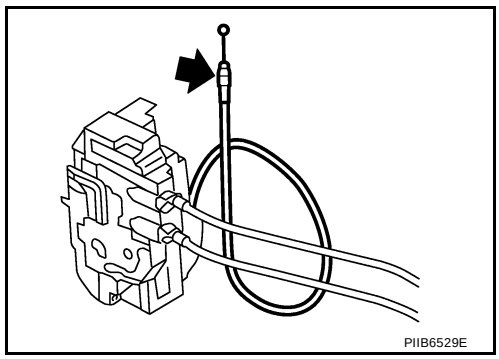
INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- **To install each rod, be sure to rotate the rod holder until a click is felt.**
- **When installing door lock assembly, be careful when rotating the outside handle cable as shown.**

- **Place the outside handle bracket cable on the inside of door lock assembly before installing.**

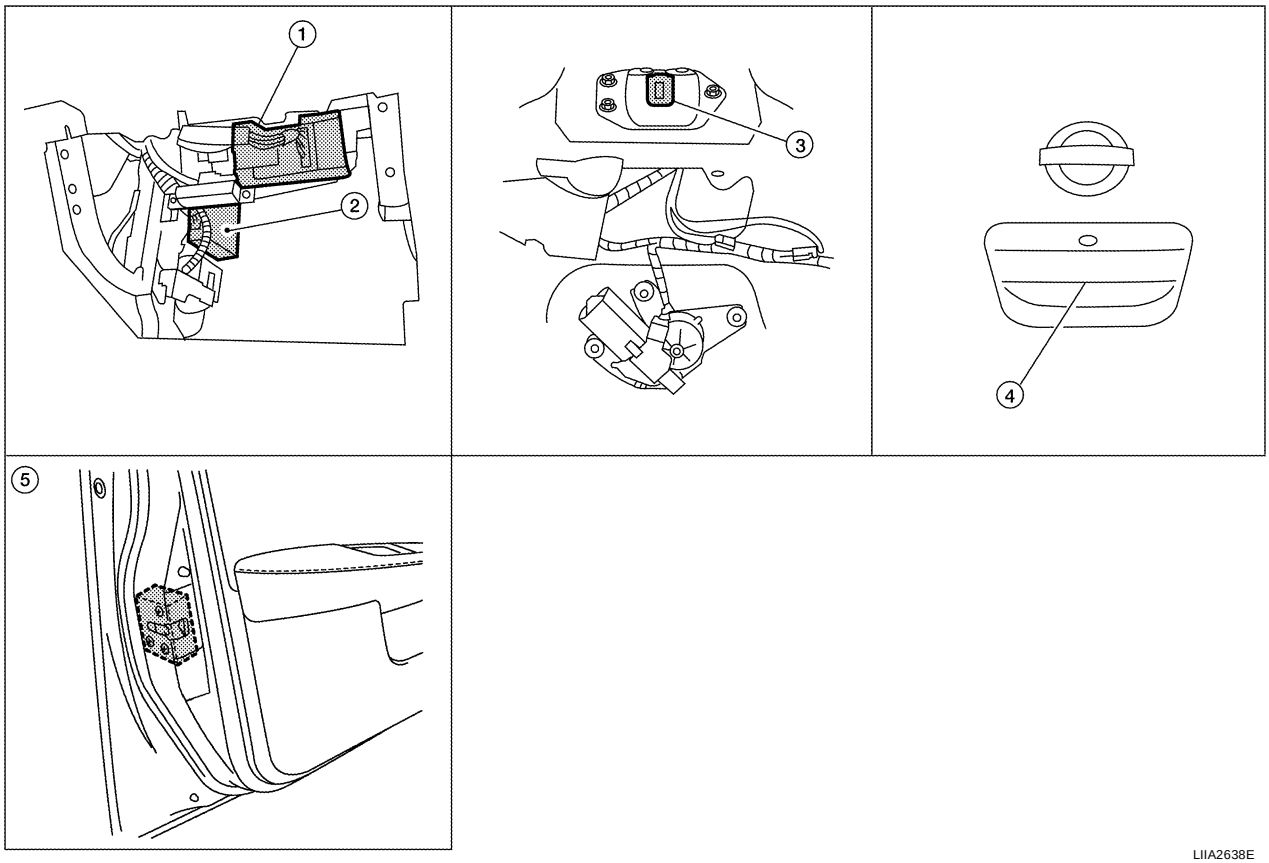


BACK DOOR LOCK

PFP:90504

Component Parts and Harness Connector Location

EIS009DK



LIIA2638E

1. BCM M18, M19, M20 (view with glove box removed)
2. Intelligent Key unit M52 (if equipped)
3. Back door lock assembly (actuator) D405
4. Back door opener switch D408
5. Front door lock actuator (door unlock sensor) LH D3, RH D114

System Description

EIS009DL

Power is supplied at all times

- through 40A fusible link (letter **g,** located in fuse and fusible link box)
- to BCM terminal 70
- through 10A fuse [No. 8, located in fuse block (J/B)]
- to BCM terminal 57
- through 10A fuse [No. 31, located in fuse block (J/B)]
- to Intelligent Key unit terminal 11 (if equipped).

Ground is supplied

- to BCM terminal 67 and
- to Intelligent Key unit terminal 12 (if equipped)
- through body grounds M57 and M61.

When back door opener switch is ON (pushed), ground is supplied

- to BCM terminal 30 (without Intelligent Key)
- through back door opener switch terminals 1 and 2
- through front door lock actuator LH (door unlock sensor) terminals 4 and 5 (without power windows) or
- through front door lock actuator RH (door unlock sensor) terminals 4 and 5 (with power windows)
- through body grounds M57 and M61
- to Intelligent Key unit terminal 24 (if equipped)
- through back door opener switch terminals 1 and 2
- through body grounds B117, B132 and D402.

Then power is supplied

- through BCM terminal 53
- to back door lock assembly (actuator) terminal 1.

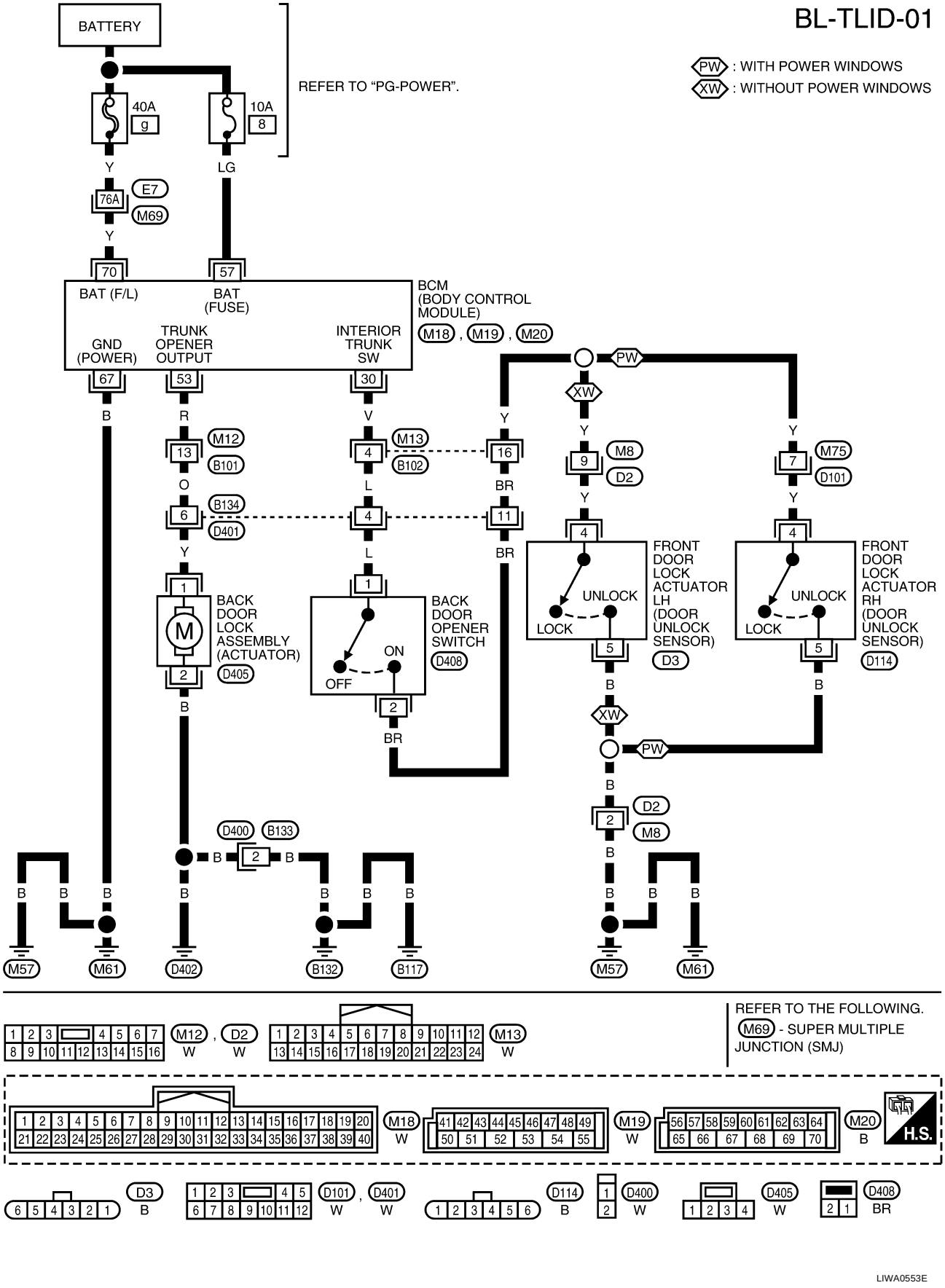
Ground is supplied

- to back door lock assembly (actuator) terminal 2
- through body grounds B117, B132 and D402.

Then BCM operates back door lock assembly (actuator).

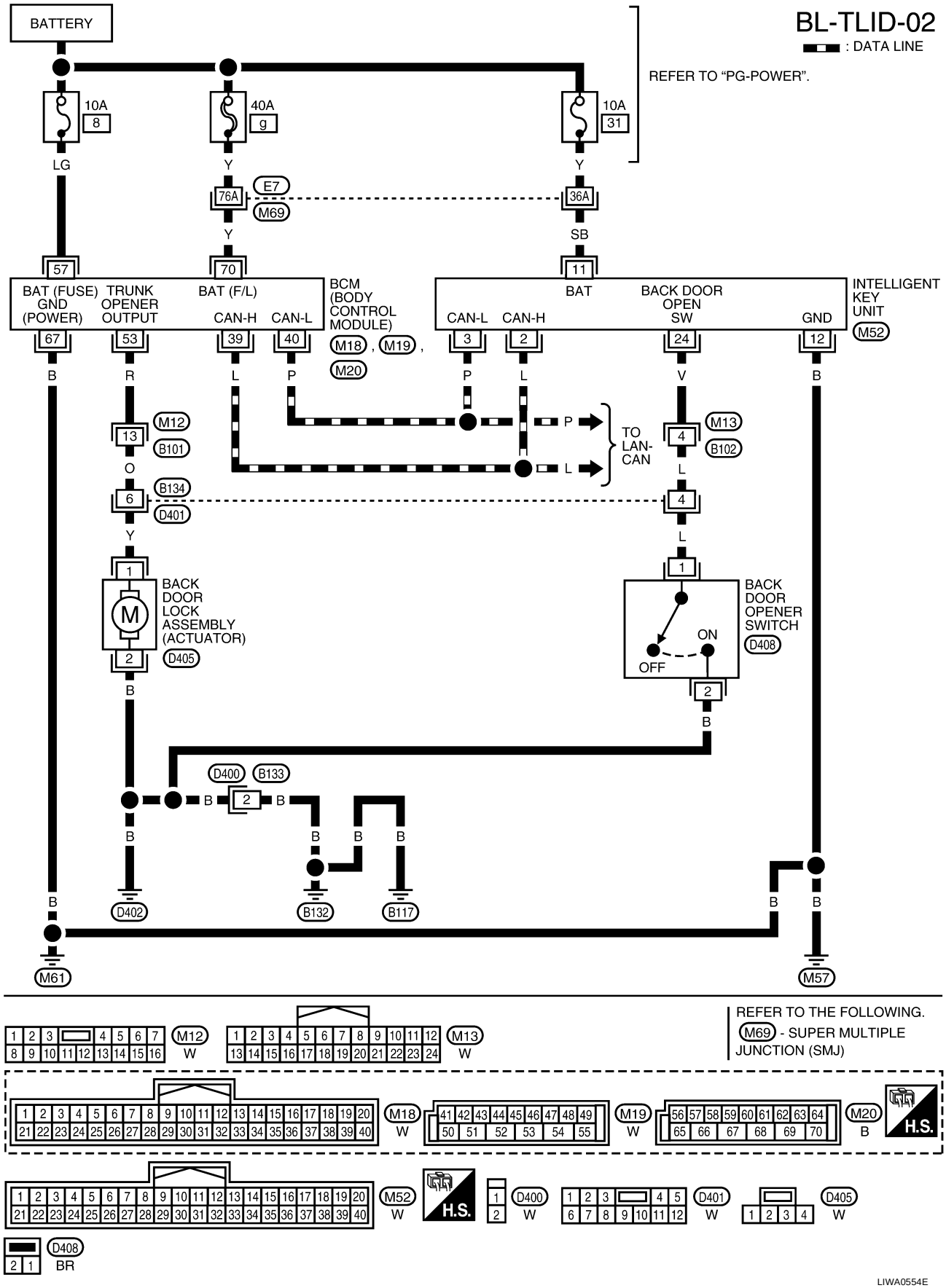
Wiring Diagram — TLID —
WITHOUT INTELLIGENT KEY SYSTEM

EIS009DM



LIWA0553E

WITH INTELLIGENT KEY SYSTEM



LIWA0554E

Terminals and Reference Values for BCM

EIS009DN

Refer to BCS-12, "Terminals and Reference Values for BCM" .

Terminals and Reference Values for Intelligent Key Unit

EIS009E3

Refer to BL-106, "Terminals and Reference Values for Intelligent Key Unit" .

CONSULT-II Function (BCM)

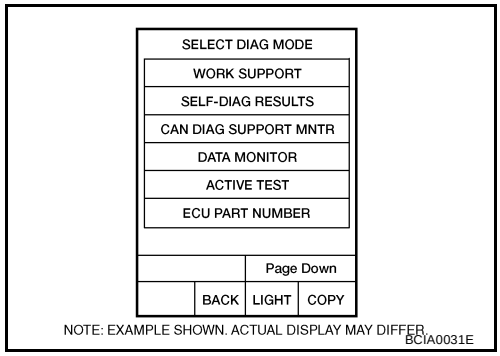
EIS009DO

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

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

CONSULT-II START PROCEDURE

1. Refer to GI-38, "CONSULT-II Start Procedure" .
2. Touch “TRUNK” on “SELECT TEST ITEM” under "BCM" of "SELECT SYSTEM" screen.
3. Select diagnosis mode.
   ″DATA MONITOR″ and ″ACTIVE TEST″ are available.



NOTE: EXAMPLE SHOWN. ACTUAL DISPLAY MAY DIFFER.
BCIA0031E

CONSULT-II APPLICATION ITEMS

Data Monitor

Monitor item	Content
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
KEYLESS TRUNK**	This is displayed even when it is not equipped.
I-KEY TRUNK*	Momentarily indicates [ON/OFF] condition of back door open signal from back door opener switch.
TRNK OPNR SW**	Indicates [ON/OFF] condition of back door open signal from back door opener switch.
VEHICLE SPEED	This is displayed even when it is not equipped.

* : With Intelligent Key system
** : Without Intelligent Key system

Active Test

Test item	Content
TRUNK/BACK DOOR	This test is able to check back door lock assembly (actuator) unlock operation. Actuator opens back door lock assembly when “OPEN” on CONSULT-II screen is touched.

Work Flow

EIS009DP

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to BL-176, "System Description" .
3. Repair or replace any malfunctioning parts. Refer to BL-180, "Trouble Diagnosis Chart by Symptom" .
4. Does back door opener operate normally? If Yes, GO TO 5. If No, GO TO 3.
5. INSPECTION END

Trouble Diagnosis Chart by Symptom

EIS009DQ

Symptom	Diagnoses/service procedure	Reference page
Back door opener does not operate. (Without Intelligent Key or power windows)	1. Check BCM power supply and ground circuit.	BCS-16
	2. Check back door opener switch circuit.	BL-181
	3. Check back door lock assembly (actuator) circuit.	BL-189
	4. Replace BCM.	BCS-25
Back door opener does not operate. (Without Intelligent Key, with power windows)	1. Check BCM power supply and ground circuit.	BCS-16
	2. Check back door opener switch circuit.	BL-184
	3. Check back door lock assembly (actuator) circuit.	BL-189
	4. Replace BCM.	BCS-25
Back door opener does not operate. (With Intelligent Key)	1. Check BCM power supply and ground circuit.	BCS-16
	2. Check Intelligent Key power supply and ground circuit.	BL-123
	3. Check back door opener switch circuit.	BL-187
	4. Check back door lock assembly (actuator) circuit.	BL-189
	5. Replace BCM.	BCS-25

BCM Power Supply and Ground Circuit

EIS009DR

Refer to BCS-16, "BCM Power Supply and Ground Circuit Check" .

Check Back Door Opener Switch Circuit (Without Intelligent Key or Power Windows)

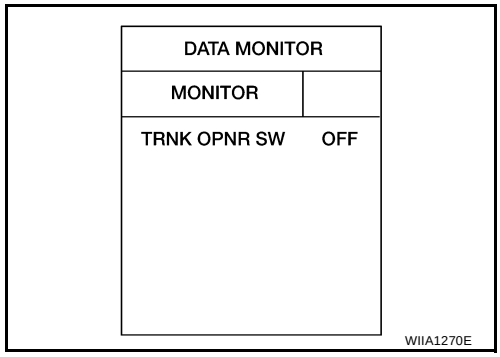
EIS009DS

1. CHECK BACK DOOR OPENER SWITCH SIGNAL 1

With CONSULT-II

1. Insure front door lock knob LH is turned to the UNLOCK position.
2. Check back door opener switch (“TRNK OPNR SW”) in “DATA MONITOR” mode with CONSULT-II.

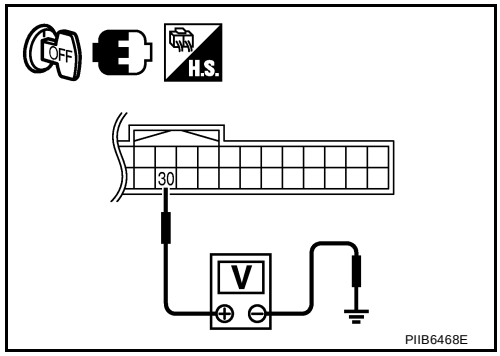
Test item	Condition
TRNK OPNR SW	Back door opener switch is pushed: ON
	Back door opener switch is released: OFF



Without CONSULT-II

1. Insure front door lock knob LH is turned to the UNLOCK position.
2. Check voltage between BCM connector M18 terminal 30 and ground.

Terminals			Door condition		Voltage (V) (Approx.)
(+)		(–)			
BCM connector	Terminal				
M18	30	Ground	Back door opener switch	Pushed	0
				Released	Battery voltage



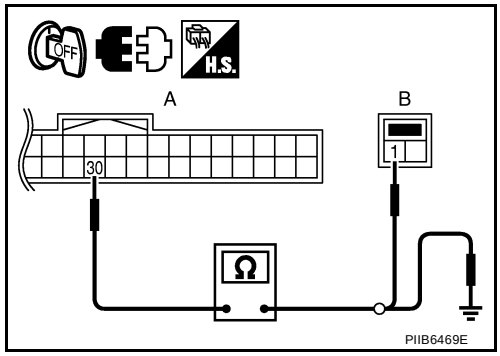
OK or NG

OK >> Back door opener switch is OK.
NG >> GO TO 2.

2. CHECK BACK DOOR OPENER SWITCH CIRCUIT 1

1. Turn ignition switch OFF.
2. Disconnect BCM and back door opener switch connector.
3. Check continuity between BCM connector (A) M18 terminal 30 and back door opener switch connector (B) terminal 1.

A		B		Continuity
BCM connector	Terminal	Back door opener switch connector	Terminal	
M18	30	D408	1	Yes



4. Check continuity between BCM connector (A) M18 terminal 30 and ground.

A		Ground	Continuity
BCM connector	Terminal		
M18	30		No

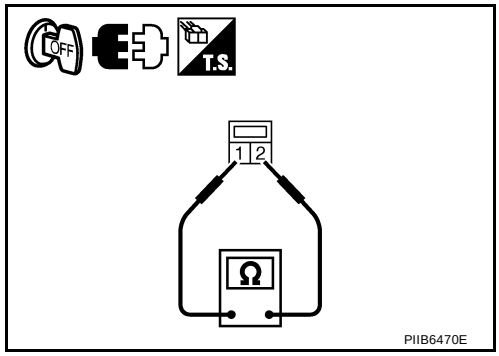
OK or NG

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

3. CHECK BACK DOOR OPENER SWITCH

Check continuity between back door opener switch terminals 1 and 2.

Terminal		Back door opener switch condition	Continuity
Back door opener switch			
1	2	Pushed	Yes
		Released	No



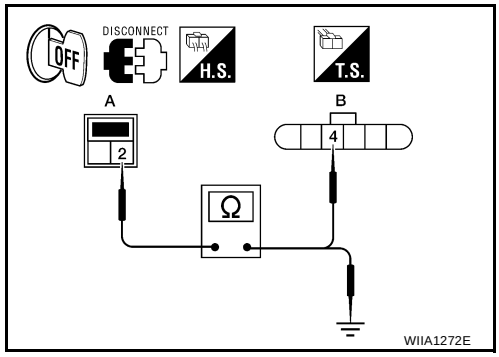
OK or NG

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

4. CHECK BACK DOOR OPENER SWITCH CIRCUIT 2

1. Disconnect front door lock actuator LH (door unlock sensor) connector.
2. Check continuity between back door opener switch connector (A) D408 terminal 2 and front door lock actuator LH (door unlock sensor) connector (B) D3 terminal 4.

A		B		Continuity
Back door opener switch connector	Terminal	Front door lock actuator LH (door unlock sensor) connector	Terminal	
D408	2	D3	4	Yes



3. Check continuity between back door opener switch connector (A) D408 terminal 2 and ground.

Back door opener switch connector	Terminal	Ground	Continuity
D408	2		No

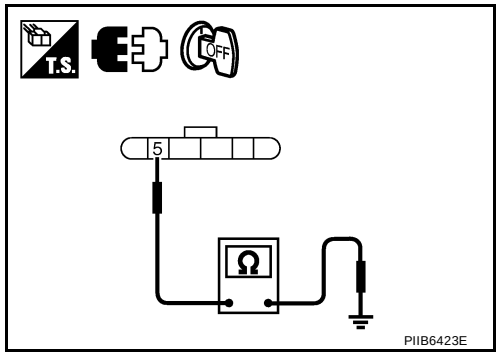
OK or NG

OK >> GO TO 5.
NG >> Repair or replace harness between back door opener switch and front door lock actuator LH (door unlock sensor).

5. CHECK FRONT DOOR LOCK ACTUATOR LH (DOOR UNLOCK SENSOR) GROUND CIRCUIT

Check continuity between front door lock actuator LH (door unlock sensor) connector terminal 5 and ground.

Front door lock actuator LH (door unlock sensor) connector	Terminal	Ground	Continuity
D3	5		Yes



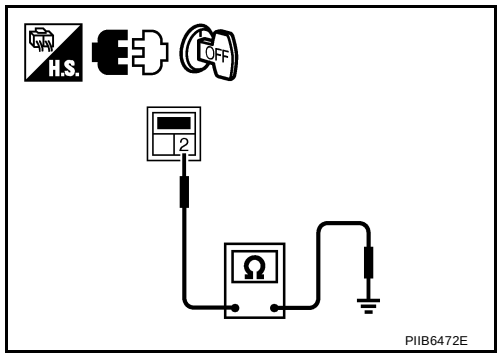
OK or NG

OK >> GO TO 6.
NG >> Repair or replace harness.

6. CHECK UNLOCK SENSOR FUNCTION

1. Connect front door lock actuator LH (door unlock sensor) connector.
2. Check continuity between back door opener switch connector D408 terminal 2 and ground.

Back door opener switch connector	Terminal		Front door lock knob LH position	Continuity
D408	2	Ground	Unlock	Yes
			Lock	No



PIIB6472E

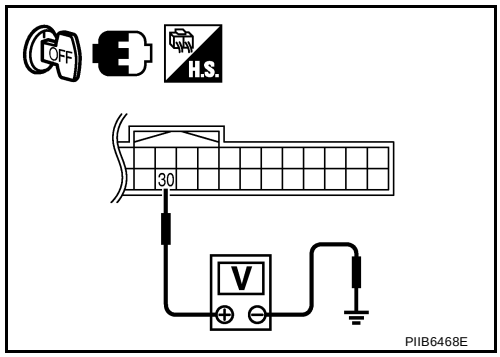
OK or NG

OK >> GO TO 7.
NG >> Replace front door lock actuator LH (door unlock sensor). Refer to BL-169, "FRONT DOOR LOCK" .

7. CHECK BACK DOOR OPENER SWITCH SIGNAL 2

1. Connect BCM connector.
2. Check voltage between BCM connector M18 terminal 30 and ground.

Terminals			Voltage (V) (Approx.)
(+)		(–)	
BCM connector	Terminal		
M18	30	Ground	Battery voltage



PIIB6468E

OK or NG

OK >> Check the condition of harness and connector.
NG >> Replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .

Check Back Door Opener Switch Circuit (Without Intelligent Key, With Power Windows)

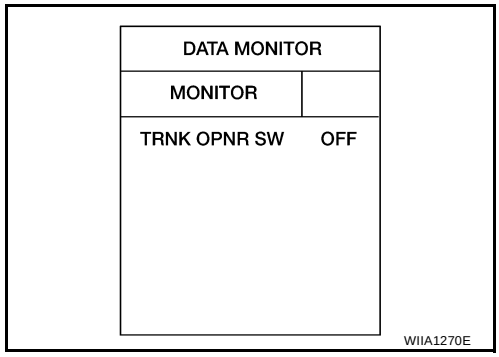
EIS009DV

1. CHECK BACK DOOR OPENER SWITCH SIGNAL 1

With CONSULT-II

1. Insure front door lock knob RH is turned to the UNLOCK position.
2. Check back door opener switch (“TRNK OPNR SW”) in “DATA MONITOR” mode with CONSULT-II.

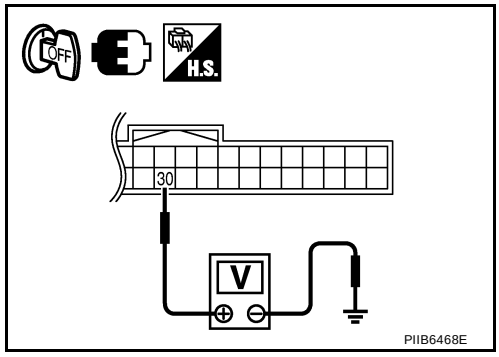
Test item	Condition
TRNK OPNR SW	Back door opener switch is pushed: ON
	Back door opener switch is released: OFF



Without CONSULT-II

1. Insure front door lock knob RH is turned to the UNLOCK position.
2. Check voltage between BCM connector M18 terminal 30 and ground.

Terminals			Door condition		Voltage (V) (Approx.)
(+)		(–)			
BCM connector	Terminal				
M18	30	Ground	Back door opener switch	Pushed	0
				Released	Battery voltage



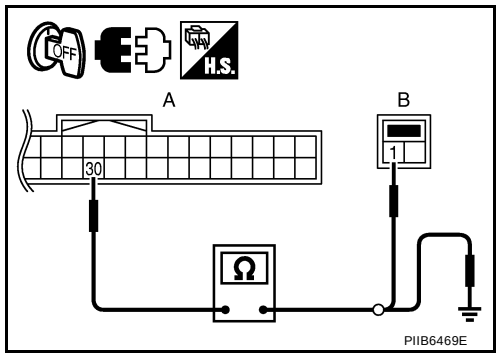
OK or NG

OK >> Back door opener switch is OK.
NG >> GO TO 2.

2. CHECK BACK DOOR OPENER SWITCH CIRCUIT 1

1. Turn ignition switch OFF.
2. Disconnect BCM and back door opener switch connector.
3. Check continuity between BCM connector (A) M18 terminal 30 and back door opener switch connector (B) terminal 1.

A		B		Continuity
BCM connector	Terminal	Back door opener switch connector	Terminal	
M18	30	D408	1	Yes



4. Check continuity between BCM connector (A) M18 terminal 30 and ground.

A		Ground	Continuity
BCM connector	Terminal		
M18	30		No

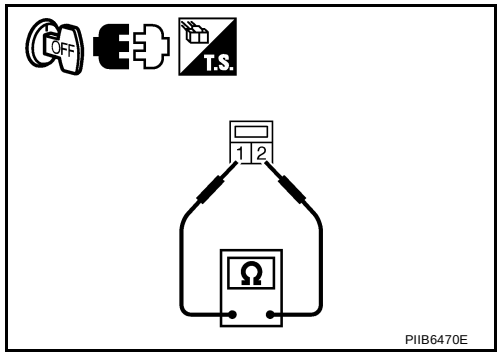
OK or NG

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

3. CHECK BACK DOOR OPENER SWITCH

Check continuity between back door opener switch terminals 1 and 2.

Terminal		Back door opener switch condition	Continuity
Back door opener switch			
1	2	Pushed	Yes
		Released	No



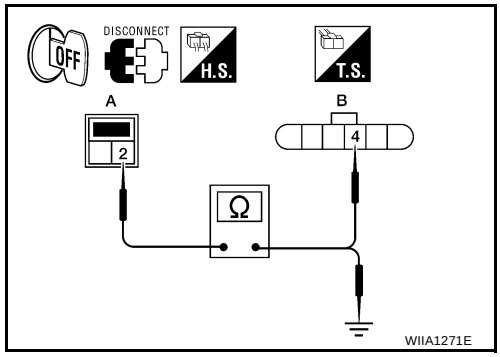
OK or NG

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

4. CHECK BACK DOOR OPENER SWITCH CIRCUIT 2

1. Disconnect front door lock actuator RH (door unlock sensor) connector.
2. Check continuity between back door opener switch connector (A) D408 terminal 2 and front door lock actuator RH (door unlock sensor) connector (B) D114 terminal 4.

A		B		Continuity
Back door opener switch connector	Terminal	Front door lock actuator RH (door unlock sensor) connector	Terminal	
D408	2	D114	4	Yes



3. Check continuity between back door opener switch connector (A) D408 terminal 2 and ground.

Back door opener switch connector	Terminal	Ground	Continuity
D408	2		No

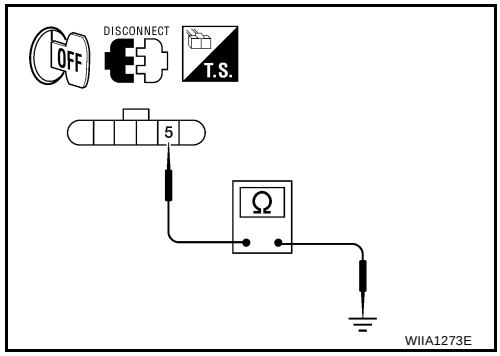
OK or NG

OK >> GO TO 5.
NG >> Repair or replace harness between back door opener switch and front door lock actuator RH (door unlock sensor).

5. CHECK FRONT DOOR LOCK ACTUATOR RH (DOOR UNLOCK SENSOR) GROUND CIRCUIT

Check continuity between front door lock actuator RH (door unlock sensor) connector terminal 5 and ground.

Front door lock actuator RH (door unlock sensor) connector	Terminal	Ground	Continuity
D114	5		Yes



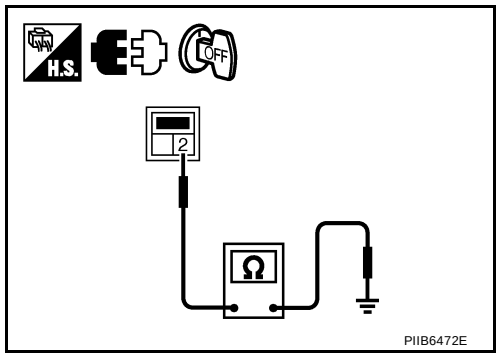
OK or NG

OK >> GO TO 6.
NG >> Repair or replace harness.

6. CHECK UNLOCK SENSOR FUNCTION

1. Connect front door lock actuator RH (door unlock sensor) connector.
2. Check continuity between back door opener switch connector D408 terminal 2 and ground.

Back door opener switch connector	Terminal		Front door lock knob RH position	Continuity
D408	2	Ground	Unlock	Yes
			Lock	No



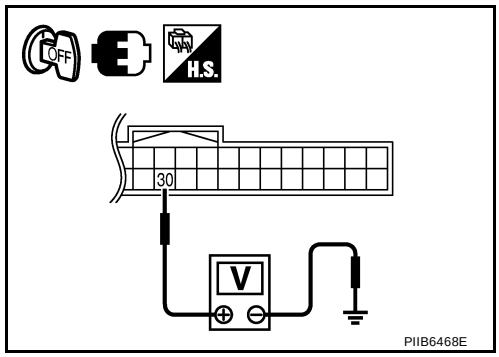
OK or NG

OK >> GO TO 7.
NG >> Replace front door lock actuator RH (door unlock sensor). Refer to BL-169, "FRONT DOOR LOCK" .

7. CHECK BACK DOOR OPENER SWITCH SIGNAL 2

1. Connect BCM connector.
2. Check voltage between BCM connector and ground.

Terminals			Voltage (V) (Approx.)
(+)		(–)	
BCM connector	Terminal		
M18	30	Ground	Battery voltage



OK or NG

OK >> Check the condition of harness and connector.
NG >> Replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .

Check Back Door Opener Switch Circuit (With Intelligent Key)

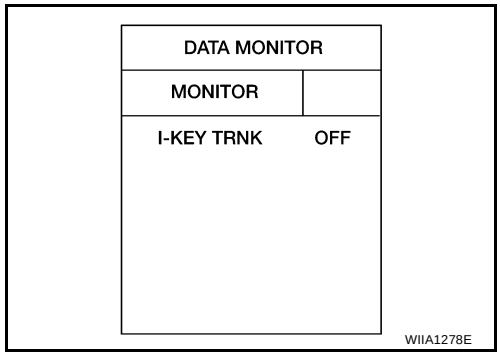
EIS009DW

1. CHECK BACK DOOR OPENER SWITCH SIGNAL

With CONSULT-II

Check back door opener switch ("I-KEY TRNK") in "DATA MONITOR" mode with CONSULT-II.

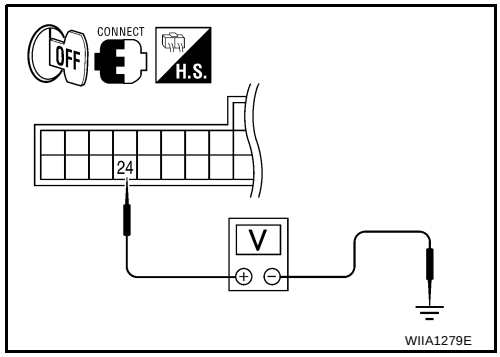
Test item	Condition
I-KEY TRNK	Back door opener switch is pushed: ON (momentarily)
	Back door opener switch is released: OFF



Without CONSULT-II

Check voltage between Intelligent Key unit connector M52 terminal 24 and ground.

Terminals			Door condition		Voltage (V) (Approx.)
(+)		(–)			
Intelligent Key unit connector	Terminal				
M52	24	Ground	Back door opener switch	Pushed	0
				Released	5



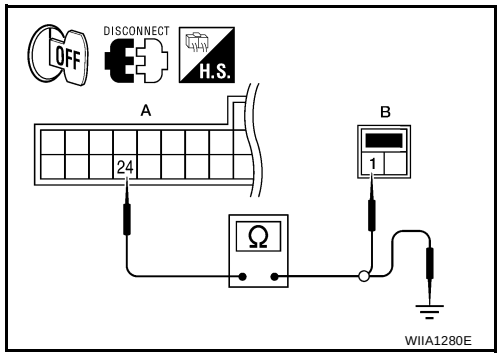
OK or NG

OK >> Back door opener switch is OK.
NG >> GO TO 2.

2. CHECK BACK DOOR OPENER SWITCH CIRCUIT 1

1. Turn ignition switch OFF.
2. Disconnect Intelligent Key unit and back door opener switch connector.
3. Check continuity between Intelligent Key unit connector (A) M52 terminal 24 and back door opener switch connector (B) terminal 1.

A		B		Continuity
Intelligent Key unit connector	Terminal	Back door opener switch connector	Terminal	
M52	24	D408	1	Yes



4. Check continuity between Intelligent Key unit connector (A) M52 terminal 24 and ground.

A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	24		No

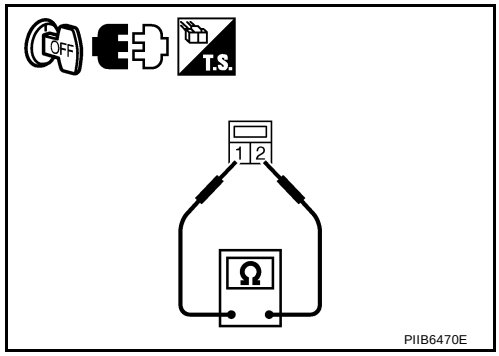
OK or NG

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

3. CHECK BACK DOOR OPENER SWITCH

Check continuity between back door opener switch terminals 1 and 2.

Terminal		Back door opener switch condition	Continuity
Back door opener switch			
1	2	Pushed	Yes
		Released	No



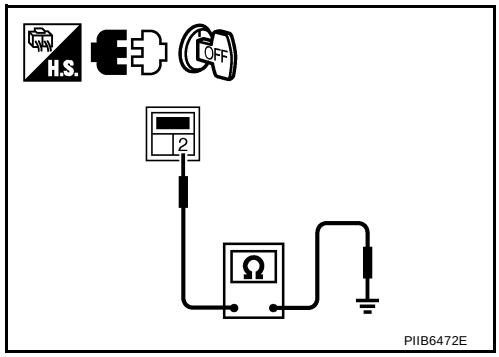
OK or NG

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

4. CHECK BACK DOOR OPENER SWITCH GROUND CIRCUIT

Check continuity between back door opener switch connector terminal 2 and ground.

Back door opener switch connector	Terminal	Ground	Continuity
D408	2		Yes



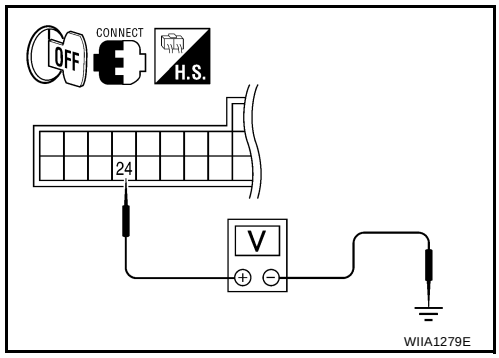
OK or NG

OK >> GO TO 6.
NG >> Repair or replace harness.

5. CHECK INTELLIGENT KEY UNIT OUTPUT SIGNAL

1. Connect Intelligent Key unit connector.
2. Check voltage between Intelligent Key unit connector M52 terminal 24 and ground.

Terminals			Voltage (V) (Approx.)
(+)		(–)	
Intelligent Key unit connector	Terminal		
M52	24	Ground	5



OK or NG

OK >> Check the condition of harness and connector.
NG >> Replace Intelligent Key unit. Refer to BL-160, "Removal and Installation of Intelligent Key Unit" .

Check Back Door Lock Assembly (Actuator) Circuit

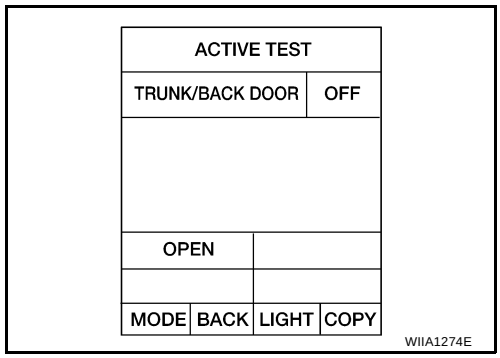
EIS009DT

1. CHECK BACK DOOR LOCK ASSEMBLY (ACTUATOR) FUNCTION

With CONSULT-II

Check the operation with (“TRUNK/BACK DOOR”) in the ACTIVE TEST.

Does back door actuator system operate normally?



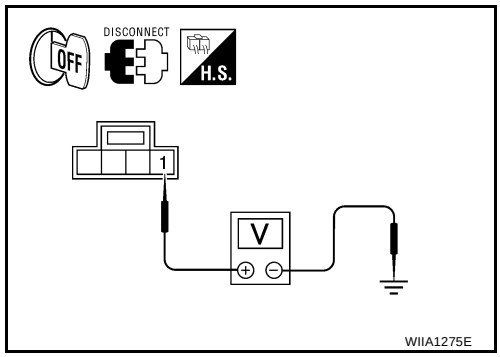
YES or NO

YES >> Back door lock assembly (actuator) is OK.
NO >> GO TO 2.

2. CHECK BACK DOOR LOCK ASSEMBLY (ACTUATOR) POWER SUPPLY

1. Turn ignition switch OFF.
2. Insure both front door lock knobs are turned to the UNLOCK position.
3. Disconnect back door lock assembly (actuator) connector.
4. Check voltage between back door lock assembly (actuator) connector D405 terminal 1 and ground.

Terminals			Condition		Voltage (V) (Approx.)
(+)		(–)			
Back door lock assembly (actuator) connector	Terminal				
D405	1	Ground	Back door opener switch	Pushed	0 ↓ Battery voltage ↓ 0
				Released	0



OK or NG

OK >> GO TO 3.
NG >> GO TO 4.

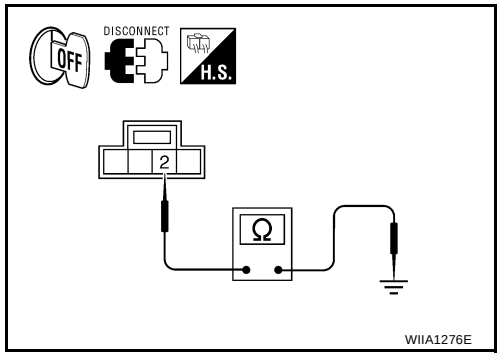
3. CHECK BACK DOOR LOCK ASSEMBLY (ACTUATOR) GROUND CIRCUIT

Check continuity between back door lock assembly (actuator) connector D405 terminal 2 and ground.

Back door lock assembly (actuator) connector	Terminal	Ground	Continuity
D405	2		Yes

OK or NG

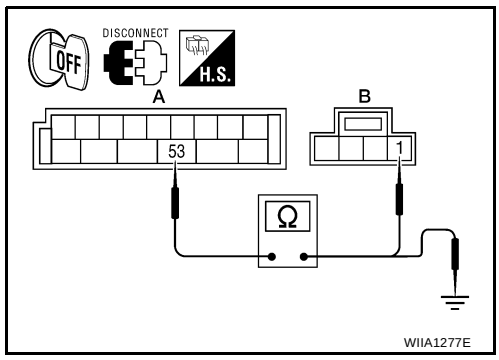
OK >> Replace back door lock assembly (actuator). Refer to BL-175, "BACK DOOR LOCK" .
NG >> Repair or replace harness.



