SECTION BL

BODY, LOCK & SECURITY SYSTEM

CONTENTS

SERVICE INFORMATION

PRECAUTIONS

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

INFOID:0000000005777020

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 WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

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

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000006044768

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the ″LOCK″ position.
- Always use CONSULT-III 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 NATS, 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

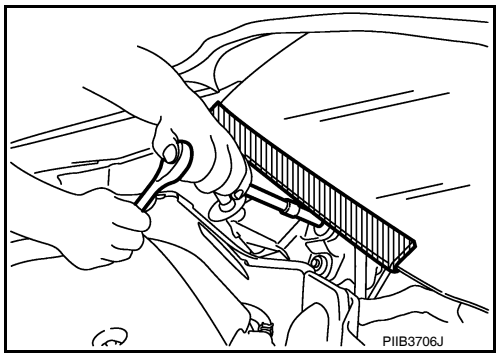
1. Connect both battery cables.
   NOTE:
   Supply power using jumper cables if battery is discharged.
2. Use the Intelligent Key or mechanical key to turn the ignition switch to the ″ACC″ position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock 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-III.

Precaution for Procedure without Cowl Top Cover

INFOID:0000000005396540

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



Precaution for Work

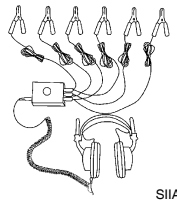
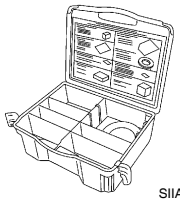
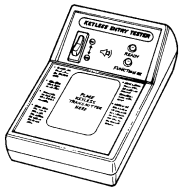
INFOID:0000000005396541

- 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

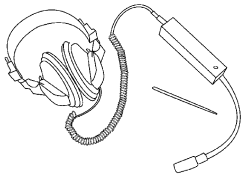
Special Service Tool

INFOID:0000000005396542

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

Commercial Service Tool

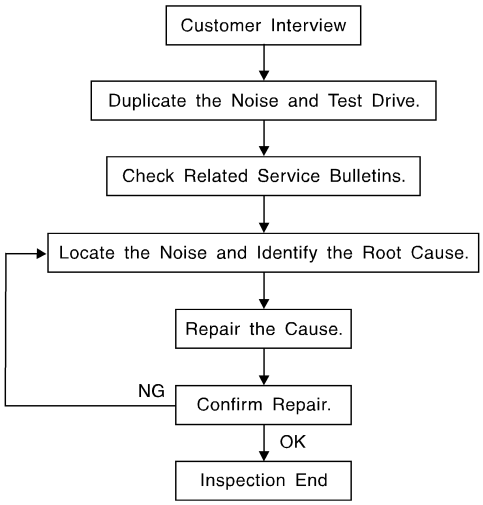
INFOID:0000000005396543

Tool name		Description
Engine ear	 SIIA0995E	Locating the noise

SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow

INFOID:0000000005396544



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CUSTOMER INTERVIEW

Interview the customer if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any customer's comments; refer to BL-11, "Diagnostic Worksheet". This information is necessary to duplicate the conditions that exist when the noise occurs.

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

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-9, "Generic Squeak and Rattle Troubleshooting".

REPAIR THE CAUSE

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

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

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

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

CONFIRM THE REPAIR

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

Generic Squeak and Rattle Troubleshooting

INFOID:0000000005396545

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

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

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

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

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

CENTER CONSOLE

Components to pay attention to include:

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

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

DOORS

Pay attention to the:

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

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

TRUNK

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

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

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

SUNROOF/HEADLINING

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

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

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

OVERHEAD CONSOLE (FRONT AND REAR)

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

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

SEATS

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

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

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

UNDERHOOD

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

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

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

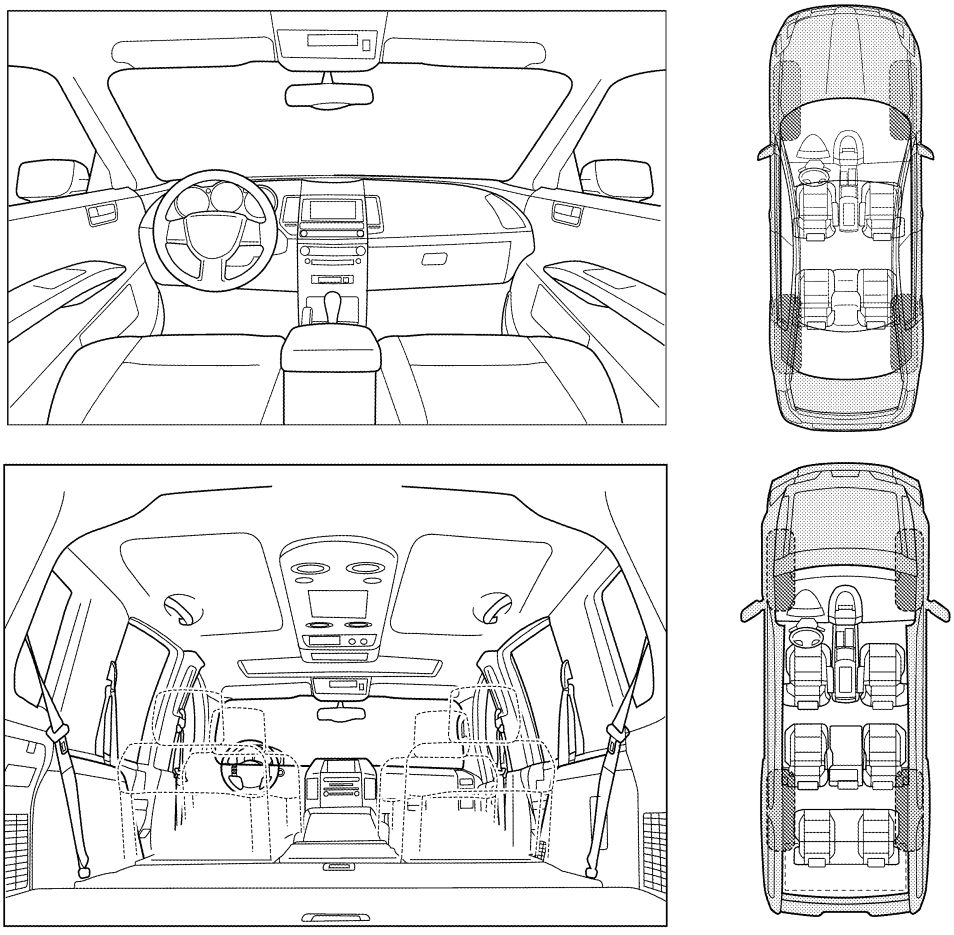
Diagnostic Worksheet

INFOID:0000000005396546

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.

-1-

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SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

_____

_____

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

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

III. WHEN DRIVING:

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

IV. WHAT TYPE OF NOISE

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

TO BE COMPLETED BY DEALERSHIP PERSONNEL

Test Drive Notes:

_____

_____

_____

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

VIN: _____ Customer Name _____

W.O.# _____ Date: _____

This form must be attached to Work Order

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HOOD

Fitting Adjustment

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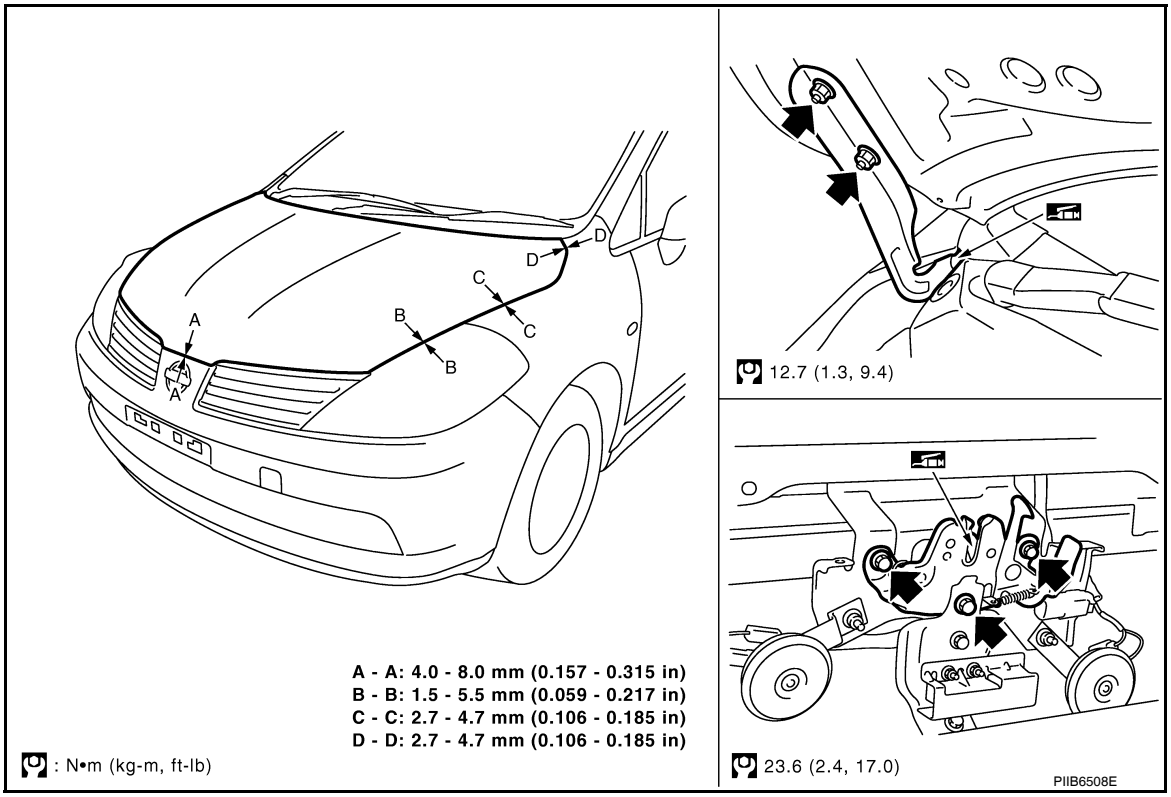
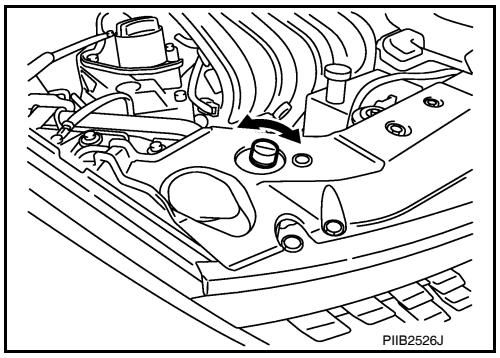


FRONT END HEIGHT ADJUSTMENT AND LATERAL/LONGITUDINAL CLEARANCE ADJUSTMENT

1. Remove the front grille. Refer to EI-21.
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-21.



CAUTION:

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

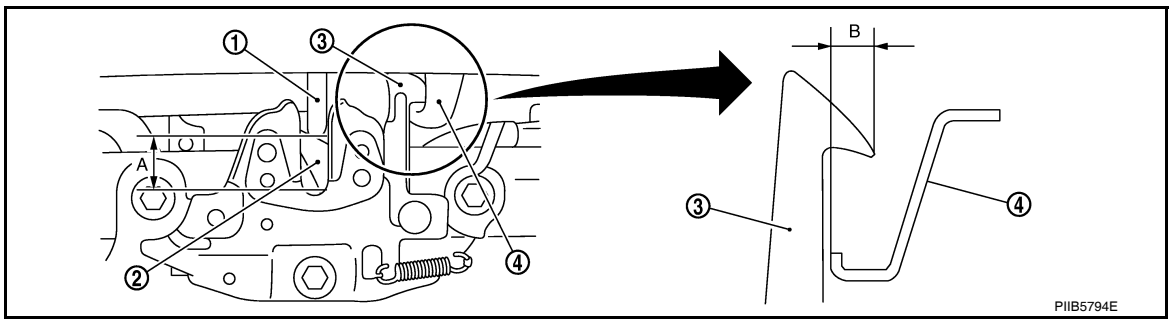
Hood and headlamp (B - B)	**: Less than 2.0 mm (0.08 in)**
Hood and fender (C - C)	**: Less than 1.5 mm (0.06 in)**
Hood and fender (D - D)	**: Less than 1.5 mm (0.06 in)**

SURFACE MISMATCH ADJUSTMENT

1. Remove the front grille. Refer to EI-21.
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-21.

Removal and Installation

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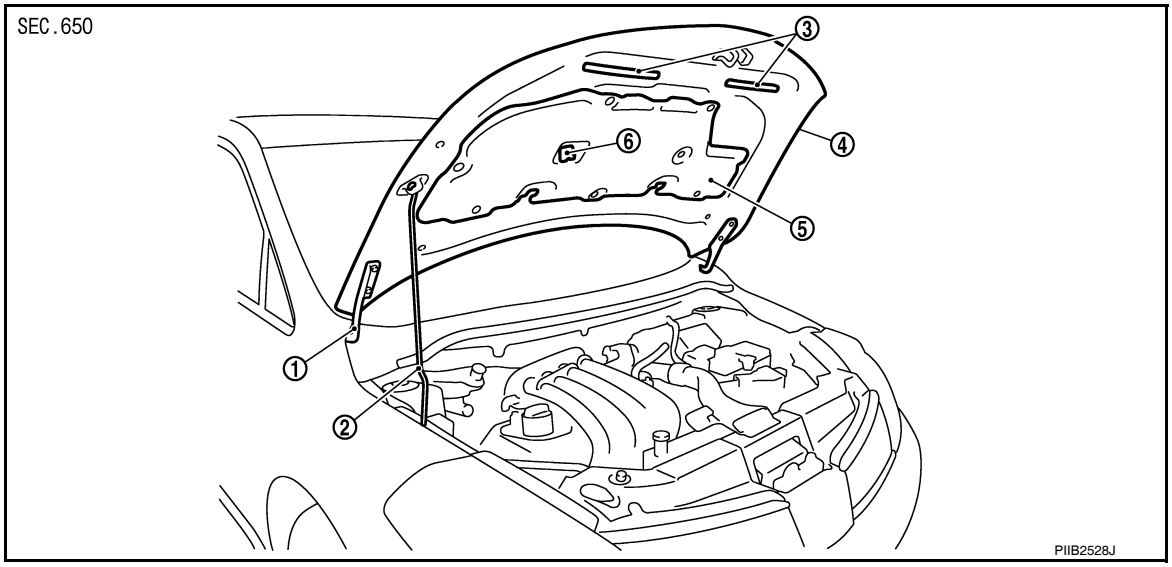


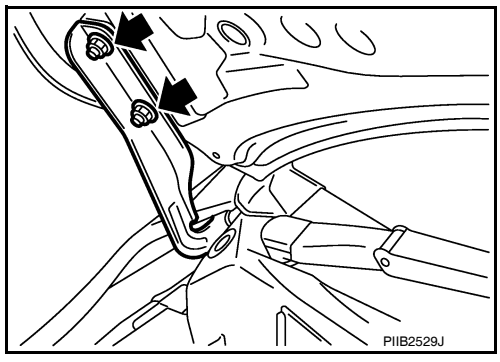
1. Hood hinge
2. Hood stay
3. Radiator core seal rubber
4. Hood assembly
5. Hood insulator
6. Hood stay holder

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:

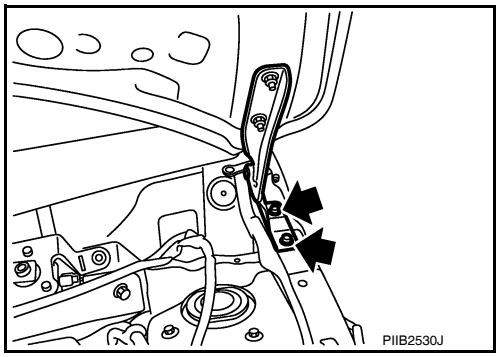
- **Before installing hood hinge, apply anticorrosive agent onto the surfaces that make contact with the vehicle body.**
- **After installing, perform hood fitting adjustment. Refer to BL-13, "Fitting Adjustment".**

HOOD HINGE

Removal

1. Remove hood assembly. Refer to BL-14, "Removal and Installation".
2. Remove front fender. Refer to BL-21, "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

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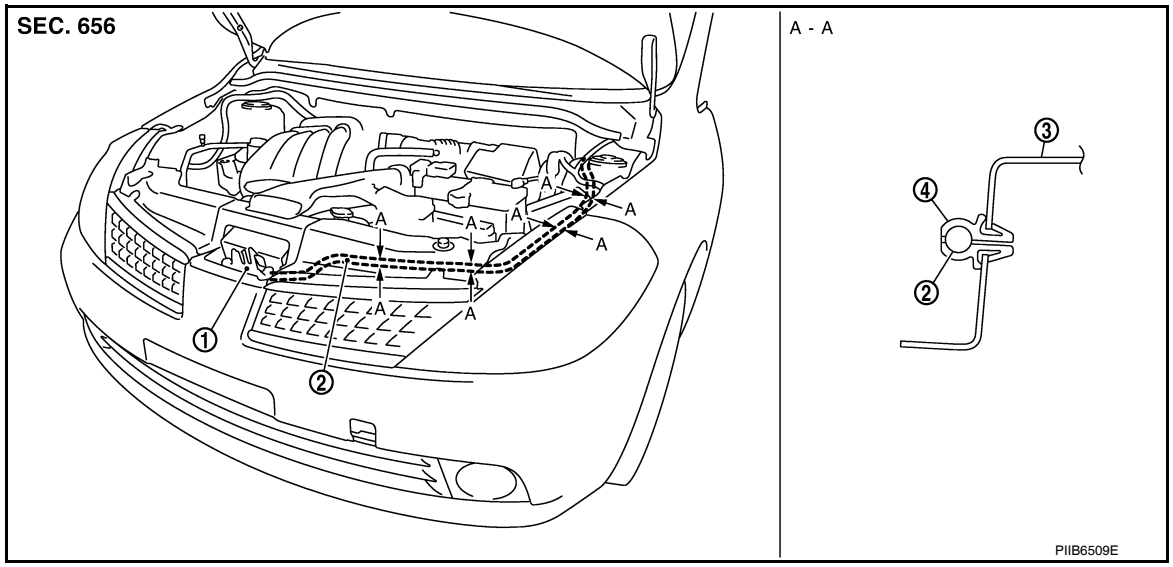


1. Hood lock
2. Hood lock cable
3. Hood ledge upper front
4. Clip

REMOVAL

Hood Lock

1. Remove front grille (LH). Refer to EI-21, "Removal and Installation".
2. Remove hood lock bolts.

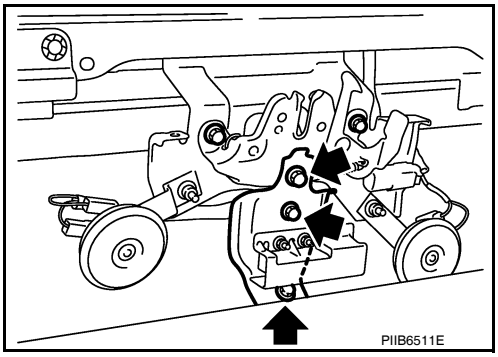
23.6 N·m (2.4 kg-m, 17 ft-lb)

3. Remove hood lock from hood lock cable.

Hood Lock Reinforcement

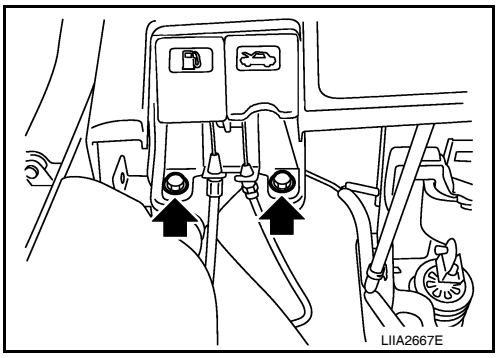
1. Remove front bumper. Refer to EI-15, "Removal and Installation".
2. Remove crash zone sensor. Refer to SRS-42, "Removal and Installation".
3. Remove bolts, and the hood lock reinforcement.

23.6 N·m (2.4 kg-m, 17 ft-lb)



Hood Lock Cable

1. Remove front grille (LH/RH). Refer to EI-21, "Removal and Installation".
2. Remove fender protector (LH). Refer to EI-24, "Component".
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

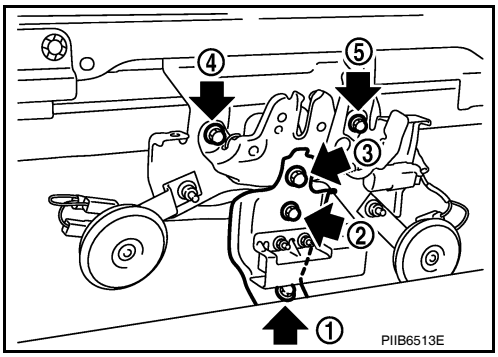
Installation is in the reverse order of removal.

- Perform hood fitting adjustment. Refer to BL-13, "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)

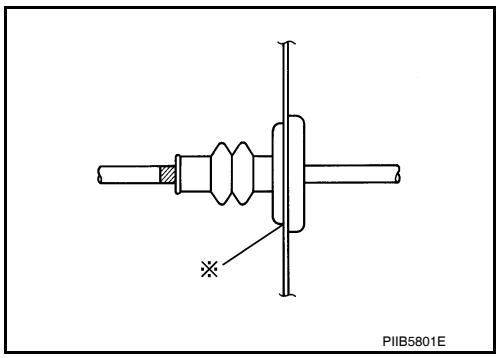


Hood Lock Cable

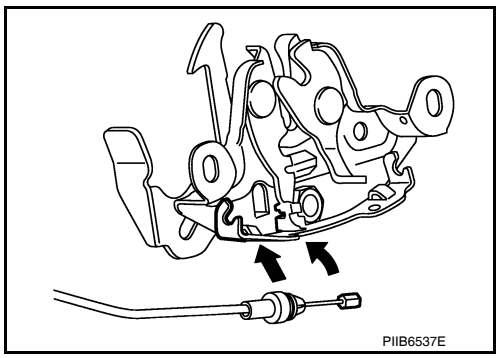
1. Pull the hood lock cable through the panel hole to the engine compartment.
   CAUTION:

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.



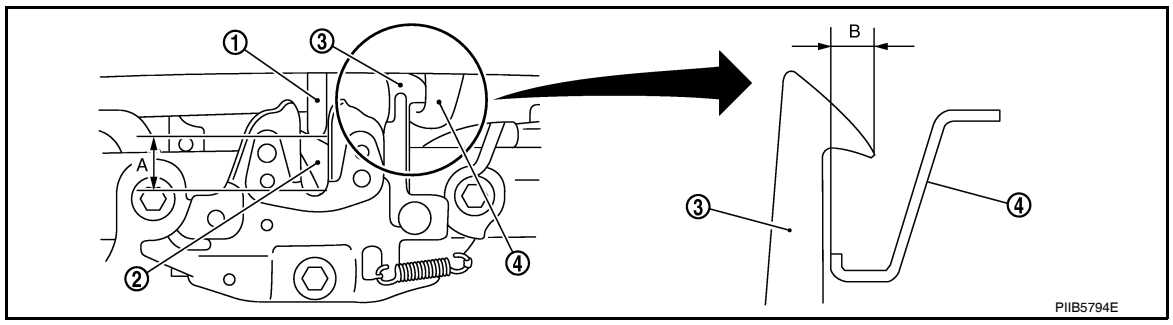
Hood Lock Control Inspection

INFOID:0000000005396550

CAUTION:

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

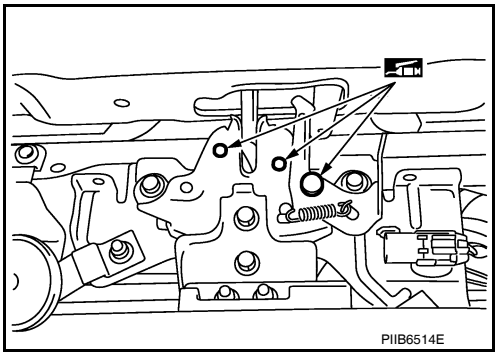
1. Check that the secondary latch is properly engaged with the secondary striker (B: 6.8 mm (0.268 in) with hood's own weight.



1.	Hood striker	2.	Primary latch	3.	Secondary striker
4.	Secondary latch	A.	20 mm (0.79 in)	B.	6.8 mm (0.268 in)

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).

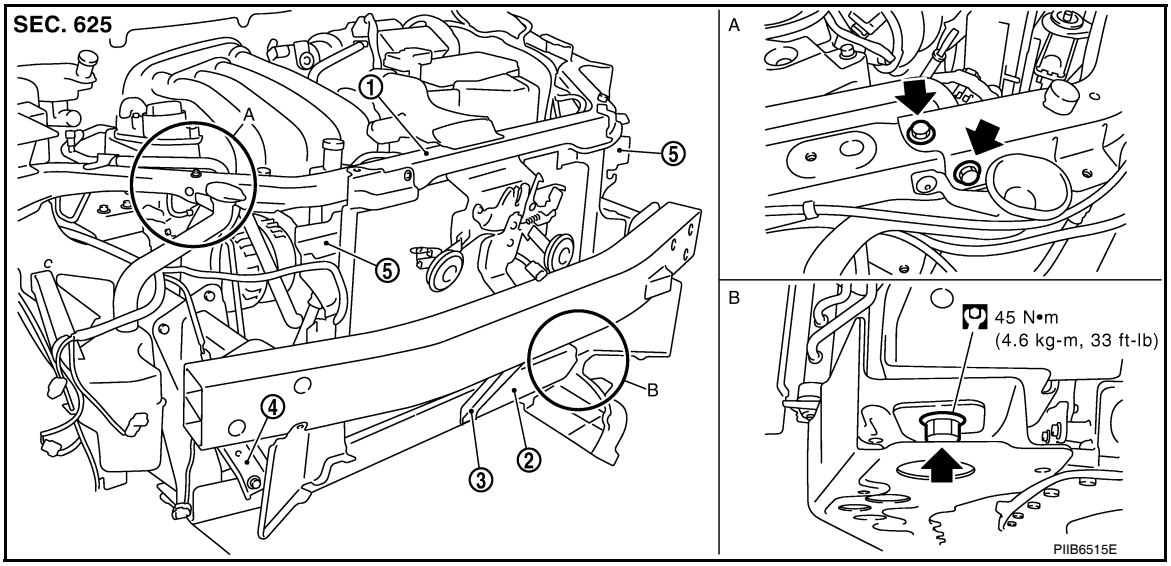
5. Check the hood lock lubrication condition. If necessary, apply “body grease” to the points as shown.



RADIATOR CORE SUPPORT

Removal and Installation

INFOID:0000000005396551



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-135, "Removal and Installation" .
2. Remove the headlamp (LH/RH). Refer to LT-26, "Removal and Installation" .
3. Remove the hood lock assembly, and remove hood lock cable. Refer to BL-15 .
4. Remove the air guide and hood lock cable clip.
5. Remove the washer tank inlet. Refer to WW-24, "Removal and Installation of Washer Tank" .
6. Remove the radiator core support upper.

Radiator Core Support Lower

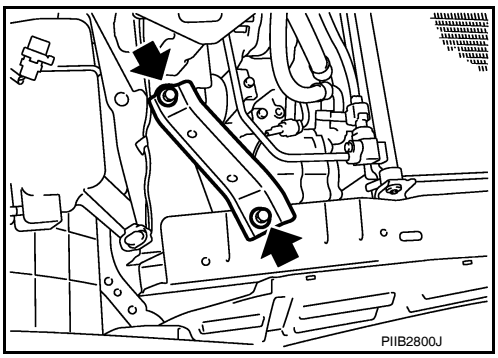
1. Remove the air duct. Refer to EM-135, "Removal and Installation" .
2. Remove the front bumper. Refer to EI-15, "Removal and Installation" .
3. Remove the headlamp (LH/RH). Refer to LT-26, "Removal and Installation" .
4. Remove the hood lock assembly, and remove hood lock cable. Refer to BL-15 .
5. Remove the air guide and hood lock cable mounting clip.
6. Remove the front bumper reinforcement. Refer to EI-15, "Removal and Installation" .
7. Remove the radiator core lower stay.

24.5 N·m (2.5 kg-m, 18 ft-lb)

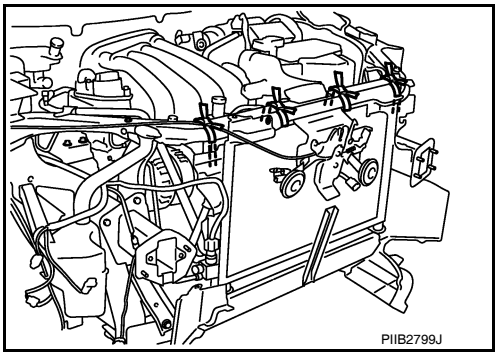
8. Remove the undercover.

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 condensor 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.



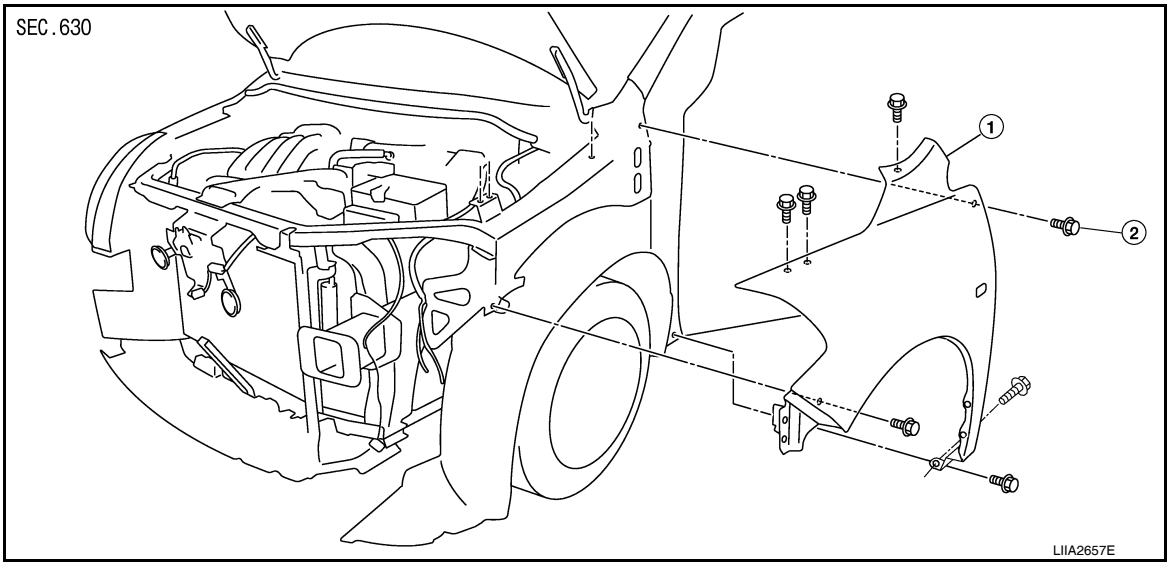
INSTALLATION

Installation is in the reverse order of removal.

FRONT FENDER

Removal and Installation

INFOID:0000000005396552



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

REMOVAL

1. Remove the headlamp assemblies. Refer to LT-26, "Removal and Installation".
2. Remove the cowl top cover (LH/RH). Refer to EI-22, "Removal and Installation".
3. Remove the front fender protector. Refer to EI-24, "Component".
4. Remove the bolt and the front fender.

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

INSTALLATION

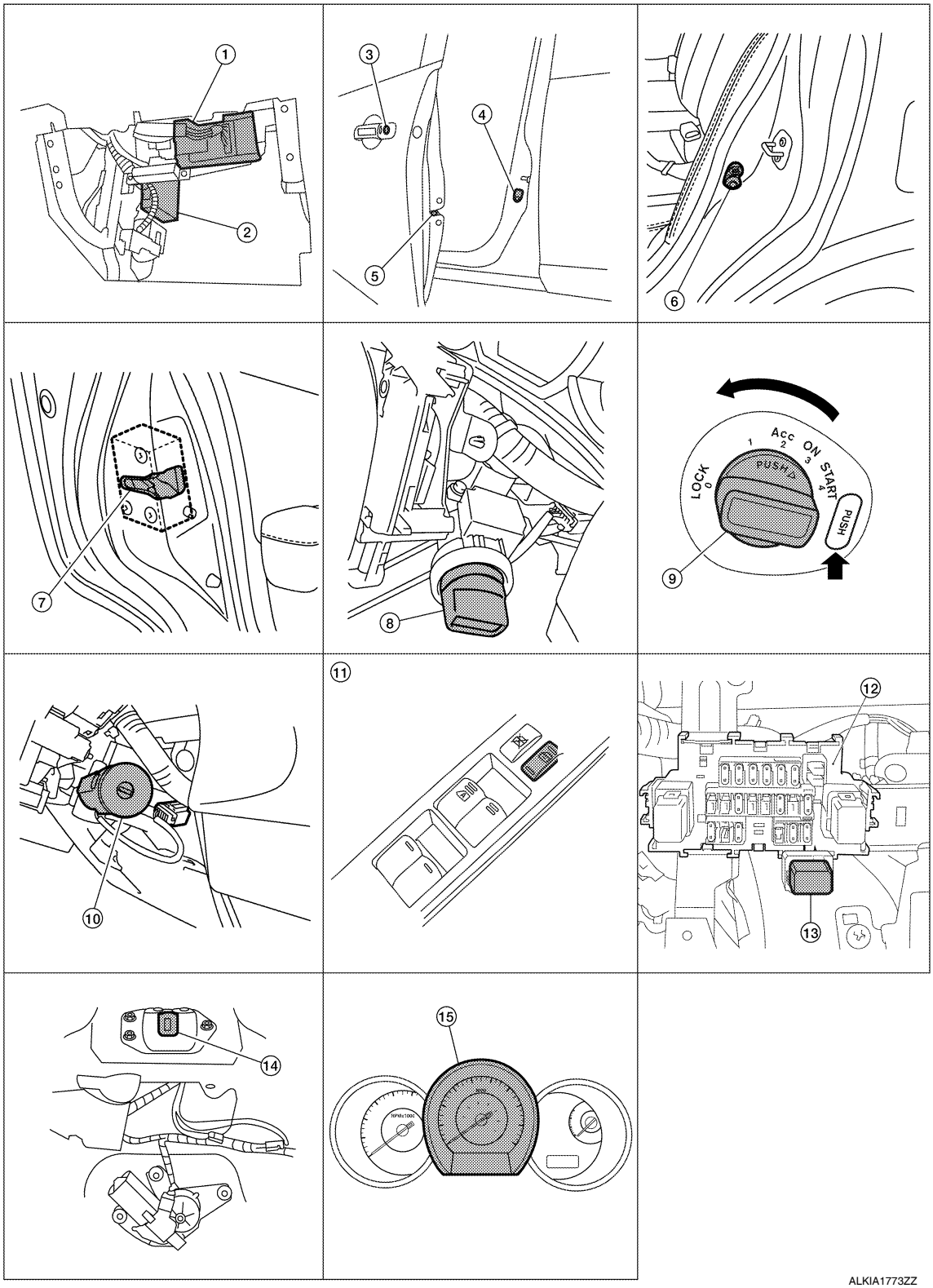
Installation is in the reverse order of removal.

CAUTION:
- **After installing, apply touch-up paint onto the head of the front fender bolts.**
- **After installing, check front fender adjustment. Refer to BL-13, "Fitting Adjustment" and BL-160, "Fitting Adjustment".**

POWER DOOR LOCK SYSTEM

Component Parts and Harness Connector Location

INFOID:0000000005396553



ALKIA1773ZZ

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 A/T and Intelligent Key)
9. Key switch and ignition knob switch M73 (with M/T and Intelligent Key)

10. Key switch and key lock solenoid M27 (without Intelligent key)	11. Main power window and door lock/unlock switch D7, D8 Power window and door lock/unlock switch RH D105	12. Fuse block (with Intelligent Key) (view with instrument panel LH removed)
13. Passenger select unlock relay M2 (with Intelligent Key)	14. Back door lock assembly (back door switch) D405 (hatchback view with back door open)	15. Combination meter M24

System Description

INFOID:0000000005396554

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 (hatchback) 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 and trunk (sedan) are locked.
- Interlocked with the unlocking operation of door lock and unlock switch, door lock actuators of all doors and trunk (sedan) 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 and trunk (sedan) 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 and trunk (sedan) 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.

AUTOMATIC DOOR LOCKS (LOCK OPERATION)

The interlock door lock function is the function that locks all doors linked with the vehicle speed.

Vehicle Speed Sensing Auto Door Lock*1
All doors are locked when the vehicle speed reaches 24 km/h (15 MPH) or more.
BCM outputs the lock signal to all door lock actuators when it detects that the ignition switch is turned ON, all doors are closed and the vehicle speed received from the combination meter via CAN communication becomes 15 MPH (24 km/h) or more.
If a door is opened and closed at any time during one ignition cycle (OFF → ON), even after initial auto door lock has taken place, the BCM will relock all doors when the vehicle speed reaches 15 MPH (24 km/h) or more again.

Setting change of Automatic Door Locks (LOCK) Function
The lock operation setting of the automatic door locks function can be changed.

With CONSULT-III
The ON/OFF switching of the automatic door locks (LOCK) function and the type selection of the automatic door locks (LOCK) function can be performed at the WORK SUPPORT setting of CONSULT-III. Refer to BL-41, "CONSULT-III Function (BCM)".

Without CONSULT- III
The automatic door locks (LOCK) function can be switched ON/OFF by performing the following operation.

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

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

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

AUTOMATIC DOOR LOCKS (UNLOCK OPERATION)

The automatic door locks (UNLOCK) function is the function that unlocks all doors linked with the key position.

IGN OFF Interlock Door Unlock*1

For vehicles equipped with Intelligent Key system, all doors are unlocked when the power supply position is changed from ON to OFF.

For vehicles not equipped with Intelligent Key system, all doors are unlocked when the mechanical key is removed from the ignition key cylinder.

BCM outputs the unlock signal to all door lock actuators when it detects that the power supply position is changed from ignition switch ON to OFF (with Intelligent Key) or when the mechanical key is removed from the ignition key cylinder (without Intelligent Key).

Setting change of Automatic Door Locks (UNLOCK) Function

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

With CONSULT-III

The ON/OFF switching of the automatic door locks (UNLOCK) function and the type selection of the automatic door locks (UNLOCK) function can be performed at the WORK SUPPORT setting of CONSULT-III. Refer to BL-41, "CONSULT-III Function (BCM)".

Without CONSULT- III

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

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

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

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

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

CAN Communication System Description

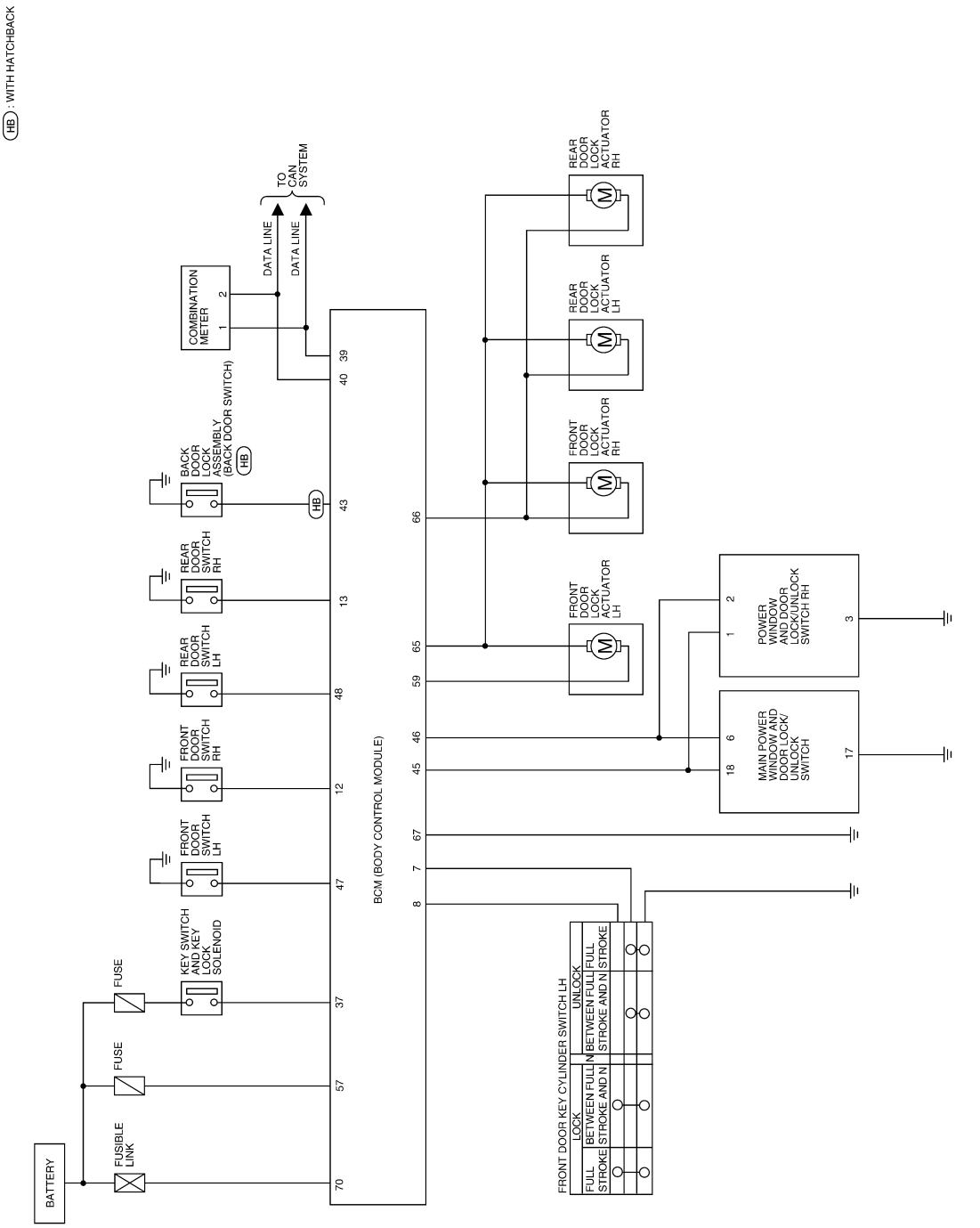
INFOID:0000000005396555

Refer to LAN-7 .

Schematic

INFOID:0000000005396556

WITHOUT INTELLIGENT KEY SYSTEM



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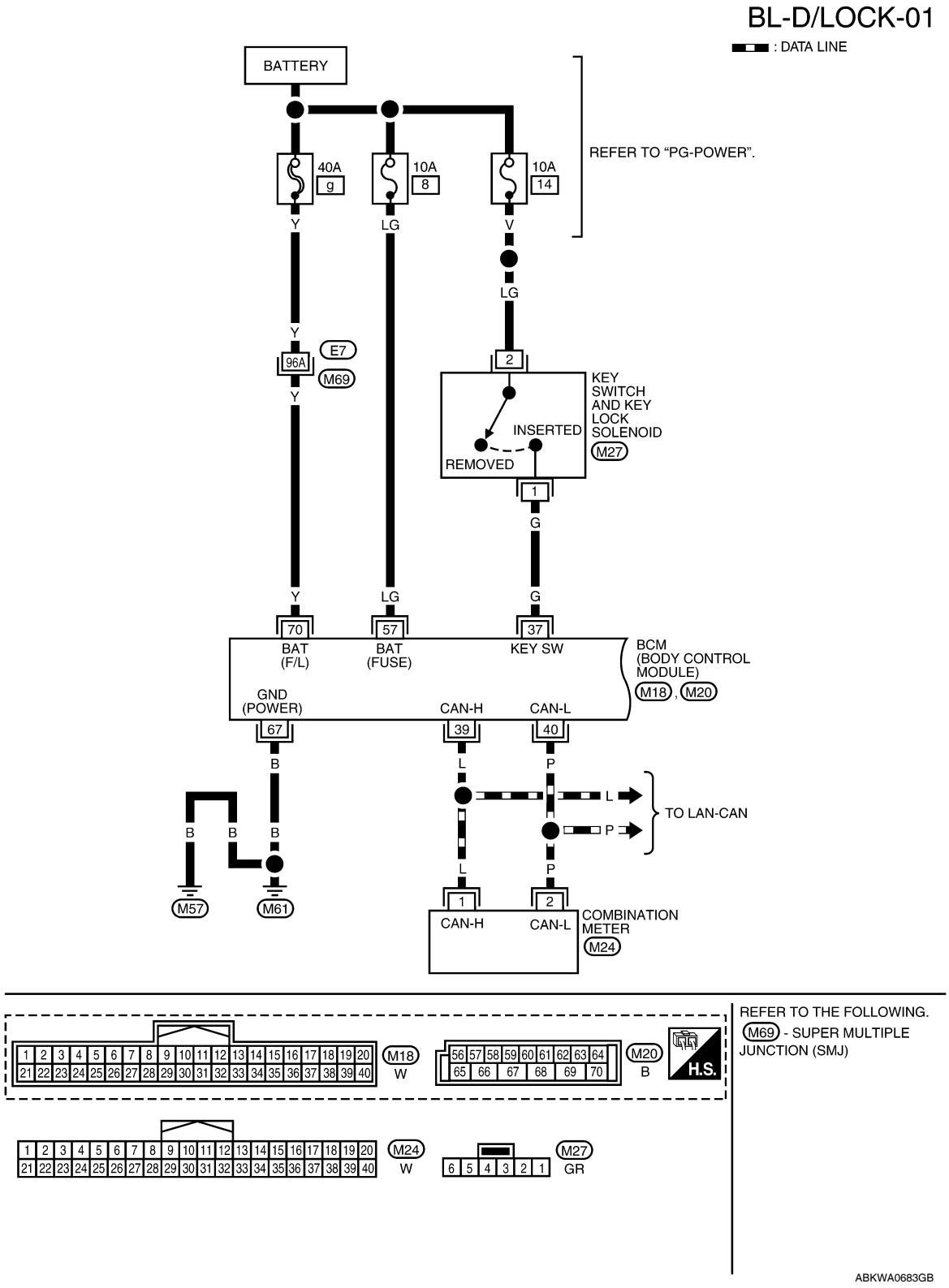
Wiring Diagram - D/LOCK -

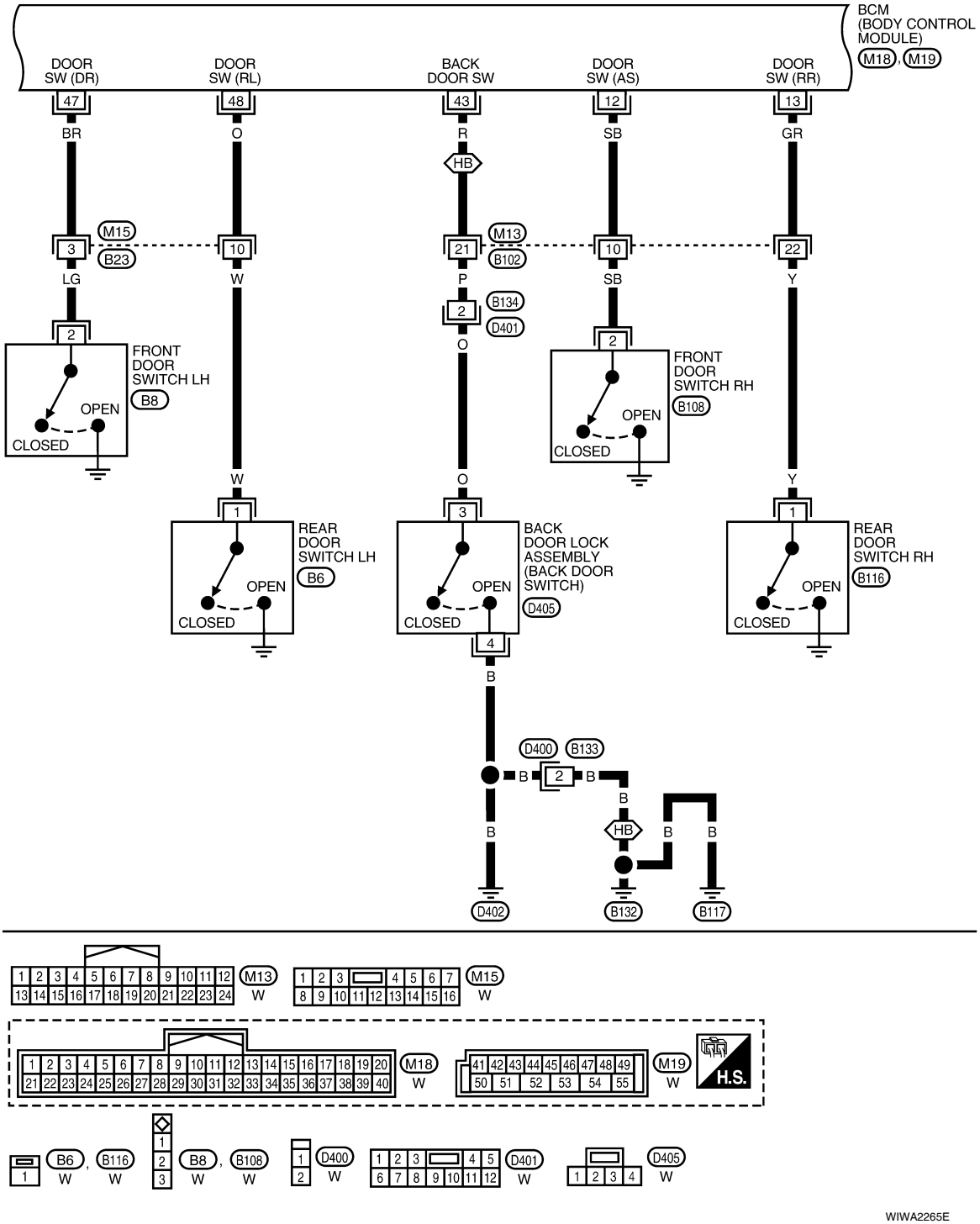
INFOID:0000000005396557

WITHOUT INTELLIGENT KEY SYSTEM



BL-D/LOCK-02

HB : WITH HATCHBACK



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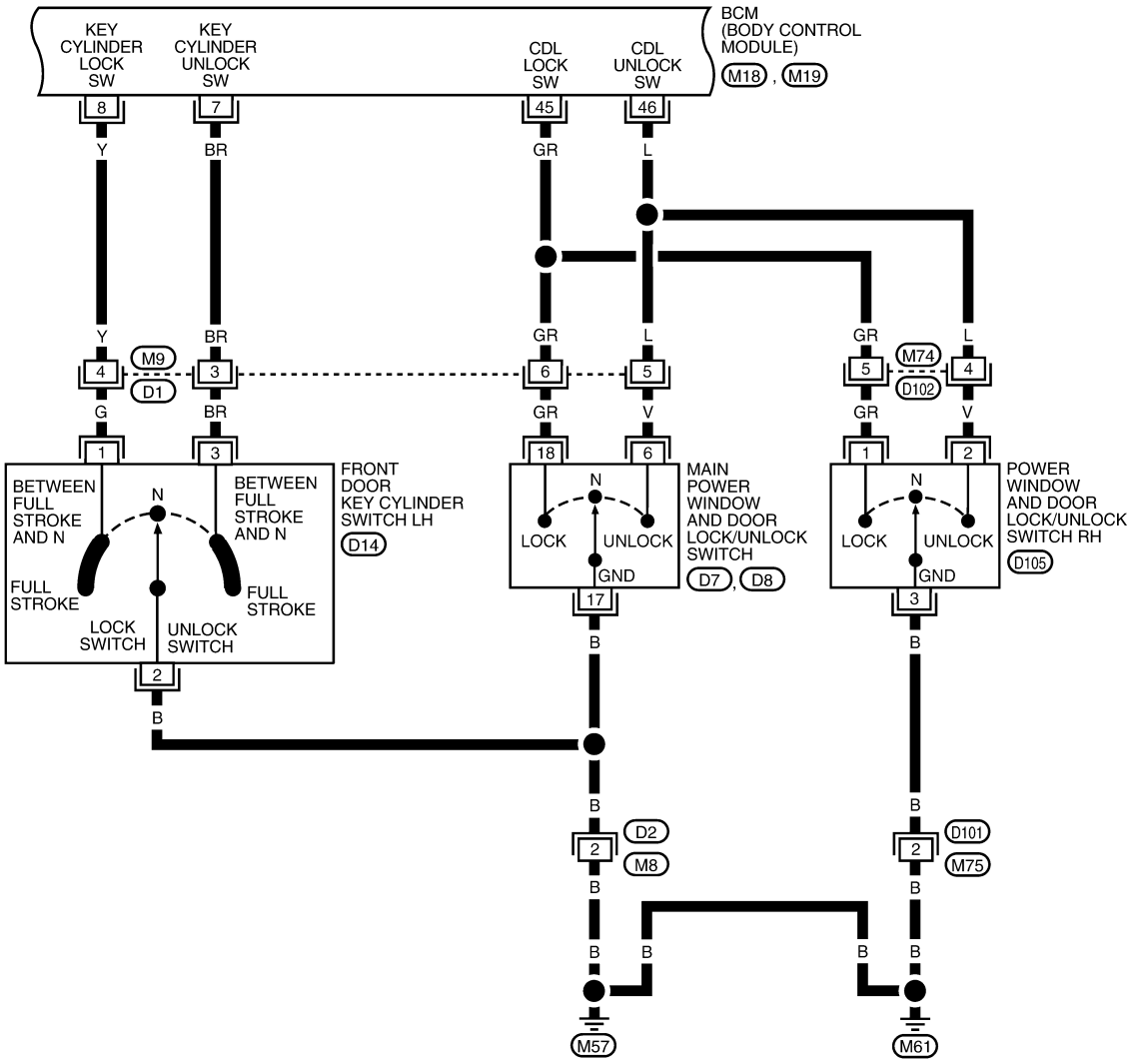
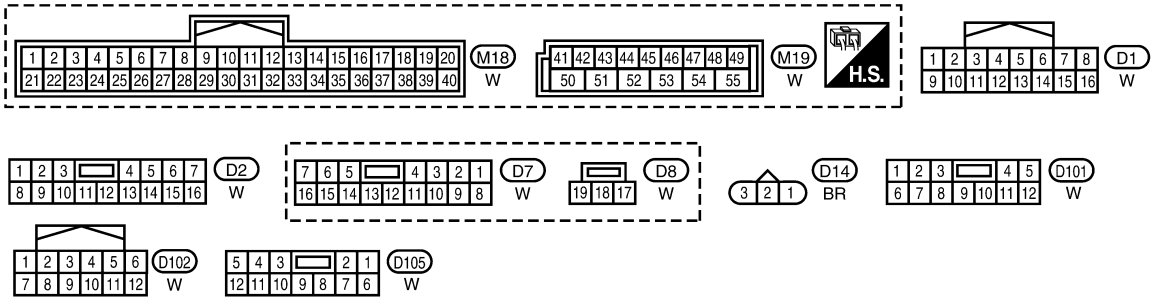
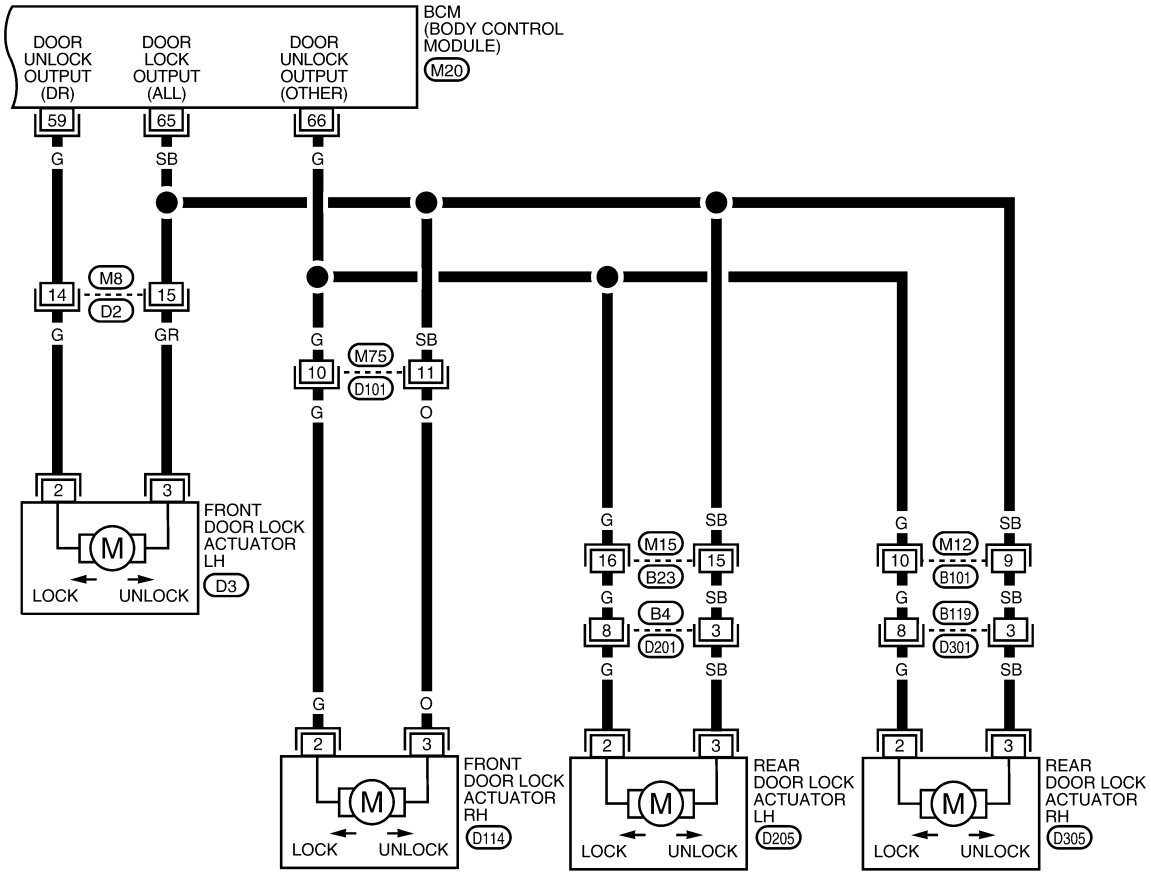
BL-D/LOCK-03

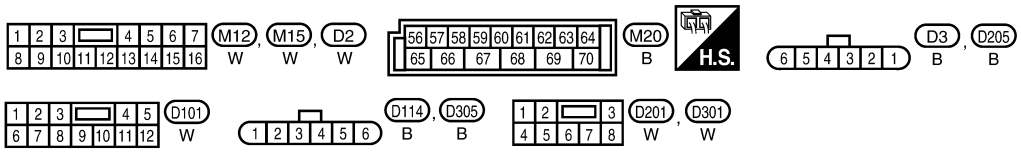




WIWA1954E

BL-D/LOCK-04



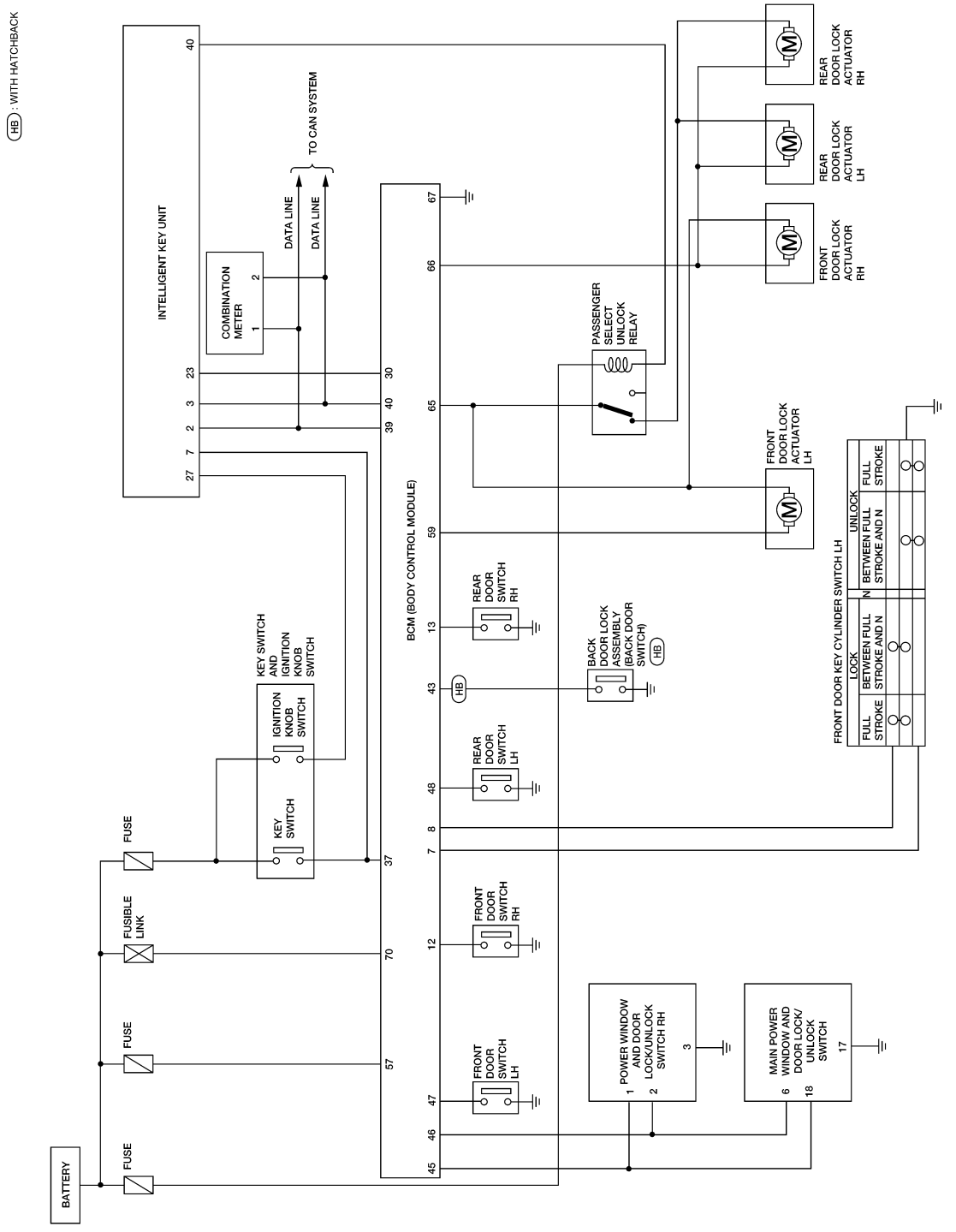


WIWA1955E

Schematic

INFOID:0000000005396558

WITH INTELLIGENT KEY SYSTEM



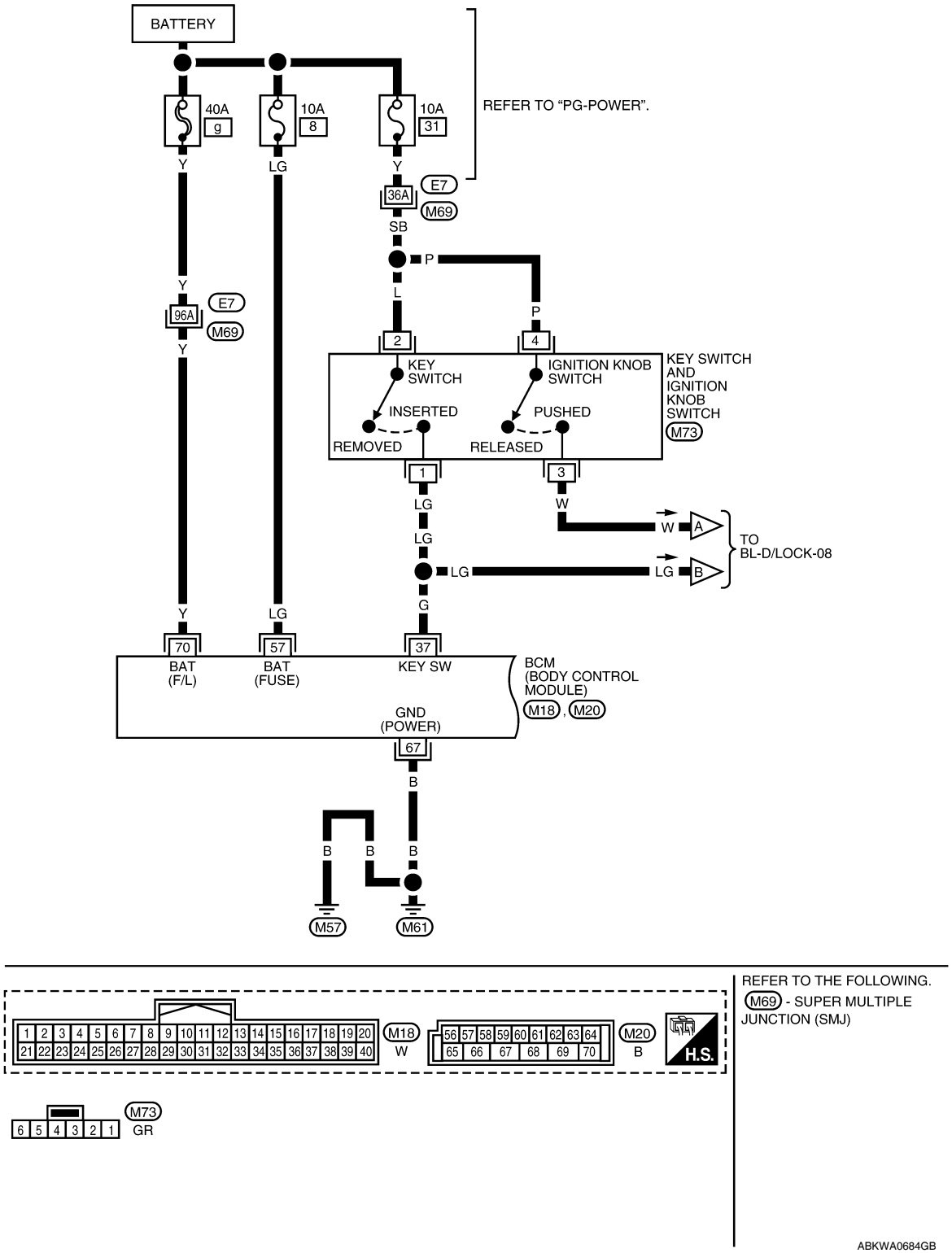
AAKWA0078GB

Wiring Diagram - D/LOCK -

INFOID:0000000005396559

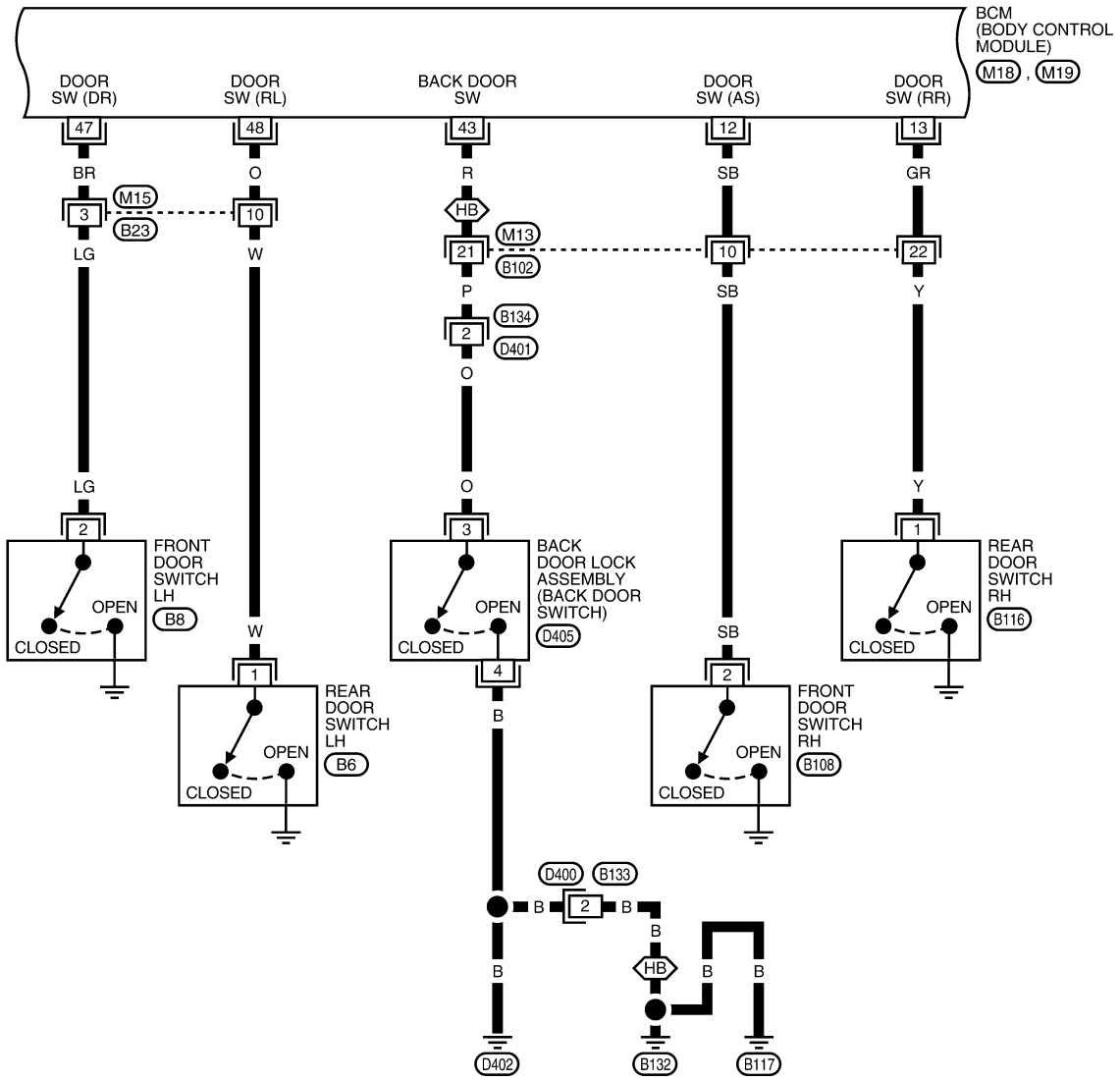
WITH INTELLIGENT KEY SYSTEM

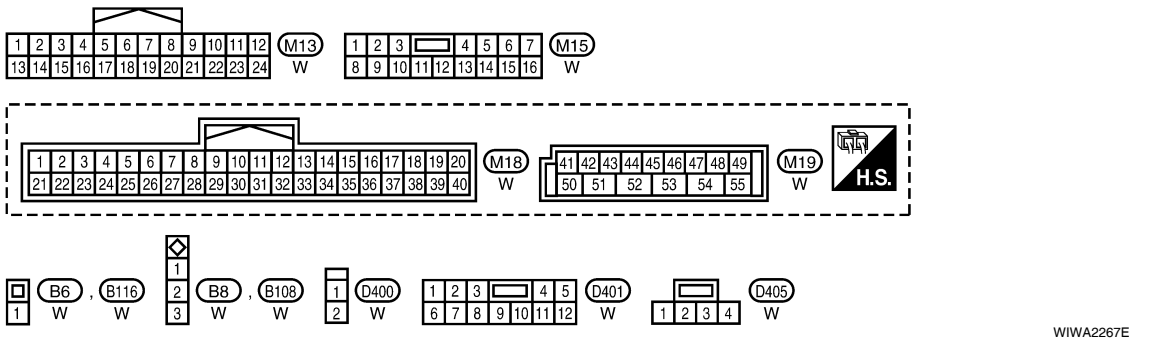
BL-D/LOCK-05



BL-D/LOCK-06

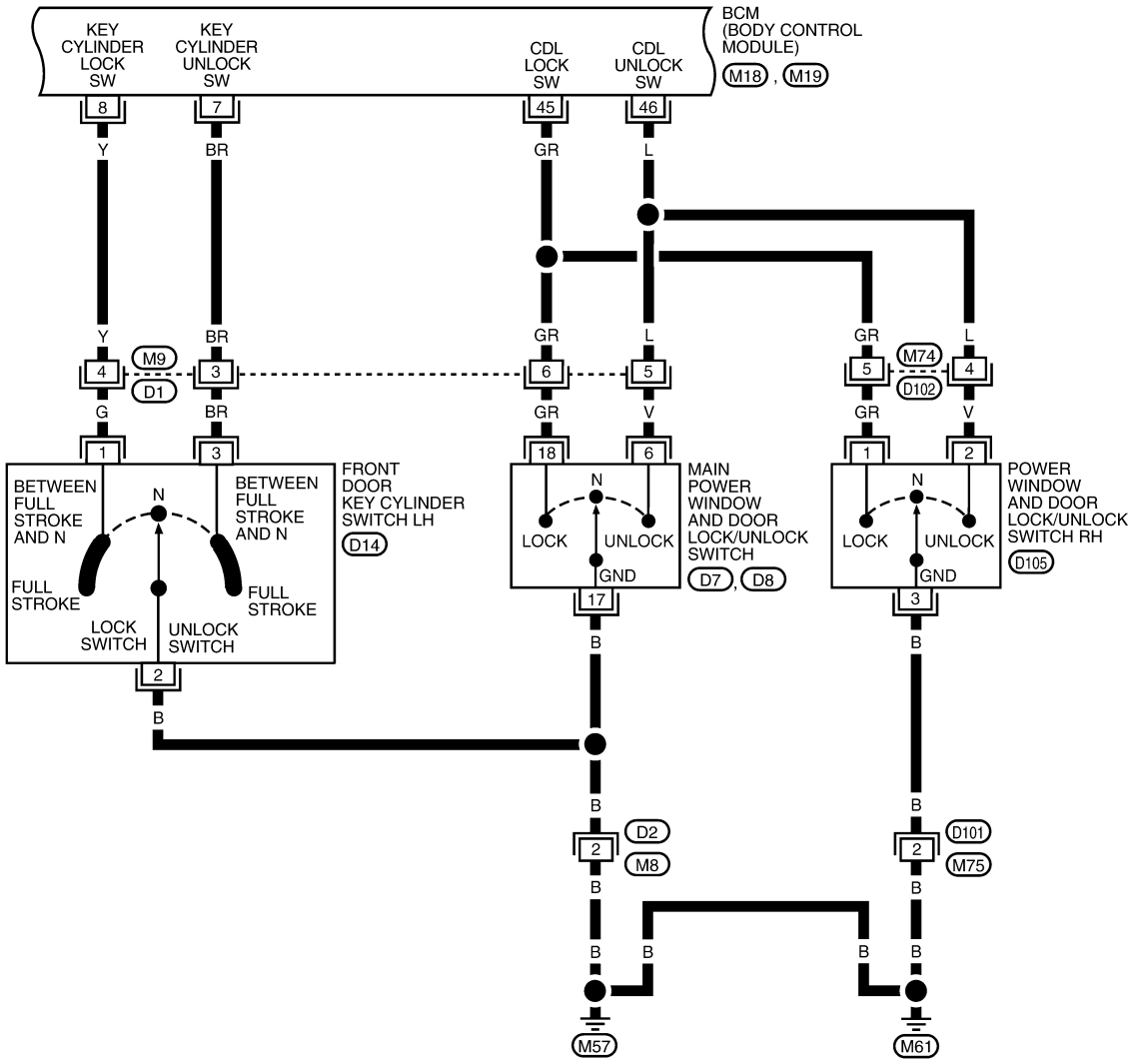
HB : WITH HATCHBACK

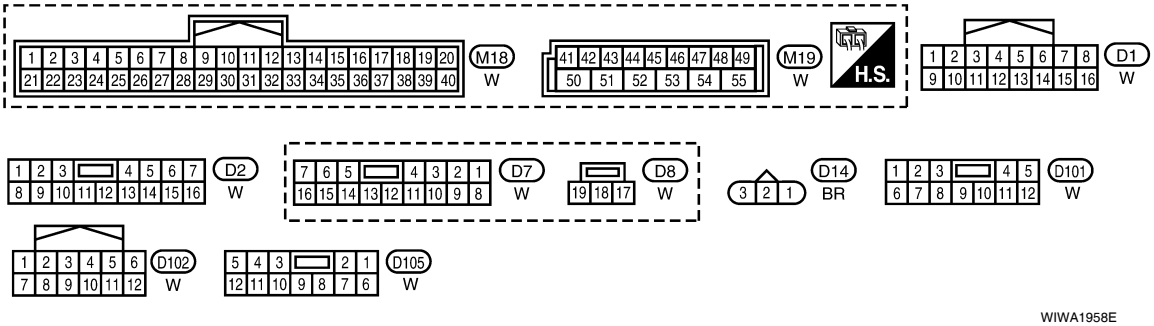




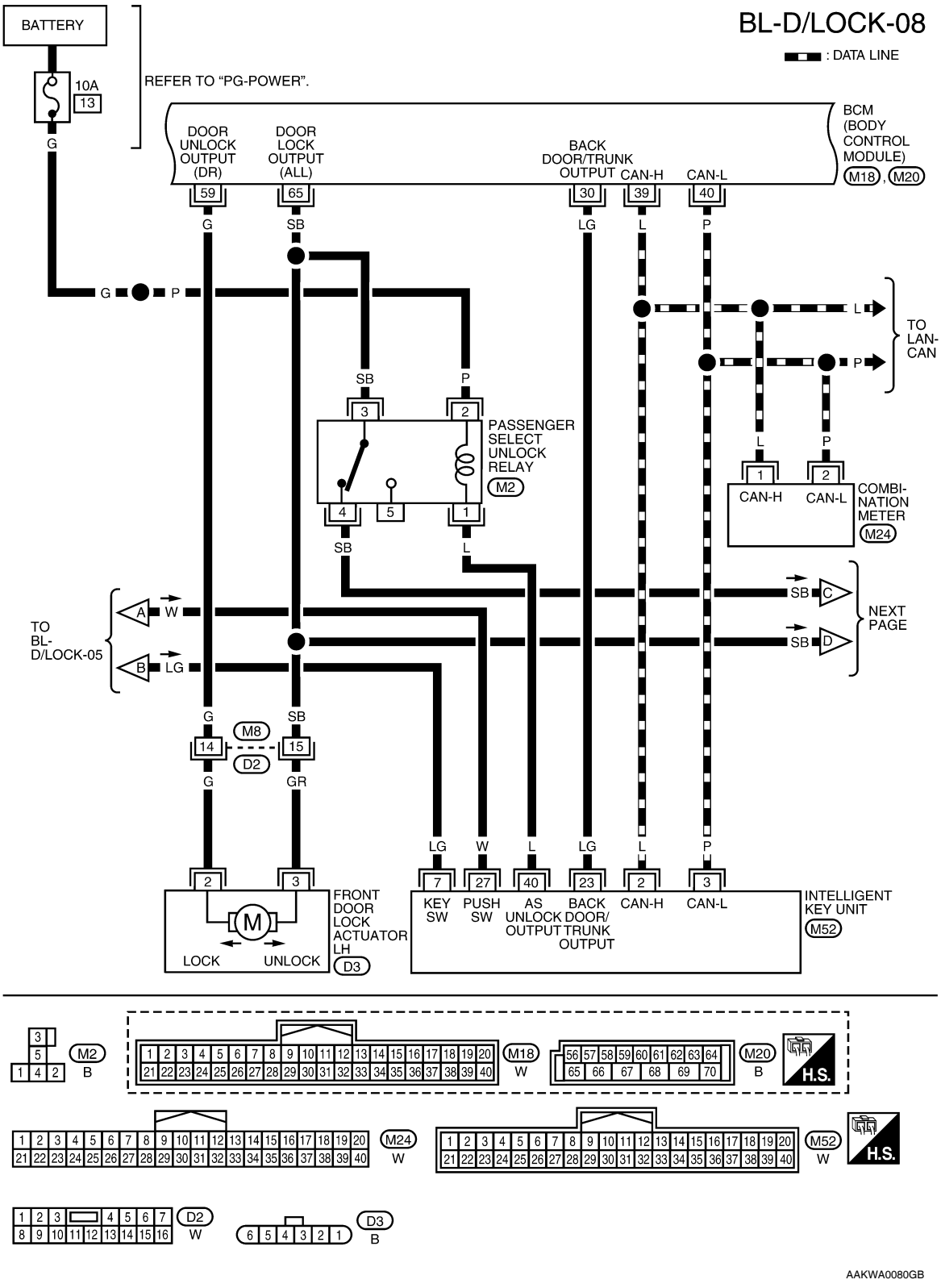
WIWA2267E

BL-D/LOCK-07





WIWA1958E



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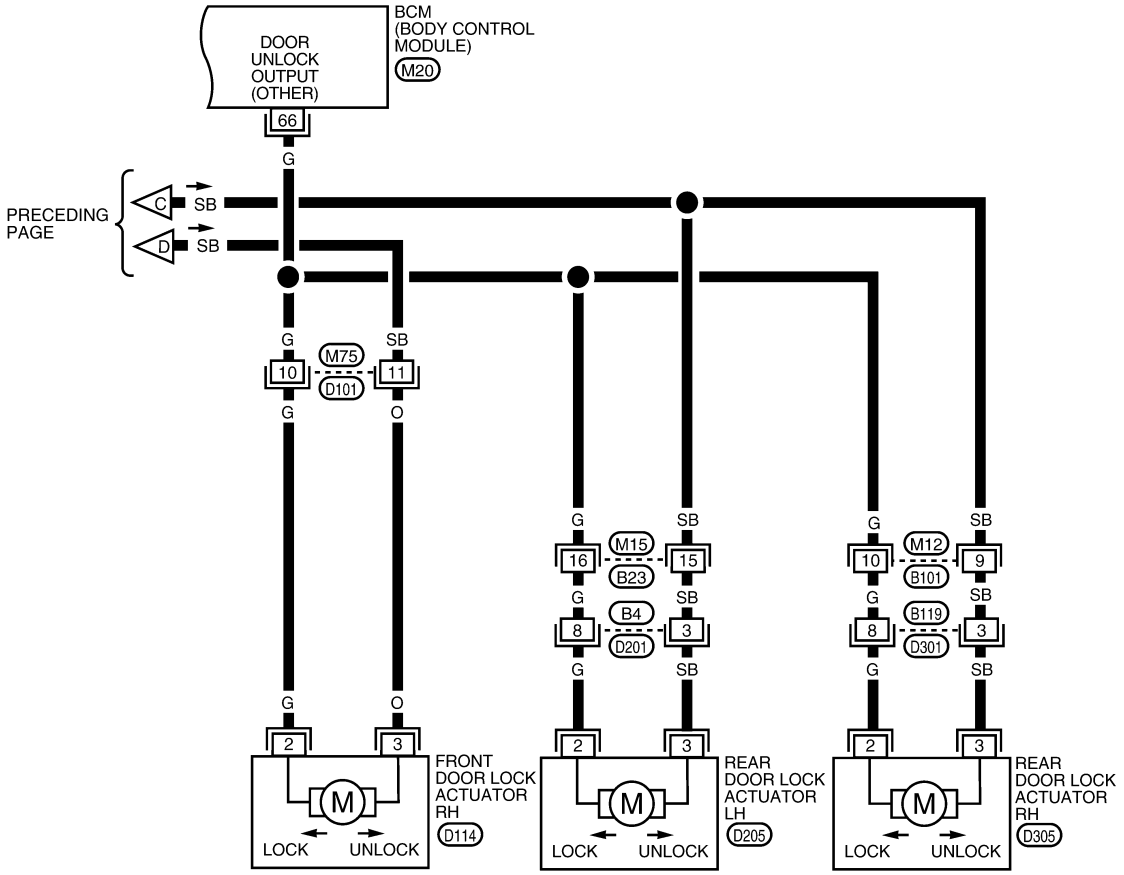
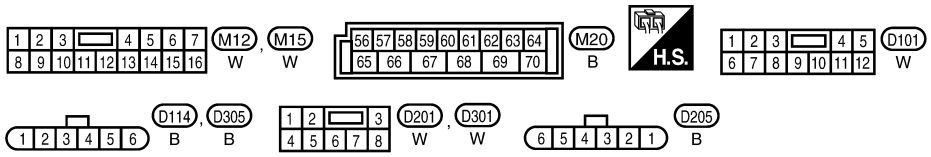
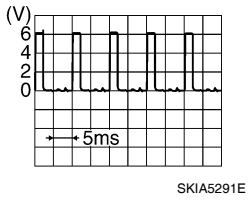
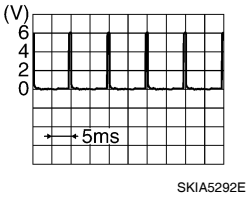
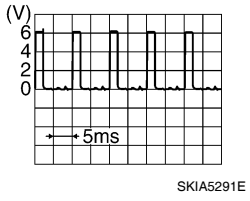
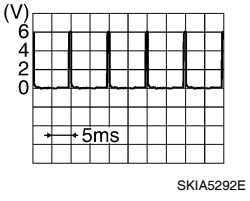

BCM
(BODY CONTROL
MODULE)
M20
DOOR
UNLOCK
OUTPUT
(OTHER)
66
PRECEDING
PAGE
C
D
SB
G
M75
10
D101
11
O
M15
16
B23
15
B4
8
D201
3
M12
B101
9
B119
D301
2
M
LOCK
UNLOCK
FRONT
DOOR LOCK
ACTUATOR
RH
D114
REAR
DOOR LOCK
ACTUATOR
LH
D205
REAR
DOOR LOCK
ACTUATOR
RH
D305

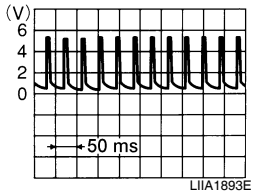
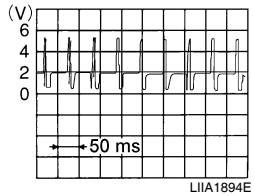
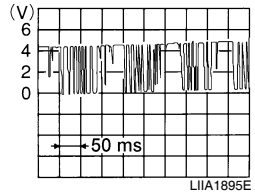
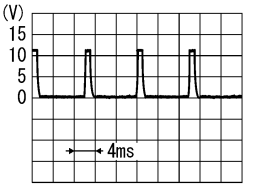

M12
W
M15
W
M20
B
H.S.
D101
W
D114
B
D305
B
D201
W
D301
W
D205
B

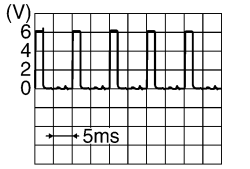
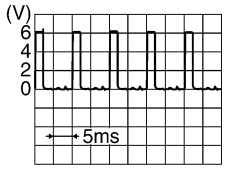
WIWA1960E

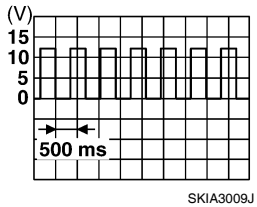
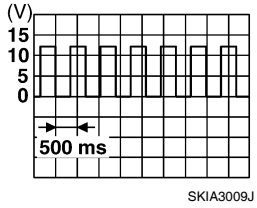
Terminal and Reference Value for BCM

INFOID:0000000005612413

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
2	BR	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	GR	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	L	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	G	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	V	Combination switch input 1				
7[7]	BR	Front door key cylinder switch LH (unlock)	Input	OFF	ON (open, 2nd turn)	Momentary 1.5V
					OFF (closed)	0V
8[7]	Y	Front door key cylinder switch LH (lock)	Input		On (open)	Momentary 1.5V
					OFF (closed)	0V
9	W	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
10	R	Defrost A/C switch signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
11	L	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	SB	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
15	W	Tire pressure warning check connector	Input	OFF	—	5V
18	V	Remote keyless entry receiver (ground)	Output	OFF	—	0V
19	BR	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	 LIIA1893E
20	G	Remote keyless entry receiver signal (signal)	Input	OFF	Stand-by (keyfob buttons released)	 LIIA1894E
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	 LIIA1895E
21	P	NATS antenna amp.	Input/ Output	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
23	R	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	LG	NATS antenna amp.	Input/ Output	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
26	GR	Thermo control amp.	Input	ON	A/C switch ON	 ZJIA0719J
27	O	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
28	P	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	L	Hazard switch	Input	OFF	ON	0V
					OFF	5V

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
30[1]	LG	Back door/trunk output	Output	—	Back door open (switch closed)	0V
					Back door closed (switch open)	5V
30[3]	LG	Back door opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
30[4]	V	Trunk lid opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
32	LG	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	V	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
35	R	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	P	Combination switch output 1				
37[1]	G	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage
					Intelligent Key removed	0V
37[2]	G	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key removed	0V
38	W	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
41[6]	W	Trunk key cylinder switch	Input	—	ON (Full unlock position)	0V
					OFF (Neutral position)	5V
42[6]	Y	Trunk lamp switch	Input	OFF	ON (trunk open)	0V
					OFF (trunk closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
43[5]	R	Back door switch	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
44[5]	LG	Rear wiper auto stop	Input	ON	Rear wiper operating	0
					Rear wiper stopped	Battery
45[7]	GR	Lock switch	Input	OFF	ON (lock)	0V
					OFF	Battery voltage
46[7]	L	Unlock switch	Input	OFF	ON (unlock)	0V
					OFF	Battery voltage
47	BR	Front door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
48	O	Rear door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
49	P	Luggage room lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage
50	SB	A/C indicator	Output	ON	A/C OFF	0
					A/C ON	Battery voltage
53[5]	R	Back door lock assembly (actuator)	Output	OFF	Back door (open)	Battery voltage
53[6]	R	Trunk lamp switch and trunk release solenoid	Output	OFF	Trunk lid (open)	Battery voltage
55[5]	V	Rear wiper motor output	Output	ON	OFF	0
					ON	Battery voltage
56	R	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	LG	Battery power supply	Input	OFF	—	Battery voltage
59[7]	G	Front door lock actuator LH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	V	Turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
61	W	Turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
63	BR	Interior room lamp	Output	OFF	Any door switch: ON (open)	0V
					Any door switch: OFF (closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
65[7]	SB	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66[7]	G	Front door lock actuator RH, rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
67	B	Ground	Input	ON	—	0V
68[8]	L	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
69[8]	P	Battery power supply	Output	OFF	—	Battery voltage
70	Y	Battery power supply	Input	OFF	—	Battery voltage

1: With Intelligent Key
2: Without Intelligent Key
3: Hatchback without Intelligent Key
4: Sedan without Intelligent Key
5: Hatchback
6: Sedan
7: With power door locks
8: With power windows

Work Flow

INFOID:0000000005396561

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to BL-23, "System Description" .
3. According to the trouble diagnosis chart, repair or replace the cause of the malfunction. Refer to BL-119, "Trouble Diagnosis Symptom Chart" .
4. Does power door lock system operate normally? OK: GO TO 5, NG: GO TO 3.
5. Inspection End.

CONSULT-III Function (BCM)

INFOID:0000000005396562

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

Diagnostic mode	Description
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 DIAGNOSTIC RESULT	Displays BCM self-diagnosis results.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ECU IDENTIFICATION	BCM part number can be read.
CONFIGURATION	Performs BCM configuration read/write functions.

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.
AUTOMATIC DOOR LOCK SELECT	The following modes can be selected for automatic door lock function: • VH SPD: All doors are locked when vehicle speed is more than 15 MPH (25 km/h) (factory setting). • SHIFT OUT OF P: Not allowed.
AUTOMATIC DOOR UN-LOCK SELECT	The following modes can be selected for automatic door unlock function: • MODE1: Allowed (factory setting for vehicles with Intelligent Key). All doors are unlocked when the ignition switch is turned from ON to OFF. • MODE2: Not allowed. • MODE3: Allowed (factory setting for vehicles without Intelligent Key). All doors are unlocked when the key is removed from the ignition switch. • MODE4: Not allowed. • MODE5: Not allowed. • MODE6: Not allowed.
AUTOMATIC LOCK/UNLOCK SELECT	• ON • OFF

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.
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
DOOR LOCK	This test is able to check door lock operation [ALL LCK/ALL ULK/DR UNLK/OTR ULK].

Trouble Diagnosis Symptom Chart

INFOID:0000000005396563

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 (hatchback)	BL-44
	3. Door switch check (sedan)	BL-47
	4. Key switch (insert) check	BL-48
	5. Replace BCM.	BCS-19
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-49
	2. Replace BCM.	BCS-19
One or both rear door lock actuators do not operate.	1. Passenger select unlock relay circuit check	BL-55
Front door lock assembly LH (actuator) does not operate.	1. Front door lock assembly LH (actuator) check	BL-52
Specific door lock actuator does not operate.	1. Door lock actuator check (Front RH, Rear LH/RH)	BL-53
Power door lock does not operate with front door key cylinder switch operation.	1. Front door key cylinder switch check	BL-54
	2. Replace BCM.	BCS-19
All power door locks do not operate.	1. BCM power supply and ground circuit check	BCS-16
	2. Door lock/unlock switch check	BL-49
	3. Replace BCM.	BCS-19
Vehicle speed sensing auto door LOCK operation does not operate.	1. Ensure automatic door lock/unlock function (lock operation) is enabled.	BL-41
	2. Check combination meter vehicle speed signal.	DI-16
	3. Check intermittent incident.	GI-22
Ignition OFF interlock auto door UNLOCK function does not operate.	1. Ensure automatic door lock/unlock function (unlock operation) is enabled.	BL-41
	2. Check BCM for DTCs.	BCS-18
	3. Check intermittent incident.	GI-22

BCM Power Supply and Ground Circuit Inspection

INFOID:0000000005612414

1.CHECK FUSES AND FUSIBLE LINK

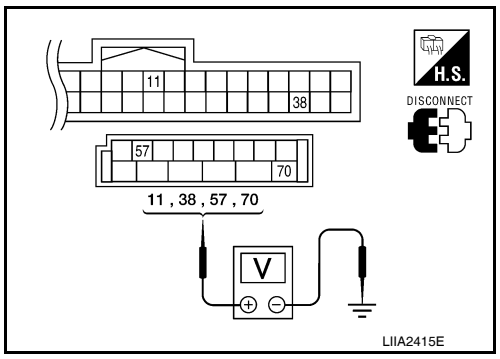
- Check 40A fusible link (letter **g** , located in the fuse and fusible link box).
- Check 10A fuses [No. 6, 8 and 20, located in the fuse block (J/B)].

OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-4, "Schematic" .

2.CHECK BCM POWER SUPPLY CIRCUIT

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



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

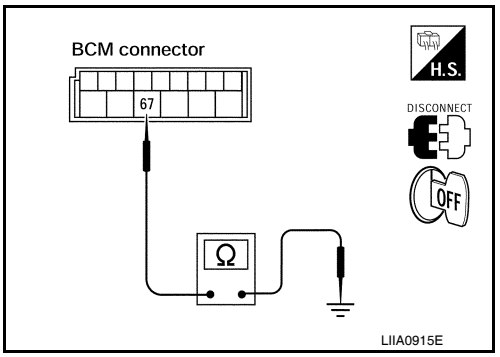
OK or NG

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

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 terminal 67 and ground.

67 - Ground : Continuity should exist.



OK or NG

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

Door Switch Check (Hatchback)

INFOID:0000000005396565

1.CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-III

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in DATA MONITOR mode with CONSULT–III. Refer to BL-41, "CONSULT-III Function (BCM)" .

- When doors are open:

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

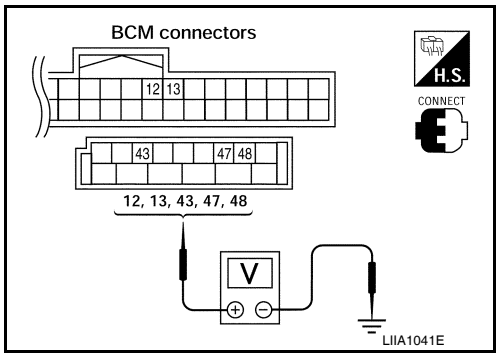
- When doors are closed:

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

Without CONSULT-III

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

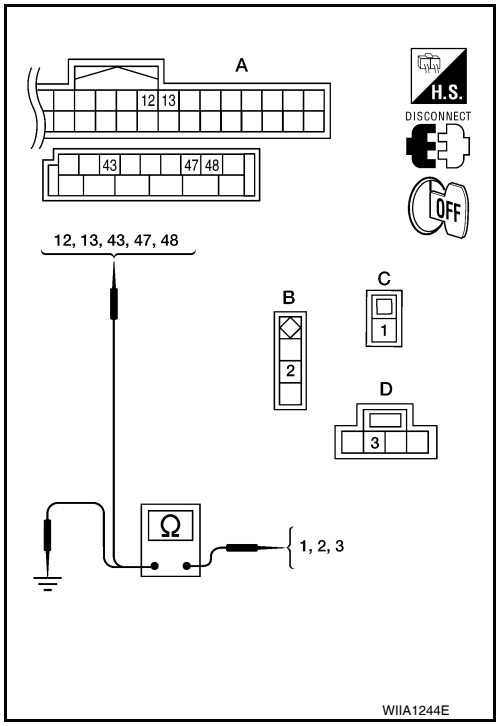
2. CHECK DOOR SWITCH CIRCUIT

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

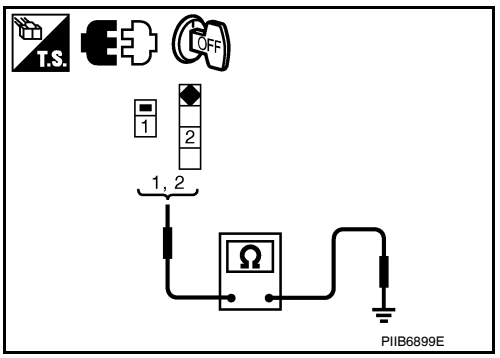
OK >> GO TO 3
NG >> Repair or replace harness.

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.

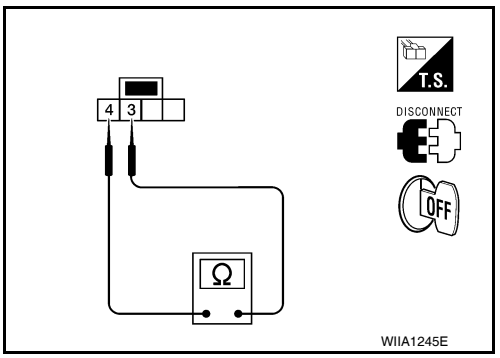
Door switch is released : Continuity should exist.
Door switch is pushed : Continuity should not exist.



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.



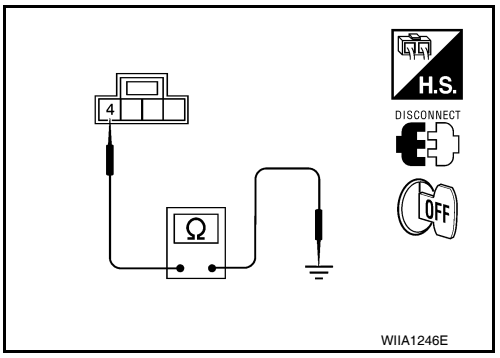
OK or NG

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.



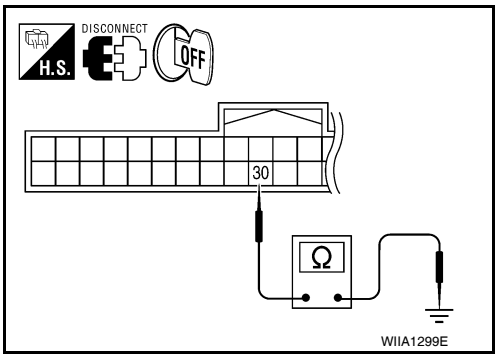
OK or NG

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.

Door Switch Check (Sedan)

INFOID:0000000005396566

1.CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-III

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR") in DATA MONITOR mode with CONSULT–III. Refer to BL-41, "CONSULT-III Function (BCM)" .

- When doors are open:

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

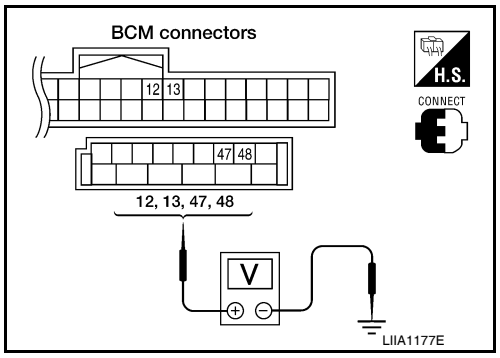
- When doors are closed:

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

Without CONSULT-III

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

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



OK or NG

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

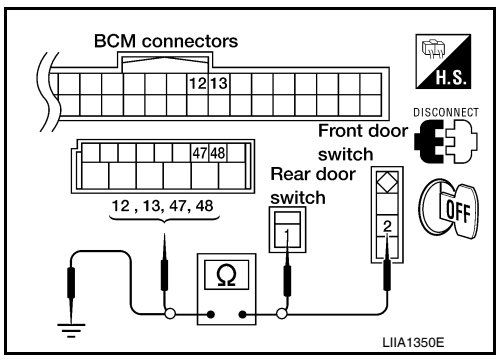
2.CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH) or B108 (Front RH) terminal 2, B6 (Rear LH) or B116 (Rear RH) terminal 1 and BCM connector M18, M19 terminals 12, 13, 47 and 48.

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

4. Check continuity between door switch connector B8 (Front LH) or B108 (Front RH) terminal 2, B6 (Rear LH) or B116 (Rear RH) terminal 1 and ground.

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



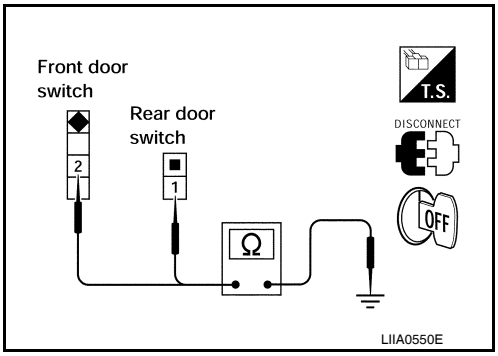
OK or NG

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

3.CHECK DOOR SWITCHES

Check continuity between door switch terminal and switch case ground.

Component	Terminals	Condition of switch	Continuity
Front door switch LH/RH	2 – Case ground	Pushed	No
		Released	Yes
Rear door switch LH/RH	1 – Case ground	Pushed	No
		Released	Yes



OK or NG

OK >> Check door switch case ground condition.
NG >> Replace door switch.

Key Switch (Insert) Check

INFOID:0000000005396567

1.CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-III

Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT–III. Refer to BL-41, "CONSULT-III Function (BCM)" .

- When key is inserted into ignition key cylinder:

KEY ON SW : ON

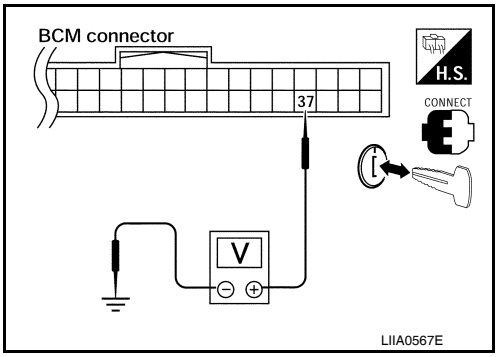
- When key is removed from ignition key cylinder:

KEY ON SW : OFF

Without CONSULT-III

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



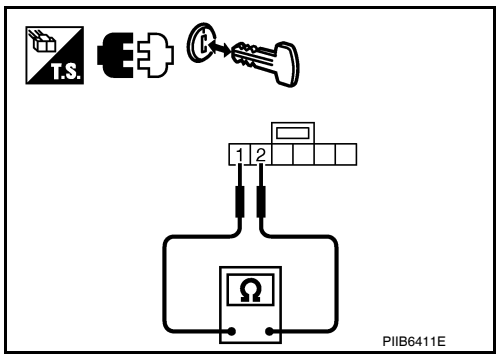
OK or NG

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

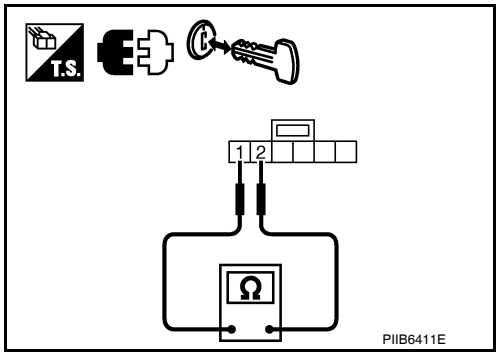
OK >> Check the following.
- 10A fuse (No. 31, located in fuse and fusible link block)
- Harness for open or short between key switch and ignition knob switch and fuse
- Harness for open or short between BCM and key switch and ignition knob switch

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

INFOID:0000000005396568

1.CHECK DOOR LOCK AND UNLOCK INPUT SIGNAL

With CONSULT-III

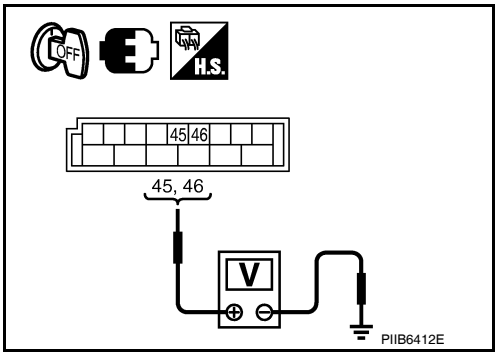
Check door lock and unlock switch (“CDL LOCK SW” and “CDL UNLOCK SW”) in DATA MONITOR mode with CONSULT-III.

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-III

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



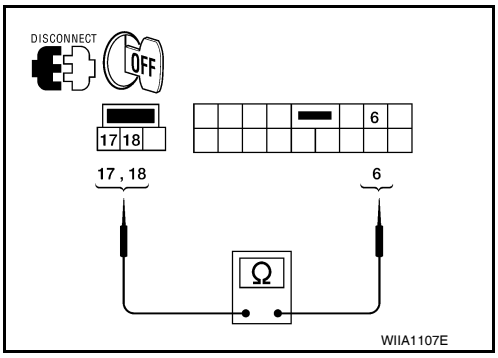
OK or NG

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

2.CHECK DOOR LOCK/UNLOCK SWITCH

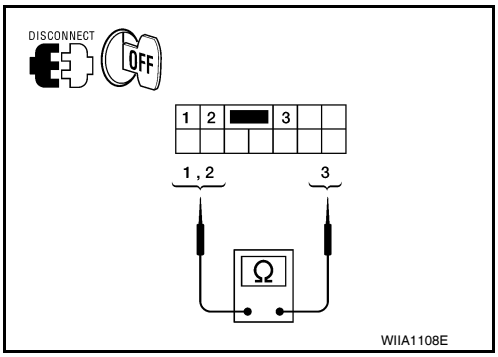
1. Turn ignition switch OFF.
2. Disconnect door lock/unlock switch.
3. Check continuity between main power window and door lock/unlock switch terminals 6, 17 and 18.

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



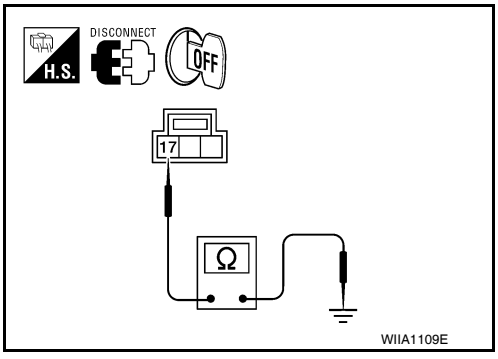
OK or NG

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

3.CHECK DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

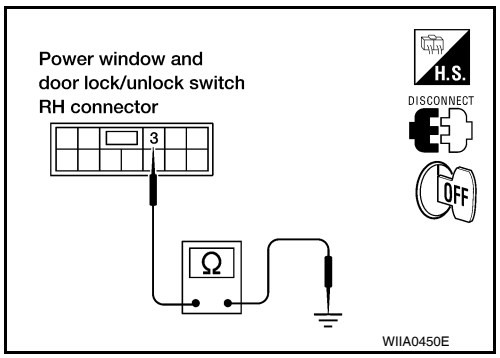
1. Disconnect main power window and door lock/unlock switch or power window and door lock/unlock switch RH.
2. Check continuity between main power window and door lock/unlock switch connector D8 terminal 17 and ground.

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.

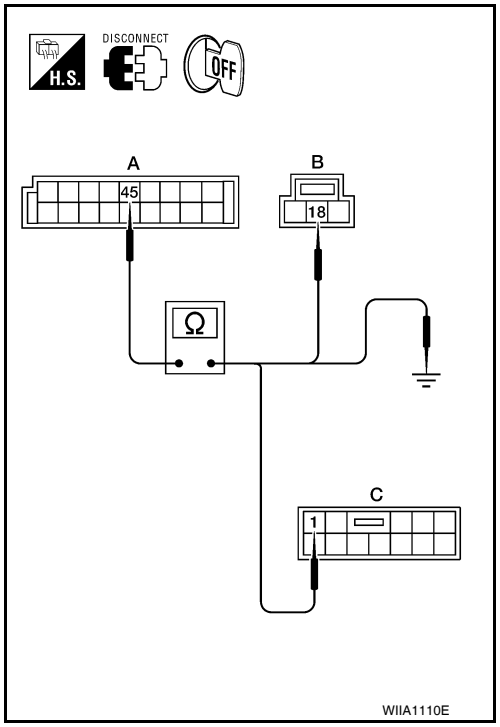
4. CHECK DOOR LOCK SWITCH CIRCUIT

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.**

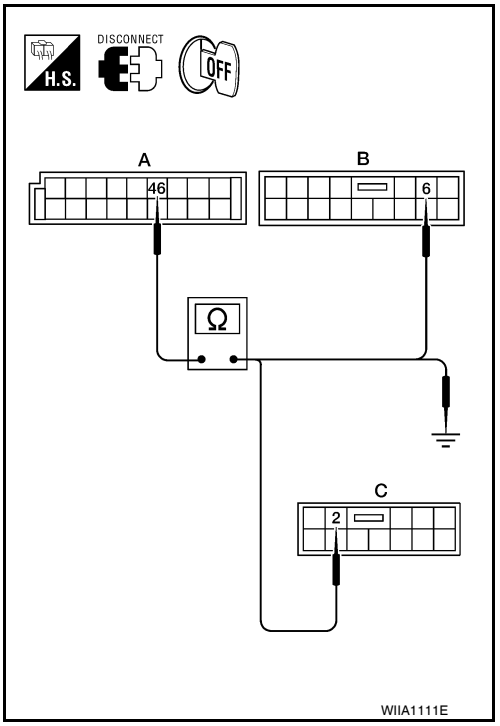
5. Check continuity between BCM connector M19 terminal 46 and ground.

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

OK or NG

OK >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

NG >> Repair or replace harness.

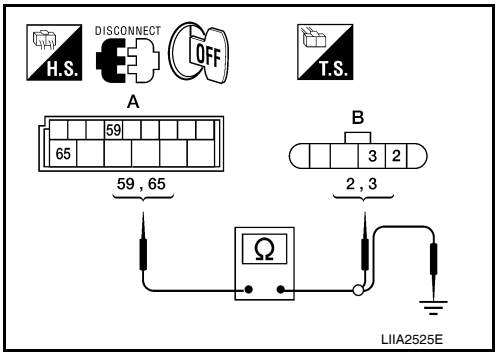


Front Door Lock Assembly LH (Actuator) Check

INFOID:0000000005396569

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

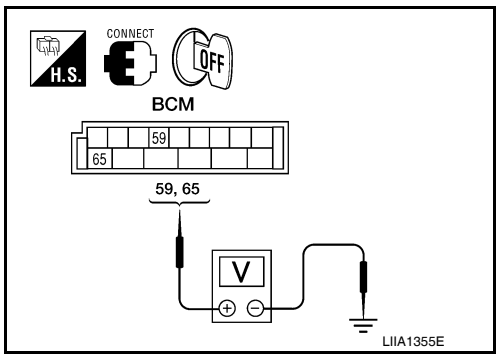
NG >> Repair or replace harness.

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-166, "Removal and Installation" .
NG >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

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

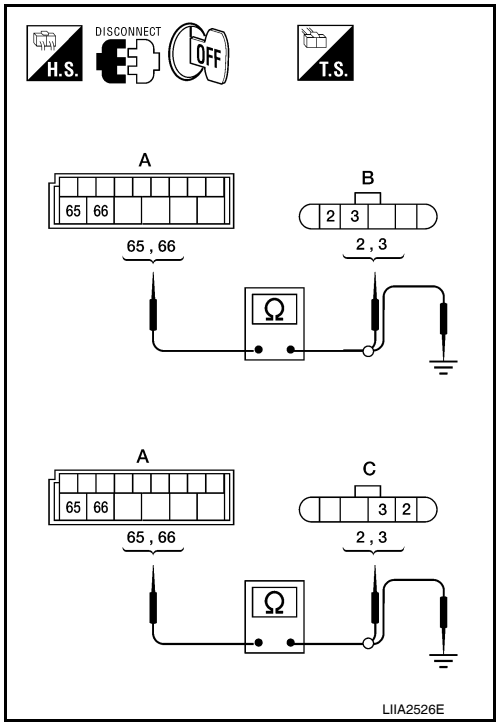
INFOID:0000000005396570

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.

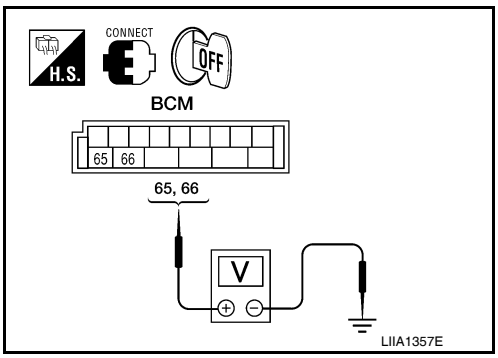
Connector	Terminals		Continuity
A: M20	65	Ground	No
	66		No

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 (+)	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-166, "Removal and Installation" or BL-169, "Removal and Installation" .
NG >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

Front Door Key Cylinder Switch LH Check

INFOID:0000000005396571

1.CHECK FRONT DOOR KEY CYLINDER SWITCH LH

With CONSULT-III

Check front door key cylinder switch ("KEY CYL LK-SW") and ("KEY CYL UN-SW) in DATA MONITOR mode in CONSULT–III. Refer to BL-41, "CONSULT-III Function (BCM)" .

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

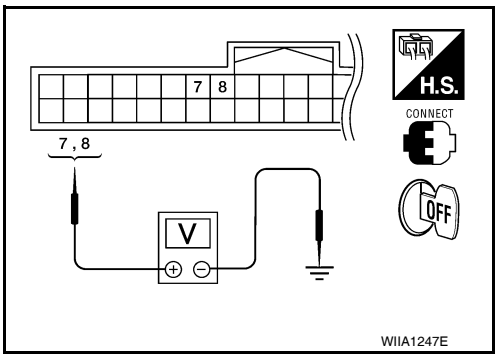
KEY CYL LK-SW : ON

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

KEY CYL UN-SW : ON

Without CONSULT-III

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



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

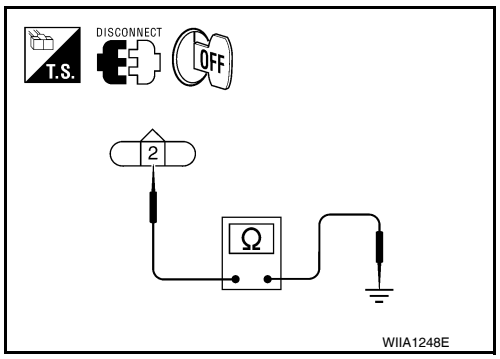
OK or NG

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



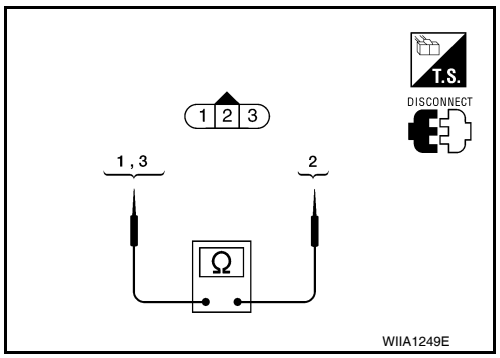
OK or NG

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



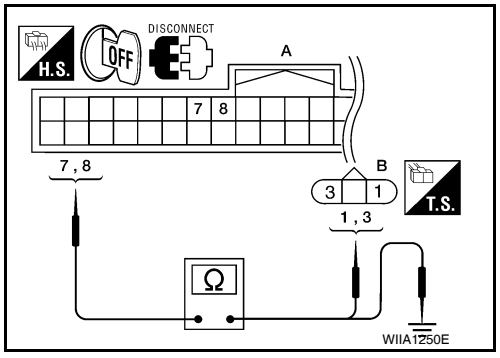
OK or NG

OK >> GO TO 4
NG >> Replace front door key cylinder switch LH. Refer to BL-166 .

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 Inspection (With Intelligent Key)

INFOID:0000000005396572

1.CHECK PASSENGER SELECT UNLOCK RELAY CIRCUIT

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

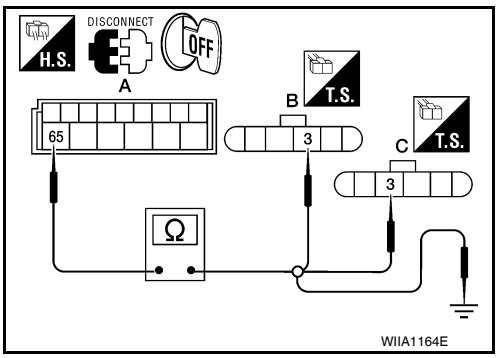
1. Turn ignition switch OFF.
2. Disconnect BCM and inoperative rear door lock actuator.

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 (A) M20 terminal 65 and body ground.

65 - Ground : Continuity should not exist.



OK or NG

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

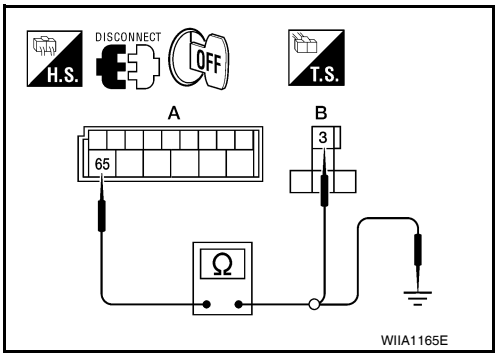
2.CHECK PASSENGER SELECT UNLOCK RELAY INPUT

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.

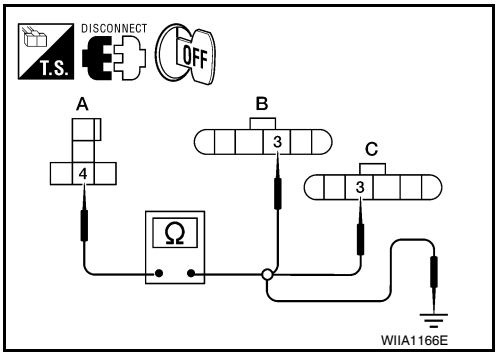
3.CHECK PASSENGER SELECT UNLOCK RELAY OUTPUT

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.



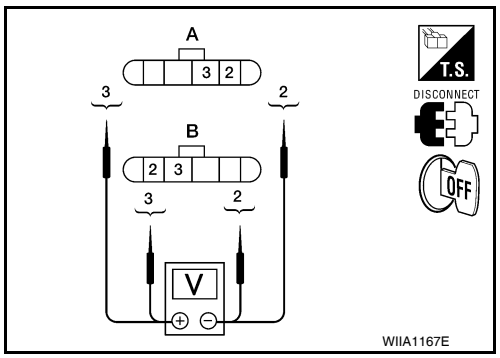
OK or NG

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

4.CHECK REAR DOOR LOCK ACTUATOR ASSEMBLY

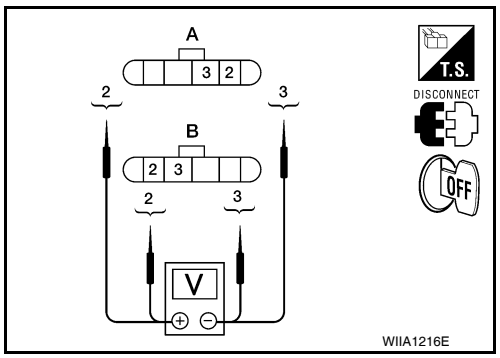
1. Reconnect BCM.

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

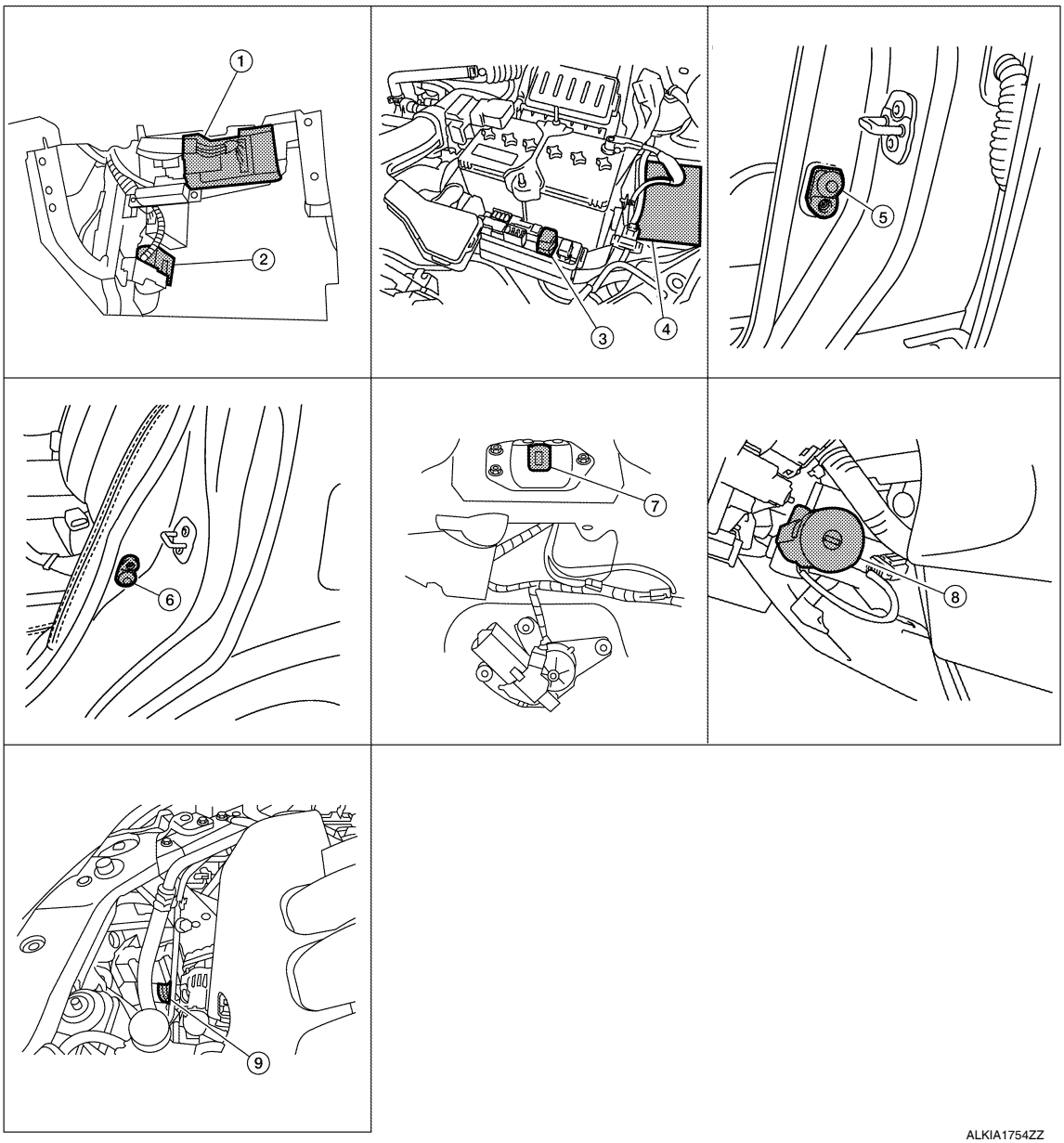
OK or NG

OK >> Replace rear door lock actuator. Refer to BL-169, "Removal and Installation" .
NG >> Repair or replace harness between actuator and splice.

REMOTE KEYLESS ENTRY SYSTEM

Component Parts and Harness Connector Location

INFOID:0000000005396573



ALKIA1754ZZ

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 (hatchback view with back door open)
8. Key switch and key lock solenoid M27
9. Horn E18, E20

System Description

INFOID:0000000005396574

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) (hatchback) 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 horn 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)
• Horn sounds 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
Horn 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-III
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-69, "CONSULT-III Function (BCM)" .

Without CONSULT-III
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-69, "CONSULT-III Function (BCM)" .

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-69, "CONSULT-III Function (BCM)" .

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-94 .

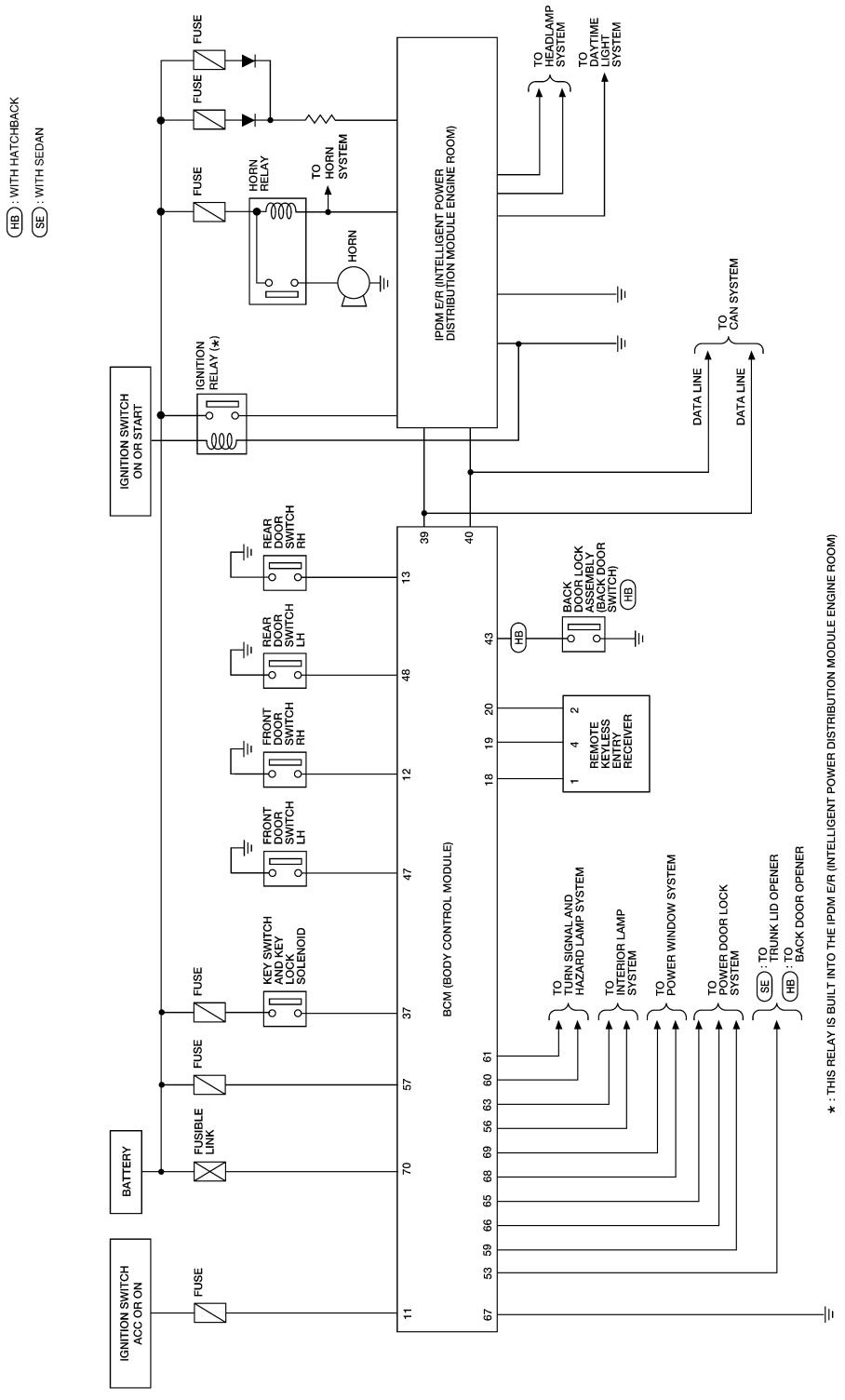
CAN Communication System Description

INFOID:0000000005396575

Refer to LAN-7 .