4. CHECK BACK DOOR LOCK ASSEMBLY (ACTUATOR) CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM connector (A) M19 terminal 53 and back door lock assembly (actuator) connector (B) D405 terminal 1.

A		B		Continuity
BCM connector	Terminal	Back door opener actuator connector	Terminal	
M19	53	D405	1	Yes



3. Check continuity between BCM connector (A) M19 terminal 53 and ground.

BCM connector	Terminal	Ground	Continuity
M19	53		No

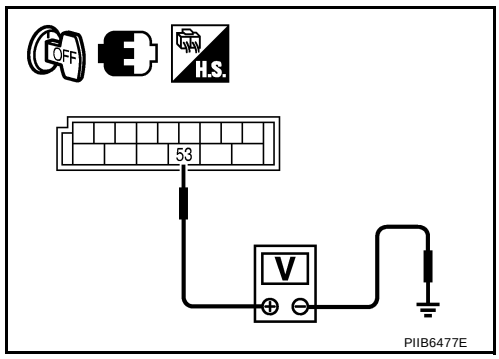
OK or NG

OK >> GO TO 5.
NG >> Repair or replace harness between BCM and back door lock assembly (actuator).

5. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M19 terminal 53 and ground.

Terminals			Condition		Voltage (V) (Approx.)
(+)		(–)			
BCM connector	Terminal				
M19	53	Ground	Back door opener switch	Pushed	0 ↓ Battery voltage ↓ 0
				Released	0



OK or NG

OK >> Check the condition of harness and connector.
NG >> Replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .

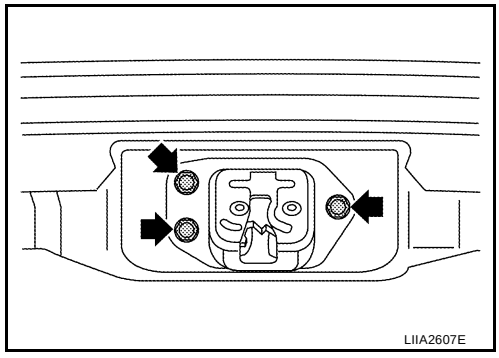
Removal and Installation

EIS009BW

BACK DOOR LOCK

Removal

1. Remove the back door finisher lower. Refer to EI-31, "BACK DOOR TRIM" .
2. Remove the bolts, disconnect the electrical connector and separate the lock from the door.



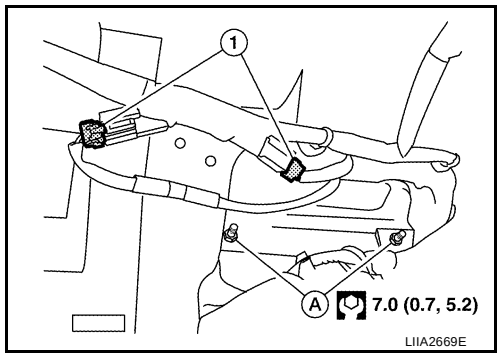
Installation

Installation is in the reverse order of removal.

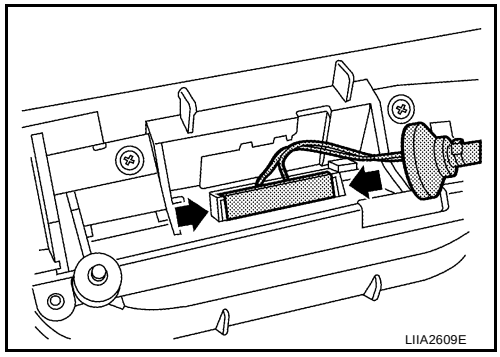
BACK DOOR HANDLE

Removal

1. Remove the back door finisher lower. Refer to EI-31, "BACK DOOR TRIM" .
2. Disconnect the harness connectors (1), remove the nuts and the back door handle (A).



3. Release the clips and remove the switch from the housing.



Installation

Installation is in the reverse order of removal.

FUEL FILLER LID OPENER

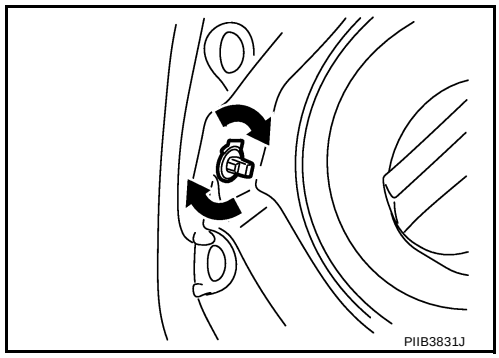
PFP:78820

Removal and Installation of Fuel Filler Lid Opener

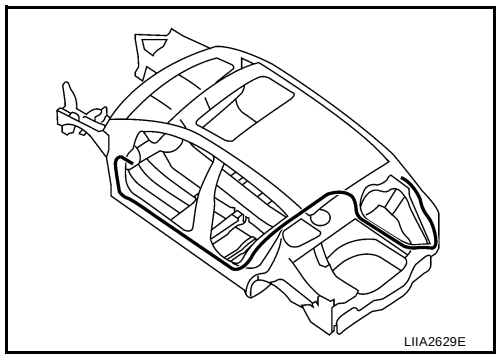
EIS0093M

REMOVAL

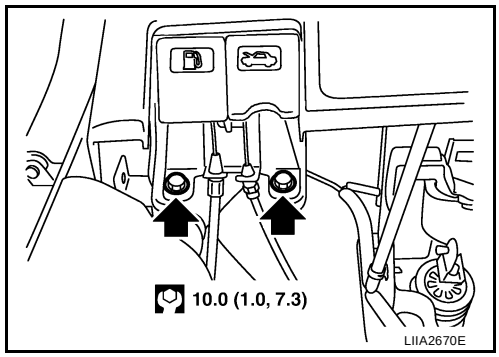
1. Remove trunk side finisher (RH). Refer to EI-42, "Removal and Installation" .
2. Remove fuel filler lock.
3. Remove front kicking plate and rear kicking plate. Refer to EI-32, "Removal and Installation" .
4. Remove rear cushion assembly. Refer to SE-15, "Removal and Installation" .



5. Remove fuel filler lid opener cable clip from the vehicle.



6. Remove the bolts and the fuel filler lid opener.
7. Remove the fuel filler lid opener cable.



INSTALLATION

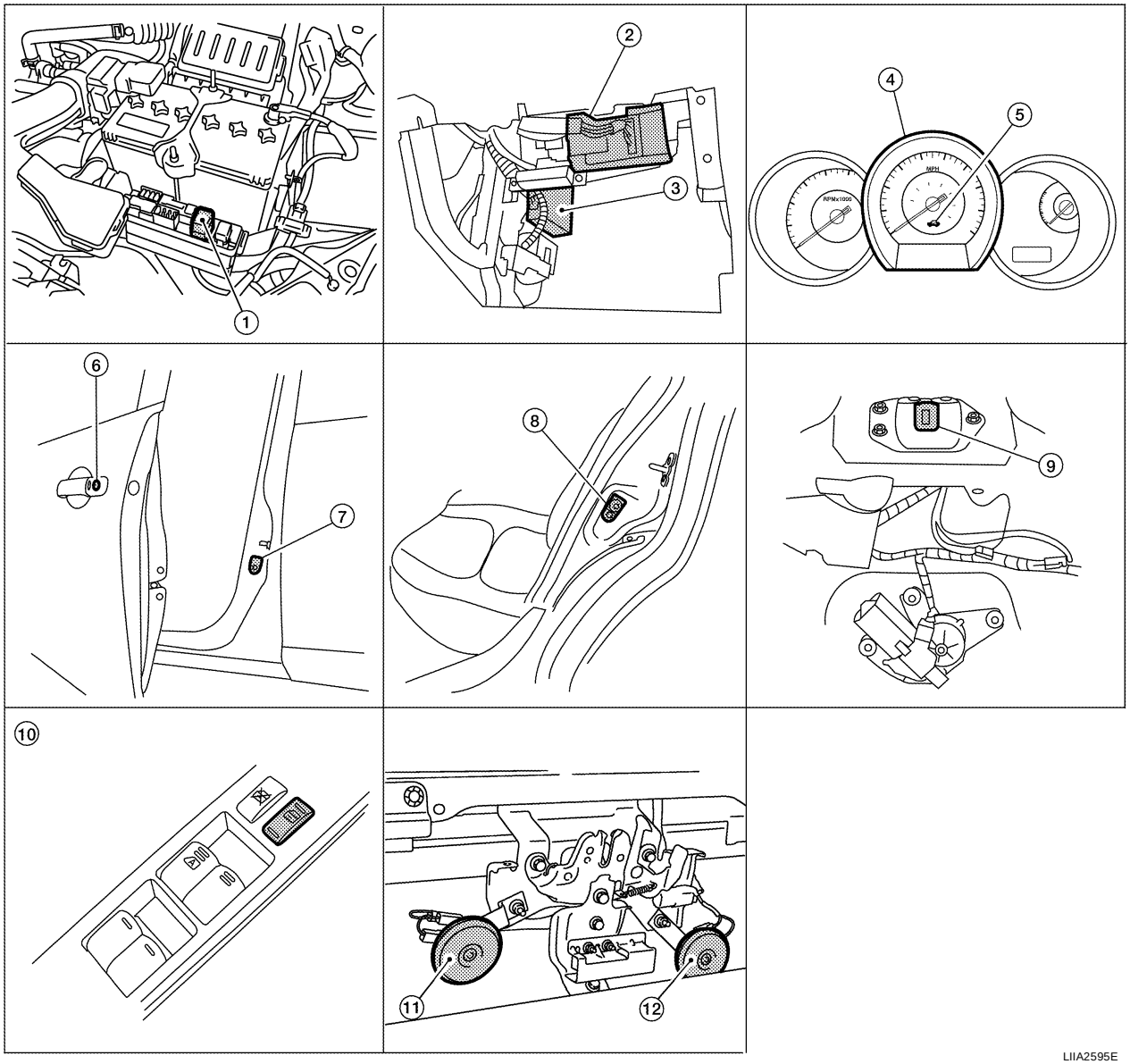
Installation is in the reverse order of removal.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

PFP:28491

Component Parts and Harness Connector Location

EIS009AX



LIIA2595E

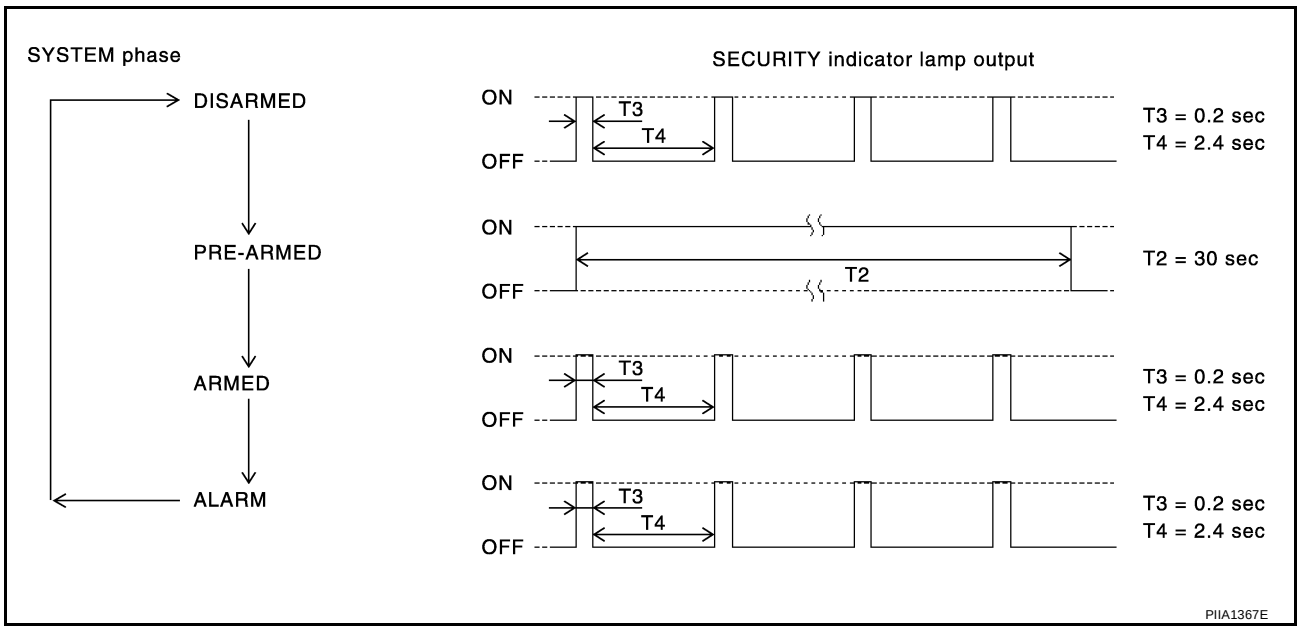
1. Horn relay H-1
2. BCM M18, M19, M20 (view with glove box removed)
3. Intelligent Key unit M52 (if equipped)
4. Combination meter M24
5. Security indicator lamp
6. Front door key cylinder switch LH D14
7. Front door switch LH B8, RH B108
8. Rear door switch LH B6, RH B116
9. Back door lock assembly (back door switch) D405 (with back door open)
10. Main power window and door lock/ unlock switch D7, D8
    Power window and door lock/unlock switch RH D105
11. Horn (low) E18, E20
12. Horn (high) E21, E22

System Description

EIS009AY

DESCRIPTION

Operation Flow



Setting the vehicle security system

Initial condition

- Ignition switch is in OFF position.

Disarmed phase

- When the vehicle is being driven or when any 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.

Pre-armed phase and armed phase

- The vehicle security system turns into the "pre-armed" phase (security lamp illuminates) when the BCM receives LOCK signal from front door key cylinder switch, keyfob or Intelligent Key after all doors are closed.
- 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

The armed phase is canceled when the driver unlocks the doors with the key, keyfob or Intelligent Key.

Activating the alarm operation of the vehicle security system

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

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

POWER SUPPLY AND GROUND

Power is supplied at all times

- through 10A fuse [No.13, located in the fuse block (J/B)]
- to combination meter terminal 27 (security indicator lamp)
- through 40A fusible link (letter **g** , located in the fuse and fusible link box)
- to BCM terminal 70
- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to BCM terminal 57

- through 10A fuse (No. 28, located in the fuse and fusible link box)
- to horn relay terminal 2
- through 15A fuse (No. 52, located in the IPDM E/R)
- to IPDM E/R internal CPU.
- through 20A fuse (No. 53, located in the IPDM E/R)
- to IPDM E/R internal CPU.

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

- through 10A fuse [No. 20, located in the fuse block (J/B)]
- to BCM terminal 11.

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

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to BCM terminal 38.

Ground is supplied

- to BCM terminal 67
- through body grounds M57 and M61.

INITIAL CONDITION TO ACTIVATE THE SYSTEM

The operation of the vehicle security system is controlled by the doors.
To activate the vehicle security system, BCM must receive signals indicating the ignition switch is OFF, doors are closed and locked.
When a door is open, BCM terminal 12, 13, 43, 47 or 48 receives a ground signal from each door switch. In addition to BCM, when back door is open, the Intelligent Key unit terminal 23 receives a ground signal from back door through BCM terminal 30.
When front door LH is unlocked, BCM terminal 46 receives a signal from terminal 6 of main power window and door lock/unlock switch.
When front door RH is unlocked, BCM terminal 46 receives a signal from terminal 2 of power window and door lock/unlock switch RH.

VEHICLE SECURITY SYSTEM ALARM OPERATION

The vehicle security system is triggered by

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

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

- when BCM receives a ground signal at terminals 12, 13, 47, 48 (front or rear door switch), or terminal 43 (back door switch).

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

- from IPDM E/R terminal 45
- to horn relay terminal 1.

The headlamps flash and the horn sounds intermittently.
The alarm automatically turns off after 50 seconds, but will reactivate if the vehicle is tampered with again.

VEHICLE SECURITY SYSTEM DEACTIVATION

To deactivate the vehicle security system, a door must be unlocked with the key, keyfob or Intelligent Key.
When the key is used to unlock the driver door, BCM terminal 7 receives signal

- from terminal 3 of the front door key cylinder switch LH.

When the BCM receives this signal or unlock signal from keyfob or Intelligent Key or front door key cylinder switch LH, the vehicle security system is deactivated. (Disarmed phase)

PANIC ALARM OPERATION

Intelligent Key and remote keyless entry system may or may not operate vehicle security system (horn and headlamps) as required.
When the remote keyless entry system is triggered, ground is supplied intermittently

- from IPDM E/R terminal 45
- to horn relay terminal 1.

The headlamp flashes and the horn sounds intermittently.

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

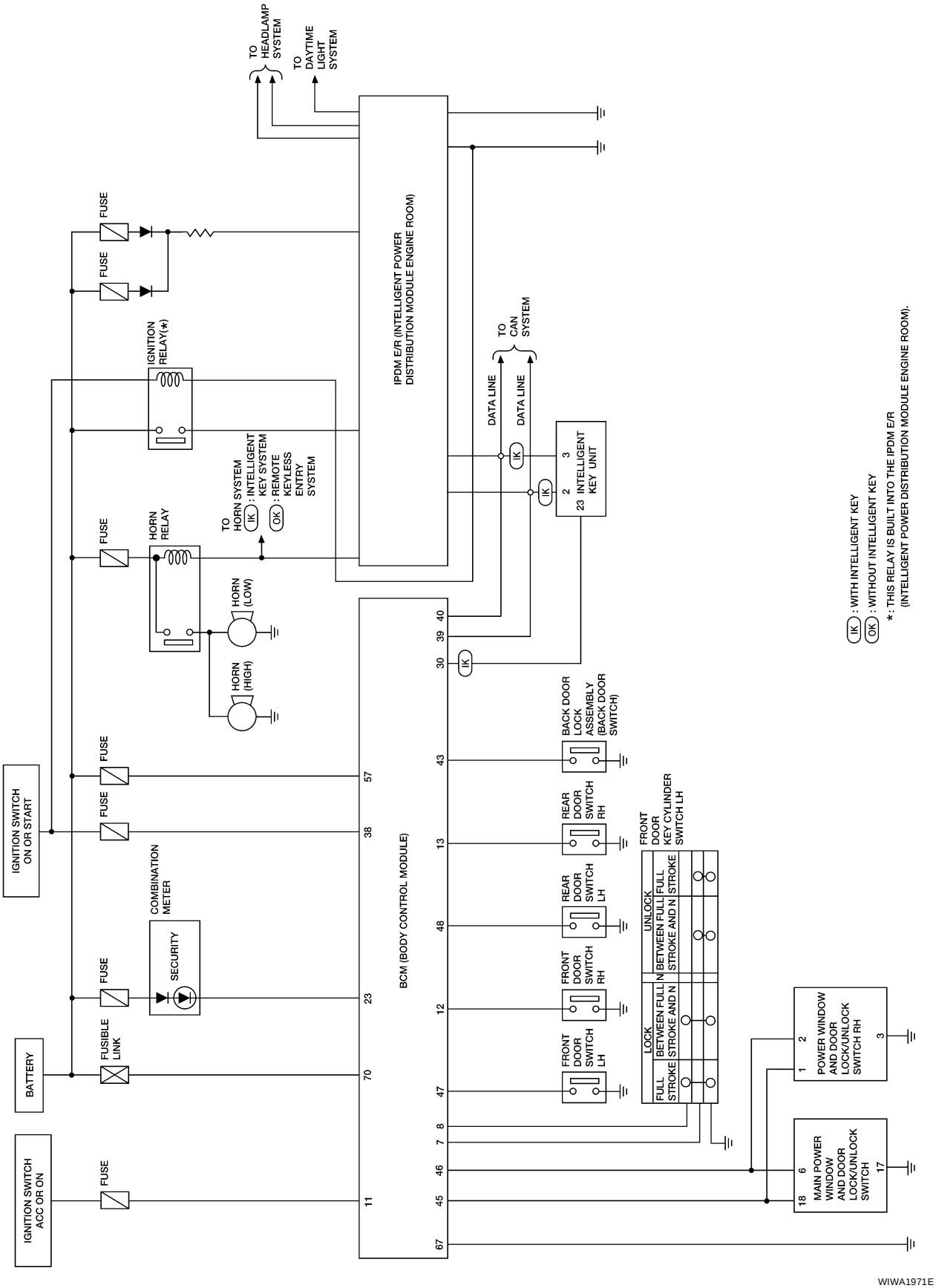
CAN Communication System Description

EIS009AZ

Refer to LAN-4, "SYSTEM DESCRIPTION" .

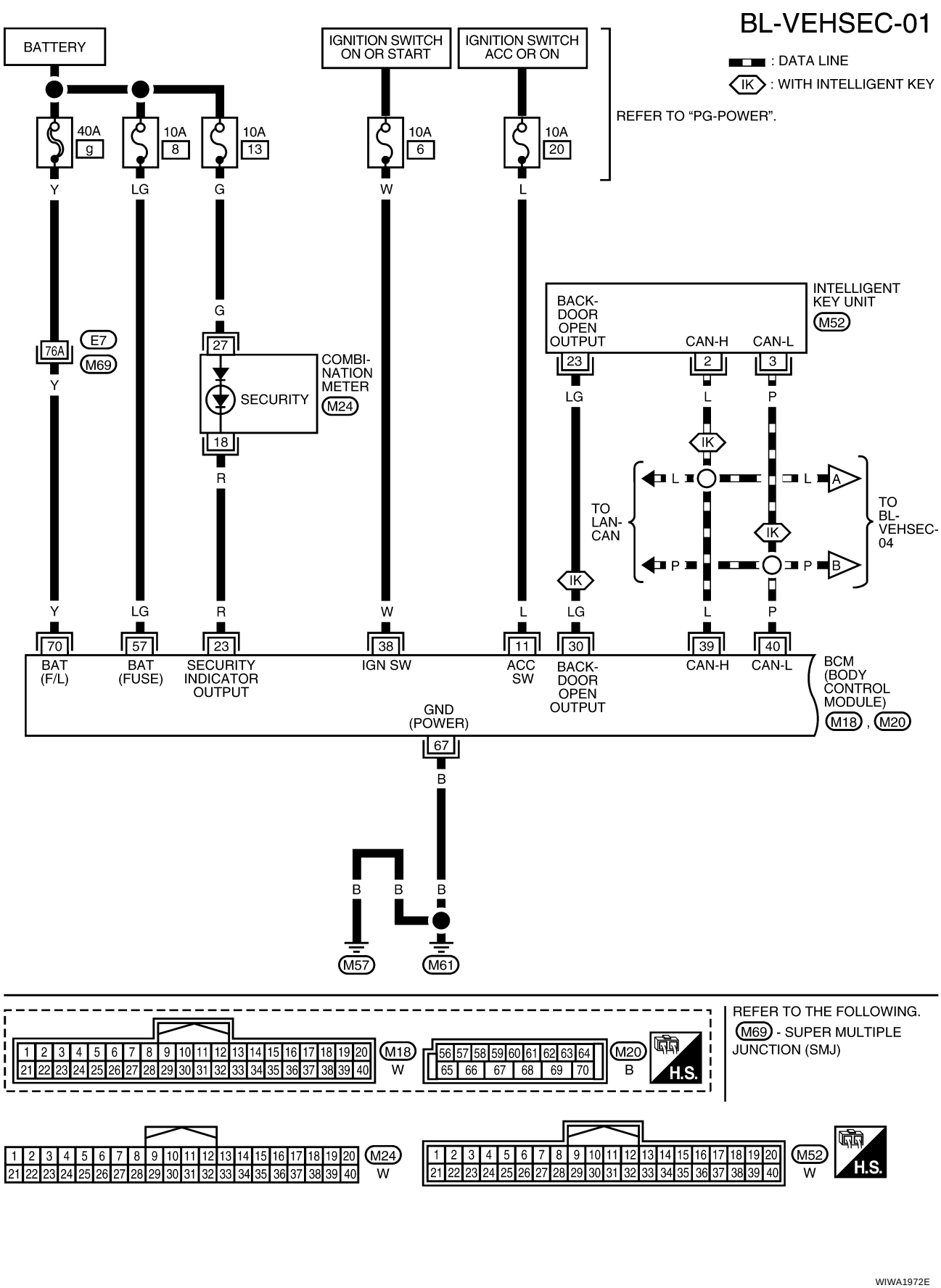
Schematic

EIS009B0



Wiring Diagram — VEHSEC —

EIS009B1



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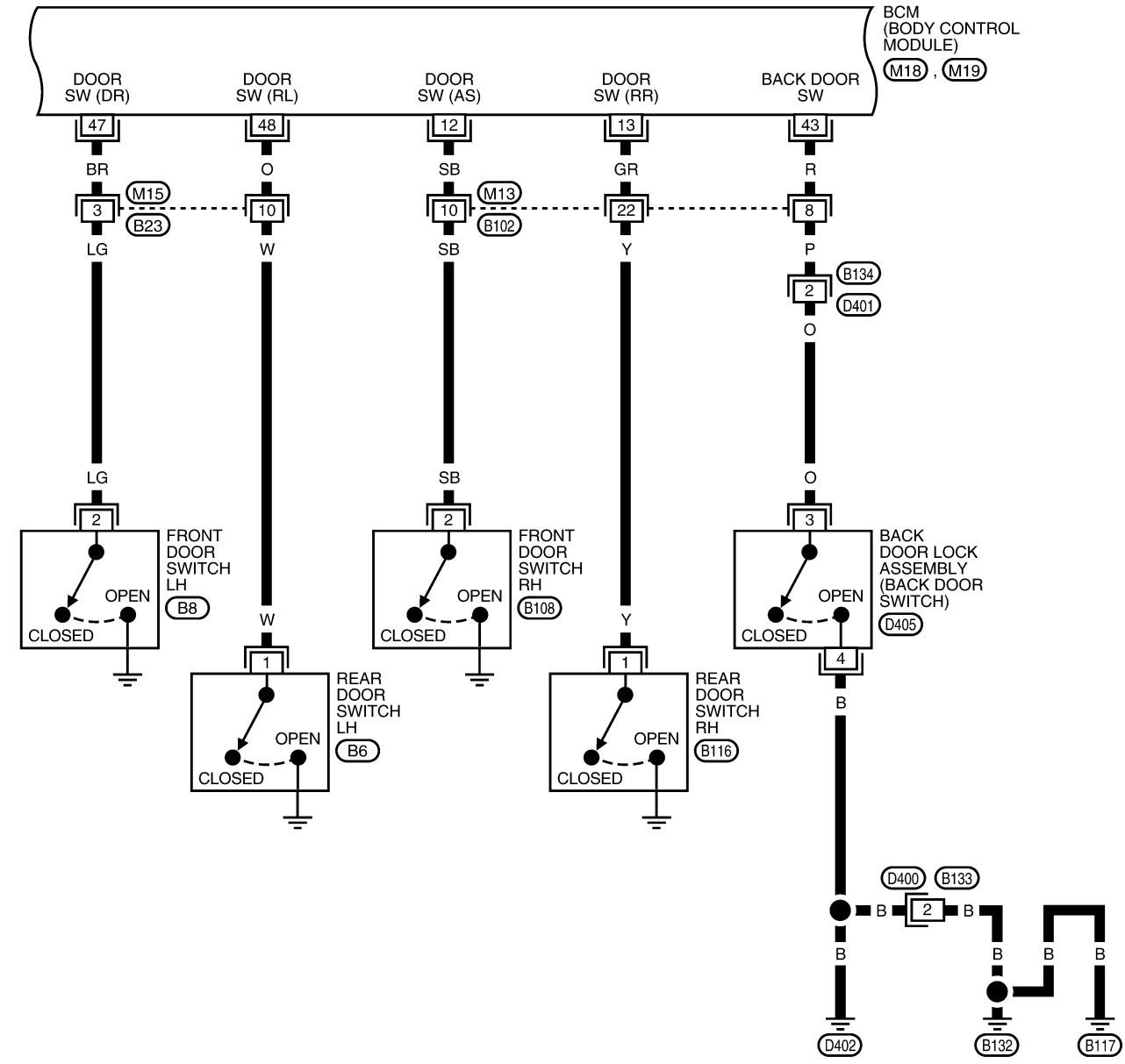
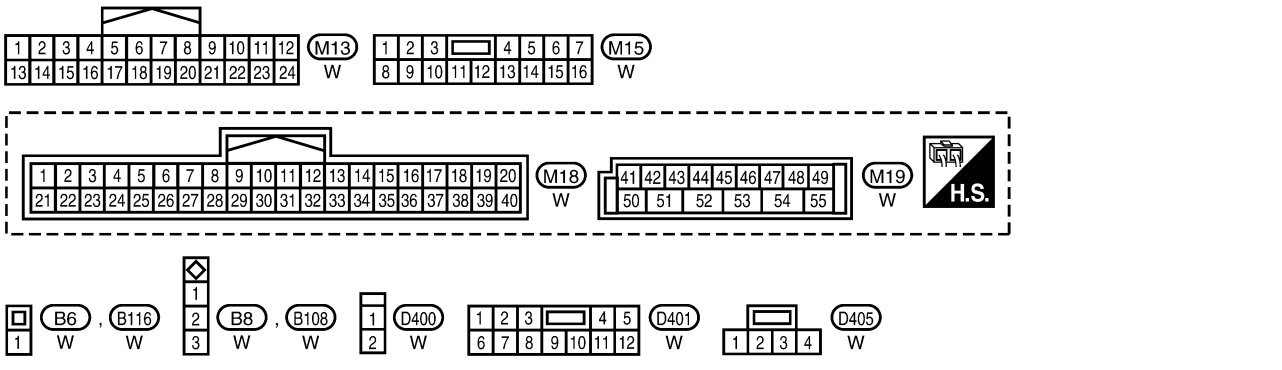
BL-VEHSEC-02





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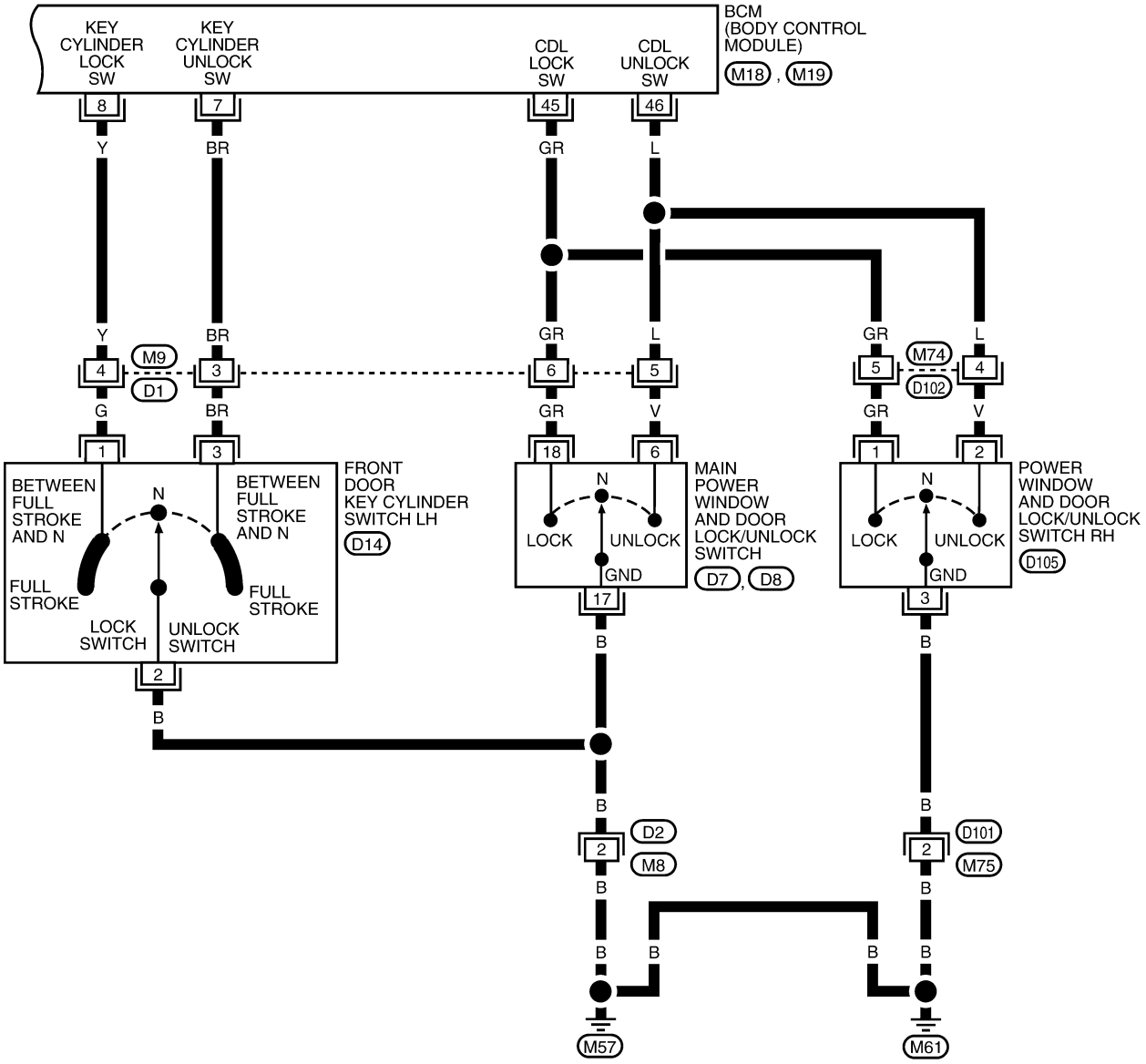
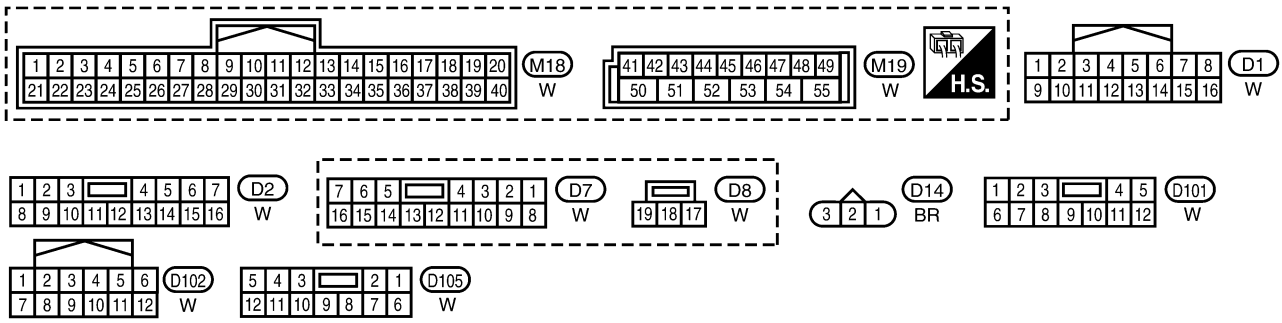
BL-VEHSEC-03





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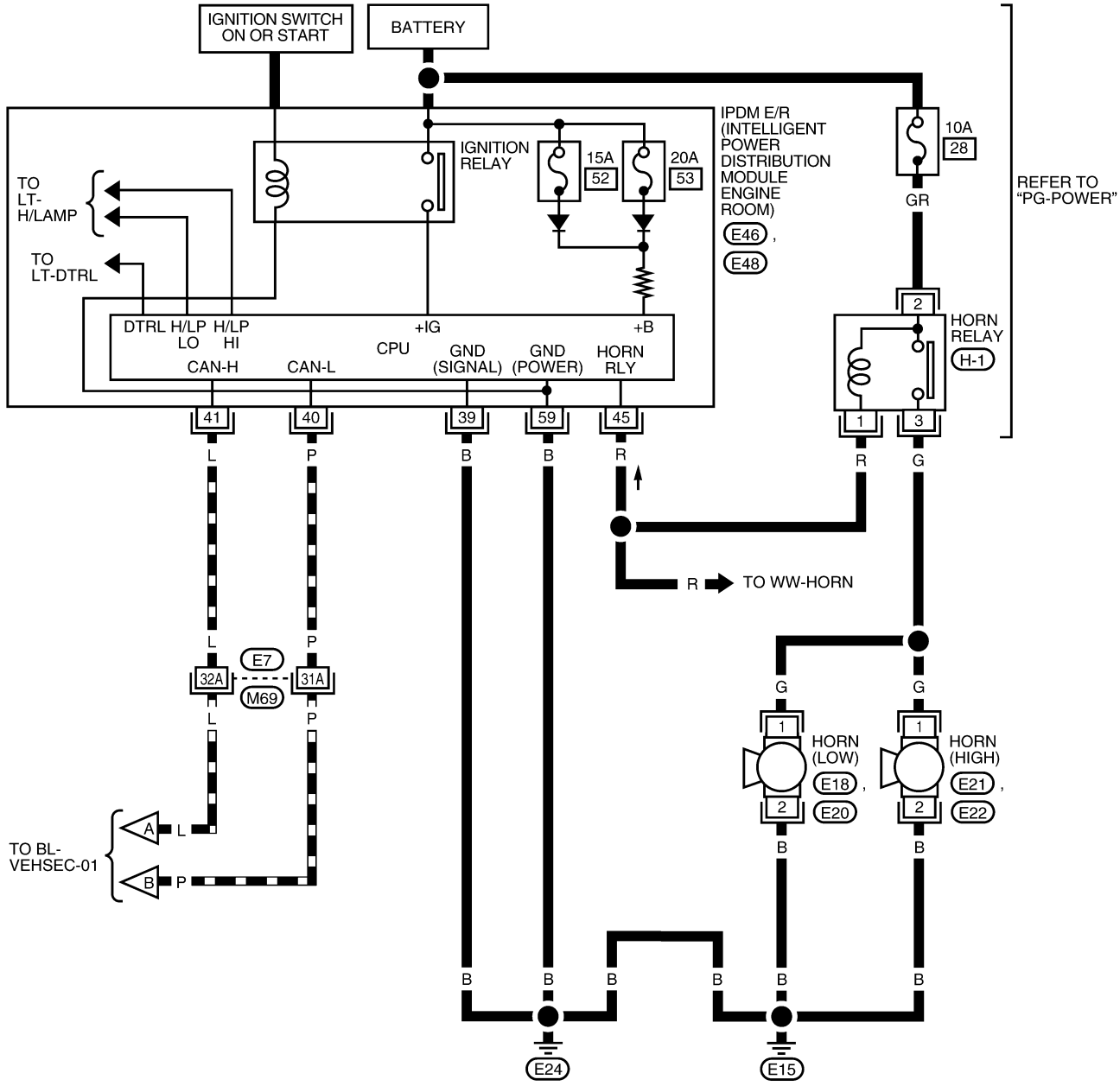
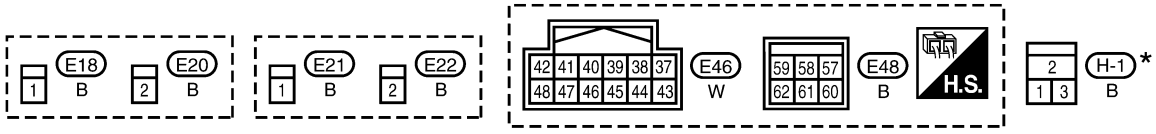
BL-VEHSEC-04

: DATA LINE



REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)



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

LIWA0555E

Terminals and Reference Values for BCM

EIS00A3H

Refer to BCS-12, "Terminals and Reference Values for BCM" .

Terminals and Reference Values for Intelligent Key Unit

EIS009E2

Refer to BL-106, "Terminals and Reference Values for Intelligent Key Unit" .

CONSULT-II Function (BCM)

EIS009B2

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

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

CONSULT-II START PROCEDURE

Refer to GI-38, "CONSULT-II Start Procedure" .

CONSULT-II APPLICATION ITEM

Work Support

Test Item	Description
SECURITY ALARM SET	This mode can 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.

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.
I-KEY LOCK	Indicates [ON/OFF] condition of lock signal from keyfob.
I-KEY UNLOCK	Indicates [ON/OFF] condition of unlock signal from keyfob.
I-KEY TRUNK	Indicates [ON/OFF] condition of trunk open signal from keyfob.
TRNK OPNR SW	Indicates [ON/OFF] condition of trunk opener switch.
TRUNK CYL SW	Indicates [ON/OFF] condition of trunk key cylinder switch.
TRNK OPN MNTR	Indicates [ON/OFF] condition of trunk lid status.
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 switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
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.

Monitored Item	Description
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from door lock/unlock switch LH and RH.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock/unlock switch LH and RH.

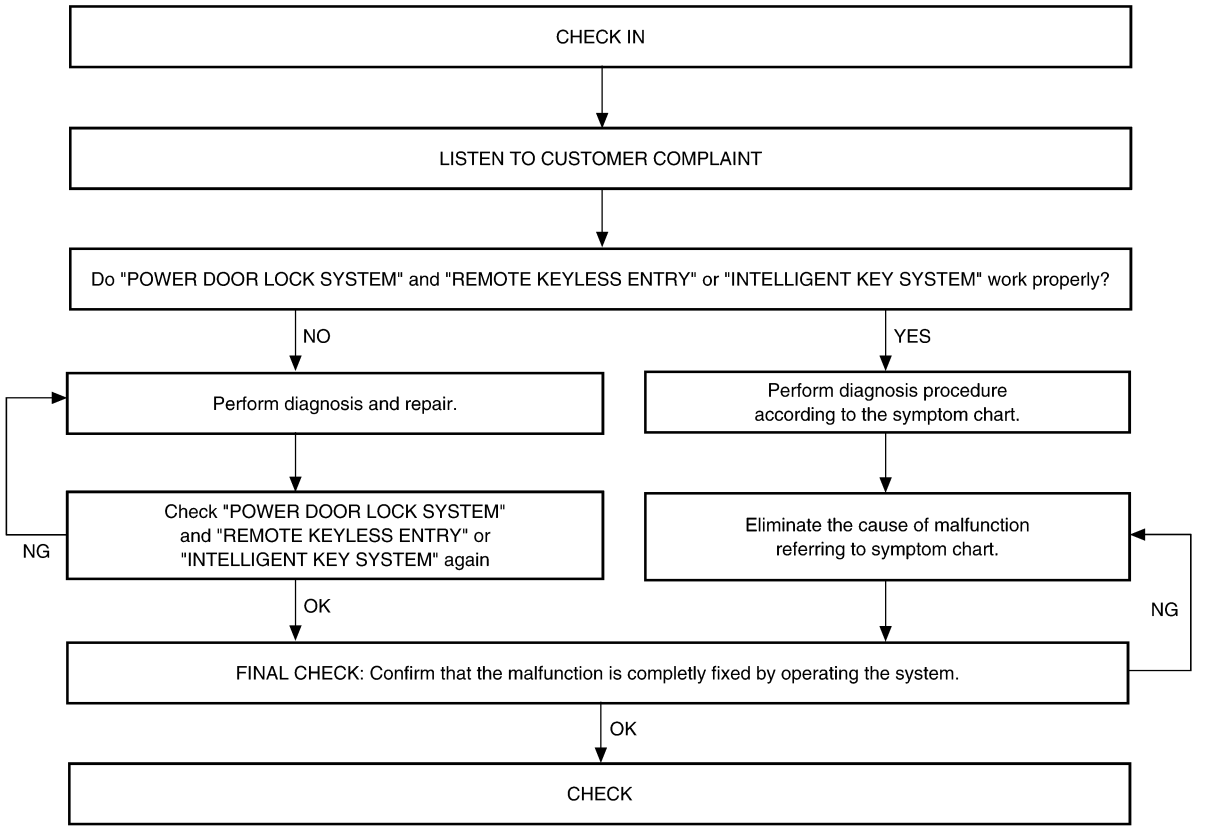
Active Test

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.
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation. The horns will be activated for 0.5 seconds after “ON” on CONSULT-II screen is touched.
HEADLAMP (HI)	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.