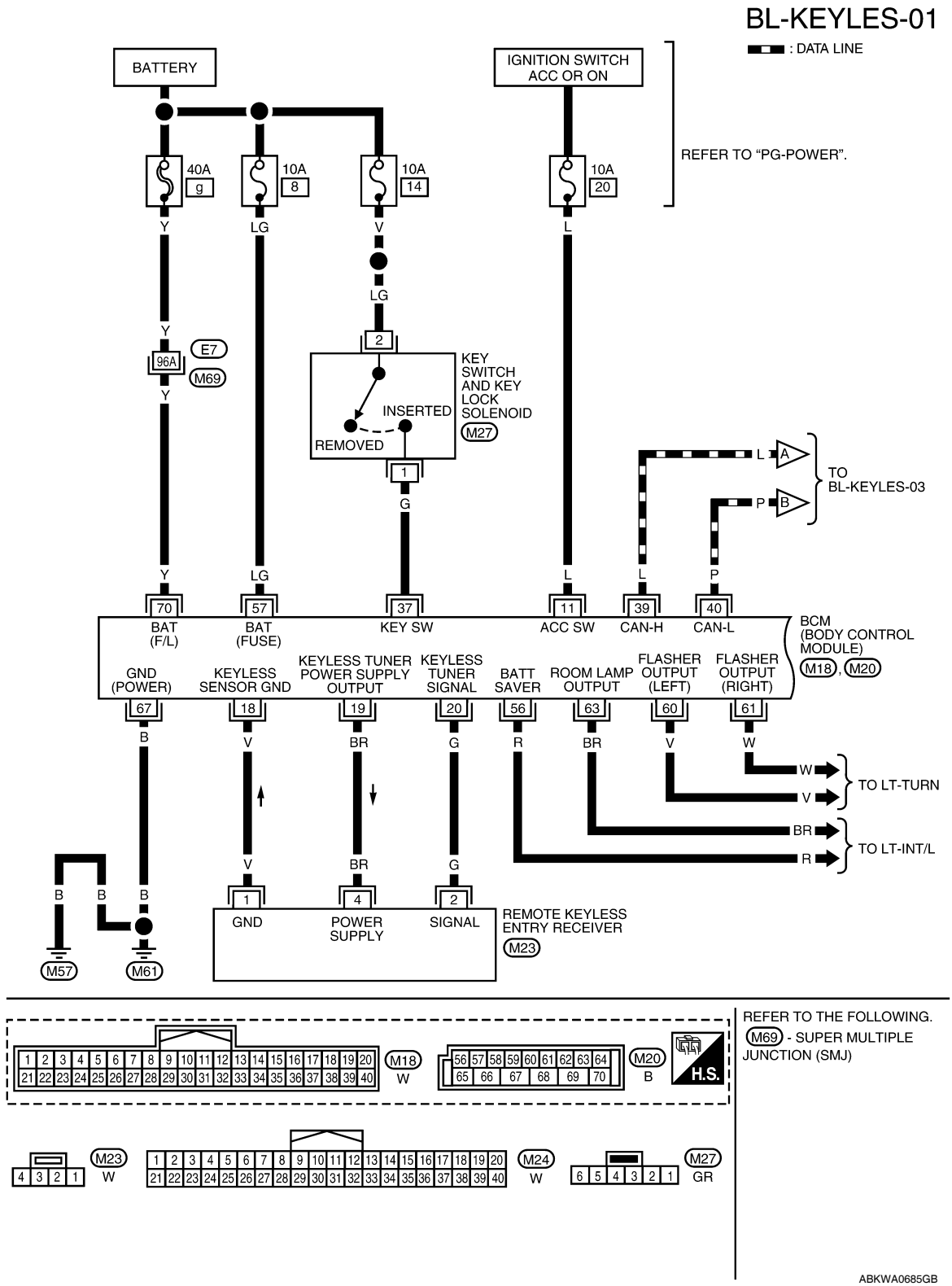
Schematic

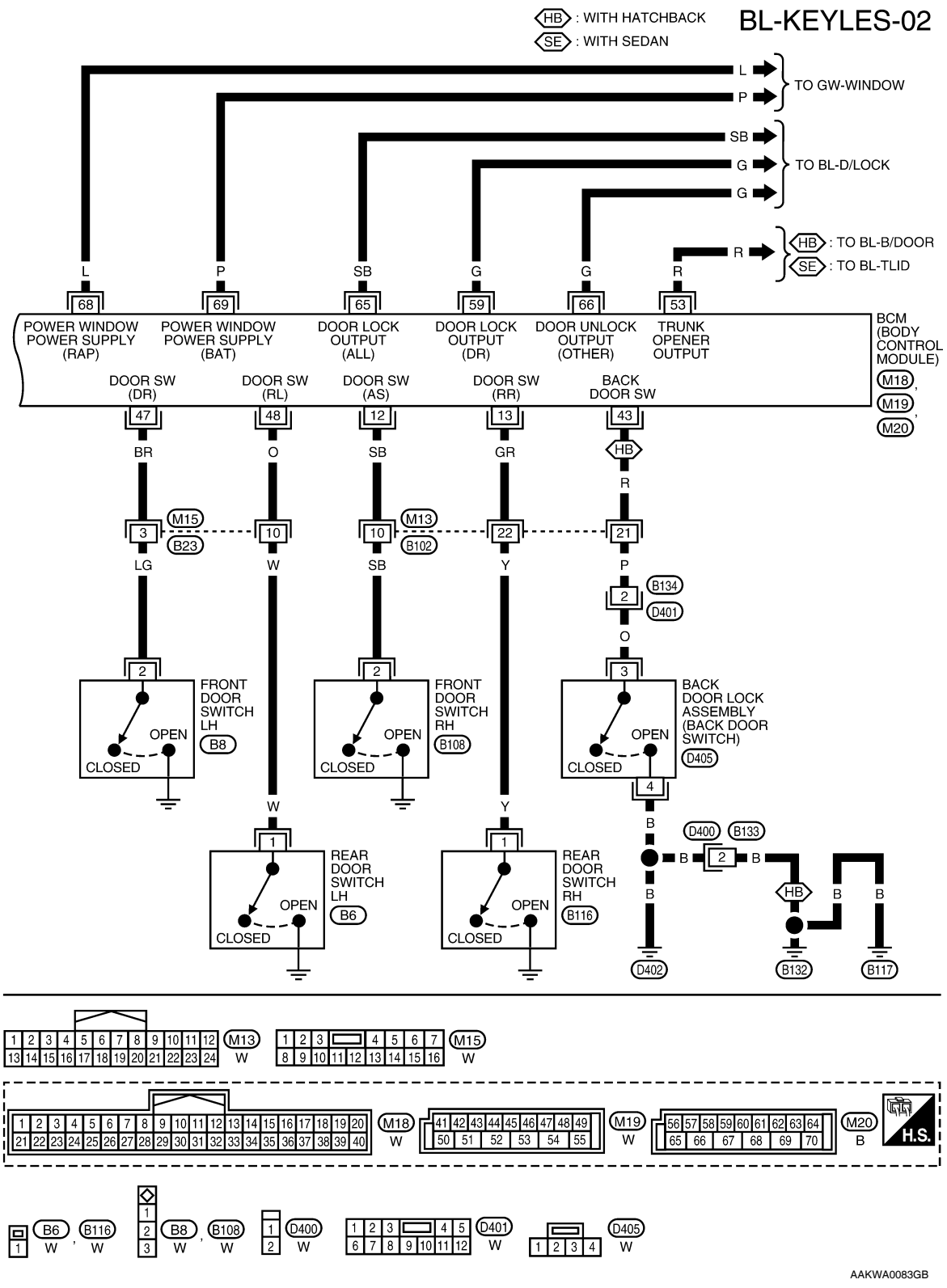
INFOID:0000000005396576



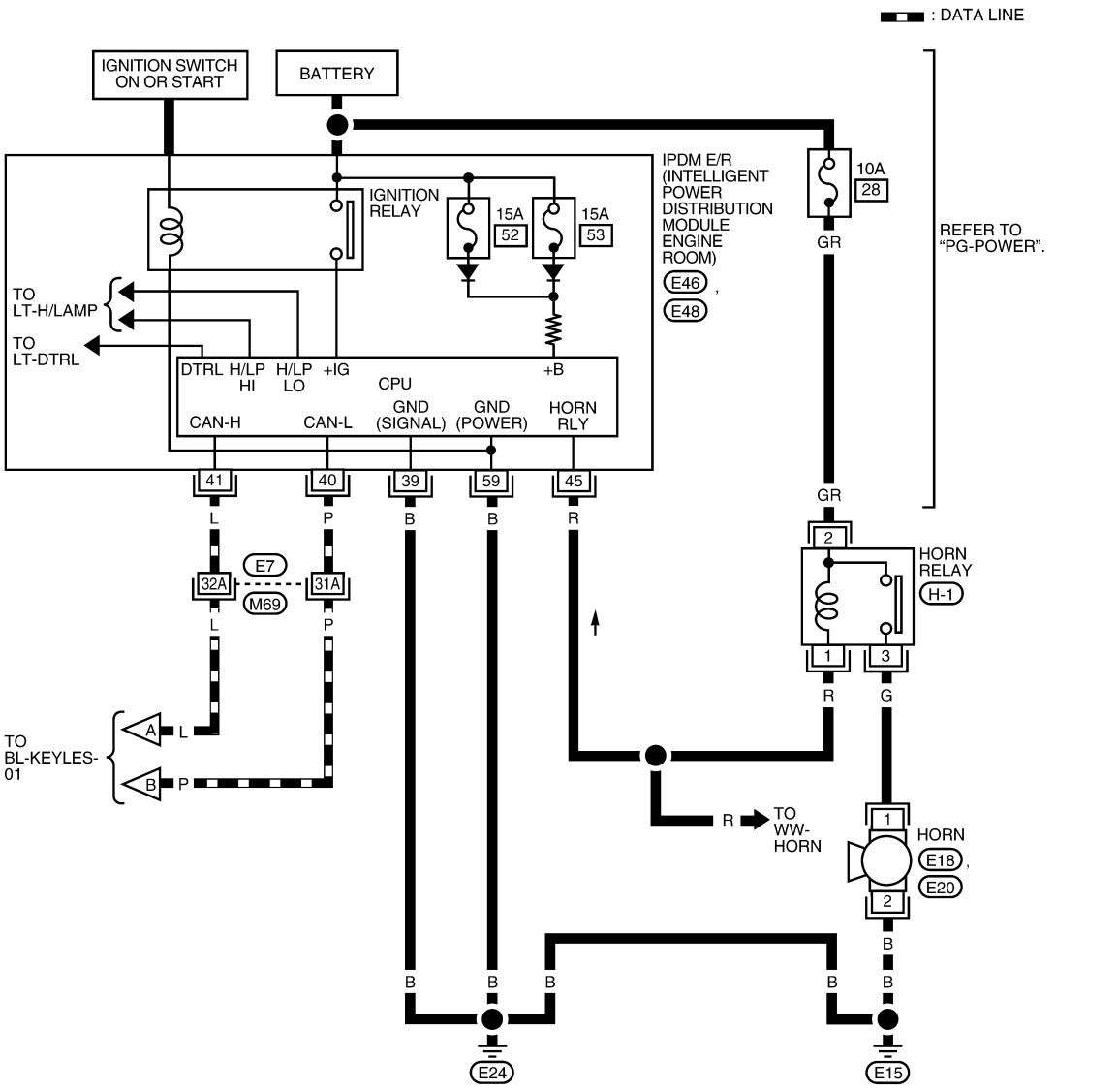
Wiring Diagram - KEYLES -

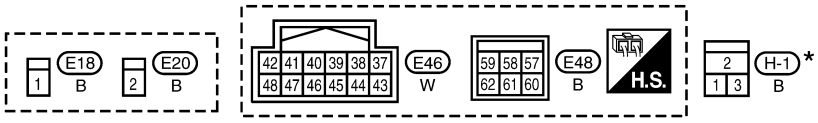
INFOID:0000000005396577




HB : WITH HATCHBACK
SE : WITH SEDAN
BL-KEYLES-02
L
P
TO GW-WINDOW
SB
G
TO BL-D/LOCK
G
R
HB : TO BL-B/DOOR
SE : 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
HB
R
M15
B23
M13
B102
3
10
10
22
21
LG
W
SB
Y
P
B134
D401
2
O
FRONT DOOR SWITCH LH
B8
FRONT DOOR SWITCH RH
B108
BACK DOOR LOCK ASSEMBLY (BACK DOOR SWITCH)
D405
OPEN
CLOSED
W
Y
B
REAR DOOR SWITCH LH
B6
REAR DOOR SWITCH RH
B116
D400
B133
D402
B132
B117
M13
M15
M18
M19
M20
H.S.
B6
B116
B8
B108
D400
D401
D405
AAKWA0083GB

BL-KEYLES-03





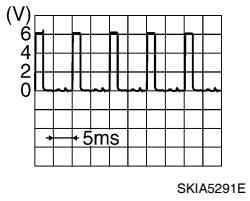
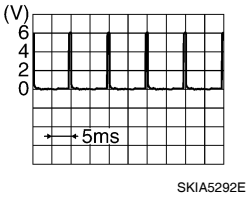
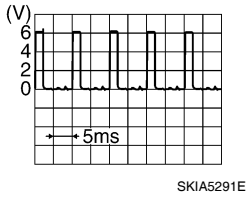
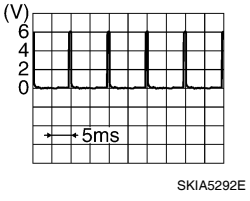
REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)

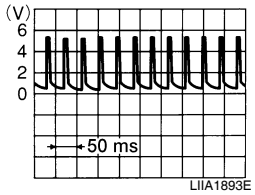
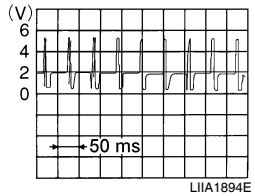
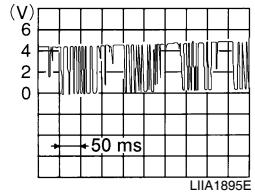
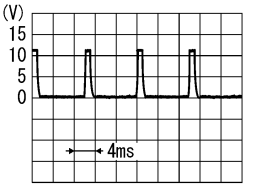
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

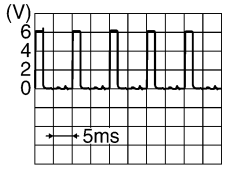
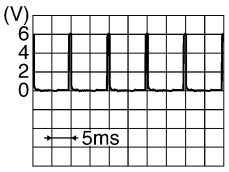
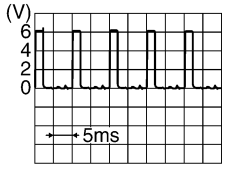
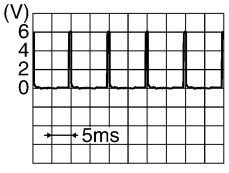
AAKWA0084GB

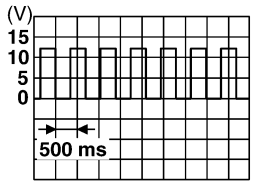
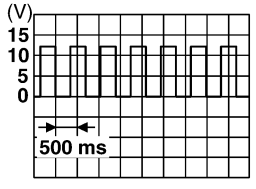
Terminal and Reference Value for BCM

INFOID:0000000005612415

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
2	BR	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	GR	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	L	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	G	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	V	Combination switch input 1				
7[7]	BR	Front door key cylinder switch LH (unlock)	Input	OFF	ON (open, 2nd turn)	Momentary 1.5V
					OFF (closed)	0V
8[7]	Y	Front door key cylinder switch LH (lock)	Input		On (open)	Momentary 1.5V
					OFF (closed)	0V
9	W	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
10	R	Defrost A/C switch signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
11	L	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	SB	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
15	W	Tire pressure warning check connector	Input	OFF	—	5V
18	V	Remote keyless entry receiver (ground)	Output	OFF	—	0V
19	BR	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	 LIIA1893E
20	G	Remote keyless entry receiver signal (signal)	Input	OFF	Stand-by (keyfob buttons released)	 LIIA1894E
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	 LIIA1895E
21	P	NATS antenna amp.	Input/ Output	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
23	R	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	LG	NATS antenna amp.	Input/ Output	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
26	GR	Thermo control amp.	Input	ON	A/C switch ON	 ZJIA0719J
27	O	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
28	P	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	L	Hazard switch	Input	OFF	ON	0V
					OFF	5V

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
30[1]	LG	Back door/trunk output	Output	—	Back door open (switch closed)	0V
					Back door closed (switch open)	5V
30[3]	LG	Back door opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
30[4]	V	Trunk lid opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
32	LG	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	V	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
35	R	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	P	Combination switch output 1				
37[1]	G	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage
					Intelligent Key removed	0V
37[2]	G	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key removed	0V
38	W	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
41[6]	W	Trunk key cylinder switch	Input	—	ON (Full unlock position)	0V
					OFF (Neutral position)	5V
42[6]	Y	Trunk lamp switch	Input	OFF	ON (trunk open)	0V
					OFF (trunk closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
43[5]	R	Back door switch	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
44[5]	LG	Rear wiper auto stop	Input	ON	Rear wiper operating	0
					Rear wiper stopped	Battery
45[7]	GR	Lock switch	Input	OFF	ON (lock)	0V
					OFF	Battery voltage
46[7]	L	Unlock switch	Input	OFF	ON (unlock)	0V
					OFF	Battery voltage
47	BR	Front door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
48	O	Rear door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
49	P	Luggage room lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage
50	SB	A/C indicator	Output	ON	A/C OFF	0
					A/C ON	Battery voltage
53[5]	R	Back door lock assembly (actuator)	Output	OFF	Back door (open)	Battery voltage
53[6]	R	Trunk lamp switch and trunk release solenoid	Output	OFF	Trunk lid (open)	Battery voltage
55[5]	V	Rear wiper motor output	Output	ON	OFF	0
					ON	Battery voltage
56	R	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	LG	Battery power supply	Input	OFF	—	Battery voltage
59[7]	G	Front door lock actuator LH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	V	Turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
61	W	Turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
63	BR	Interior room lamp	Output	OFF	Any door switch: ON (open)	0V
					Any door switch: OFF (closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
65[7]	SB	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66[7]	G	Front door lock actuator RH, rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
67	B	Ground	Input	ON	—	0V
68[8]	L	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
69[8]	P	Battery power supply	Output	OFF	—	Battery voltage
70	Y	Battery power supply	Input	OFF	—	Battery voltage

1: With Intelligent Key
2: Without Intelligent Key
3: Hatchback without Intelligent Key
4: Sedan without Intelligent Key
5: Hatchback
6: Sedan
7: With power door locks
8: With power windows

How to Perform Trouble Diagnosis

INFOID:0000000005396579

1. Confirm the symptom or customer complaint.
2. Understand operation, description and function description. Refer to BL-58, "System Description" .
3. Perform the Preliminary Check. Refer to LT-13, "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

INFOID:0000000005396580

CHECK BCM CONFIGURATION

1.CHECK BCM CONFIGURATION

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

OK or NG

OK >> Refer to BL-71, "Work Flow" .
NG >> Change BCM configuration for "KEYLESS ENTRY" to "WITH". Refer to BCS-19, "Configuration" .

CONSULT-III Function (BCM)

INFOID:0000000005396581

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

Diagnostic mode	Description
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 DIAGNOSTIC RESULT	Displays BCM self-diagnosis results.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ECU IDENTIFICATION	BCM part number can be read.
CONFIGURATION	Performs BCM configuration read/write functions.

CONSULT-III 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-III 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-III screen is touched.
AUTO LOCK SET	Auto locking function mode can be changed in this mode. The function mode will be changed when “CURRENT SETTING” on CONSULT-III 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-III 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.
KEYLESS UNLOCK	Indicates [ON/OFF] condition of unlock signal from keyfob.
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.

Monitored Item	Description
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 (hatchback).
TRNK/HAT MNTR	Indicates [ON/OFF] condition of trunk room lamp switch (sedan).
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-III screen is touched.
FLASHER	This test is able to check right hazard reminder operation. The right hazard lamp turns on when “ON” on CONSULT-III 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-III screen is touched. • The all door lock actuator are unlocked when “ALL UNLOCK” on CONSULT-III screen is touched.

Work Flow

INFOID:0000000005396582

1. Check the symptom and customer's requests.
2. Understand outline of system. Refer to BL-58, "System Description" .
3. Confirm that power door lock system operates normally.
   Refer to BL-22 .
4. Repair or replace any malfunctioning parts.
   Refer to BL-71, "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

INFOID:0000000005396583

NOTE:
- Always check the “Work Flow” before troubleshooting. Refer to BL-71, "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-78
	2. Check keyfob battery and function. **NOTE:** If the result of keyfob function check with CONSULT-III is OK, keyfob is not malfunctioning.	BL-72
	3. Check remote keyless entry receiver.	BL-80
	4. Refer to ID Code Entry Procedure.	BL-82
	5. Replace BCM.	BCS-19

Symptom	Diagnoses/service procedure	Reference page
The new ID of keyfob cannot be entered.	1. Check keyfob battery and function. **NOTE:** If the result of keyfob function check with CONSULT-III is OK, keyfob is not malfunctioning.	BL-72
	2. Check key switch.	BL-78
	3. Check door switch (hatchback).	BL-74
	4. Check door switch (sedan).	BL-76
	5. Check ACC switch.	BL-74
	6. Replace keyfob. Refer to ID Code Entry Procedure.	BL-82
	7. Replace BCM.	BCS-19
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-III is OK, keyfob is not malfunctioning.	BL-82
	2. Replace keyfob. Refer to ID Code Entry Procedure.	BL-82
	3. Check door switch (hatchback).	BL-74
	4. Check door switch (sedan).	BL-76
	5. Replace BCM.	BCS-19
Door unlock does not function with keyfob (Power door lock system is “OK”)	1. Check keyfob function. (Unlock)	BL-82
	2. Replace keyfob. Refer to ID Code Entry Procedure. **NOTE:** If the result of keyfob function check with CONSULT-III is OK, keyfob is not malfunctioning.	BL-82
	3. Replace BCM.	BCS-19
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-69
	2. Check hazard function.	BL-78
	3. Replace BCM.	BCS-19
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-69
	2. Check keyfob battery and function. **NOTE:** If the result of keyfob function check with CONSULT-III is OK, keyfob is not malfunctioning.	BL-72
	3. Check horn function.	BL-79
	4. Check key switch.	BL-78
	5. Replace keyfob. Refer to ID Code Entry Procedure.	BL-82
	6. Replace BCM.	BCS-19
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-69
	2. Replace BCM.	BCS-19
Interior lamp operation does not activate properly.	1. Check interior lamp operation.	BL-79
	2. Replace BCM.	BCS-19

Keyfob Battery and Function Check

INFOID:0000000005396584

1.CHECK KEYFOB FUNCTION

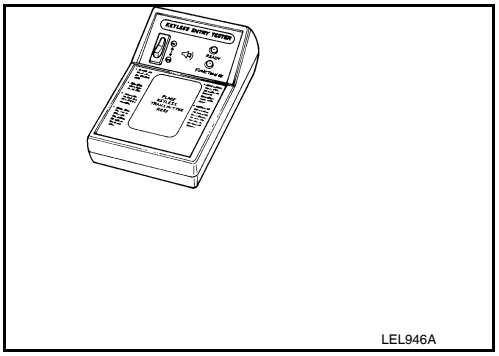
With CONSULT-III

Check keyfob function in “DATA MONITOR” mode with CONSULT-III. 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-III

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

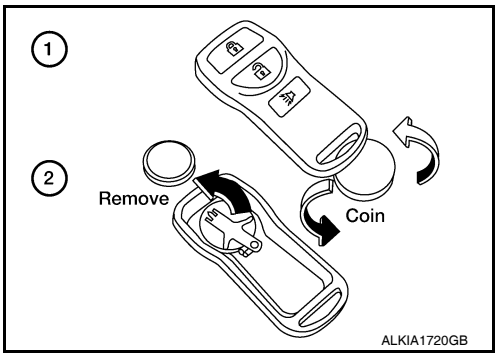


OK or NG

OK >> Keyfob is OK.
NG >> GO TO 2

2. CHECK KEY FOB COMPONENTS

1. Open the lid using a coin.
   CAUTION:
   - **Do not touch the circuit board or battery terminal.**
   - **The keyfob is water-resistant. However, if it does get wet, immediately wipe it dry.**
2. Remove the key fob battery.
   CAUTION:
   - **Keep dirt, grease, and other foreign materials off the electrode contact area.**
3. Visually inspect keyfob internal components.



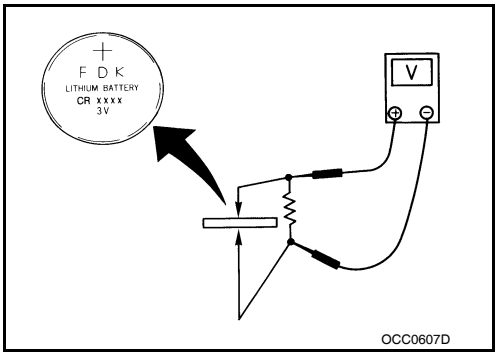
Is the inspection result normal?

YES >> GO TO 3
NO >> Repair or replace malfunctioning parts.

3. CHECK KEY FOB BATTERY

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

Standard : Approx. 2.5 - 3.0V



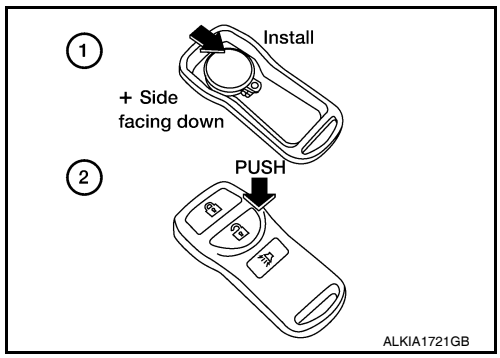
Is the measurement value within specification?

YES >> Key fob battery is OK. Check remote keyless entry receiver. Refer to BL-80, "Remote Keyless Entry Receiver Check".
NO >> GO TO 4

4. REPLACE KEY FOB BATTERY

1. Replace the key fob battery, positive side down.

2. Align the tips of the upper and lower parts, and then push them together until it is securely closed.
   CAUTION:
   - **When replacing battery, keep dirt, grease, and other foreign materials off the electrode contact area.**
3. After replacing the battery, check that all key fob functions work properly.



Is the inspection result normal?

YES >> Key fob is OK.
NO >> Check remote keyless entry receiver. Refer to BL-80, "Remote Keyless Entry Receiver Check".

ACC Switch Check

INFOID:0000000005396585

1.CHECK ACC SWITCH

With CONSULT-III

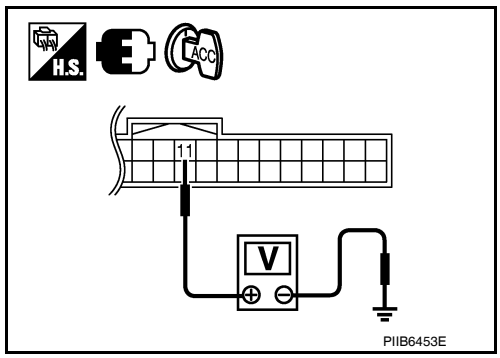
Check ACC switch (“ACC ON SW”) in “DATA MONITOR” mode with CONSULT-III.

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

Without CONSULT-III

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 (Hatchback)

INFOID:0000000005396586

1.CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-III

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in DATA MONITOR mode with CONSULT–III. Refer to BL-41, "CONSULT-III Function (BCM)" .

- When doors are open:

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

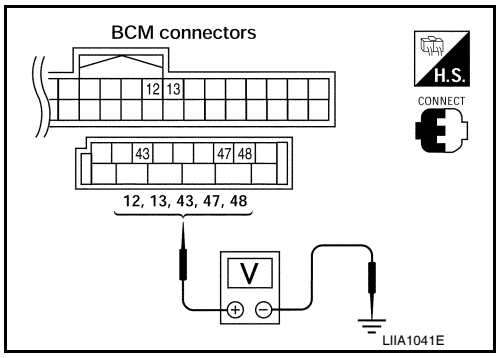
• When doors are closed:

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

Without CONSULT-III

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

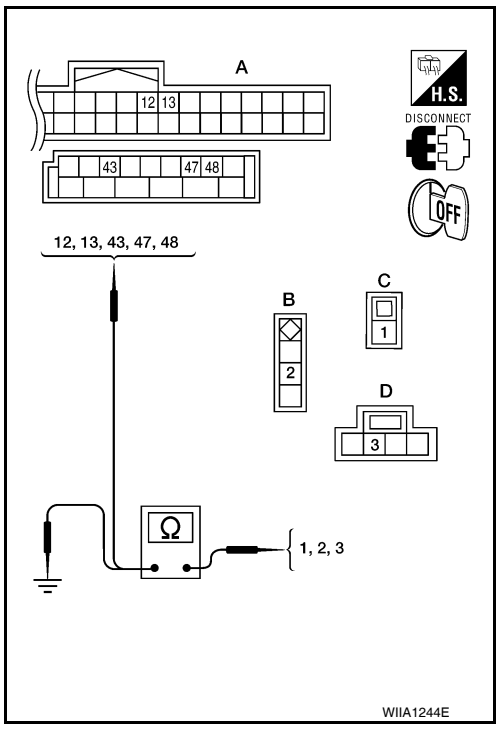
2. CHECK DOOR SWITCH CIRCUIT

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.



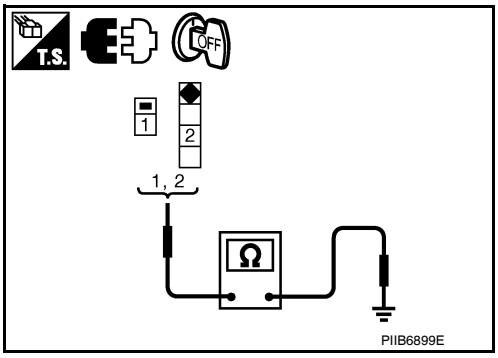
OK or NG

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

3.CHECK DOOR SWITCHES

FRONT AND REAR DOORS

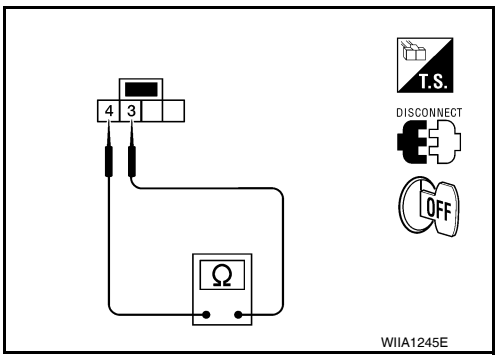
Check continuity between front door switch terminal 2 or rear door switch terminal 1 and exposed metal of switch while pressing and releasing switch.



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.



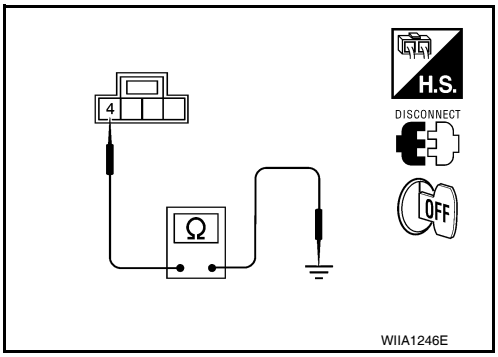
When back door is open : Continuity should exist.
When back door is closed : Continuity should not exist.

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.

Door Switch Check (Sedan)

INFOID:0000000005396587

1.CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-III

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR") in DATA MONITOR mode with CONSULT–III. Refer to BL-69, "CONSULT-III Function (BCM)".

- When doors are open:

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

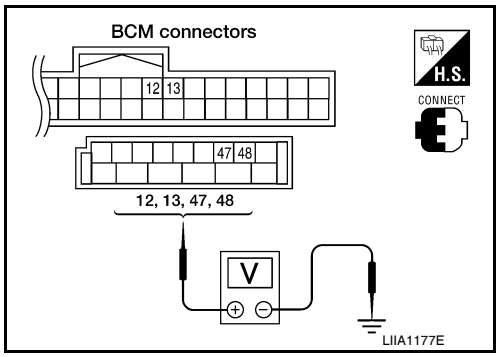
- When doors are closed:

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

DOOR SW-RL : OFF
DOOR SW-RR : OFF

Without CONSULT-III
Check voltage between BCM connector M18 or M19 terminals 12, 13, 47, 48 and ground.

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

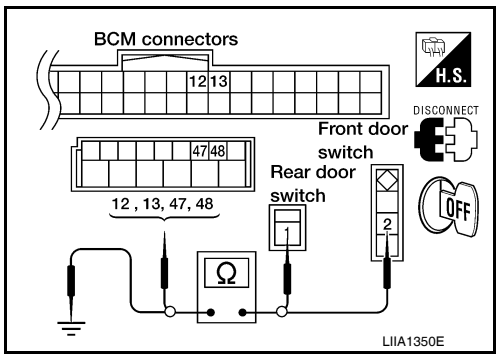


OK or NG
OK >> Door switch circuit is OK.
NG >> GO TO 2

2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH) or B108 (Front RH) terminal 2, B6 (Rear LH) or B116 (Rear RH) terminal 1 and BCM connector M18, M19 terminals 12, 13, 47 and 48.

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



4. Check continuity between door switch connector B8 (Front LH) or B108 (Front RH) terminal 2, B6 (Rear LH) or B116 (Rear RH) terminal 1 and ground.

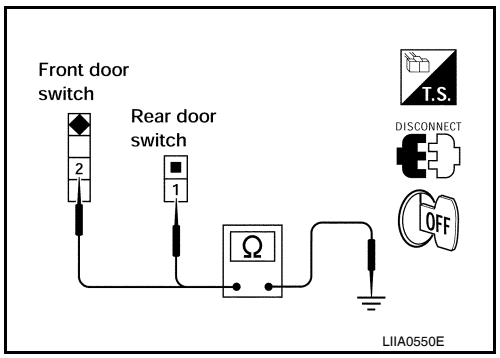
2 - Ground : Continuity should not exist.
1 - Ground : Continuity should not exist.

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

3. CHECK DOOR SWITCHES

Check continuity between door switch terminal and switch case ground.

Component	Terminals	Condition of switch	Continuity
Front door switch LH/RH	2 – Case ground	Pushed	No
		Released	Yes
Rear door switch LH/RH	1 – Case ground	Pushed	No
		Released	Yes



OK or NG
OK >> Check door switch case ground condition.
NG >> Replace door switch.

Key Switch (Insert) Check

INFOID:0000000005396588

1.CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-III

Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT–III. Refer to BL-41, "CONSULT-III Function (BCM)" .

- When key is inserted into ignition key cylinder:

KEY ON SW : ON

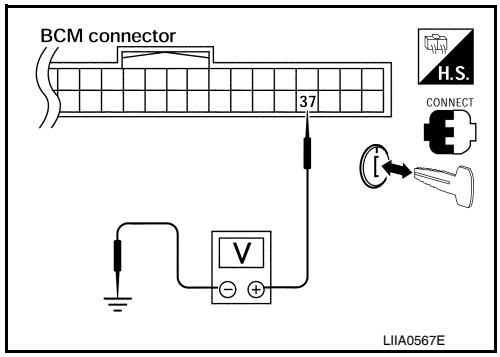
- When key is removed from ignition key cylinder:

KEY ON SW : OFF

Without CONSULT-III

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



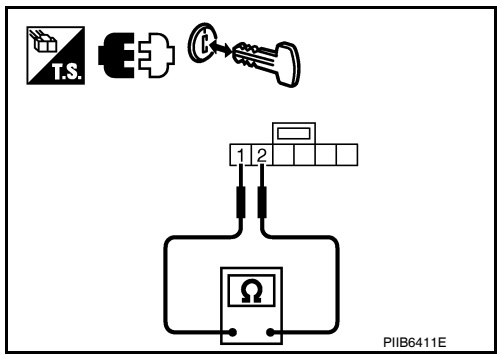
OK or NG

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

INFOID:0000000005396589

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 .

Horn Function Check

INFOID:0000000005396590

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

1.CHECK HORN FUNCTION

Does horn sound with horn switch?

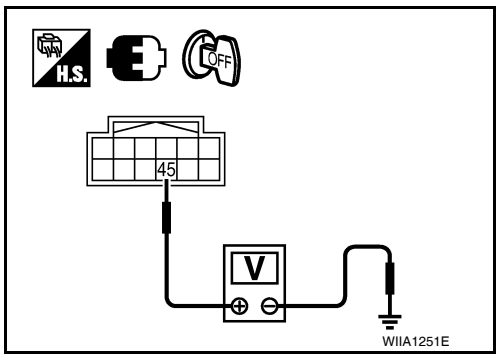
OK or NG

OK >> GO TO 2
NG >> Check horn circuit. Refer to WW-39 .

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



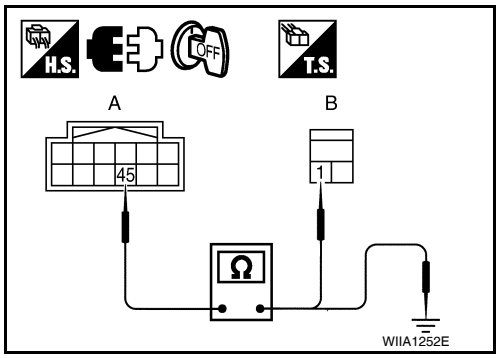
OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "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

INFOID:0000000005396591

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?

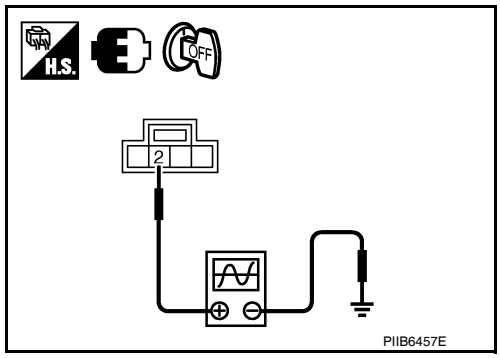
YES >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .
NO >> Check interior lamp circuit. Refer to LT-94 .

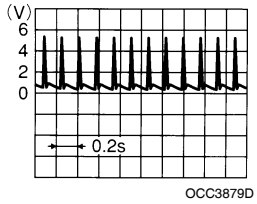
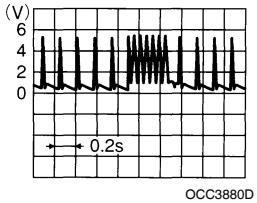
Remote Keyless Entry Receiver Check

INFOID:0000000005396592

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.



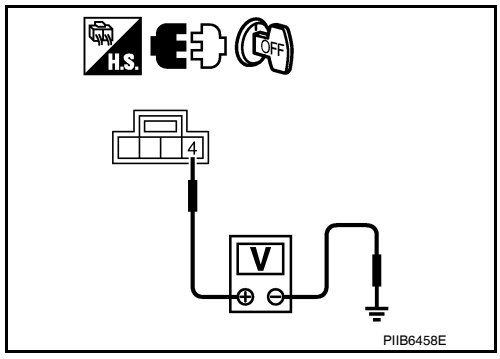
Terminals			Keyfob condition	Signal (Reference value)
(+)		(–)		
Remote keyless entry receiver connector	Terminal			
M23	2	Ground	No function	 OCC3879D
			Any button is pressed	 OCC3880D

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

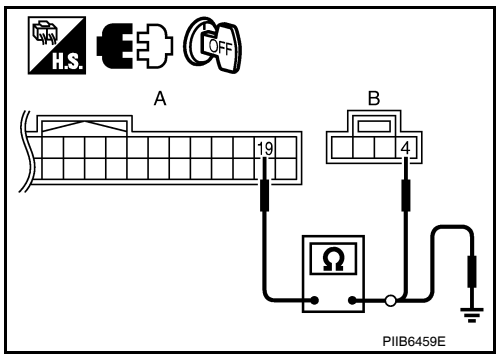
OK or NG

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

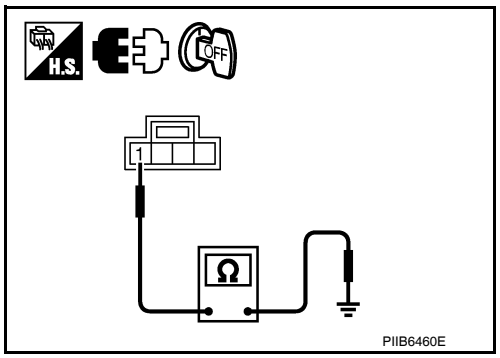
OK or NG

OK >> Replace BCM. Refer to BCS-19, "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



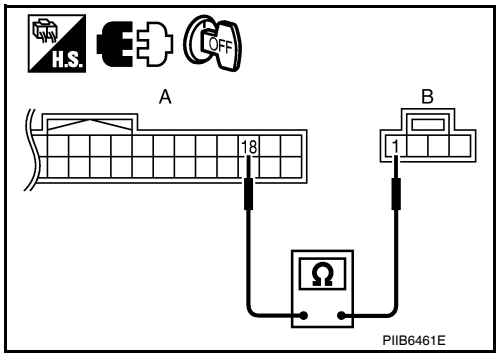
OK or NG

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



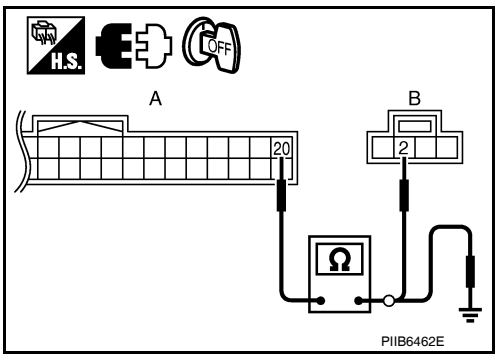
OK or NG

OK >> Replace BCM. Refer to BCS-19, "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-85, "Removal and Installation of Remote Keyless Entry Receiver" .

NG >> Repair or replace harness.

Keyfob Function (Lock) Check

INFOID:0000000005396593

1.CHECK KEYFOB FUNCTION

With CONSULT-III

Check keyfob function in “DATA MONITOR” mode with CONSULT-III. 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

INFOID:0000000005396594

1.CHECK KEYFOB FUNCTION

With CONSULT-III

Check keyfob function in “DATA MONITOR” mode with CONSULT-III. 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

INFOID:0000000005396595

KEYFOB ID SET UP WITH CONSULT-III

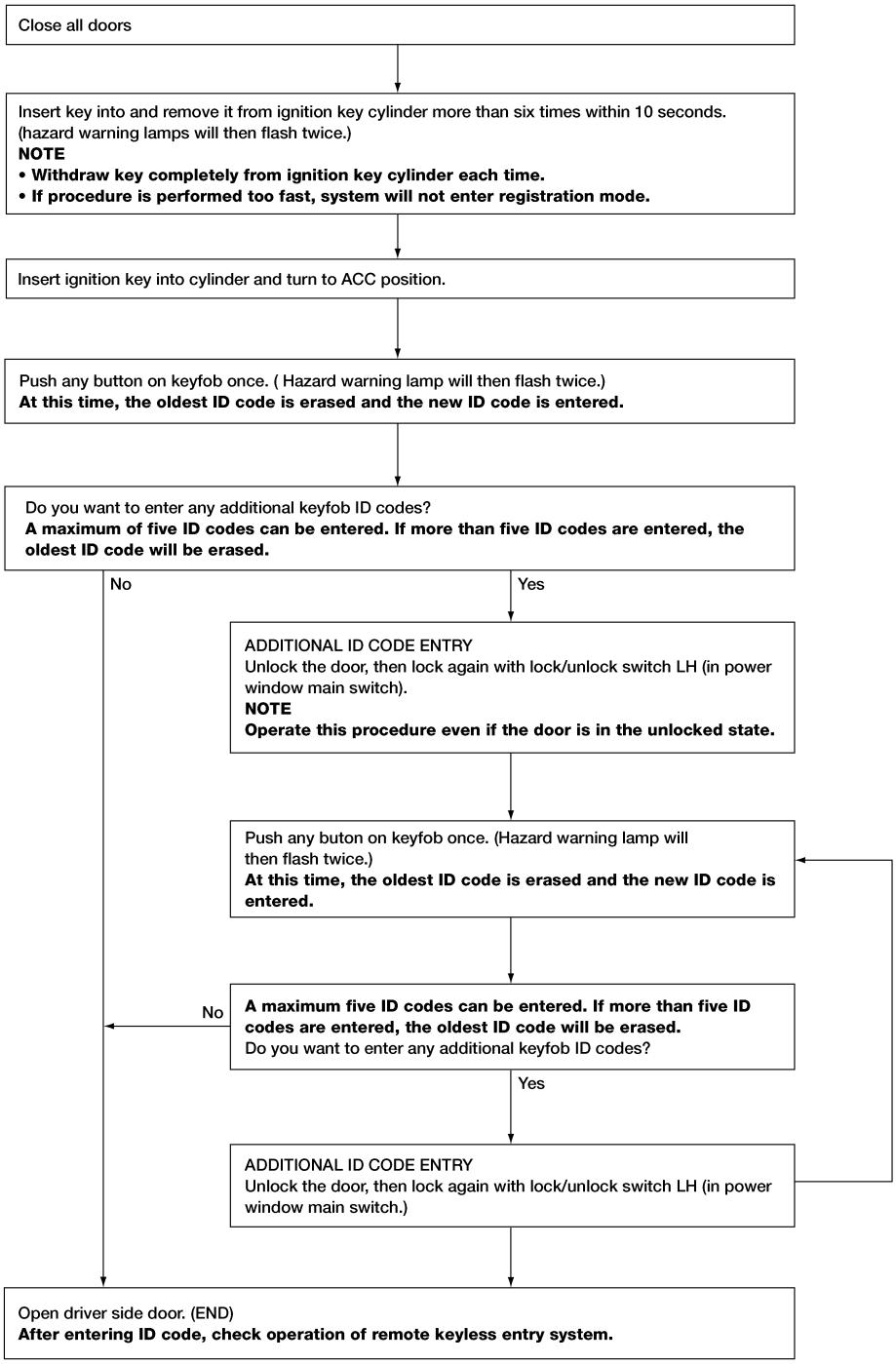
NOTE:

- **If a keyfob is lost, the ID code of the lost keyfob must be erased to prevent unauthorized use. A specific ID code can be erased with CONSULT-III. However, when the ID code of a lost keyfob is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new keyfobs must be re-registered.**

- **When registering an additional keyfob, the existing ID codes in memory may or may not be erased. If five ID codes are stored in memory, when an additional code is registered, only the oldest code is erased. If less than five 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. Touch “MULTI REMOTE ENT”.
2. Touch “WORK SUPPORT”.
3. 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-III



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NOTE:

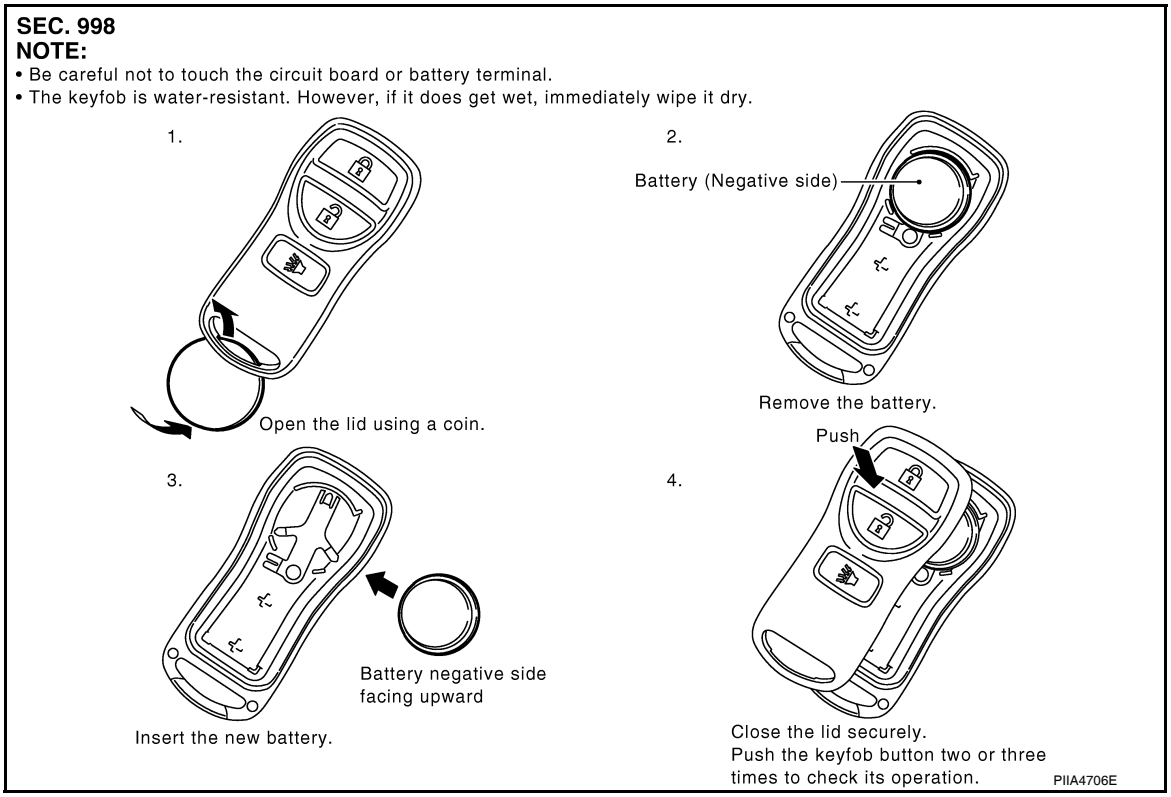
- If a keyfob is lost, the ID code of the lost keyfob must be erased to prevent unauthorized use. A specific ID code can be erased with CONSULT-III. However, when the ID code of a lost keyfob is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining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

INFOID:0000000005396596

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.

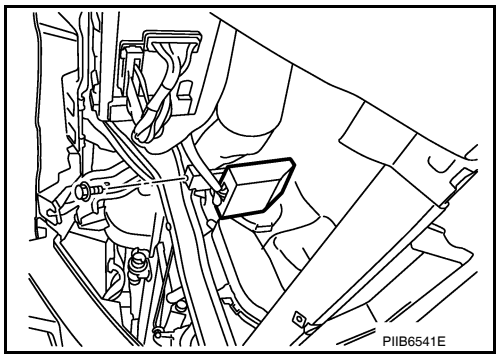


Removal and Installation of Remote Keyless Entry Receiver

INFOID:0000000005396597

REMOVAL

1. Remove glove box assembly. Refer to IP-12, "Removal and Installation" .
2. Disconnect remote keyless entry receiver connector, remove screw and remote keyless entry receiver.



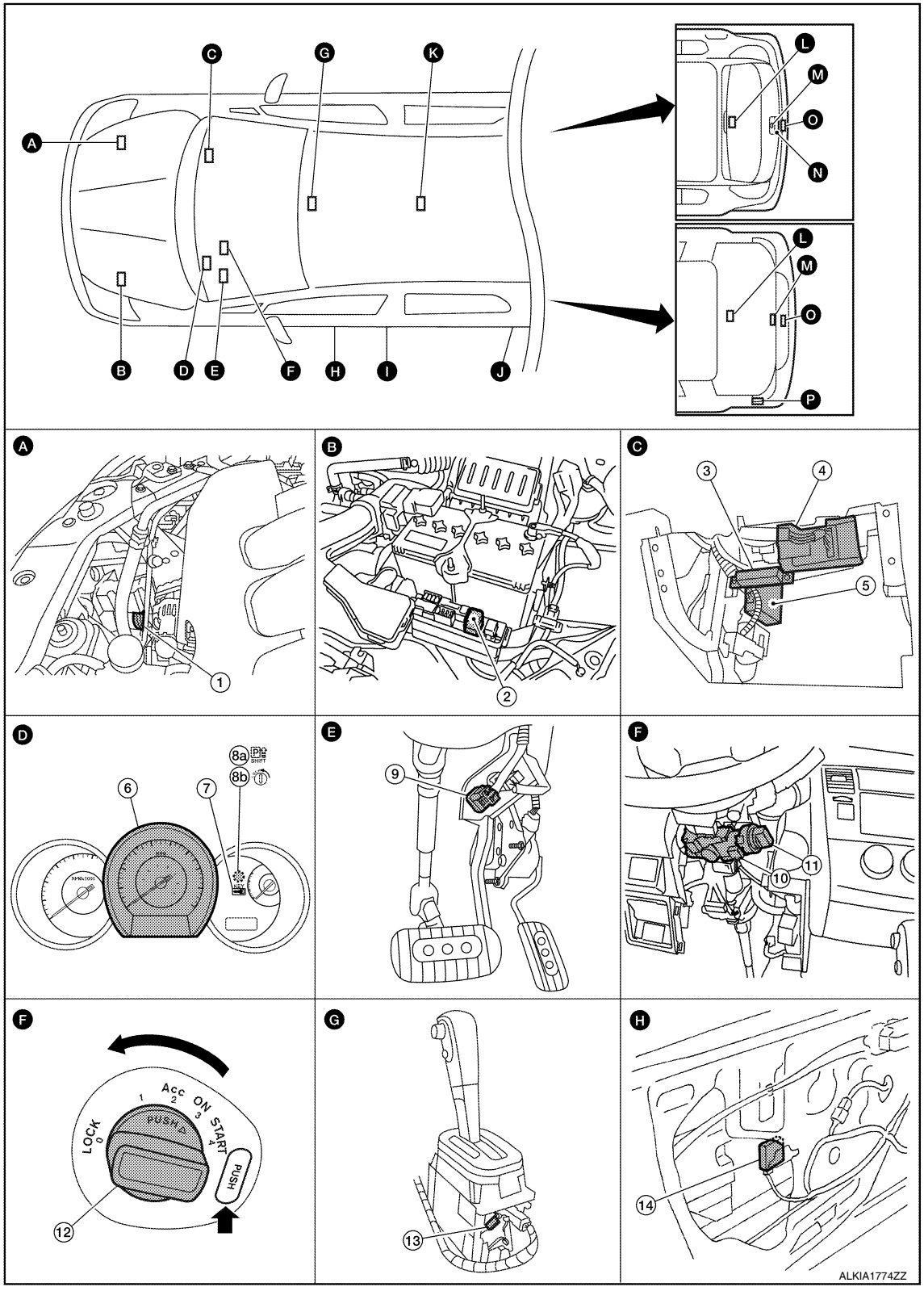
INSTALLATION

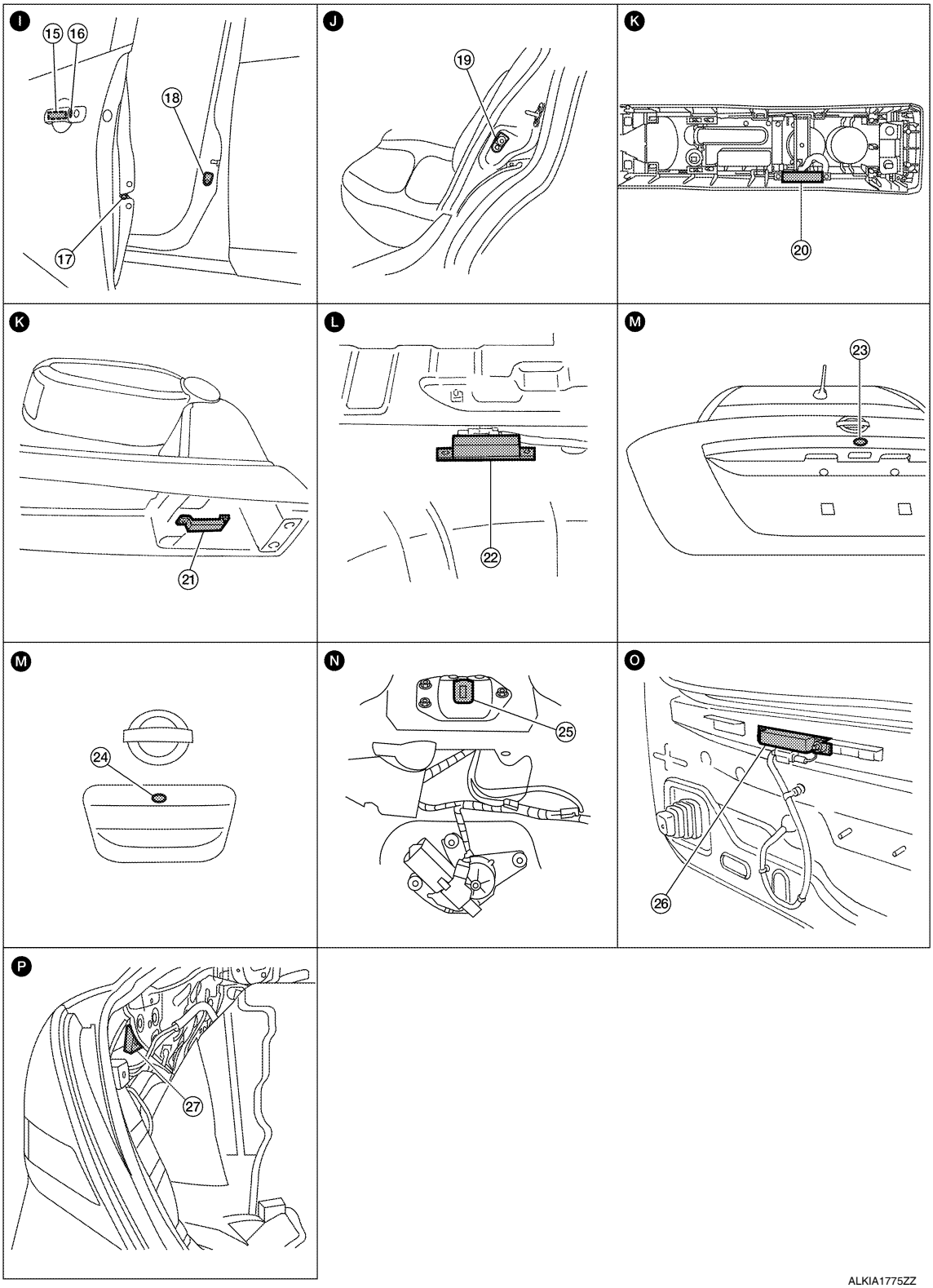
Installation is in the reverse order of removal.

INTELLIGENT KEY SYSTEM

Component Parts and Harness Connector Location

INFOID:0000000005396598





ALKIA1775ZZ

1. Horn E18, E20
2. Horn relay H-1
3. Instrument panel antenna M10 (view with glove box removed)
4. BCM M18, M19, M20
5. Intelligent Key unit M52
6. Combination meter M24
7. Intelligent key "KEY" warning indicator
8a. Intelligent key warning indicator (CVT or A/T)
8b. Intelligent key warning indicator (M/T)
9. Stop lamp switch E13

10. Steering lock solenoid M6 (bottom view of steering column)
11. Key switch and ignition knob switch M73 (with CVT or A/T)
12. Key switch and ignition knob switch M73 (with M/T)
13. CVT or A/T shift selector (park position switch) M38 (without M/T)
14. Intelligent key warning buzzer (front door LH) 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 B125 (view of front console without arm rest removed)
21. Front console antenna B125 (view of front console with arm rest removed)
22. Rear floor antenna B126 (behind rear seat)
23. Trunk opener request switch B129 (sedan)
24. Back door request switch D406 (hatchback)
25. Back door lock assembly (back door switch) D405 (hatchback view with back door open)
26. Rear bumper antenna B2 (view with rear fascia removed)
27. Intelligent Key warning buzzer (trunk) B32 (sedan)

System Description

INFOID:0000000005396599

- 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:

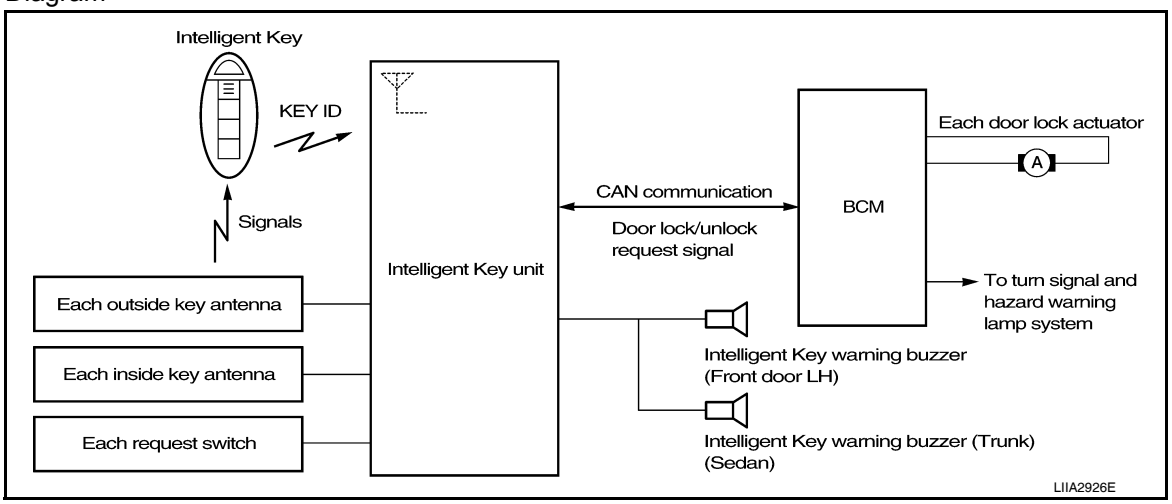
The driver should always carry the Intelligent Key

- 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-III.
- 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-III.

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 and trunk (sedan) 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 and trunk (sedan) 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 or trunk area).

Hazard and Buzzer Reminder

When all doors and trunk (sedan) 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(s) as a reminder.

Operating function of hazard and buzzer reminder

Request switch operation	Hazard warning lamp flash	Intelligent Key warning buzzer (front door LH) Intelligent Key warning buzzer (trunk)*
Unlock	Once	Once
Lock	Twice	Twice

* : Sedan only

Auto Door Lock Function

When all doors and trunk (sedan) 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 1 minute, all doors are locked.

- Door switch is ON (door is opened)
- Trunk lamp switch (sedan) is ON (trunk 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-117, "CONSULT-III Application Item".

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 (front door LH)	Intelligent Key warning buzzer (trunk)**	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		×	×	×	×		×					×	×	×	

* : Hatchback

** : Sedan

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

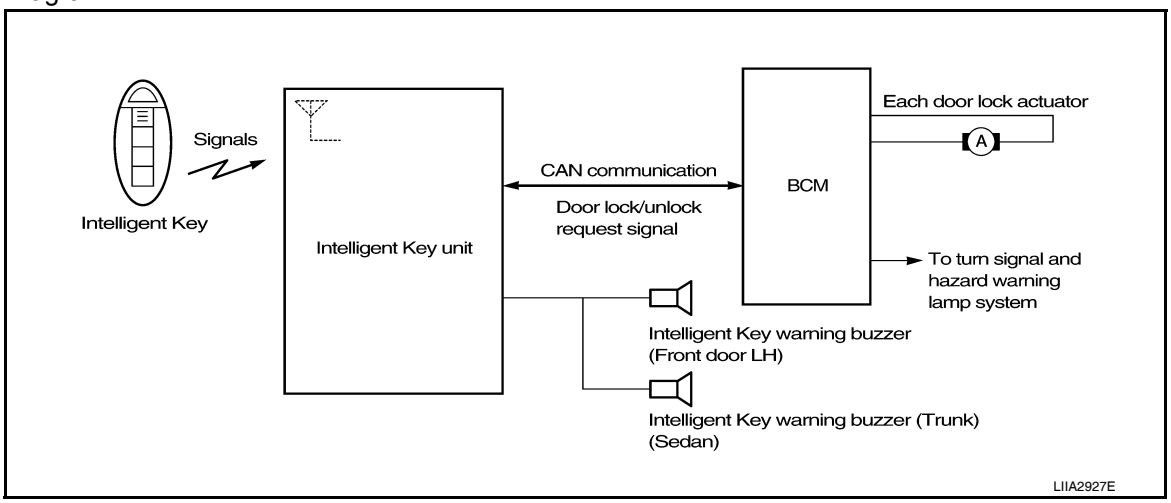
Parts marked with × are the parts related to operation

Key reminder functions	Intelligent Key	Door switch	Unlock sensor	Door lock actuator	Inside key antenna	Intelligent Key warning buzzer(s)	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(s) (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(s)	Horn
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 1 minute, all doors are locked.

- Door switch is ON (door is opened)
- Trunk lamp switch (sedan) is ON (trunk 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-117, "CONSULT-III Application Item".

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), pressing 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)

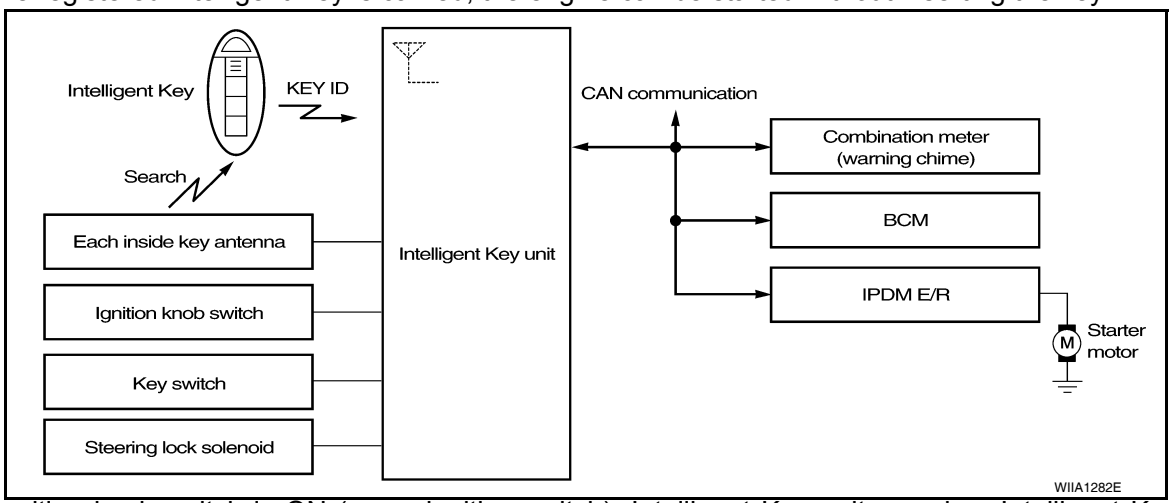
Panic alarm function's press and holding time value can be changed in “PANIC ALARM DELAY” mode in “WORK SUPPORT”. Refer to BL-117, "CONSULT-III Application Item".

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-248.
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 (front door LH), Intelligent Key warning buzzer (trunk)*, warning lamps "KEY" and “P-SHIFT” (with CVT or A/T) 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 or A/T)
- LOCK position warning (with M/T)

NOTE:
For key-in-ignition warning chime related concerns only, refer to DI-43.

* : Sedan

Operation Condition

Operation	Condition	Warning chime/buzzer		Warning lamp		
		Chime (combination meter)	Buzzer(s)	KEY	LOCK (M/T)	P-SHIFT (CVT or A/T)
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 or A/T)	When selector lever is in other than P position, ignition switch is turned from ON to OFF.	activate	—	—	—	Flash

Operation		Condition	Warning chime/buzzer		Warning lamp		
			Chime (combination meter)	Buzzer(s)	KEY	LOCK (M/T)	P-SHIFT (CVT or A/T)
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)	—	—
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(s)	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-III.

Changing Settings Using CONSULT-III

The settings for the Intelligent Key system functions can be changed using CONSULT-III (WORK SUPPORT). Refer to BL-117, "CONSULT-III Application Item".

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-III.

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-III can be used to check and delete Intelligent Key-IDs.

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

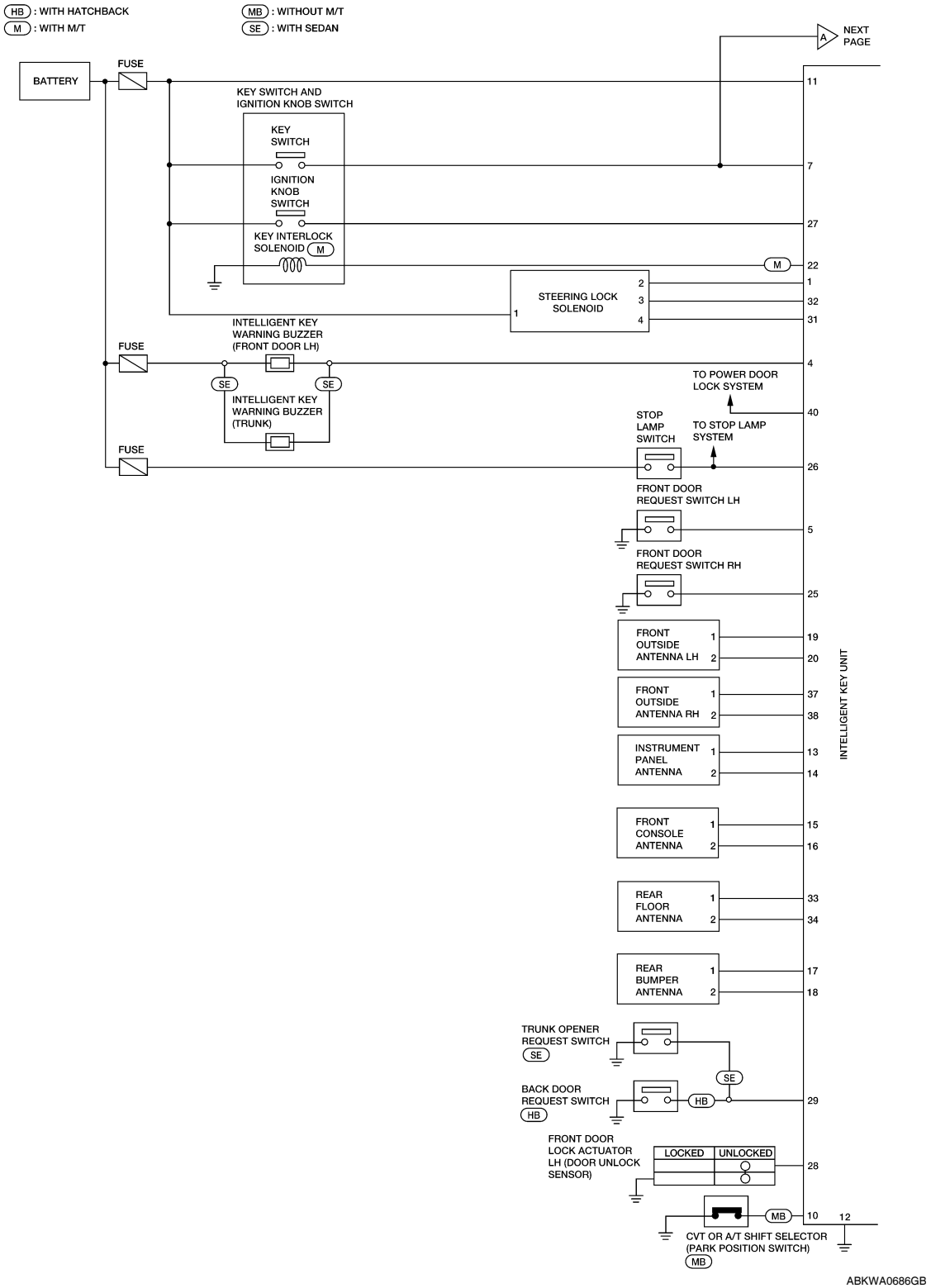
CAN Communication System Description

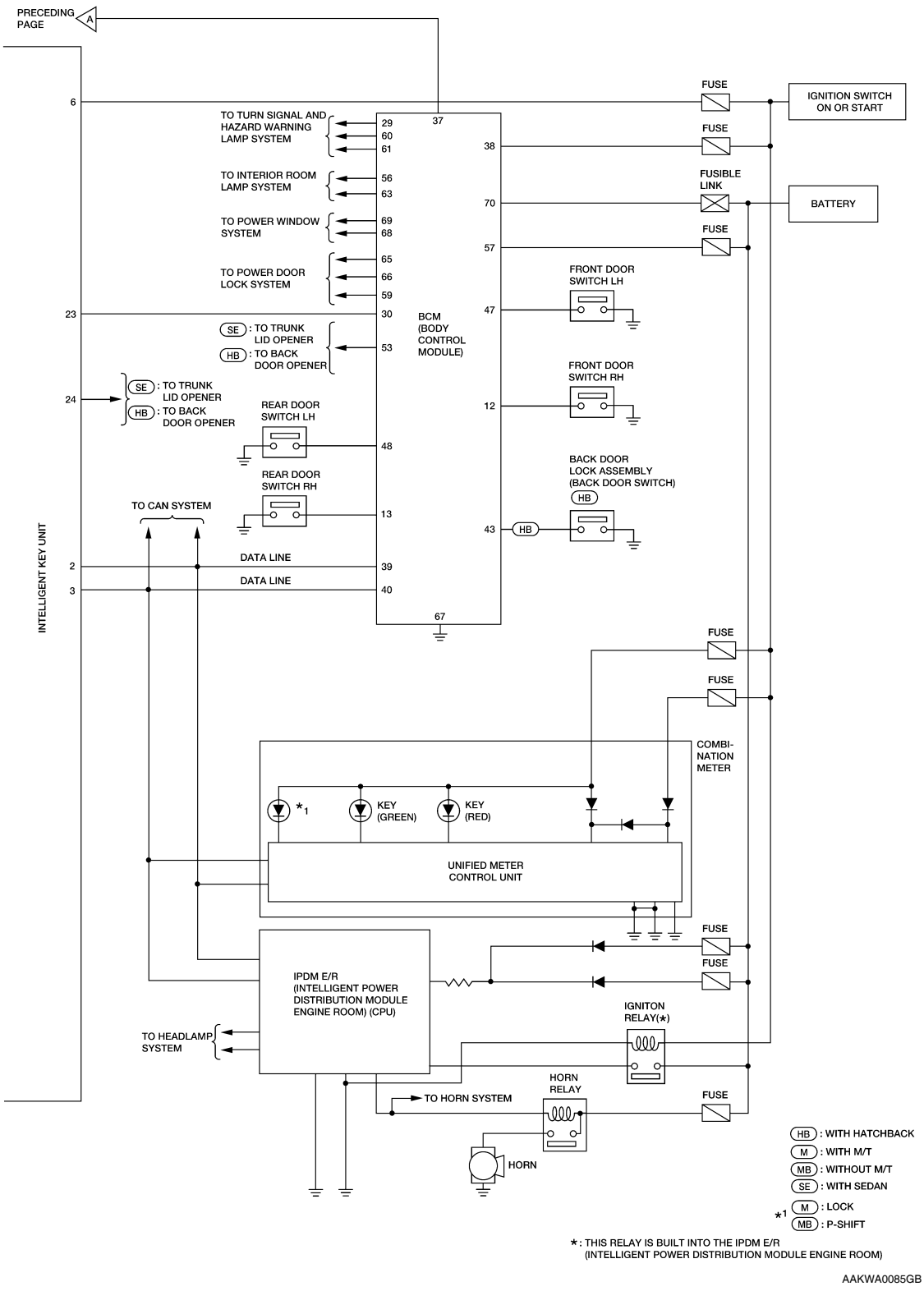
INFOID:0000000005396600

Refer to LAN-7.

Schematic

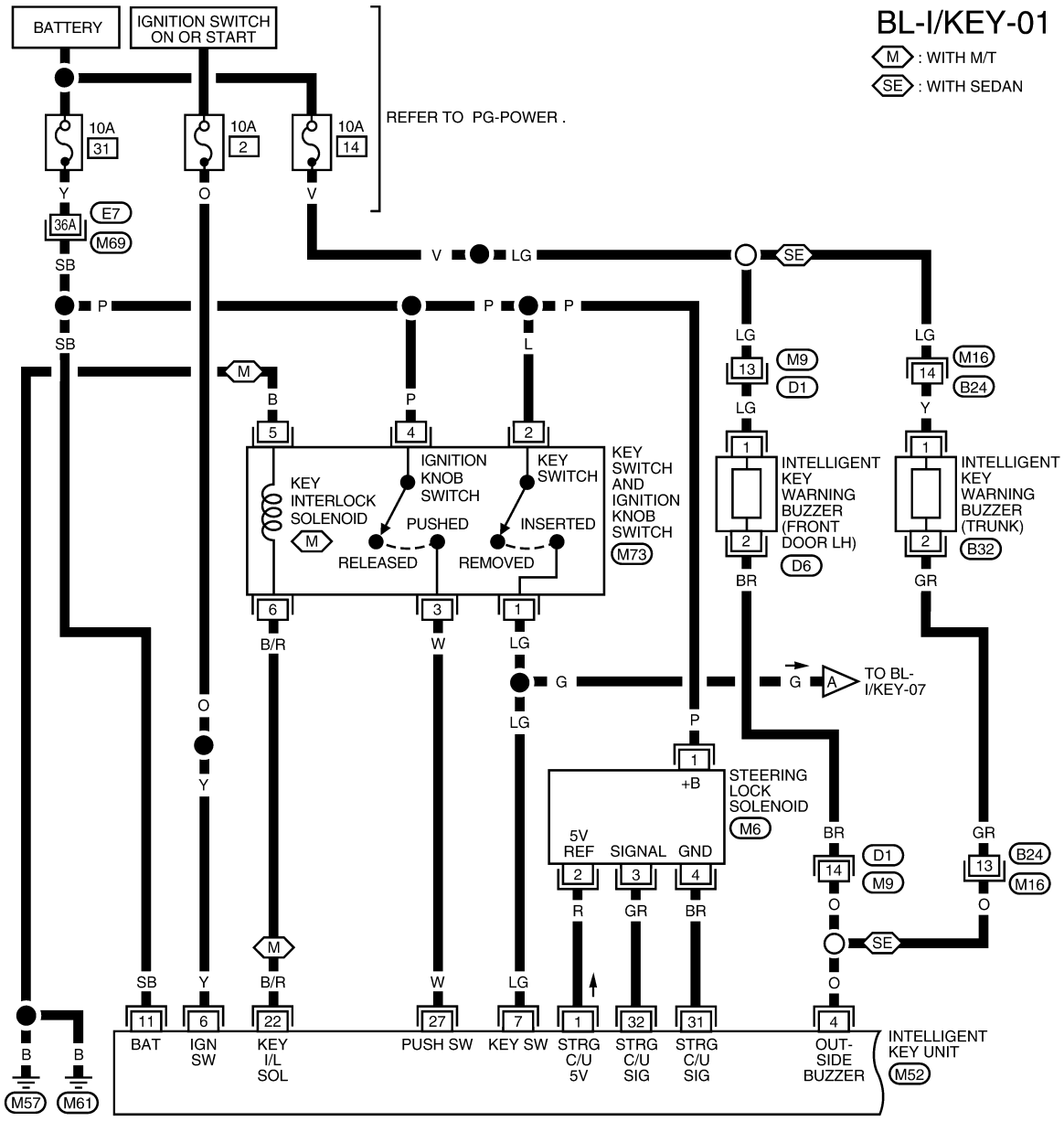
INFOID:0000000005396601

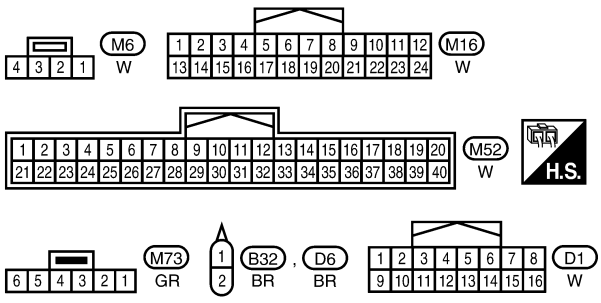



PRECEDING PAGE
A
INTELLIGENT KEY UNIT
6
23
24
2
3
TO TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM
29
60
61
TO INTERIOR ROOM LAMP SYSTEM
56
63
TO POWER WINDOW SYSTEM
69
68
TO POWER DOOR LOCK SYSTEM
65
66
59
30
53
SE : TO TRUNK LID OPENER
HB : TO BACK DOOR OPENER
SE : TO TRUNK LID OPENER
HB : TO BACK DOOR OPENER
REAR DOOR SWITCH LH
48
REAR DOOR SWITCH RH
13
TO CAN SYSTEM
DATA LINE
39
DATA LINE
40
37
67
BCM (BODY CONTROL MODULE)
FUSE
IGNITION SWITCH ON OR START
38
FUSE
FUSIBLE LINK
70
BATTERY
57
FUSE
FRONT DOOR SWITCH LH
47
FRONT DOOR SWITCH RH
12
BACK DOOR LOCK ASSEMBLY (BACK DOOR SWITCH)
HB
43
HB
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
HB : WITH HATCHBACK
M : WITH M/T
MB : WITHOUT M/T
SE : WITH SEDAN
*1 M : LOCK
*1 MB : P-SHIFT
* : THIS RELAY IS BUILT INTO THE IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
AAKWA0085GB

Wiring Diagram - I/KEY -

INFOID:0000000005396602

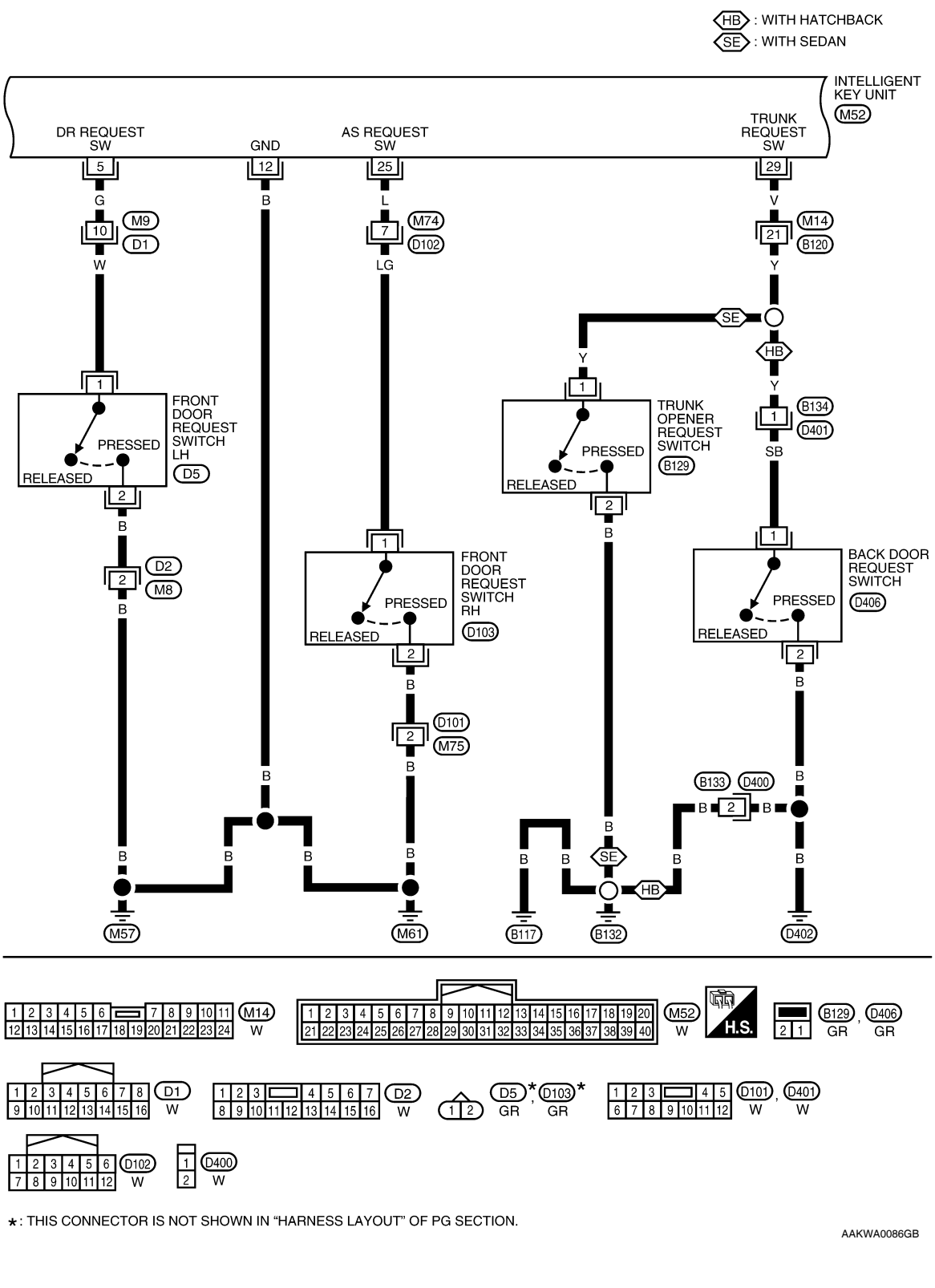




REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)

WIWA2287E

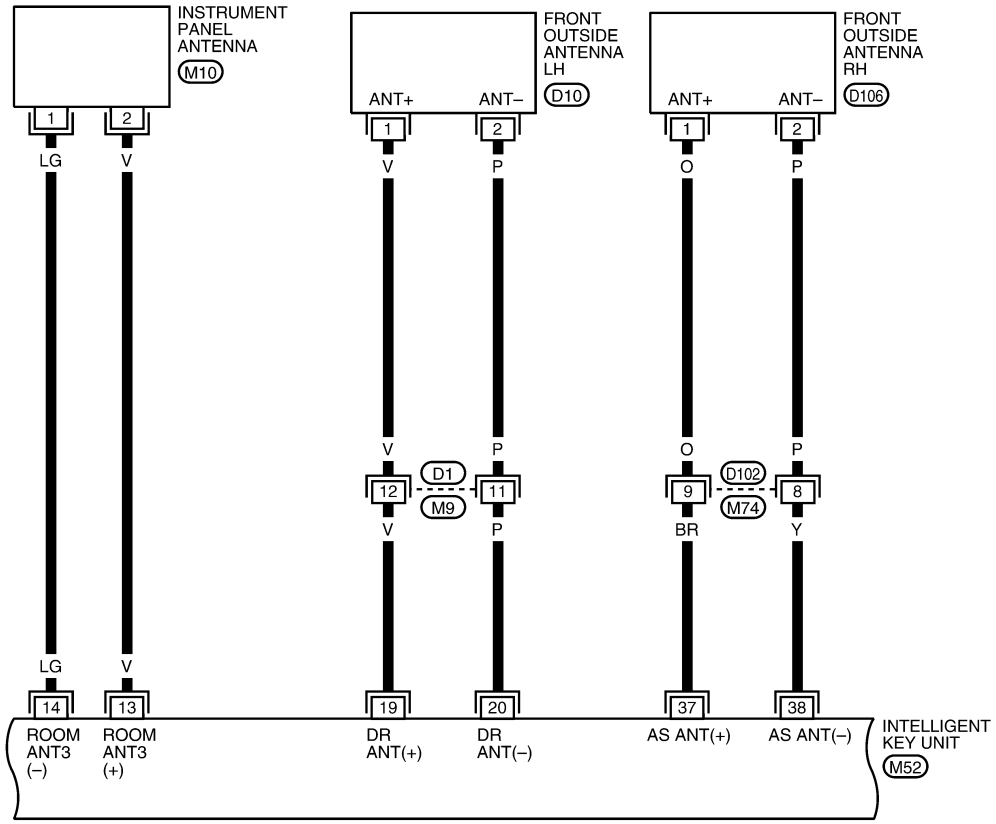
BL-I/KEY-02

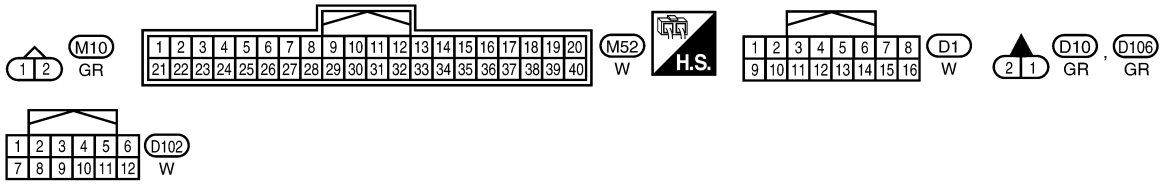


∗: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

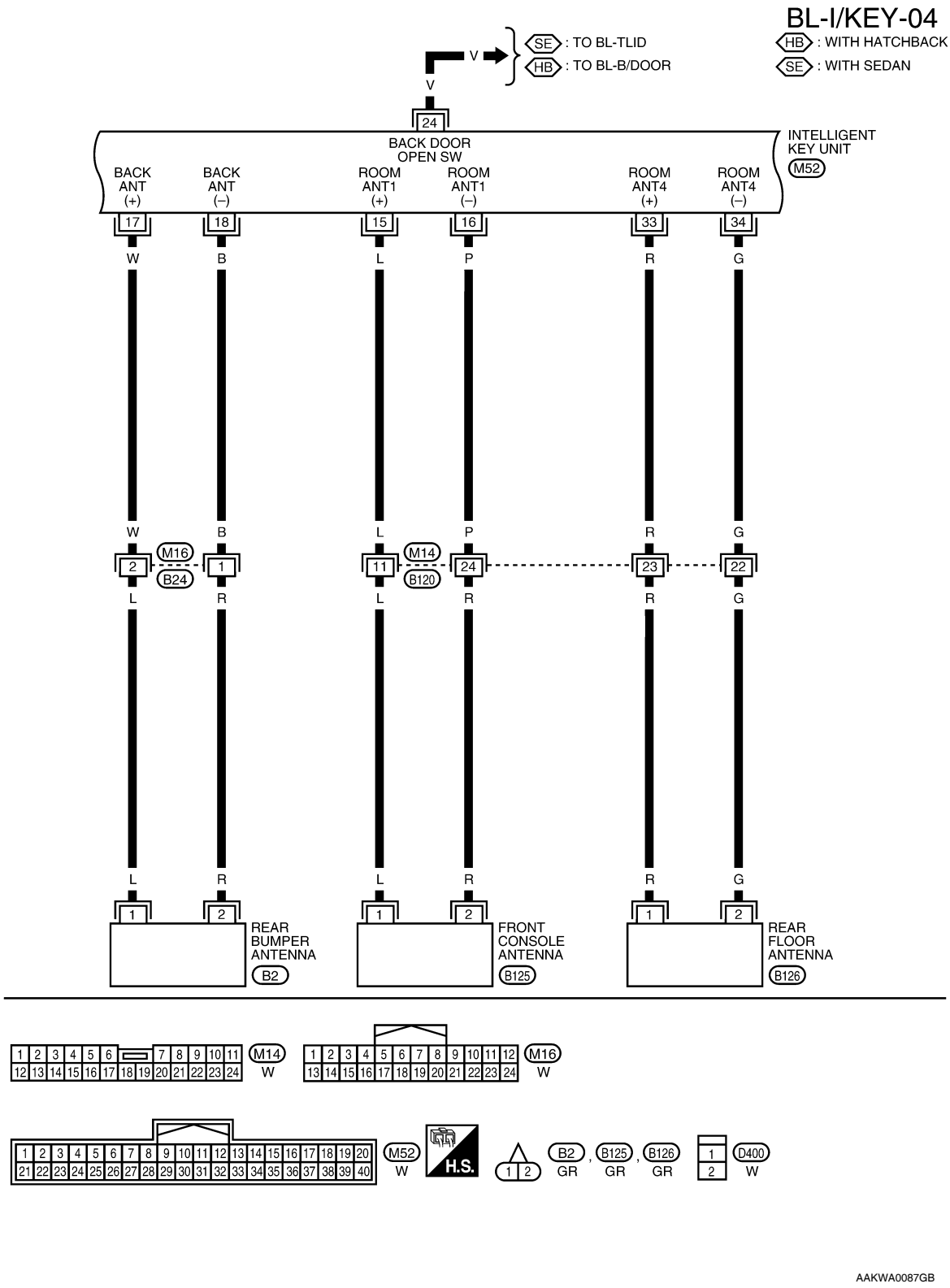
AAKWA0086GB

BL-I/KEY-03

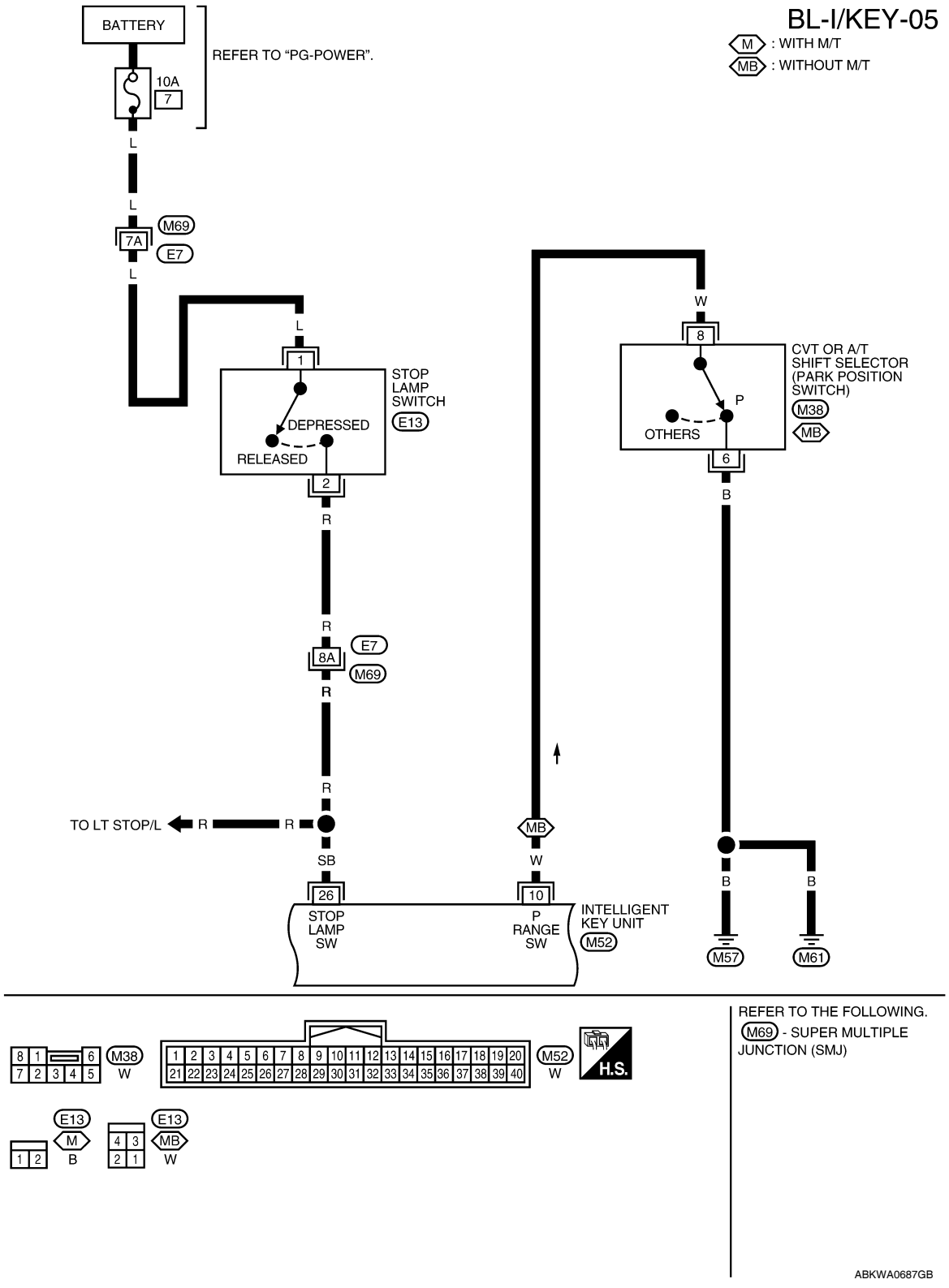




ALKWA0195GB

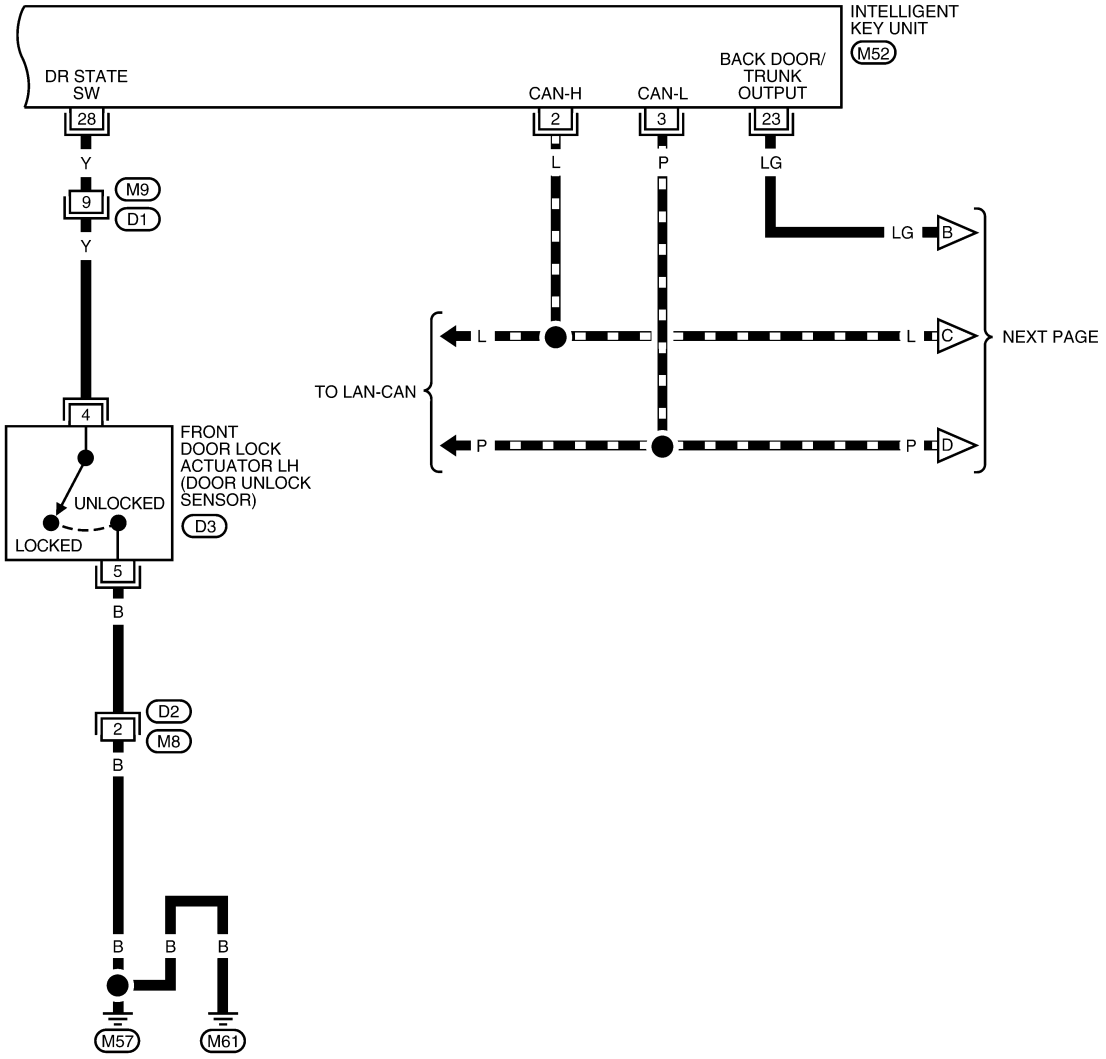


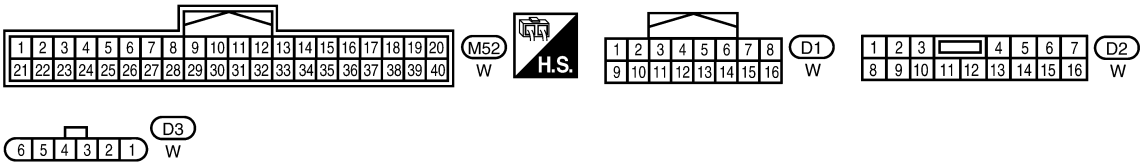
AAKWA0087GB


BL-I/KEY-05
M : WITH M/T
MB : WITHOUT M/T
BATTERY
10A
7
REFER TO "PG-POWER".
L
M69
7A
E7
STOP LAMP SWITCH
E13
DEPRESSED
RELEASED
1
2
CVT OR A/T SHIFT SELECTOR (PARK POSITION SWITCH)
M38
MB
P
OTHERS
8
6
W
B
R
E7
8A
M69
TO LT STOP/L
SB
26
STOP LAMP SW
10
P RANGE SW
INTELLIGENT KEY UNIT
M52
M57
M61
M38
W
M52
W
H.S.
E13
M
B
E13
MB
W
REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)
ABKWA0687GB

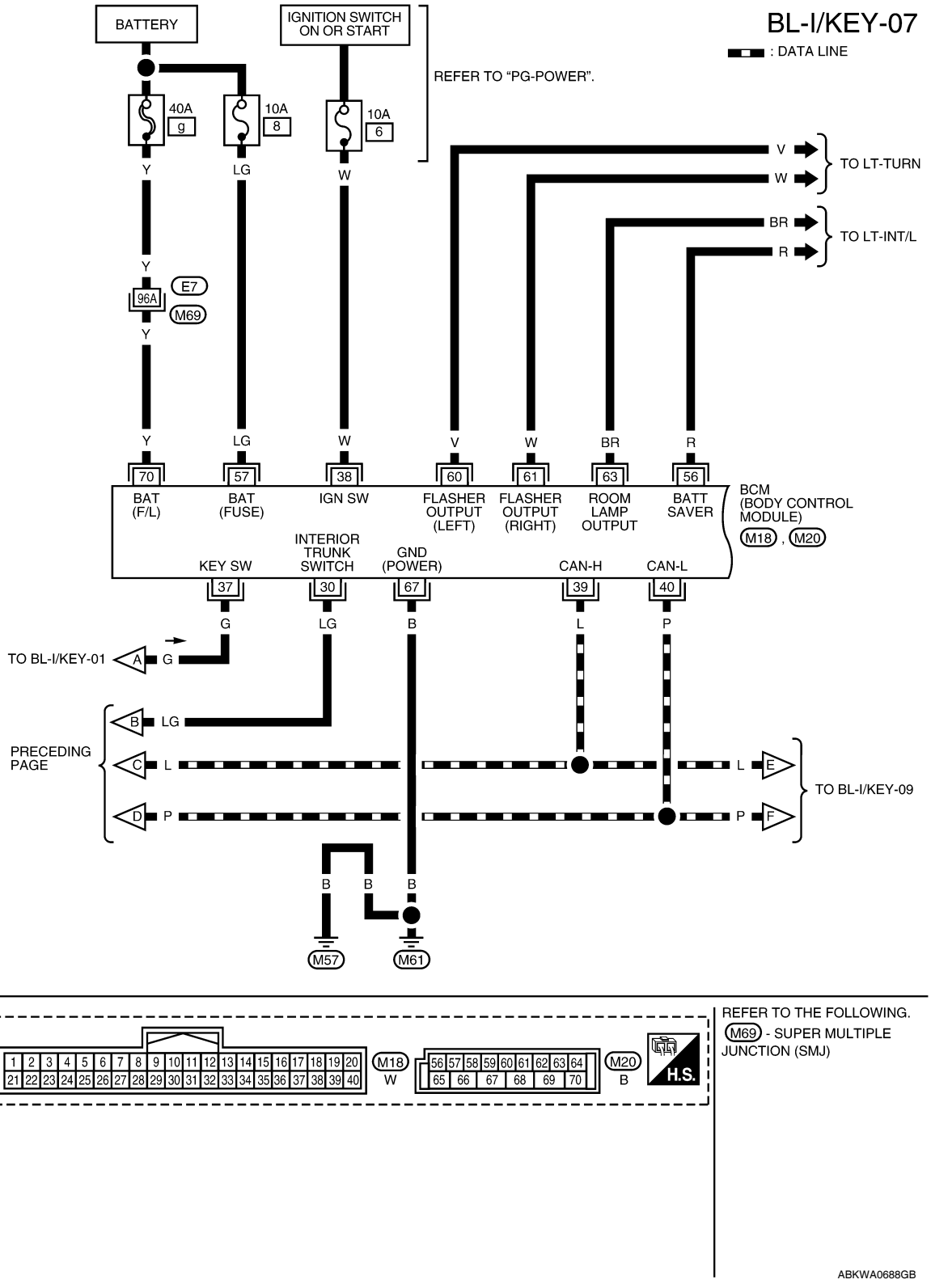
BL-I/KEY-06

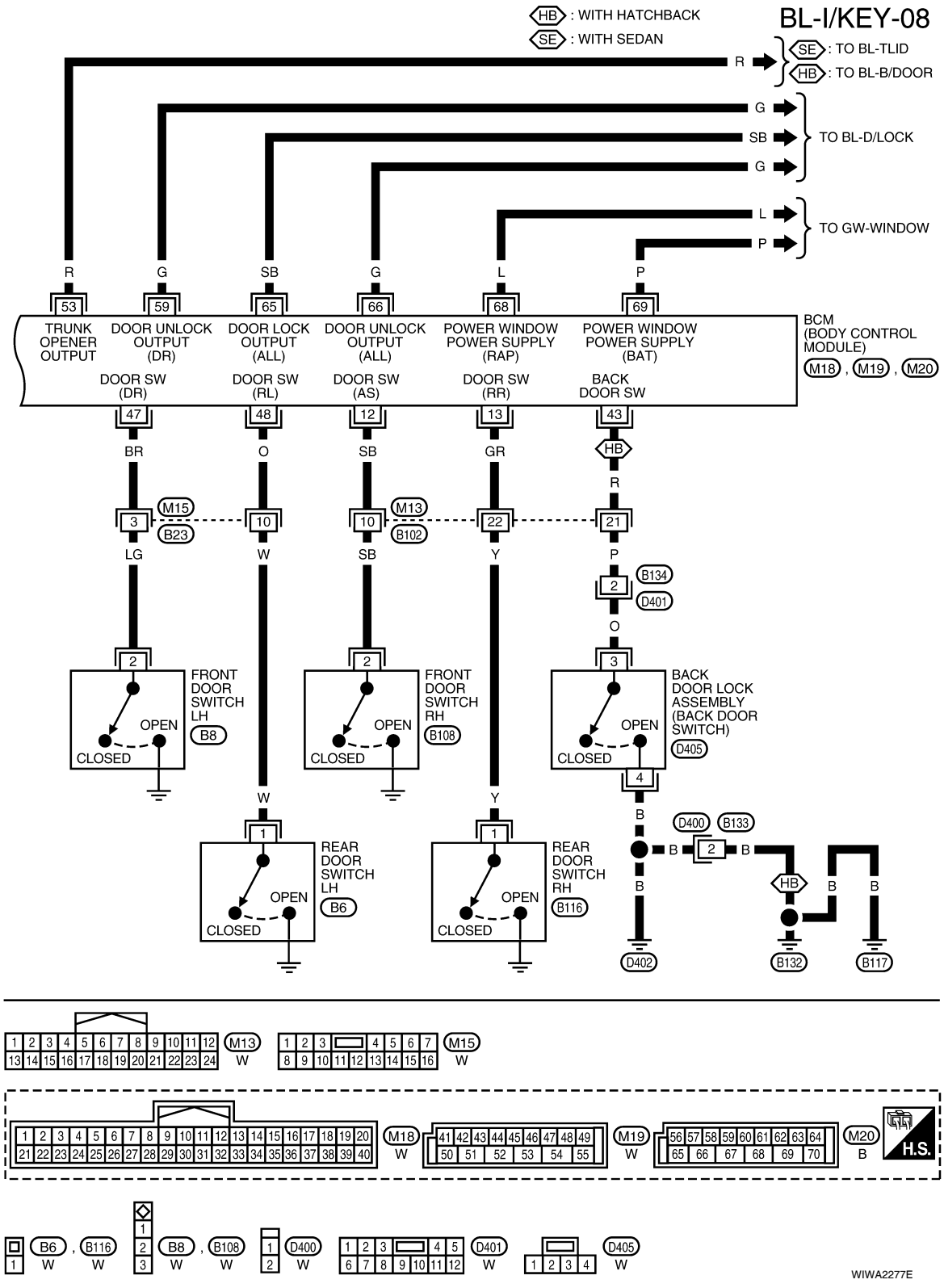
: DATA LINE

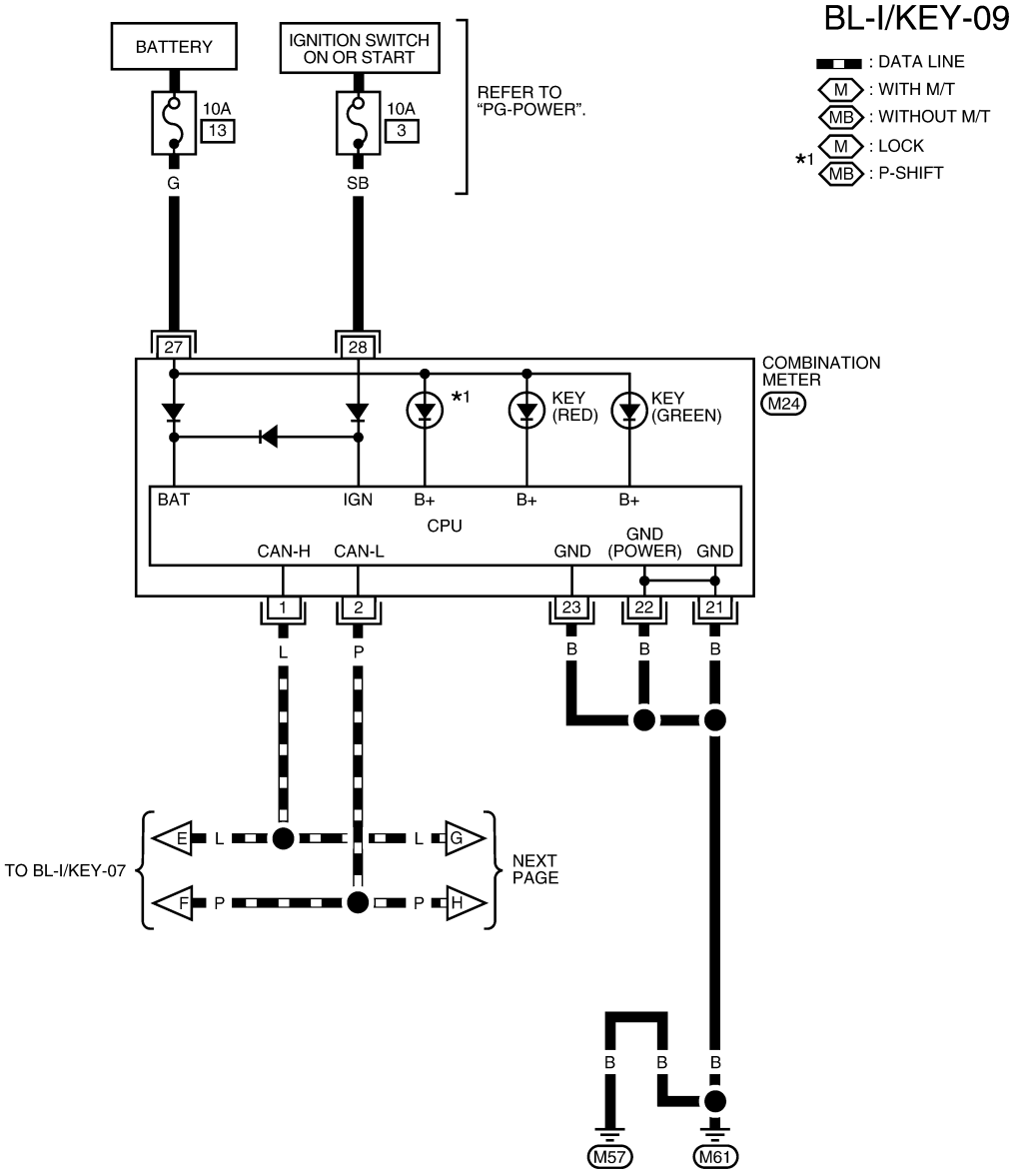


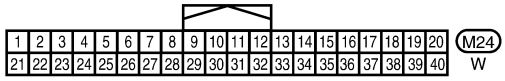


WIWA2288E


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
V
W
BR
R
TO LT-TURN
TO LT-INT/L
96A
E7
M69
70 BAT (F/L)
57 BAT (FUSE)
38 IGN SW
60 FLASHER OUTPUT (LEFT)
61 FLASHER OUTPUT (RIGHT)
63 ROOM LAMP OUTPUT
56 BATT SAVER
BCM (BODY CONTROL MODULE)
M18 , M20
37 KEY SW
30 INTERIOR TRUNK SWITCH
67 GND (POWER)
39 CAN-H
40 CAN-L
G
LG
B
L
P
TO BL-I/KEY-01
A
PRECEDING PAGE
B
C
D
E
F
TO BL-I/KEY-09
M57
M61
M18
W
M20
B
H.S.
REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)
ABKWA0688GB

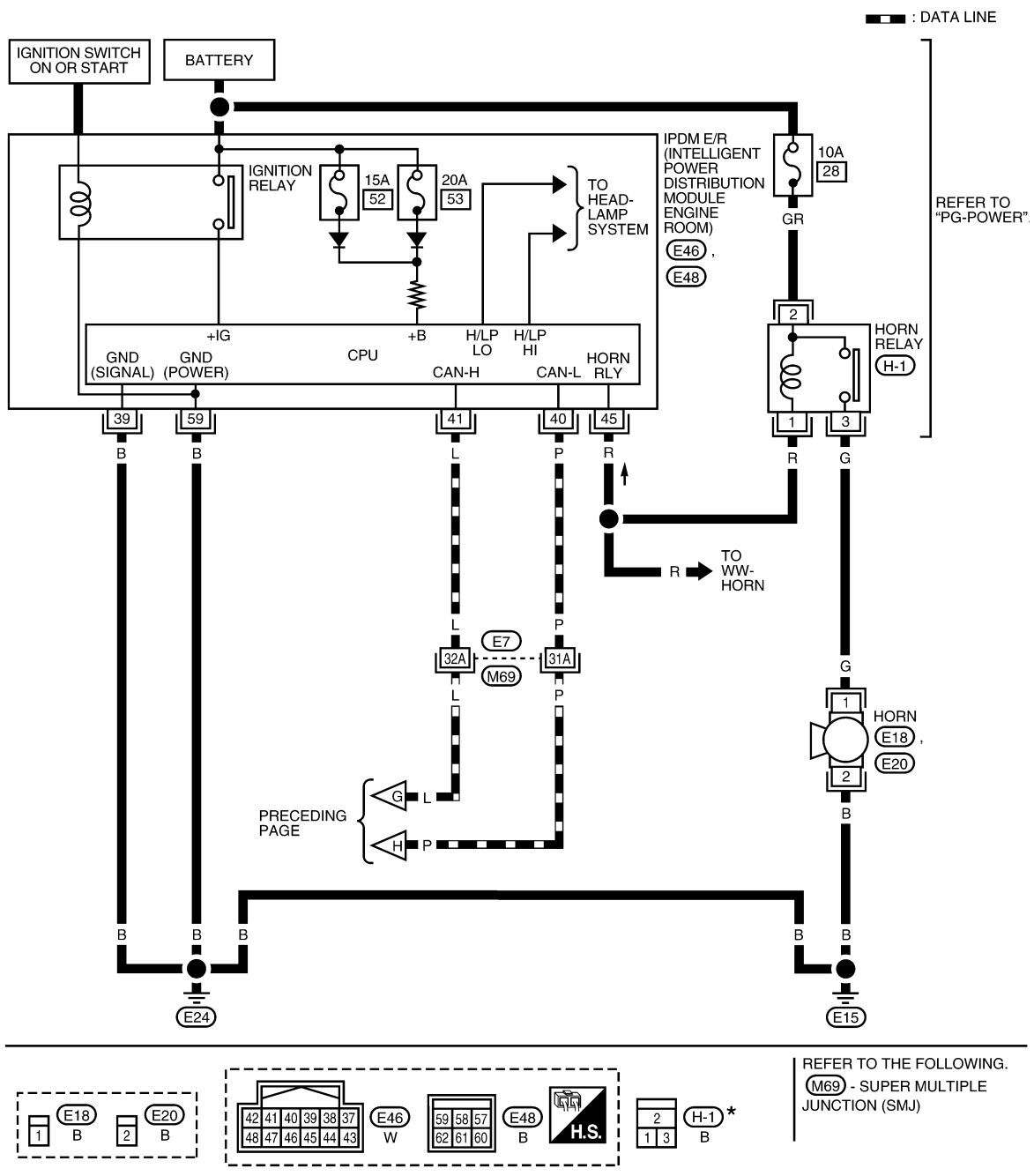

HB : WITH HATCHBACK
SE : WITH SEDAN
BL-I/KEY-08
SE : TO BL-TLID
HB : TO BL-B/DOOR
TO BL-D/LOCK
TO GW-WINDOW
TRUNK OPENER OUTPUT
DOOR UNLOCK OUTPUT (DR)
DOOR LOCK OUTPUT (ALL)
DOOR UNLOCK OUTPUT (ALL)
POWER WINDOW POWER SUPPLY (RAP)
POWER WINDOW POWER SUPPLY (BAT)
DOOR SW (DR)
DOOR SW (RL)
DOOR SW (AS)
DOOR SW (RR)
BACK DOOR SW
BCM (BODY CONTROL MODULE)
M18 , M19 , M20
FRONT DOOR SWITCH LH
FRONT DOOR SWITCH RH
BACK DOOR LOCK ASSEMBLY (BACK DOOR SWITCH)
REAR DOOR SWITCH LH
REAR DOOR SWITCH RH
OPEN
CLOSED
M15
B23
M13
B102
B134
D401
B8
B108
D405
B6
B116
D400
B133
B132
B117
D402
H.S.
WIWA2277E


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
E L
L G
F P
P H
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

WIWA2285E

BL-I/KEY-10

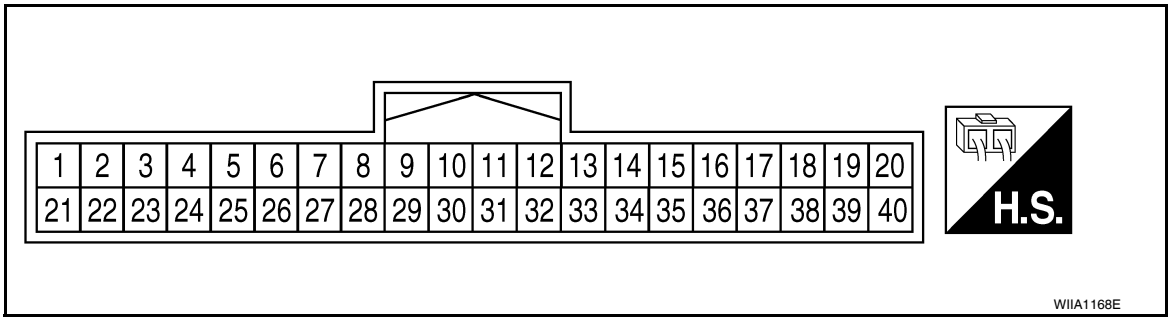


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

AAKWA0090GB

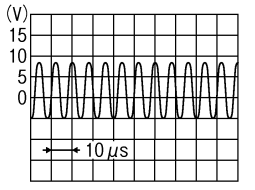
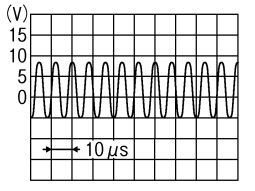
Intelligent Key Unit Harness Connector Terminal Layout

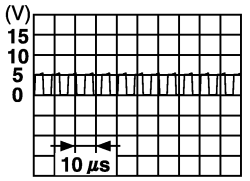
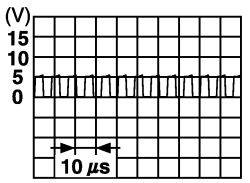
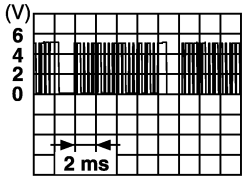
INFOID:0000000005396603

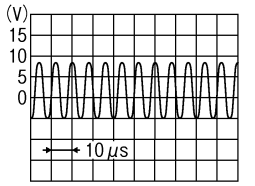
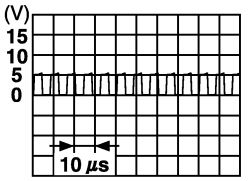


Terminal and Reference Value for Intelligent Key Unit

INFOID:0000000005396604

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 or A/T shift selector (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	B/R	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	LG	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 (hatchback)	—	Press back door request switch.	0
				Other than above	5
		Trunk opener request switch (sedan)	—	Press trunk opener 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

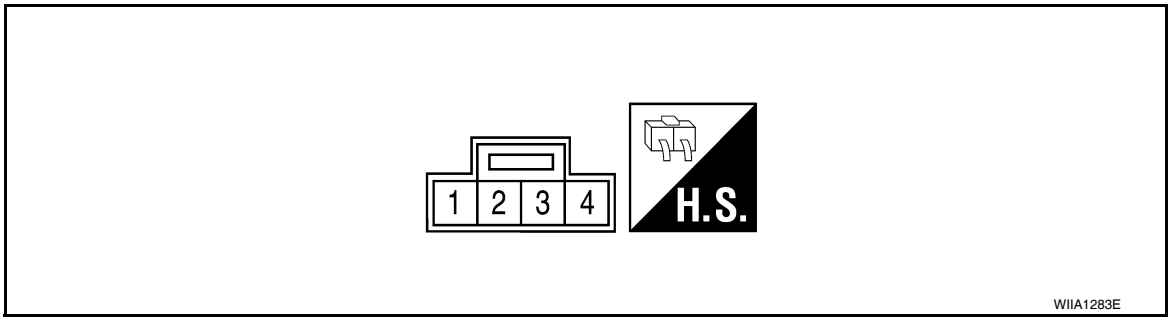
Terminal	Wire Color	Item	Condition		Voltage (V) Approx.
			Ignition Switch Position	Operation or Conditions	
33	R	Rear floor antenna (+) signal	LOCK	• Any door open → all door close • Press ignition knob switch: ON (Ignition knob switch)	 PIIB5502J
34	G	Rear floor antenna (-) signal			
37	BR	Front outside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

*1: With continuously variable transmission (CVT) or automatic transmission (A/T).

*2: With manual transmission (M/T).

Steering Lock Solenoid Harness Connector Terminal Layout

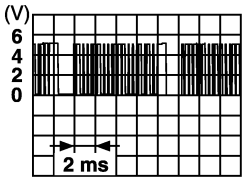
INFOID:0000000005396605



WIIA1283E

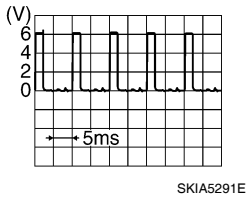
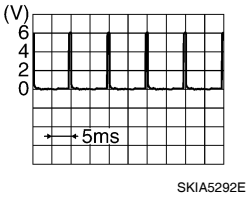
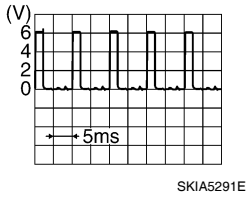
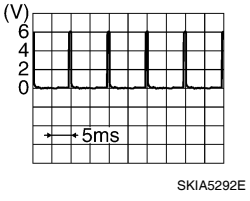
Terminal and Reference Value for Steering Lock Solenoid

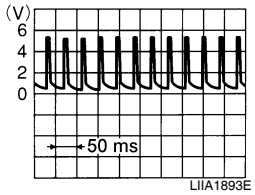
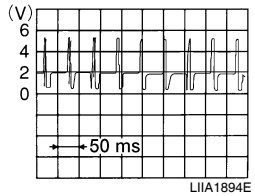
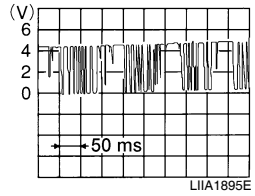
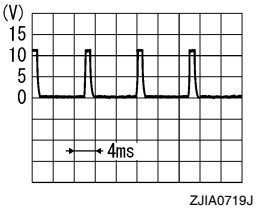
INFOID:0000000005396606

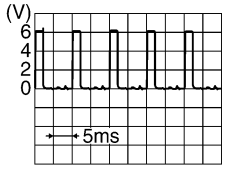
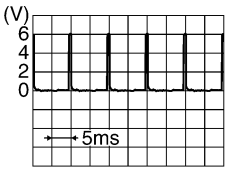
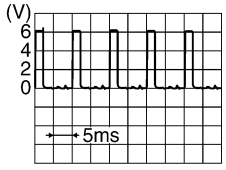
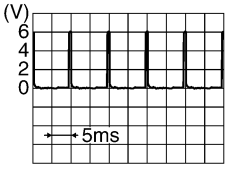
Terminal	Wire Color	Signal Designation	Condition		Voltage (V) Approx.
			Ignition Switch Position	Operation or Conditions	
1	P	Battery power supply	LOCK	—	Battery voltage
2	R	Steering lock solenoid power supply	LOCK	—	5
3	GR	Steering lock solenoid communication signal	LOCK	When Intelligent Key is inside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

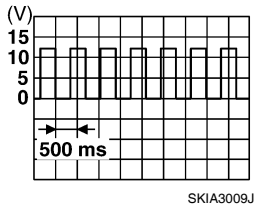
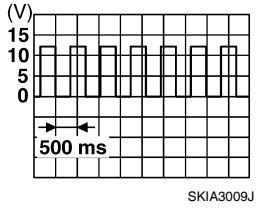
Terminal and Reference Value for BCM

INFOID:0000000005612416

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
2	BR	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	GR	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	L	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	G	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	V	Combination switch input 1				
7[7]	BR	Front door key cylinder switch LH (unlock)	Input	OFF	ON (open, 2nd turn)	Momentary 1.5V
					OFF (closed)	0V
8[7]	Y	Front door key cylinder switch LH (lock)	Input		On (open)	Momentary 1.5V
					OFF (closed)	0V
9	W	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
10	R	Defrost A/C switch signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
11	L	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	SB	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage

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

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
30[1]	LG	Back door/trunk output	Output	—	Back door open (switch closed)	0V
					Back door closed (switch open)	5V
30[3]	LG	Back door opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
30[4]	V	Trunk lid opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
32	LG	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	V	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
35	R	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	P	Combination switch output 1				
37[1]	G	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage
					Intelligent Key removed	0V
37[2]	G	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key removed	0V
38	W	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
41[6]	W	Trunk key cylinder switch	Input	—	ON (Full unlock position)	0V
					OFF (Neutral position)	5V
42[6]	Y	Trunk lamp switch	Input	OFF	ON (trunk open)	0V
					OFF (trunk closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
43[5]	R	Back door switch	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
44[5]	LG	Rear wiper auto stop	Input	ON	Rear wiper operating	0
					Rear wiper stopped	Battery
45[7]	GR	Lock switch	Input	OFF	ON (lock)	0V
					OFF	Battery voltage
46[7]	L	Unlock switch	Input	OFF	ON (unlock)	0V
					OFF	Battery voltage
47	BR	Front door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
48	O	Rear door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
49	P	Luggage room lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage
50	SB	A/C indicator	Output	ON	A/C OFF	0
					A/C ON	Battery voltage
53[5]	R	Back door lock assembly (actuator)	Output	OFF	Back door (open)	Battery voltage
53[6]	R	Trunk lamp switch and trunk release solenoid	Output	OFF	Trunk lid (open)	Battery voltage
55[5]	V	Rear wiper motor output	Output	ON	OFF	0
					ON	Battery voltage
56	R	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	LG	Battery power supply	Input	OFF	—	Battery voltage
59[7]	G	Front door lock actuator LH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	V	Turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
61	W	Turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
63	BR	Interior room lamp	Output	OFF	Any door switch: ON (open)	0V
					Any door switch: OFF (closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
65[7]	SB	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66[7]	G	Front door lock actuator RH, rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
67	B	Ground	Input	ON	—	0V
68[8]	L	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
69[8]	P	Battery power supply	Output	OFF	—	Battery voltage
70	Y	Battery power supply	Input	OFF	—	Battery voltage

1: With Intelligent Key
2: Without Intelligent Key
3: Hatchback without Intelligent Key
4: Sedan without Intelligent Key
5: Hatchback
6: Sedan
7: With power door locks
8: With power windows

Trouble Diagnosis Procedure

INFOID:0000000005396608

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-III operation manual.
Malfunctions>>GO TO 2

2.CHECK BCM CONFIGURATION

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

OK or NG

OK >> GO TO 3
NG >> Change BCM configuration for "I-KEY" to "WITH". Refer to BCS-19, "Configuration".