Trouble Diagnosis

EIS009B3

WORK FLOW



LIIA2635E

- For “POWER DOOR LOCK SYSTEM” diagnosis, refer to BL-23, "POWER DOOR LOCK SYSTEM" .
- For "INTELLIGENT KEY SYSTEM” diagnosis, refer to BL-80, "INTELLIGENT KEY SYSTEM" .
- For “REMOTE KEYLESS ENTRY SYSTEM” diagnosis, refer to BL-54, "REMOTE KEYLESS ENTRY SYSTEM" .

Preliminary Check

EIS009B4

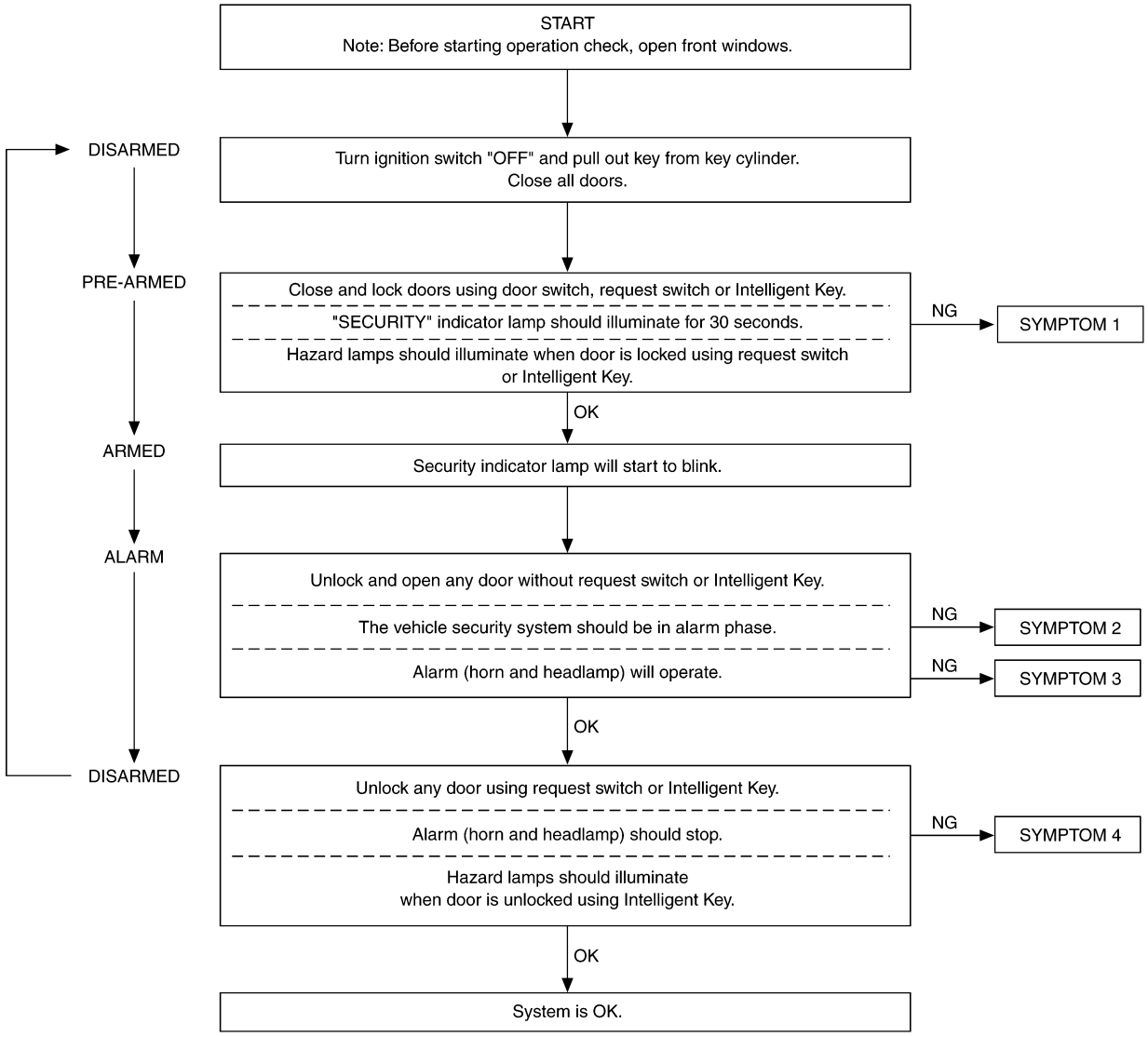
1. CHECK BCM CONFIGURATION

Confirm BCM configuration for "THEFT ALARM" is set to "WITH". Refer to BCS-19, "READ CONFIGURATION PROCEDURE" .

OK or NG

OK >> Proceed with the preliminary check to verify system operation.
NG >> Change BCM configuration for "THEFT ALARM" to "WITH". Refer to BCS-21, "WRITE CONFIGURATION PROCEDURE" .

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



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After performing preliminary check, go to symptom chart. Refer to BL-206, "Symptom Chart" .

Symptom Chart

EIS009B5

	SYMPTOM	PROCEDURE	Diagnostic procedure
1	Vehicle security system cannot be set by ····.	AII items	Diagnostic Procedure 1 (Door switch check) Refer to BL-207, "Diagnostic Procedure 1" .
			If the above systems are “OK”, replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .
		Lock/unlock switch	Diagnostic Procedure 6 (Door lock/unlock switch check) Refer to BL-211, "Diagnostic Procedure 6" .
			If the above systems are “OK”, check main power window and door lock/ unlock switch. Refer to GW-17, "POWER WINDOW SYSTEM" .
		Door outside key (driver)	Diagnostic Procedure 3 (Door key cylinder switch check) Refer to BL-211, "Diagnostic Procedure 3" .
			If the above systems are “OK”, check main power window and door lock/ unlock switch. Refer to GW-17, "POWER WINDOW SYSTEM" .
		Intelligent key	Check Intelligent Key entry function. Refer to BL-82, "System Description"
			If the above systems are “OK”, replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .
		Keyfob (without Intelligent Key)	Check remote keyless entry function. Refer to BL-61, "Preliminary Check" .
			If the above systems are “OK”, replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .
2	Security indicator does not turn “ON”.	Security indicator lamp	Diagnostic Procedure 2 (Security indicator lamp check) Refer to BL-210, "Diagnostic Procedure 2" .
			If the above systems are “OK”, replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .
3	*1 Vehicle security system does not alarm when ···.	Any door is opened.	Diagnostic Procedure 1 (Door switch check) Refer to BL-207, "Diagnostic Procedure 1" .
			If the above systems are “OK”, replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .
4	Vehicle security alarm does not activate.	Horn alarm	Diagnostic Procedure 4 (Vehicle security horn alarm check). Refer to BL-211, "Diagnostic Procedure 4" .
			If the above systems are “OK”, check horn system. Refer to WW-46, "HORN" .
		Head lamp alarm	Diagnostic Procedure 5 (Head lamp alarm check). Refer to BL-211, "Diagnostic Procedure 5" .
			If the above systems are “OK”, replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .
5	Vehicle security system cannot be canceled by ···.	Door outside key (driver)	Diagnostic Procedure 3 (Door key cylinder switch check). Refer to BL-211, "Diagnostic Procedure 3" .
			If the above systems are “OK”, check main power window and door lock/ unlock switch. Refer to GW-17, "POWER WINDOW SYSTEM" .
		Intelligent key	Check Intelligent Key entry function. Refer to BL-82, "System Description"
			If the above systems are “OK”, replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .
		Keyfob (without Intelligent Key)	Check remote keyless entry function. Refer to BL-61, "Preliminary Check" .
			If the above systems are “OK”, replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .

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

Diagnostic Procedure 1

EIS009B6

1-1 DOOR SWITCH CHECK

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in DATA MONITOR mode with CONSULT–II. Refer to BL-37, "DATA MONITOR" .

- When doors are open:

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

- When doors are closed:

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

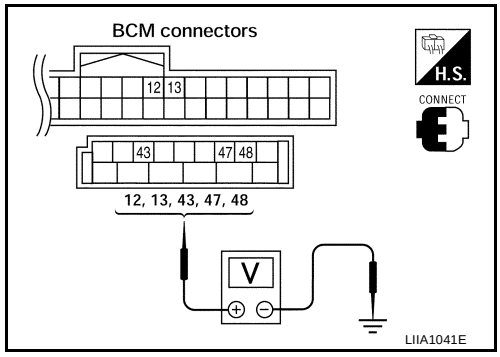
DATA MONITOR	
MONITOR	
DOOR SW - DR	OFF
DOOR SW - AS	OFF
DOOR SW - RR	OFF
DOOR SW - RL	OFF
BACK DOOR SW	OFF

LIIA0665E

Without CONSULT-II

Check voltage between BCM connector M18 or M19 terminals 12, 13, 43, 47, 48 and ground.

Connector	Item	Terminals (+)	Terminals (–)	Condition	Voltage (V) (Approx.)
M18	Front door switch RH	12	Ground	Open ↓ Closed	0 ↓ Battery voltage
	Rear door switch RH	13			
M19	Back door switch	43			
	Front door switch LH	47			
	Rear door switch LH	48			



OK or NG

OK1 >> Door switch circuit is OK (without Intelligent Key).
OK2 >> GO TO 6 (with Intelligent Key).
NG >> GO TO 2.

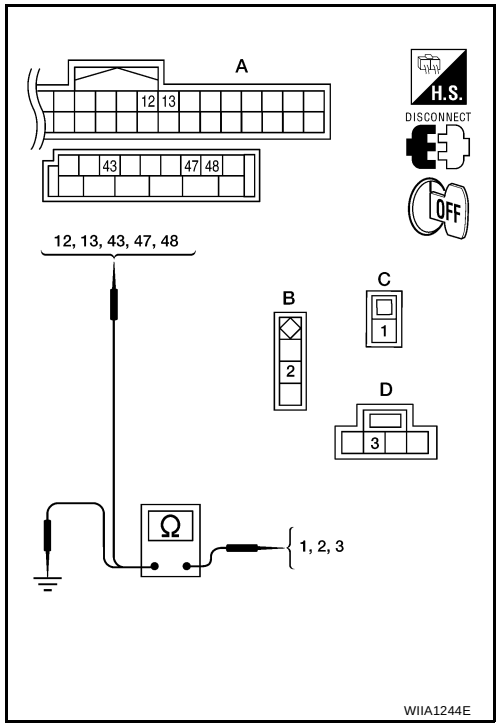
2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector (B) B8 (front LH), B108 (front RH) terminal 2 or (C) B6 (rear LH), B116 (rear RH) terminal 1 or back door lock assembly connector (D) D405 terminal 3 and BCM connectors (A) M18, M19 terminals 12, 13, 43, 47 and 48.

1 - 13 : Continuity should exist.
1 - 48 : Continuity should exist.
2 - 12 : Continuity should exist.
2 - 47 : Continuity should exist.
3 - 43 : Continuity should exist.

4. Check continuity between door switch connector (B) B8 (front LH), B108 (front RH) terminal 2 or (C) B6 (rear LH), B116 (rear RH) terminal 1 or back door lock assembly connector (D) D405 terminal 3 and ground.

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



OK or NG

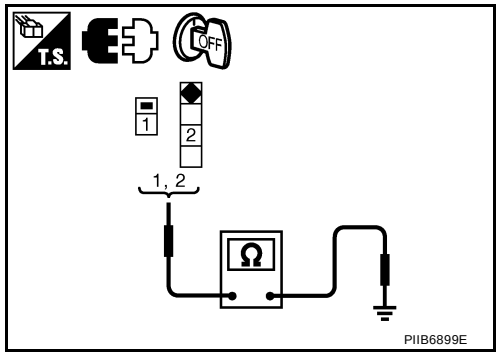
OK >> GO TO 3.
NG >> Repair or replace harness.

3. CHECK DOOR SWITCHES

FRONT AND REAR DOORS

Check continuity between front door switch terminal 2 or rear door switch terminal 1 and exposed metal of switch while pressing and releasing switch.

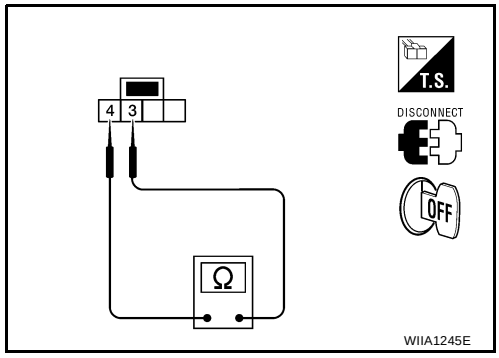
Door switch is released : Continuity should exist.
Door switch is pushed : Continuity should not exist.



BACK DOOR

Check continuity between back door lock assembly connector (back door switch) terminals 3 and 4 while pressing (closing back door) and releasing (opening back door) switch.

When back door is open : Continuity should exist.
When back door is closed : Continuity should not exist.



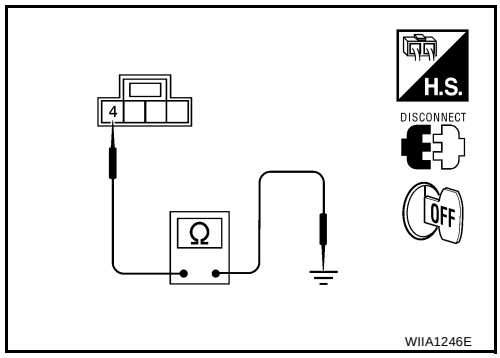
OK or NG

OK1 >> (Front and rear doors) Switch circuit is OK.
OK2 >> (Back door) GO TO 4.
NG >> Replace door switch.

4. CHECK BACK DOOR SWITCH GROUND

Check continuity between back door lock assembly connector D405 terminal 4 and ground.

4 - Ground : Continuity should exist.



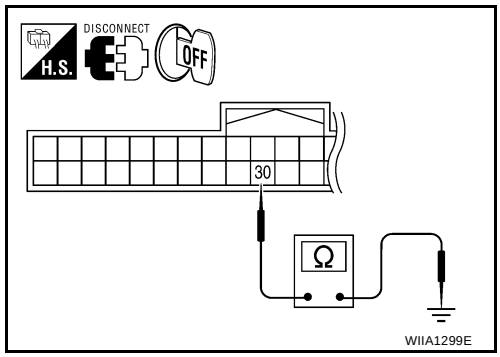
OK or NG

OK1 >> Back door switch circuit is OK (without Intelligent Key).
OK2 >> GO TO 5 (with Intelligent Key).
NG >> Repair or replace harness.

5. CHECK BACK DOOR SWITCH SIGNAL FOR SHORT

1. Disconnect Intelligent Key unit.
2. Check continuity between BCM connector M18 terminal 30 and ground.

30 - Ground : Continuity should not exist.



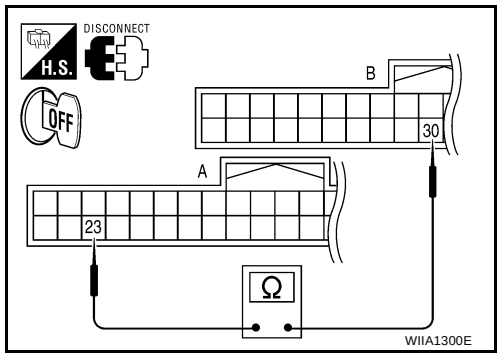
OK or NG

OK >> Back door switch circuit is OK.
NG >> Repair or replace harness.

6. CHECK BACK DOOR SWITCH SIGNAL FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect Intelligent Key unit and BCM.
3. Check continuity between Intelligent Key unit connector M52 (A) terminal 23 and BCM connector M18 (B) terminal 30.

23 - 30 : Continuity should exist.



OK or NG

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

Diagnostic Procedure 2

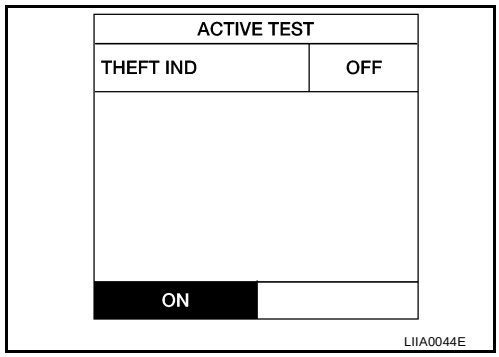
EIS009B7

SECURITY INDICATOR LAMP CHECK

1. SECURITY INDICATOR LAMP ACTIVE TEST

With CONSULT-II

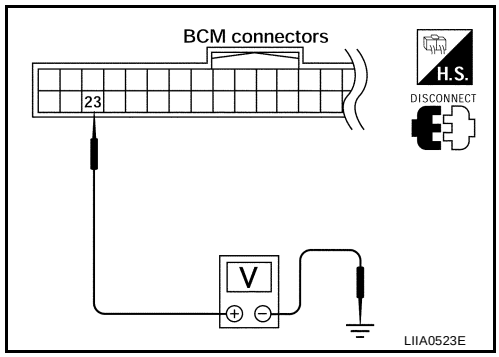
Check "THEFT IND" in "ACTIVE TEST" mode with CONSULT-II.



Without CONSULT-II

1. Disconnect BCM.
2. Check voltage between BCM harness connector M18 terminal 23 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M18	23	Ground	ON	0
			OFF	Battery voltage



OK or NG

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

2. SECURITY INDICATOR LAMP CHECK

Check security indicator lamp condition.

OK or NG

OK >> GO TO 3.
NG >> Replace security indicator lamp.

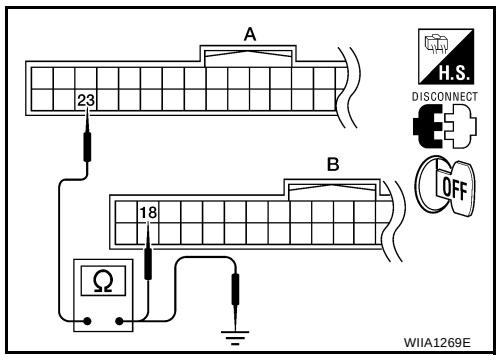
3. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and combination meter.
3. Check continuity between BCM connector (A) M18 terminal 23 and combination meter connector (B) M24 terminal 18.

23 - 18 : Continuity should exist.

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

23 - Ground : Continuity should not exist.



OK or NG

OK >> Check the following:
- 10A fuse [No. 13, located in fuse block (J/B)]
- Harness for open or short between combination meter and fuse

NG >> Repair or replace harness.

Diagnostic Procedure 3

EIS009B8

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

Check front door lock assembly LH (key cylinder switch) with key.

Do doors lock/unlock when using the key?

YES >> Front door lock assembly LH (key cylinder switch) is OK.
NO >> Check front door lock assembly LH (key cylinder switch) circuit. Refer to BL-50, "Front Door Key Cylinder Switch LH Check" .

Diagnostic Procedure 4

EIS009B9

VEHICLE SECURITY HORN ALARM CHECK

1. CHECK HORN OPERATION

Check if horn sounds with horn switch.

Does horn operate?

YES >> Check harness for open or short between IPDM E/R and horn relay.
NO >> Check horn circuit. Refer to WW-46, "HORN" .

Diagnostic Procedure 5

EIS009BA

VEHICLE SECURITY HEADLAMP ALARM CHECK

1. CHECK VEHICLE SECURITY HEADLAMP ALARM OPERATION

Check if headlamps operate with lighting switch.

Do headlamps come on when turning switch ON?

YES >> Headlamp alarm is OK.
NO >> Check headlamp system. Refer to LT-5, "HEADLAMP (FOR USA)" or LT-27, "HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -" .

Diagnostic Procedure 6

EIS009BB

DOOR LOCK/UNLOCK SWITCH CHECK

1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

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

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

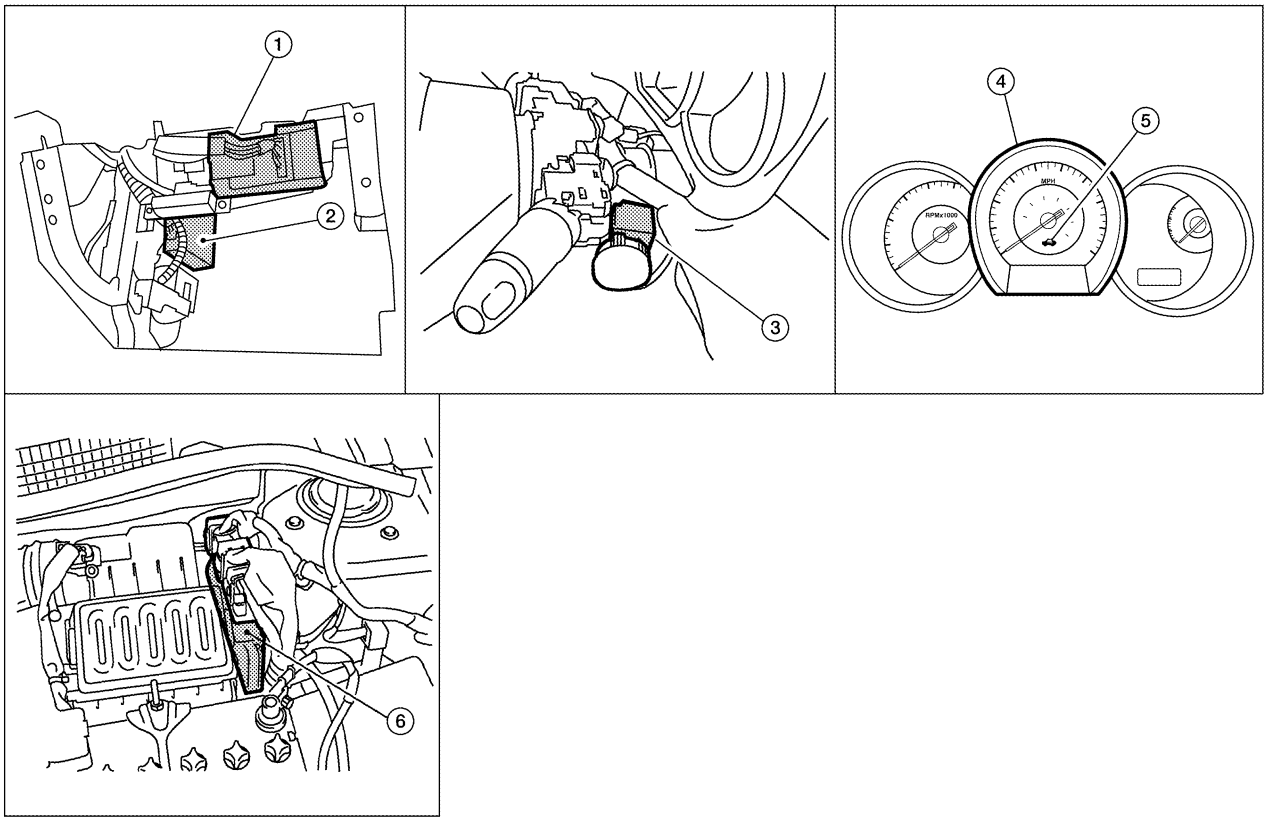
YES >> Door lock/unlock switch is OK.
NO >> Refer to BL-45, "Door Lock and Unlock Switch Check" .

NATS (NISSAN ANTI-THEFT SYSTEM)

PFP:28591

Component Parts and Harness Connector Location

EIS0093N



LIIA2596E

1. BCM M18, M19, M20 (view with glove box removed)
2. Intelligent Key unit M52 (if equipped)
3. NATS antenna amp. M21 (inside steering column)
4. Combination meter M24
5. Security indicator lamp
6. ECM E16

System Description

EIS0093O

DESCRIPTION

NOTE:
If customer reports a "No start" condition, request ALL KEYS to be brought to a Nissan dealer in case of a NATS malfunction.

NATS (Nissan Anti-Theft System) has the following functions:

- NATS shows a higher anti-theft performance at preventing engine to be started by an unregistered key. (registered key: mechanical key and Intelligent Key).
- Only a key with key ID registered in BCM and ECM can start engine, it has a higher protection against auto theft that duplicates keys.
- If a malfunction has been detected, security indicator will illuminate when ignition switch is in ON position.
- If the owner requires, mechanical key can be registered for up to 5 keys.
- During trouble diagnosis or when the following parts have been replaced, and if mechanical key is added, registration* is required.
  *: All mechanical keys of the vehicle should be registered.
  - ECM
  - BCM
  - Mechanical key
- NATS trouble diagnoses, system initialization and additional registration of other NATS mechanical key IDs must be carried out using CONSULT-II hardware and CONSULT-II NATS software. When NATS initialization has been completed, the ID of the inserted mechanical key can be displayed.
  Regarding the procedures of NATS initialization and mechanical key ID registration, refer to CONSULT-II operation manual NATS.

SECURITY INDICATOR

- Forewarns that the vehicle is equipped with NATS.
- Security indicator will not blink while the ignition knob is in ON or START state.
  NOTE:
  Because security indicator is highly efficient, the battery is barely affected.

Condition of Security Indicator

- When operating the ignition switch with Intelligent Key, security indicator lamp will turn off at once if ignition switch is pressed and blinks when ignition switch is released.
- When operating the ignition switch with mechanical key security indicator will turn off at once if mechanical key is inserted into key cylinder and blinks when mechanical key is removed.
  (Once the mechanical key is inserted into key cylinder, BCM will only perform the key ID verification with mechanical key)

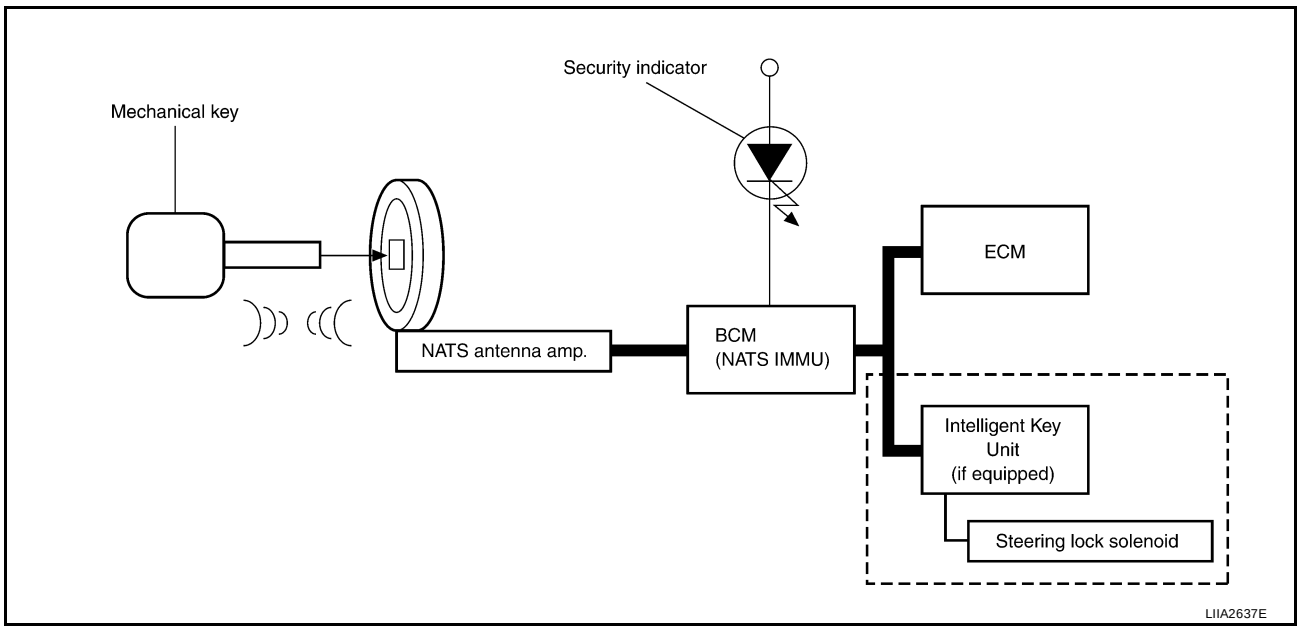
System Composition

EIS0093P

The function of the NATS consists of the following:

- Mechanical key
- NATS antenna amp. located in the ignition key cylinder
- BCM
- ECM (Engine control module)
- Security indicator
- Intelligent Key unit (if equipped)

NOTE:
The communication between ECM, BCM and/or Intelligent Key unit uses the CAN communication system.



ECM Re-communicating Function

EIS0093Q

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

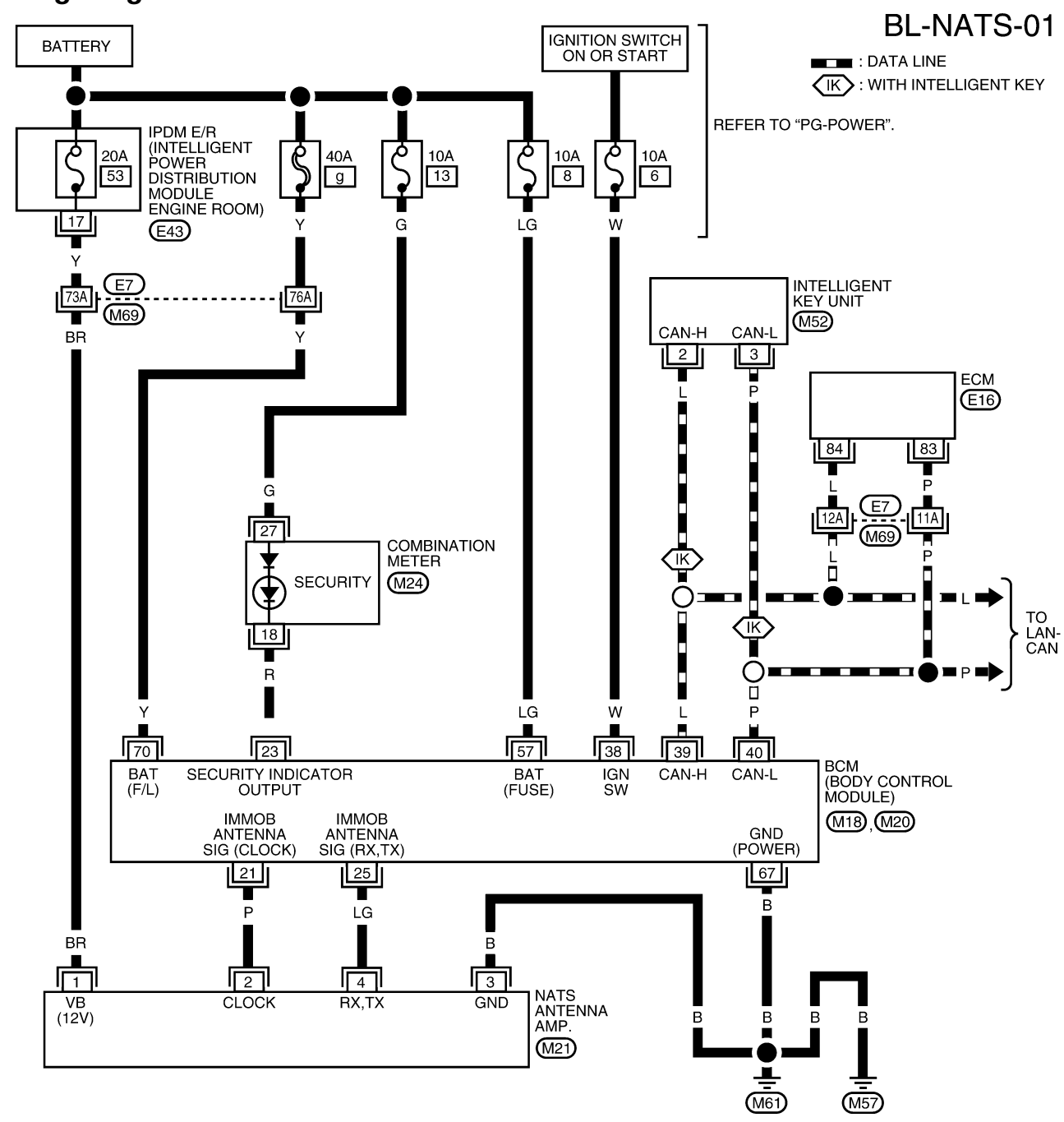
NOTE:

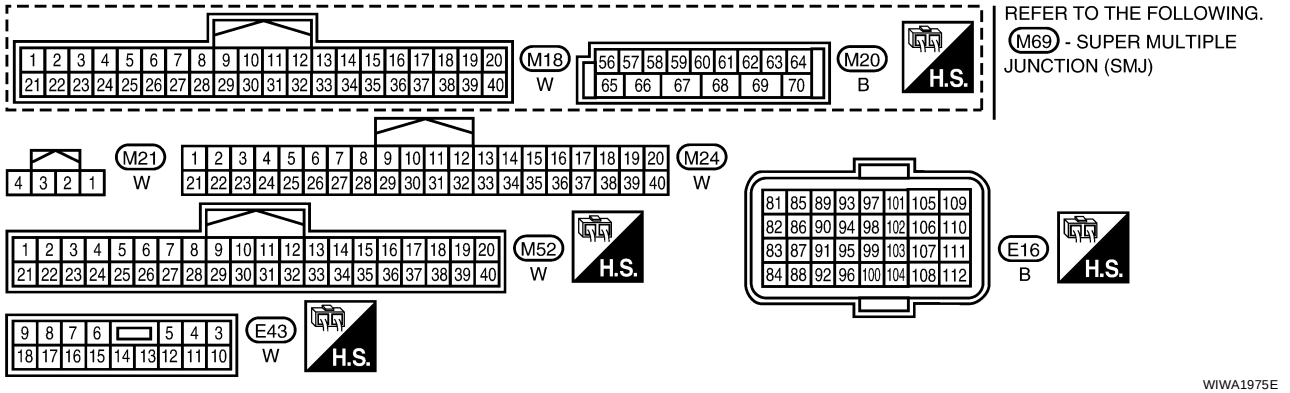
- **When registering new Key IDs or replacing the ECM other than brand new, refer to CONSULT-II Operation Manual NATS.**
- **If multiple keys are attached to the key holder, separate them before work.**
- **Distinguish keys with unregistered key ID from those with registered ID.**

1. Install ECM.
2. Use a registered key (*), turn ignition switch to “ON”.
   *: To perform this step, use the key that has been used before to perform ECM replacement.
3. Maintain ignition switch in “ON” position for at least 5 seconds.
4. Turn ignition switch to “OFF”.
5. Start engine.
   If engine can be started, procedure is completed.
   If engine cannot be started, refer to CONSULT-II Operation Manual NATS and initialize control unit.

Wiring Diagram — NATS —

EIS0093R





WIWA1975E

Terminals and Reference Values for BCM

EIS0093U

Refer to BCS-12, "Terminals and Reference Values for BCM" .

CONSULT-II Function

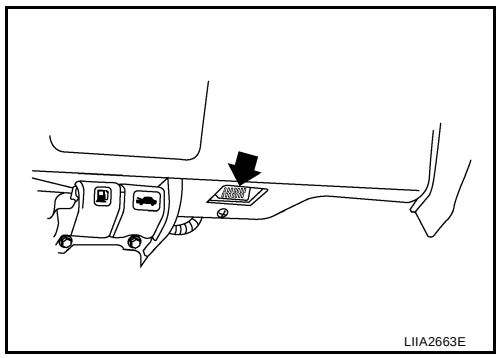
EIS0093V

CONSULT-II INSPECTION PROCEDURE

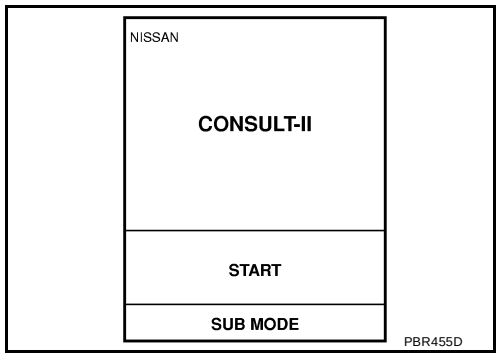
1. Turn ignition switch OFF.
2. Insert NATS program card into CONSULT-II.

   Program card : NATS (AEN06B)

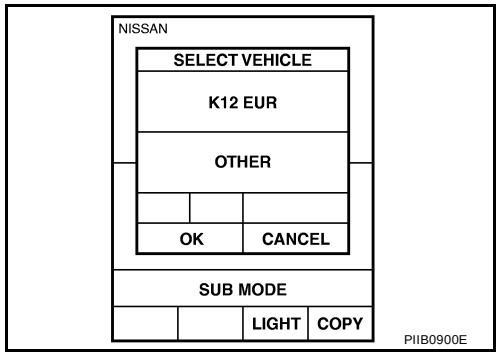
3. Connect CONSULT-II and CONSULT-II CONVERTER to data link connector.



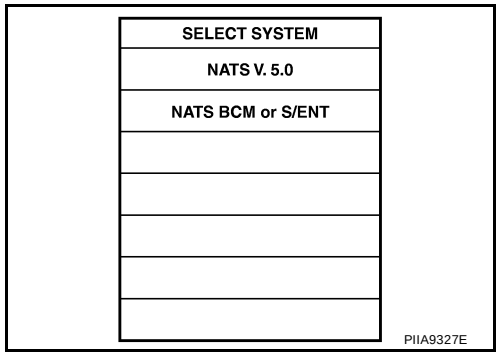
4. Turn ignition switch ON.
5. Touch “START”.



6. Touch “OTHER”.

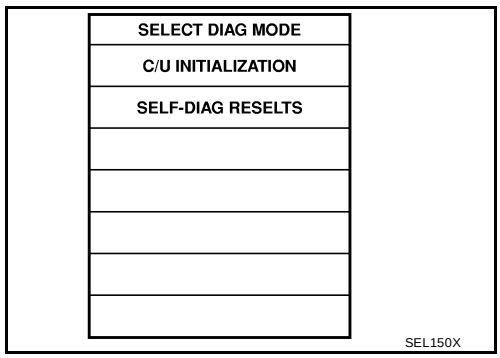


7. Select “NATS V.5.0”.
   If “NATS V5.0” is not indicated, go to GI-40, "CONSULT-II Data Link Connector (DLC) Circuit" .



8. Perform each diagnostic test mode according to each service procedure.

For further information, see the CONSULT-II Operation Manual NATS.



CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

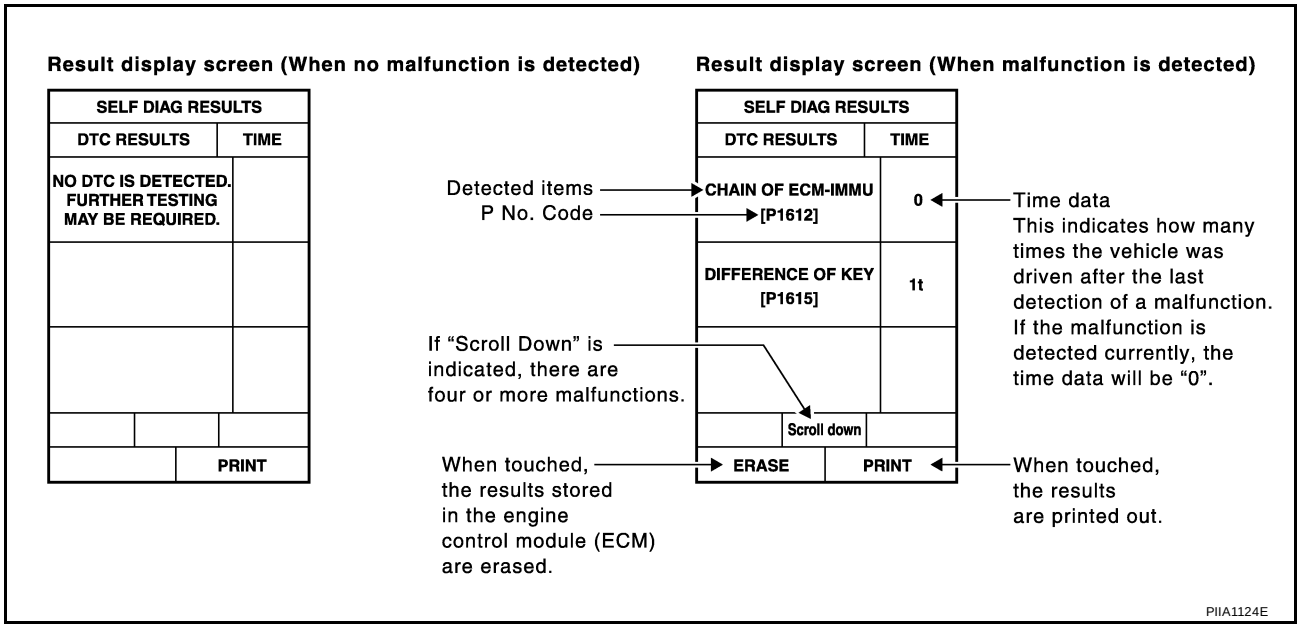
CONSULT-II DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following components, C/U initialization and re-registration of all NATS mechanical keys are necessary. [NATS mechanical key/ BCM/ ECM*]
SELF-DIAG RESULTS	Detected items (screen terms) are as shown in the chart. Refer to BL-218, "NATS SELF-DIAGNOSTIC RESULTS ITEM CHART" .

*: When replace ECM, refer to BL-214, "ECM Re-communicating Function" .

NOTE:

- When any initialization is performed, all ID previously registered will be erased and all NATS mechanical 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.

HOW TO READ SELF-DIAGNOSTIC RESULTS



NATS SELF-DIAGNOSTIC RESULTS ITEM CHART

Detected items [NATS program card screen terms]	P No. Code (Self-diagnostic result of "ENGINE")	Malfunction is detected when.....	Reference page
CHAIN OF ECM-IMMU [P1612]	NATS MAL-FUNCTION P1612	Communication impossible between ECM and BCM In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.	BL-223
CHAIN OF IMMU-KEY [P1614]	NATS MAL-FUNCTION P1614	BCM cannot receive the key ID signal.	BL-225
ID DISCORD, IMM-ECM [P1611]	NATS MAL-FUNCTION P1611	The result of ID verification between BCM and ECM is NG. System initialization is required.	BL-227
LOCK MODE [P1610]	NATS MAL-FUNCTION P1610	When the starting operation is carried out five or more times consecutively under the following conditions, NATS will shift the mode to one which prevents the engine from being started. ● Unregistered mechanical key is used. ● BCM or ECM's malfunctioning.	BL-229
DON'T ERASE BEFORE CHECK-ING ENG DIAG	—	All engine trouble codes except NATS trouble code has been detected in ECM.	BL-220

Trouble Diagnosis Procedure

EIS0093W

PRELIMINARY CHECK

1. GET SYMPTOMS

Listen to customer complaints request. (Get symptoms)

NOTE:
If customer reports a “No start” condition, request all Intelligent Keys to be brought to the dealer in case of Intelligent Key system malfunction.