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-158, "Intelligent Key Battery Replacement".
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 >> Refer to BL-119, "Trouble Diagnosis Symptom Chart".
KEY warning lamp illuminates red >> Refer to BL-119, "Trouble Diagnosis Symptom Chart".
Does not illuminate>>GO TO BL-119, "Trouble Diagnosis Symptom Chart".

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-III operation manual.
Engine starts by mechanical or Intelligent Key >> Refer to BL-119, "Trouble Diagnosis Symptom Chart".
No start by mechanical key or Intelligent Key >> Refer to NATS BL-257, "Trouble Diagnosis Procedure".
Engine starts with Intelligent Key or mechanical key >> GO TO "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-III.

DTC is displayed >> Refer to BL-117, "CONSULT-III Application Item".
DTC is not displayed >> Refer to BL-119, "Trouble Diagnosis Symptom Chart".

WORK FLOW

Before performing the work flow, carry out preliminary check. Refer to "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 >> Refer to BL-119, "Trouble Diagnosis Symptom Chart".
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 >> Refer to BL-22.

3.CHECK DOOR REQUEST SWITCH OPERATION

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

OK or NG

OK >> GO TO 4
NG >> Refer to BL-119, "Trouble Diagnosis Symptom Chart".

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 >> Refer to BL-119, "Trouble Diagnosis Symptom Chart".

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 >> Refer to BL-119, "Trouble Diagnosis Symptom Chart".

6. CHECK WARNING CHIME FUNCTION

Check if warning chime function operates normally according to system description. Refer to BL-88, "System Description".

OK or NG

OK >> GO TO 7
NG >> Refer to BL-119, "Trouble Diagnosis Symptom Chart".

7. CHECK WARNING LAMP FUNCTION

Check if warning lamp could be turn on normally according to system description. Refer to BL-88, "System Description".

OK or NG

OK >> Inspection End.
NG >> Refer to BL-119, "Trouble Diagnosis Symptom Chart".

CONSULT-III Functions (INTELLIGENT KEY)

INFOID:0000000005396609

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

Diagnostic mode	Description
WORK SUPPORT	Changes settings for each function.
SELF DIAGNOSTIC RESULT	Intelligent Key unit performs CAN communication diagnosis.
DATA MONITOR	Displays Intelligent Key unit input data in real time.
CAN DIAG SUPPORT MNTR	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 IDENTIFICATION	Displays Intelligent Key unit part No.

CONSULT-III Application Item

INFOID:0000000005396610

SELF-DIAGNOSTIC RESULTS

Self-diag results	Description	Diagnosis procedure	Reference page
CAN COMM	Malfunction is detected in CAN communication.	Check CAN communication system.	BL-126
CAN COMM2	Intelligent Key unit internal malfunction	Check CAN communication system.	BL-126
STRG COMM	Malfunction is detected in communication of Intelligent Key unit and steering lock solenoid.	Check steering lock solenoid.	BL-147
I-KEY C/U	Intelligent Key unit internal malfunction	Replace Intelligent Key unit.	BL-158
IMMU	NATS malfunction	Check NATS.	BL-248

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.

Monitor item	Content
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
KEYLESS PANIC*	Indicates [ON/OFF] condition of panic 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.
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-III screen is touched. • The all door lock actuators are locked when “LOCK” on CONSULT-III 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-III screen is touched. • Inside key antenna (instrument panel and rear floor) detects Intelligent Key, when “ROOM ANT2” on CONSULT-III screen is touched. • Outside key antenna (driver side) detects Intelligent Key, when “DR ANT” on CONSULT-III screen is touched. • Outside key antenna (passenger side) detects Intelligent Key, when “AS ANT” on CONSULT-III screen is touched. • Outside key antenna (rear bumper) detects Intelligent Key, when “BK DR ANT” on CONSULT-III screen is touched.
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation. Intelligent Key warning buzzer sounds when “ON” on CONSULT-III screen is touched.
INSIDE BUZZER	This test is able to check Intelligent Key warning chime (Instrument panel) operation. • Take away warning chime sounds when “TAKE OUT” on CONSULT-III screen is touched. • Ignition switch warning chime sounds when “KNOB” on CONSULT-III screen is touched. • Ignition key warning chime sounds when “KEY” on CONSULT-III screen is touched.
INDICATOR	This test is able to check warning lamp operation. • “KEY” Warning lamp (Green) illuminates when “BLUE ON” on CONSULT-III screen is touched. • “KEY” Warning lamp (Red) illuminates when “RED ON” on CONSULT-III screen is touched. • “LOCK” Warning lamp illuminates when “KNOB ON” on CONSULT-III screen is touched. • “KEY” Warning lamp (Green) flashes when “BLUE IND” on CONSULT-III screen is touched. • “KEY” Warning lamp (RED) flashes when “RED IND” on CONSULT-III screen is touched. • “P-SHIFT” Warning lamp flashes when “KNOB IND” on CONSULT-III screen is touched.

* : Sedan

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-III screen is touched.

Monitor item	Description
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-III 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-III 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-III 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-III 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-III 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-III 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-III 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. • 1 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-III 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-III 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-III 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-III screen is touched.

Trouble Diagnosis Symptom Chart

INFOID:0000000005396611

KEY WARNING LAMP (GREEN) ILLUMINATES

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-115, "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-147
	2. Replace Intelligent Key unit.	BL-158

KEY WARNING LAMP (RED) ILLUMINATES

NOTE:
- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-115, "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-146
	2. Replace Intelligent Key unit.	BL-158

KEY WARNING LAMP DOES NOT ILLUMINATE

NOTE:
- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-115, "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-126
	2. Check ignition knob switch.	BL-129
	3. Check key switch.	BL-127
	4. Check "KEY" warning lamp (GREEN).	BL-155
	5. Replace Intelligent Key unit.	BL-158
RED key warning lamp does not illuminate [Without Intelligent Key].	1. Check "KEY" warning lamp (RED).	BL-155
	2. Replace Intelligent Key unit.	BL-158

NON-DTC ITEM

NOTE:
- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-115, "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-127
	2. Check NATS antenna amp.	BL-248

ENGINE START CONDITION CHECK

NOTE:
- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-115, "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 or A/T shift selector (park position switch). (with CVT or A/T)	BL-153
	2. Check key interlock solenoid (with M/T).	BL-149
	3. Check stop lamp switch (with CVT or A/T).	BL-150
	4. Check stop lamp switch (with M/T).	BL-152

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-115, "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-III.
- 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-126
	2. Check Intelligent Key battery inspection.	BL-158
	3. Replace Intelligent Key unit.	BL-158

DOOR LOCK/UNLOCK FUNCTION MALFUNCTION

NOTE:
- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-115, "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-III.
- 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 does not operate by all request switches.	1. Check door switch (hatchback).	BL-131
	2. Check door switch (sedan).	BL-133
	3. Check key switch.	BL-127
	4. Check ignition knob switch.	BL-129
	5. Replace Intelligent Key unit.	BL-158
Door lock/unlock does not operate by request switch (driver side).	1. Check door request switch (driver side).	BL-135
	2. Check outside key antenna (driver side).	BL-143
	3. Replace Intelligent Key unit.	BL-158
Door lock/unlock does not operate by request switch (passenger side).	1. Check door request switch (passenger side).	BL-135
	2. Check outside key antenna (passenger side).	BL-143
	3. Replace Intelligent Key unit.	BL-158
Door lock/unlock does not operate by back door request switch (hatchback).	1. Check back door request switch.	BL-137
	2. Check outside key antenna (rear bumper).	BL-144
	3. Replace Intelligent Key unit.	BL-158
Door lock/unlock does not operate by trunk opener request switch (sedan).	1. Check trunk opener request switch.	BL-138
	2. Check outside key antenna (rear bumper).	BL-144
	3. Replace Intelligent Key unit.	BL-158
Auto lock function does not operate.	1. Check “AUTO RELOCK TIMER” setting in “WORK SUPPORT”.	BL-117
	2. Replace Intelligent Key unit.	BL-158
Key reminder function does not operate.	1. Check door switch (hatchback).	BL-131
	2. Check door switch (sedan).	BL-133
	3. Check inside key antenna.	BL-146
	4. Check unlock sensor.	BL-140
	5. Check Intelligent Key battery.	BL-158
	6. Replace Intelligent Key unit.	BL-158

REMOTE KEYLESS ENTRY FUNCTION MALFUNCTION

NOTE:
- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-115, "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-126
	2. Check key switch (BCM input).	BL-128
	3. Check Intelligent Key battery.	BL-158
	4. Remote Keyless Entry function inspection.	BL-158
	5. Replace Intelligent Key unit.	BL-158
Auto lock function does not operate.	1. Check “AUTO RELOCK TIMER” setting in “WORK SUPPORT”.	BL-117
	2. Replace Intelligent Key unit.	BL-158
Key reminder function does not operate.	1. Check door switch (hatchback).	BL-131
	2. Check door switch (sedan).	BL-133
	3. Check inside key antenna.	BL-146
	4. Check unlock sensor.	BL-140
	5. Check Intelligent Key battery.	BL-158
	6. Replace Intelligent Key unit.	BL-158
Panic alarm function does not operate.	1. Check “PANIC ALARM DELAY” setting in “WORK SUPPORT”.	BL-117
	2. Check Intelligent Key battery inspection.	BL-158
	3. Check horn function.	BL-157
	4. Check headlamp function.	BL-157
	5. Check key switch.	BL-127
	6. Check ignition knob switch.	BL-129
	7. Replace Intelligent Key unit.	BL-158

HAZARD AND BUZZER REMINDER FUNCTION MALFUNCTION

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-115, "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-117
		2. Check hazard function with hazard switch.	BL-156
		3. Replace Intelligent Key unit.	BL-158
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-117
		2. Check Intelligent Key warning buzzer(s).	BL-142
		3. Replace Intelligent Key unit.	BL-158
Hazard reminder does not operate by Intelligent Key (door lock/unlock button). (Buzzer reminder operates properly).		1. Check “HAZARD ANSWER BACK” setting in “WORK SUPPORT”.	BL-117
		2. Check hazard function with hazard switch.	BL-156
		3. Replace Intelligent Key.	BL-158

Symptom		Diagnosis/service procedure	Reference page
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-117
		2. Check Intelligent Key warning buzzer(s).	BL-142
		3. Replace Intelligent Key unit.	BL-158

WARNING CHIME/BUZZER FUNCTION MALFUNCTION

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-115, "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-129
		2. Check door switch (hatchback).	BL-131
		3. Check door switch (sedan).	BL-133
		4. Check key switch.	BL-127
		5. Check Intelligent Key warning chime.	BL-156
		6. Replace Intelligent Key unit.	BL-158
Ignition key warning chime does not operate. (When mechanical key used).		1. Check key switch (Intelligent Key unit input).	BL-127
		2. Check key switch (BCM input).	BL-128
		3. Check door switch (hatchback).	BL-131
		4. Check door switch (sedan).	BL-133
		5. Check Intelligent Key warning chime.	BL-156
		6. Replace Intelligent Key unit.	BL-158
OFF position warning chime (For internal) does not operate.		1. Check ignition switch position.	BL-150
		2. Check ignition knob switch.	BL-129
		3. Check key switch.	BL-127
		4. Check combination meter warning chime.	BL-156
		5. Replace Intelligent Key unit.	BL-158
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-150
		2. Check ignition knob switch.	BL-129
		3. Check key switch.	BL-127
		4. Check Intelligent Key warning chime.	BL-156
		5. Check Intelligent Key warning buzzer(s).	BL-142
		6. Replace Intelligent Key unit.	BL-158
	Intelligent Key warning buzzer does not operate.	Check Intelligent Key warning buzzer(s).	BL-142

Symptom		Diagnosis/service procedure	Reference page
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 (hatchback).	BL-131
		2. Check door switch (sedan).	BL-133
		3. Check inside key antenna.	BL-146
		4. Check key switch.	BL-127
		5. Check Intelligent Key warning chime.	BL-142
		6. Check Intelligent Key warning buzzer(s).	BL-142
		7. Replace Intelligent Key unit.	BL-158
	Intelligent Key warning buzzer does not operate.	Check Intelligent Key warning buzzer(s).	BL-142
Take away warning chime (through window) does not operate.		1. Check “TAKE OUT FROM WINDOW WARN” setting in “WORK SUPPORT”.	BL-117
		2. Check inside key antenna.	BL-146
		3. Check key switch.	BL-127
		4. Check Intelligent Key battery.	BL-158
		5. Check Intelligent Key warning chime.	BL-156
		6. Replace Intelligent Key unit.	BL-158
Door lock operation warning buzzer does not operate.		1. Check door switch (hatchback).	BL-131
		2. Check door switch (sedan).	BL-133
		3. Check ignition knob switch.	BL-129
		4. Check door request switch.	BL-135
		5. Check back door request switch (hatchback).	BL-137
		6. Check trunk opener request switch (sedan).	BL-138
		7. Check outside key antenna (driver side and passenger side).	BL-143
		8. Check outside key antenna (rear bumper).	BL-144
		9. Check inside key antenna.	BL-146
		10. Check Intelligent Key warning buzzer(s).	BL-142
		11. Replace Intelligent Key unit.	BL-158
One warning buzzer does not operate (sedan).		Check Intelligent Key warning buzzer(s).	BL-142

WARNING LAMP FUNCTION MALFUNCTION

NOTE:

- Before performing the diagnosis in the following table, check “Trouble Diagnosis Procedure”. Refer to BL-115, "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-117
	2. Check Intelligent Key battery.	BL-158
	3. Check KEY warning lamp (green).	BL-155
	4. Replace Intelligent Key unit.	BL-158
P position warning lamp does not illuminate properly. (With CVT or A/T)	1. Check CVT or A/T shift selector (park position switch).	BL-153
	2. Check “P-SHIFT” warning lamp (red).	BL-154
	3. Replace Intelligent Key unit.	BL-158

Symptom	Diagnosis/service procedure	Reference page
LOCK warning lamp does not illuminate properly. (With M/T)	1. Check key interlock solenoid.	BL-149
	2. Check "LOCK" warning lamp.	BL-155
	3. Replace Intelligent Key unit.	BL-158
Take away warning lamp does not illuminate properly. (Take away warning chime is operated).	1. Check KEY warning lamp (red).	BL-158
	2. Replace Intelligent Key unit.	BL-158
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-158

CAN Communication System Inspection

INFOID:0000000005396612

1.CHECK SELF-DIAGNOSTIC RESULTS

With CONSULT-III

- Connect CONSULT-III, 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-III 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-17, "Trouble Diagnosis Flow Chart".
CAN COMM2 [U1010] >> Replace Intelligent Key unit. Refer to BL-158, "Removal and Installation of Intelligent Key Unit".

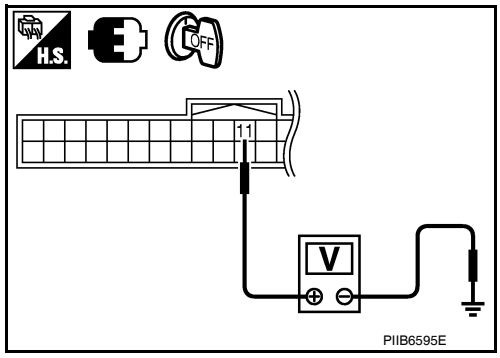
Power Supply and Ground Circuit Inspection

INFOID:0000000005396613

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.

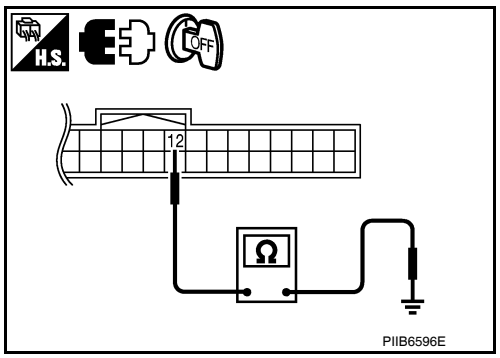
2.CHECK GROUND CIRCUIT

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

INFOID:0000000005396614

1.CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-III

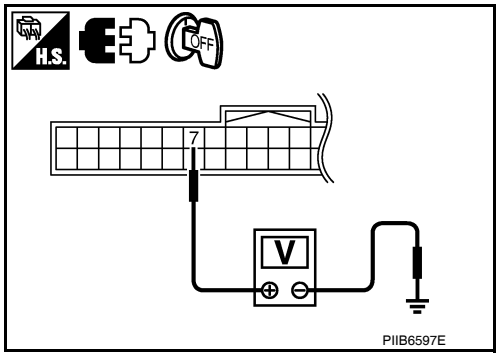
Check key switch ("KEY SW") in "DATA MONITOR" mode with CONSULT-III.

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

Without CONSULT-III

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

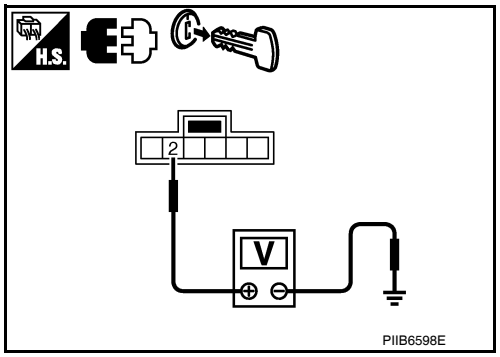
2.CHECK KEY SWITCH POWER SUPPLY CIRCUIT

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

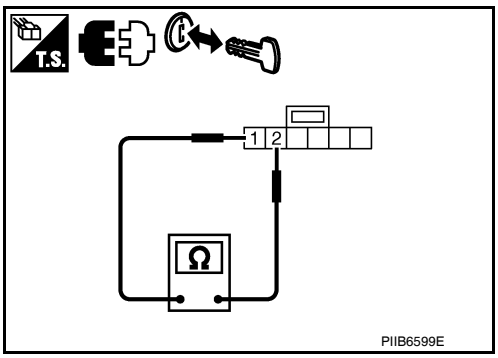
OK or NG

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.



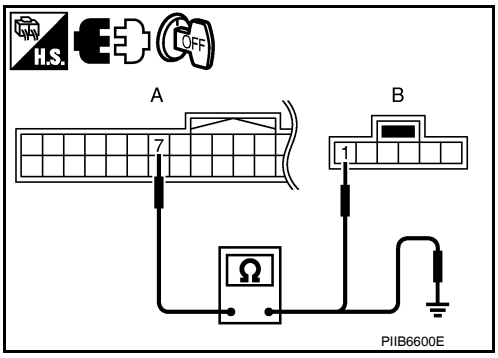
Terminal		Condition of key switch	Continuity
Key switch and ignition knob switch			
1	2	Insert mechanical key into ignition switch	Yes
		Remove mechanical key from ignition switch	No

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

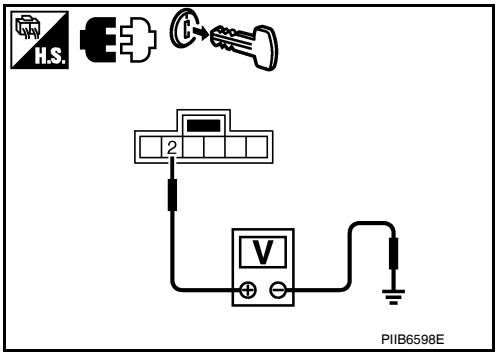
OK >> Check the condition of harness and harness connector.
NG >> Repair or replace harness between Intelligent Key unit and key switch and ignition knob switch.

Key Switch (BCM Input) Check

INFOID:0000000005396615

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

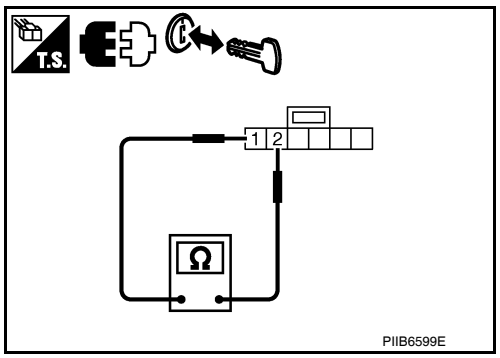
OK or NG

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

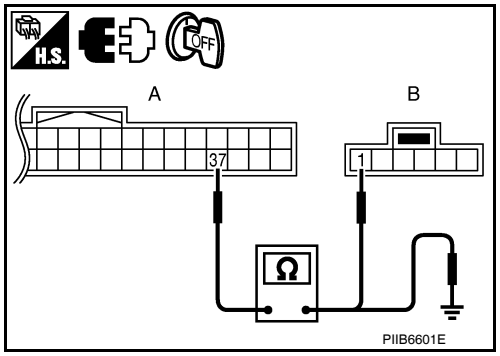
OK >> GO TO 3
NG >> Replace key cylinder assembly (built-in key switch).

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

INFOID:0000000005396616

1.CHECK IGNITION KNOB SWITCH INPUT SIGNAL

With CONSULT-III

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

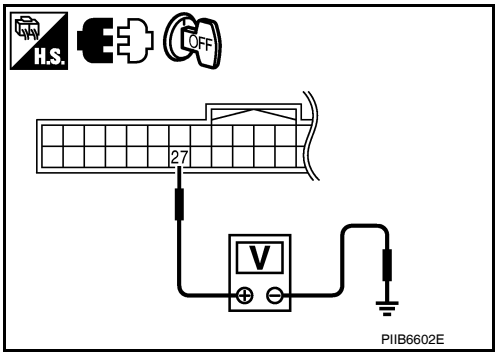
Monitor item	Condition
PUSH SW	Ignition switch is pressed: ON
	Ignition switch is released: OFF

Without CONSULT-III

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



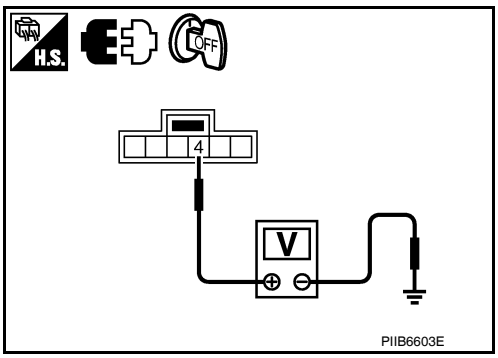
OK or NG

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



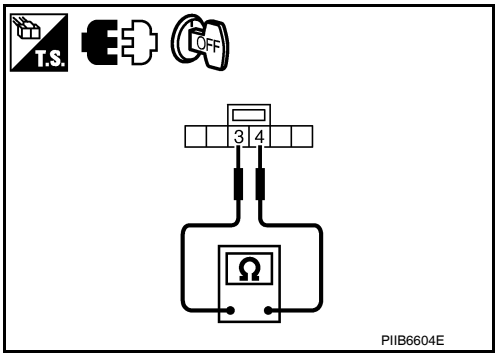
OK or NG

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



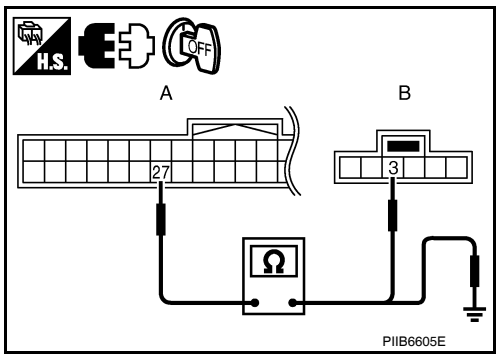
OK or NG

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 (Hatchback)

INFOID:0000000005396617

1.CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-III

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in DATA MONITOR mode with CONSULT–III. Refer to BL-41, "CONSULT-III Function (BCM)".

- When doors are open:

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

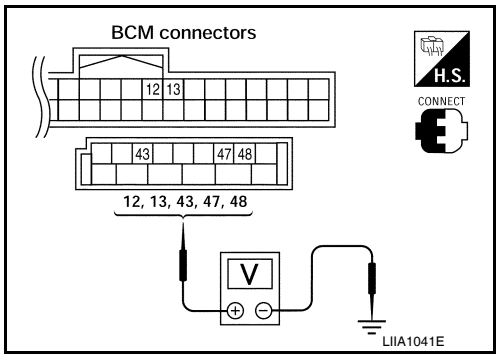
- When doors are closed:

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

Without CONSULT-III

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

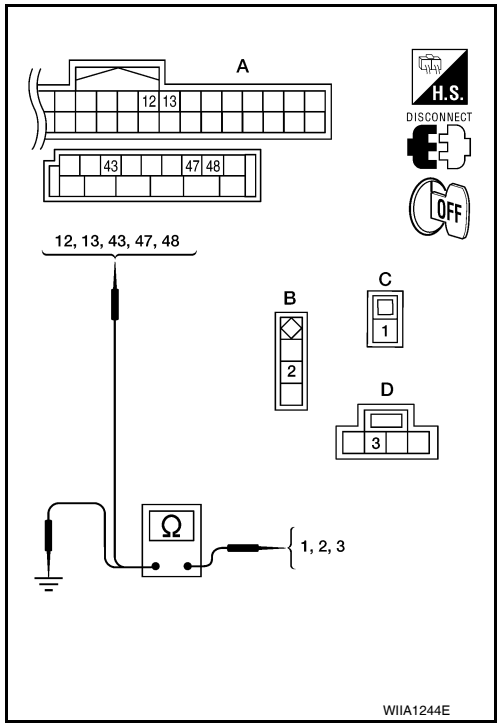
2.CHECK DOOR SWITCH CIRCUIT

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

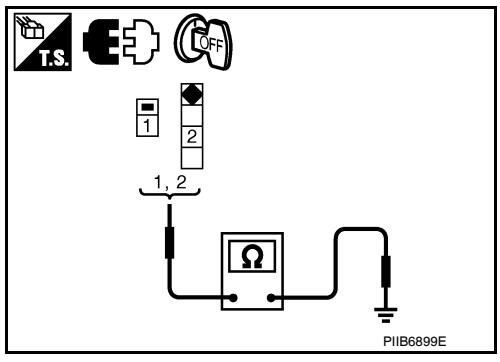
OK >> GO TO 3
NG >> Repair or replace harness.

3.CHECK DOOR SWITCHES

FRONT AND REAR DOORS

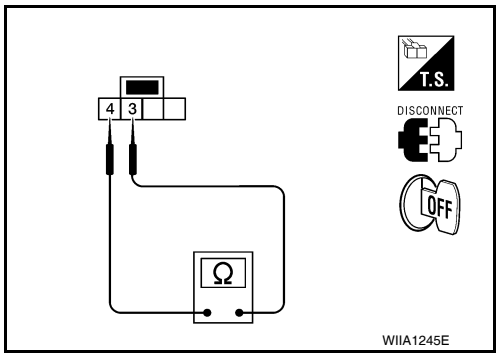
Check continuity between front door switch terminal 2 or rear door switch terminal 1 and exposed metal of switch while pressing and releasing switch.

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.



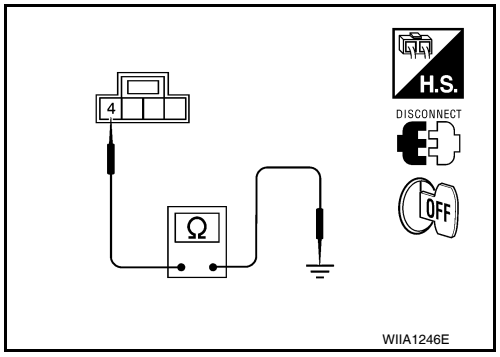
When back door is open : Continuity should exist.
When back door is closed : Continuity should not exist.

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.

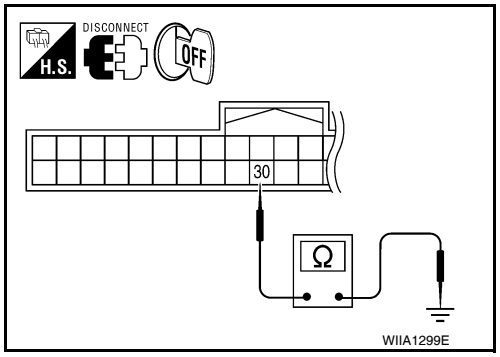
OK or NG

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 Switch Check (Sedan)

INFOID:0000000005396618

1.CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-III

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR") in DATA MONITOR mode with CONSULT–III. Refer to BL-117, "CONSULT-III Application Item".

- When doors are open:

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

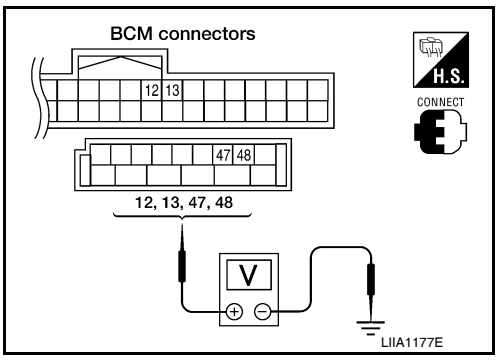
DOOR SW-RL : ON
DOOR SW-RR : ON

- When doors are closed:

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

Without CONSULT-III
Check voltage between BCM connector M18 or M19 terminals 12, 13, 47, 48 and ground.

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

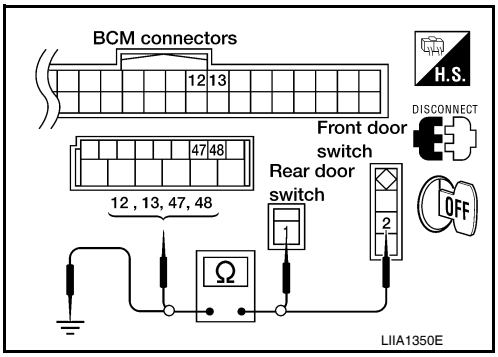


OK or NG
OK >> Door switch circuit is OK.
NG >> GO TO 2

2.CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH) or B108 (Front RH) terminal 2, B6 (Rear LH) or B116 (Rear RH) terminal 1 and BCM connector M18, M19 terminals 12, 13, 47 and 48.

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



4. Check continuity between door switch connector B8 (Front LH) or B108 (Front RH) terminal 2, B6 (Rear LH) or B116 (Rear RH) terminal 1 and ground.

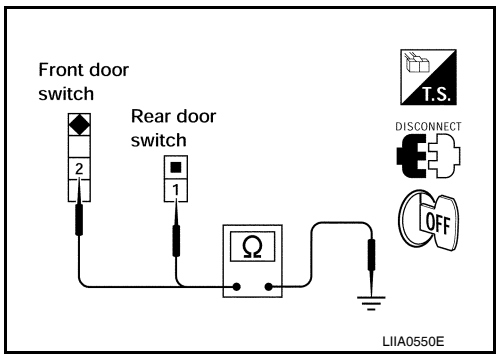
2 - Ground : Continuity should not exist.
1 - Ground : Continuity should not exist.

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

3.CHECK DOOR SWITCHES

Check continuity between door switch terminal and switch case ground.

Component	Terminals	Condition of switch	Continuity
Front door switch LH/RH	2 – Case ground	Pushed	No
		Released	Yes
Rear door switch LH/RH	1 – Case ground	Pushed	No
		Released	Yes



OK or NG

OK >> Check door switch case ground condition.
NG >> Replace door switch.

Door Request Switch Check

INFOID:0000000005396619

1.CHECK DOOR REQUEST SWITCH

With CONSULT-III

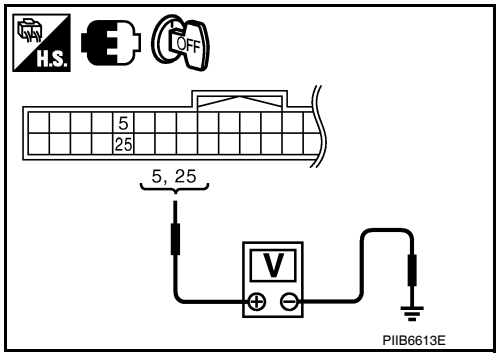
Check door request switch (“DR REQ SW” or “AS REQ SW”) in “DATA MONITOR” mode.

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

Without CONSULT-III

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

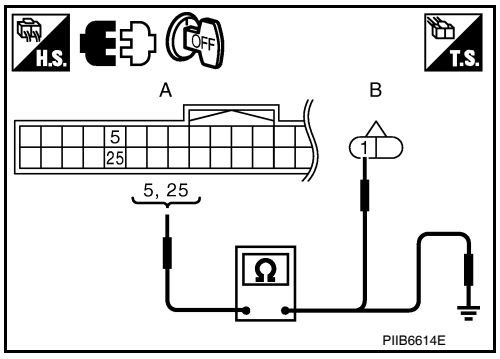
OK >> Door request switch circuit is OK.
NG >> GO TO 2

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		

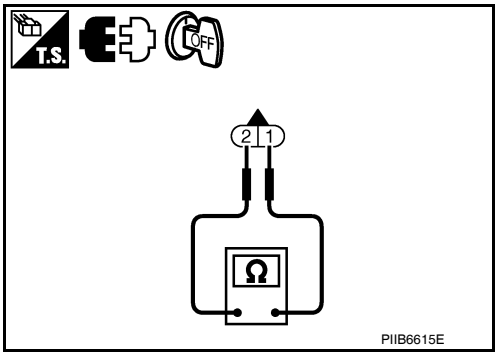
OK or NG

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



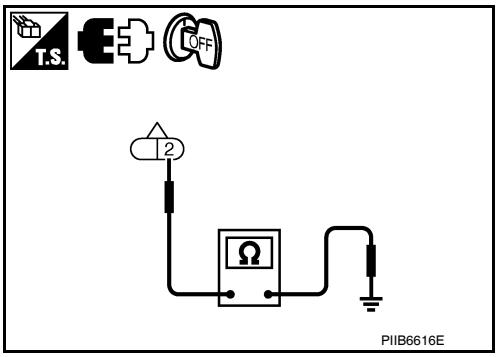
OK or NG

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			



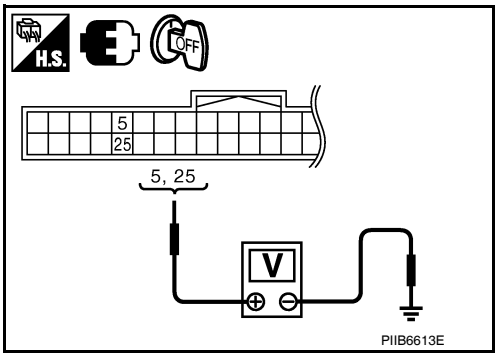
OK or NG

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-158, "Removal and Installation of Intelligent Key Unit".

Back Door Request Switch Check (Hatchback)

INFOID:0000000005396620

1.CHECK BACK DOOR REQUEST SWITCH

With CONSULT-III

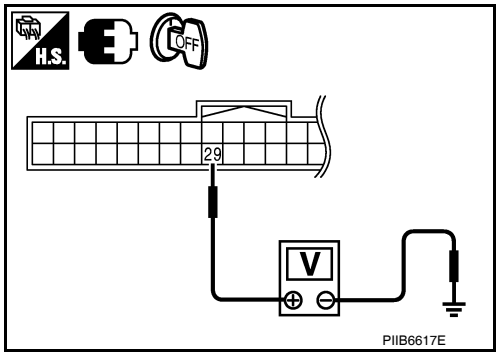
Check back door request switch (“BD/TR REQ SW”) in “DATA MONITOR” mode.

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

Without CONSULT-III

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



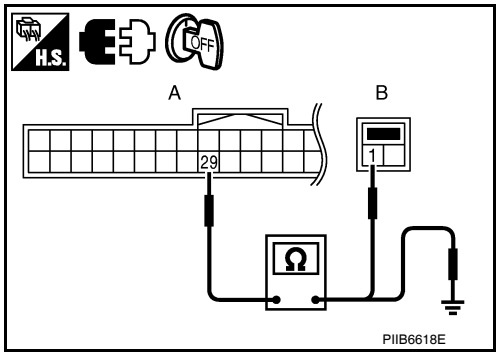
OK or NG

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

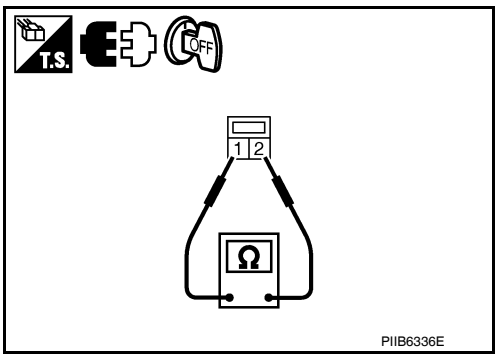
OK or NG

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



PIIB6336E

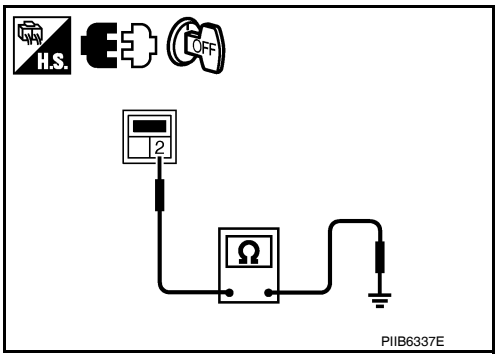
OK or NG

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



PIIB6337E

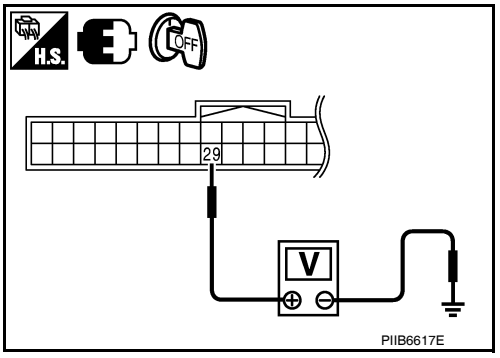
OK or NG

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



PIIB6617E

OK or NG

OK >> Check the condition of harness and connector.
NG >> Replace Intelligent Key unit. Refer to BL-158, "Removal and Installation of Intelligent Key Unit".

Trunk Opener Request Switch Check (Sedan)

INFOID:0000000005396621

1. CHECK TRUNK OPENER REQUEST SWITCH

With CONSULT-III

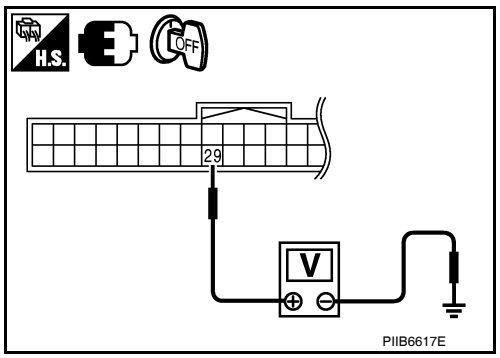
Check trunk opener request switch (“BD/TR REQ SW”) in “DATA MONITOR” mode.

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

Without CONSULT-III

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

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



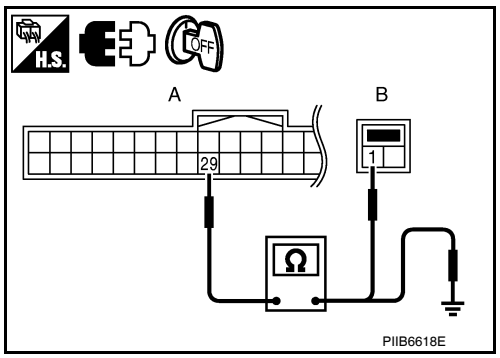
OK or NG

OK >> Trunk opener request switch circuit is OK.
NG >> GO TO 2

2.CHECK TRUNK OPENER REQUEST SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Intelligent Key unit and trunk opener request switch connector.
3. Check continuity between Intelligent Key unit connector (A) M52 terminal 29 and trunk opener request switch connector (B) B129 terminal 1.

A		B		Continuity
Intelligent Key unit connector	Terminal	Trunk opener request switch connector	Terminal	
M52	29	B129	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

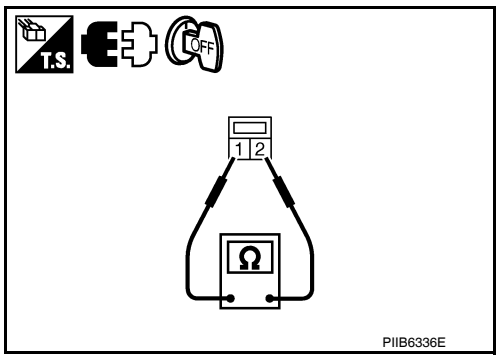
OK or NG

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

3.CHECK TRUNK OPENER REQUEST SWITCH OPERATION

Check continuity of trunk opener request switch.

Terminal		trunk opener request switch condition	Continuity
trunk opener request switch			
1	2	Pressed	Yes
		Released	No



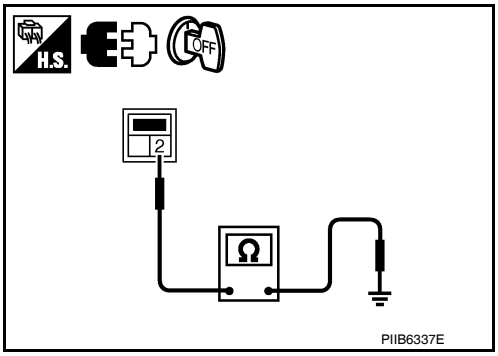
OK or NG

OK >> GO TO 4
NG >> Replace trunk opener request switch.

4.CHECK TRUNK OPENER REQUEST SWITCH GROUND CIRCUIT

Check continuity between trunk opener request switch connector B129 terminal 2 and ground.

Trunk opener request switch connector	Terminal	Ground	Continuity
B129	2		Yes



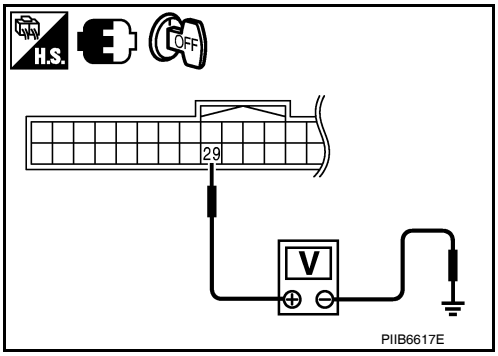
OK or NG

OK >> GO TO 5
NG >> Repair or replace trunk opener 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-158, "Removal and Installation of Intelligent Key Unit".

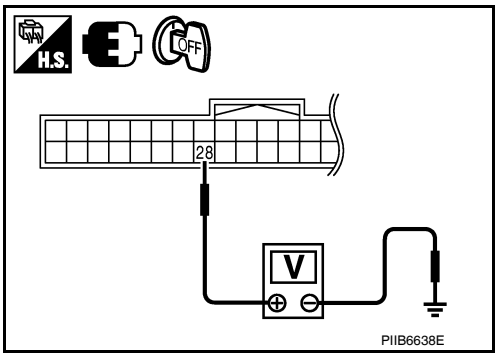
Unlock Sensor Check

INFOID:0000000005396622

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



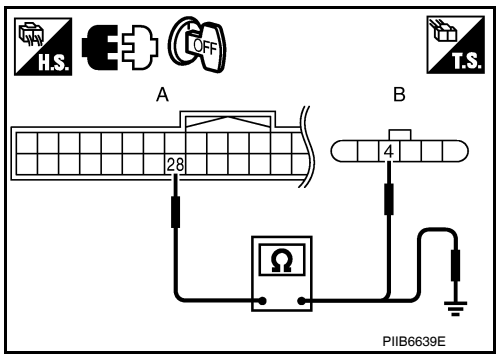
OK or NG

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

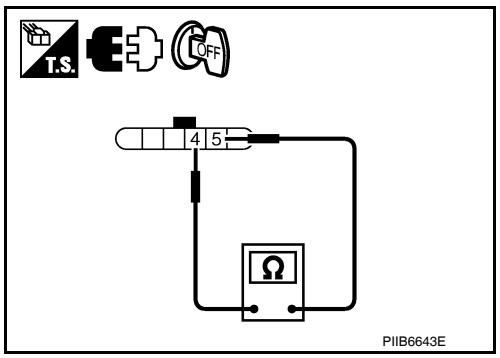
OK or NG

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



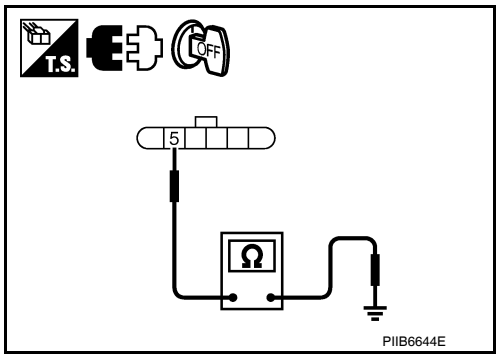
OK or NG

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



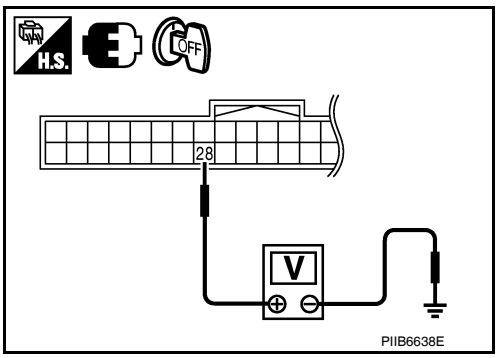
OK or NG

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-166, "Removal and Installation".

NG >> Replace Intelligent Key unit. Refer to BL-158, "Removal and Installation of Intelligent Key Unit".

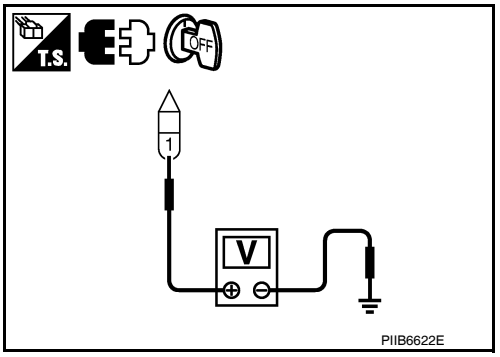
Intelligent Key Warning Buzzer(s) Check

INFOID:0000000005396623

1.CHECK INTELLIGENT KEY WARNING BUZZER POWER SUPPLY CIRCUIT

1. Disconnect inoperative 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		
Front door LH	D6	1	Ground	Battery voltage
Trunk (sedan)	B32			



OK or NG

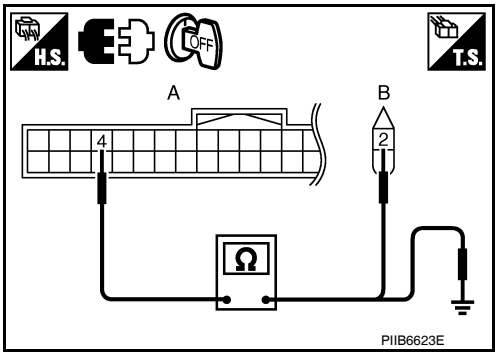
OK >> GO TO 2

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 inoperative Intelligent Key warning buzzer connector.

A		B			Continuity
Intelligent Key unit connector	Terminal	Intelligent Key warning buzzer connector		Terminal	
M52	4	Front door LH	D6	2	Yes
		Trunk (sedan)	B32		



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

A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	4		No

OK or NG

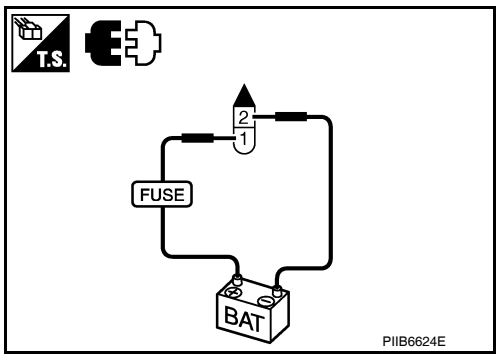
OK >> GO TO 3

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 inoperative Intelligent Key warning buzzer.

Outside Key Antenna (Driver Side and Passenger Side) Check

INFOID:0000000005396624

1.CHECK OUTSIDE KEY ANTENNA FUNCTION

With CONSULT-III

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.

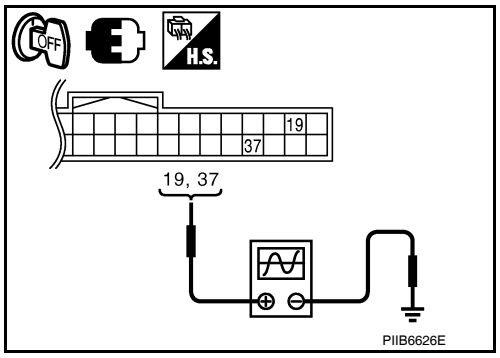
Test item	Corresponding antenna
DRIVER ANT	Outside key antenna driver side
ASSIST ANT	Outside key antenna passenger side

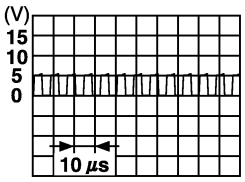
Do the hazard lamps flash?

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

SIIA1910J

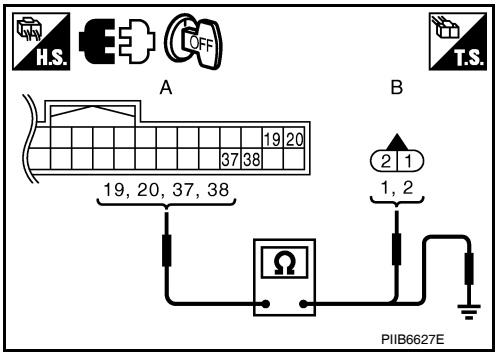
OK or NG

OK >> 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.

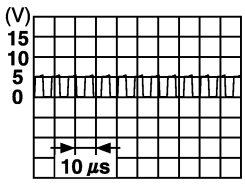
A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	19		No
	20		
	37		
	38		

OK or NG

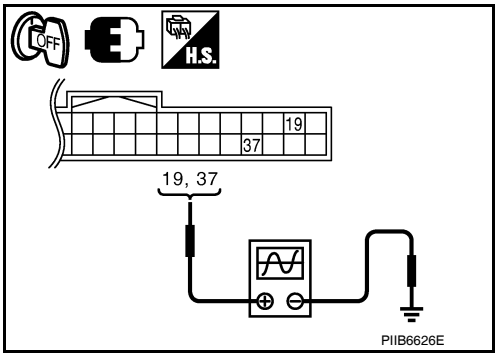
OK >> GO TO 4
NG >> Repair or replace harness between Intelligent Key unit and outside key antenna.

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-158, "Removal and Installation of Intelligent Key Unit".

Outside Key Antenna (Rear Bumper) Check

INFOID:0000000005396625

1. CHECK REAR BUMPER ANTENNA FUNCTION

With CONSULT-III

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.

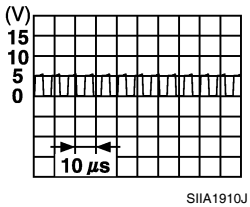
Test item	Corresponding antenna
BK DOOR ANT	Rear bumper antenna

Do the hazard lamps flash?

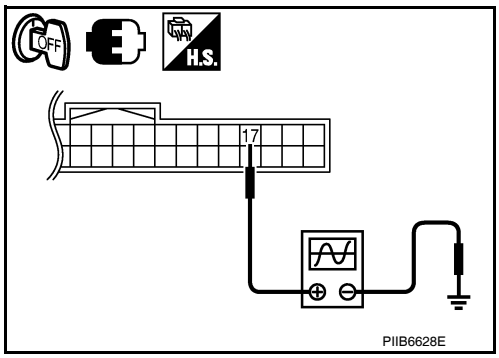
Yes >> Rear bumper antenna is OK.
No >> GO TO 2

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

SIIA1910J



PIIB6628E

OK or NG

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

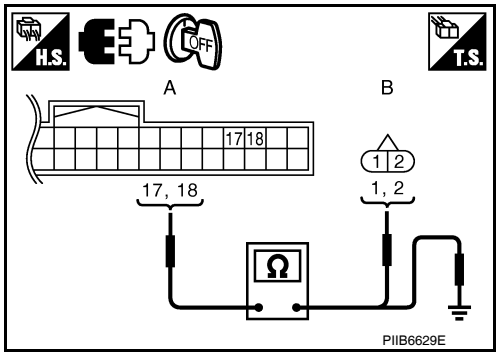
3.CHECK REAR BUMPER ANTENNA CIRCUIT

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		



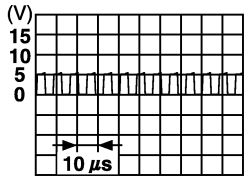
PIIB6629E

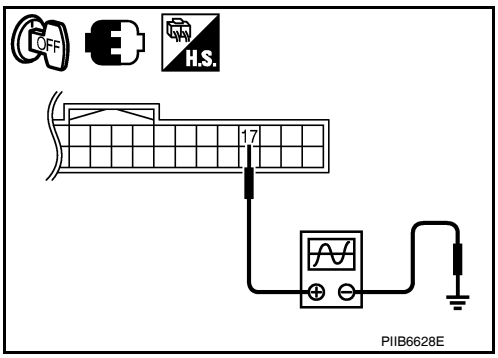
OK or NG

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

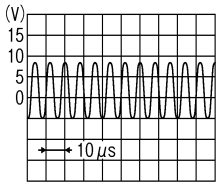
OK >> Replace rear bumper antenna.
NG >> Replace Intelligent Key unit. Refer to BL-158, "Removal and Installation of Intelligent Key Unit".

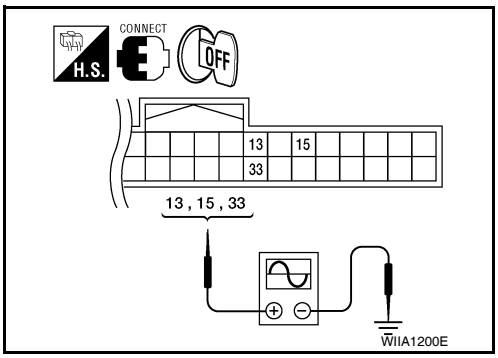
Inside Key Antenna Check

INFOID:0000000005396626

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			



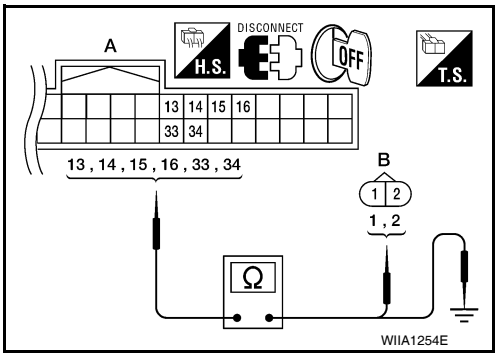
OK or NG

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	B125	Front console	1	
	16			2	
	33	B126	Rear floor	1	
	34			2	



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

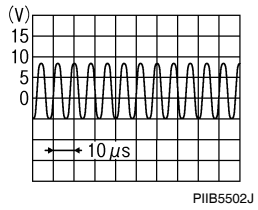
A				
Intelligent Key unit connector		Terminal	Ground	Continuity
M52	Instrument panel	13		No
		14		
	Front console	15		
		16		
	Rear floor	33		
		34		

OK or NG

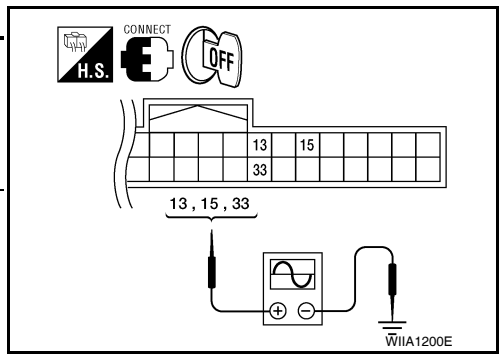
OK >> GO TO 3
NG >> Repair or replace harness between Intelligent Key unit and inside key antenna.

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

PIIB5502J



WIIA1200E

OK or NG

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

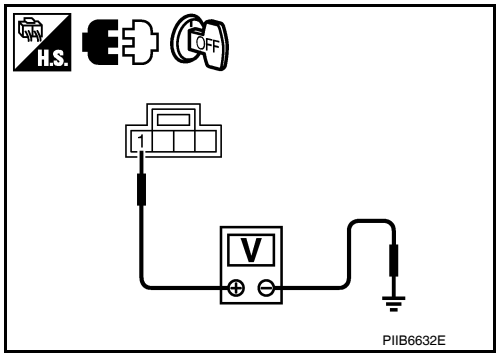
Steering Lock Solenoid Check

INFOID:0000000005396627

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



PIIB6632E

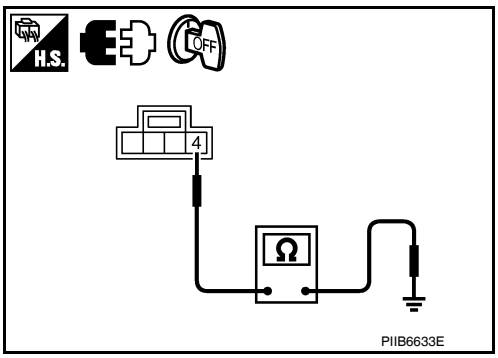
OK or NG

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



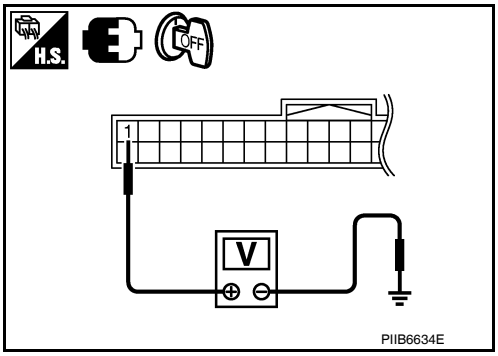
OK or NG

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

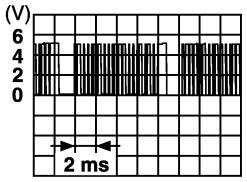


OK or NG

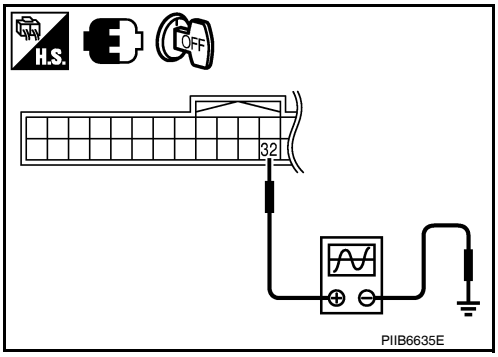
OK >> GO TO 4
NG >> GO TO 6

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 pushed	

SIIA1911J



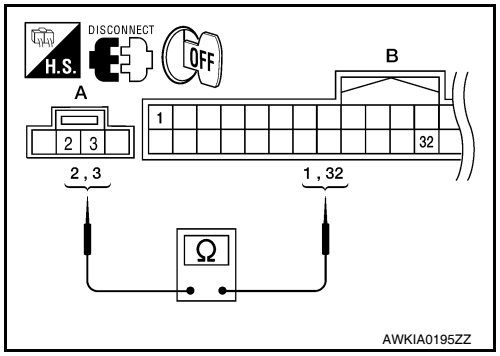
OK or NG

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

5. CHECK STEERING LOCK SOLENOID COMMUNICATION CIRCUIT FOR OPEN

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

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



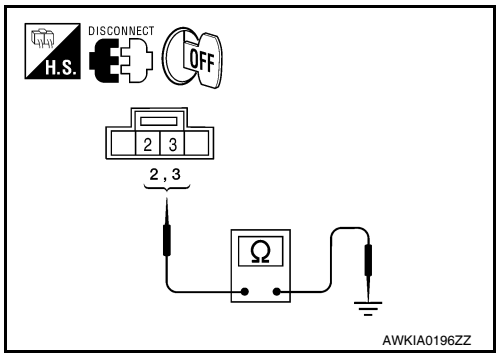
OK or NG

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

6. CHECK STEERING LOCK SOLENOID COMMUNICATION CIRCUIT FOR SHORT

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

Steering lock solenoid connector	Terminal	Ground	Continuity
M6	2,3		No



OK or NG

OK >> Replace Intelligent Key unit. Refer to BL-158, "Removal and Installation of Intelligent Key Unit".
NG >> Repair or replace harness between steering lock solenoid and Intelligent Key unit.

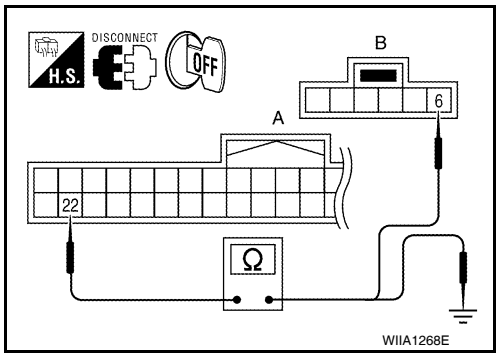
Key Interlock Solenoid (With M/T) Check

INFOID:0000000005396628

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.

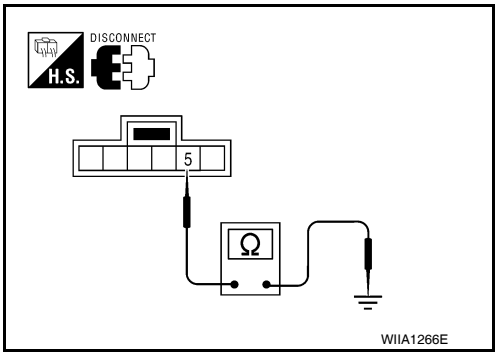
A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	22		No

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.



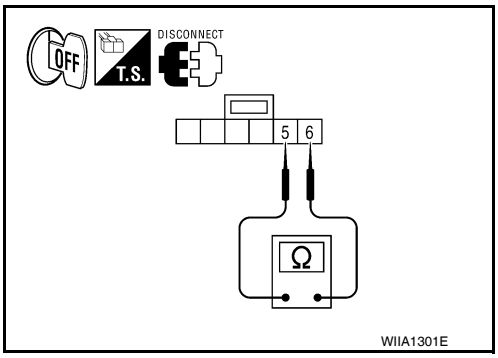
Key switch and ignition knob switch connector	Terminal	Ground	Continuity
M73	5		Yes

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

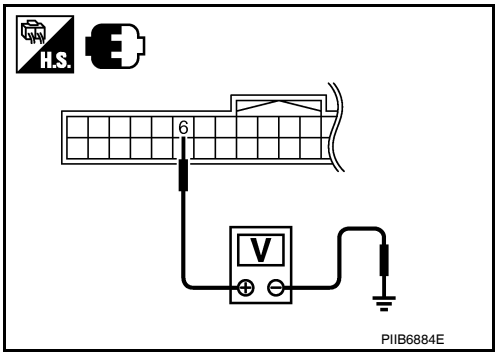
OK >> Key switch and ignition knob switch is OK.
NG >> Replace key switch and ignition knob switch.

Ignition Switch Position Check

INFOID:0000000005396629

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)]

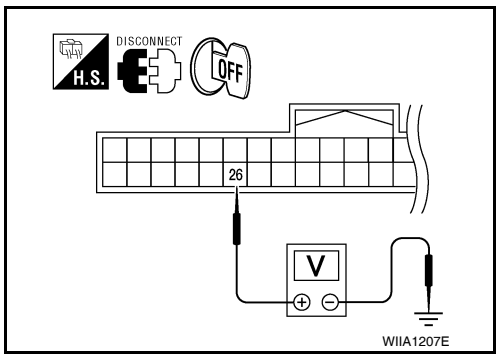
Stop Lamp Switch Check (With CVT or A/T)

INFOID:0000000005396630

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

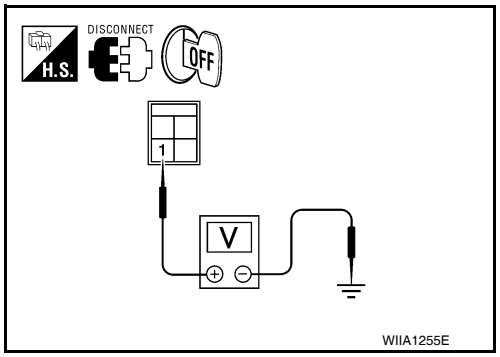
OK or NG

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

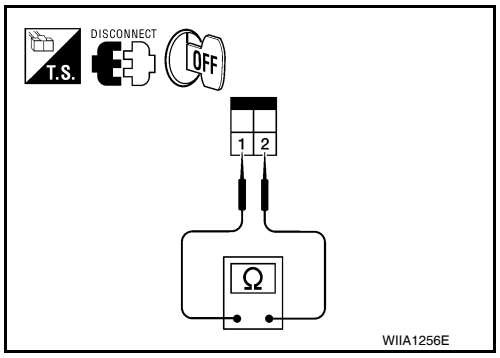


OK or NG

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.

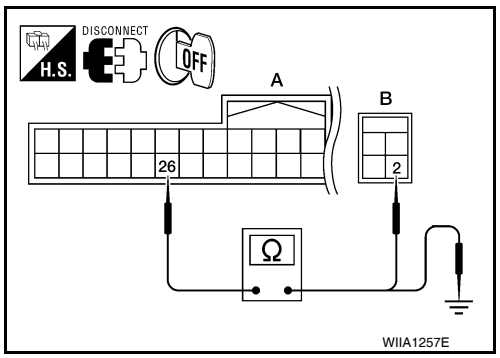
4.CHECK STOP LAMP SWITCH CIRCUIT

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

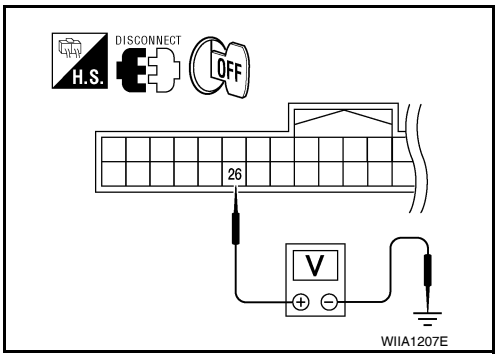
OK >> Check condition of harness and connector.
NG >> Repair or replace harness.

Stop Lamp Switch Check (With M/T)

INFOID:0000000005396631

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

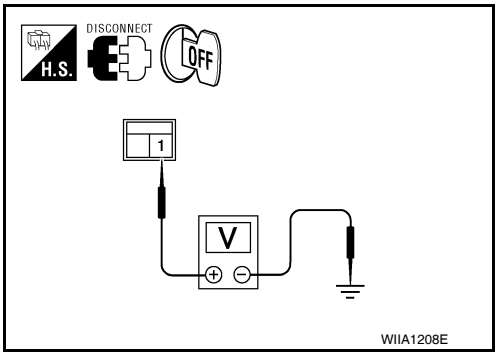
OK or NG

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

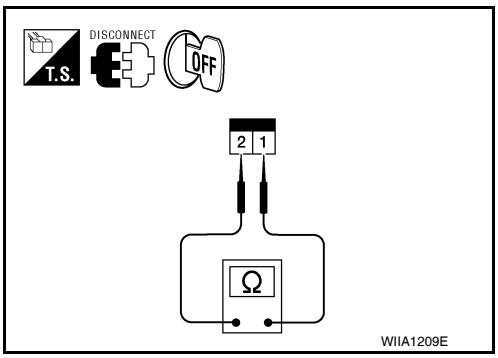


OK or NG

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.

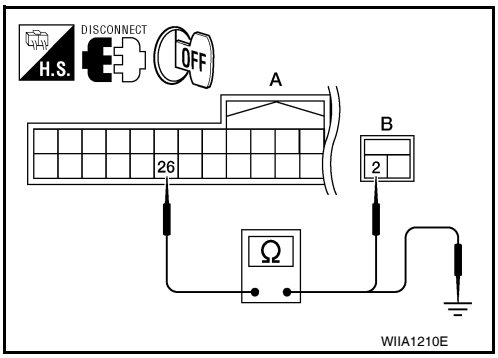
4.CHECK STOP LAMP SWITCH CIRCUIT

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.

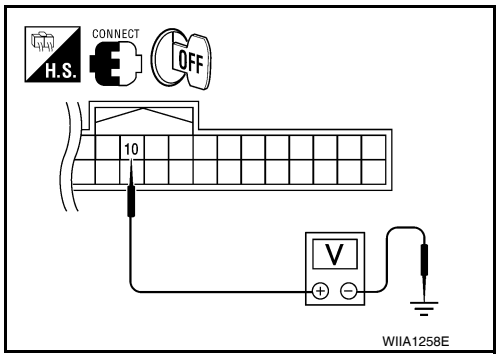
CVT or A/T Shift Selector (Park Position Switch) Check

INFOID:0000000005396632

1. CHECK CVT OR A/T SHIFT SELECTOR (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



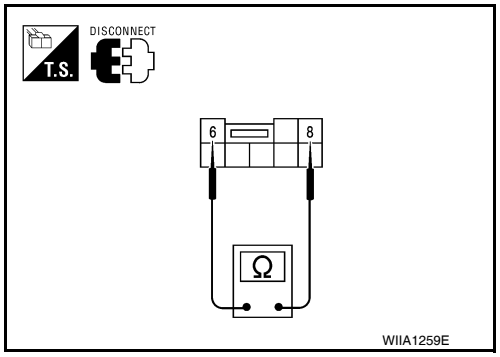
OK or NG

OK >> Replace Intelligent Key unit. Refer to BL-158, "Removal and Installation of Intelligent Key Unit".
NG >> GO TO 2

2. CHECK CVT OR A/T SHIFT SELECTOR (PARK POSITION SWITCH)

1. Disconnect CVT or A/T shift selector (park position switch) connector.
2. Check continuity between CVT or A/T shift selector (park position switch) terminals 6 and 8.

Component	Terminals		Condition	Continuity
CVT or A/T shift selector (park position switch)	6	8	Selector lever is in "P" position	Yes
			Other than above	No



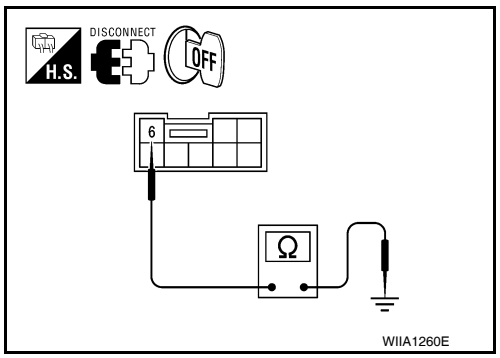
OK or NG

OK >> GO TO 3
NG >> Replace CVT or A/T shift selector (park position switch).

3. CHECK PARK POSITION SWITCH GROUND CIRCUIT

Check continuity between CVT or A/T shift selector (park position switch) harness connector M38 terminal 6 and ground.

6 – Ground : Continuity should exist.



OK or NG

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

4. CHECK PARK POSITION SWITCH CIRCUIT

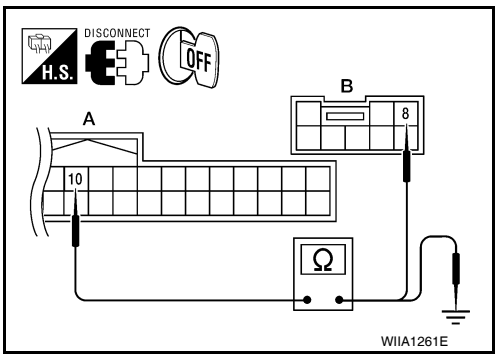
1. Disconnect Intelligent Key unit connector.

2. Check continuity between Intelligent Key unit harness connector (A) M52 terminal 10 and CVT or A/T shift selector (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.



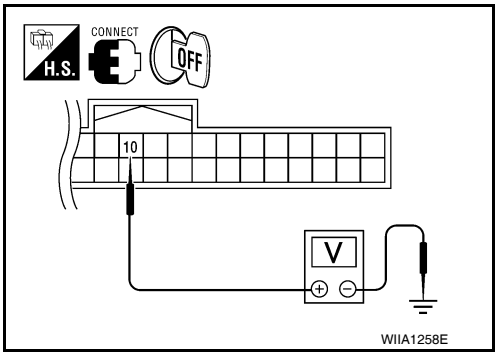
OK or NG

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

5. CHECK INTELLIGENT KEY OUTPUT SIGNAL

1. Connect Intelligent Key unit connector and CVT or A/T shift selector (park position switch) connector.
2. Check voltage between Intelligent Key unit connector M52 terminal 10 and ground.

Connector	Terminal (+)	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 or A/T shift selector (park position switch) circuit is OK.
NG >> Replace Intelligent Key unit. Refer to BL-158, "Removal and Installation of Intelligent Key Unit".

"P-SHIFT" Warning Lamp (With CVT or A/T) Check

INFOID:0000000005396633

1. CHECK WARNING LAMP OPERATION

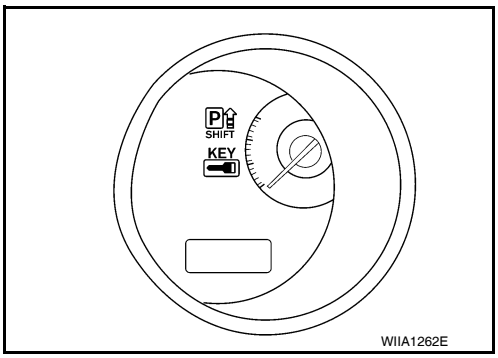
With CONSULT-III

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

“P-SHIFT” warning lamp should illuminate.

Without CONSULT-III

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-4.

"LOCK" Warning Lamp (With M/T) Check

INFOID:0000000005396634

1.CHECK WARNING LAMP OPERATION

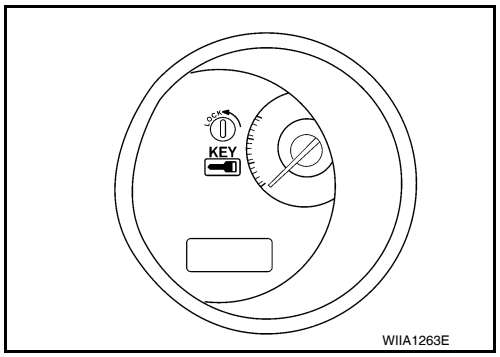
With CONSULT-III

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

“LOCK” warning lamp should illuminate.

Without CONSULT-III

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-4.

"KEY" Warning Lamp (RED) Check

INFOID:0000000005396635

1.CHECK WARNING LAMP OPERATION

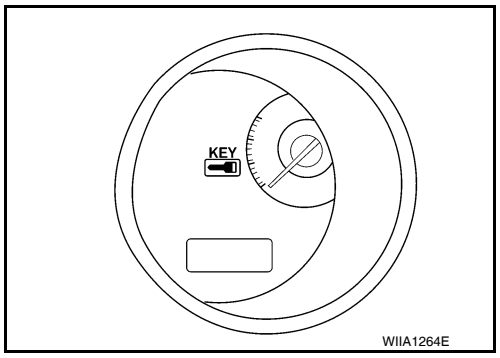
With CONSULT-III

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

“KEY” warning lamp (red) should illuminate.

Without CONSULT-III

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-4.

"KEY" Warning Lamp (GREEN) Check

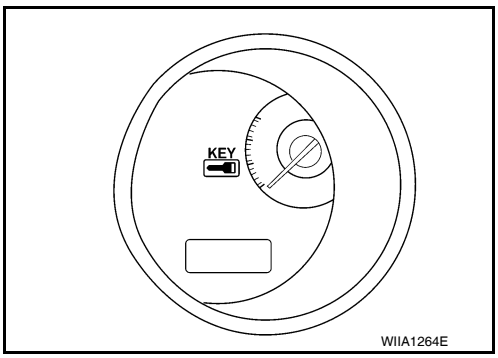
INFOID:0000000005396636

1.CHECK WARNING LAMP OPERATION

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

“KEY” warning lamp (green) should illuminate.

Without CONSULT-III
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-4.

Check Warning Chime in Combination Meter

INFOID:0000000005396637

1.CHECK WARNING CHIME OPERATION

With CONSULT-III
- Check “INSIDE BUZZER” in “ACTIVE TEST” mode with CONSULT-III.
- 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 >> Refer to DI-43.

Hazard Function Check

INFOID:0000000005396638

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.

Horn Function Check

INFOID:0000000005396639

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

1.CHECK HORN OPERATION

Check if horn sounds with horn switch.

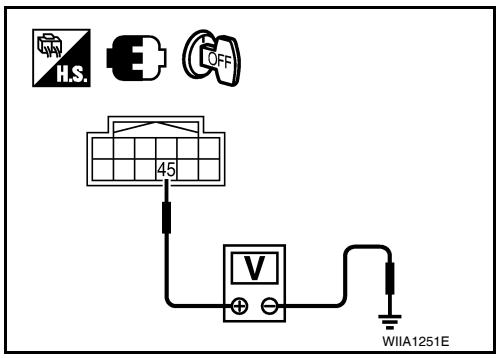
Does horn operate?

Yes >> GO TO 2
No >> Check horn circuit. Refer to WW-39.

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



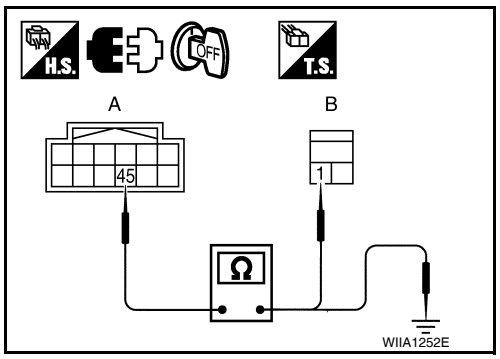
OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "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

INFOID:0000000005396640

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-6 or LT-28.

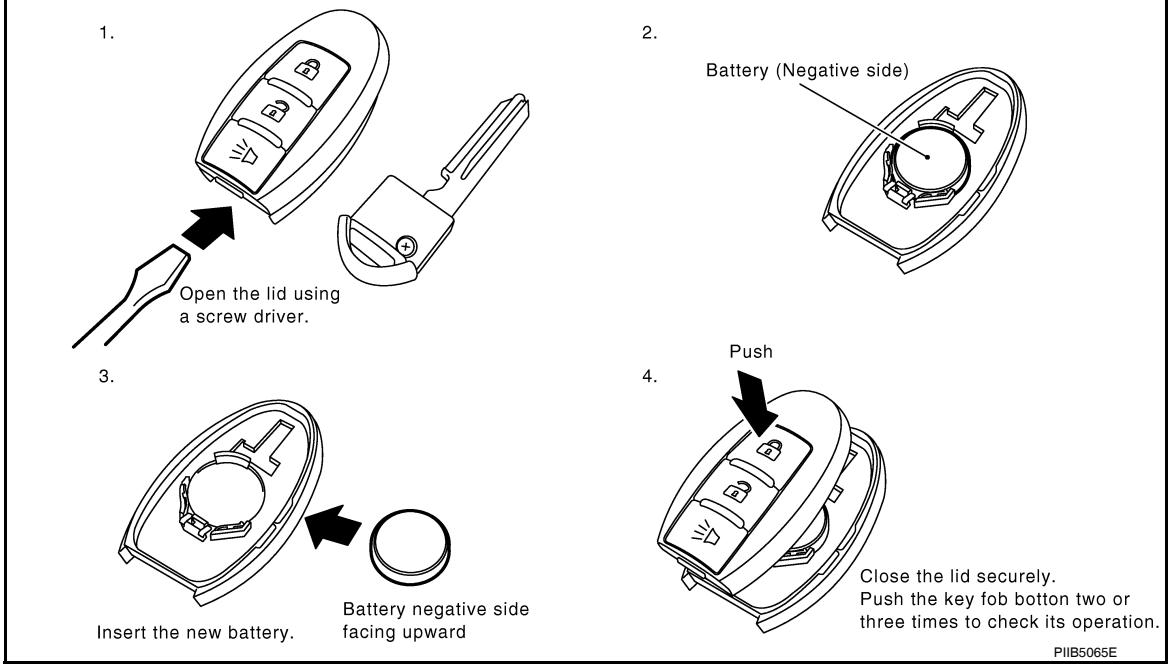
Intelligent Key Battery Replacement

INFOID:0000000005396641

SEC.998

NOTE:

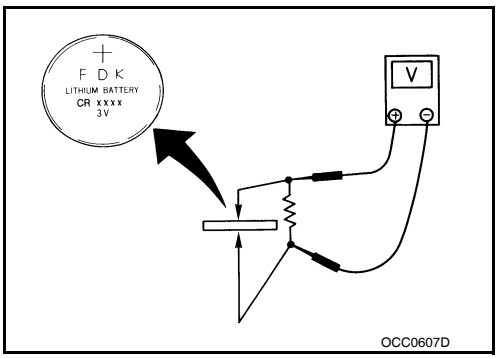
- Be careful not to touch the circuit board or battery terminal.
- The keyfob is water-resistant. However, if it does get wet, immediately wipe it dry.



INTELLIGENT KEY BATTERY INSPECTION

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

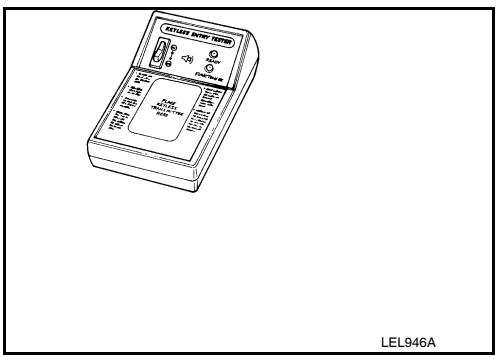
Standard : Approx. 2.5 - 3.0V



Remote Keyless Entry Function

INFOID:0000000005396642

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



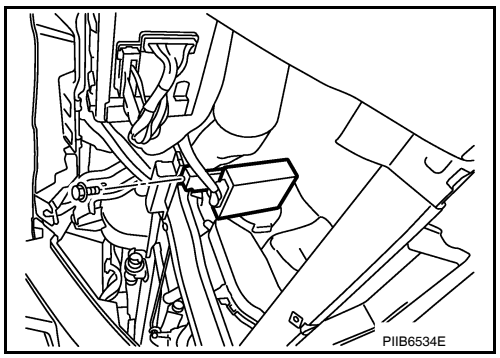
Removal and Installation of Intelligent Key Unit

INFOID:0000000005396643

REMOVAL

1. Remove glove box assembly. Refer to IP-12, "Removal and Installation".

2. Disconnect Intelligent Key unit connector, remove screw and Intelligent Key unit.



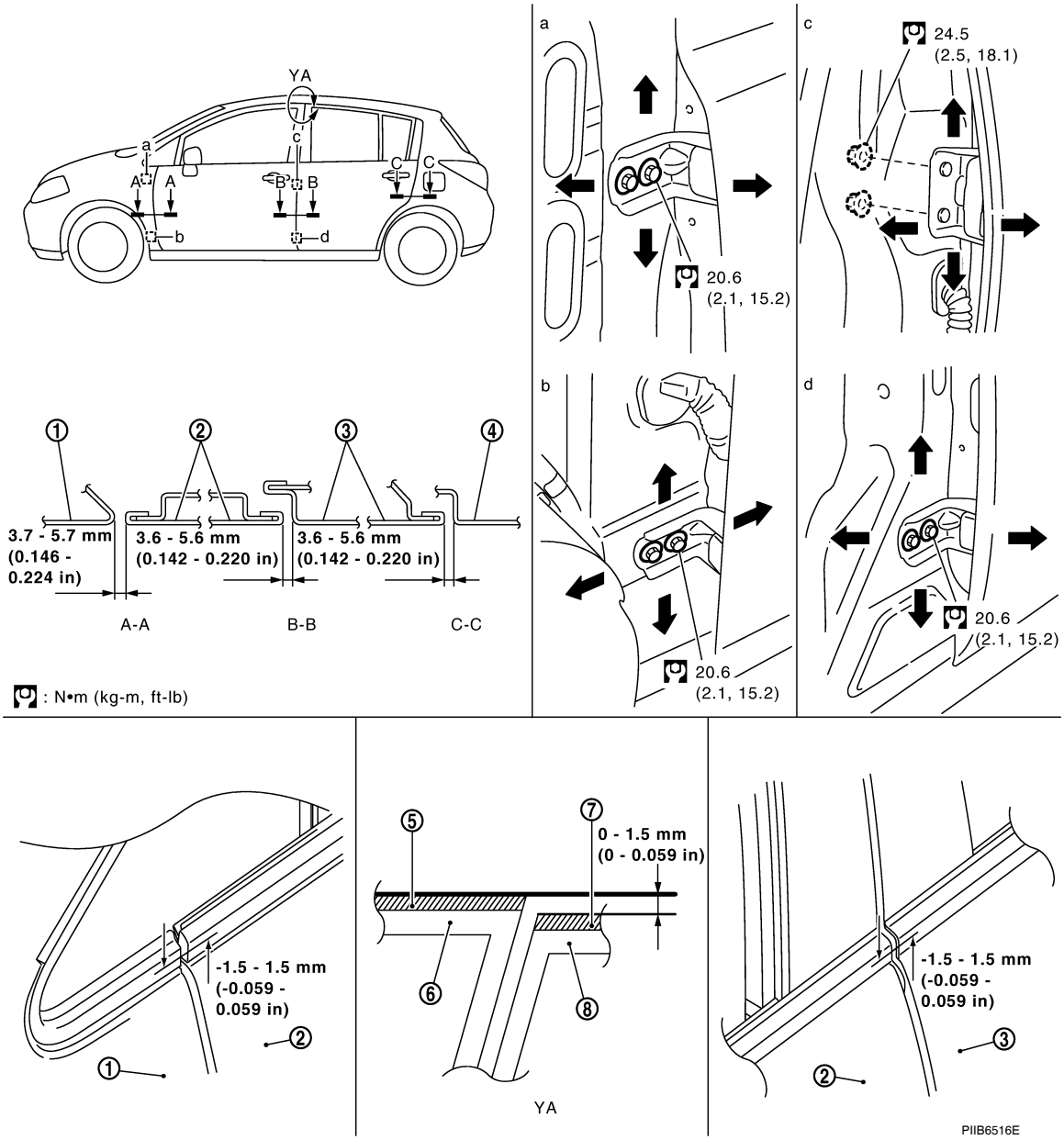
INSTALLATION

Installation is in the reverse order of removal.

DOOR

Fitting Adjustment

INFOID:0000000005396644



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 at Front End

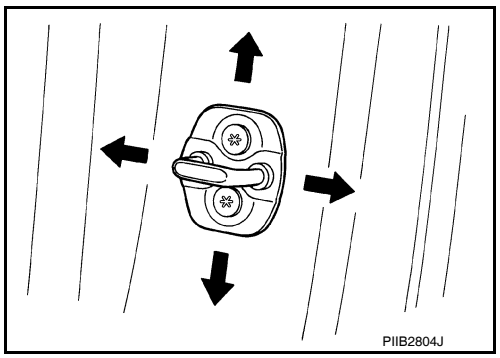
Access from inside the fender to loosen the hinge bolts. Raise the front door at rear end to adjust.

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

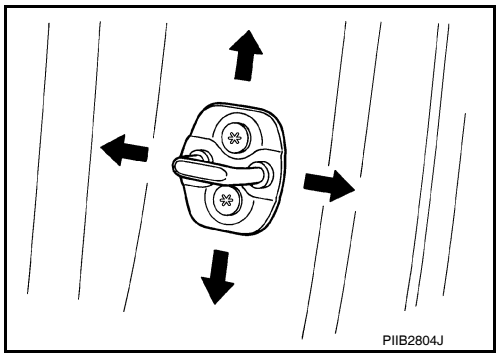
1. Remove the center pillar upper and lower garnishes. Refer to EI-39.
2. Access from inside the vehicle to loosen the hinge nuts. Open the rear door, and raise the rear door at rear end to adjust.

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.

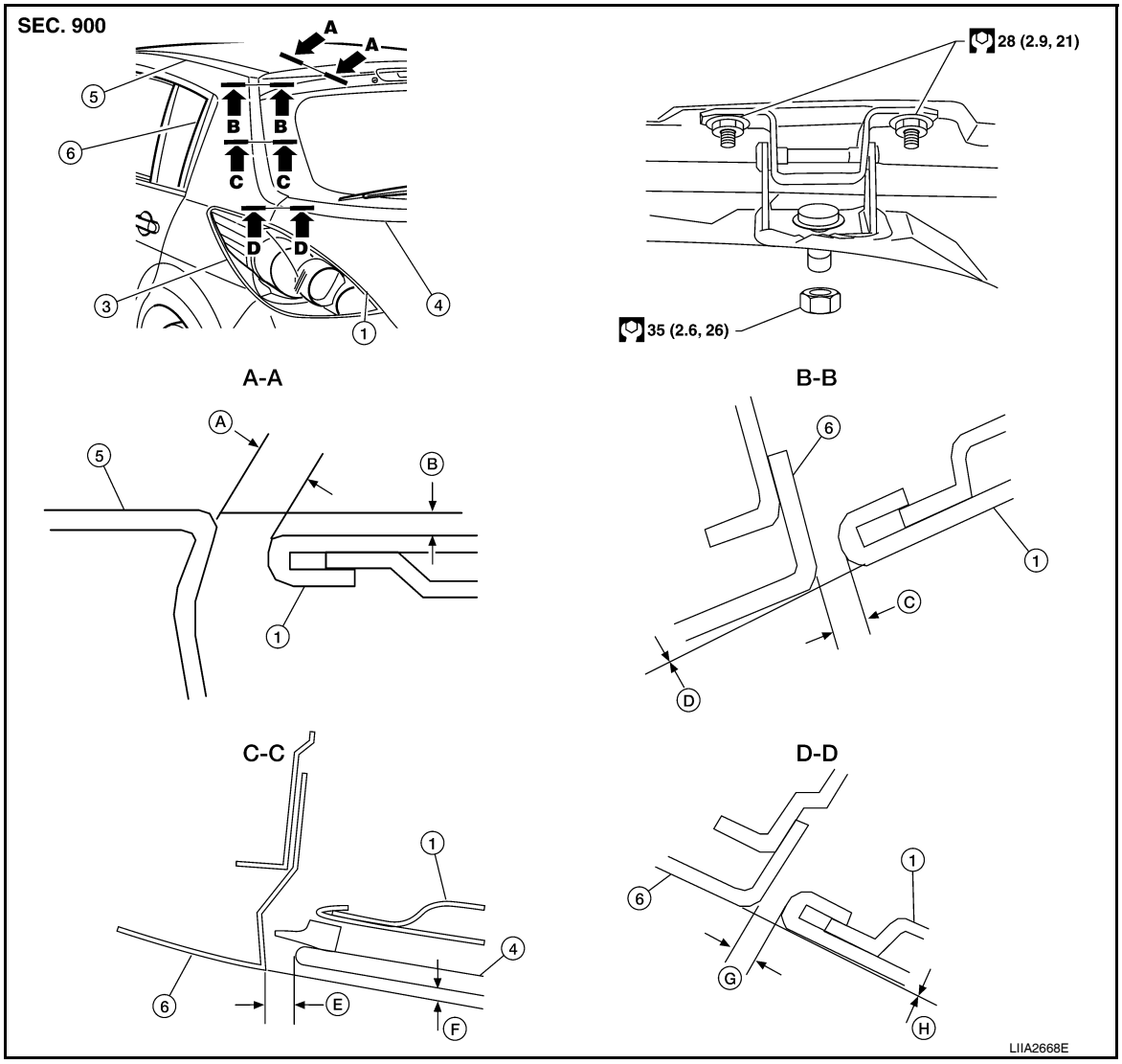
Striker Adjustment

16.7 N·m (1.7 kg-m, 12 ft-lb)



BACK DOOR

Longitudinal Clearance and Surface Height Adjustment

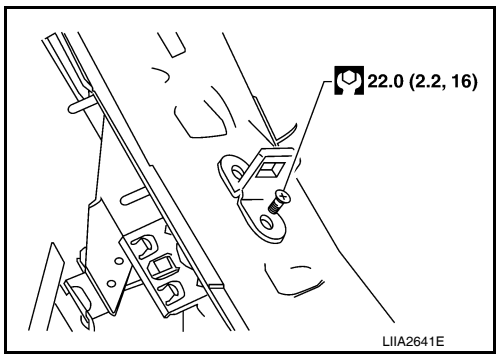


1. Back door assembly
2. Back door hinge
3. Tail lamp assembly
4. Back window glass
5. Roof
6. Rear pillar
A. 6.0 ± 1.0 mm (0.24 ± 0.04 in)
B. -0.5 ± 1.0 mm (-0.02 ± 0.04 in)
C. 5.0 ± 1.2 mm (0.20 ± 0.05 in)
D. 0.0 ± 1.5 mm (0.0 ± 0.06 in)
E. 5.0 ± 2.3 mm (0.20 ± 0.9 in)
F. 2.7 +1.6 -2.1 mm (0.11 + 0.06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

INFOID:0000000005396645

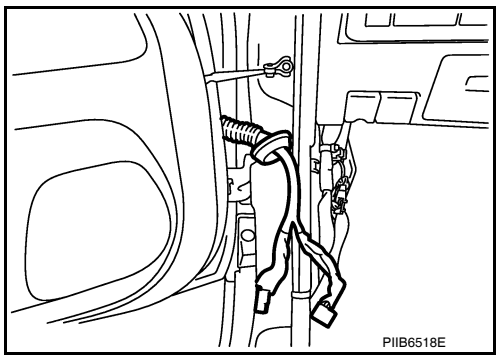
FRONT DOOR

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-160, "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.**

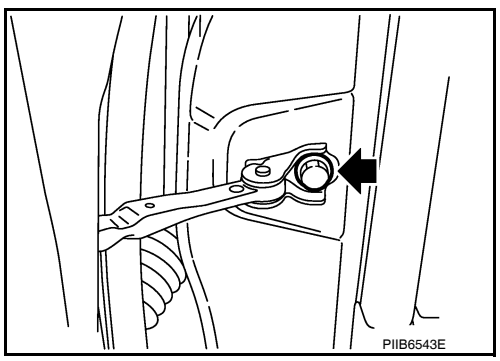
Removal

1. Remove dash side finisher. Refer to EI-40, "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.



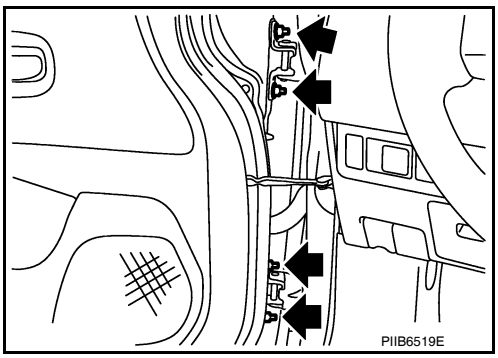
4. Remove the check link bolt.

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.

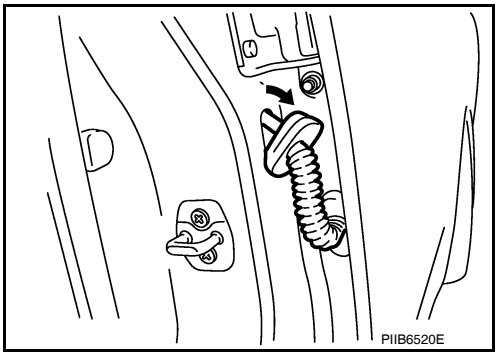
REAR DOOR

CAUTION:

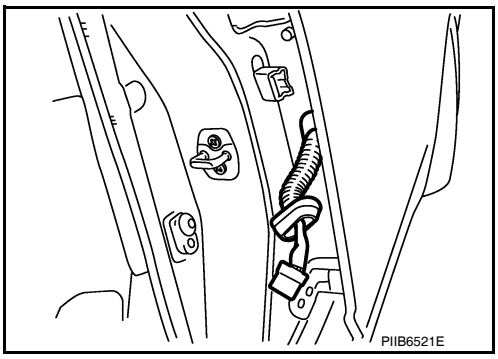
- **When removing and installing the rear door assembly, support the door with a jack and cloth to protect the door and body.**
- **When removing and installing rear door assembly, be sure to carry out the fitting adjustment. Refer to BL-160, "Fitting Adjustment".**
- **After installing, apply touch-up 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.

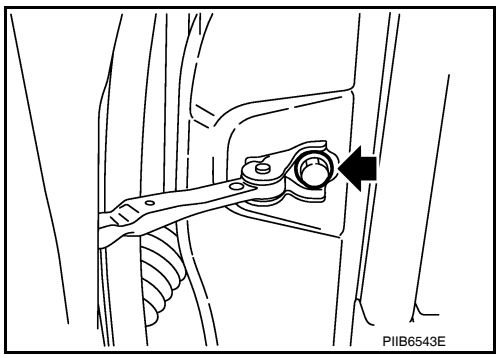


2. Disconnect the rear door harness connector.



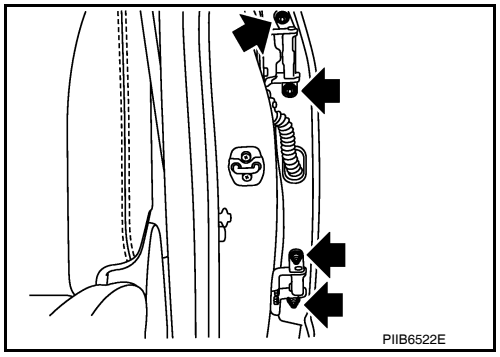
3. Remove the check link bolt.

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)

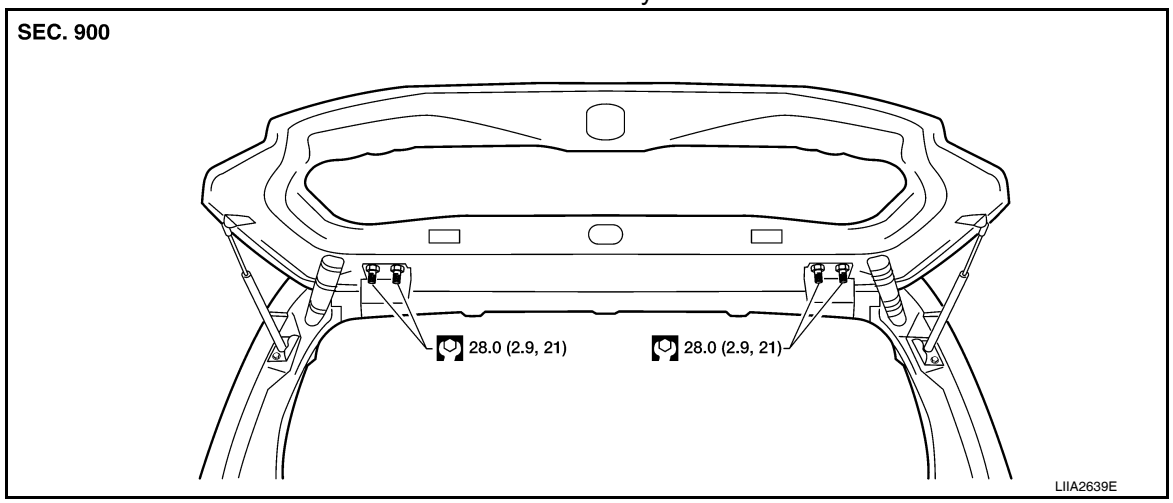


Installation
Installation is in the reverse order of removal.

BACK DOOR

Removal

1. Remove the back door glass. Refer to GW-16.
2. Remove the back door lock assembly. Refer to BL-172.
3. Remove the back door wire harness.
4. Remove the rear washer nozzle and hose from the back door. Refer to WW-33, "Removal and Installation".
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.

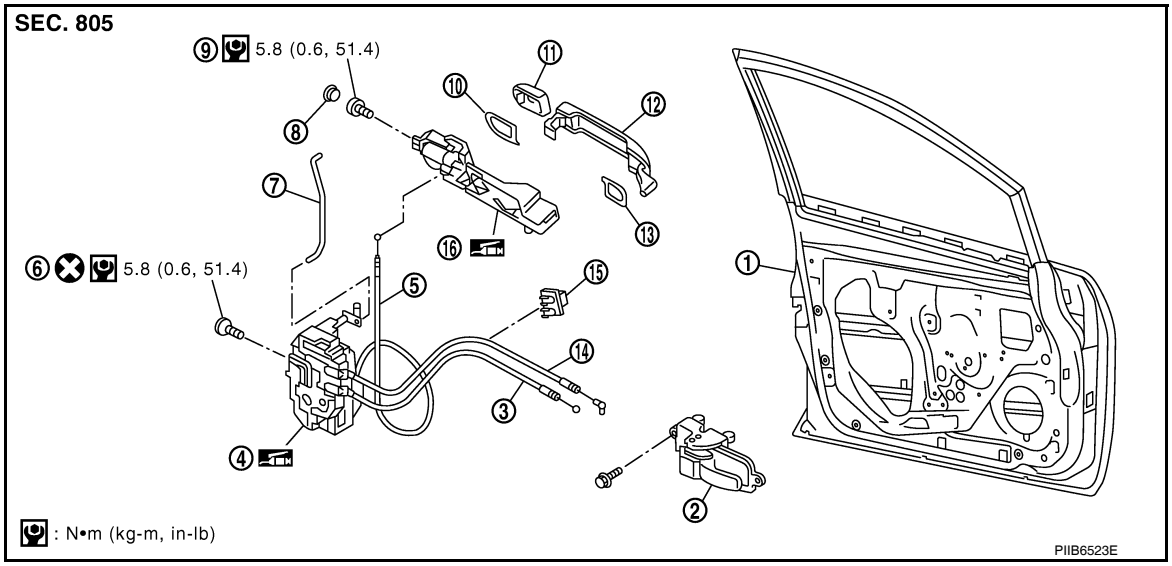


Installation
Installation is in the reverse order of removal.
- Align the back door. Refer to BL-160, "Fitting Adjustment".

FRONT DOOR LOCK

Component Parts Location

INFOID:0000000005396646



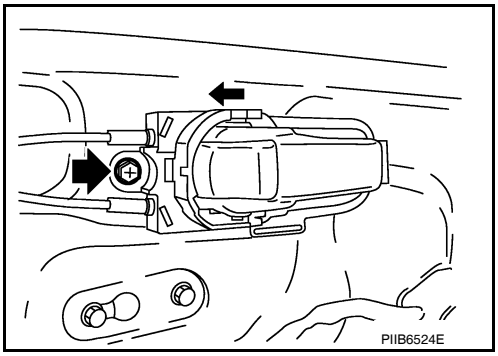
1. Front door
2. Inside handle
3. Inside handle cable
4. Door lock assembly
5. Outside handle cable
6. TORX bolt (T30)
7. Key cylinder connecting rod
8. Grommet
9. TORX bolt (T30)
10. Rear gasket
11. Door key cylinder assembly (Driver's side) Outside handle escutcheon (passenger's side)
12. Outside handle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

Removal and Installation

INFOID:0000000005396647

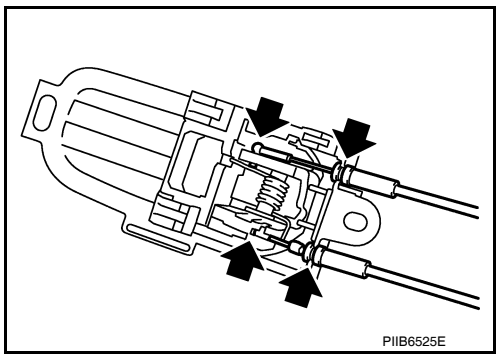
REMOVAL

1. Remove front door finisher. Refer to EI-34, "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-44, "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.

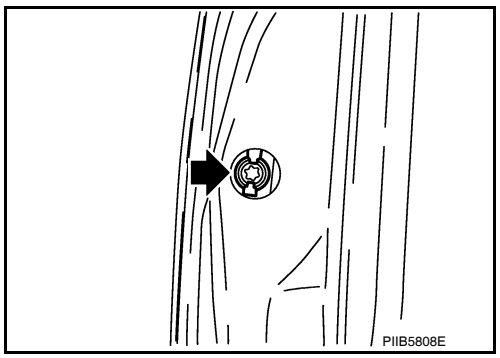


7. Disengage the handle from the door panel, and remove the inside handle.

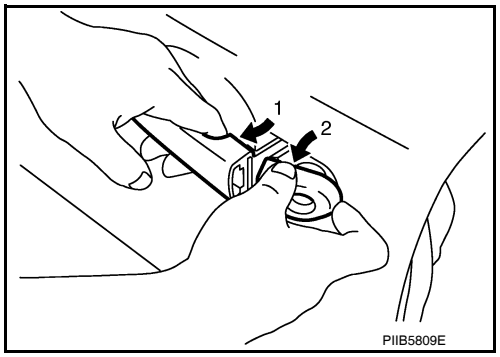
8. Disconnect the inside handle cable and lock knob cable from the inside handle.
CAUTION:
During removal and installation, work so as not to bend the ends of the lock knob cable and inside handle cable.



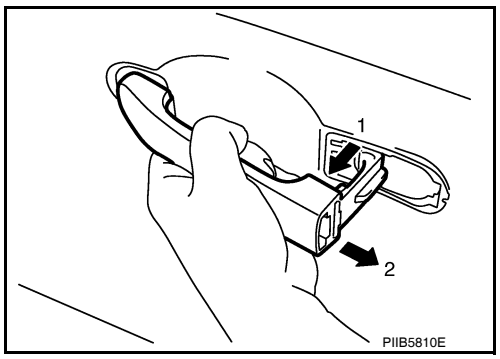
9. Remove the door side grommet, and the door key cylinder assembly (escutcheon) bolt.
10. Remove the key cylinder connecting rod (key cylinder side).
11. If equipped, disconnect the door antenna, the door request switch connector and remove the harness clamp. (Vehicle with intelligent key systems only).



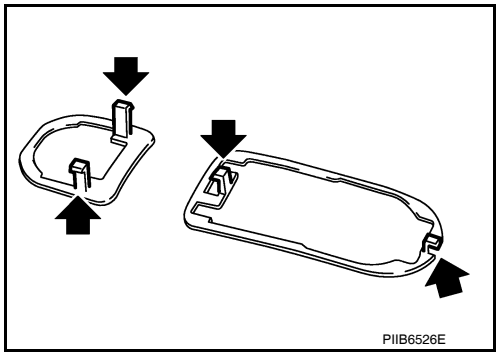
12. Remove the door cylinder assembly while pulling the outside handle forward.



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

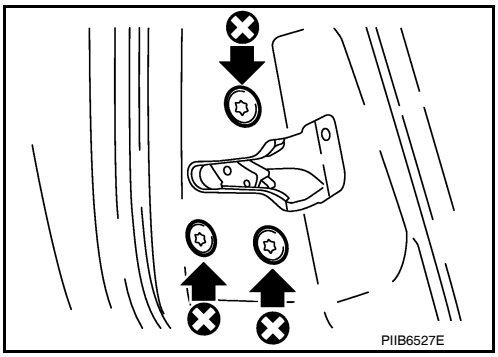


14. Remove the front and rear gaskets.

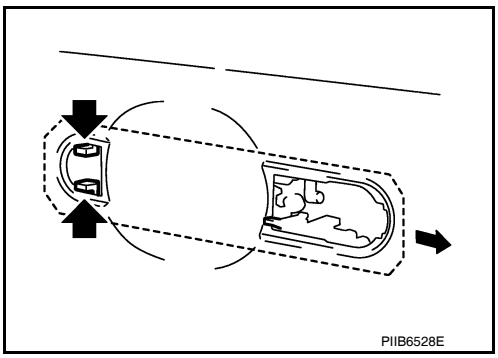


15. Remove the door lock assembly bolts.

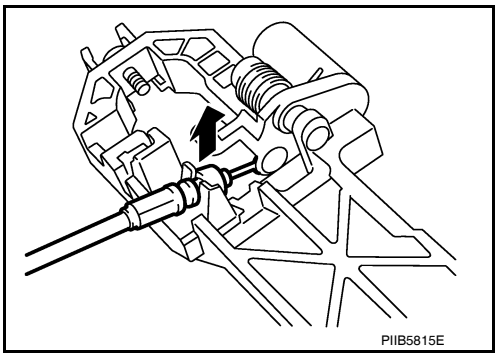
5.8 N·m (0.6 kg-m, 51.4 in-lb)



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.

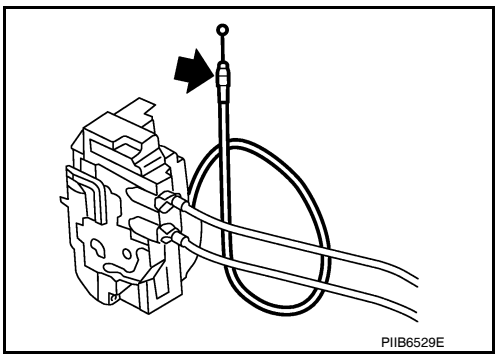


INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

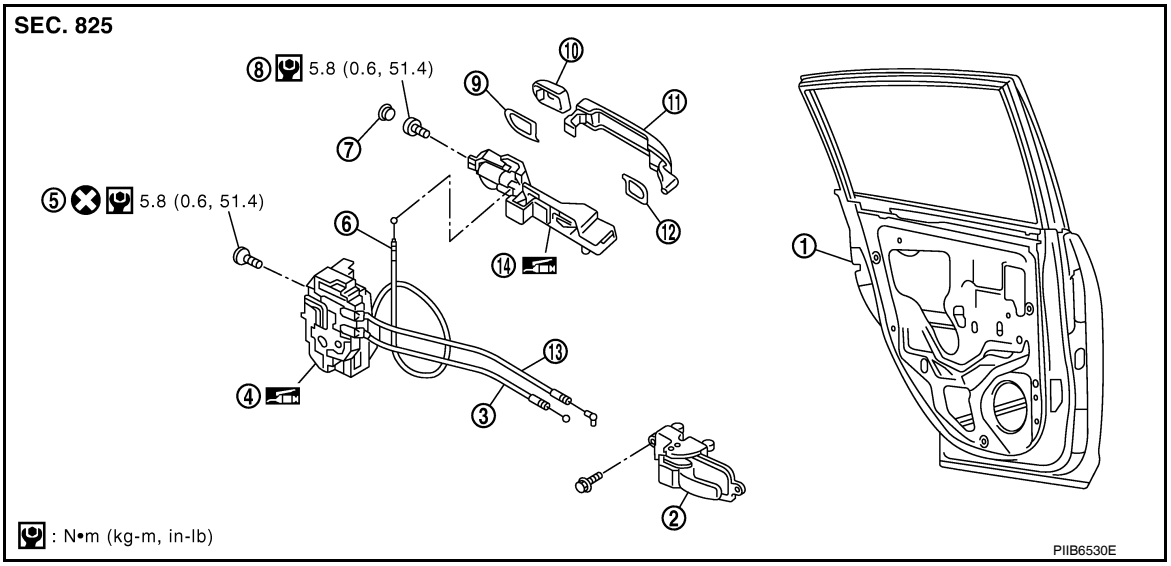
- **To install each rod, be sure to rotate the rod holder until a click is felt.**
- **When installing door lock assembly, be careful when rotating the outside handle cable as shown in the figure.**
  - **Place the outside handle bracket cable on the inside of door lock assembly before installing.**



REAR DOOR LOCK

Component Parts Location

INFOID:0000000005396648



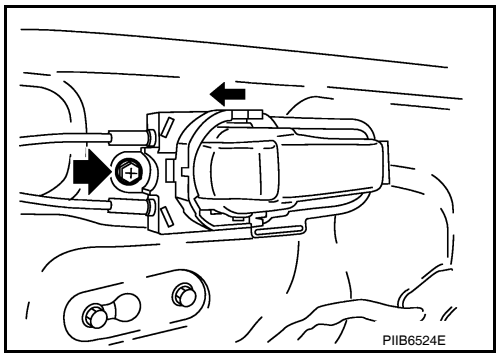
1. Rear door
2. Inside handle
3. Inside handle cable
4. Door lock assembly
5. TORX bolt (T30)
6. Outside handle cable
7. Grommet
8. TORX bolt (T30)
9. Rear gasket
10. Outside handle escutcheon
11. Outside handle
12. Front gasket
13. Lock knob cable
14. Outside handle bracket

Removal and Installation

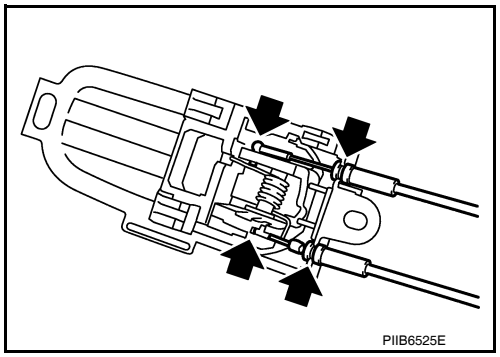
INFOID:0000000005396649

REMOVAL

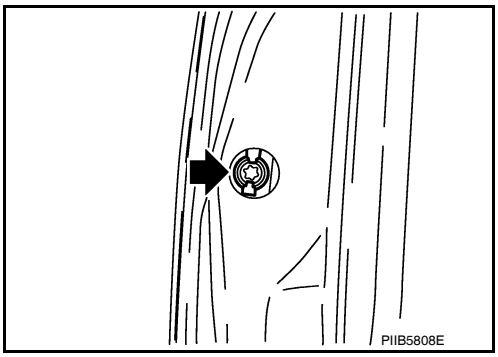
1. Remove the partition glass. Refer to GW-48 .
2. Support door glass while lifting it up to the door window completely closed position.
3. Remove inside handle bolt, slide handle toward rear of vehicle, disconnect it from the door panel, and remove the inside handle.



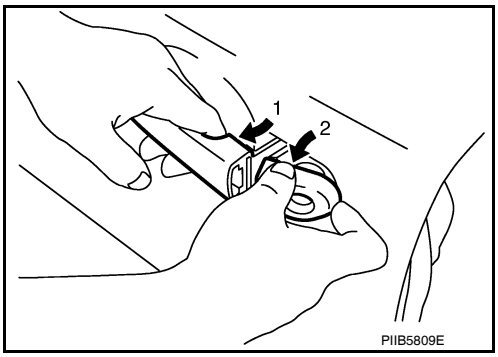
4. Disconnect the inside handle and lock knob cables from the inside handle.
   CAUTION:
   During removal and installation, do not to bend the ends of the lock knob cable and inside handle cable.



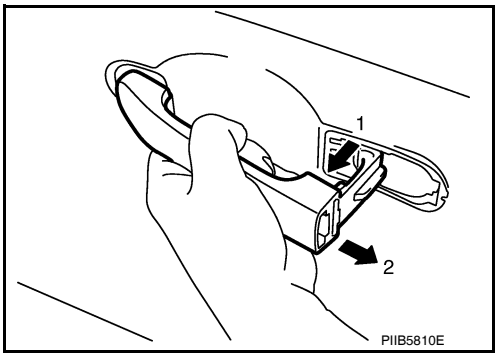
5. Remove the door side grommet, and the outside handle escutcheon screw.



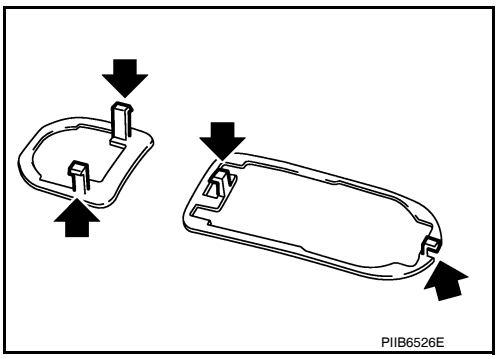
6. Pull the outside handle forward (1), while removing outside handle escutcheon (2).



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

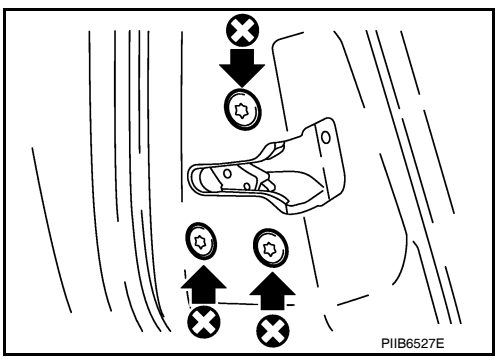


8. Remove the front and rear gaskets.

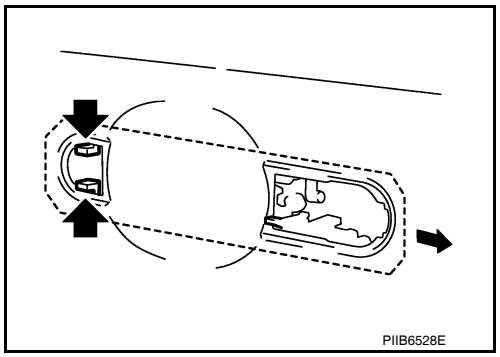


9. Remove the door lock assembly screws.

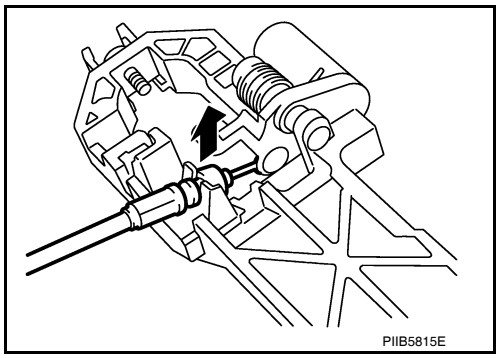
: **5.8 N·m (0.6 kg-m, 51.4 in-lb)**



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.

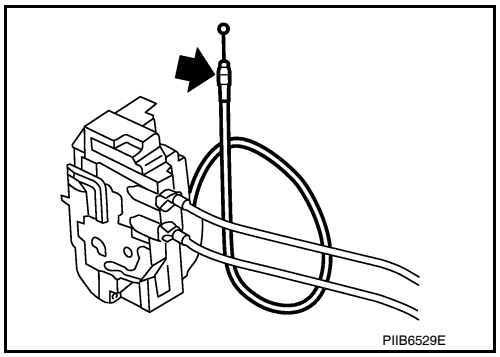


INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

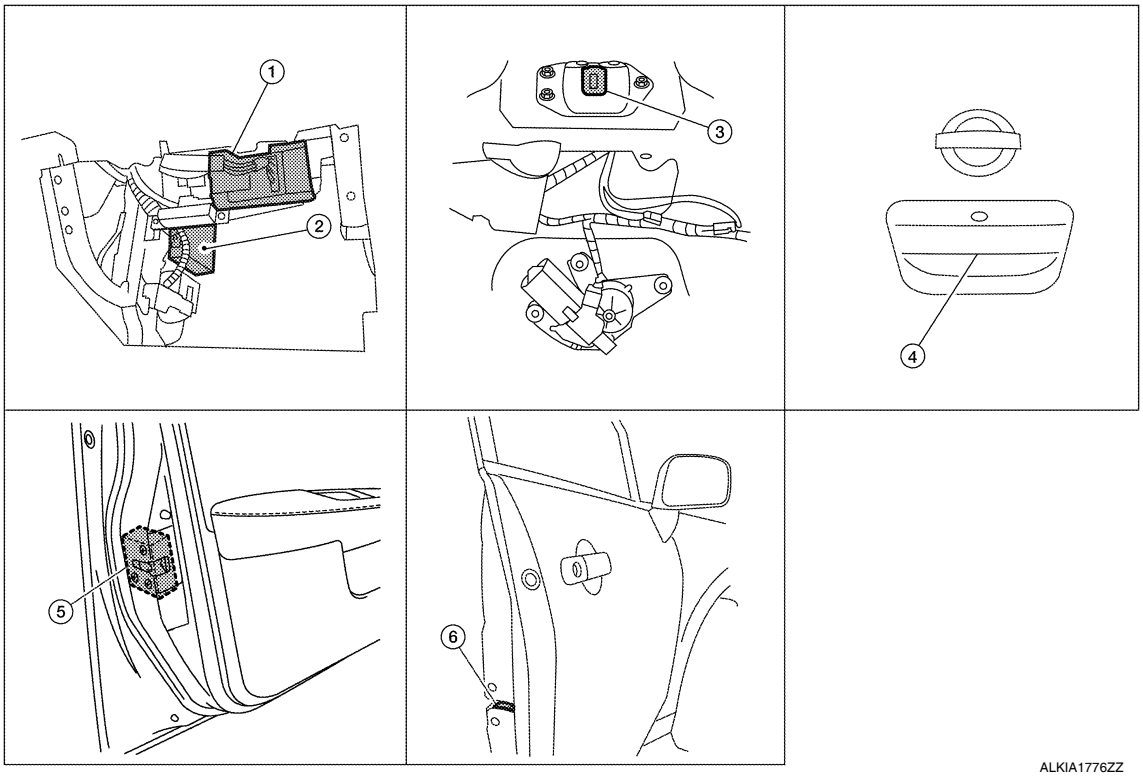
- **To install each rod, be sure to rotate the rod holder until a click is felt.**
- **When installing door lock assembly, be careful when rotating the outside handle cable as shown.**
- **Place the outside handle bracket cable on the inside of door lock assembly before installing.**



BACK DOOR LOCK

Component Parts and Harness Connector Location

INFOID:0000000005396650



1. BCM M18, M19, M20 (view with glove box removed)
2. Intelligent Key unit M52 (with Intelligent Key)
3. Back door lock assembly (actuator) D405
4. Back door opener switch D408
5. Front door lock actuator LH (door unlock sensor) D3 (without power windows)
6. Front door lock actuator RH (door unlock sensor) D114 (with power windows)

System Description

INFOID:0000000005396651

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.

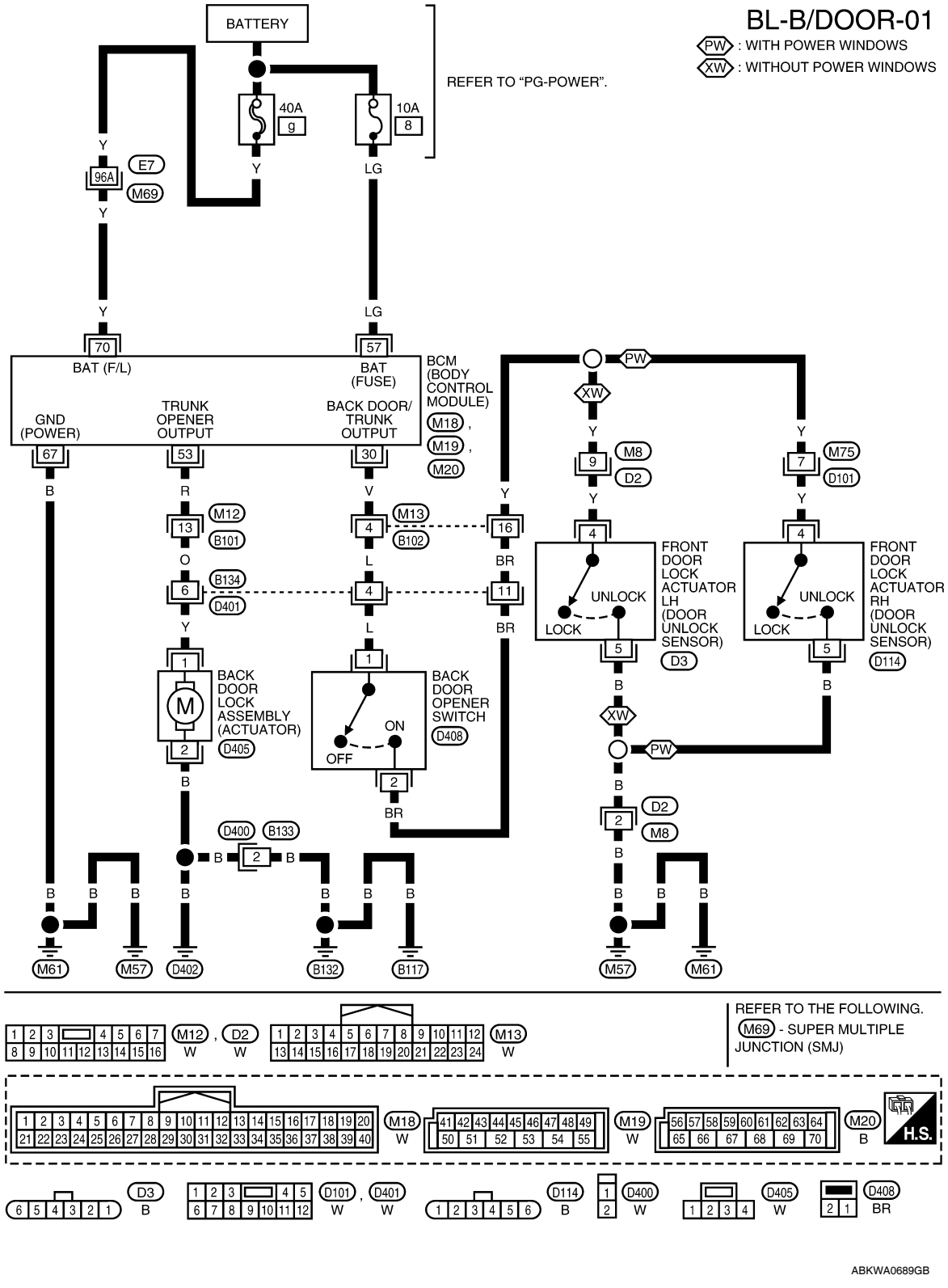
Ground is supplied
- to back door lock assembly (actuator) terminal 2
- through body grounds B117, B132 and D402.