Intelligent Key or mechanical key service request>> For further information, refer to CONSULT-II operation manual.
Malfunctions>>GO TO 2.

2. START ENGINE WITH INTELLIGENT KEY (IF EQUIPPED)

Check if the engine could be started by all registered Intelligent Keys.

The engine cannot be started by some Intelligent Keys>>Intelligent Key is low battery or malfunction. Refer to BL-159, "Intelligent Key Battery Replacement" .
The engine cannot be started by all Intelligent Keys>>GO TO 3.
The engine can be started by all Intelligent Keys>>GO TO 4.

3. CHECK “KEY” WARNING LAMP ILLUMINATION

When pushing the ignition switch, check if “KEY” warning lamp in combination meter illuminates.

KEY warning lamp illuminates green>>GO TO BL-114, "KEY WARNING LAMP (GREEN) ILLUMINATES" .
KEY warning lamp illuminates red>>GO TO BL-114, "KEY WARNING LAMP (RED) ILLUMINATES" .
Does not illuminate>>GO TO BL-115, "KEY WARNING LAMP DOES NOT ILLUMINATE" .

4. START ENGINE WITH MECHANICAL KEY

Check if the engine could be started by all registered mechanical keys.

The engine can not be started by some mechanical keys>>Register mechanical key. Refer to CONSULT-II operation manual.
The engine cannot be started by all mechanical keys>> BL-220, "WORK FLOW" .
The engine can be started by all mechanical keys>>GO TO 5.

5. PERFORM SELF-DIAGNOSIS

1. Turn ignition switch to ON by carrying the Intelligent Key.
2. Perform self-diagnosis of Intelligent Key system with CONSULT-II.

Malfunction is detected>>GO TO BL-111, "SELF-DIAGNOSTIC RESULTS" .
No malfunction is detected>>GO TO BL-110, "WORK FLOW" .

WORK FLOW

1. STARTING ENGINE

Check if the engine could be started by inserting the mechanical key into the ignition key cylinder and operate ignition switch.

OK >> System is normal.
NG >> GO TO 2.

2. PERFORM SELF DIAGNOSIS

Perform SELF-DIAGNOSIS “NATS V5.0” using CONSULT-II.

NOTE:
NATS program card is necessary to display the “SELF-DIAGNOSIS”.

No malfunction is detected>>Recheck the starting engine section GO TO 1.
Malfunction related to NATS is detected>>GO TO 3.
Malfunctions related to “DON’T ERASE BEFORE CHECKING ENG DIAG” and NATS are detected>>GO TO 7.

3. IDENTIFYING NATS MALFUNCTION

Self-diagnosis results referring to NATS, but no information about engine self-diagnosis result is displayed on CONSULT-II. Refer to BL-222, "SYMPTOM MATRIX CHART 1" .

>> GO TO 4.

4. NATS TROUBLE DIAGNOSIS

Repair NATS (if necessary, perform “C/U INITIALZATIN” with CONSULT-II.)

>> GO TO 5.

5. ERASE SELF-DIAGNOSIS

Erase the record of “SELF-DIAGNOSIS” by using CONSULT-II.

>> GO TO 6.

6. STARTING ENGINE

Check if the engine could be started by inserting the mechanical key into the ignition key cylinder and operate ignition switch.

NG >> GO TO 2.
OK >> End of inspection.

7. IDENTIFYING NATS AND ENGINE CONTROL MALFUNCTION

NATS malfunction and “DON’T ERASE BEFORE CHECKING ENG DIAG” are displayed on the CONSULT-II screen.

NOTE:
This indication means that malfunction have been detected in NATS and engine control system.

>> GO TO 8.

8. NATS TROUBLE DIAGNOSIS

Repair NATS according to self-diagnosis results refer to NATS (if necessary, perform “C/U INITIALZATIN” with CONSULT-II.)

NOTE:
Do not erase “SELF-DIAGNOSIS” by using CONSULT-II.

>> GO TO 9.

9. IDENTIFYING ENGINE CONTROL MALFUNCTION

Check engine “SELF-DIAGNOSIS” records with a generalized program card instead of the NATS program card.

>> GO TO 10.

10. ENGINE CONTROL SYSTEM TROUBLE DIAGNOSIS

Repair engine control system if engine related malfunction is detected.
With engine diagnostic codes present, refer to EC-8, "INDEX FOR DTC" .
Without engine diagnostic codes present, refer to EC-83, "TROUBLE DIAGNOSIS" .

NOTE:
If only “NATS MALFUNCTION” is displayed, erase the self-diagnosis results.

>> GO TO 11.

11. STARTING ENGINE

Check if the engine could be started by inserting the mechanical key into the ignition key cylinder and operate ignition switch.

OK >> GO TO 12.
NG >> GO TO 2.

12. ERASE SELF-DIAGNOSIS

Erase both NATS and ENGINE "SELF-DIAGNOSIS" records by using CONSULT-II NATS program card and generalized program card.

>> GO TO 13

13. COMFIRMATION

Perform running test with CONSULT-II in engine “SELF-DIAGNOSIS” mode.

“NO DTC” is displayed>> End of inspection.
Malfunction information is displayed>> GO TO 2.

Trouble Diagnoses

EIS0093X

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)
● Security indicator lighting up* ● Engine cannot be started	CHAIN OF ECM-IMMU [P1612]	PROCEDURE 1 (BL-223)	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
			Open circuit in ignition line of BCM circuit
			Open circuit in ground line of BCM circuit
			Open or short circuit between BCM and ECM communication line
			ECM
			BCM
	CHAIN OF IMMU-KEY [P1614]	PROCEDURE 2 (BL-225)	Malfunction of key ID chip
			Communication line between ANT/ AMP and BCM: Open circuit or short circuit of battery voltage line or ground line
			Open circuit in power source line of ANT/ AMP circuit
			Open circuit in ground line of ANT/ AMP circuit
			NATS antenna amp.
			BCM
	ID DISCORD, IMM-ECM [P1611]	PROCEDURE 3 (BL-227)	System initialization has not yet been completed.
			ECM
	LOCK MODE [P1610]	PROCEDURE 5 (BL-229)	When the starting operation is carried out five or more times consecutively under the following conditions, NATS will shift the mode to one which prevents the engine from being started. ● Unregistered ignition key is used. ● BCM or ECM's malfunctioning.
Security indicator lighting up*	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (BL-220)	Engine trouble data and NATS trouble data have been detected in ECM

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

SYMPTOM MATRIX CHART 2

Non self-diagnosis related item

SYMPTOM	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)
Security indicator does not light up*.	PROCEDURE 4 (BL-228)	Security indictor.
		Open circuit between Fuse and BCM
		BCM

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

Diagnostic Procedure 1

EIS0093Y

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 BCS-18, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)" .

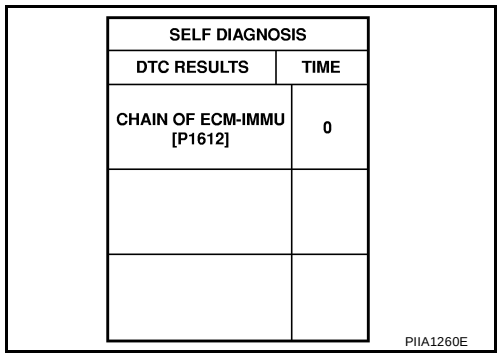
1. CONFIRM SELF-DIAGNOSTIC RESULTS

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?

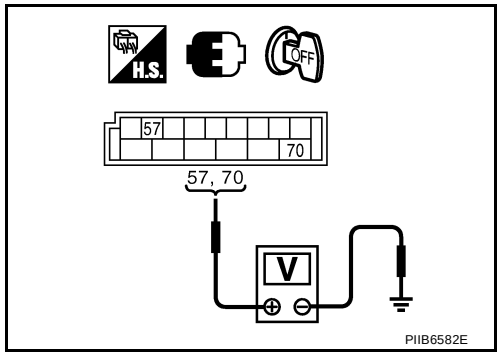
Yes >> GO TO 2.
No >> GO TO BL-222, "SYMPTOM MATRIX CHART 1" .



2. CHECK POWER SUPPLY CIRCUIT FOR BCM

1. Turn ignition switch OFF.
2. Check voltage between BCM and ground with CONSULT-II or tester.

BCM connector	Terminals		Voltage [V] (Approx.)
	(+)	(–)	
M20	57	Ground	Battery voltage
	70		



OK or NG

OK >> GO TO 3.
NG >> Check the following.

- 40A fusible link (letter **g** , located in the fuse and fusible link box).
- 10A fuse [No.8, located in the fuse block (J/B)].
- Harness for open or short between fusible link and BCM.
- Harness for open or short between fuse and BCM.

3. CHECK IGNITION SWITCH ON SIGNAL

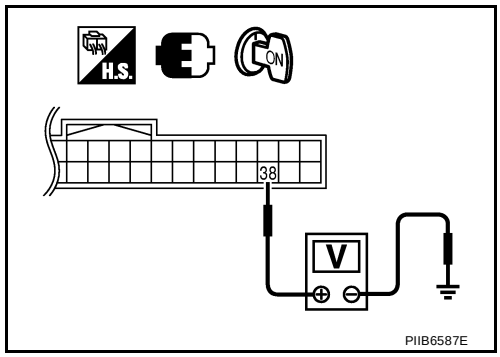
1. Turn ignition switch ON.
2. Check voltage between BCM connector and ground with CONSULT-II or tester.

BCM connector	Terminal		Voltage [V] (Approx.)
	(+)	(–)	
M18	38	Ground	Battery voltage

OK or NG

OK >> GO TO 4.
NG >> Check the following.

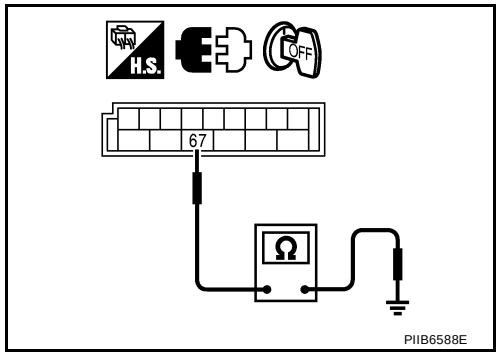
- 10A fuse [No. 6, located in the fuse block (J/B)].
- Harness for open or short between fuse and BCM.



4. CHECK GROUND CIRCUIT FOR BCM

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

BCM connector	Terminal		Continuity
	(+)	(–)	
M20	67	Ground	Yes



OK or NG

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

5. REPLACE BCM

1. Replace BCM
2. Perform initialization with CONSULT-II.
   For initialization, refer to “CONSULT-II Operation Manual NATS”.

Does the engine start?

Yes >> BCM is malfunctioning.
- Replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .
- Perform initialization with CONSULT-II
- For initialization, refer to “CONSULT-II Operation Manual NATS”

No >> ECM is malfunctioning.
- Replace ECM.
- Perform initialization or re-communicating function
- For initialization, refer to “CONSULT-II Operation Manual NATS”
- For re-communicating function, refer to BL-214, "ECM Re-communicating Function"

Diagnostic Procedure 2

EIS0093Z

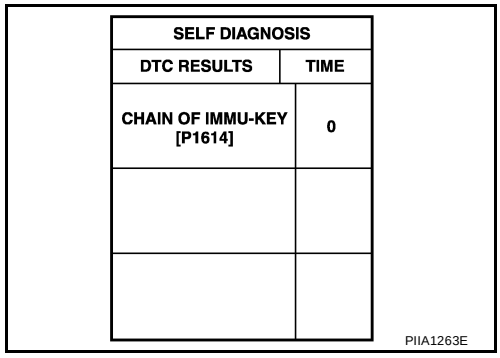
Self-diagnostic results:
“CHAIN OF IMMU-KEY” displayed on CONSULT-II screen

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-222, "SYMPTOM MATRIX CHART 1" .



2. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to BL-230, "How to Replace NATS Antenna Amp." .

OK or NG

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

3. CHECK 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
- Perform initialization with CONSULT-II
  For initialization, refer to “CONSULT-II Operation Manual NATS”

No >> GO TO 4.

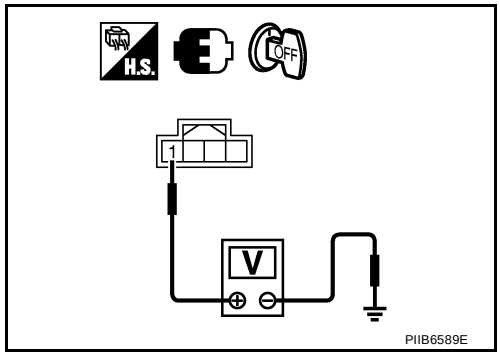
4. CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

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

NATS antenna amp. connector	Terminal		Voltage [V] (Approx.)
	(+)	(–)	
M21	1	Ground	Battery voltage

OK or NG

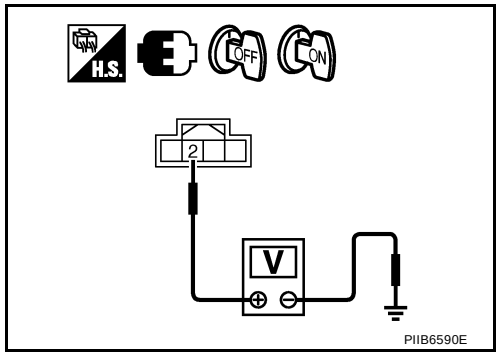
OK >> GO TO 5.
NG >> Check the following.
- 20A fuse [No. 53, located in IPDM E/R]
- Harness for open or short between fuse and NATS antenna amp.



5. CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

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

NATS antenna amp. connector	Terminal (+)	Terminal (–)	Conditions	Status of Voltage and tester
M21	2	Ground	Before tuning ignition switch to ON	Approx. 0 [V]
			Right after tuning ignition switch to ON	Pointer of tester should move



OK or NG

OK >> GO TO 6.

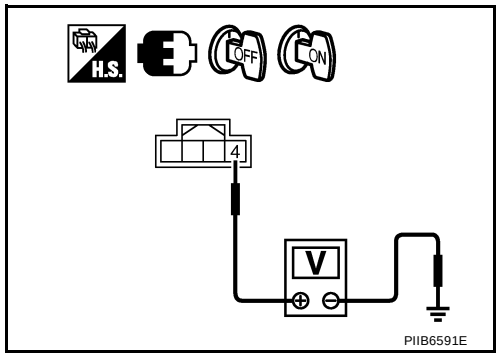
NG >> ● Check harness for open or short between NATS antenna amp. and BCM.

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

6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

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

NATS antenna amp. connector	Terminal (+)	Terminal (–)	Conditions	Status of Voltage and tester
M21	4	Ground	Before tuning ignition switch to ON	Approx. 0 [V]
			Right after tuning ignition switch to ON	Pointer of tester should move



OK or NG

OK >> GO TO 7.

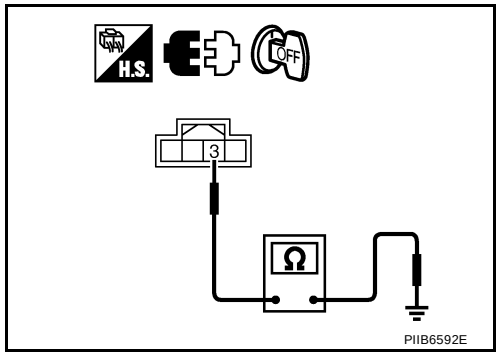
NG >> ● Check harness for open or short between NATS antenna amp. and BCM.

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

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 and ground.

NATS antenna amp. connector	Terminal (+)	Terminal (–)	Continuity
M21	3	Ground	Yes



OK or NG

OK >> NATS antenna amp. is malfunctioning, reinstall antenna or replace it.

NG >> Repair or replace NATS antenna amp. ground circuit.

Diagnostic Procedure 3

EIS00940

Self-diagnostic results:
“ID DISCORD, IMM-ECM” displayed on CONSULT-II screen

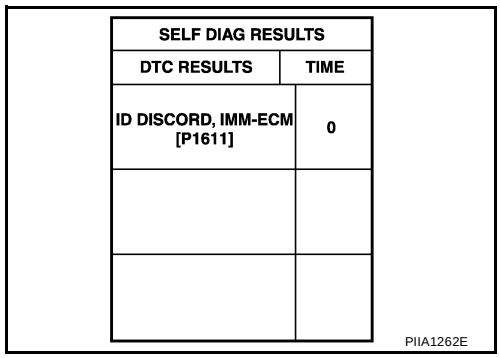
1. CONFIRM SELF-DIAGNOSTIC RESULTS

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-222, "SYMPTOM MATRIX CHART 1" .



2. PERFORM INITIALIZATION WITH CONSULT-II

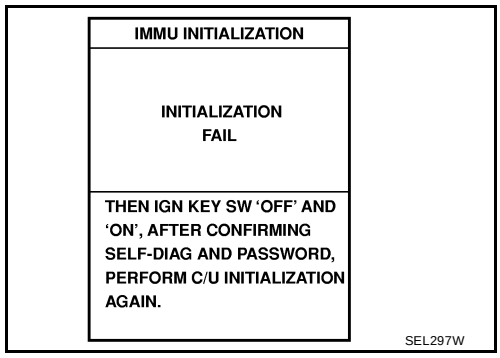
Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs.
For initialization, refer to “CONSULT-II Operation Manual NATS”.

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.)

No >> ECM is malfunctioning.
- Replace ECM.
- Perform initialization with CONSULT-II
  For initialization, refer to “CONSULT-II Operation Manual NATS”



Diagnostic Procedure 4

EIS00941

“COMBINATION METER (SECURITY) DOES NOT LIGHT UP”

1. CHECK FUSE

Check 10A fuse [No.13, located in the fuse block (J/B)]

OK or NG

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

2. CHECK COMBINATION METER (SECURITY)

1. Install 10A fuse.
2. Start engine and turn ignition switch OFF.
3. Check if the combination meter (security) lights up.

Combination meter (security) should light up.

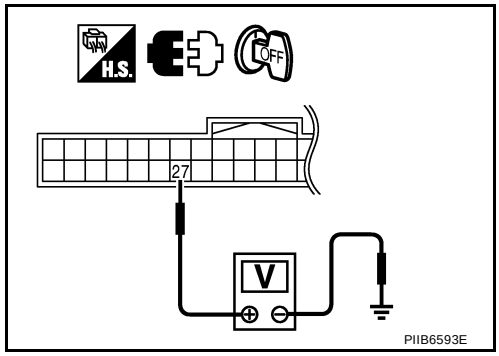
OK or NG

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

3. CHECK COMBINATION METER (SECURITY) POWER SUPPLY CIRCUIT

1. Disconnect combination meter (security) connector.
2. Check voltage between combination meter (security) connector and ground.

Combination meter (security) connector	Terminal		Voltage [V] (Approx.)
	(+)	(-)	
M24	27	Ground	Battery voltage



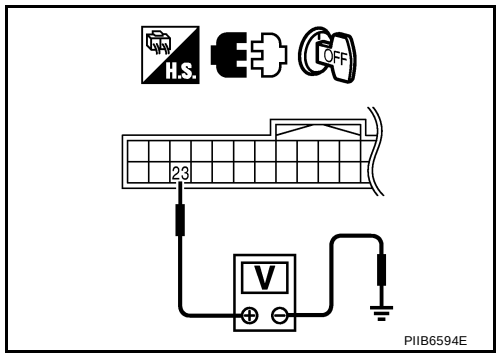
OK or NG

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

4. CHECK BCM FUNCTION

1. Connect combination meter (security) connector.
2. Disconnect BCM connector.
3. Check voltage between BCM connector and ground.

BCM connector	Terminal		Voltage [V] (Approx.)
	(+)	(-)	
M18	23	Ground	Battery voltage



OK or NG

OK >> BCM is malfunctioning.
- Replace BCM. Refer to BCS-25, "Removal and Installation of BCM" .
- Perform initialization with CONSULT-II
- For initialization, refer to “CONSULT-II Operation Manual NATS”

NG >> Check the following.
- Harness for open or short between combination meter (security) and BCM
- Indicator lamp condition

Diagnostic Procedure 5

EIS00942

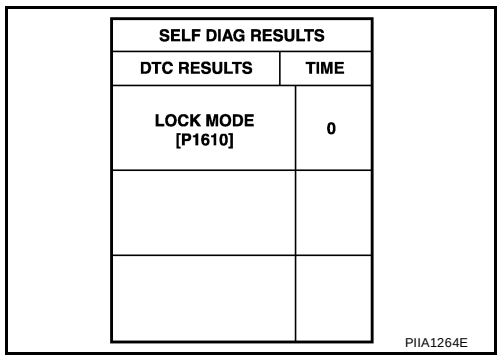
Self-diagnostic results:
“LOCK MODE” displayed on CONSULT-II screen

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-222, "SYMPTOM MATRIX CHART 1" .



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.

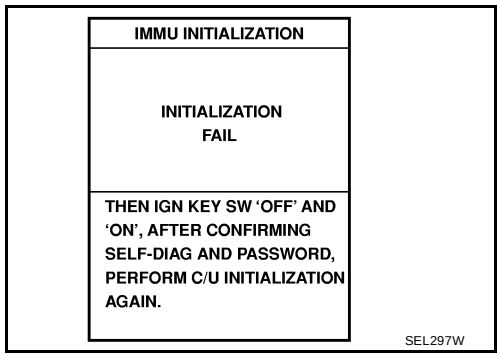
3. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II.
For initialization, refer to “CONSULT-II Operation Manual NATS”.

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

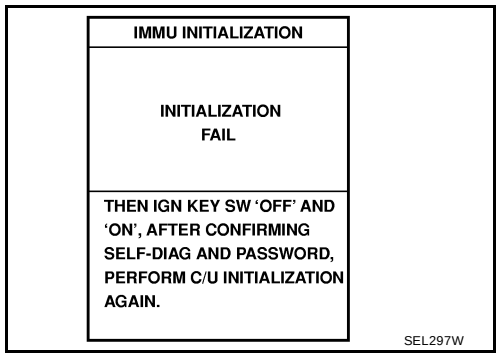
Can the system be initialized?

Yes >> System is OK.
No >> GO TO 4.



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”.



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.)
No >> ECM is malfunctioning.

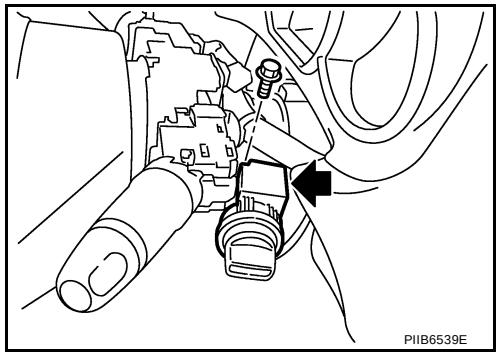
- Replace ECM.
- Perform initialization with CONSULT-II
- For initialization, refer to “CONSULT-II Operation Manual NATS”

How to Replace NATS Antenna Amp.

EIS00943

NOTE:

- **If NATS antenna amp. is not installed correctly, 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.**

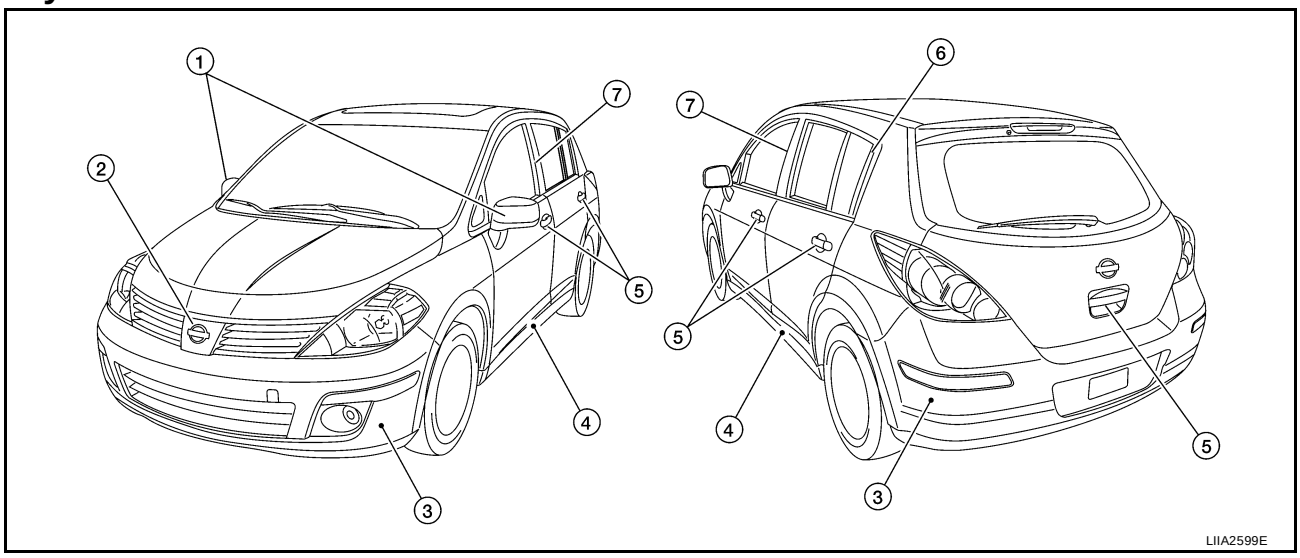


BODY REPAIR

PFP:60100

Body Exterior Paint Color

EIS009AG



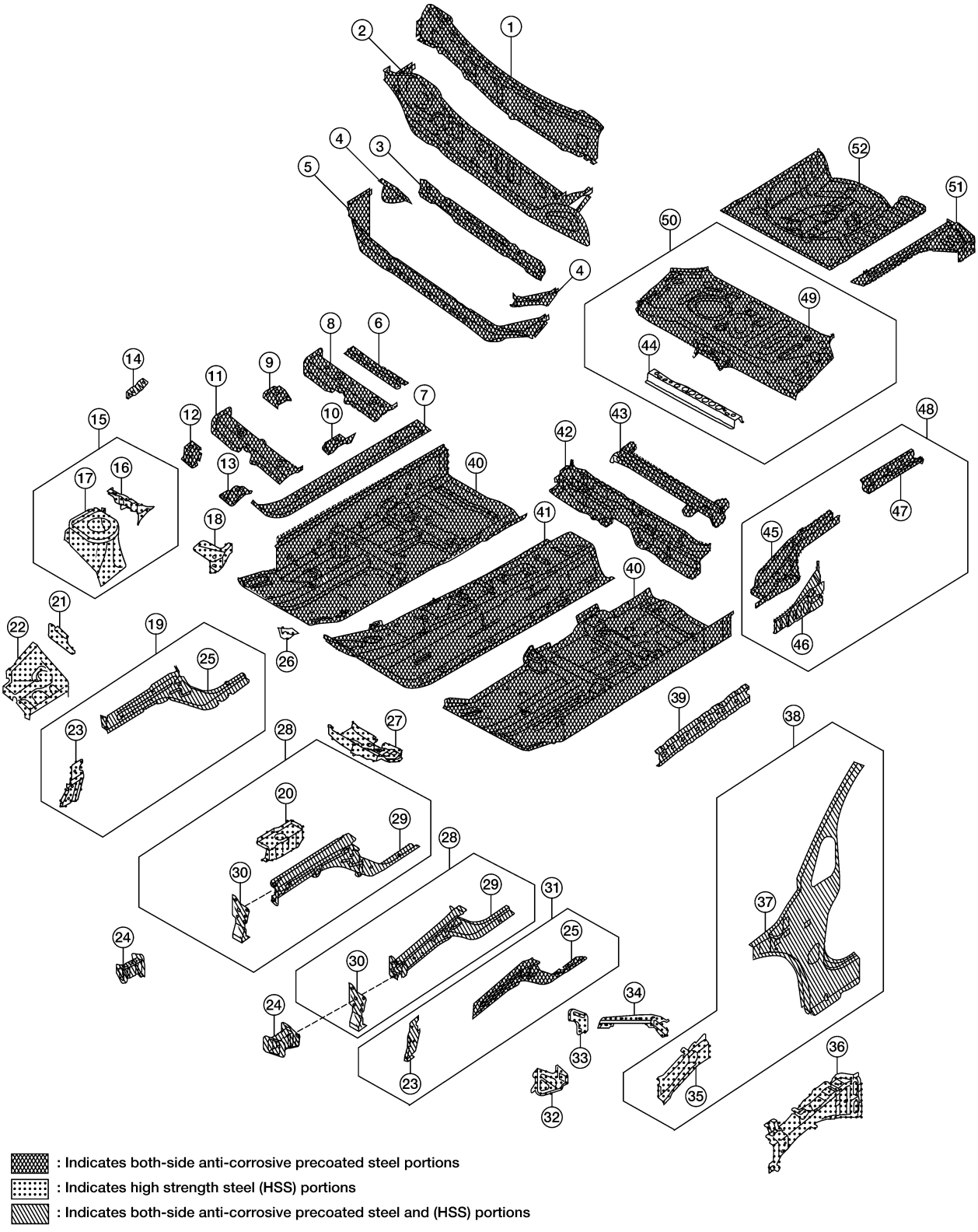
Component		Color code	A20	B14	B23	K23	K36	KH3	QM1
		Description	Red Alert	Sapphire Blue	Blue Onyx	Brilliant Silver	Magnetic Grey	Super Black	Fresh Powder
		Paint type	2S	2M	2M	2M	2M	2S	S
		Hard clear coat	—	—	—	—	—	—	—
1	Outside mirror	Body color	A20	B14	B23	K23	K36	KH3	QM1
2	Radiator grille	Chromium-plate + Black	Cr2P + G02-1	Cr2P + G02-1	Cr2P + G02-1	Cr2P + G02-1	Cr2P + G02-1	Cr2P + G02-1	Cr2P + G02-1
3	Bumper fascia	Body color	A20	B14	B23	K23	K36	KH3	QM1
4	Center mudguard	Body color/ Black	A20/G01-1	B14/G01-1	B23/G01-1	K23/G01-1	K36/G01-1	KH3/G01-1	QM1/ G01-1
5	Outside handle	Body color	A20	B14	B23	K23	K36	KH3	QM1
6	Rear pillar trim	Black	G01-1	G01-1	G01-1	G01-1	G01-1	G01-1	G01-1
7	Door sash	Black tape	X	X	X	X	X	X	X

M: Metallic; 2S: 2-Coat Solid, 2P: 2-Coat Pearl; 3P: 3-Coat Pearl; G01-1: Material color; G02-1: Material color

Body Component Parts

EIS009AH

UNDERBODY COMPONENT PARTS

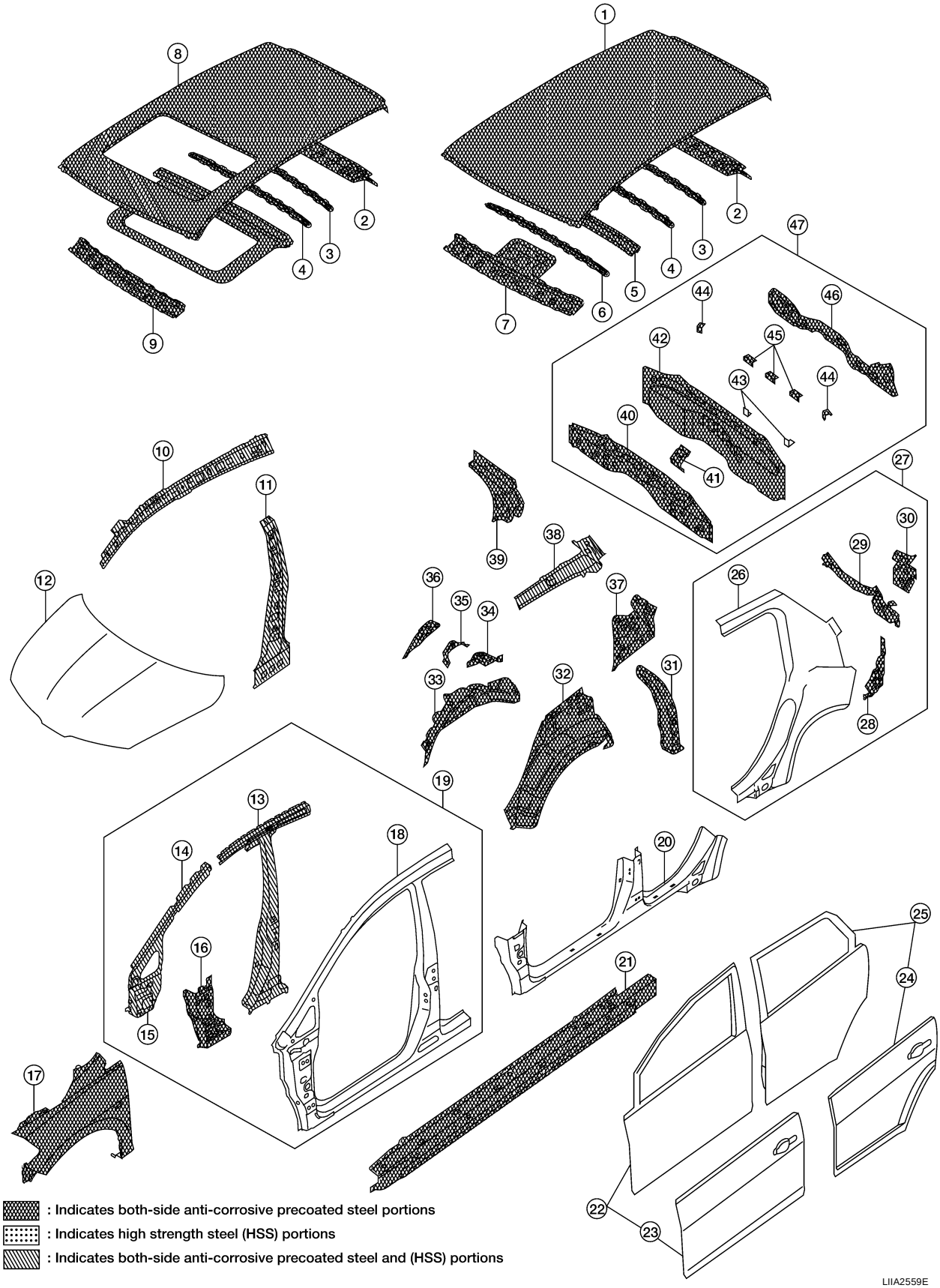


LIIA2558E

1. Upper dash assembly
2. Lower dash assembly
3. Lower dash crossmember
4. Front pillar inner reinforcement (RH&LH)
5. Lower dash reinforcement
6. 4th crossmember (RH&LH)
7. Front side member rear extension (RH&LH)
8. 3rd crossmember (RH&LH)
9. Front seat outer rear bracket (RH&LH)
10. Front seat inner rear bracket (RH&LH)
11. 2nd crossmember (RH&LH)
12. Front seat outer front bracket (RH&LH)
13. Front seat inner front bracket (RH&LH)
14. Fender bracket (RH&LH)
15. Strut housing assembly RH
16. Cowl top side upper (RH&LH)
17. Front strut housing (RH&LH)
18. Upper torque rod reinforcement
19. Closing plate assembly RH
20. Engine mount reinforcement
21. Strut tower front reinforcement RH
22. Front hoodledge lower RH
23. Frame bracket outer (RH&LH)
24. Front bumper support bracket (RH&LH)
25. Closing plate (RH&LH)
26. Front suspension rear bracket (RH&LH)
27. Front side member outrigger (RH&LH)
28. Front side member assembly (RH&LH)
29. Front side member (RH&LH)
30. Frame bracket (RH&LH)
31. Closing plate assembly LH
32. Hoodledge connector (RH&LH)
33. Radiator core side support (RH&LH)
34. Radiator core support upper (RH&LH)
35. Hoodledge upper (RH&LH)
36. Hoodledge reinforcement assembly (RH&LH)
37. Dash side (RH&LH)
38. Dash side assembly (RH& LH)
39. Front floor reinforcement (RH&LH)
40. Front floor front (RH&LH)
41. Front floor center
42. Rear seat crossmember
43. Rear center crossmember
44. Rear seat upper crossmember
45. Rear side member (RH&LH)
46. Sill inner extension (RH&LH)
47. Rear side member extension (RH&LH)
48. Rear side member assembly (RH & LH)
49. Rear floor front

50. Rear floor front assembly
51. Rear floor side (RH&LH)
52. Rear floor rear

BODY COMPONENT PARTS



1. Roof panel assembly
2. Rear roof rail assembly
3. 4th roof rail assembly
4. 3rd roof rail assembly
5. 2nd roof rail assembly
6. 1st roof rail assembly
7. Front roof rail assembly
8. Sun roof assembly
9. Front roof rail assembly (if equipped with sunroof)
10. Roof side rail reinforcement (RH & LH)
11. Inner center pillar (RH & LH)
12. Hood assembly
13. Center pillar reinforcement (RH & LH)
14. Front pillar inner (RH & LH)
15. Front pillar upper reinforcement (RH & LH)
16. Front pillar lower reinforcement (RH & LH)
17. Fender (RH & LH)
18. Side body (RH & LH)
19. Side body assembly (RH & LH)
20. Outer sill (RH & LH)
21. Outer sill reinforcement (RH & LH)
22. Front door assembly (RH & LH)
23. Outer front door panel (RH & LH)
24. Outer rear door panel (RH & LH)
25. Rear door assembly (RH & LH)
26. Rear fender (RH & LH)
27. Rear fender assembly (RH & LH)
28. Rear fender corner (RH & LH)
29. Rear fender extension (RH & LH)
30. Rear combination lamp base (RH & LH)
31. Rear pillar inner reinforcement (RH & LH)
32. Rear wheel housing outer (RH & LH)
33. Rear wheel housing inner (RH & LH)
34. Rear spring base assembly (RH & LH)
35. Rear seatback hinge bracket (RH & LH)
36. Rear seatback catch bracket (RH & LH)
37. Rear pillar inner (RH & LH)
38. Rear roof rail reinforcement (RH & LH)
39. Rear roof rail brace (RH & LH)
40. Rear panel inner reinforcement (RH & LH)
41. Rear panel support bracket
42. Rear panel
43. Rear bumper fascia lower bracket
44. Rear bumper fascia upper bracket
45. Rear bumper fascia center bracket
46. Rear end crossmember
47. Rear panel assembly

Corrosion Protection

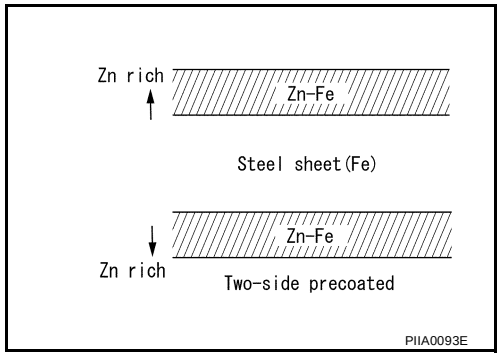
EIS009AI

DESCRIPTION

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

ANTI-CORROSIVE 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.



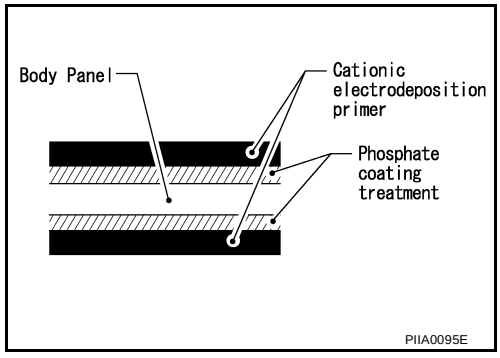
Nissan Genuine Service Parts are fabricated from galvannealed steel. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

PHOSPHATE COATING TREATMENT AND CATIONIC ELECTRODEPOSITION PRIMER

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

CAUTION:

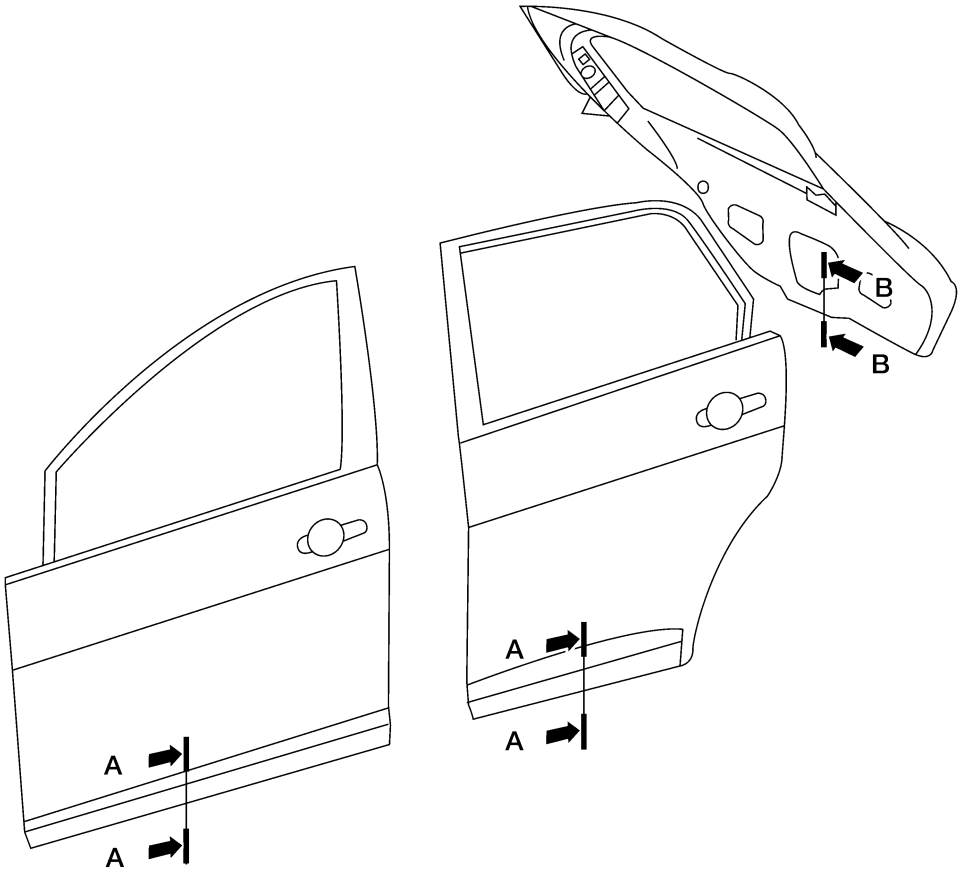
Confine paint removal during welding operations to an absolute minimum.



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.