Then BCM operates back door lock assembly (actuator).

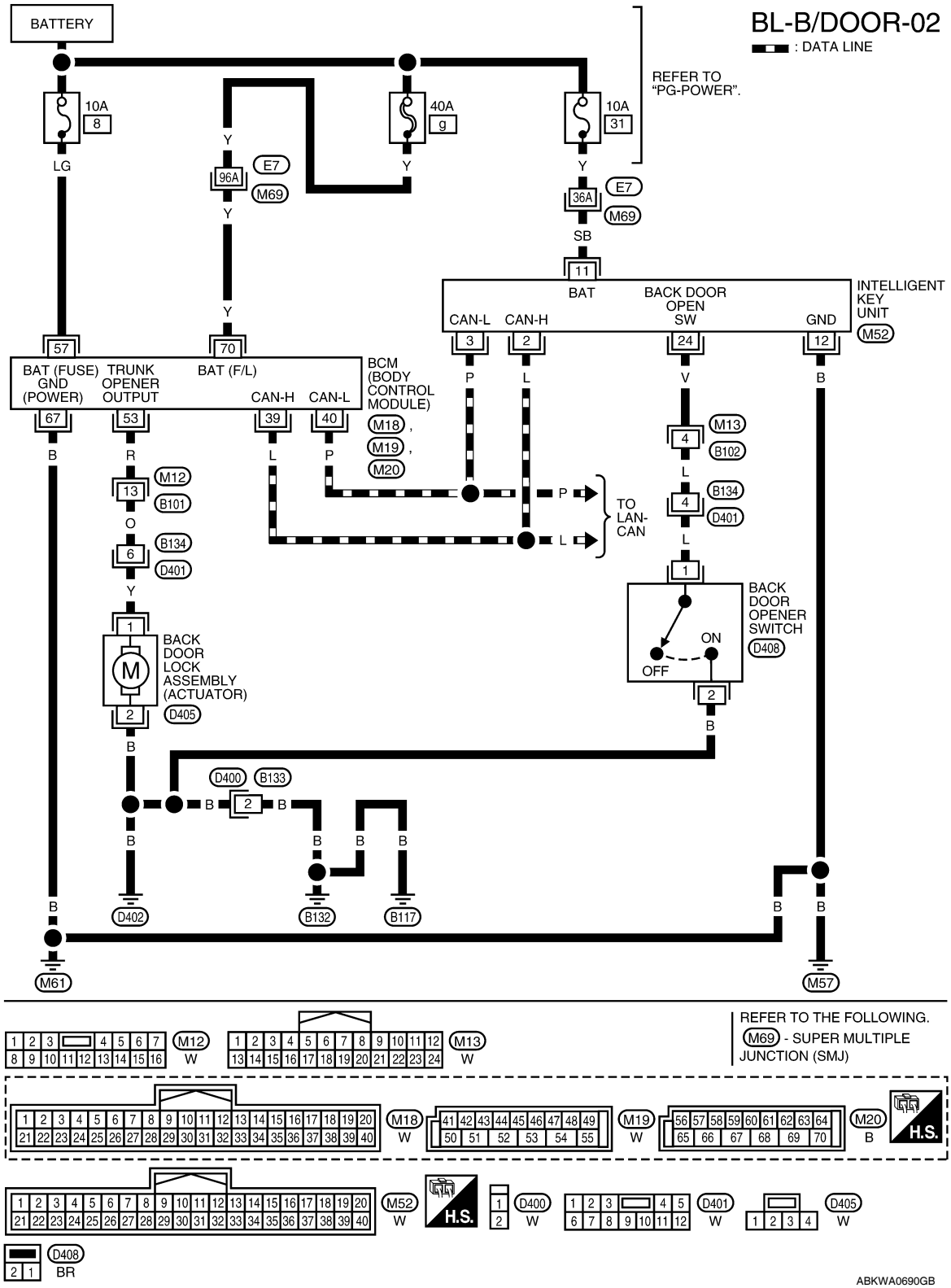
Wiring Diagram - B/DOOR -

INFOID:0000000005396652

WITHOUT INTELLIGENT KEY SYSTEM

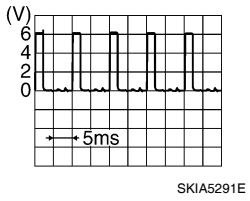
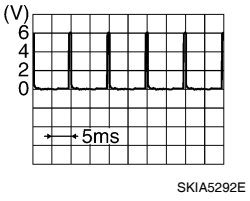
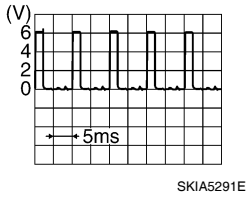
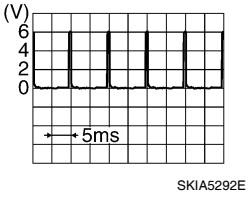


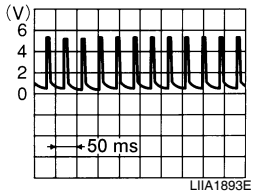
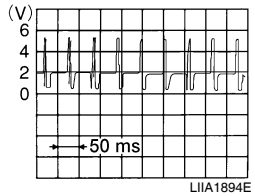
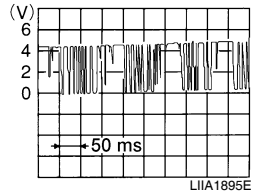
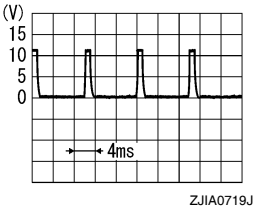
ABKWA0689GB

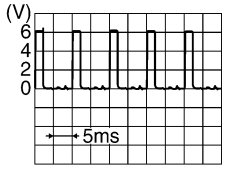
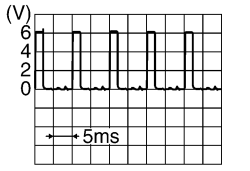

BL-B/DOOR-02
: DATA LINE
BATTERY
10A 8
40A g
10A 31
REFER TO "PG-POWER".
LG
Y
96A
E7
M69
36A
SB
11
BAT
BACK DOOR OPEN SW
CAN-L
CAN-H
GND
INTELLIGENT KEY UNIT
M52
57
70
3
2
24
12
BAT (FUSE) GND (POWER)
TRUNK OPENER OUTPUT
BAT (F/L)
CAN-H
CAN-L
BCM (BODY CONTROL MODULE)
M18, M19, M20
67
53
39
40
P
L
V
B
R
O
M12
B101
M13
B102
B134
D401
TO LAN-CAN
13
6
4
1
BACK DOOR LOCK ASSEMBLY (ACTUATOR)
D405
BACK DOOR OPENER SWITCH
D408
ON
OFF
2
D400
B133
D402
B132
B117
M61
M57
REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)
M12
W
M13
W
M18
W
M19
W
M20
B
H.S.
M52
W
D400
W
D401
W
D405
W
D408
BR
ABKWA0690GB

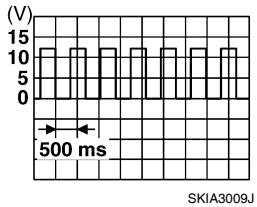
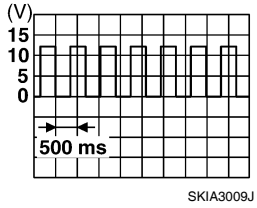
Terminal and Reference Value for BCM

INFOID:0000000005612419

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
2	BR	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	GR	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	L	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	G	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	V	Combination switch input 1				
7[7]	BR	Front door key cylinder switch LH (unlock)	Input	OFF	ON (open, 2nd turn)	Momentary 1.5V
					OFF (closed)	0V
8[7]	Y	Front door key cylinder switch LH (lock)	Input		On (open)	Momentary 1.5V
					OFF (closed)	0V
9	W	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
10	R	Defrost A/C switch signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
11	L	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	SB	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage

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

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
30[1]	LG	Back door/trunk output	Output	—	Back door open (switch closed)	0V
					Back door closed (switch open)	5V
30[3]	LG	Back door opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
30[4]	V	Trunk lid opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
32	LG	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	V	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
35	R	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	P	Combination switch output 1				
37[1]	G	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage
					Intelligent Key removed	0V
37[2]	G	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key removed	0V
38	W	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
41[6]	W	Trunk key cylinder switch	Input	—	ON (Full unlock position)	0V
					OFF (Neutral position)	5V
42[6]	Y	Trunk lamp switch	Input	OFF	ON (trunk open)	0V
					OFF (trunk closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
43[5]	R	Back door switch	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
44[5]	LG	Rear wiper auto stop	Input	ON	Rear wiper operating	0
					Rear wiper stopped	Battery
45[7]	GR	Lock switch	Input	OFF	ON (lock)	0V
					OFF	Battery voltage
46[7]	L	Unlock switch	Input	OFF	ON (unlock)	0V
					OFF	Battery voltage
47	BR	Front door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
48	O	Rear door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
49	P	Luggage room lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage
50	SB	A/C indicator	Output	ON	A/C OFF	0
					A/C ON	Battery voltage
53[5]	R	Back door lock assembly (actuator)	Output	OFF	Back door (open)	Battery voltage
53[6]	R	Trunk lamp switch and trunk release solenoid	Output	OFF	Trunk lid (open)	Battery voltage
55[5]	V	Rear wiper motor output	Output	ON	OFF	0
					ON	Battery voltage
56	R	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	LG	Battery power supply	Input	OFF	—	Battery voltage
59[7]	G	Front door lock actuator LH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	V	Turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
61	W	Turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
63	BR	Interior room lamp	Output	OFF	Any door switch: ON (open)	0V
					Any door switch: OFF (closed)	Battery voltage

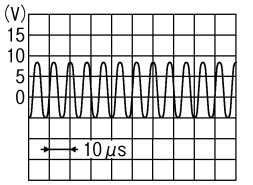
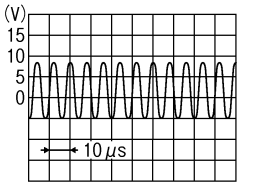
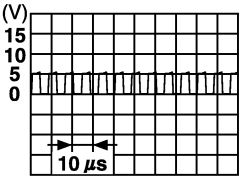
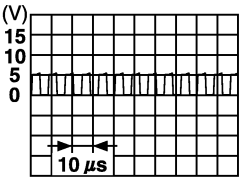
Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
65[7]	SB	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66[7]	G	Front door lock actuator RH, rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
67	B	Ground	Input	ON	—	0V
68[8]	L	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
69[8]	P	Battery power supply	Output	OFF	—	Battery voltage
70	Y	Battery power supply	Input	OFF	—	Battery voltage

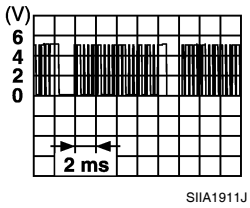
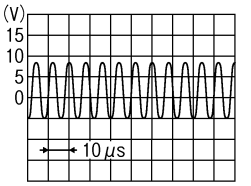
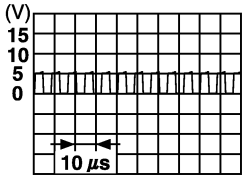
1: With Intelligent Key
2: Without Intelligent Key
3: Hatchback without Intelligent Key
4: Sedan without Intelligent Key
5: Hatchback
6: Sedan
7: With power door locks
8: With power windows

Terminal and Reference Value for Intelligent Key Unit

INFOID:0000000005612424

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 or A/T shift selector (park position switch)	ON	Shift lever in park position.		0
				Other than above		Battery voltage
11	SB	Power source (Fuse)	—	—		Battery voltage

Terminal	Wire Color	Item	Condition		Voltage (V) Approx.
			Ignition Switch Position	Operation or Conditions	
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			
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	B/R	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	LG	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

Terminal	Wire Color	Item	Condition		Voltage (V) Approx.
			Ignition Switch Position	Operation or Conditions	
29	V	Back door request switch (hatchback)	—	Press back door request switch.	0
				Other than above	5
		Trunk opener request switch (sedan)	—	Press trunk opener 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
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) or automatic transmission (A/T).

*2: With manual transmission (M/T).

CONSULT-III Function (BCM)

INFOID:0000000005396655

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

Diagnostic mode	Description
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 DIAGNOSTIC RESULT	Displays BCM self-diagnosis results.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ECU IDENTIFICATION	BCM part number can be read.
CONFIGURATION	Performs BCM configuration read/write functions.

CONSULT-III APPLICATION ITEMS

Data Monitor

Monitor item	Content
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
TRNK OPNR SW	Indicates [ON/OFF] condition of back door open signal from back door opener switch.
VEHICLE SPEED	Indicates [km/h] condition of vehicle speed.

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-III screen is touched.

Work Flow

INFOID:0000000005396656

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to BL-172, "System Description".
3. Repair or replace any malfunctioning parts. Refer to BL-182, "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

INFOID:0000000005396657

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-183
	3. Check back door lock assembly (actuator) circuit.	BL-190
	4. Replace BCM.	BCS-19
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-186
	3. Check back door lock assembly (actuator) circuit.	BL-190
	4. Replace BCM.	BCS-19
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-126
	3. Check back door opener switch circuit.	BL-188
	4. Check back door lock assembly (actuator) circuit.	BL-190
	5. Replace BCM.	BCS-19

BCM Power Supply and Ground Circuit Inspection

INFOID:0000000005612418

1.CHECK FUSES AND FUSIBLE LINK

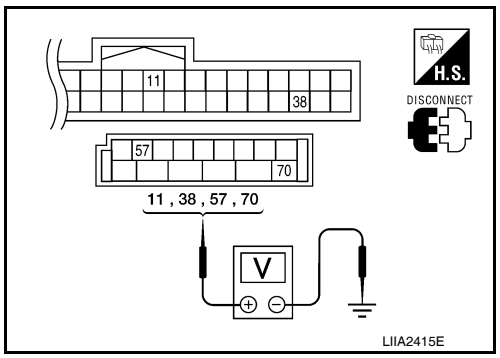
- Check 40A fusible link (letter **g** , located in the fuse and fusible link box).
- Check 10A fuses [No. 6, 8 and 20, located in the fuse block (J/B)].

OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-4, "Schematic" .

2.CHECK BCM POWER SUPPLY CIRCUIT

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



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

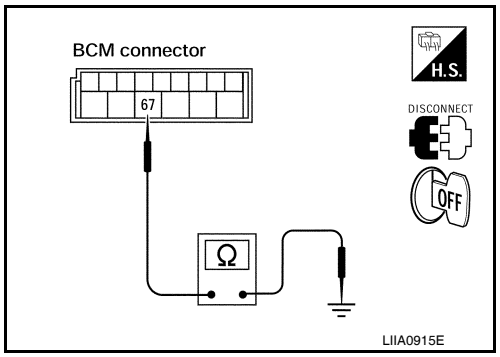
OK or NG

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

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 terminal 67 and ground.

67 - Ground : Continuity should exist.



OK or NG

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

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

INFOID:0000000005396659

1.CHECK BACK DOOR OPENER SWITCH SIGNAL 1

With CONSULT-III

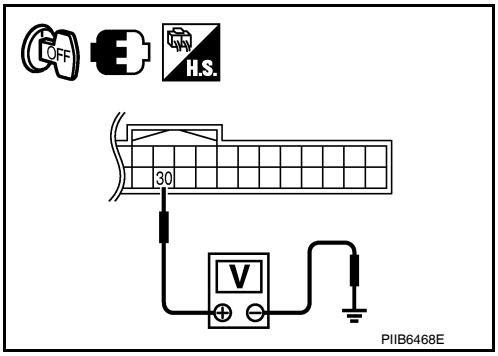
1. Insure front door lock knob LH is turned to the UNLOCK position.
2. Check back door opener switch (“TRNK OPNR SW”) in “DATA MONITOR” mode with CONSULT-III.

Test item	Condition
TRNK OPNR SW	Back door opener switch is pushed: ON
	Back door opener switch is released: OFF

Without CONSULT-III

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



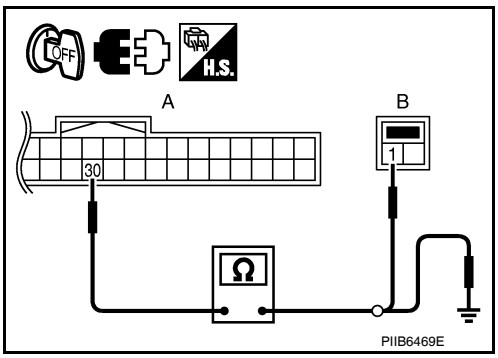
OK or NG

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

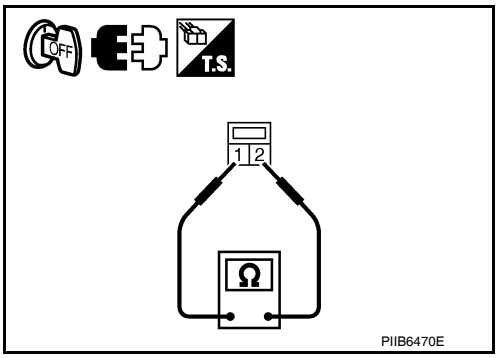
OK or NG

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



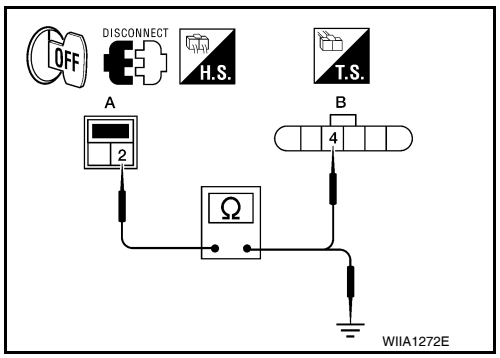
OK or NG

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



WIIA1272E

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

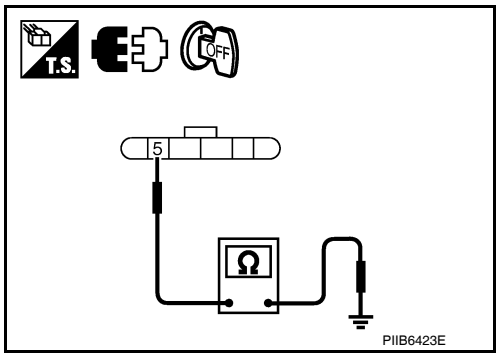
OK or NG

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



PIIB6423E

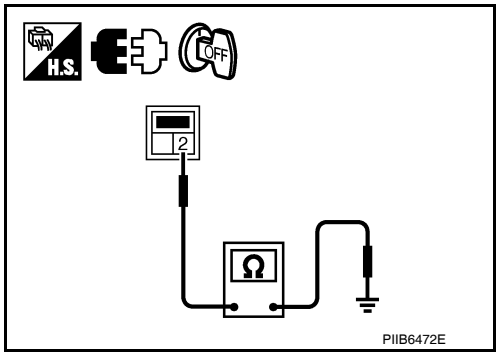
OK or NG

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

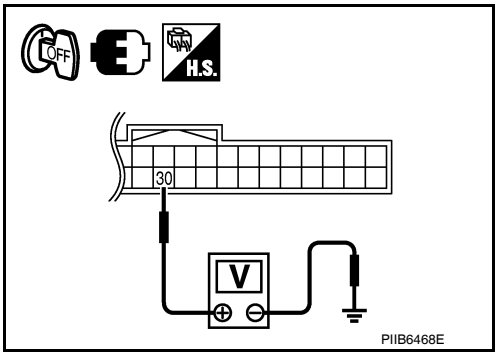
OK or NG

OK >> GO TO 7
NG >> Replace front door lock actuator LH (door unlock sensor). Refer to BL-166.

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



OK or NG

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

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

INFOID:0000000005396660

1. CHECK BACK DOOR OPENER SWITCH SIGNAL 1

With CONSULT-III

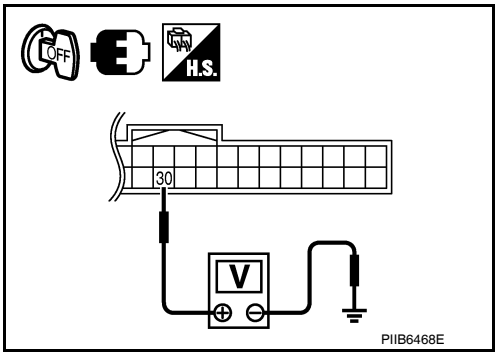
1. Insure front door lock knob RH is turned to the UNLOCK position.
2. Check back door opener switch (“TRNK OPNR SW”) in “DATA MONITOR” mode with CONSULT-III.

Test item	Condition
TRNK OPNR SW	Back door opener switch is pushed: ON
	Back door opener switch is released: OFF

Without CONSULT-III

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

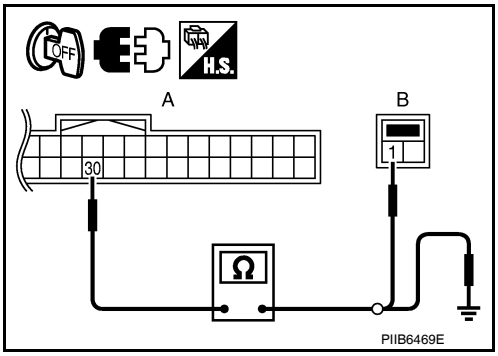
OK >> Back door opener switch is OK.
NG >> GO TO 2

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

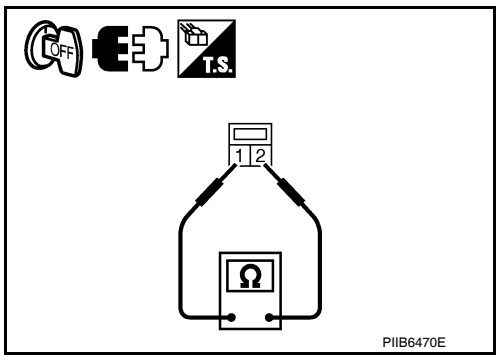
OK or NG

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



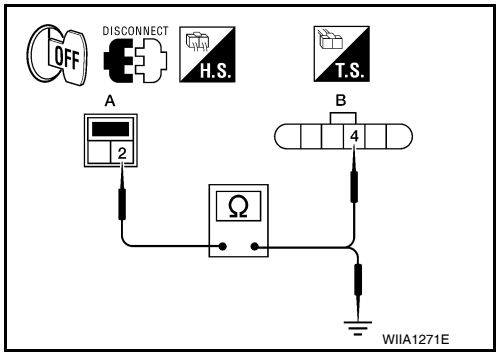
OK or NG

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

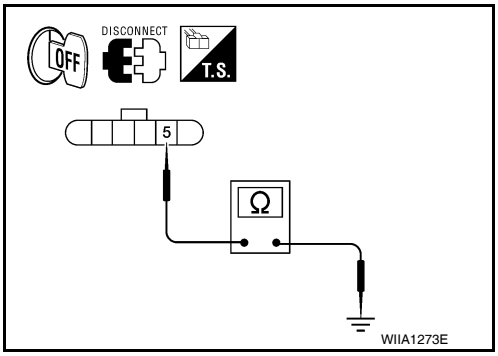
OK or NG

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



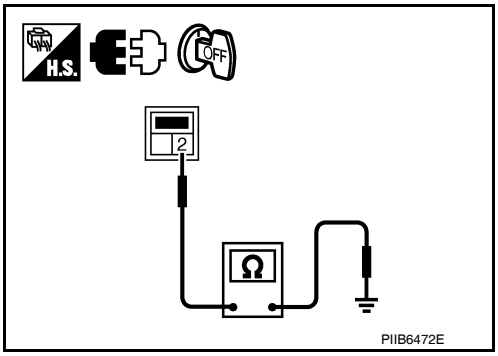
OK or NG

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



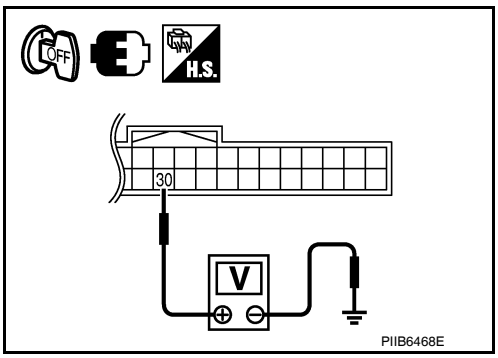
OK or NG

OK >> GO TO 7
NG >> Replace front door lock actuator RH (door unlock sensor). Refer to BL-166.

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-19, "Removal and Installation of BCM".

Check Back Door Opener Switch Circuit (With Intelligent Key)

INFOID:0000000005396661

1.CHECK BACK DOOR OPENER SWITCH SIGNAL

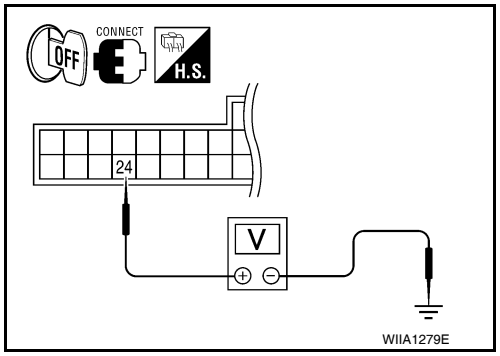
With CONSULT-III

Check back door opener switch (“TRNK OPNR SW”) in “DATA MONITOR” mode with CONSULT-III.

Test item	Condition
TRNK OPNR SW	Back door opener switch is pushed: ON
	Back door opener switch is released: OFF

Without CONSULT-III

Check voltage between Intelligent Key unit connector M52 terminal 24 and ground.



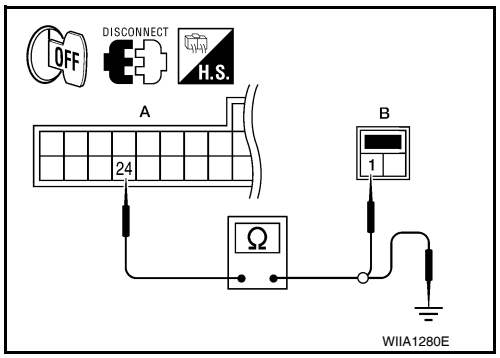
Terminals			Door condition		Voltage (V) (Approx.)
(+)		(–)			
Intelligent Key unit connector	Terminal				
M52	24	Ground	Back door opener switch	Pushed	0
				Released	5

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.

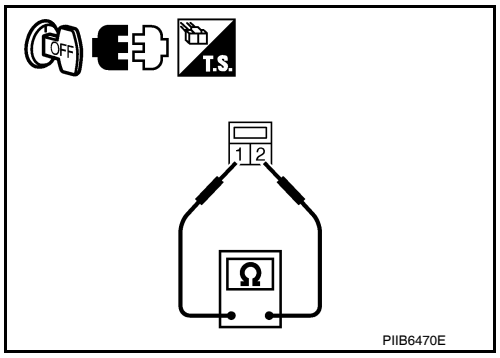
A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	24		No

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

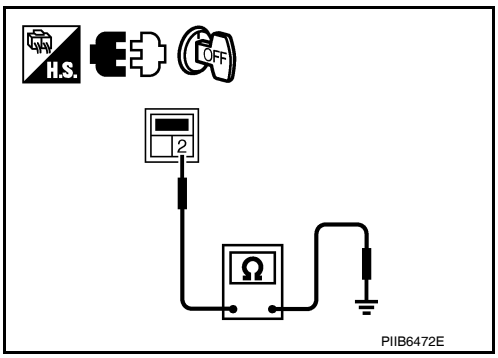
OK or NG

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



PIIB6472E

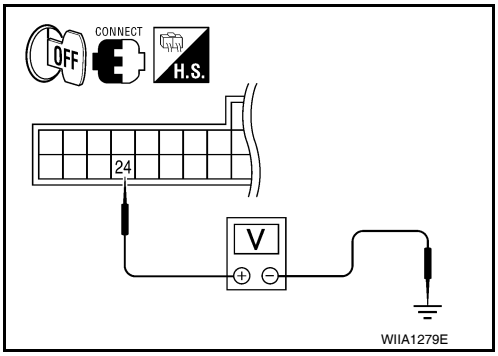
OK or NG

OK >> GO TO 5
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



WIIA1279E

OK or NG

OK >> Check the condition of harness and connector.
NG >> Replace Intelligent Key unit. Refer to BL-158, "Removal and Installation of Intelligent Key Unit".

Check Back Door Lock Assembly (Actuator) Circuit

INFOID:0000000005396662

1.CHECK BACK DOOR LOCK ASSEMBLY (ACTUATOR) FUNCTION

With CONSULT-III

Check the operation with (“TRUNK/BACK DOOR”) in the ACTIVE TEST.

Does back door actuator system operate normally?

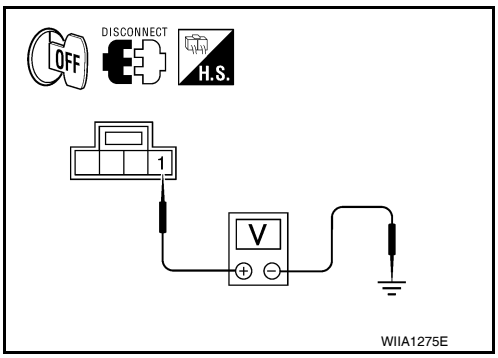
YES or NO

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



WIIA1275E

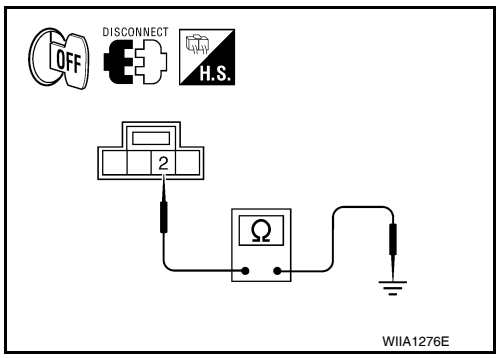
OK or NG

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-172.
NG >> Repair or replace harness.

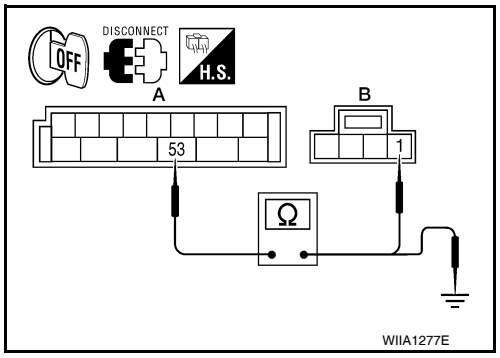
4. CHECK BACK DOOR LOCK ASSEMBLY (ACTUATOR) CIRCUIT

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



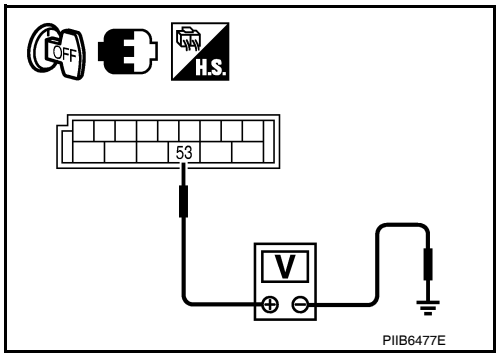
OK or NG

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-19, "Removal and Installation of BCM".

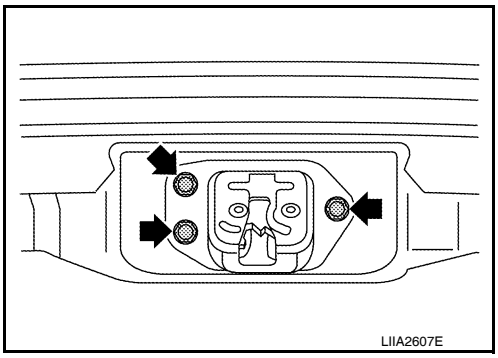
Removal and Installation

INFOID:0000000005396663

BACK DOOR LOCK

Removal

1. Remove the back door finisher lower. Refer to EI-38.
2. Remove the bolts, disconnect the electrical connector and separate the lock from the door.

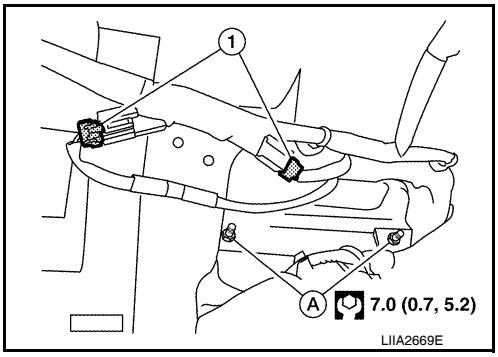


Installation
Installation is in the reverse order of removal.

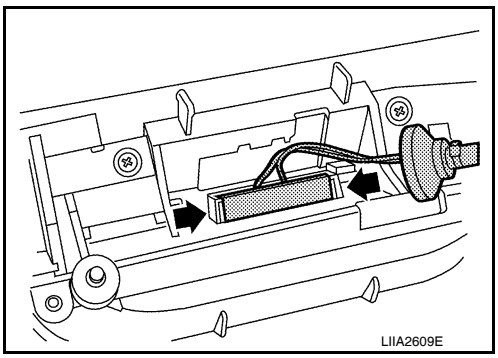
BACK DOOR HANDLE

Removal

1. Remove the back door finisher lower. Refer to EI-38.
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.

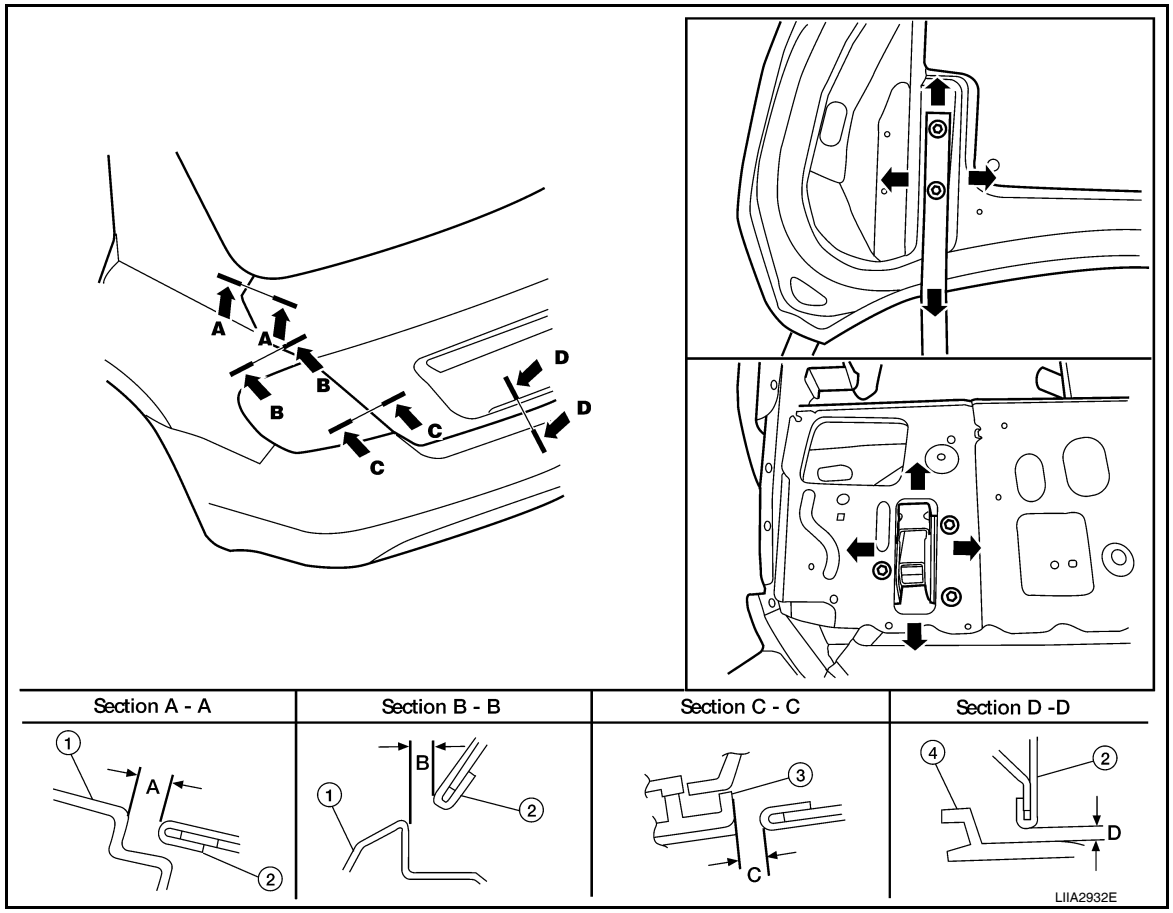


Installation
Installation is in the reverse order of removal.

TRUNK LID

Fitting Adjustment

INFOID:0000000005396664



1. Rear fender
2. Trunk lid
3. Rear combination lamp
4. Rear bumper fascia
a. 4.0 ± 1.0 mm (0.16 ± 0.04 in)
b. 3.5 ± 1.0 mm (0.14 ± 0.04 in)
c. 4.5 ± 1.7 mm (0.03 ± 0.06 in)
d. 7.0 ± 2.2 mm (0.28 ± 0.09 in)

Longitudinal and lateral clearance adjustment

1. With the striker released, loosen the trunk lid hinge nuts and close the trunk lid.
2. Make the lateral clearance and the clearance to the rear window glass equal. Then open the trunk lid to tighten the nuts.

Surface height adjustment

1. Loosen the striker bolts. Raise the striker to the top position, and temporarily tighten the upper bolt.
2. Close the trunk lid lightly and adjust the surface height. Then open the trunk lid and tighten the striker bolts.

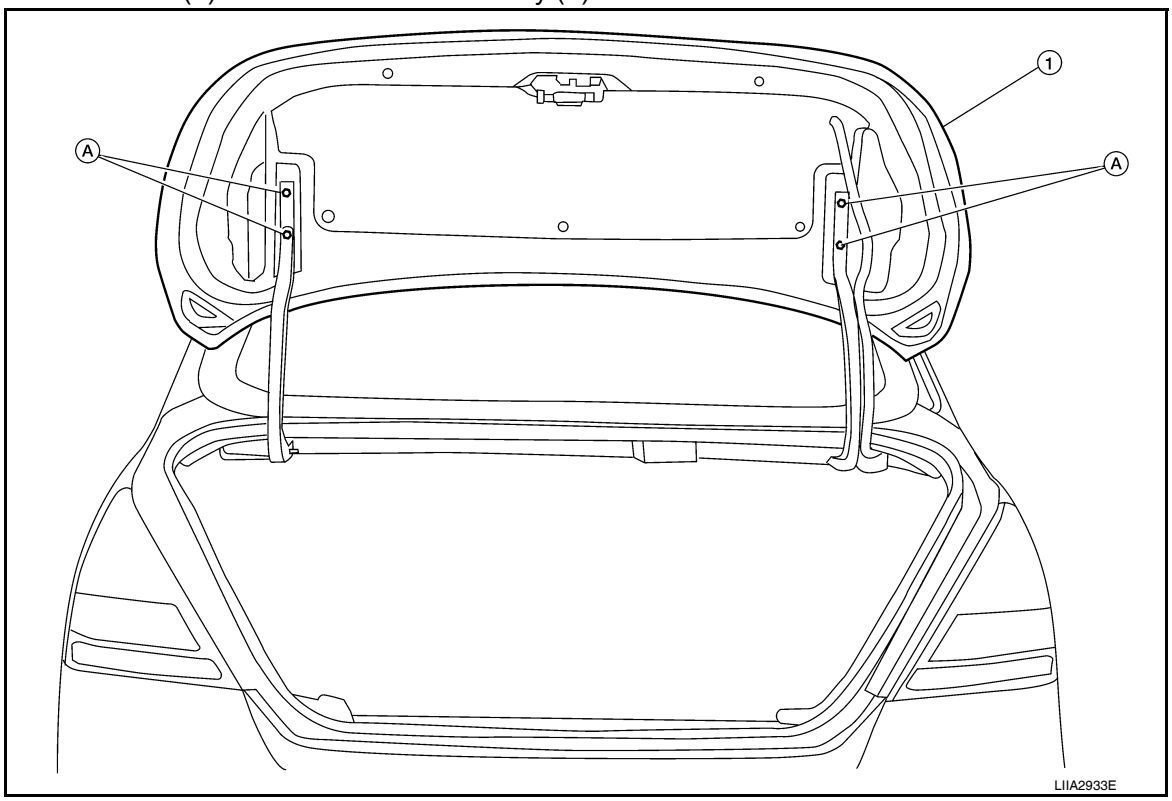
Trunk Lid Assembly

INFOID:0000000005396665

REMOVAL

1. Remove the trunk lid finisher. Refer to EI-57 .
2. Remove the trunk lid wire harness.

3. Remove the nuts (a) and the trunk lid assembly (1).



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

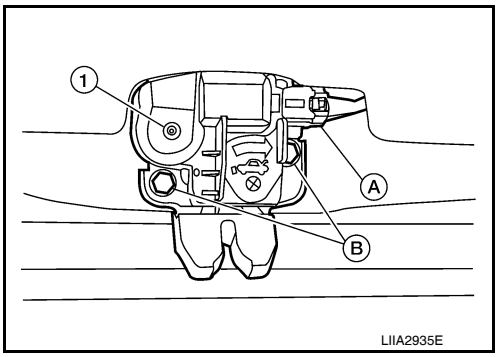
After installing, apply touch-up paint (body color) to the head of the hinge nuts.

Trunk Lid Lock

INFOID:0000000005396666

REMOVAL

1. Remove the trunk lid finisher. Refer to EI-57.
2. If equipped, disconnect the trunk lid lock cylinder rod.
3. Remove the release cable.
4. Disconnect the electrical connector (a), remove the bolts (b) and the trunk lid lock (1).



INSTALLATION

Installation is in the reverse order of removal.

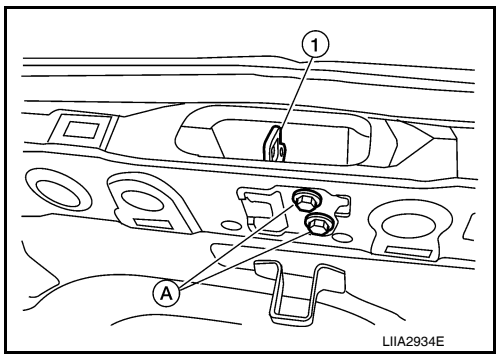
Trunk Lid Striker

INFOID:0000000005396667

REMOVAL

1. Remove the trunk rear plate and trunk rear finisher. Refer to EI-57.
2. Remove the bolts, disconnect the electrical connector and remove the trunk lock actuator.
3. Remove the bolt and disconnect the trunk lid release cable.

4. Remove the bolts (a) and the trunk lid striker (1).



INSTALLATION

Installation is in the reverse order of removal.

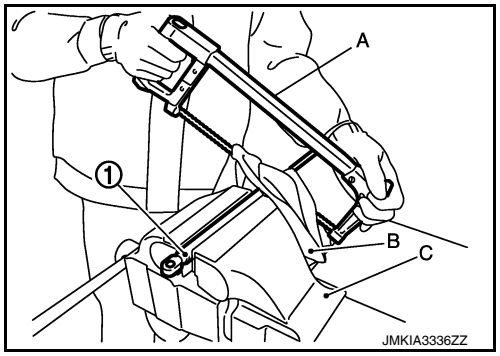
Trunk Lid Stay Disposal

INFOID:0000000006044769

1. Secure trunk lid stay (1) using a vise (C).
2. Using hacksaw (A) slowly make 2 holes in the trunk lid stay, in numerical order as shown in the figure.

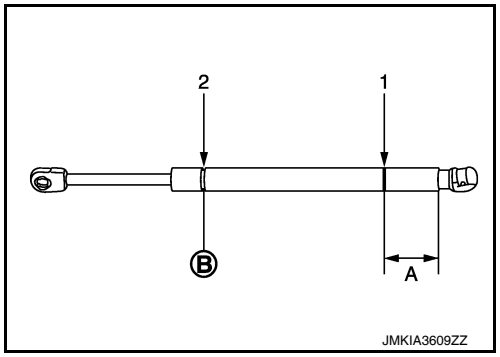
CAUTION:

- **When cutting a hole on trunk lid stay, always cover a hacksaw using a shop cloth (B) to avoid scattering metal fragments or oil.**
- **Wear eye protection (safety glasses).**
- **Wear gloves.**



A: 20 mm (0.787 in)

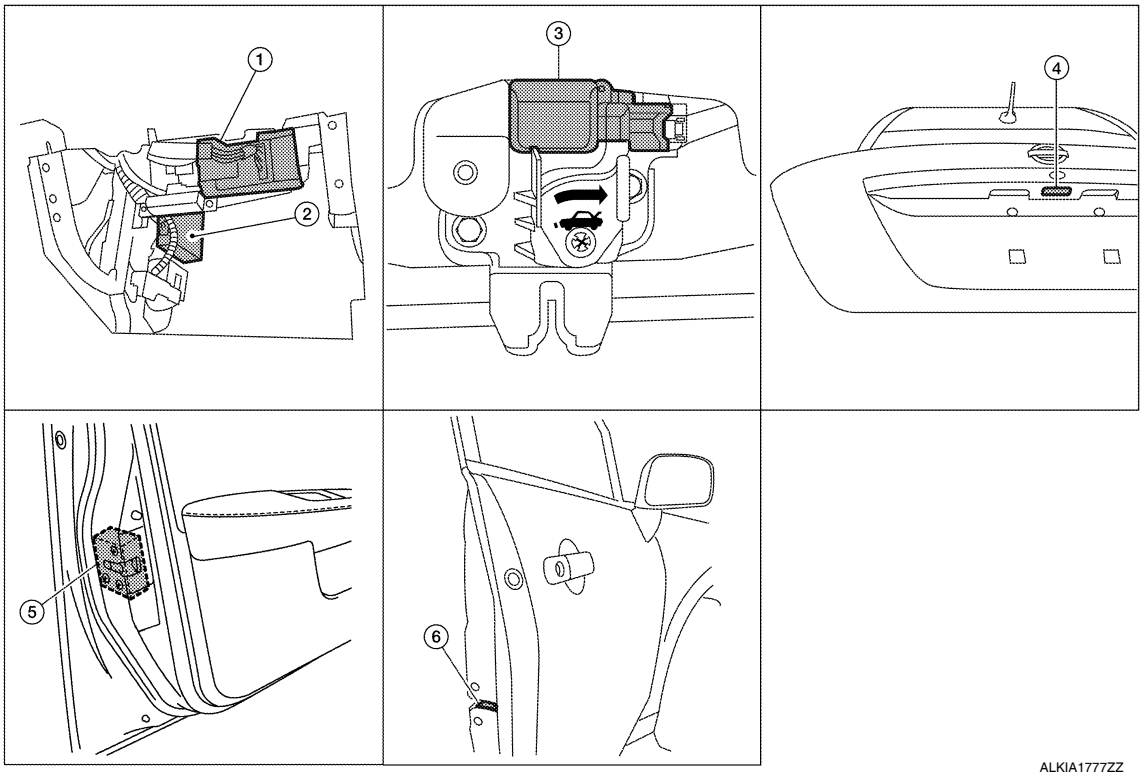
B: Cut at the groove.



TRUNK LID OPENER

Component Parts and Harness Connector Location

INFOID:0000000005396668



ALKIA1777ZZ

1. BCM M18, M19, M20 (view with glove box removed)
2. Intelligent Key unit M52 (with Intelligent Key)
3. Trunk lamp switch and trunk release solenoid B127
4. Trunk lid opener switch B128
5. Front door lock actuator LH (door unlock sensor) D3 (without power windows)
6. Front door lock actuator RH (door unlock sensor) D114 (with power windows)

System Description

INFOID:0000000005396669

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 (with Intelligent Key).

Ground is supplied
- to BCM terminal 67 and
- to Intelligent Key unit terminal 12 (with Intelligent Key)
- through body grounds M57 and M61.

When trunk lid opener switch is ON (pushed), ground is supplied
- to BCM terminal 30 (without Intelligent Key)
- through trunk lid 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 (with Intelligent Key)
- through trunk lid opener switch terminals 1 and 2
- through body grounds B117 and B132.

Then power is supplied
- through BCM terminal 53
- to trunk lamp switch and trunk release solenoid terminal 2.

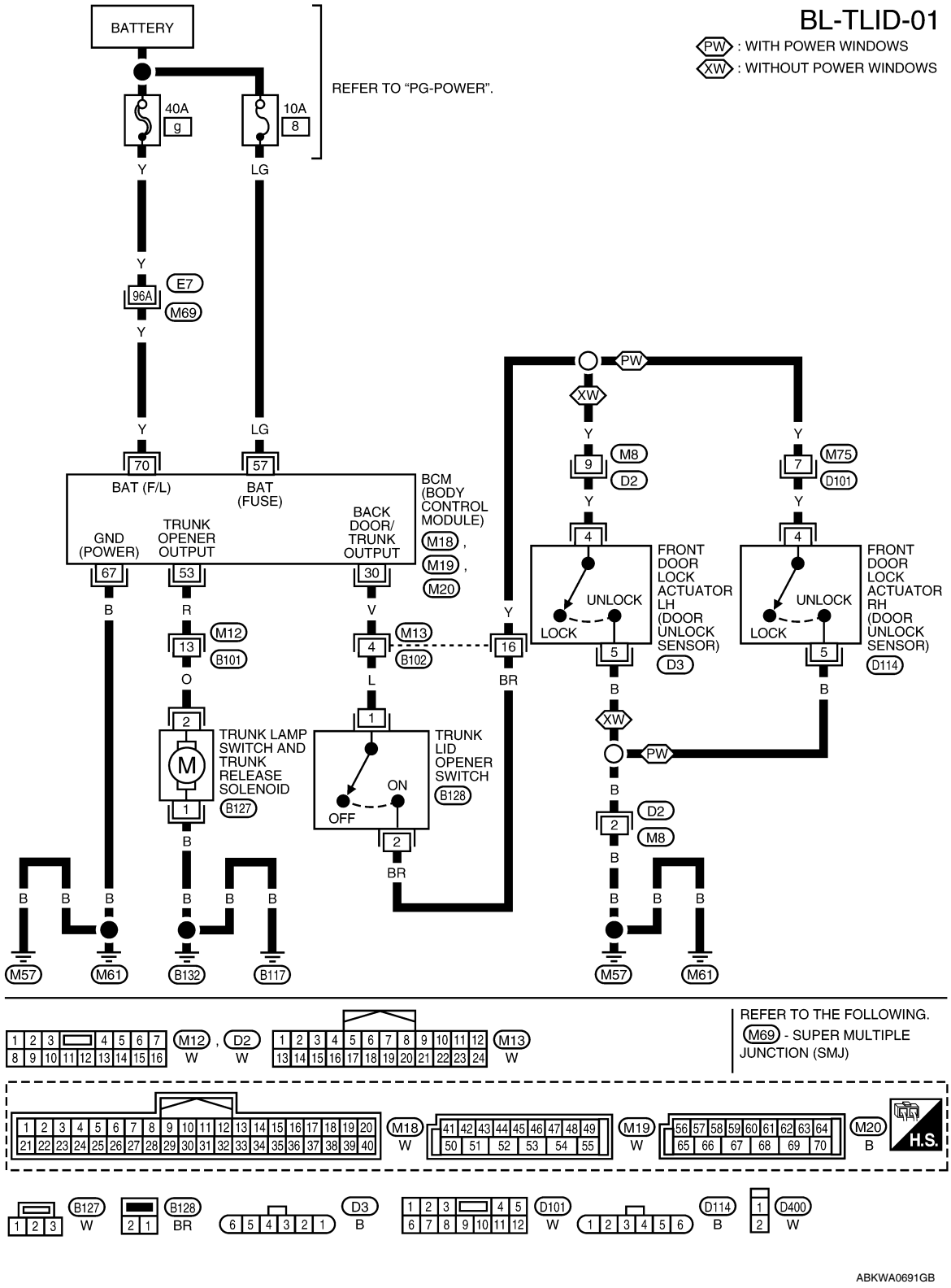
Ground is supplied
- to trunk lamp switch and trunk release solenoid terminal 1
- through body grounds B117 and B132.

Then BCM operates trunk lamp switch and trunk release solenoid.

Wiring Diagram - TLID -

INFOID:0000000005396670

WITHOUT INTELLIGENT KEY SYSTEM



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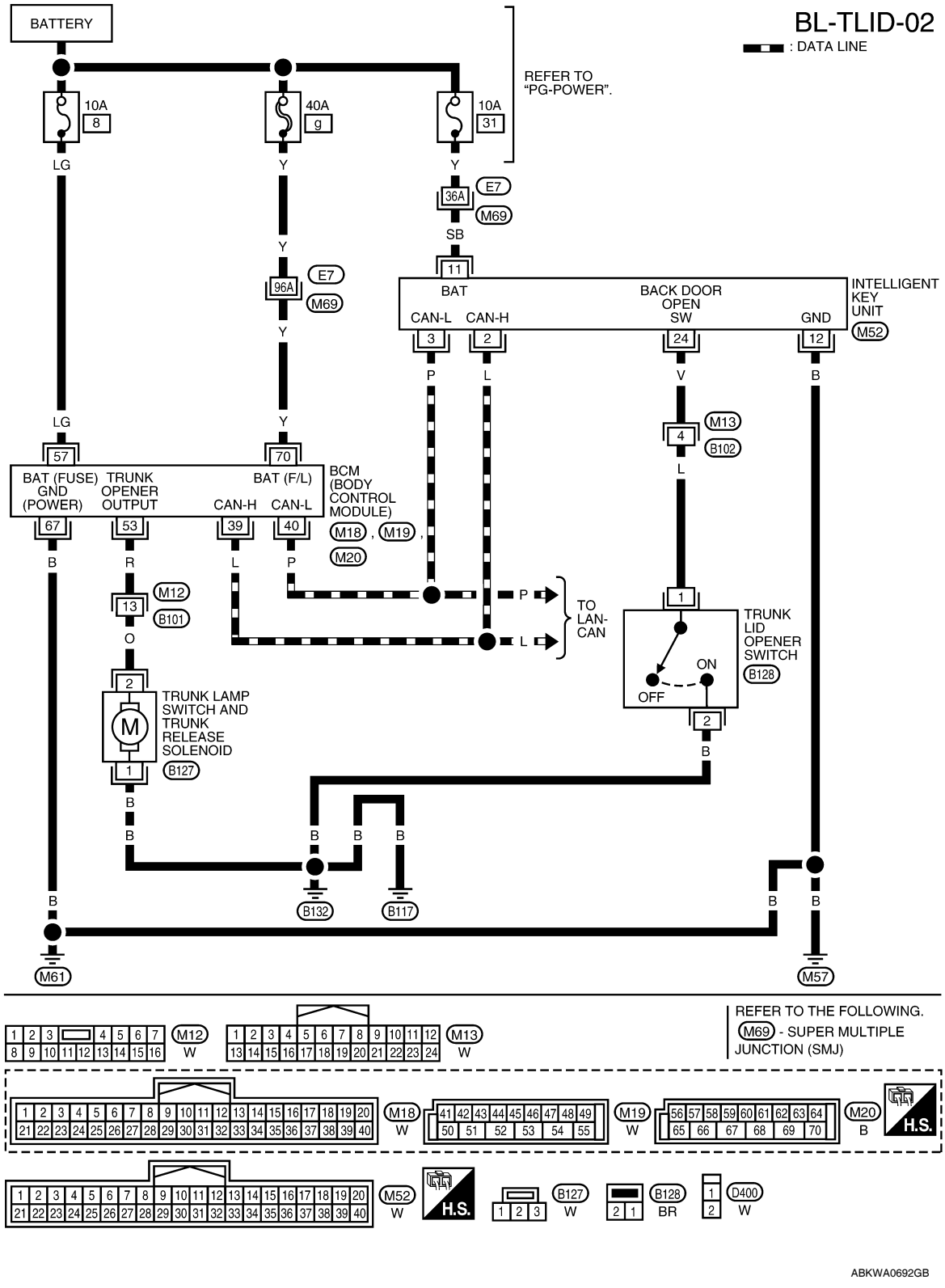
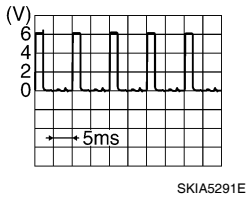
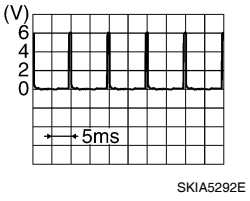
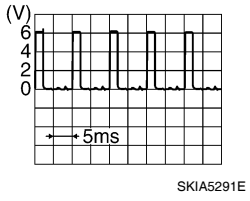
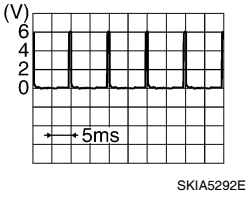
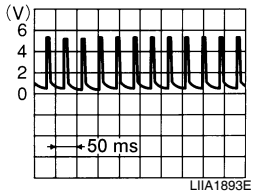
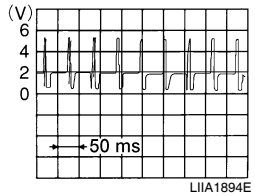
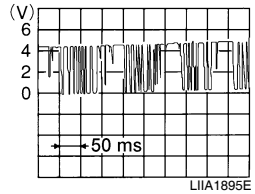
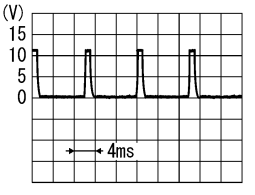
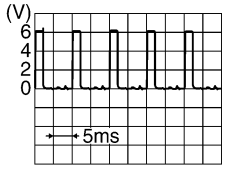
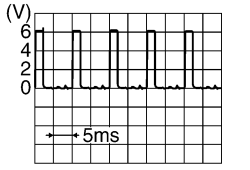
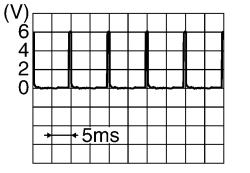

BL-TLID-02
: DATA LINE
BATTERY
10A 8
40A g
10A 31
REFER TO "PG-POWER".
LG
Y
Y
E7
36A
M69
SB
11
BAT
BACK DOOR OPEN SW
CAN-L
CAN-H
GND
INTELLIGENT KEY UNIT
M52
3
2
24
12
P
L
V
B
M13
4
B102
L
57
70
BAT (FUSE) GND (POWER)
TRUNK OPENER OUTPUT
BAT (F/L)
CAN-H
CAN-L
BCM (BODY CONTROL MODULE)
M18 , M19 , M20
67
53
39
40
B
R
L
P
M12
13
B101
O
TO LAN-CAN
1
TRUNK LID OPENER SWITCH
B128
ON
OFF
2
TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID
B127
B132
B117
M61
M57
REFER TO THE FOLLOWING.
M69 - SUPER MULTIPLE JUNCTION (SMJ)
M12 W
M13 W
M18 W
M19 W
M20 B
H.S.
M52 W
B127 W
B128 BR
D400 W
ABKWA0692GB

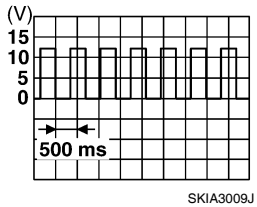
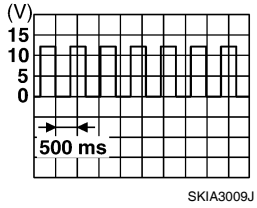
Terminal and Reference Value for BCM

INFOID:0000000005612420

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
2	BR	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	GR	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	L	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	G	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	V	Combination switch input 1				
7[7]	BR	Front door key cylinder switch LH (unlock)	Input	OFF	ON (open, 2nd turn)	Momentary 1.5V
					OFF (closed)	0V
8[7]	Y	Front door key cylinder switch LH (lock)	Input		On (open)	Momentary 1.5V
					OFF (closed)	0V
9	W	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
10	R	Defrost A/C switch signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
11	L	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	SB	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
15	W	Tire pressure warning check connector	Input	OFF	—	5V
18	V	Remote keyless entry receiver (ground)	Output	OFF	—	0V
19	BR	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	 LIIA1893E
20	G	Remote keyless entry receiver signal (signal)	Input	OFF	Stand-by (keyfob buttons released)	 LIIA1894E
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	 LIIA1895E
21	P	NATS antenna amp.	Input/ Output	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
23	R	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	LG	NATS antenna amp.	Input/ Output	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
26	GR	Thermo control amp.	Input	ON	A/C switch ON	 ZJIA0719J
27	O	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
28	P	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	L	Hazard switch	Input	OFF	ON	0V
					OFF	5V

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
30[1]	LG	Back door/trunk output	Output	—	Back door open (switch closed)	0V
					Back door closed (switch open)	5V
30[3]	LG	Back door opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
30[4]	V	Trunk lid opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
32	LG	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	V	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
35	R	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	P	Combination switch output 1				
37[1]	G	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage
					Intelligent Key removed	0V
37[2]	G	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key removed	0V
38	W	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
41[6]	W	Trunk key cylinder switch	Input	—	ON (Full unlock position)	0V
					OFF (Neutral position)	5V
42[6]	Y	Trunk lamp switch	Input	OFF	ON (trunk open)	0V
					OFF (trunk closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
43[5]	R	Back door switch	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
44[5]	LG	Rear wiper auto stop	Input	ON	Rear wiper operating	0
					Rear wiper stopped	Battery
45[7]	GR	Lock switch	Input	OFF	ON (lock)	0V
					OFF	Battery voltage
46[7]	L	Unlock switch	Input	OFF	ON (unlock)	0V
					OFF	Battery voltage
47	BR	Front door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
48	O	Rear door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
49	P	Luggage room lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage
50	SB	A/C indicator	Output	ON	A/C OFF	0
					A/C ON	Battery voltage
53[5]	R	Back door lock assembly (actuator)	Output	OFF	Back door (open)	Battery voltage
53[6]	R	Trunk lamp switch and trunk release solenoid	Output	OFF	Trunk lid (open)	Battery voltage
55[5]	V	Rear wiper motor output	Output	ON	OFF	0
					ON	Battery voltage
56	R	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	LG	Battery power supply	Input	OFF	—	Battery voltage
59[7]	G	Front door lock actuator LH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	V	Turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
61	W	Turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
63	BR	Interior room lamp	Output	OFF	Any door switch: ON (open)	0V
					Any door switch: OFF (closed)	Battery voltage

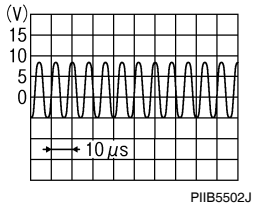
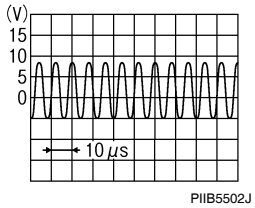
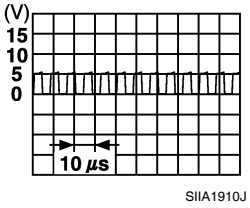
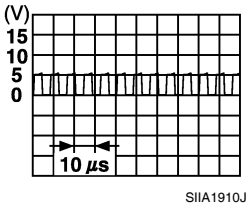
Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
65[7]	SB	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66[7]	G	Front door lock actuator RH, rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
67	B	Ground	Input	ON	—	0V
68[8]	L	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
69[8]	P	Battery power supply	Output	OFF	—	Battery voltage
70	Y	Battery power supply	Input	OFF	—	Battery voltage

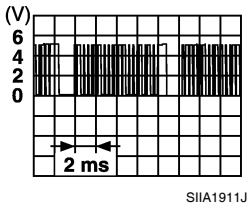
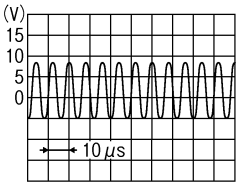
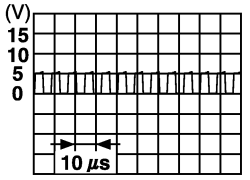
1: With Intelligent Key
2: Without Intelligent Key
3: Hatchback without Intelligent Key
4: Sedan without Intelligent Key
5: Hatchback
6: Sedan
7: With power door locks
8: With power windows

Terminal and Reference Value for Intelligent Key Unit

INFOID:0000000005612425

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 or A/T shift selector (park position switch)	ON	Shift lever in park position.		0
				Other than above		Battery voltage
11	SB	Power source (Fuse)	—	—		Battery voltage

Terminal	Wire Color	Item	Condition		Voltage (V) Approx.
			Ignition Switch Position	Operation or Conditions	
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			
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	B/R	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	LG	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

Terminal	Wire Color	Item	Condition		Voltage (V) Approx.
			Ignition Switch Position	Operation or Conditions	
29	V	Back door request switch (hatchback)	—	Press back door request switch.	0
				Other than above	5
		Trunk opener request switch (sedan)	—	Press trunk opener 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
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) or automatic transmission (A/T).