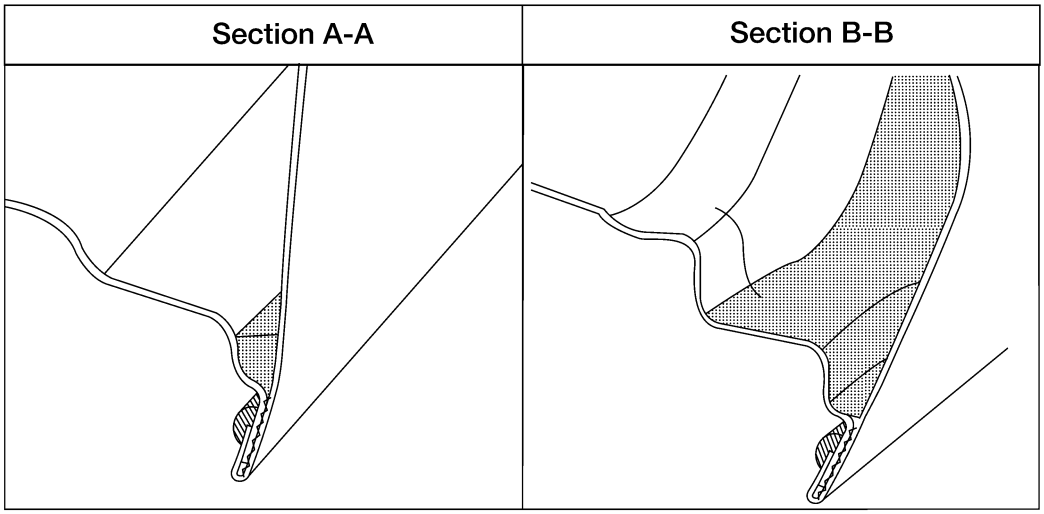
ANTI-CORROSIVE WAX

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



: indicates outside body sealant

: Indicates anti-corrosive wax coated portions



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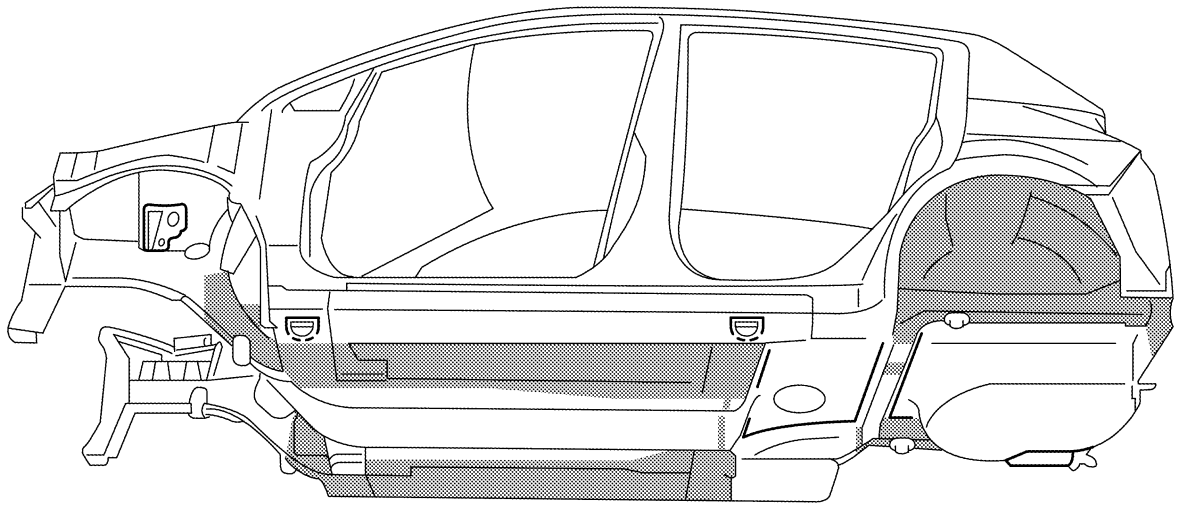
UNDERCOATING

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.

: Indicates undercoated portions.



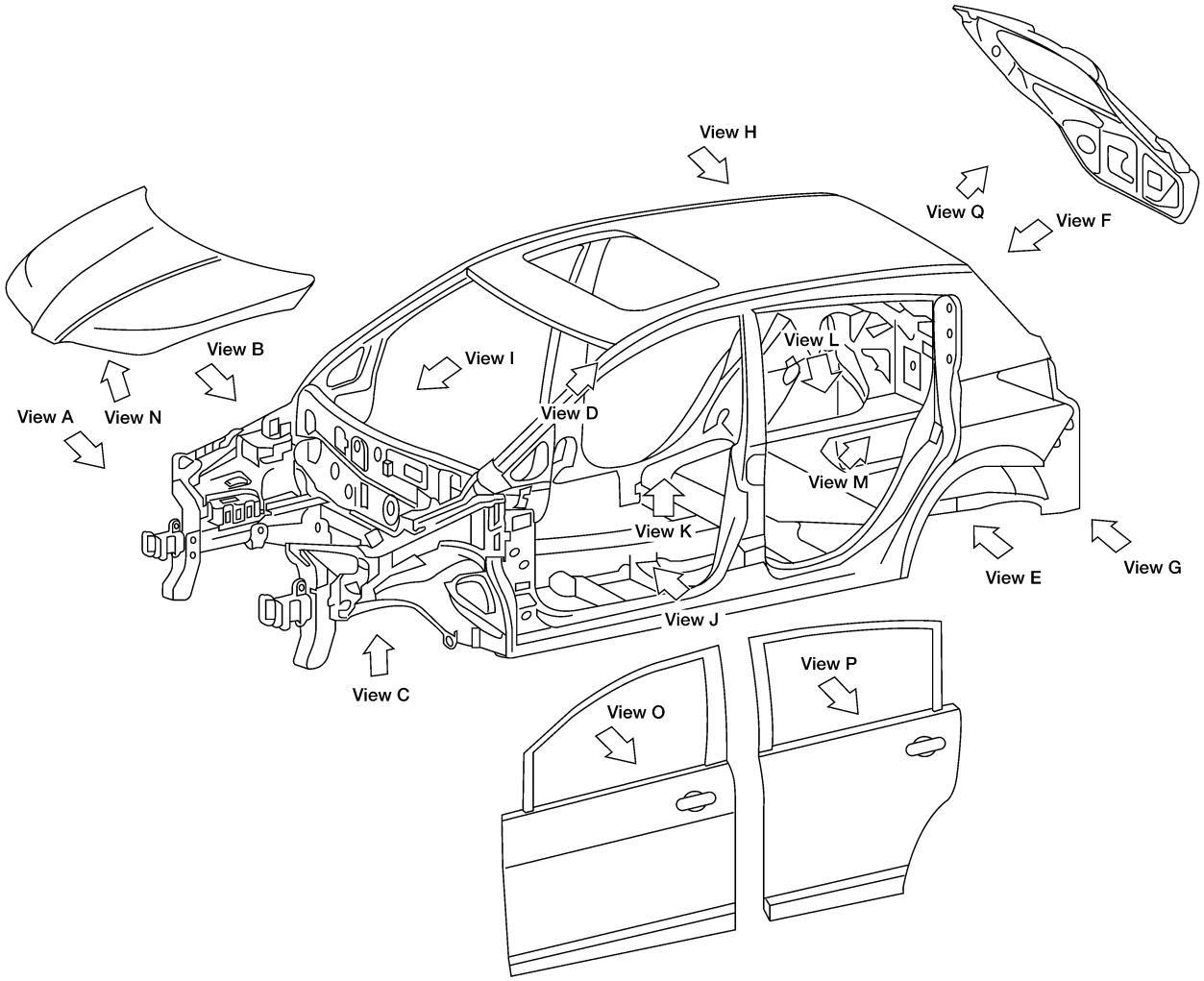
LIIA2654E

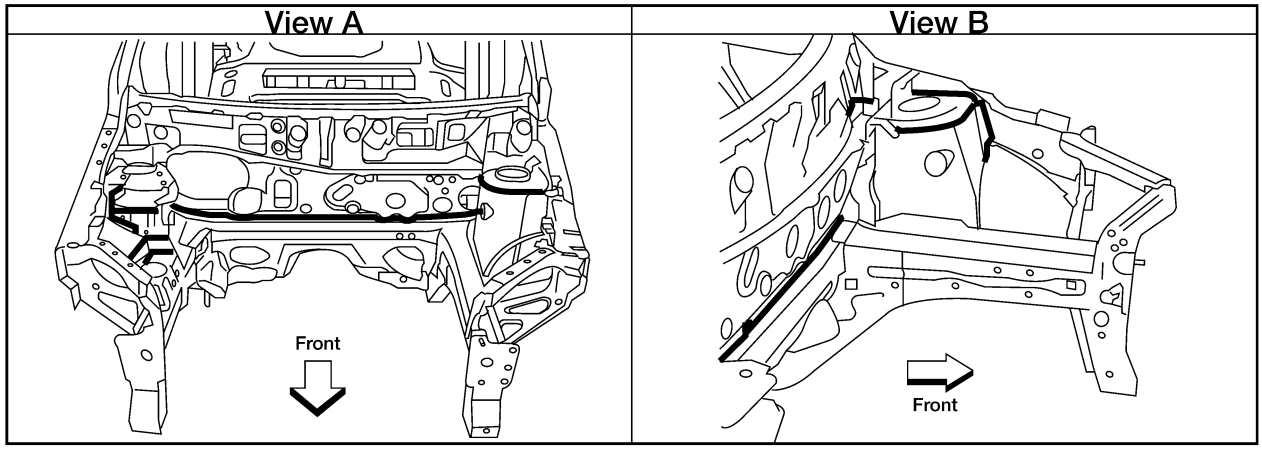
Body Sealing

EIS009AJ

DESCRIPTION

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





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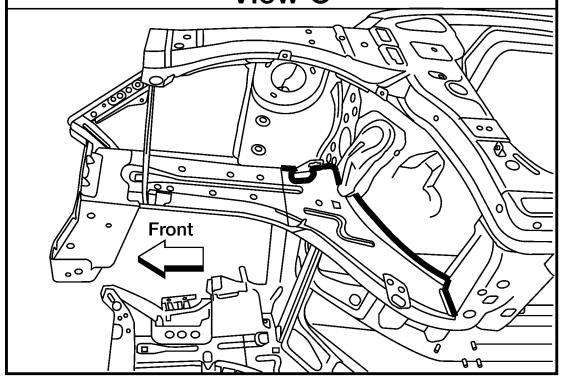
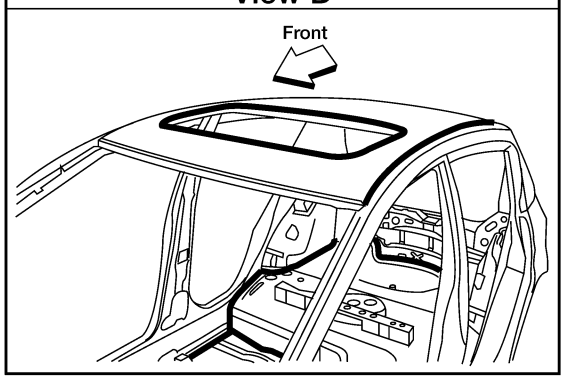
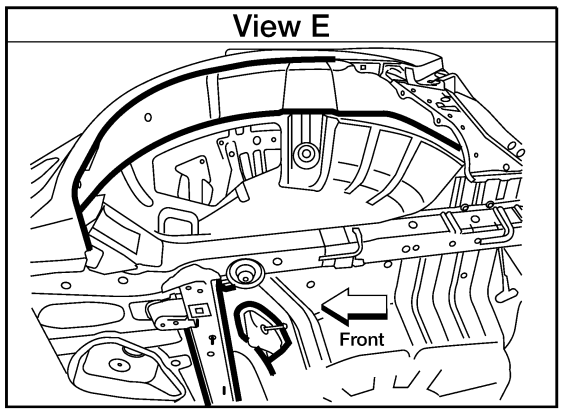
View C



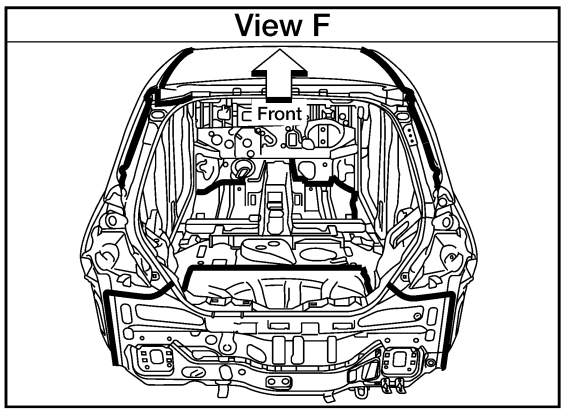
View D



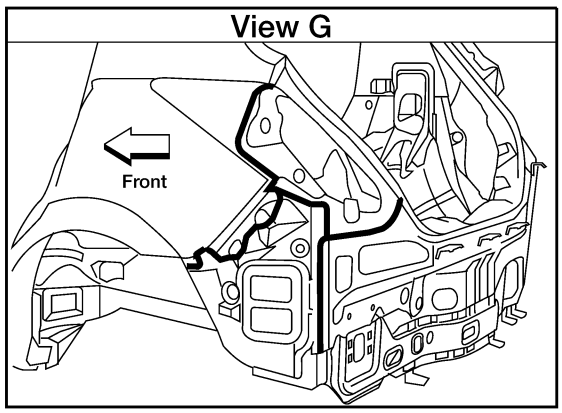
View E



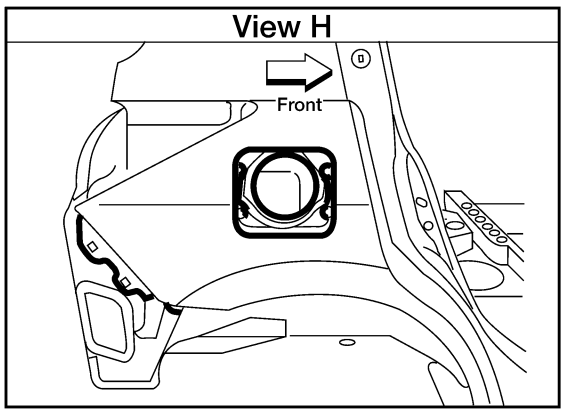
View F



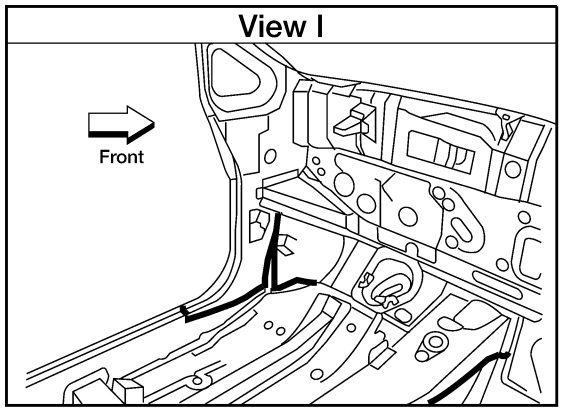
View G



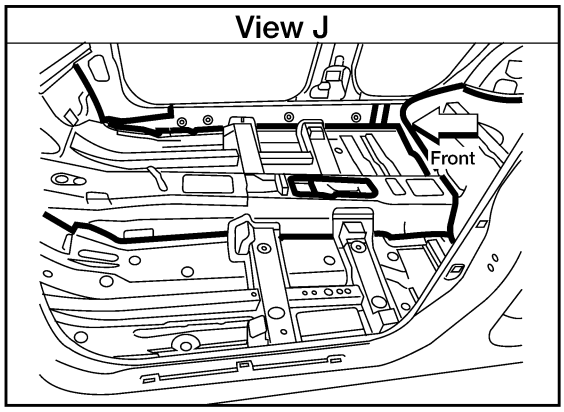
View H



View I

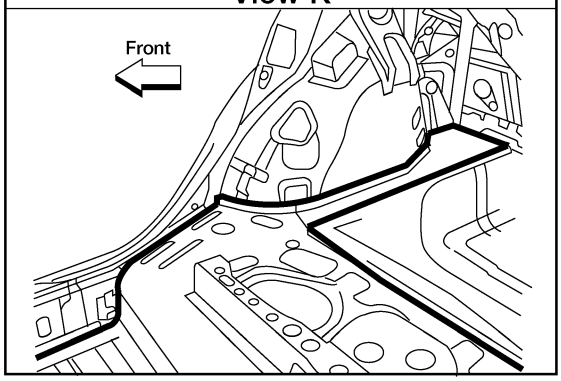


View J

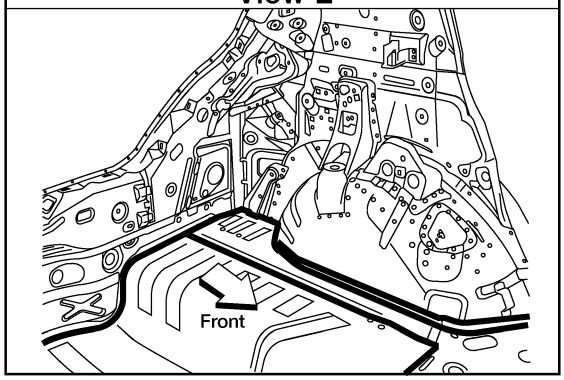


LIIA2546E

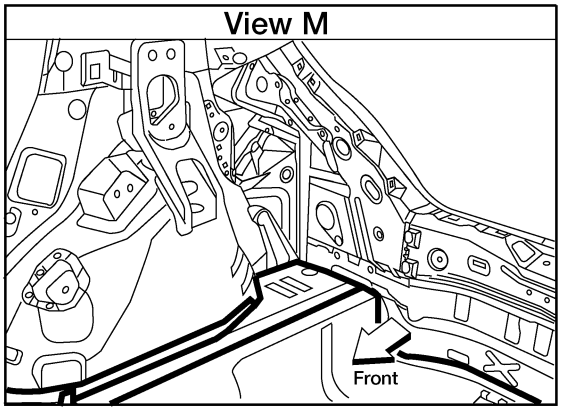
View K



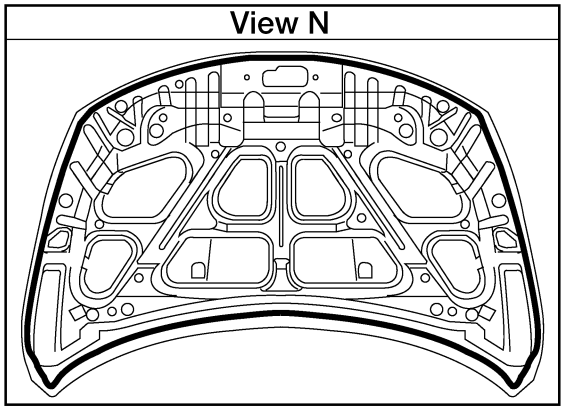
View L



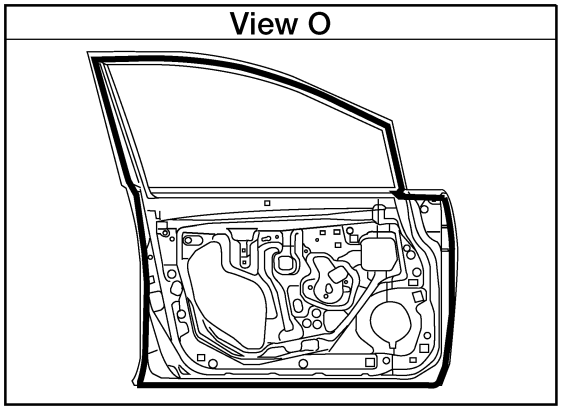
View M



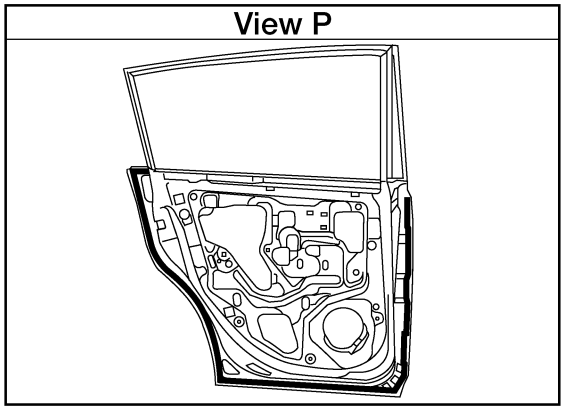
View N



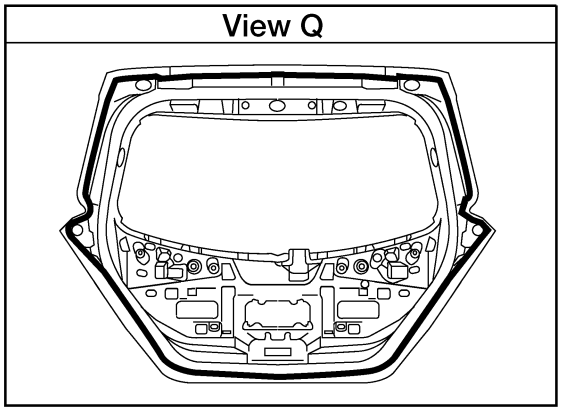
View O



View P



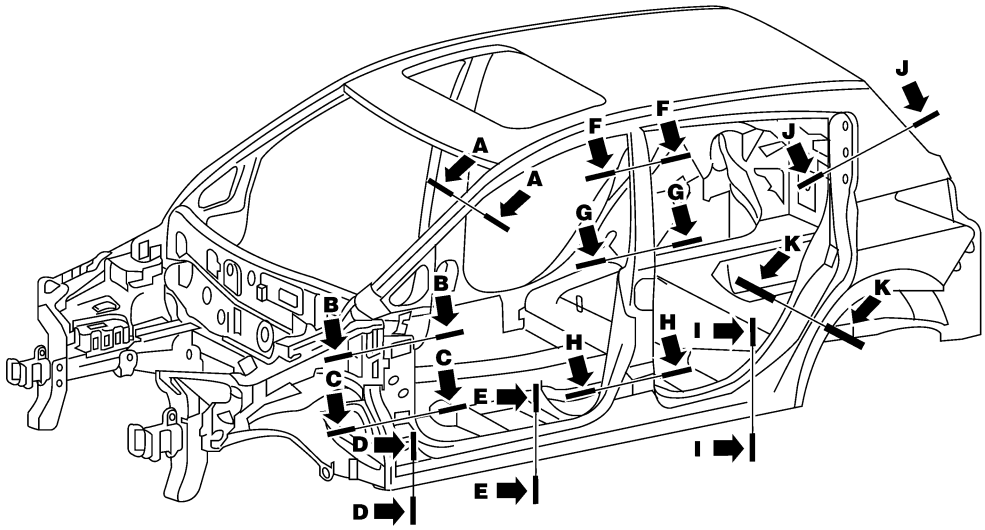
View Q

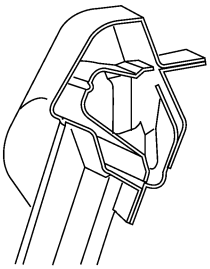
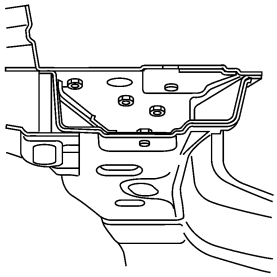
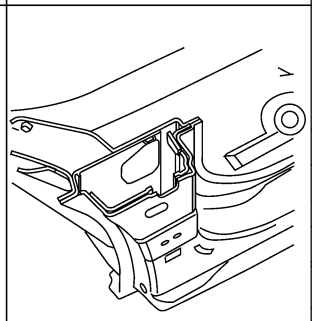
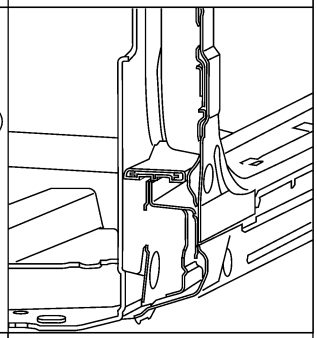
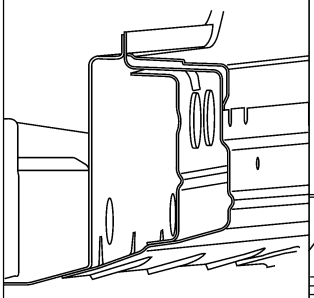
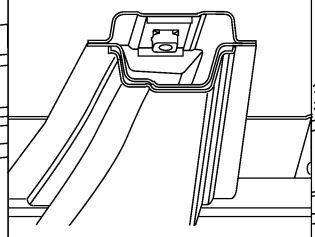
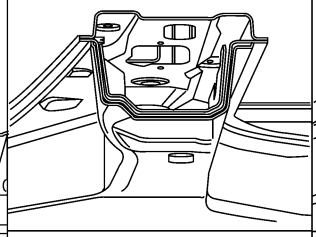
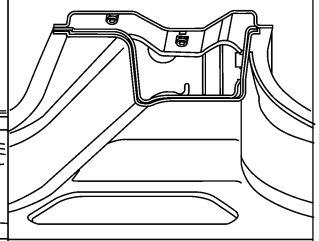
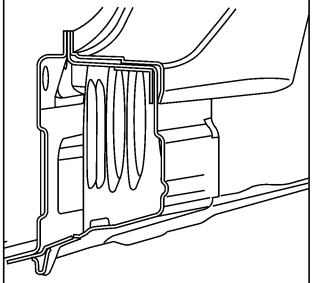
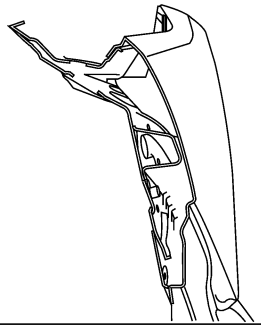
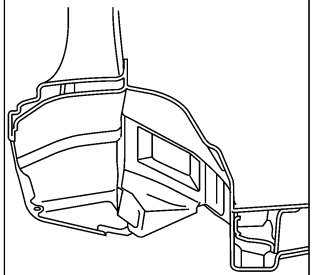


LIIA2547E

Body Construction
BODY CONSTRUCTION

EIS009AK



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**	
			

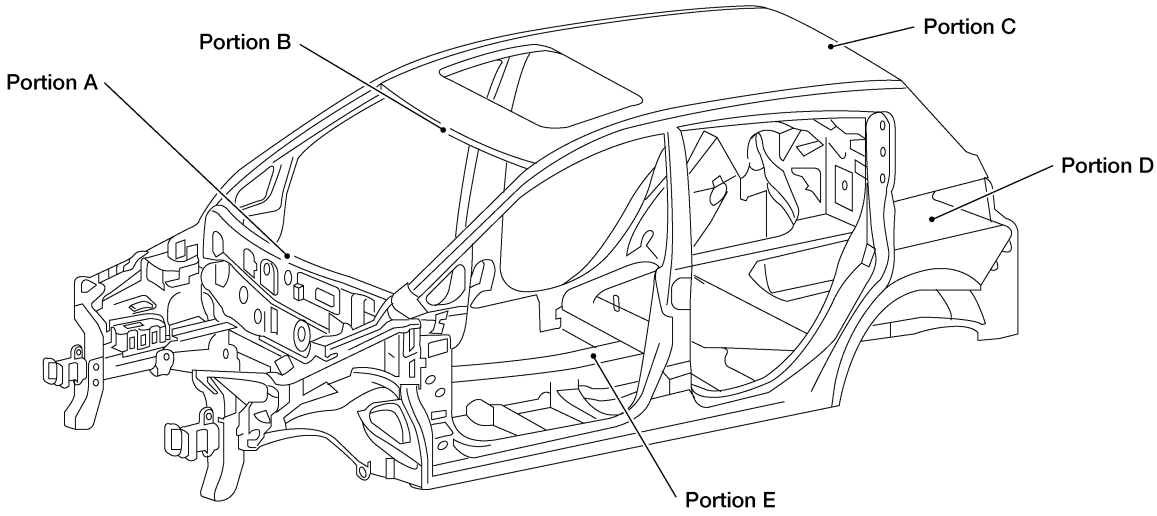
LIIA2548E

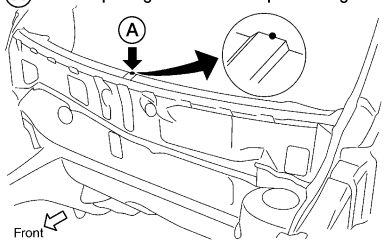
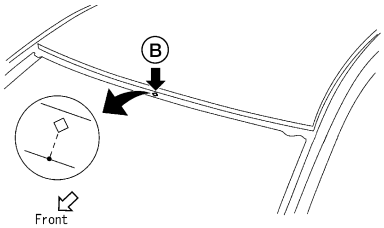
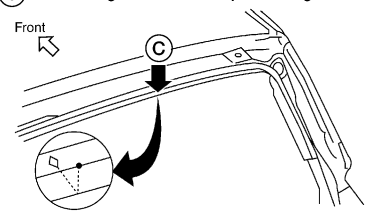
Body Alignment

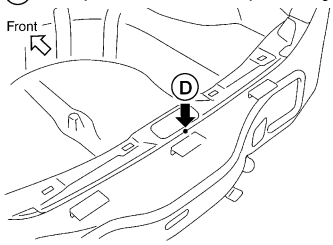
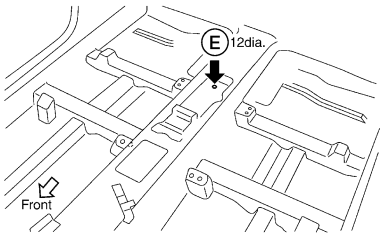
EIS00944

BODY CENTER MARKS

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.



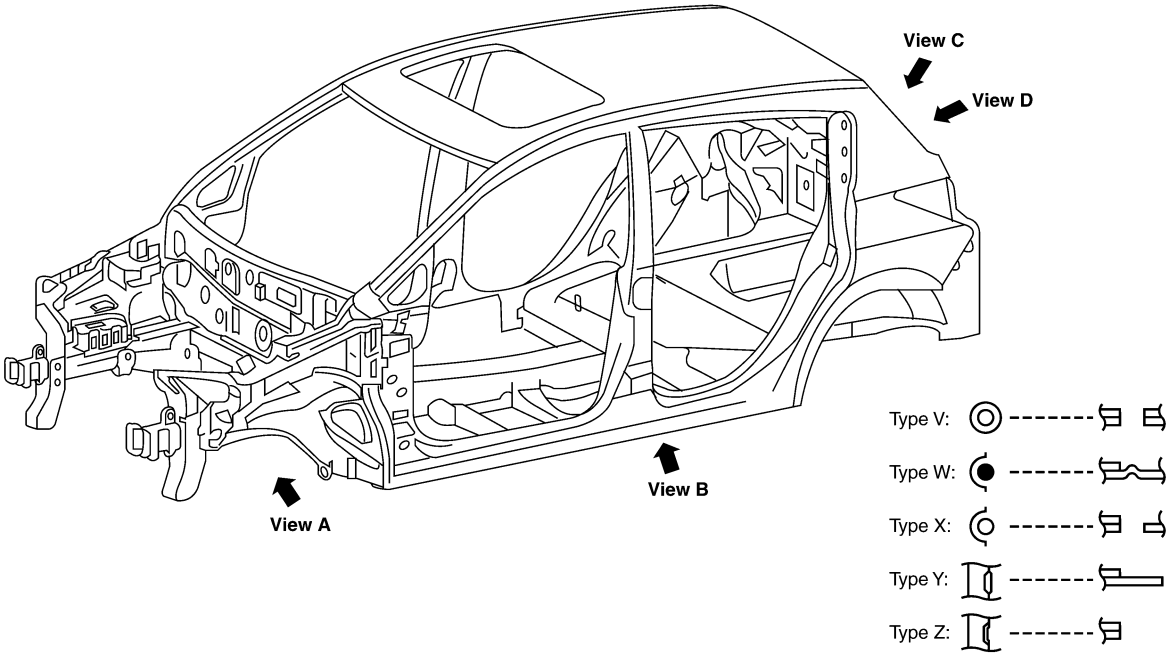
Portion A	Portion B	Portion C
(A) : Cowl top flange end of center positioning mark	(B) : Roof flange end of center positioning mark	(C) : Roof flange end of center positioning mark
		

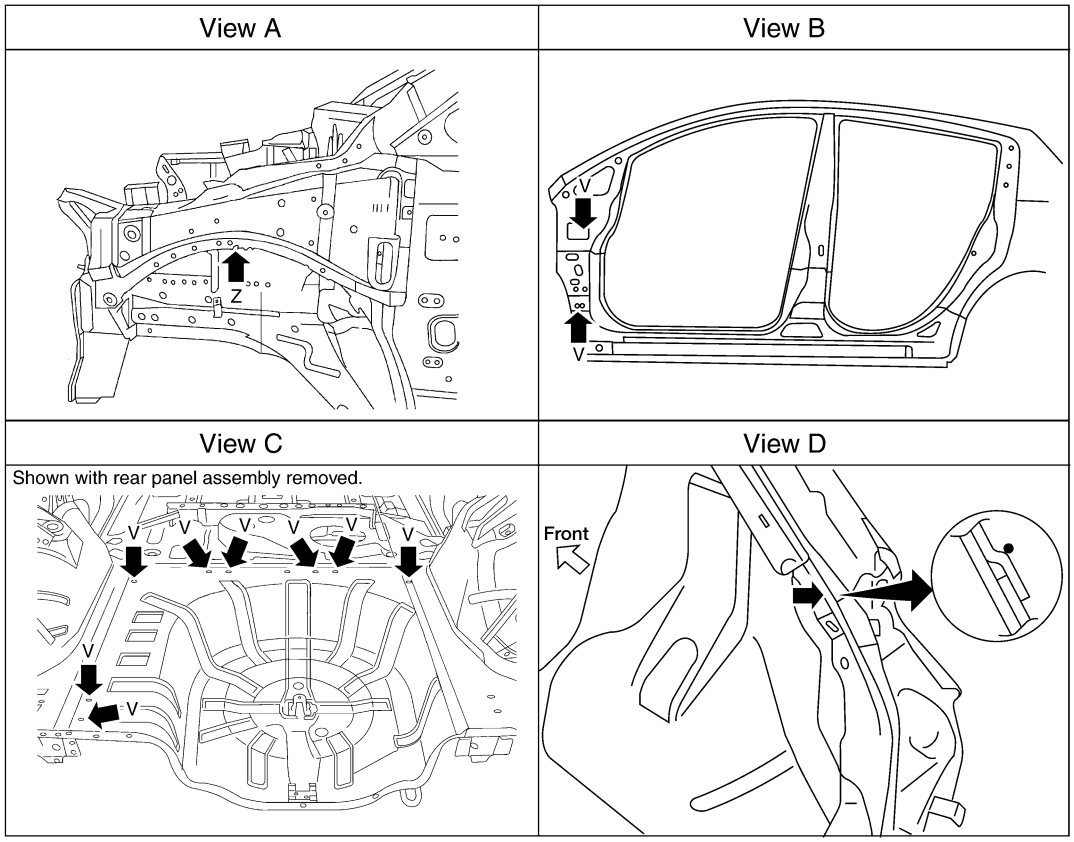
Portion D	Portion E
(D) : Rear panel indent of center positioning mark	
	

LIIA2627E

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.



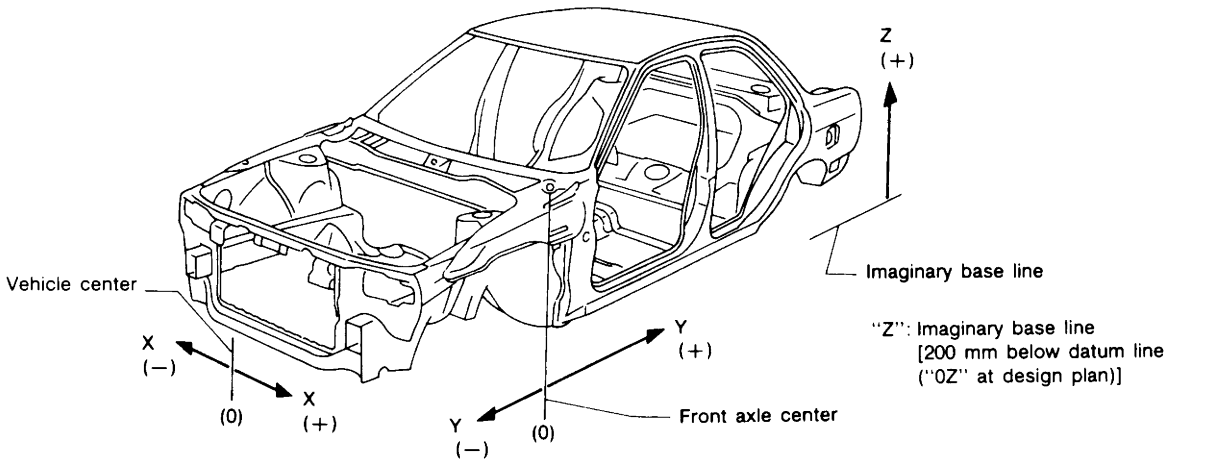


LIIA2628E

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″.

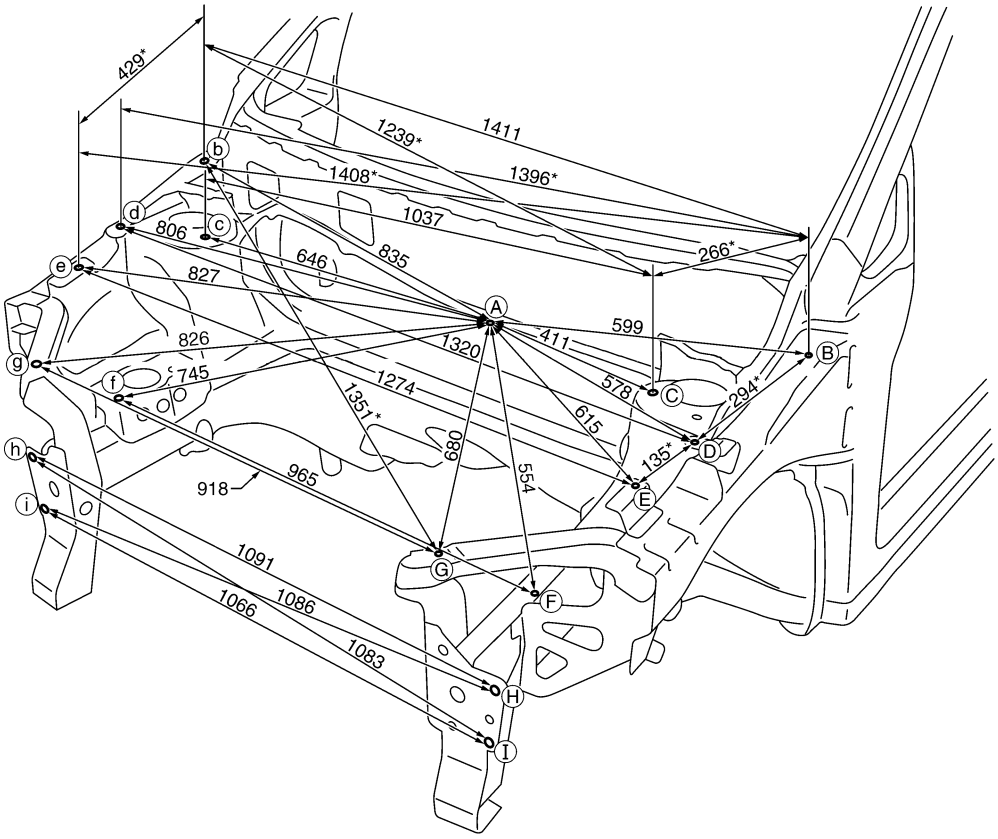


ENGINE COMPARTMENT

Measurement

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

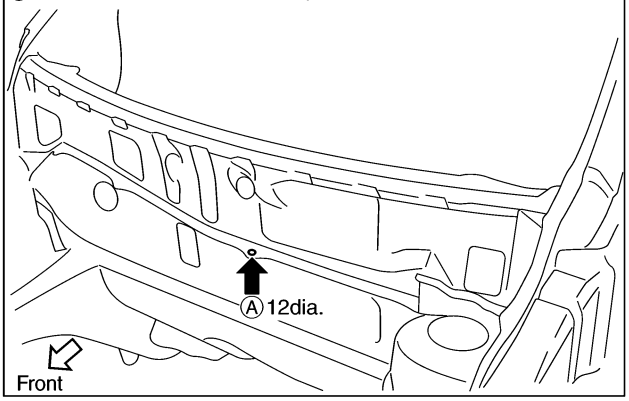
Unit : mm



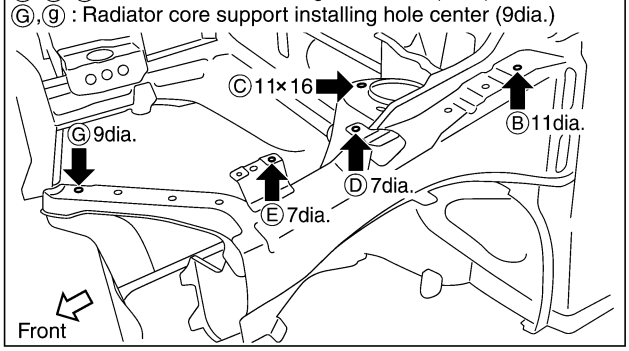
LIIA2610E

Measurement Points

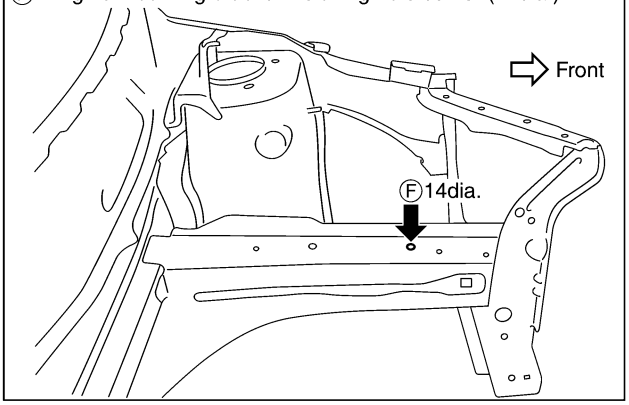
Ⓐ : Cowl top extension installing hole center (12dia.)



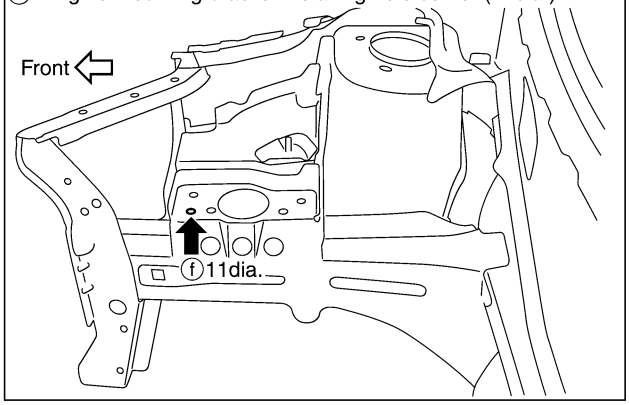
Ⓑ,ⓑ : Hood hinge installing hole center (11dia.)
Ⓒ,ⓒ : Front strut installing hole center (11×16)
Ⓓ,ⓓ,Ⓔ Front fender LH installing hole center (7dia.)
Ⓖ,ⓖ : Radiator core support installing hole center (9dia.)



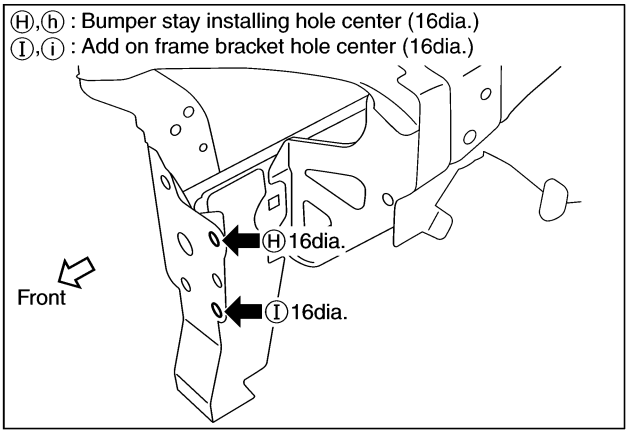
Ⓕ: Engine mounting bracket installing hole center (14dia.)



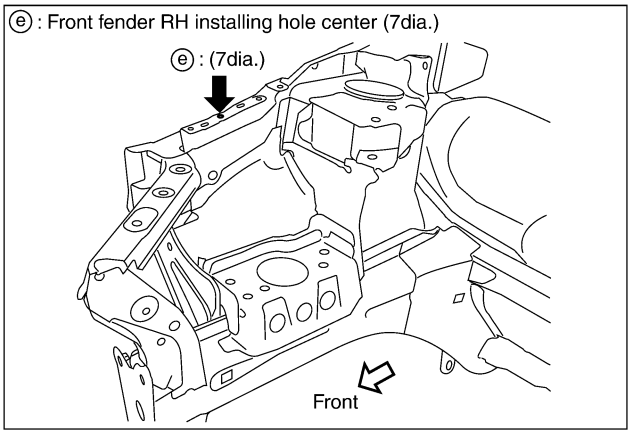
ⓕ: Engine mounting bracket installing hole center (11dia.)



Ⓗ,ⓗ : Bumper stay installing hole center (16dia.)
Ⓘ,ⓘ : Add on frame bracket hole center (16dia.)



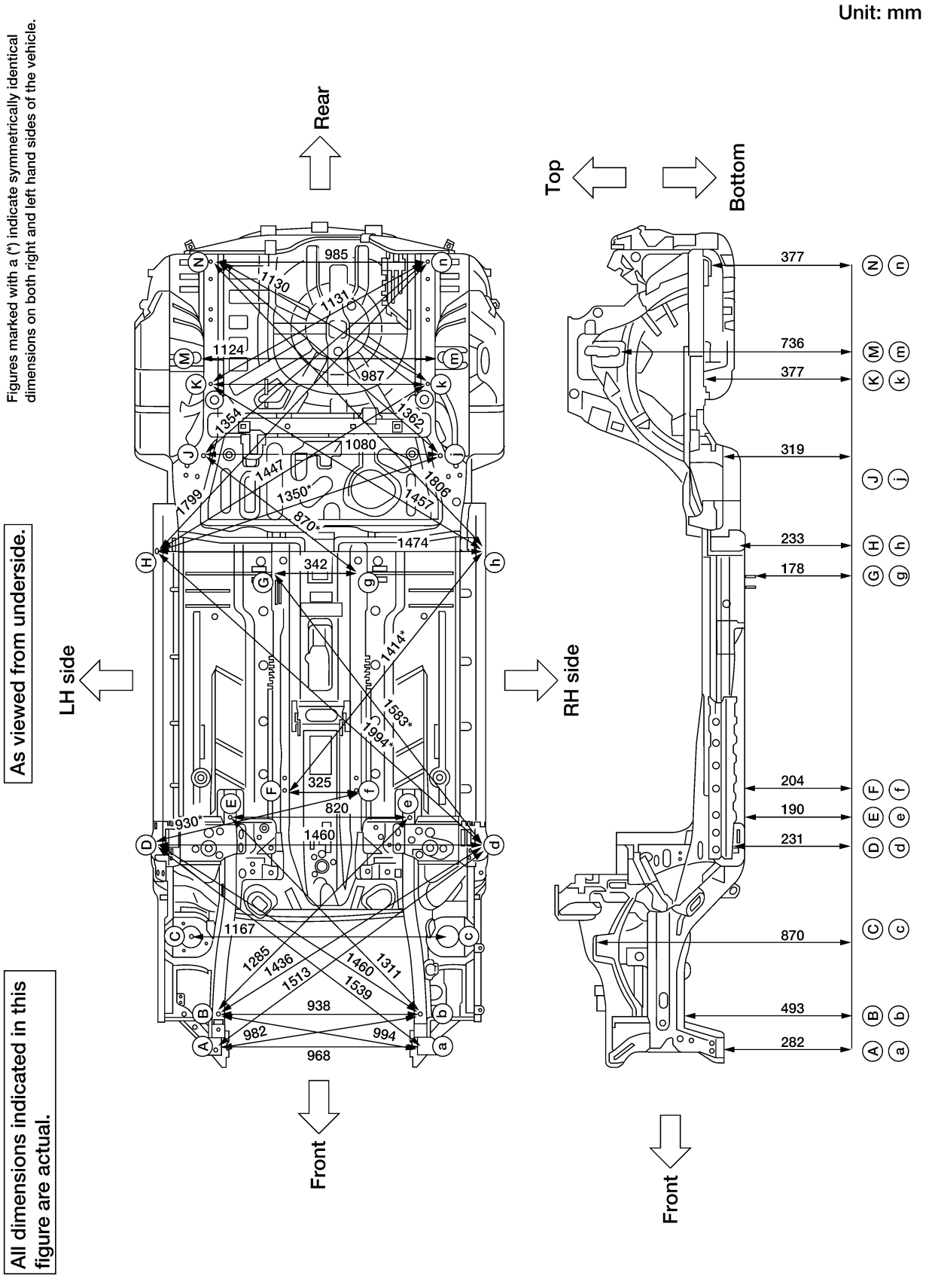
ⓔ : Front fender RH installing hole center (7dia.)



LIIA2611E

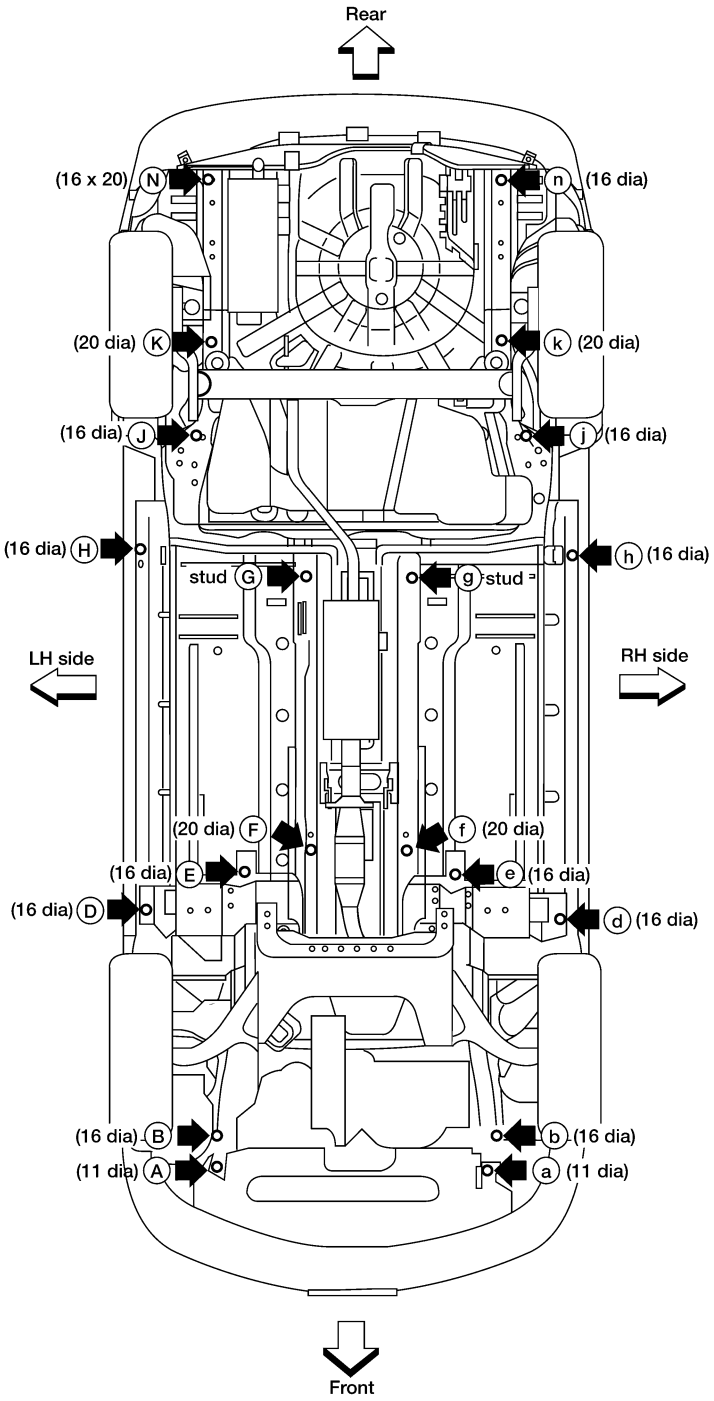
UNDERBODY
Measurement

Unit: mm



LIIA2601E

Measurement Points



Coordinates:

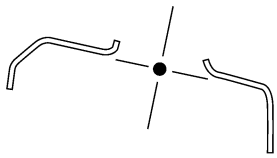
A	a
X : -476	X : 492
Y : -502	Y : -525
Z : 282	Z : 282
B	b
X : -462	X : 475
Y : -346	Y : -372
Z : 493	Z : 493
D, d	k
X : ±730	X : 488
Y : 410	Y : 2518
Z : 231	Z : 377
E, e	n
X : ±410	X : 487
Y : 547	Y : 3070
Z : 190	Z : 377
F, f	
X : ±162	
Y : 670	
Z : 204	
G, g	
X : ±171	
Y : 1710	
Z : 178	
H, h	
X : ±737	
Y : 1760	
Z : 233	
J, j	
X : ±540	
Y : 2190	
Z : 319	
K	
X : -499	
Y : 2518	
Z : 377	
N	
X : -498	
Y : 3070	
Z : 377	

Strut tower centers

Coordinates:

C, c Front
X : ±584
Y : 7
Z : 870

M, m Rear
X : ±562
Y : 2639
Z : 736



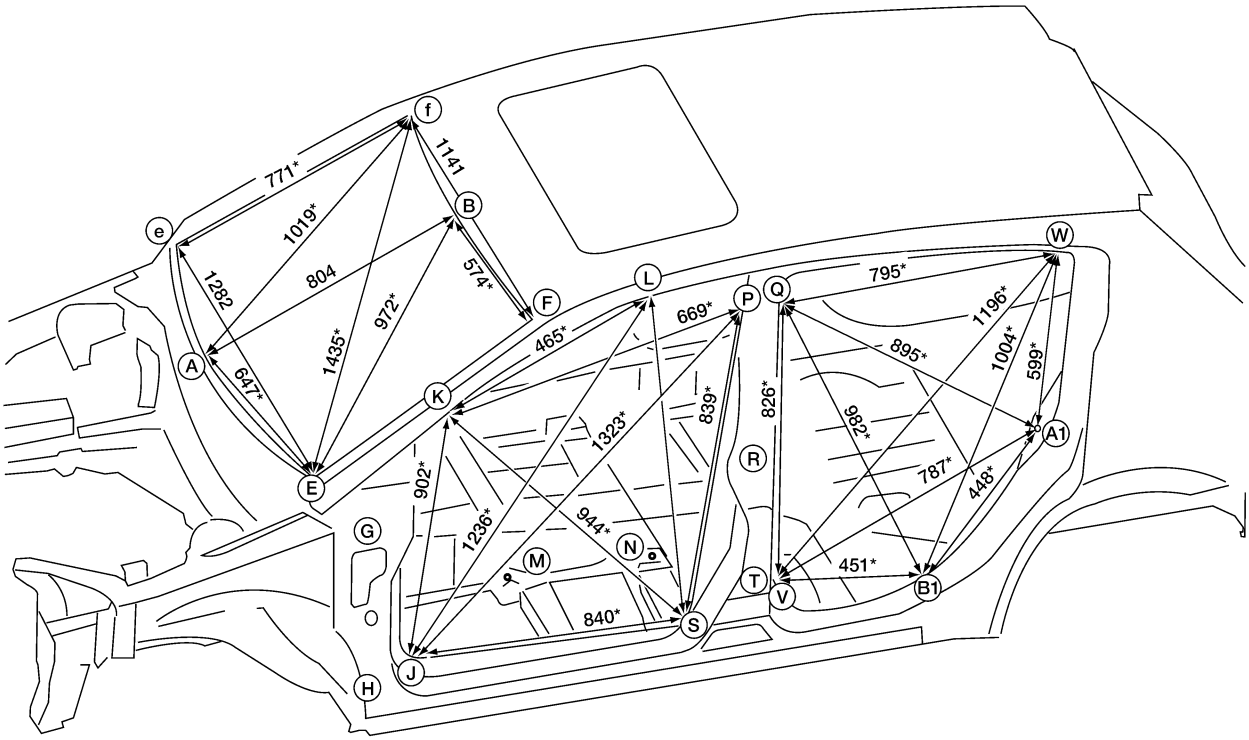
Unit: mm

LIIA2602E

PASSENGER COMPARTMENT
Measurement

Unit : mm

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

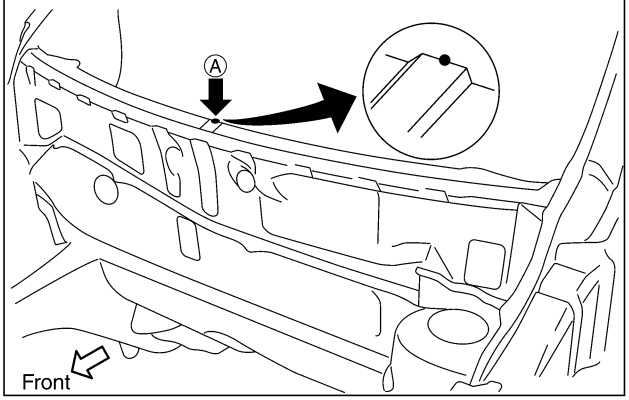


Point	Dimension	Point	Dimension	Point	Dimension
Ⓚ~ⓚ	1,238	Ⓠ~ⓐ1	1,580*	Ⓜ~ⓚ	1,114*
Ⓚ~ⓙ	1,586*	Ⓠ~ⓑ1	1,628*	Ⓜ~Ⓟ	1,260*
Ⓚ~Ⓟ	1,405*	Ⓠ~ⓦ	1,440*	Ⓜ~Ⓙ	728*
Ⓚ~Ⓢ	1,613*	Ⓥ~ⓥ	1,380	Ⓜ~Ⓢ	714*
Ⓙ~ⓙ	1,373	Ⓥ~ⓐ1	1,588*	Ⓝ~Ⓠ	1,162*
Ⓙ~Ⓟ	1,855*	Ⓥ~ⓑ1	1,448*	Ⓝ~Ⓦ	1,541*
Ⓙ~Ⓢ	1,612*	Ⓥ~ⓦ	1,746*	Ⓝ~Ⓐ1	1,172*
Ⓟ~Ⓟ	1,232	Ⓦ~ⓦ	1,172	Ⓝ~Ⓑ1	834*
Ⓟ~Ⓢ	1,550*	Ⓦ~ⓐ1	1,405*	Ⓝ~Ⓥ	603*
Ⓢ~Ⓢ	1,380*	Ⓦ~ⓑ1	1,618*	Ⓖ~Ⓡ	1,158*
Ⓠ~ⓠ	1,229*	Ⓐ1~ⓐ1	1,379	Ⓖ~Ⓣ	1,170*
Ⓠ~ⓥ	1,542*	Ⓐ1~ⓑ1	1,447*	Ⓗ~Ⓡ	1,205*
				Ⓗ~Ⓣ	1,104*

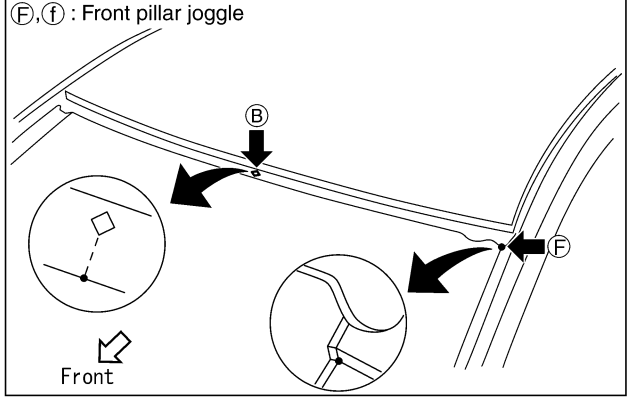
LIIA2603E

Measurement Points

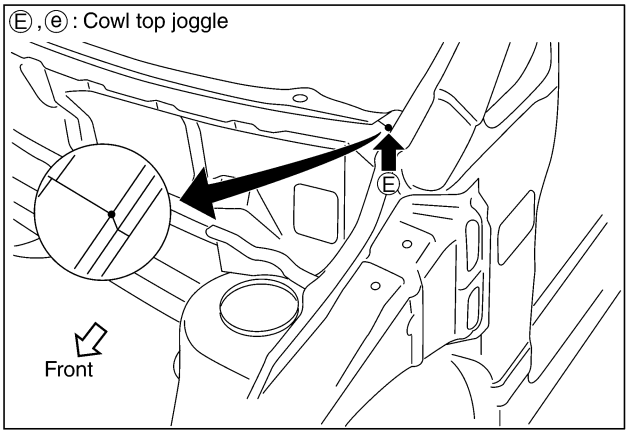
Ⓐ : Cowl top flange end of center positioning mark



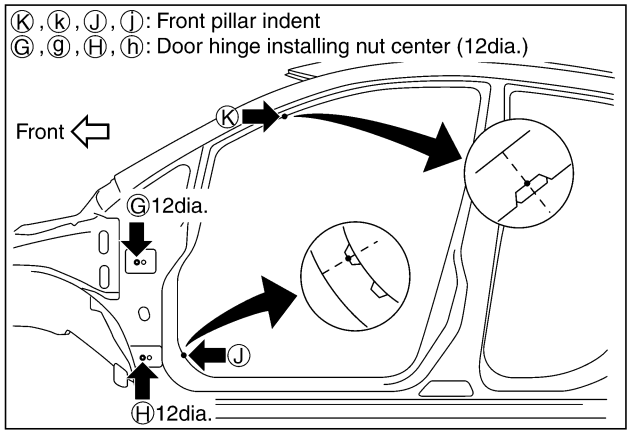
Ⓑ : Roof flange end of center positioning mark
Ⓕ, ⓕ : Front pillar joggle



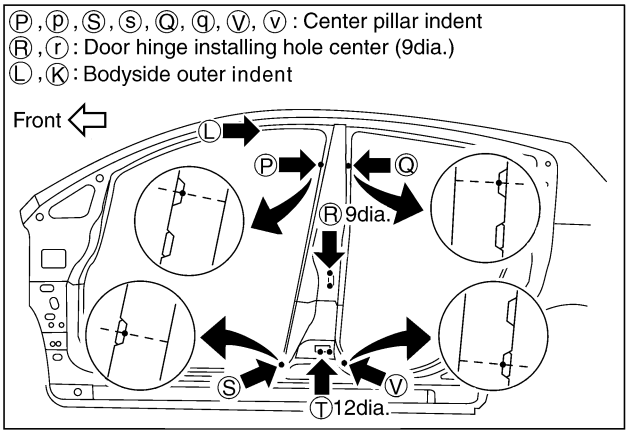
Ⓔ, ⓔ : Cowl top joggle



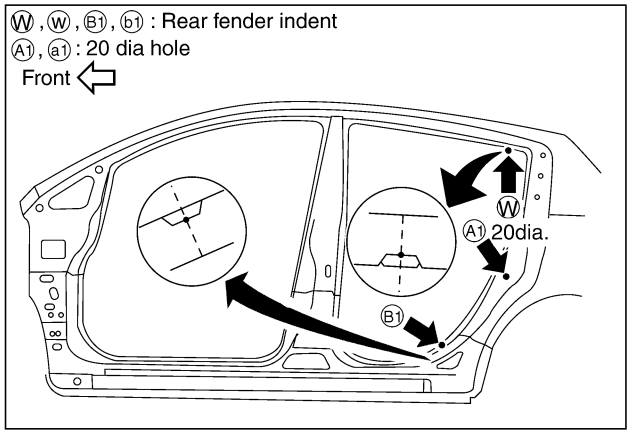
Ⓚ, ⓚ, Ⓙ, ⓙ : Front pillar indent
Ⓖ, ⓖ, Ⓗ, ⓗ : Door hinge installing nut center (12dia.)



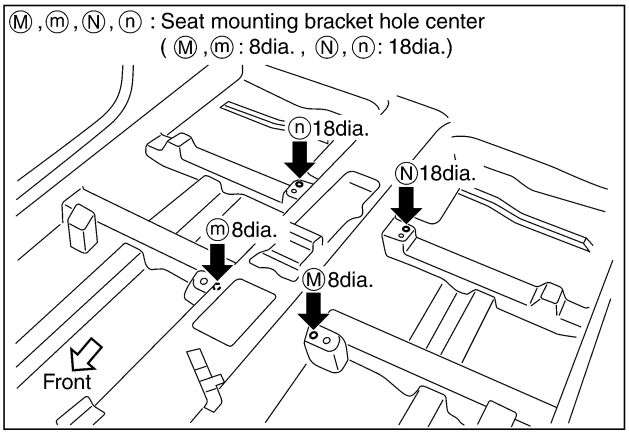
Ⓟ, ⓟ, Ⓢ, ⓢ, Ⓠ, ⓠ, Ⓥ, ⓥ : Center pillar indent
Ⓡ, ⓡ : Door hinge installing hole center (9dia.)
Ⓛ, Ⓚ : Bodyside outer indent



Ⓦ, ⓦ, Ⓑ1, ⓑ1 : Rear fender indent
Ⓐ1, ⓐ1 : 20 dia hole

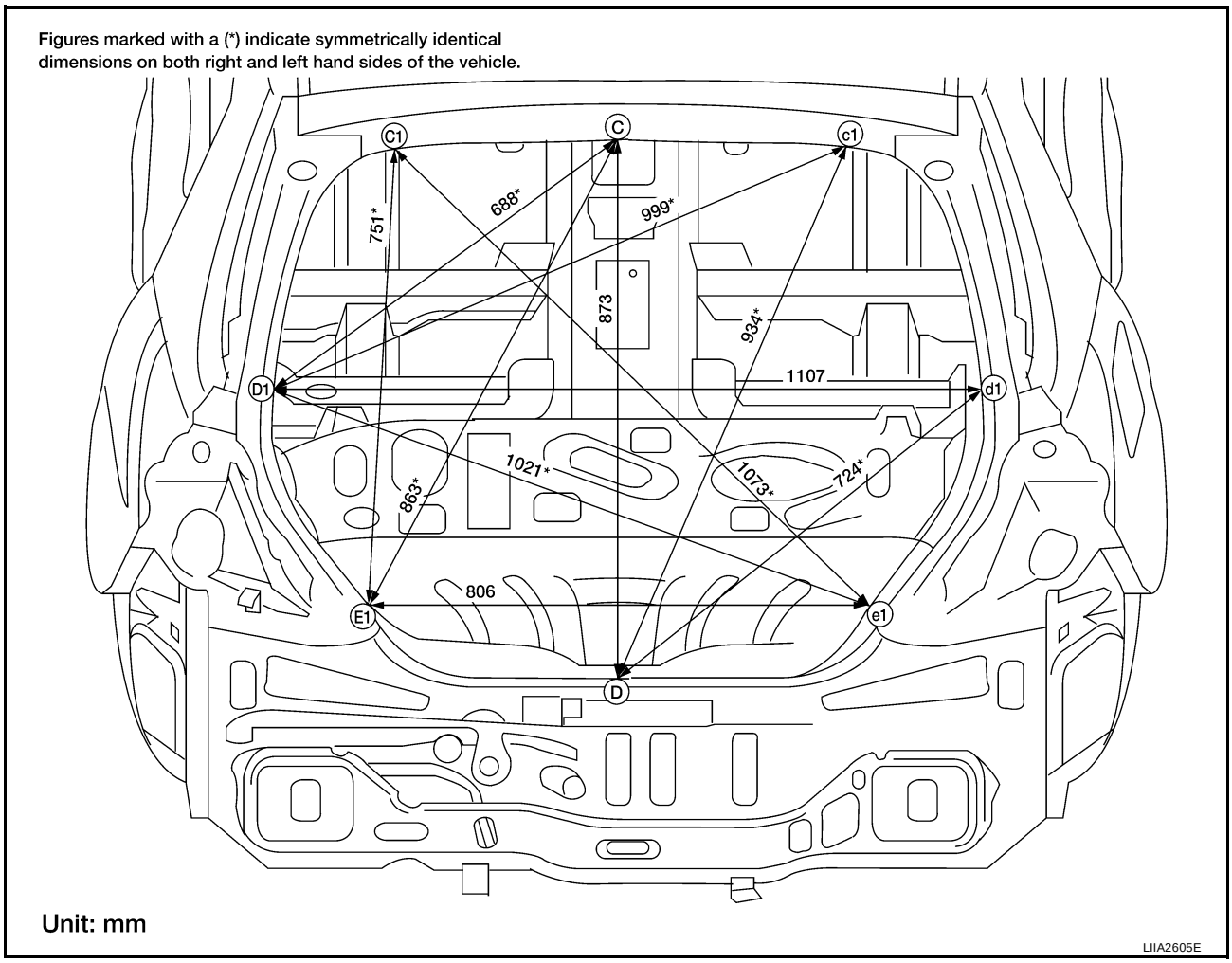


Ⓜ, ⓜ, Ⓝ, ⓝ : Seat mounting bracket hole center
(Ⓜ, ⓜ : 8dia., Ⓝ, ⓝ : 18dia.)

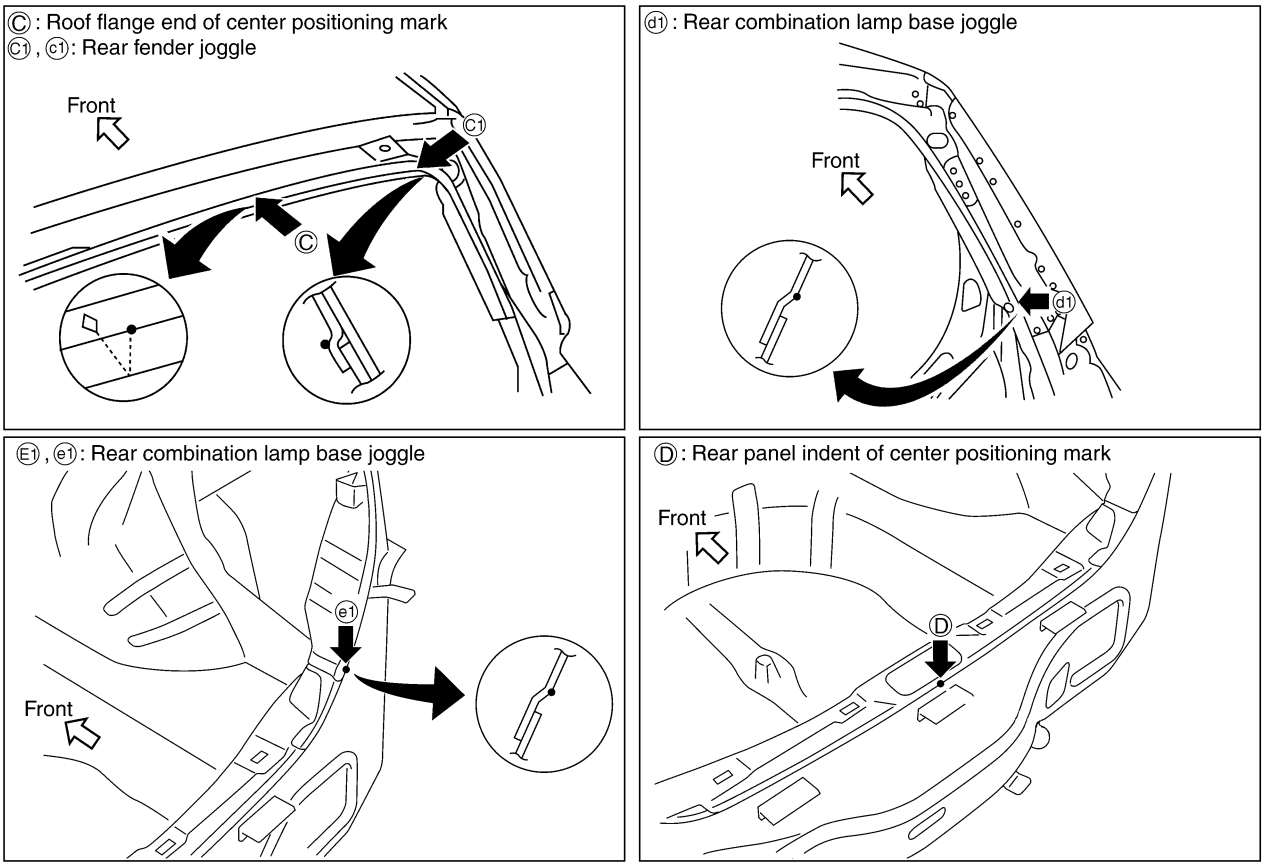


LIIA2604E

REAR BODY
Measurement



Measurement Points



LIIA2606E

Handling Precautions for Plastics

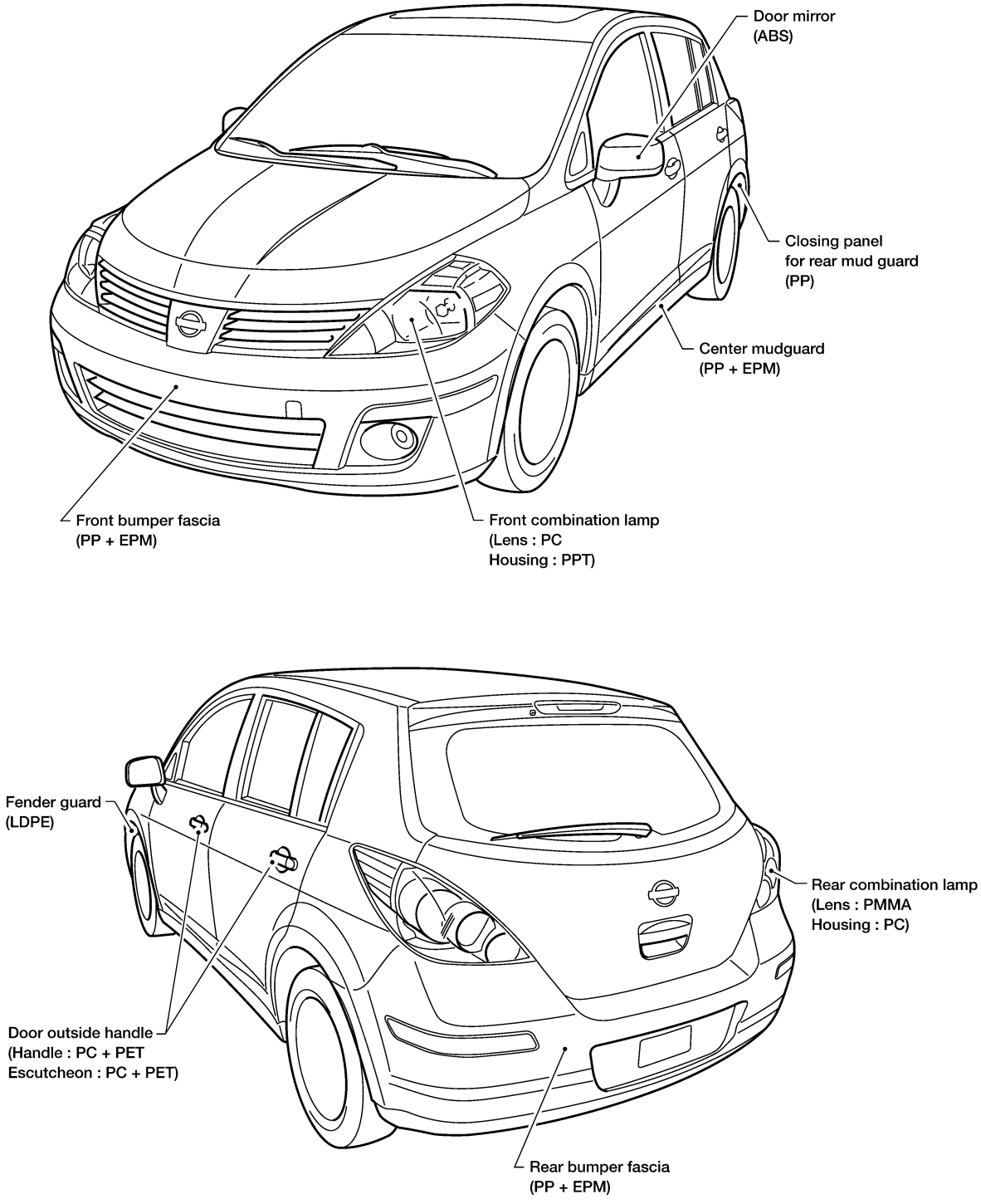
EIS009AL

HANDLING PRECAUTIONS FOR PLASTICS

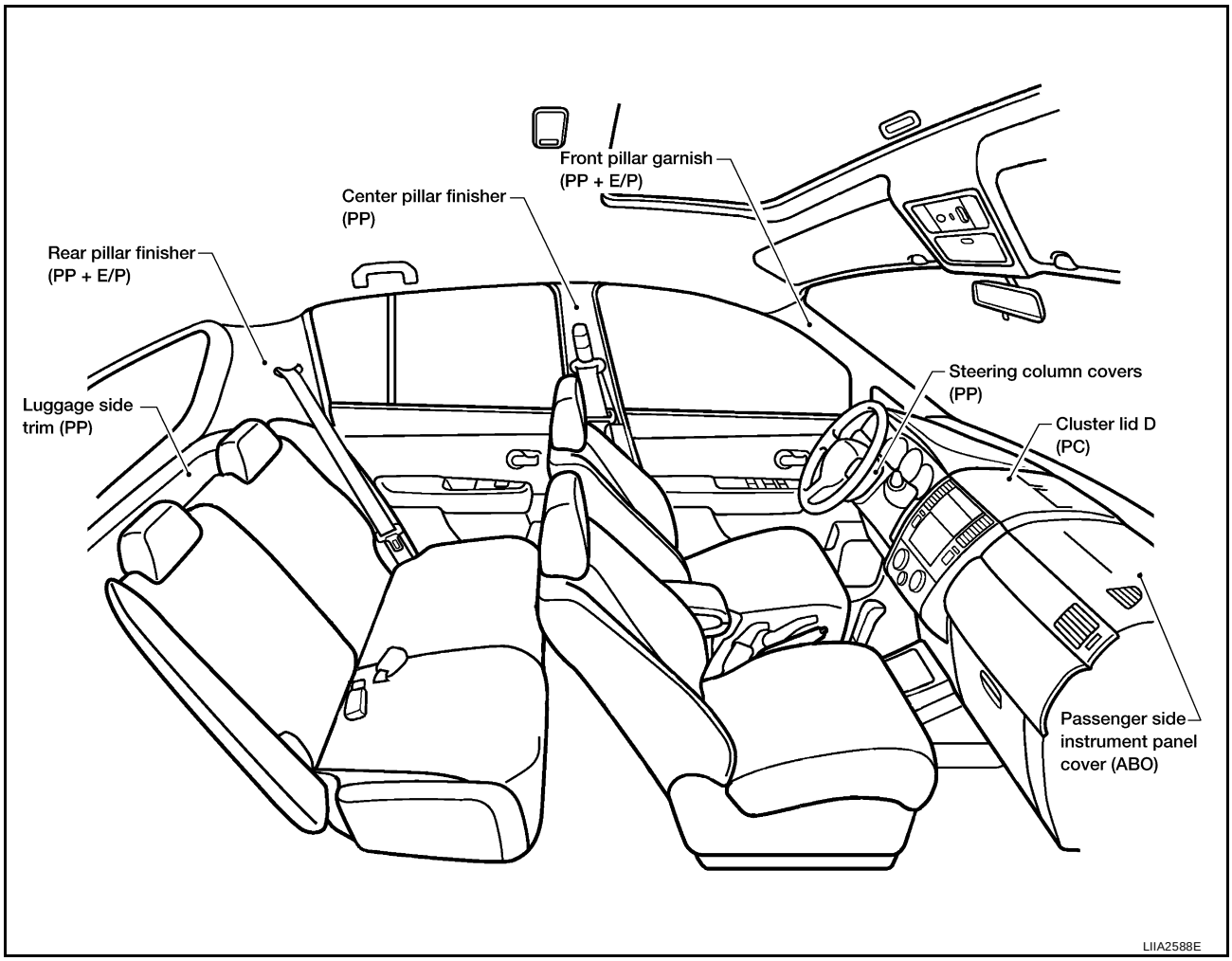
Abbreviation	Material name	Heat resisting temperature °C (°F)	Resistance to gasoline and solvents	Other cautions
PE	Polyethylene	60 (140)	Gasoline and most solvents are harmless if applied for a very short time (wipe up quickly).	Flammable
PVC	Polyvinyl Chloride	80 (176)	Same as above.	Poison gas is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

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

LOCATION OF PLASTIC PARTS



LIIA2587E


Front pillar garnish
(PP + E/P)
Center pillar finisher
(PP)
Rear pillar finisher
(PP + E/P)
Steering column covers
(PP)
Luggage side
trim (PP)
Cluster lid D
(PC)
Passenger side
instrument panel
cover (ABO)
LIIA2588E

Precautions in Repairing High Strength Steel

EIS009C0

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

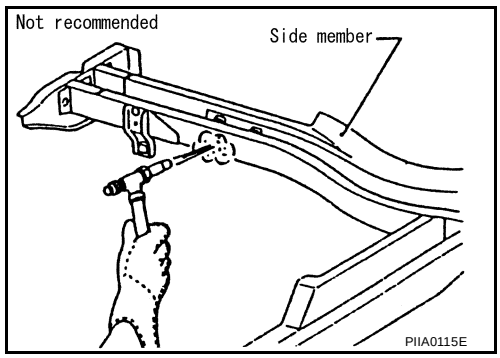
Tensile strength	Nissan/Infiniti designation	Major applicable parts
373 N/mm^2 (38kg/mm^2 ,54klb/sq in)	SP130	● Front & rear side member assembly ● Front side member closing plate assembly ● Front strut housing ● Lower dash ● Rear seat crossmember ● Other reinforcements
785-1350 N/mm^2 (80-138kg/mm^2 , 114-196klb/sq in)	SP150	● Center pillar reinforcement (Component part) ● Outer roof side rail reinforcement (Component part)

SP130 is the most commonly used HSS.
SP150 HSS is used only on parts that require much more strength.

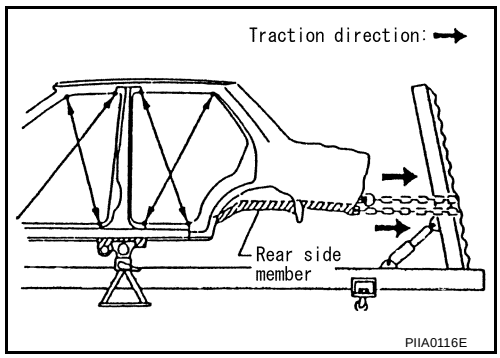
Read the Following Precautions When Repairing HSS:

1. Additional points to consider

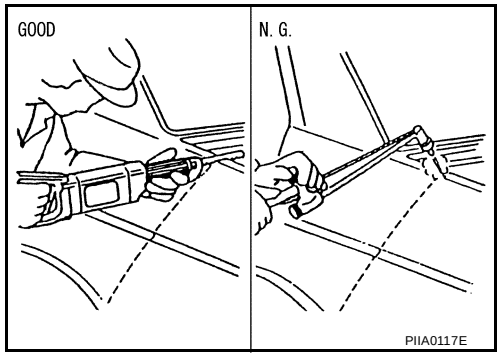
- The repair of reinforcements (such as side members) by heating is not recommended since it may weaken the component. When heating is unavoidable, do not heat HSS parts above 550°C (1,022°F).
  Verify heating temperature with a thermometer.
  (Crayon-type and other similar type thermometer are appropriate.)



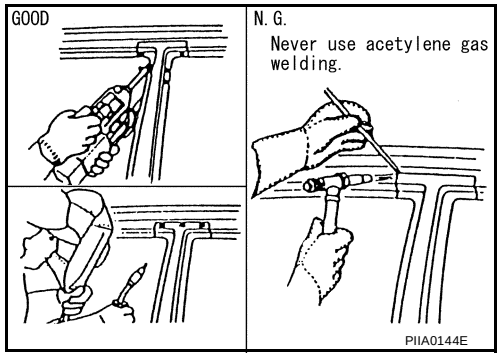
- When straightening body panels, use caution in pulling any HSS panel. Because HSS is very strong, pulling may cause deformation in adjacent portions of the body. In this case, increase the number of measuring points, and carefully pull the HSS panel.



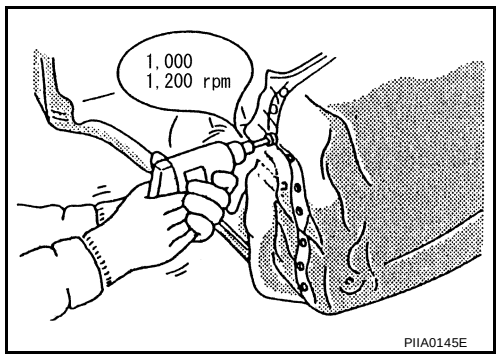
- When cutting HSS panels, avoid gas (torch) cutting if possible. Instead, use a saw to avoid weakening surrounding areas due to heat. If gas (torch) cutting is unavoidable, allow a minimum margin of 50 mm (1.97in).



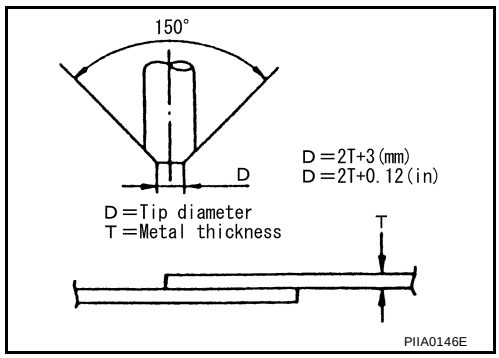
- When welding HSS panels, use spot welding whenever possible in order to minimize weakening surrounding areas due to heat.
  If spot welding is impossible, use M.I.G. welding. Do not use gas (torch) welding because it is inferior in welding strength.



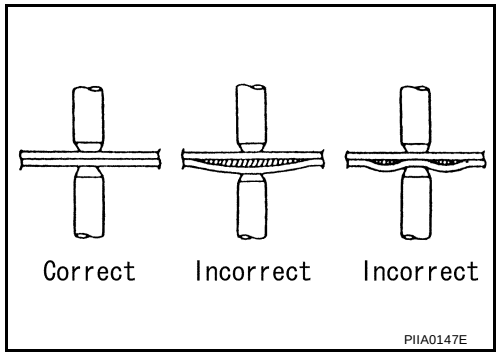
- The spot weld on HSS panels is harder than that of an ordinary steel panel.
  Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.



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.



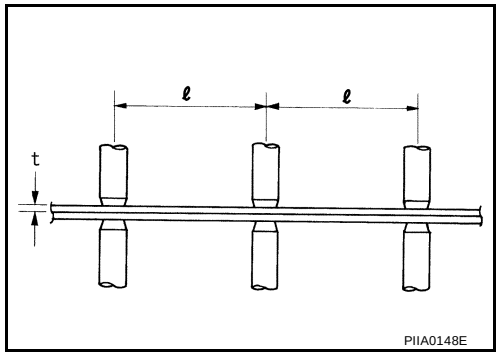
   - The panel surfaces must fit flush to each other, leaving no gaps.



   - 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



Rear fender hemming process

1. A wheel arch is to be installed and hemmed over left and right outer wheel house.
2. In order to hem the wheel arch, it is necessary to repair any damaged or defaced parts around outer wheel house.

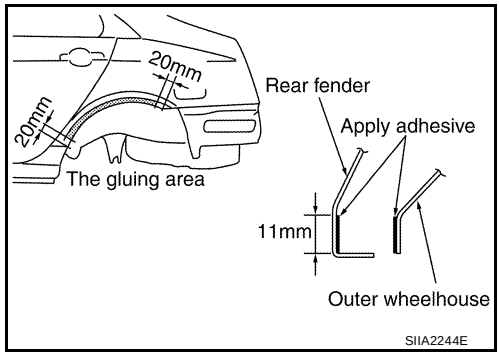
CAUTION:
Ensure that the area that is to be glued around outer wheelhouse is undamaged or defaced.

Procedure of the hemming process

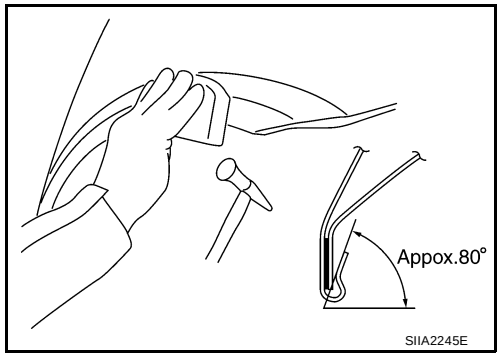
- Peel off old bonding material on the surface of outer wheelhouse and clean thoroughly.
- Peel off a primer coat in the specified area where new adhesive is to be applied on rear fender (the replacing part).
- Apply new adhesive to both specified areas of outer wheelhouse and rear fender.

<Adhesive> 3M automix panel bond 8115, or any equivalents

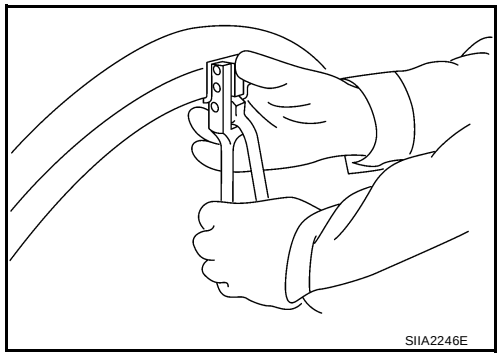
- Attach rear fender to the body of the car, and weld the required part except the hemming part.



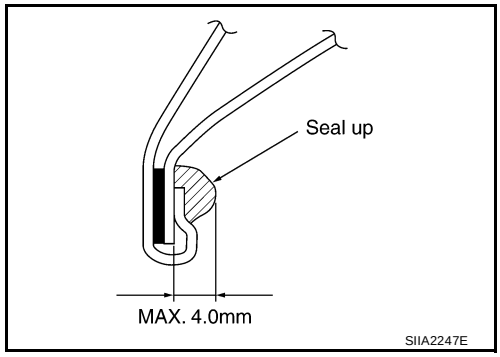
- Bend the welded part starting from the center of the wheel arch gradually with a hammer and a dolly. (Also hem the end of the flange.)
- Hemming with a hammer is conducted to an approximate angle of 80 degrees.



- Starting from the center, hem the wheel arch gradually, using slight back and forth motion with a hemming tool.



- Seal up the area around the hemmed end of the flange.



Foam Repair

EIS009C2

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

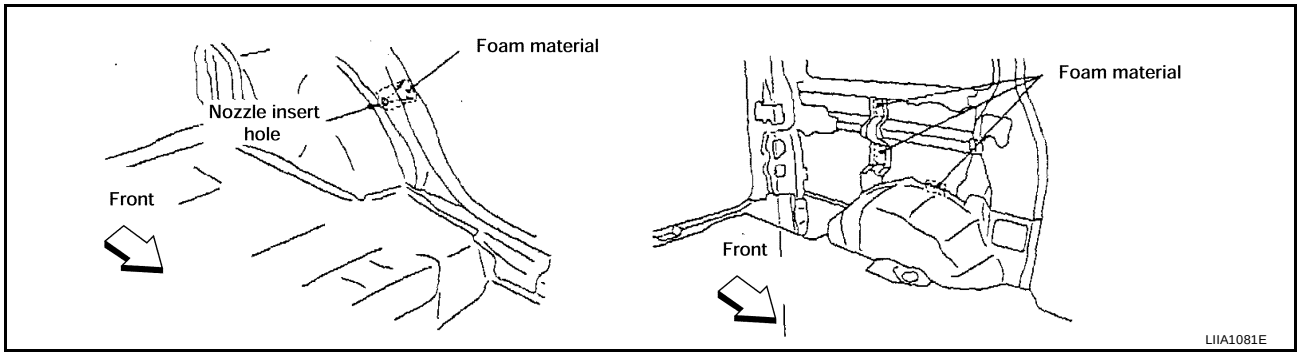
URETHANE FOAM APPLICATIONS

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

FILL PROCEDURES

1. Fill procedures after installation of service part.

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



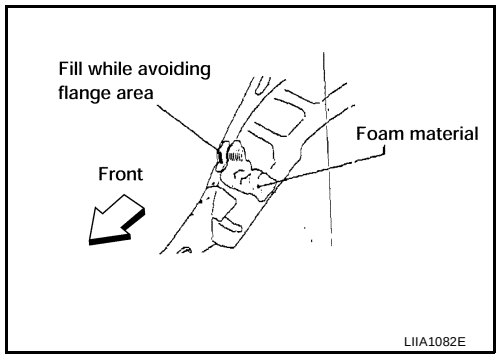
2. Fill procedures before installation of service part.

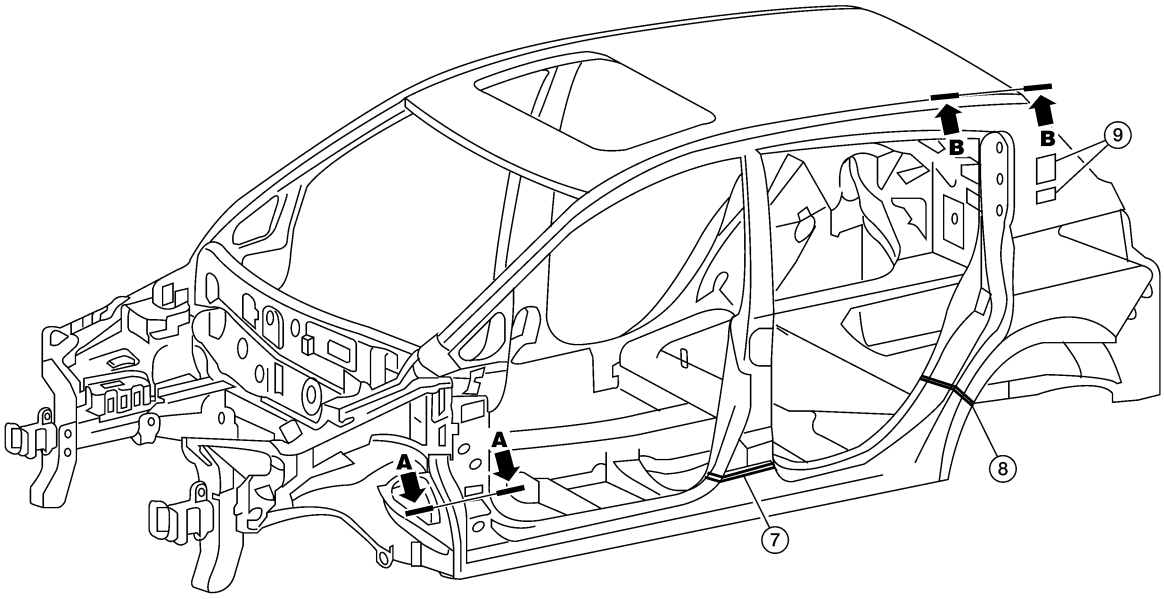
- Remove foam material remaining on vehicle side.
- Clean area in which foam was removed.
- Fill foam material on wheelhouse outer side.

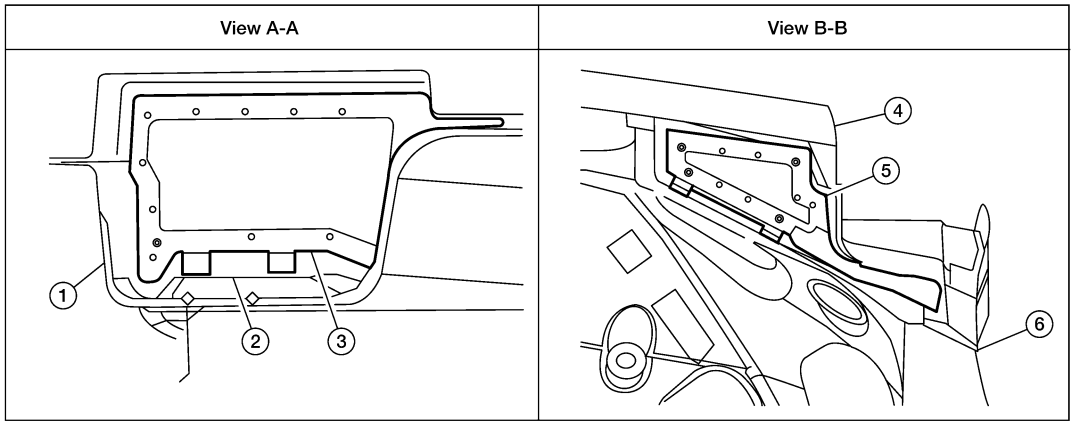
NOTE:
Fill in enough to close gap with service part while avoiding flange area.

- Install service part.

NOTE:
Refer to label for information on working times.







LIIA2665E

1. Body side outer
2. Front pillar lower reinforcement
3. Body side insulation (foam) front pillar
4. Roof panel assembly
5. Body side insulation (Foam) rear roof rail
6. Rear roof rail assembly
7. Body side insulation strip, center pillar
8. Body side insulation strip, rear pillar lower
9. Body side insulation strip, rear pillar upper

Replacement Operations

EIS009AN

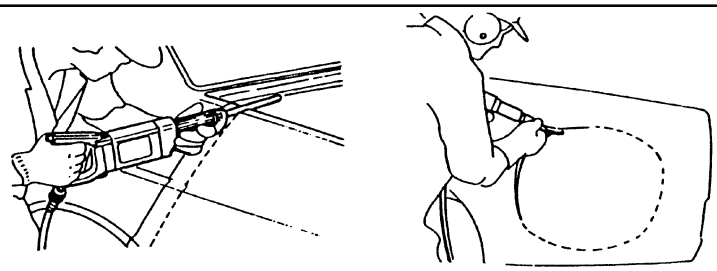
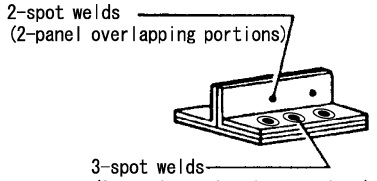
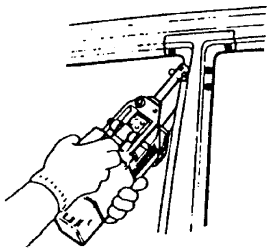
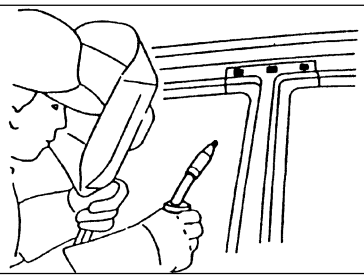
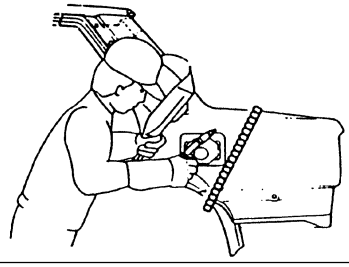
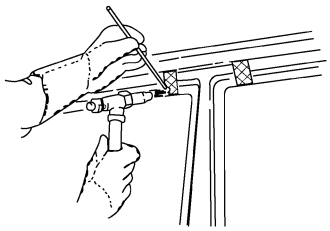
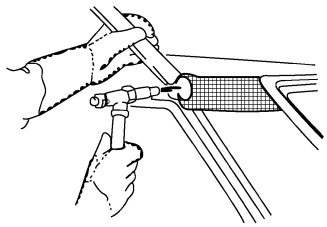
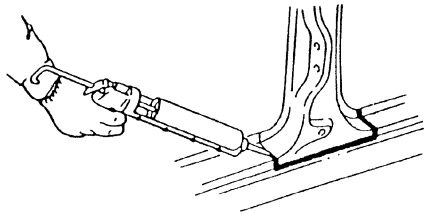
DESCRIPTION

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

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

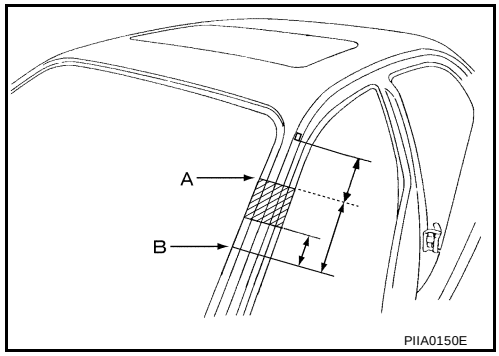
Please note that this information is prepared for worldwide usage, and as such, certain procedures may not apply in some regions or countries.

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

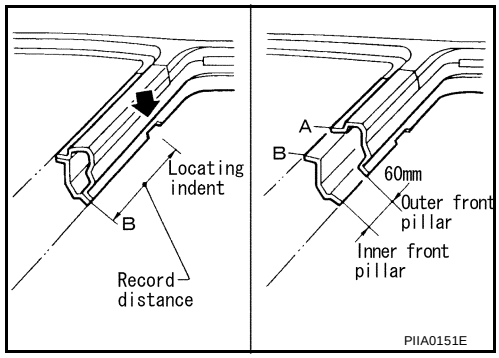
Saw cut or air chisel cut	
Spot weld 2-spot welds	 
Spot weld 3-spot welds	
MIG plug weld	 
MIG seam weld/ Point weld	
Brazing	
Soldering	
Sealing	

PIIA0149E

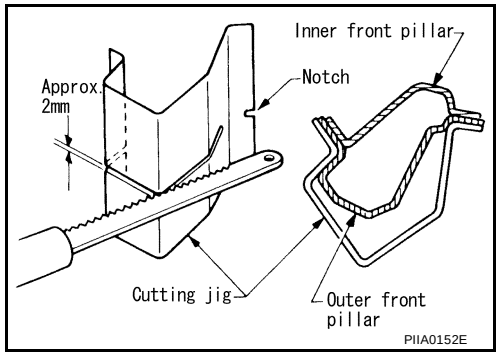
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle. Refer to the front pillar section.



- 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.

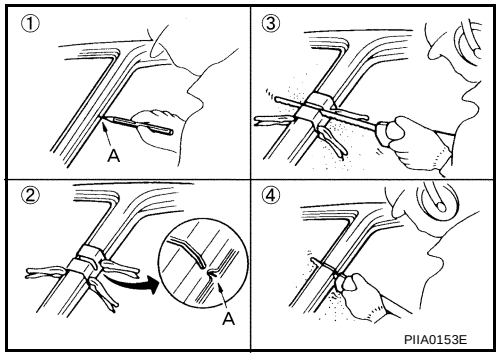


- Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit service part to be accurately cut at joint position.



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

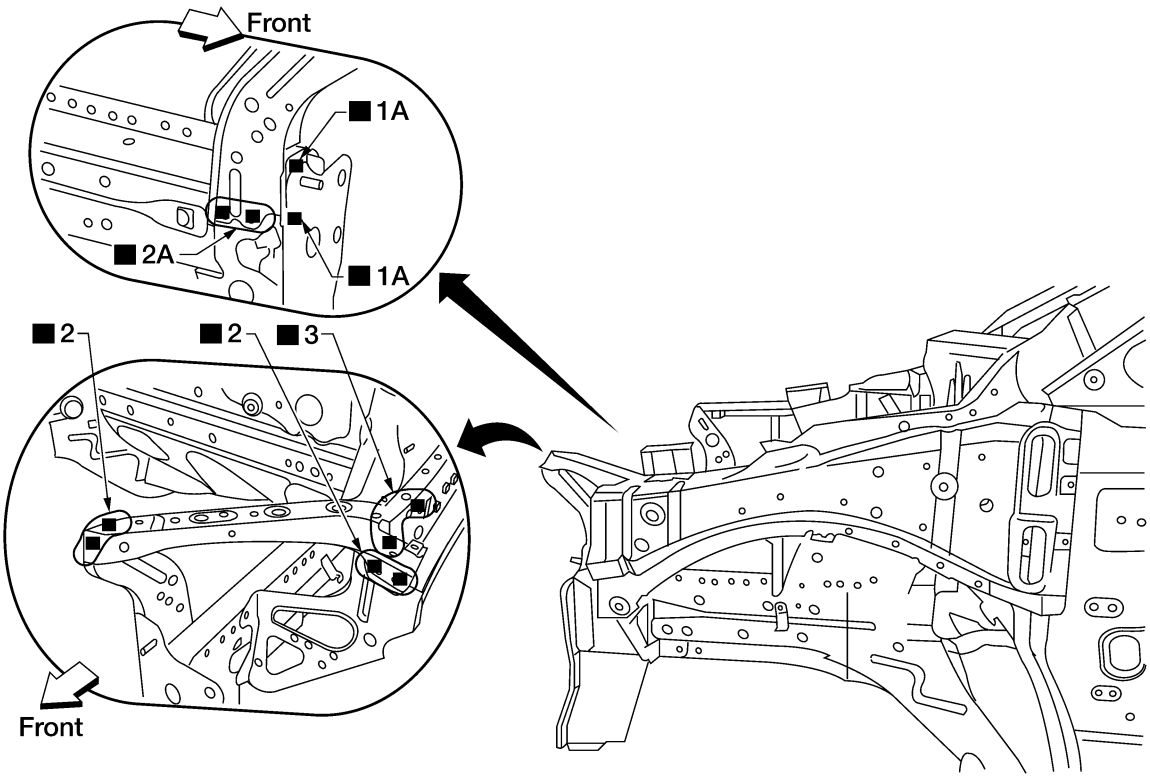
1. Mark cutting lines.
   A: Cut position of outer pillar
   B: Cut position of inner pillar
2. Align cutting line with notch on jig. Clamp jig to pillar.
3. Cut outer pillar along groove of jig. (At position A)
4. Remove jig and cut remaining portions.
5. Cut inner pillar at position B in same manner.

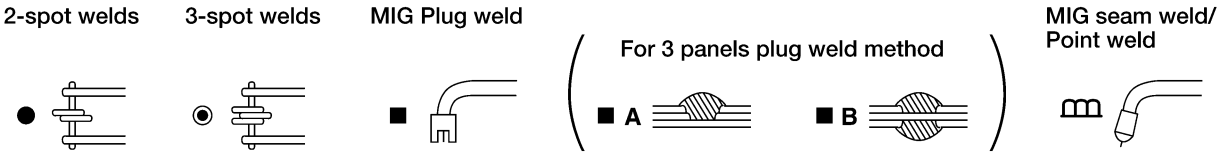


RADIATOR CORE SUPPORT

- Work after radiator core support upper and lower bolt on crossmembers have been removed.

Service Joint





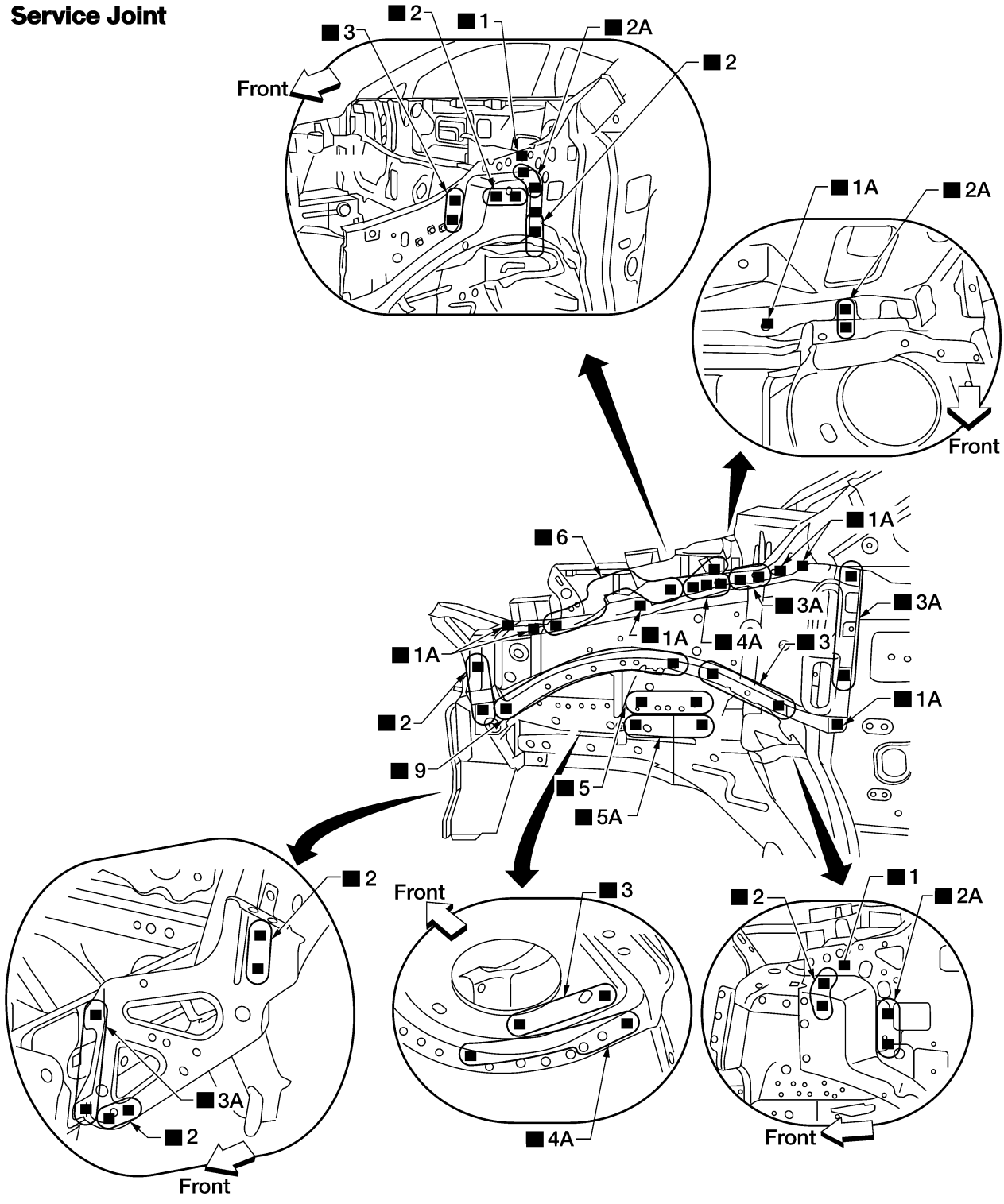
Change Parts

- Radiator core side support
- Radiator core support upper

HOODLEDGE LH

- Work after radiator core support upper and lower have been removed.

Service Joint



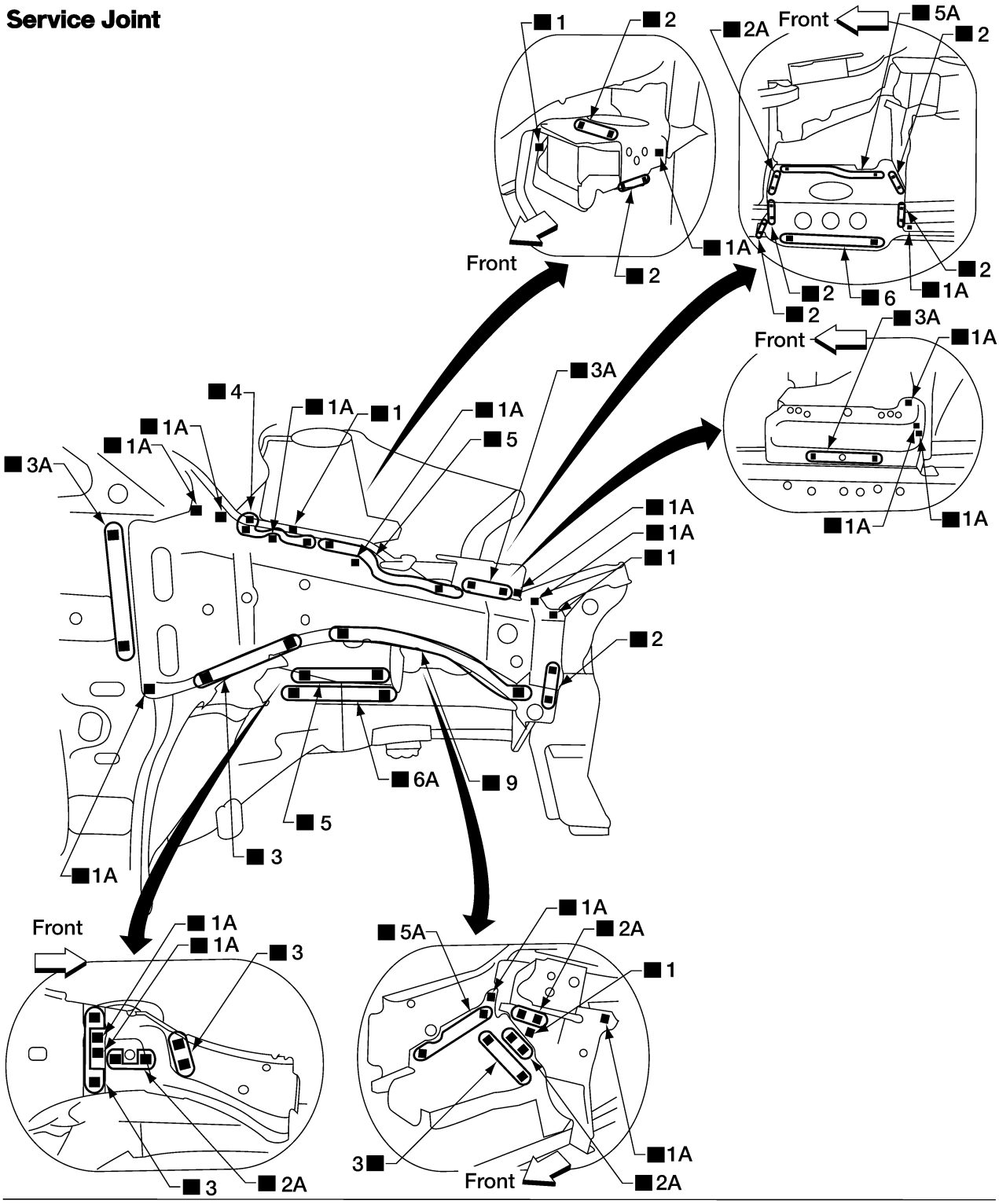
Change Parts

- Hoodledge reinforcement assembly
- Cowl top side upper
- Front strut housing
- Hoodledge upper
- Fender bracket
- Hoodledge connector

HOODLEDGE RH

- Work after radiator core support upper and lower have been removed.

Service Joint

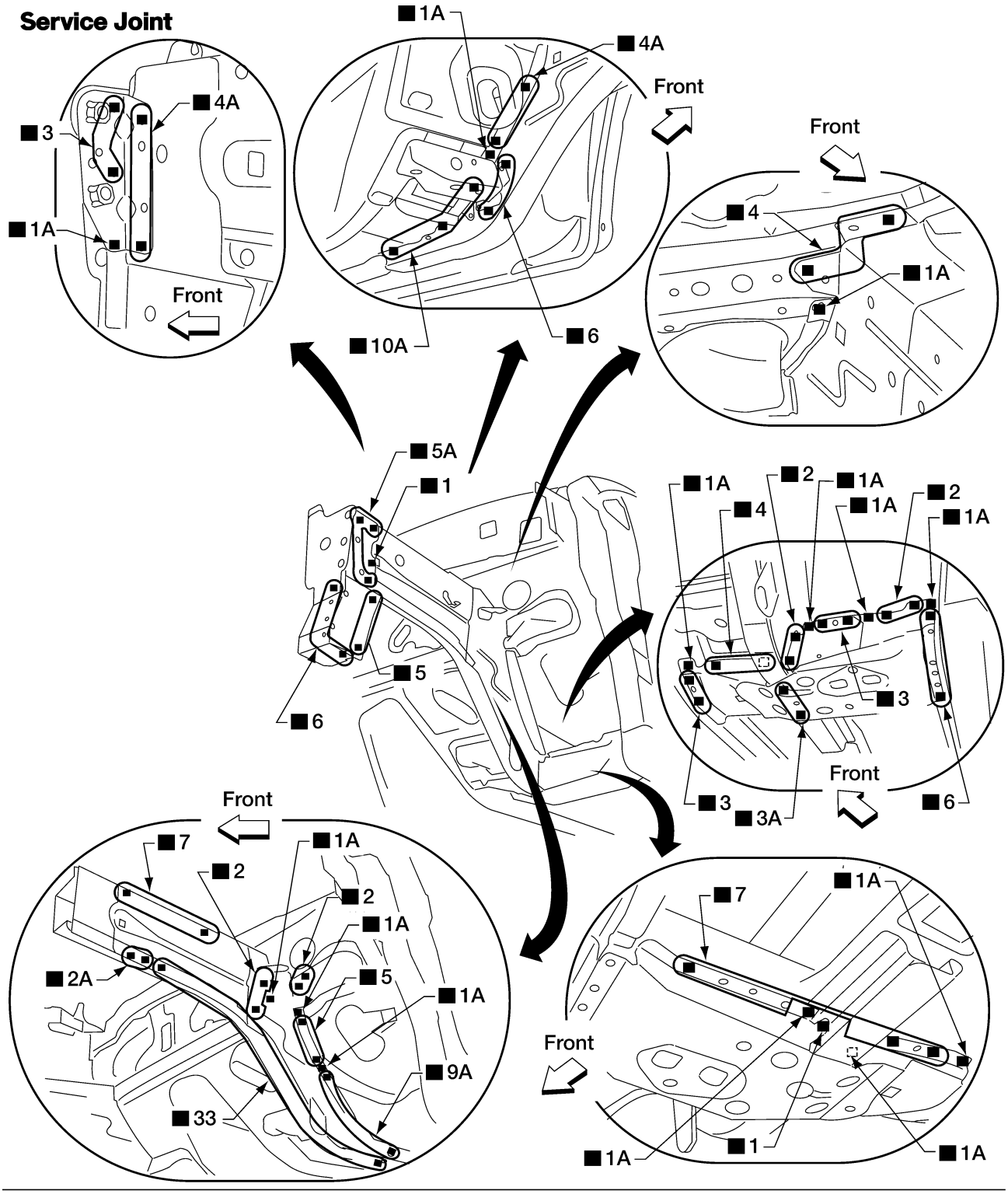


Change Parts

- Hoodledge reinforcement assembly
- Cowl top side upper
- Front strut housing
- Hoodledge upper
- Fender bracket
- Hoodledge connector

FRONT SIDE MEMBER

- Work after hoodledge and radiator core support have been removed.



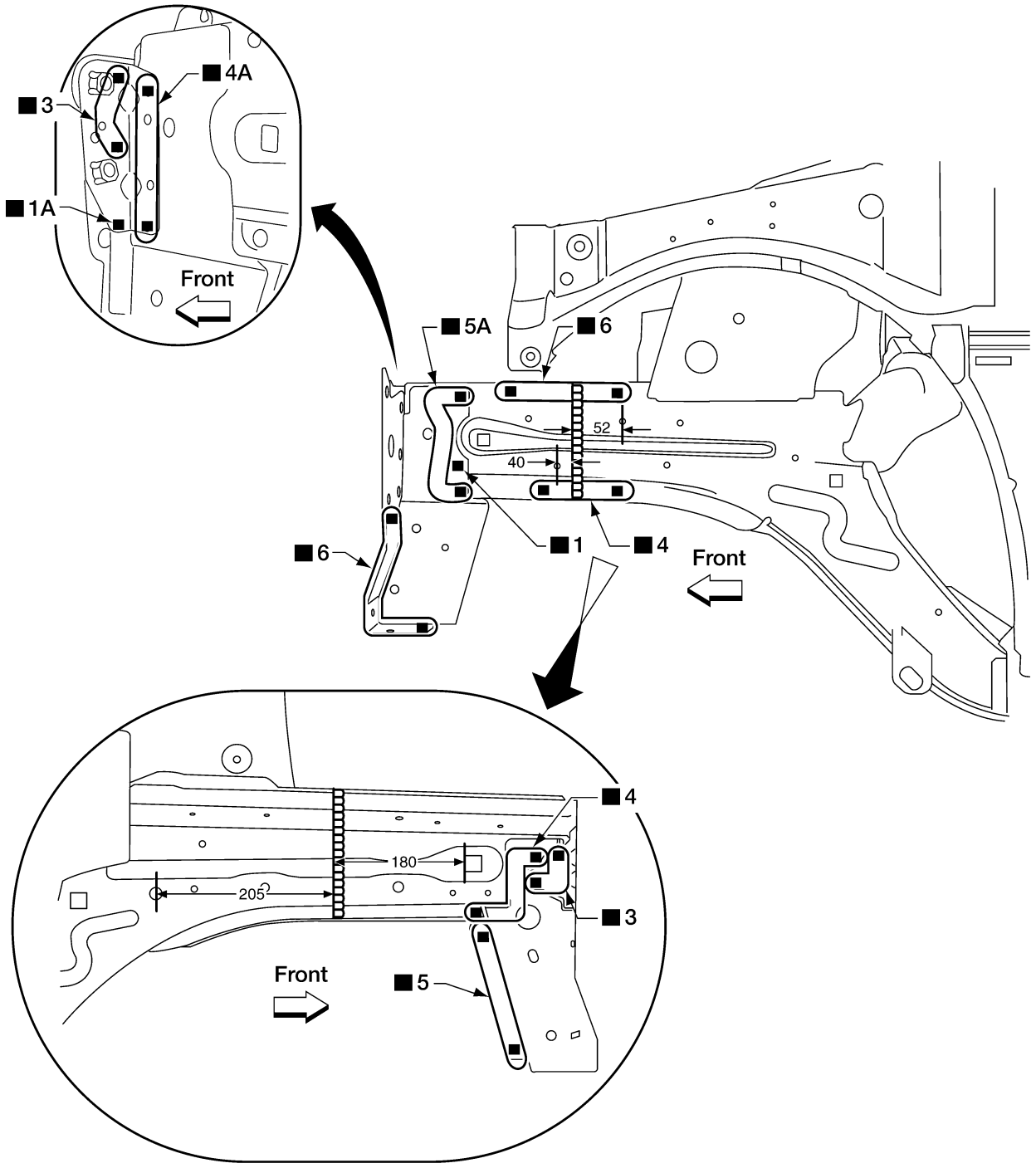
Change parts

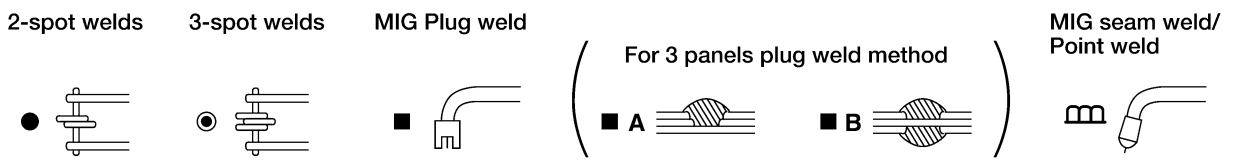
- Front side member
- Front side member closing plate
- Front side member outrigger
- Frame bracket outer

FRONT SIDE MEMBER LH (PARTIAL)

- Work after radiator core support and hoodledge connector have been removed.

Service Joint





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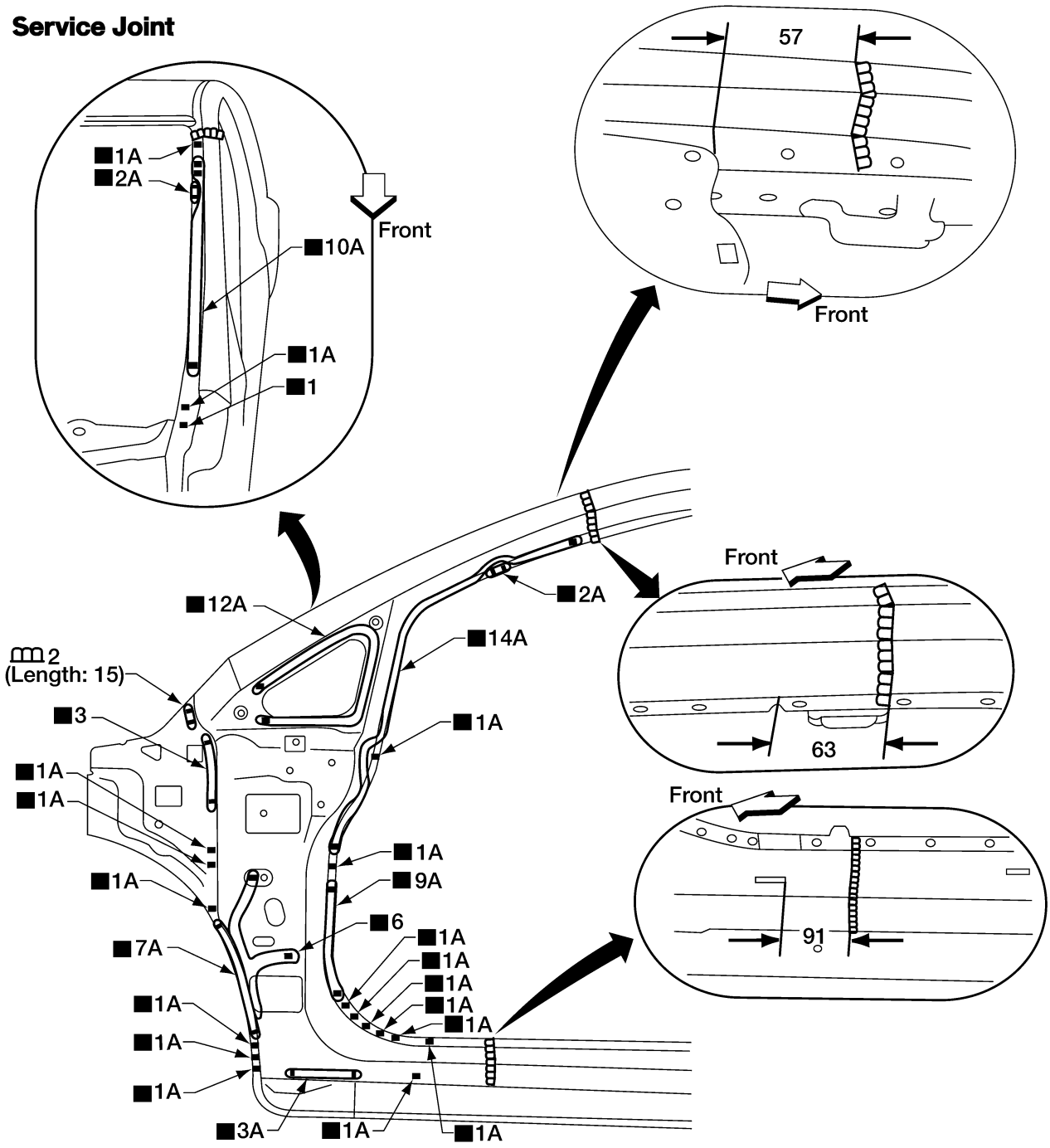
Change parts

- Front side member partial
- Front side member closing plate partial
- Frame bracket outer
- Frame bracket

FRONT PILLAR

- Work after the rear hoodledge reinforcement and the outer sill reinforcement have been removed.



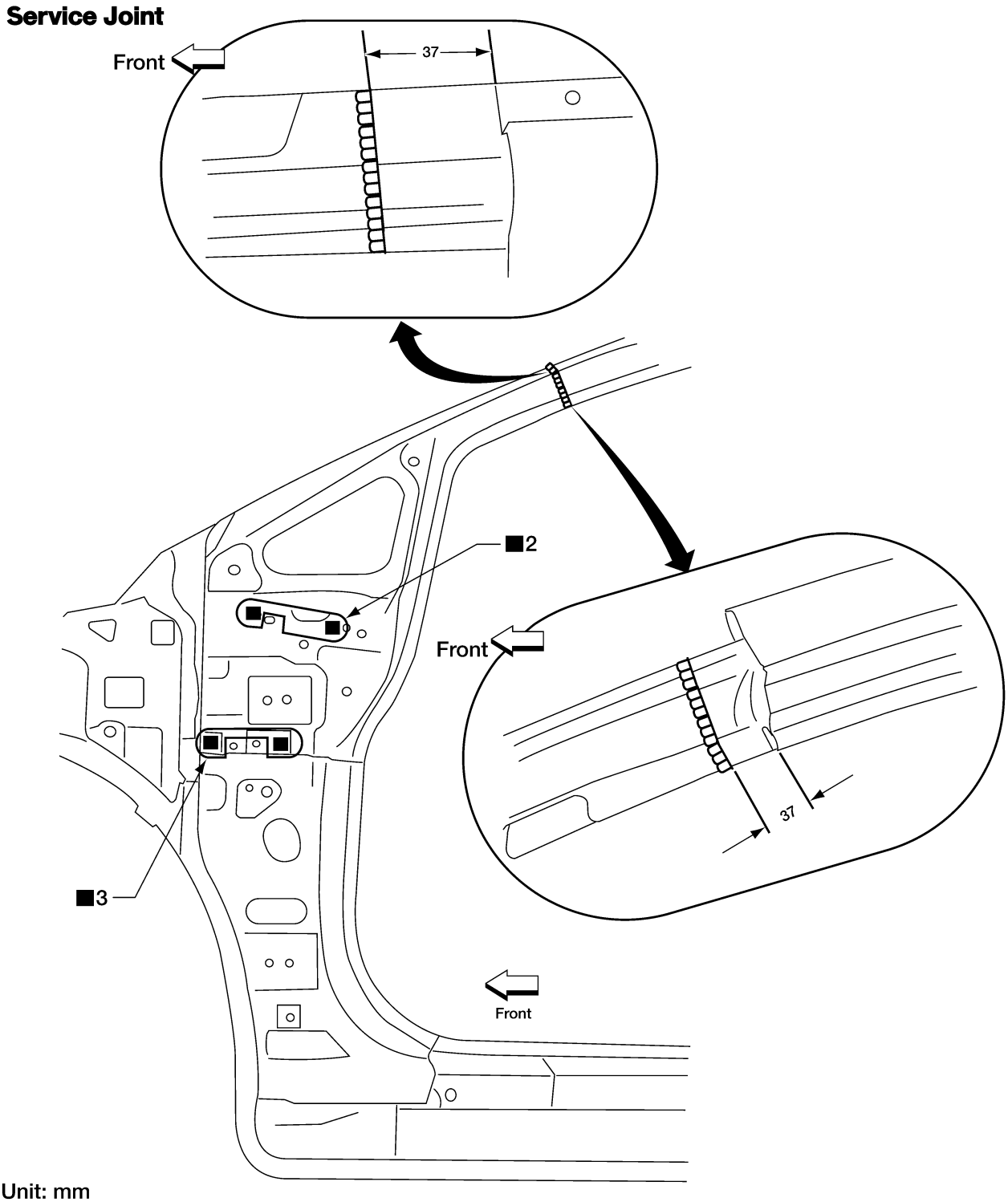
Unit: mm

2-spot welds | 3-spot welds | MIG Plug weld | For 3 panels plug weld method (A, B) | MIG seam weld/ Point weld

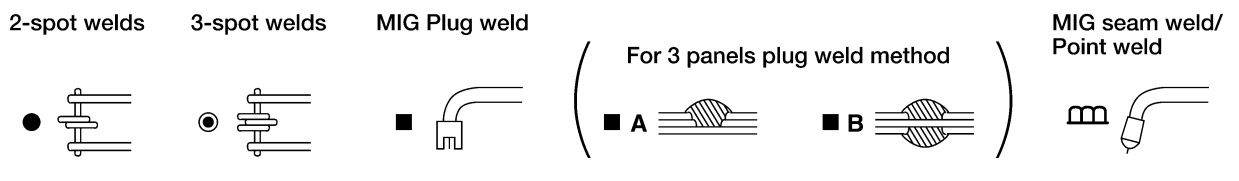
LIIA2615E

Change parts

- Front pillar section of side body



Unit: mm



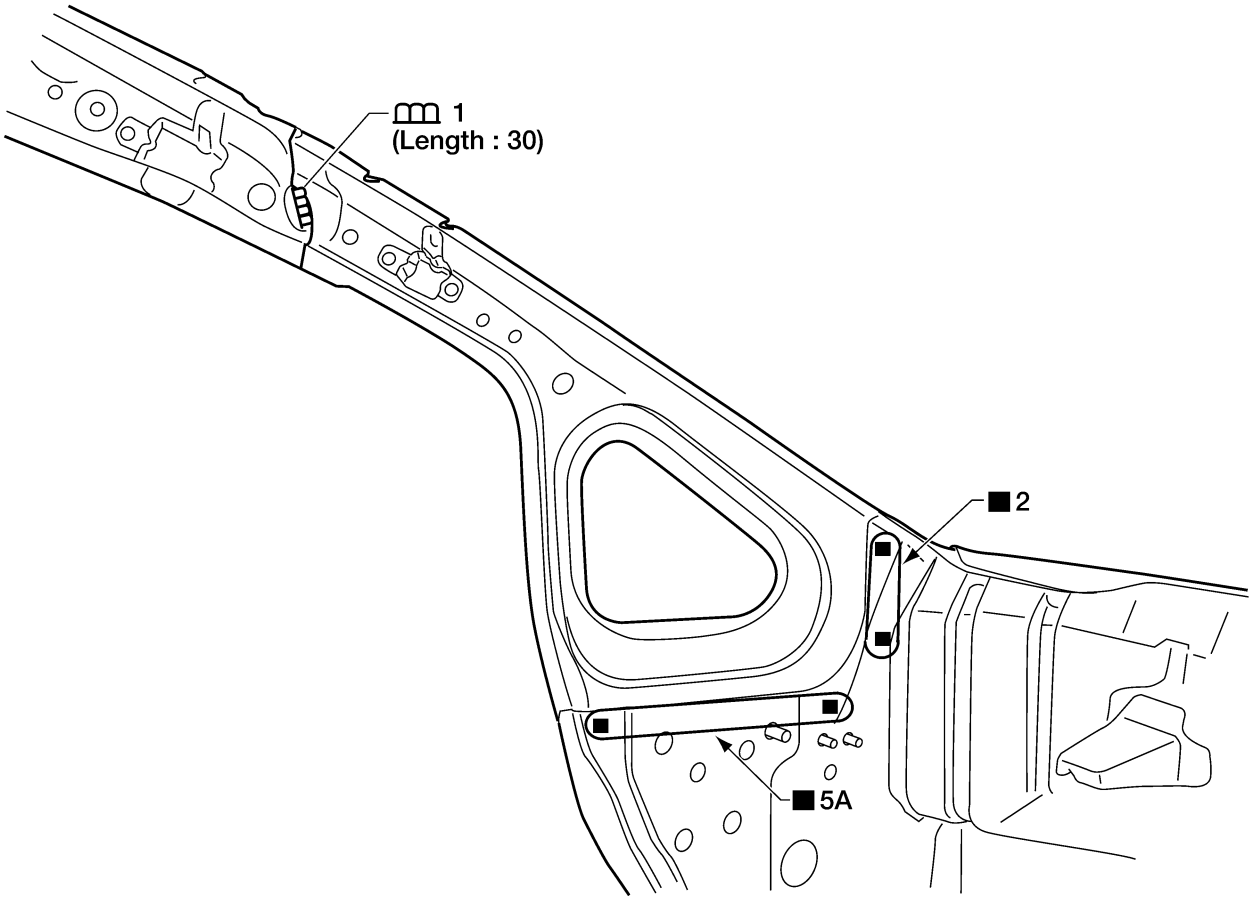
LIIA2616E

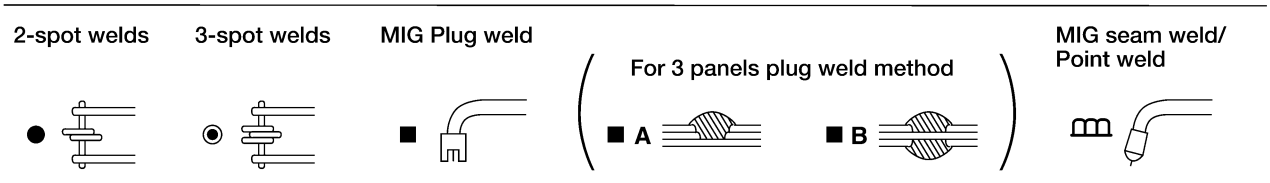
Change parts

- Front pillar upper reinforcement
- Front pillar lower reinforcement

Service Joint

Unit : mm





LIIA2617E

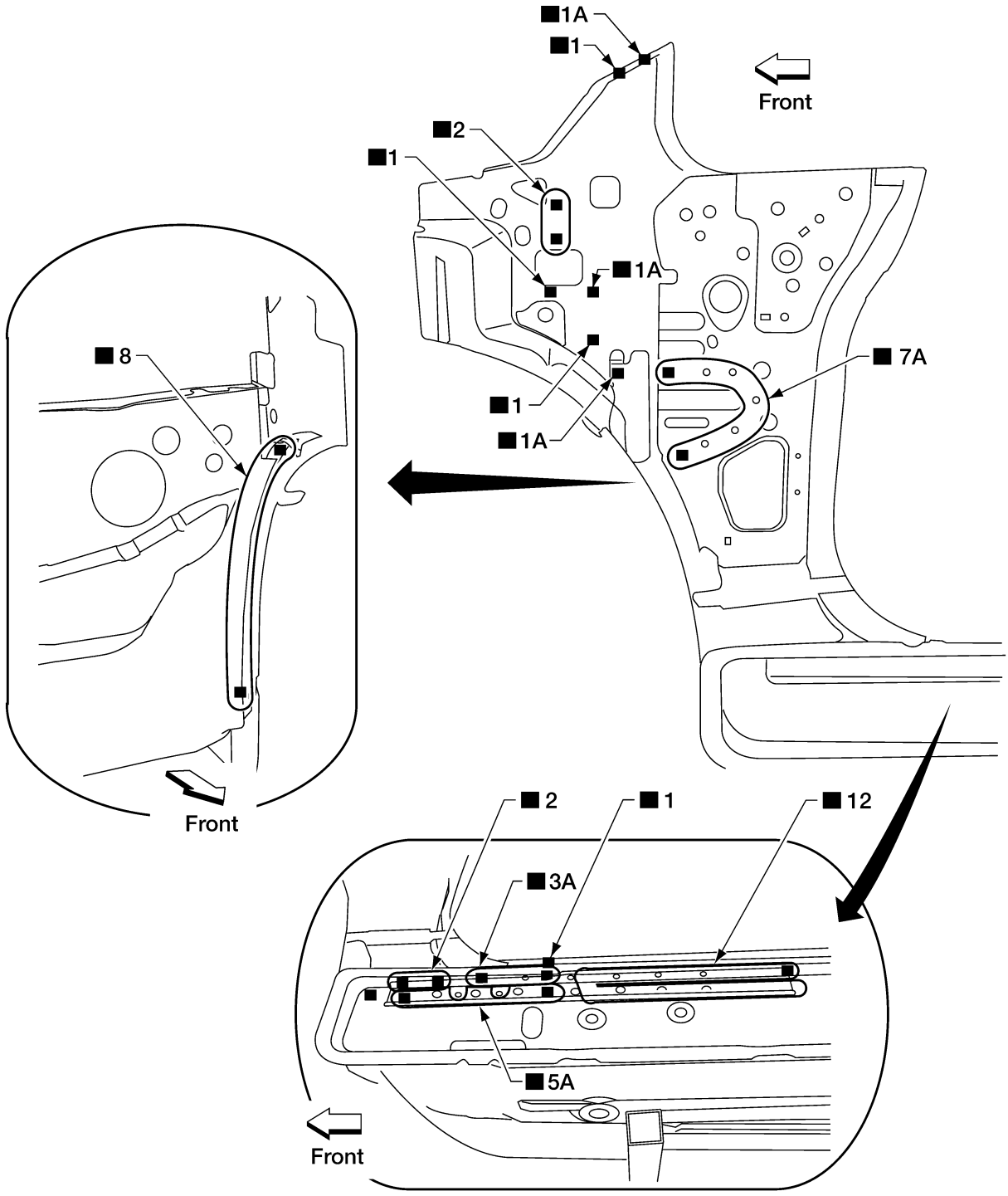
Change parts

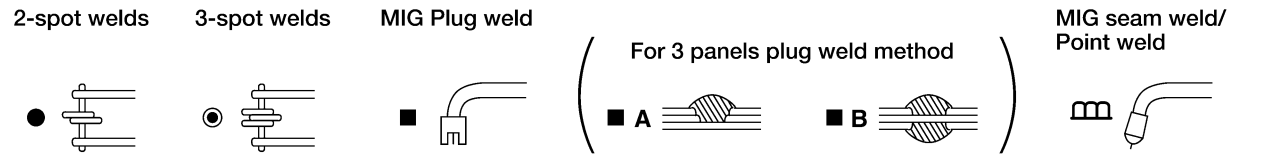
- Front pillar inner reinforcement

DASH SIDE

Work after front pillar and outer sill reinforcement have been removed.

Service Joint





LIIA2664E

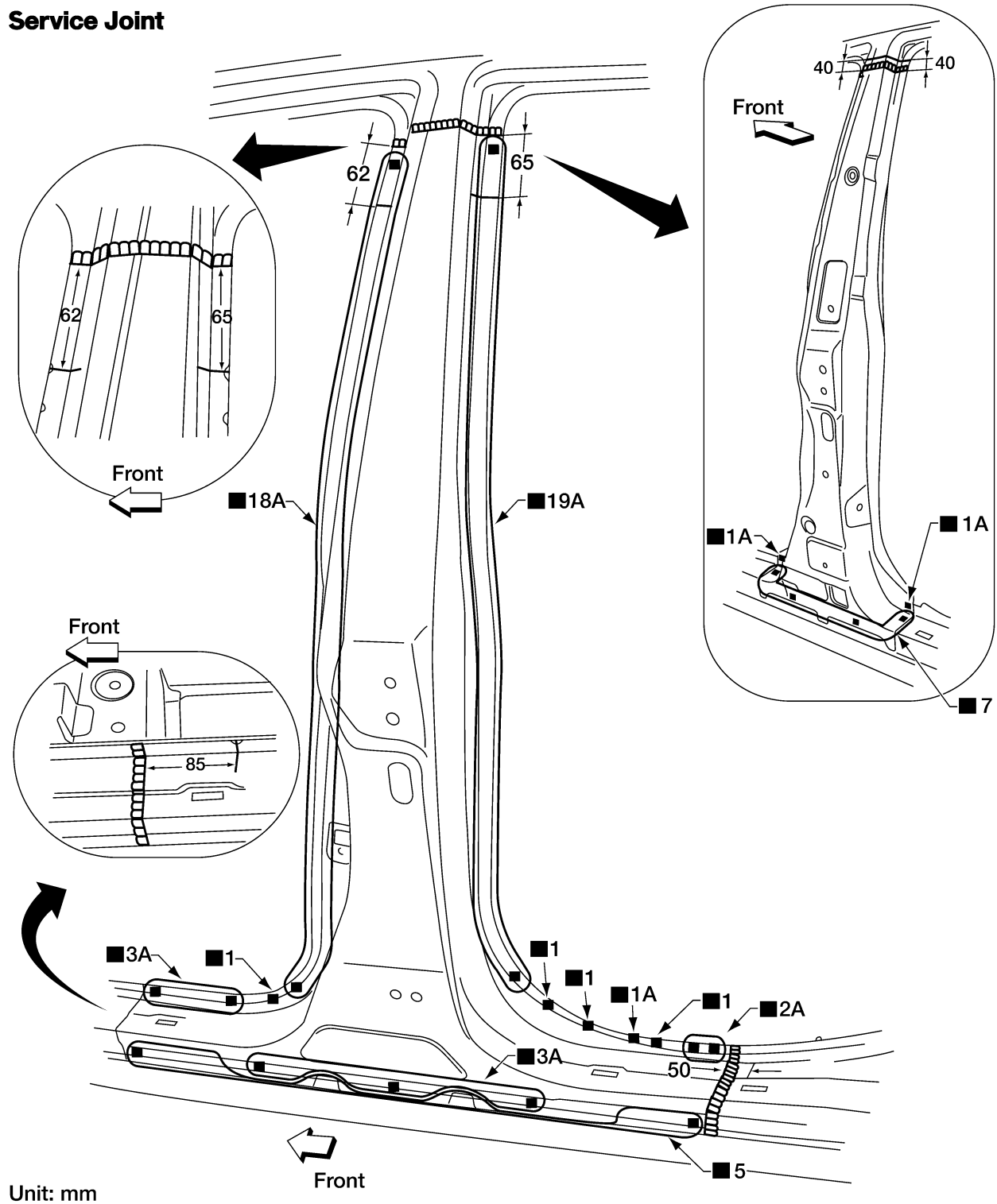
Change parts

- Dash side
- Front floor reinforcement

CENTER PILLAR

Outer

Service Joint



Unit: mm

2-spot welds | 3-spot welds | MIG Plug weld | For 3 panels plug weld method (A, B) | MIG seam weld/ Point weld

LIIA2618E

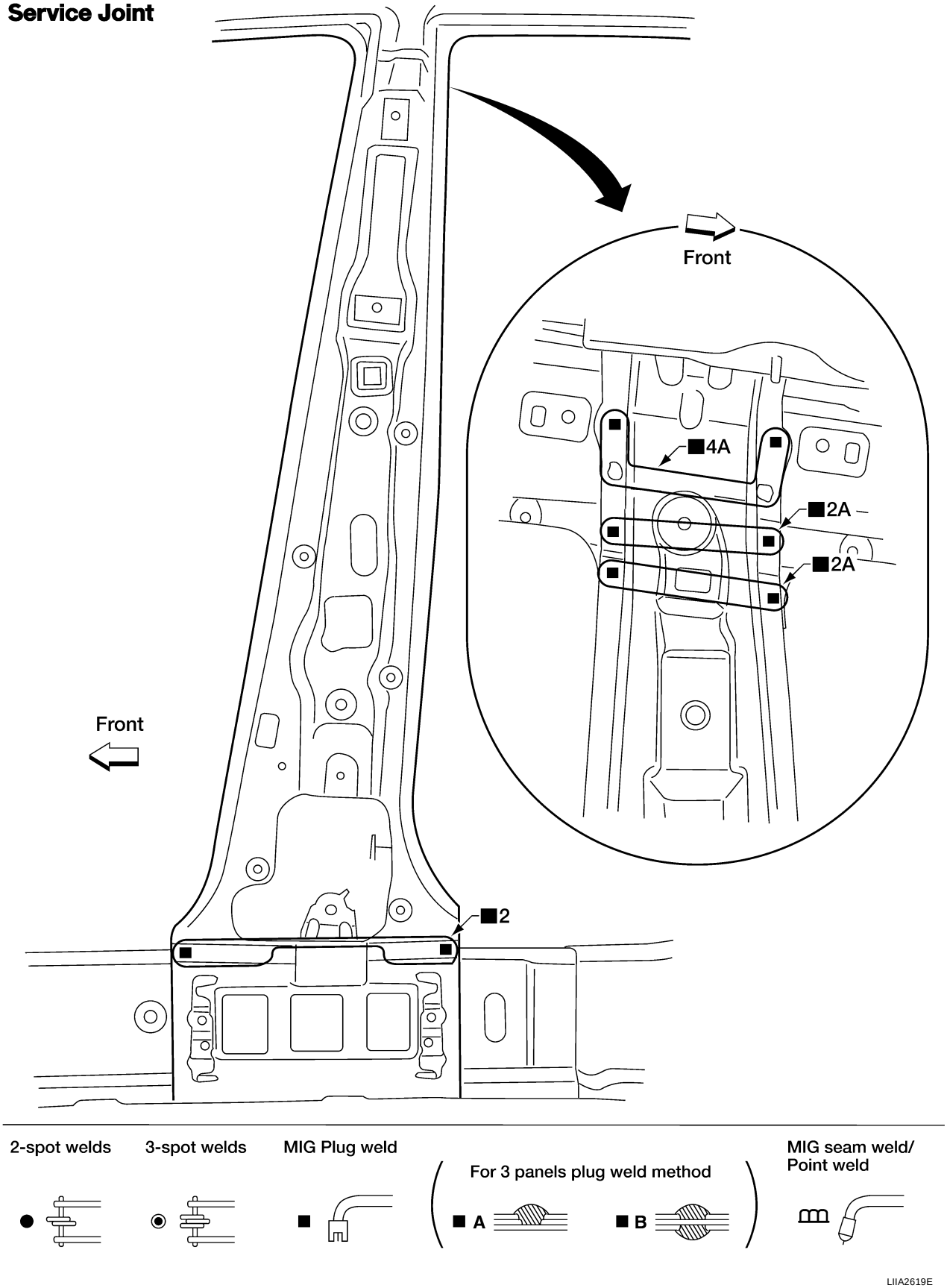
Change parts

- Center pillar portion of side body
- Lower portion of center pillar reinforcement

Inner

Work after outer sill reinforcement has been removed.

Service Joint

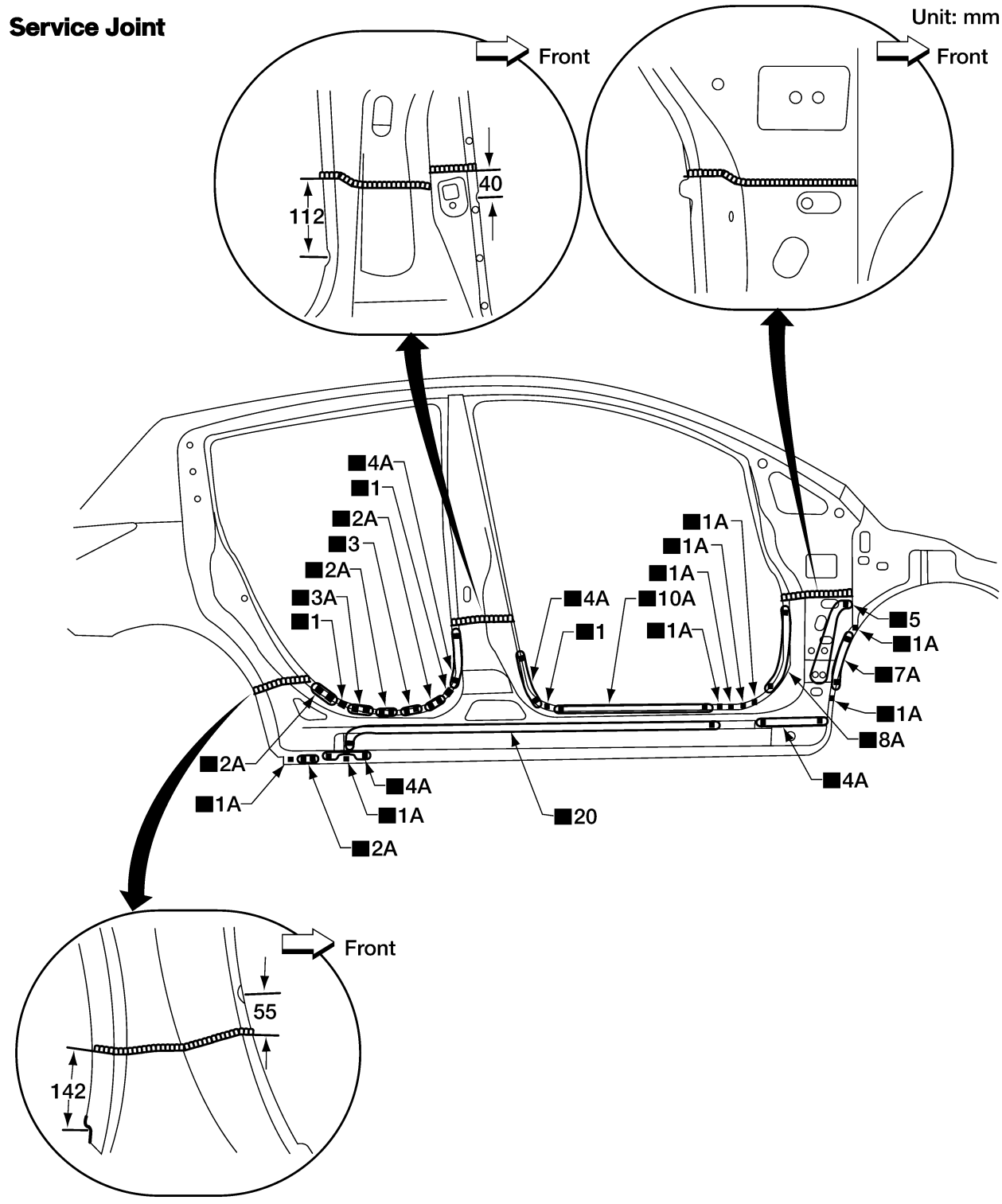


Change parts

- Inner center pillar

OUTER SILL

Service Joint



2-spot welds | 3-spot welds | MIG Plug weld | For 3 panels plug weld method (A, B) | MIG seam weld/ Point weld

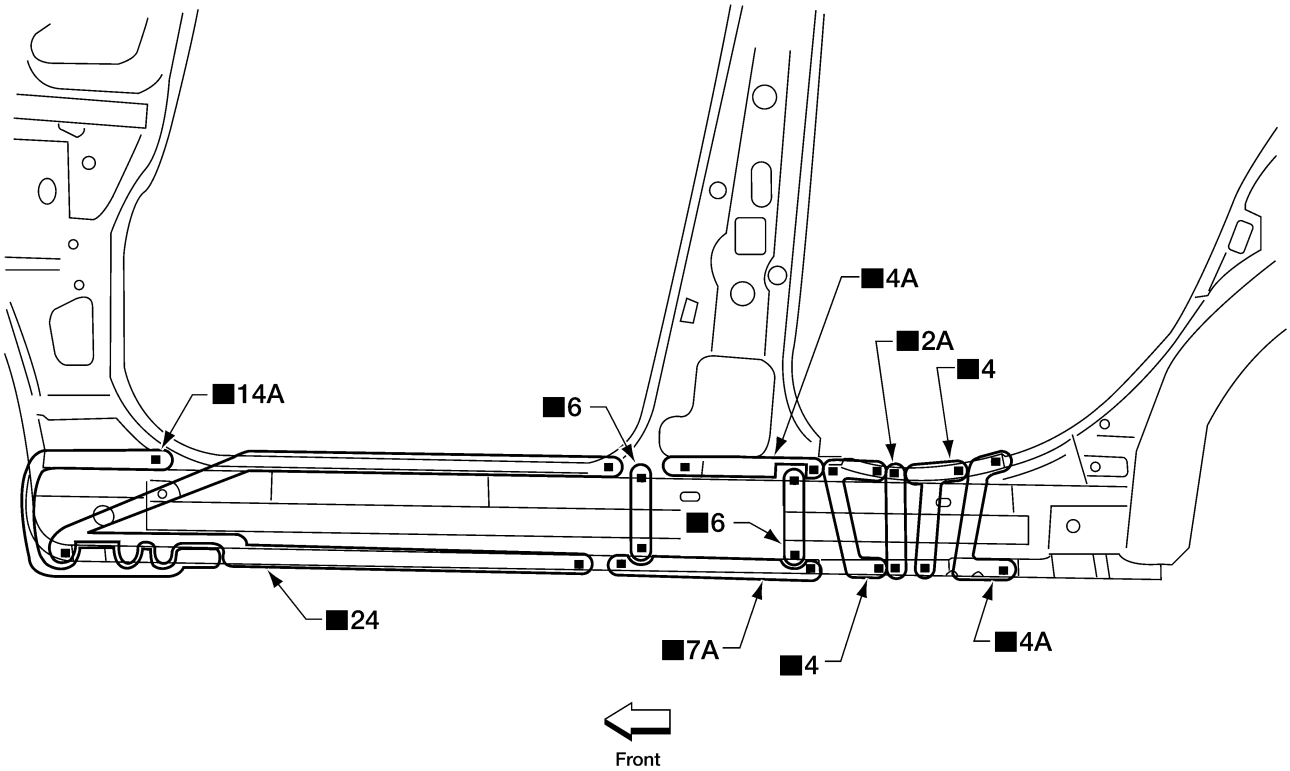
LIIA2621E

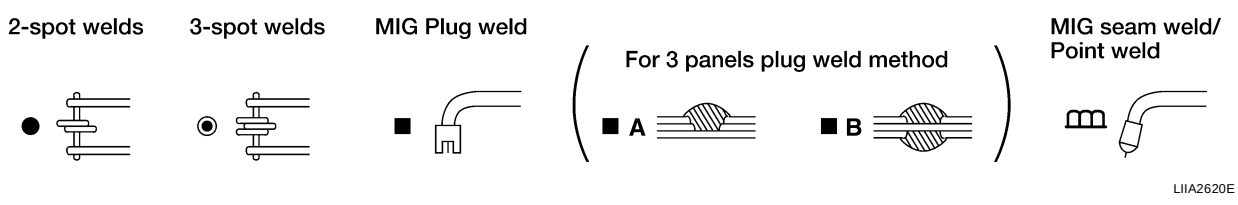
Change parts

- Outer sill

OUTER SILL REINFORCEMENT

Service Joint

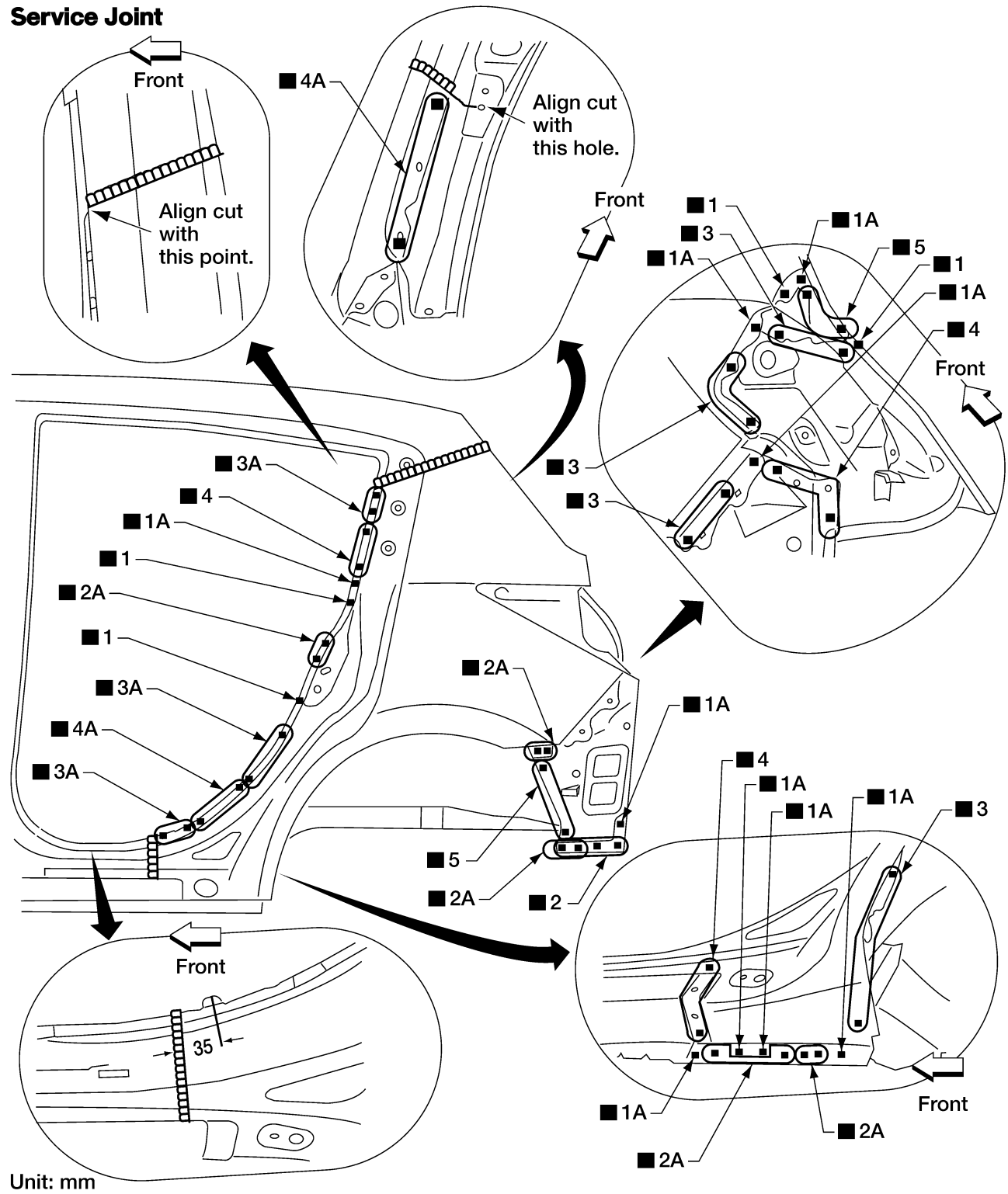




Change parts

- Outer sill reinforcement

REAR FENDER



Unit: mm

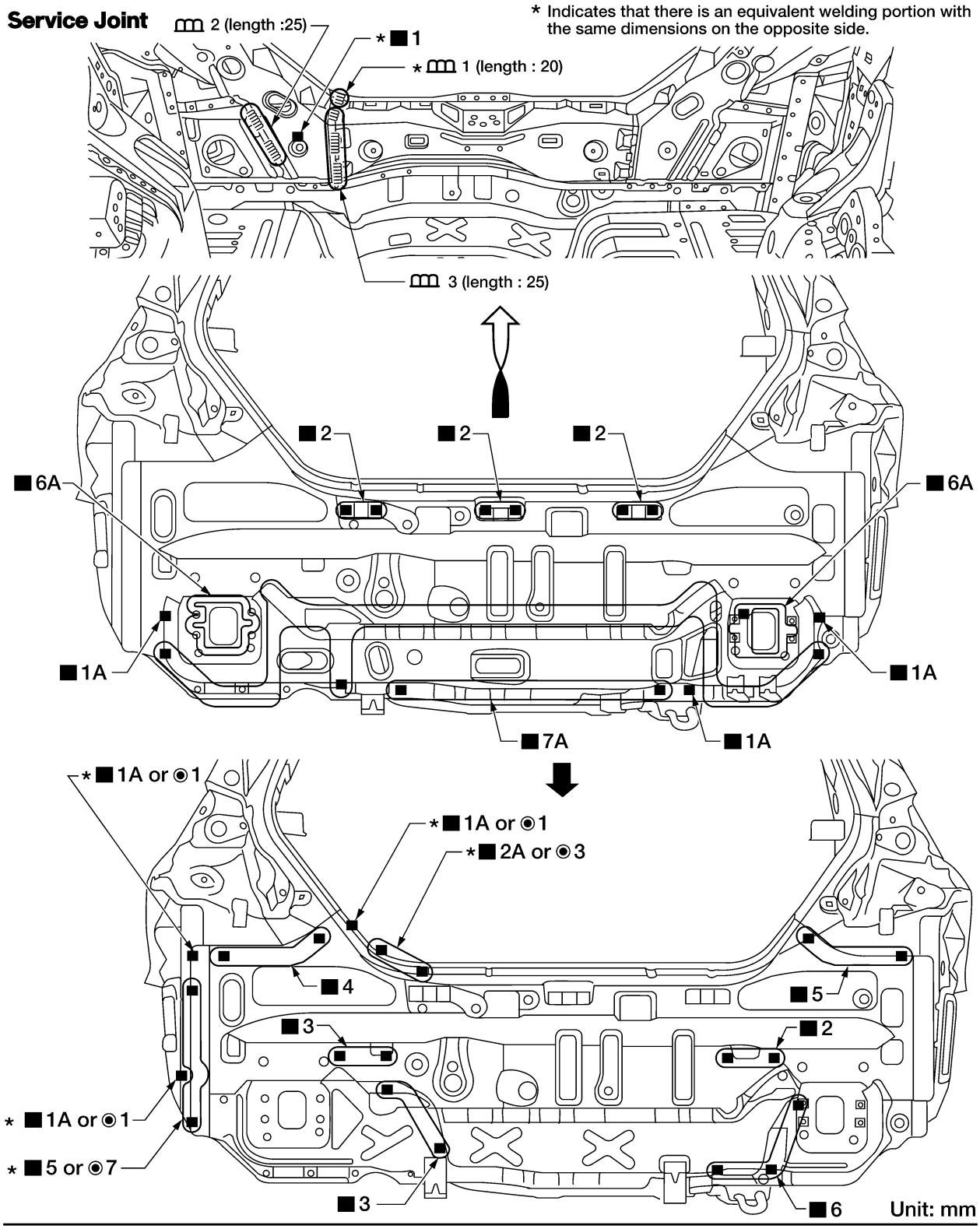
2-spot welds | 3-spot welds | MIG Plug weld | For 3 panels plug weld method (A, B) | MIG seam weld/ Point weld

LIIA2622E

Change parts

- Rear fender
- Rear fender corner
- Rear combination lamp base

REAR PANEL



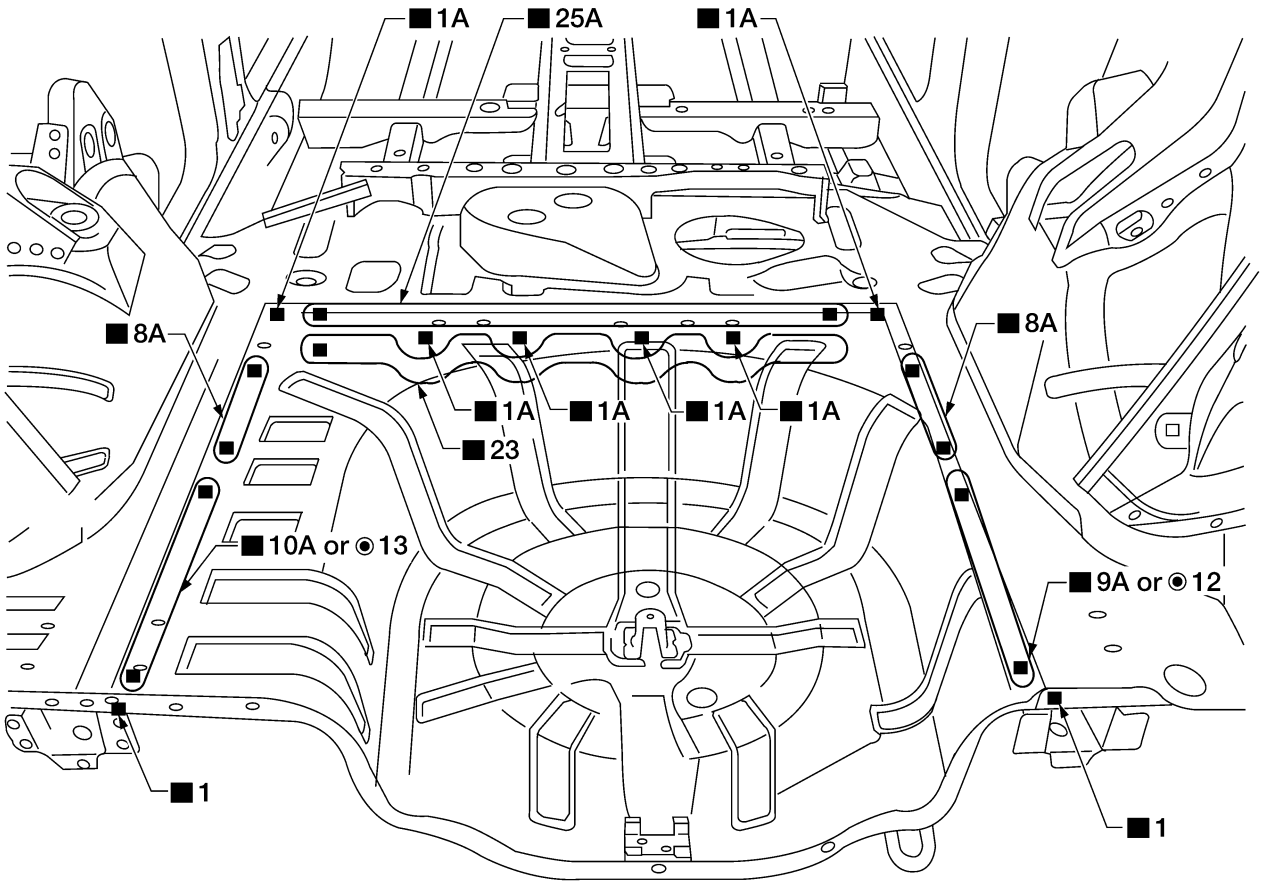
LIIA2585E

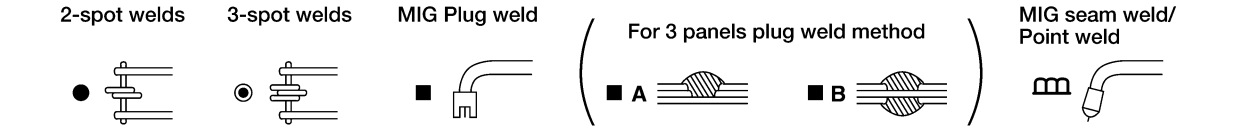
Change parts

- Rear end crossmember
- Rear panel assembly
- Rear bumper fascia brackets

REAR FLOOR REAR

- Work after rear panel assembly has been removed.





LIIA2586E

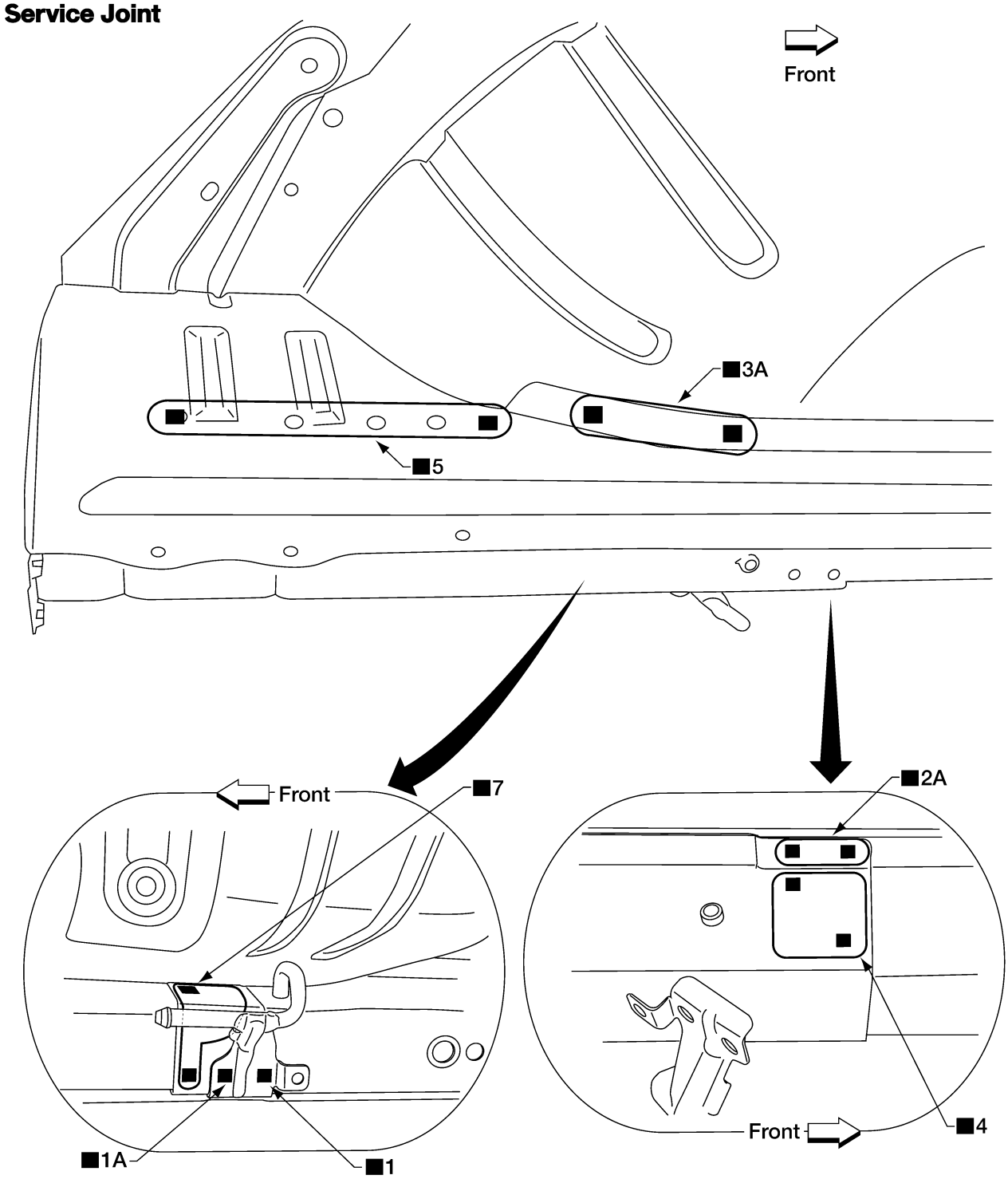
Change parts

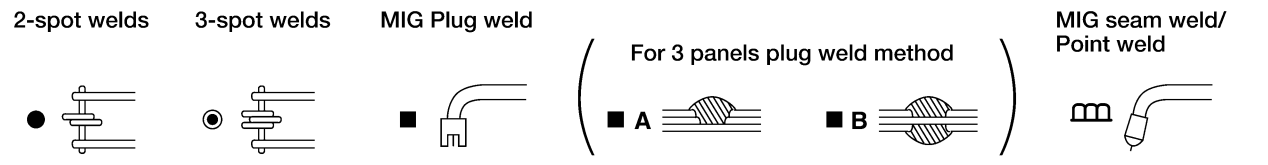
- Rear floor rear

REAR SIDE MEMBER EXTENSION

- Work after rear panel assembly and rear floor rear have been removed.

Service Joint





LIIA2598E

Change parts

- Rear side member extension