*2: With manual transmission (M/T).

CONSULT-III Function (BCM)

INFOID:0000000005396673

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

Diagnostic mode	Description
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 DIAGNOSTIC RESULT	Displays BCM self-diagnosis results.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ECU IDENTIFICATION	BCM part number can be read.
CONFIGURATION	Performs BCM configuration read/write functions.

CONSULT-III APPLICATION ITEMS

Data Monitor

Monitor item	Content
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
TRNK OPNR SW	Indicates [ON/OFF] condition of trunk open signal from trunk lid opener switch.
VEHICLE SPEED	Indicates [km/h] condition of vehicle speed.

Active Test

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

Work Flow

INFOID:0000000005396674

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to BL-196, "System Description".
3. Repair or replace any malfunctioning parts. Refer to BL-206, "Trouble Diagnosis Chart by Symptom".
4. Does trunk lid opener operate normally? If Yes, GO TO 5. If No, GO TO 3.
5. Inspection End.

Trouble Diagnosis Chart by Symptom

INFOID:0000000005396675

Symptom	Diagnoses/service procedure	Reference page
Trunk lid opener does not operate. (Without Intelligent Key or power windows)	1. Check BCM power supply and ground circuit.	BCS-16
	2. Check trunk lid opener switch circuit.	BL-207
	3. Check trunk lid lock assembly (actuator) circuit.	BL-214
	4. Replace BCM.	BCS-19
Trunk lid opener does not operate. (Without Intelligent Key, with power windows)	1. Check BCM power supply and ground circuit.	BCS-16
	2. Check trunk lid opener switch circuit.	BL-210
	3. Check trunk lid lock assembly (actuator) circuit.	BL-214
	4. Replace BCM.	BCS-19
Trunk lid 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-126
	3. Check trunk lid opener switch circuit.	BL-212
	4. Check trunk lid lock assembly (actuator) circuit.	BL-214
	5. Replace BCM.	BCS-19

BCM Power Supply and Ground Circuit Inspection

INFOID:0000000005612421

1.CHECK FUSES AND FUSIBLE LINK

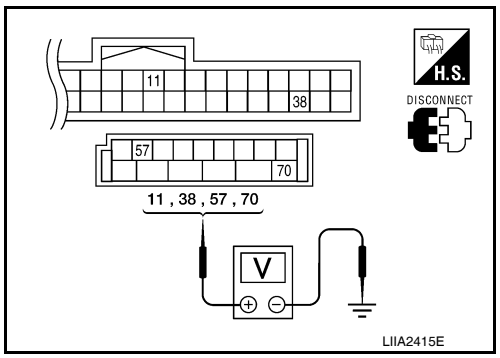
- Check 40A fusible link (letter **g** , located in the fuse and fusible link box).
- Check 10A fuses [No. 6, 8 and 20, located in the fuse block (J/B)].

OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-4, "Schematic" .

2.CHECK BCM POWER SUPPLY CIRCUIT

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



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

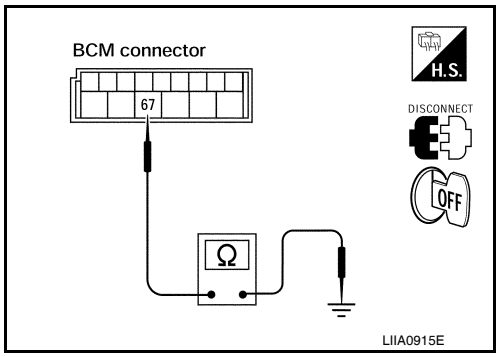
OK or NG

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

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 terminal 67 and ground.

67 - Ground : Continuity should exist.



OK or NG

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

Check Trunk Lid Opener Switch Circuit (Without Intelligent Key or Power Windows)

INFOID:0000000005396677

1.CHECK TRUNK LID OPENER SWITCH SIGNAL 1

With CONSULT-III

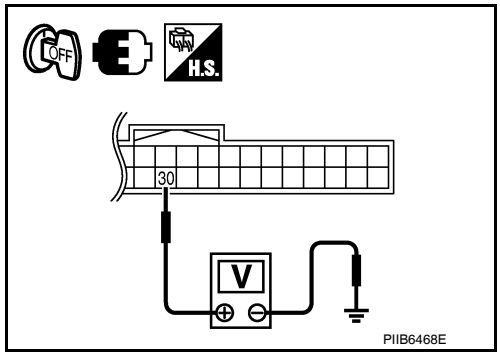
1. Insure front door lock knob LH is turned to the UNLOCK position.
2. Check trunk lid opener switch (“TRNK OPNR SW”) in “DATA MONITOR” mode with CONSULT-III.

Test item	Condition
TRNK OPNR SW	Trunk lid opener switch is pushed: ON
	Trunk lid opener switch is released: OFF

Without CONSULT-III

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	Trunk lid opener switch	Pushed	0
				Released	Battery voltage



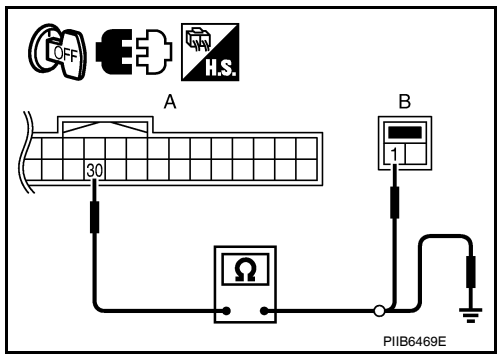
OK or NG

OK >> Trunk lid opener switch is OK.
NG >> GO TO 2

2.CHECK TRUNK LID OPENER SWITCH CIRCUIT 1

1. Turn ignition switch OFF.
2. Disconnect BCM and trunk lid opener switch connector.
3. Check continuity between BCM connector (A) M18 terminal 30 and trunk lid opener switch connector B128 (B) terminal 1.

A		B		Continuity
BCM connector	Terminal	Trunk lid opener switch connector	Terminal	
M18	30	B128	1	Yes



4. Check continuity between BCM connector (A) M18 terminal 30 and ground.

A		Ground	Continuity
BCM connector	Terminal		
M18	30		No

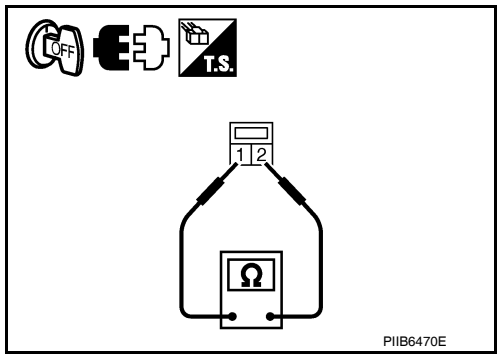
OK or NG

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

3.CHECK TRUNK LID OPENER SWITCH

Check continuity between trunk lid opener switch terminals 1 and 2.

Terminal		Trunk lid opener switch condition	Continuity
Trunk lid opener switch			
1	2	Pushed	Yes
		Released	No



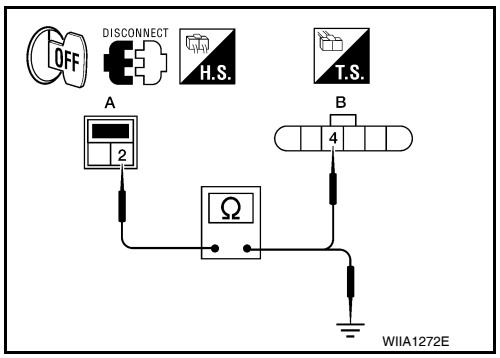
OK or NG

OK >> GO TO 4
NG >> Replace trunk lid opener switch.

4.CHECK TRUNK LID OPENER SWITCH CIRCUIT 2

1. Disconnect front door lock actuator LH (door unlock sensor) connector.
2. Check continuity between trunk lid opener switch connector (A) B128 terminal 2 and front door lock actuator LH (door unlock sensor) connector (B) D3 terminal 4.

A		B		Continuity
Trunk lid opener switch connector	Terminal	Front door lock actuator LH (door unlock sensor) connector	Terminal	
B128	2	D3	4	Yes



WIIA1272E

3. Check continuity between trunk lid opener switch connector (A) B128 terminal 2 and ground.

Trunk lid opener switch connector	Terminal	Ground	Continuity
B128	2		No

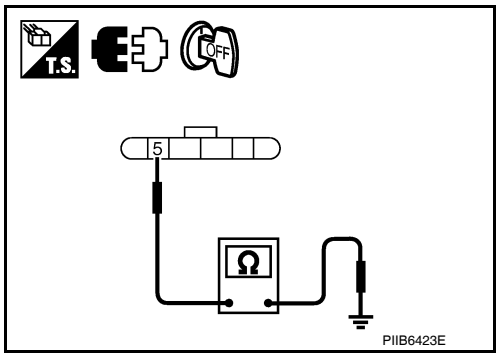
OK or NG

OK >> GO TO 5
NG >> Repair or replace harness between trunk lid 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



PIIB6423E

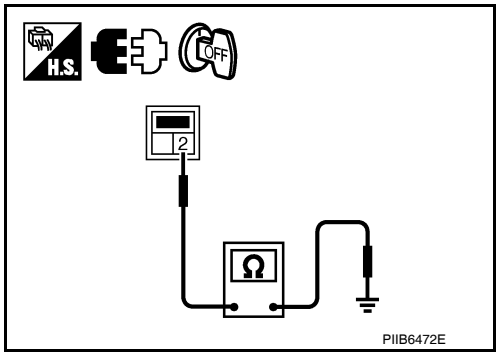
OK or NG

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 trunk lid opener switch connector B128 terminal 2 and ground.

Trunk lid opener switch connector	Terminal		Front door lock knob LH position	Continuity
B128	2	Ground	Unlock	Yes
			Lock	No



PIIB6472E

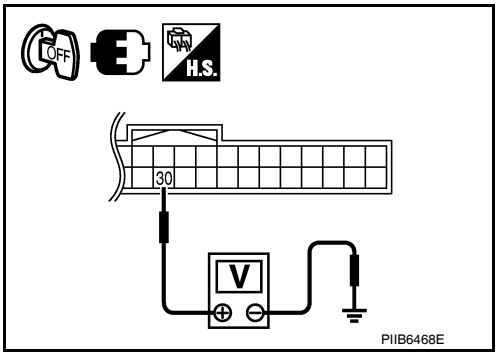
OK or NG

OK >> GO TO 7
NG >> Replace front door lock actuator LH (door unlock sensor). Refer to BL-166.

7.CHECK TRUNK LID 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



OK or NG

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

Check Trunk Lid Opener Switch Circuit (Without Intelligent Key, with Power Windows)

INFOID:0000000005396678

1.CHECK TRUNK LID OPENER SWITCH SIGNAL 1

With CONSULT-III

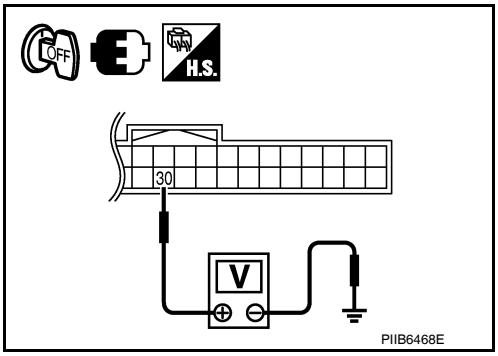
1. Insure front door lock knob RH is turned to the UNLOCK position.
2. Check trunk lid opener switch (“TRNK OPNR SW”) in “DATA MONITOR” mode with CONSULT-III.

Test item	Condition
TRNK OPNR SW	Trunk lid opener switch is pushed: ON
	Trunk lid opener switch is released: OFF

Without CONSULT-III

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	Trunk lid opener switch	Pushed	0
				Released	Battery voltage



OK or NG

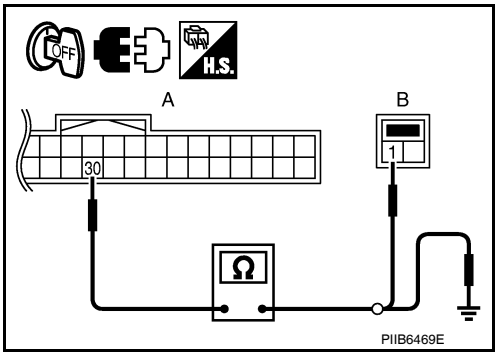
OK >> Trunk lid opener switch is OK.
NG >> GO TO 2

2.CHECK TRUNK LID OPENER SWITCH CIRCUIT 1

1. Turn ignition switch OFF.
2. Disconnect BCM and trunk lid opener switch connector.
3. Check continuity between BCM connector (A) M18 terminal 30 and trunk lid opener switch connector (B) terminal 1.

A		B		Continuity
BCM connector	Terminal	Trunk lid opener switch connector	Terminal	
M18	30	B128	1	Yes

4. Check continuity between BCM connector (A) M18 terminal 30 and ground.



A		Ground	Continuity
BCM connector	Terminal		
M18	30		No

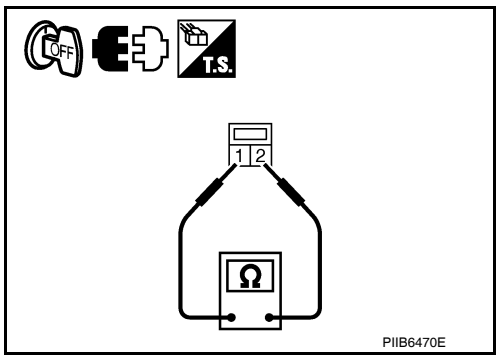
OK or NG

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

3. CHECK TRUNK LID OPENER SWITCH

Check continuity between trunk lid opener switch terminals 1 and 2.

Terminal		Trunk lid opener switch condition	Continuity
Trunk lid opener switch			
1	2	Pushed	Yes
		Released	No



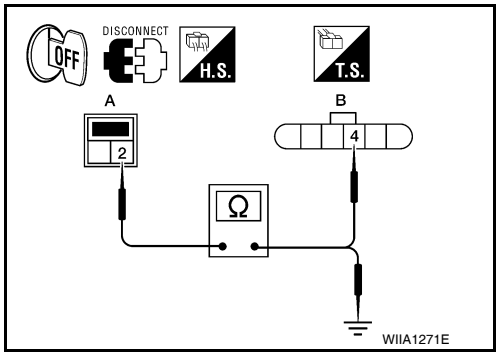
OK or NG

OK >> GO TO 4
NG >> Replace trunk lid opener switch.

4. CHECK TRUNK LID OPENER SWITCH CIRCUIT 2

1. Disconnect front door lock actuator RH (door unlock sensor) connector.
2. Check continuity between trunk lid opener switch connector (A) B128 terminal 2 and front door lock actuator RH (door unlock sensor) connector (B) D114 terminal 4.

A		B		Continuity
Trunk lid opener switch connector	Terminal	Front door lock actuator RH (door unlock sensor) connector	Terminal	
B128	2	D114	4	Yes



3. Check continuity between trunk lid opener switch connector (A) B128 terminal 2 and ground.

Trunk lid opener switch connector	Terminal	Ground	Continuity
B128	2		No

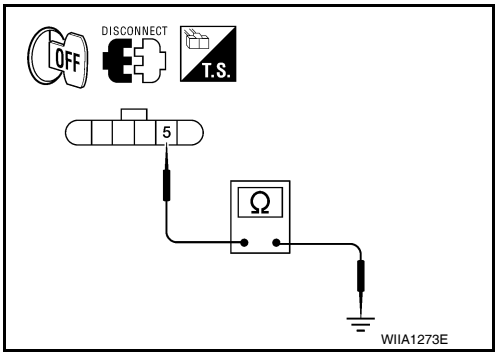
OK or NG

OK >> GO TO 5
NG >> Repair or replace harness between trunk lid 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



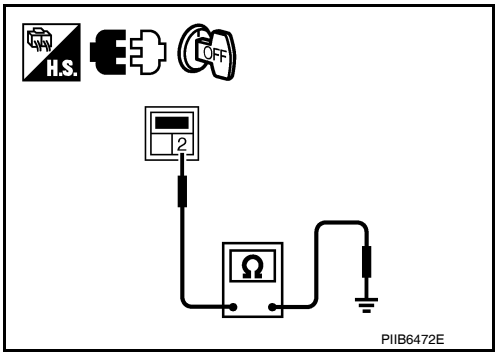
OK or NG

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 trunk lid opener switch connector B128 terminal 2 and ground.

Trunk lid opener switch connector	Terminal		Front door lock knob RH position	Continuity
B128	2	Ground	Unlock	Yes
			Lock	No



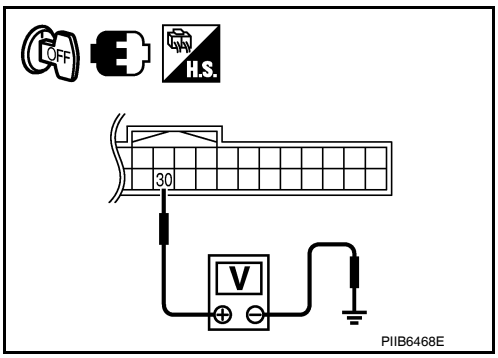
OK or NG

OK >> GO TO 7
NG >> Replace front door lock actuator RH (door unlock sensor). Refer to BL-166.

7.CHECK TRUNK LID 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-19, "Removal and Installation of BCM".

Check Trunk Lid Opener Switch Circuit (With Intelligent Key)

INFOID:0000000005396679

1.CHECK TRUNK LID OPENER SWITCH SIGNAL

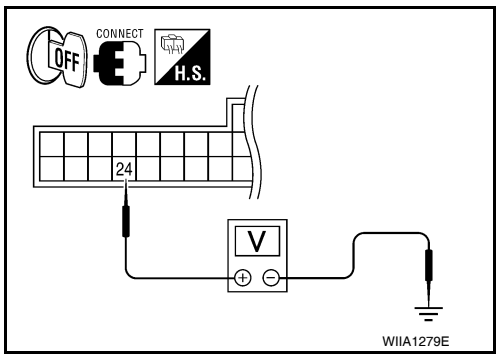
With CONSULT-III

Check trunk lid opener switch (“TRNK OPNR SW”) in “DATA MONITOR” mode with CONSULT-III.

Test item	Condition
TRNK OPNR SW	Trunk lid opener switch is pushed: ON
	Trunk lid opener switch is released: OFF

Without CONSULT-III

Check voltage between Intelligent Key unit connector M52 terminal 24 and ground.



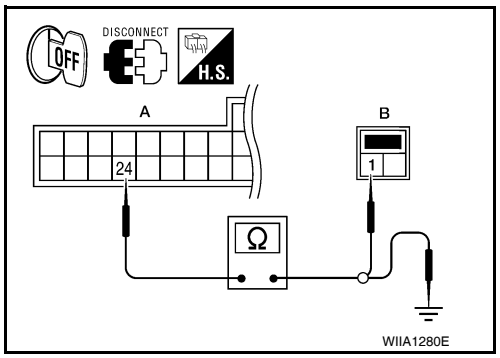
Terminals			Door condition		Voltage (V) (Approx.)
(+)		(–)			
Intelligent Key unit connector	Terminal				
M52	24	Ground	Trunk lid opener switch	Pushed	0
				Released	5

OK or NG

OK >> Trunk lid opener switch is OK.
NG >> GO TO 2

2.CHECK TRUNK LID OPENER SWITCH CIRCUIT 1

1. Turn ignition switch OFF.
2. Disconnect Intelligent Key unit and trunk lid opener switch connector.
3. Check continuity between Intelligent Key unit connector (A) M52 terminal 24 and trunk lid opener switch connector B128 (B) terminal 1.



A		B		Continuity
Intelligent Key unit connector	Terminal	Trunk lid opener switch connector	Terminal	
M52	24	B128	1	Yes

4. Check continuity between Intelligent Key unit connector (A) M52 terminal 24 and ground.

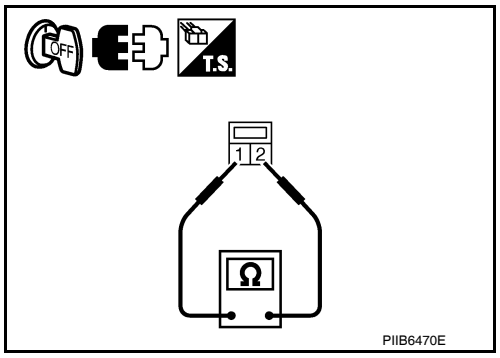
A		Ground	Continuity
Intelligent Key unit connector	Terminal		
M52	24		No

OK or NG

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

3.CHECK TRUNK LID OPENER SWITCH

Check continuity between trunk lid opener switch terminals 1 and 2.



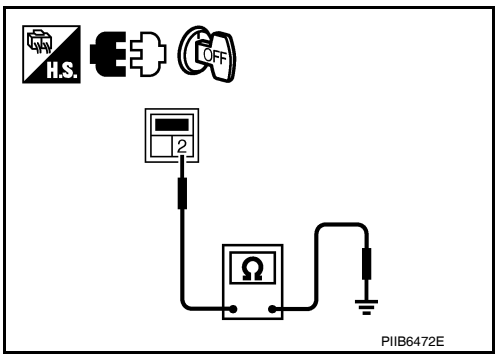
Terminal		Trunk lid opener switch condition	Continuity
Trunk lid opener switch			
1	2	Pushed	Yes
		Released	No

OK or NG

OK >> GO TO 4
NG >> Replace trunk lid opener switch.

4.CHECK TRUNK LID OPENER SWITCH GROUND CIRCUIT

Check continuity between trunk lid opener switch connector terminal 2 and ground.



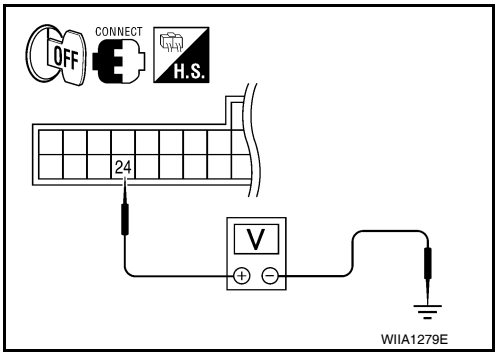
Trunk lid opener switch connector	Terminal	Ground	Continuity
B128	2		Yes

OK or NG

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

5. CHECK INTELLIGENT KEY UNIT OUTPUT SIGNAL

1. Connect Intelligent Key unit 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-158, "Removal and Installation of Intelligent Key Unit".

Check Trunk Release Solenoid Circuit

INFOID:0000000005396680

1. CHECK TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID FUNCTION

With CONSULT-III

Check the operation with (“TRUNK/BACK DOOR”) in the ACTIVE TEST.

Does trunk release solenoid system operate normally?

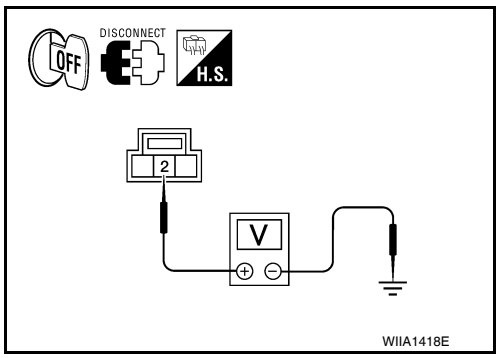
YES or NO

YES >> Trunk release solenoid is OK.
NO >> GO TO 2

2. CHECK TRUNK LAMP SWITCH AND RELEASE SOLENOID POWER SUPPLY

1. Turn ignition switch OFF.
2. Insure both front door lock knobs are turned to the UNLOCK position.
3. Disconnect trunk lamp switch and trunk release solenoid connector.
4. Check voltage between trunk lamp switch and trunk release solenoid connector B127 terminal 2 and ground.

Terminals (+)		Terminals (–)	Condition		Voltage (V) (Approx.)
Trunk lamp switch and trunk release solenoid connector	Terminal				
B127	2	Ground	Trunk lid opener switch	Pushed	0 ↓ Battery voltage ↓ 0
				Released	0



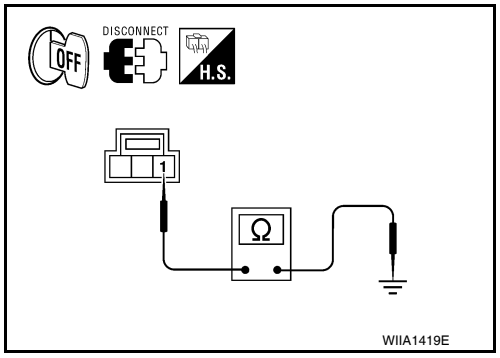
OK or NG

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

3. CHECK TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID GROUND CIRCUIT

Check continuity between trunk lamp switch and trunk release solenoid connector B127 terminal 1 and ground.

Trunk lamp switch and trunk release solenoid connector	Terminal	Ground	Continuity
B127	1		Yes



OK or NG

OK >> Replace trunk lamp switch and trunk release solenoid.
NG >> Repair or replace harness.

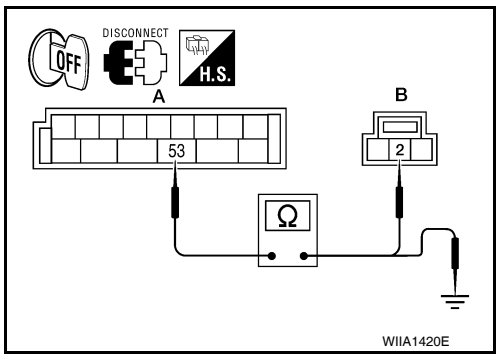
4. CHECK TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM connector (A) M19 terminal 53 and trunk lamp switch and trunk release solenoid connector B127(B) terminal 2.

A		B		Continuity
BCM connector	Terminal	Trunk lamp switch and trunk release solenoid connector	Terminal	
M19	53	B127	2	Yes

3. Check continuity between BCM connector (A) M19 terminal 53 and ground.

BCM connector	Terminal	Ground	Continuity
M19	53		No



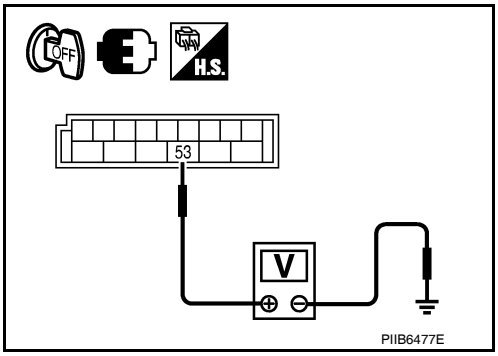
OK or NG

OK >> GO TO 5
NG >> Repair or replace harness between BCM and trunk lamp switch and trunk release solenoid.

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	Trunk lid 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-19, "Removal and Installation of BCM".

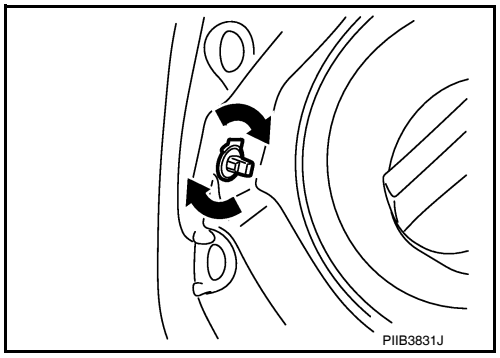
FUEL FILLER LID OPENER

Removal and Installation of Fuel Filler Lid Opener

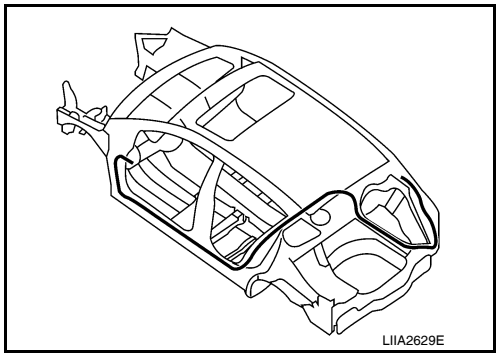
INFOID:0000000005396681

REMOVAL

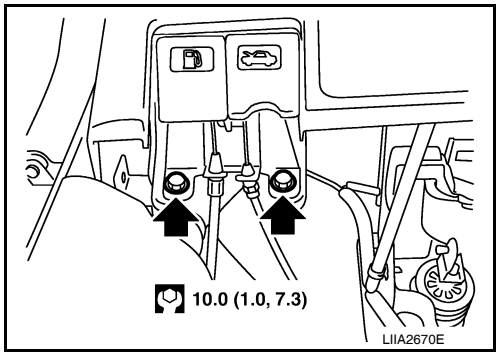
1. Remove trunk side finisher (RH). Refer to EI-54, "Removal and Installation".
2. Remove fuel filler lock.
3. Remove front kicking plate and rear kicking plate. Refer to EI-40, "Removal and Installation".
4. Remove rear cushion assembly. Refer to SE-16, "Removal and Installation".



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.



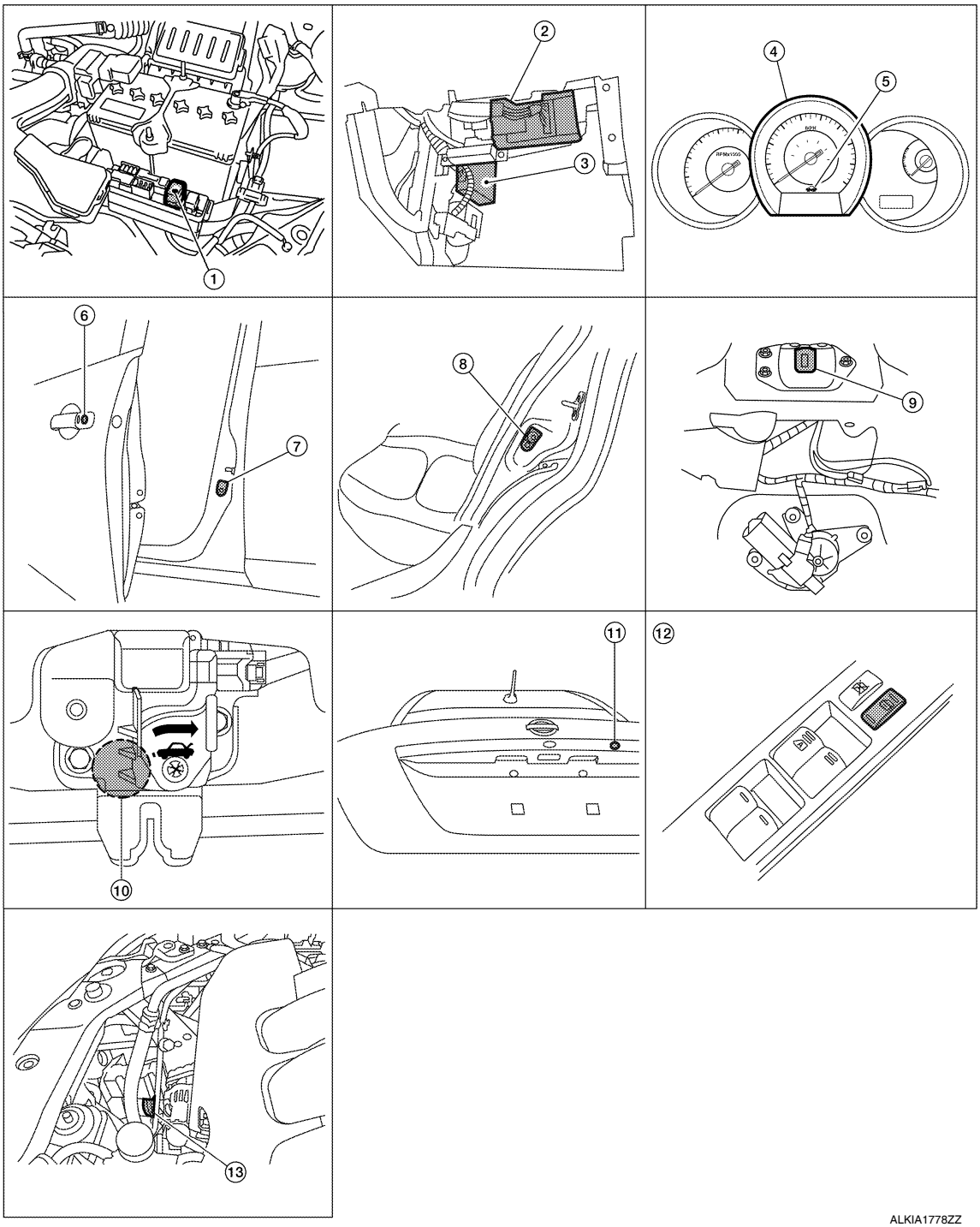
INSTALLATION

Installation is in the reverse order of removal.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Component Parts and Harness Connector Location

INFOID:0000000005396682



ALKIA1778ZZ

1. Horn relay H-1
2. BCM M18, M19, M20 (view with glove box removed)
3. Intelligent Key unit M52 (with Intelligent Key)
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 (hatchback view with back door open)

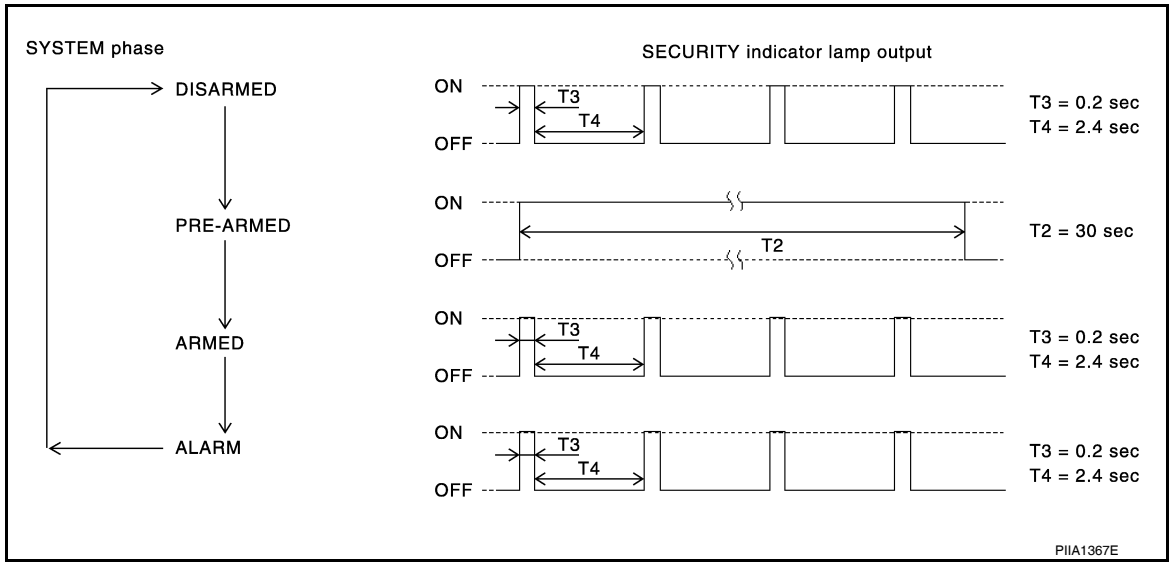
10. Trunk lamp switch and trunk release solenoid B127 (sedan view with trunk open)
11. Trunk key cylinder switch B142 (sedan)
12. Main power window and door lock/ unlock switch D7, D8 Power window and door lock/unlock switch RH D105
13. Horn E18, E20

System Description

INFOID:0000000005396683

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 or trunk (sedan) 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 and trunk (sedan) are closed.
- All doors and trunk (sedan) 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

Armed phase is canceled when the driver unlocks the doors or the trunk (sedan) 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.
3. Trunk (sedan) is opened without using the key, trunk lid opener switch, keyfob or Intelligent Key (sedan).

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 and trunk (sedan).
To activate the vehicle security system, BCM must receive signals indicating the ignition switch is OFF, doors and trunk (sedan) are closed and locked.
When a door or trunk (sedan) is open, BCM terminal 12, 13, 42, 43, 47 or 48 receives a ground signal from each door or trunk switch. In addition to BCM, when back door is open, the Intelligent Key unit terminal 23 receives a ground signal from back door or trunk (sedan) 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 without using the key, keyfob or Intelligent Key.
- Opening trunk without using the key, keyfob or Intelligent Key (sedan).

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), terminal 42 (sedan, trunk switch) or terminal 43 (hatchback, 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 or trunk (sedan) 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 key is used to open the trunk (sedan), BCM terminal 41 receives signal
- from terminal 1 of the trunk key cylinder switch.

When the BCM receives an unlock signal from keyfob, Intelligent Key, front door key cylinder switch LH or trunk key cylinder switch (sedan), 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 vehicle security 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.

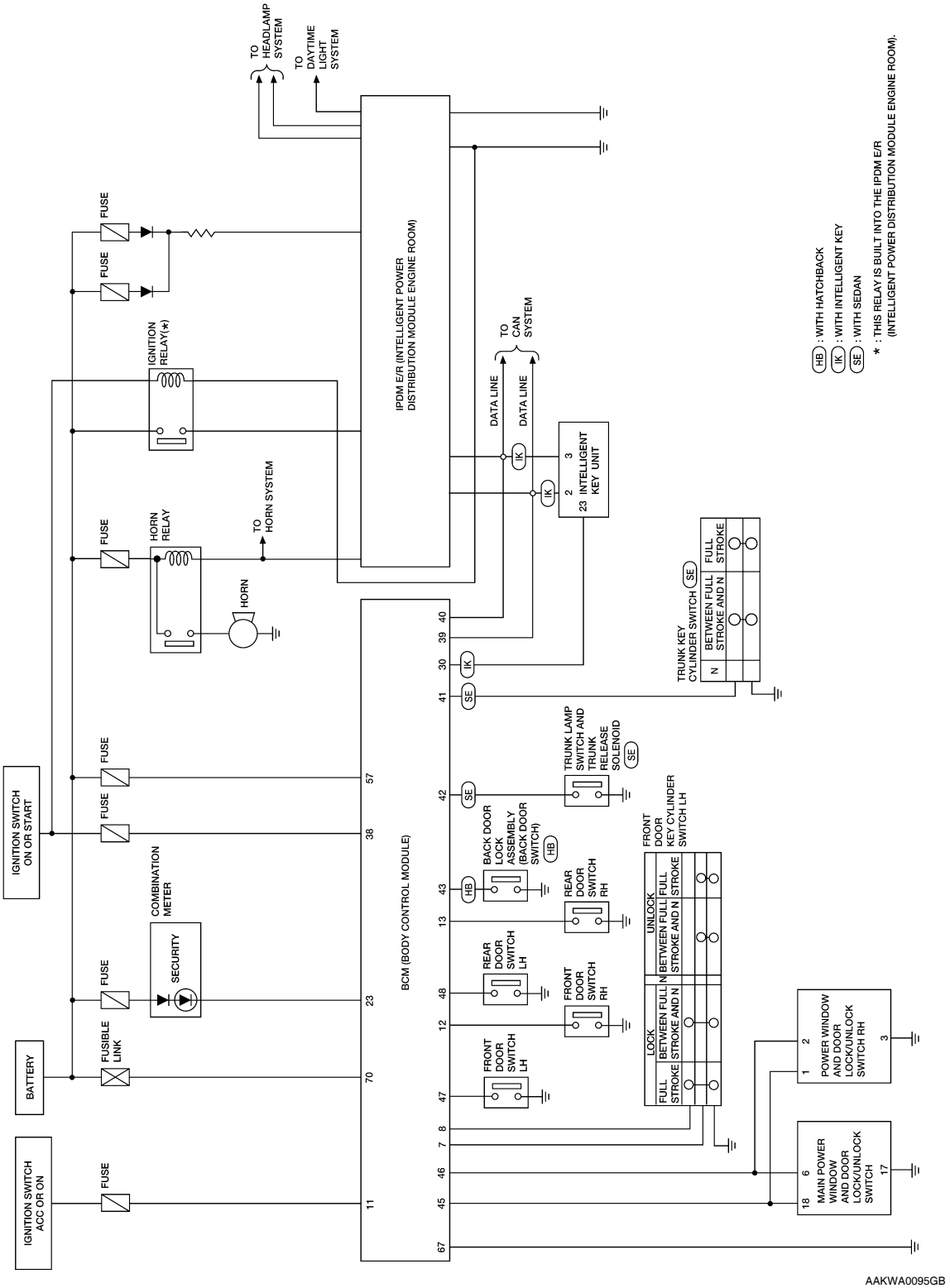
CAN Communication System Description

INFOID:0000000005396684

Refer to LAN-7.

Schematic

INFOID:0000000005396685



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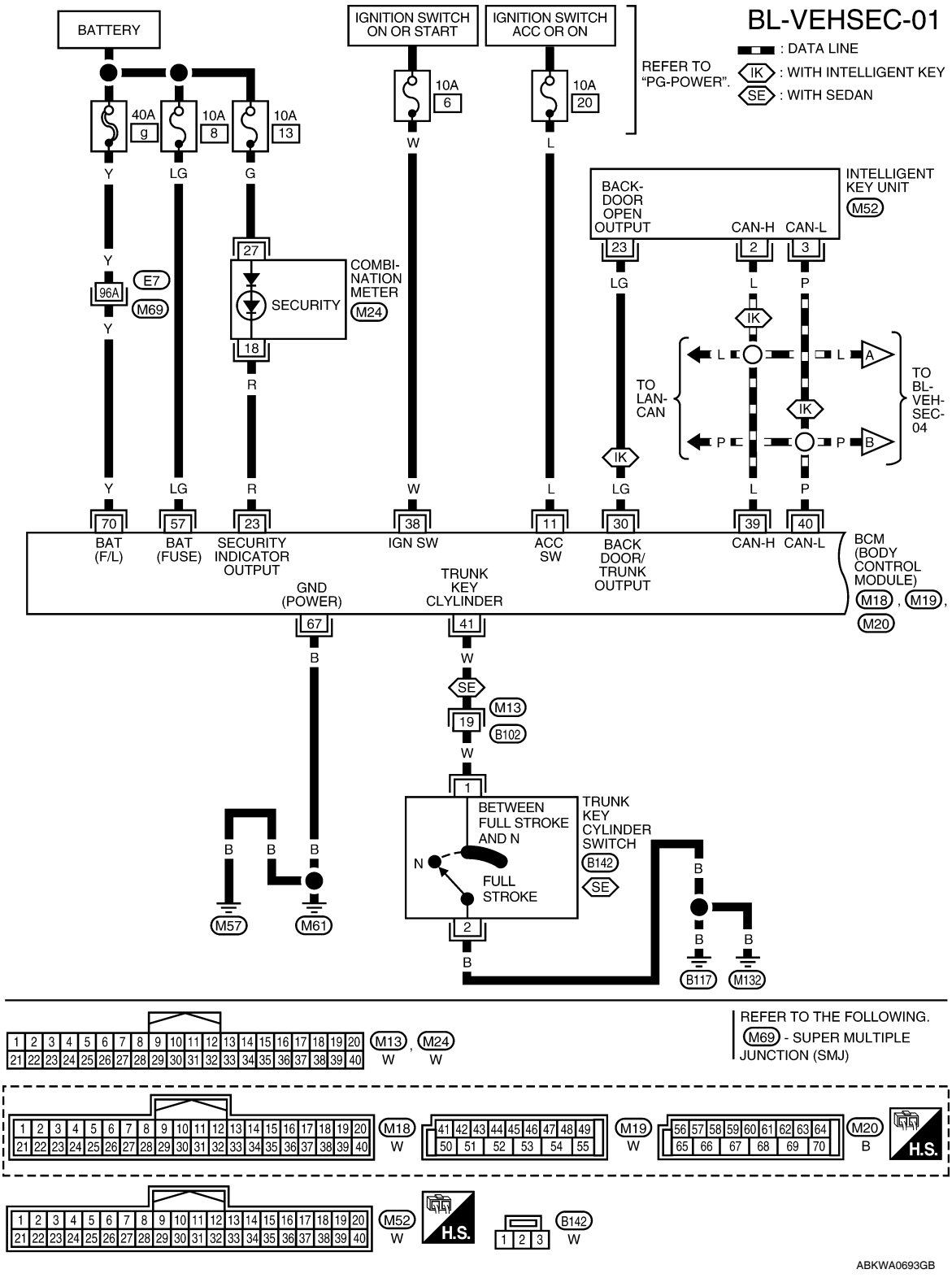
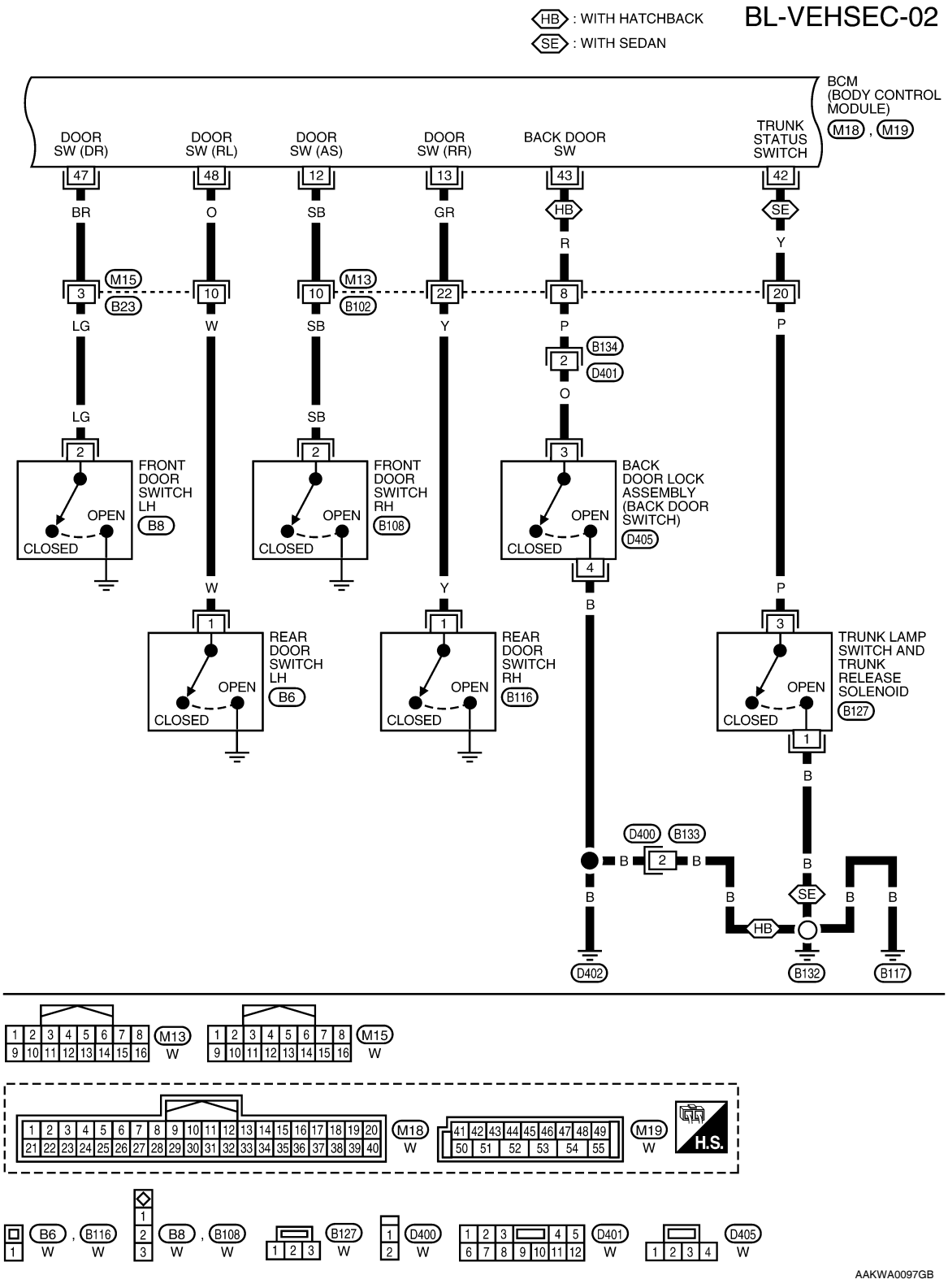
Wiring Diagram - VEHSEC -

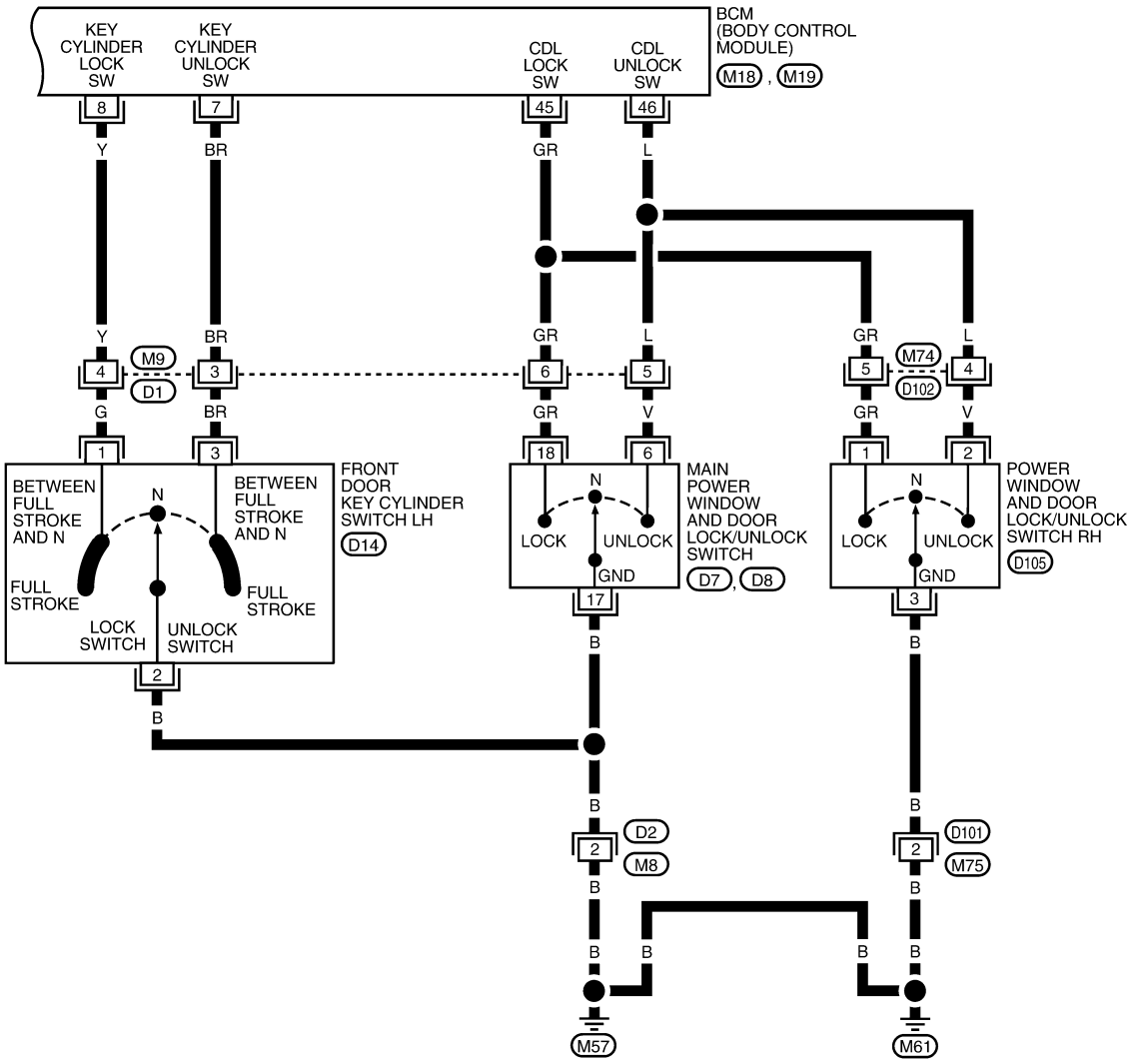
INFOID:0000000005396686

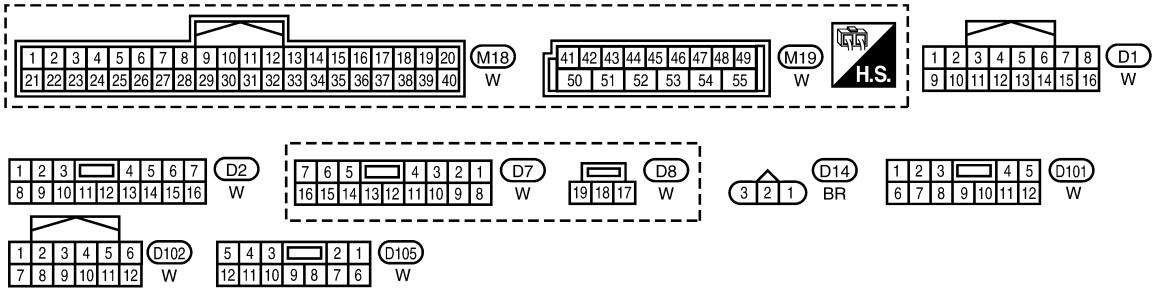


BL-VEHSEC-02

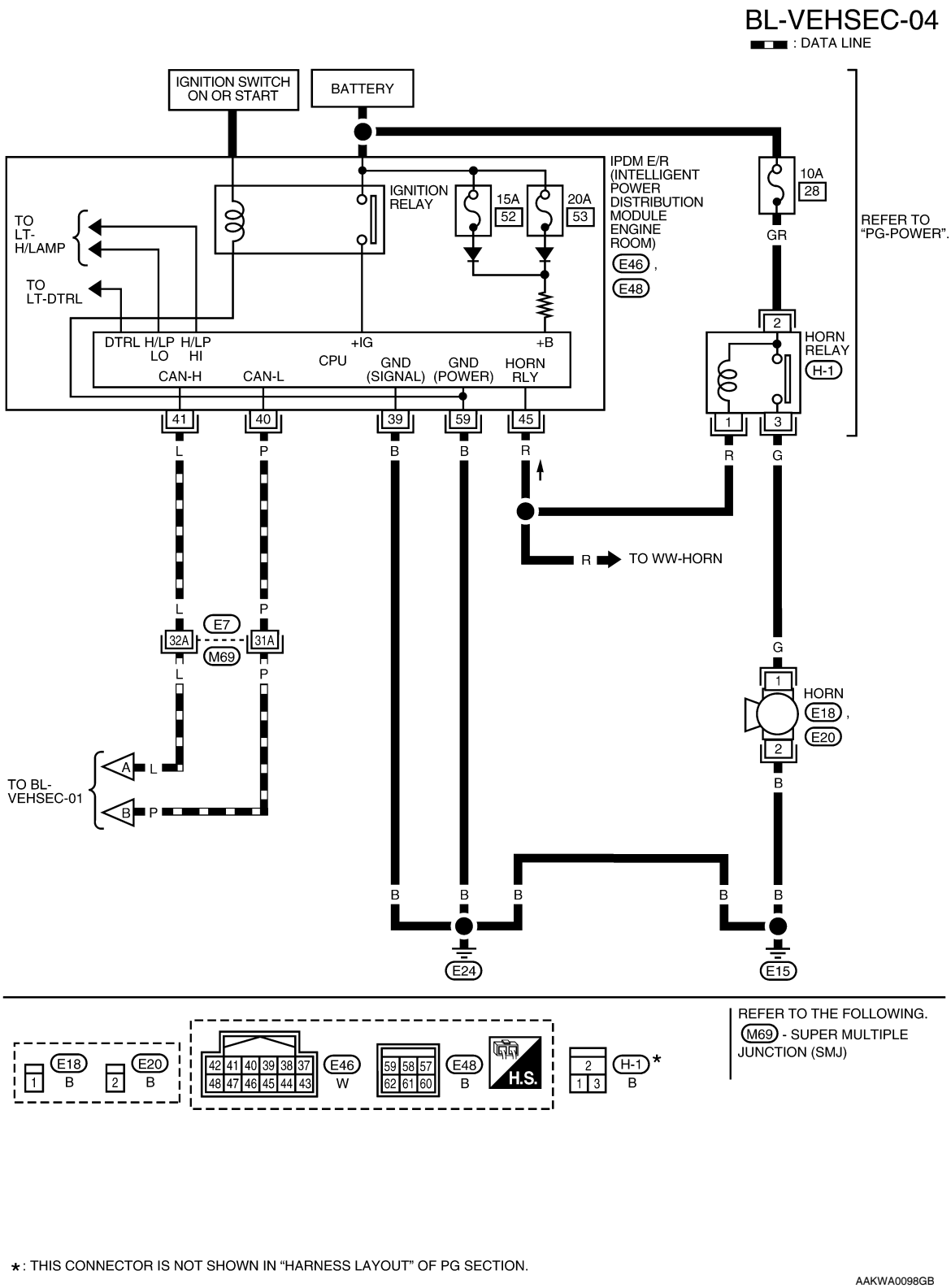

HB : WITH HATCHBACK
SE : WITH SEDAN
BCM (BODY CONTROL MODULE) M18 , M19
DOOR SW (DR)
DOOR SW (RL)
DOOR SW (AS)
DOOR SW (RR)
BACK DOOR SW
TRUNK STATUS SWITCH
47
48
12
13
43
42
BR
O
SB
GR
HB
SE
R
Y
M15
B23
M13
B102
3
10
10
22
8
20
LG
W
SB
Y
P
P
B134
2
D401
O
LG
SB
2
2
2
3
FRONT DOOR SWITCH LH B8
FRONT DOOR SWITCH RH B108
BACK DOOR LOCK ASSEMBLY (BACK DOOR SWITCH) D405
OPEN
CLOSED
4
B
W
Y
P
1
1
3
REAR DOOR SWITCH LH B6
REAR DOOR SWITCH RH B116
TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID B127
1
B
D400
B133
2
B
SE
HB
D402
B132
B117
M13
W
M15
W
M18
W
M19
W
H.S.
B6 , B116
W
W
B8 , B108
W
W
B127
W
D400
W
D401
W
D405
W
AAKWA0097GB

BL-VEHSEC-03





WIWA1974E

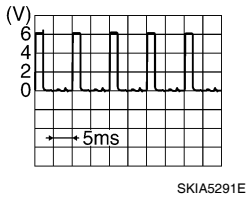
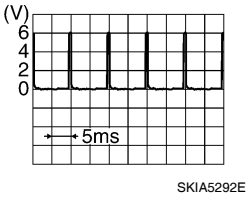
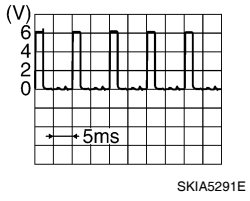
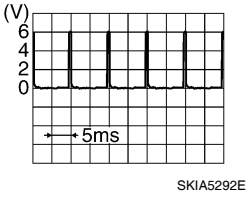


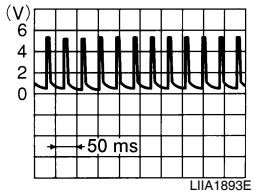
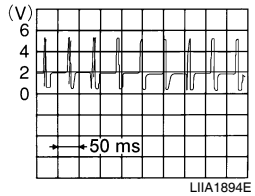
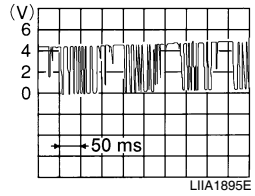
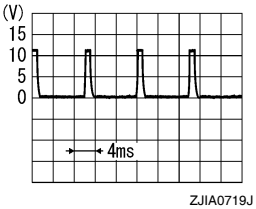
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

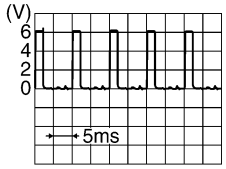
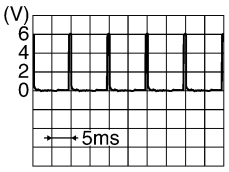
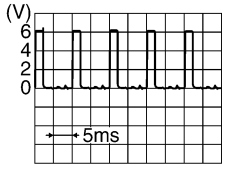
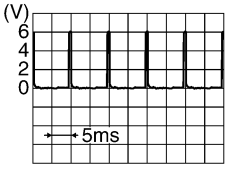
AAKWA0098GB

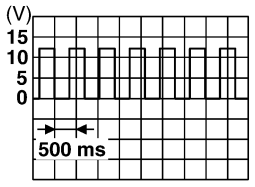
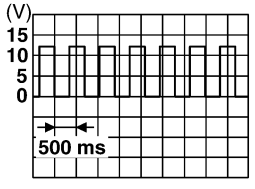
Terminal and Reference Value for BCM

INFOID:0000000005612422

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
2	BR	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	GR	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	L	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	G	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	V	Combination switch input 1				
7[7]	BR	Front door key cylinder switch LH (unlock)	Input	OFF	ON (open, 2nd turn)	Momentary 1.5V
					OFF (closed)	0V
8[7]	Y	Front door key cylinder switch LH (lock)	Input		On (open)	Momentary 1.5V
					OFF (closed)	0V
9	W	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
10	R	Defrost A/C switch signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
11	L	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	SB	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage

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

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
30[1]	LG	Back door/trunk output	Output	—	Back door open (switch closed)	0V
					Back door closed (switch open)	5V
30[3]	LG	Back door opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
30[4]	V	Trunk lid opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
32	LG	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	V	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
35	R	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	P	Combination switch output 1				
37[1]	G	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage
					Intelligent Key removed	0V
37[2]	G	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key removed	0V
38	W	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
41[6]	W	Trunk key cylinder switch	Input	—	ON (Full unlock position)	0V
					OFF (Neutral position)	5V
42[6]	Y	Trunk lamp switch	Input	OFF	ON (trunk open)	0V
					OFF (trunk closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
43[5]	R	Back door switch	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
44[5]	LG	Rear wiper auto stop	Input	ON	Rear wiper operating	0
					Rear wiper stopped	Battery
45[7]	GR	Lock switch	Input	OFF	ON (lock)	0V
					OFF	Battery voltage
46[7]	L	Unlock switch	Input	OFF	ON (unlock)	0V
					OFF	Battery voltage
47	BR	Front door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
48	O	Rear door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
49	P	Luggage room lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage
50	SB	A/C indicator	Output	ON	A/C OFF	0
					A/C ON	Battery voltage
53[5]	R	Back door lock assembly (actuator)	Output	OFF	Back door (open)	Battery voltage
53[6]	R	Trunk lamp switch and trunk release solenoid	Output	OFF	Trunk lid (open)	Battery voltage
55[5]	V	Rear wiper motor output	Output	ON	OFF	0
					ON	Battery voltage
56	R	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	LG	Battery power supply	Input	OFF	—	Battery voltage
59[7]	G	Front door lock actuator LH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	V	Turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
61	W	Turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
63	BR	Interior room lamp	Output	OFF	Any door switch: ON (open)	0V
					Any door switch: OFF (closed)	Battery voltage

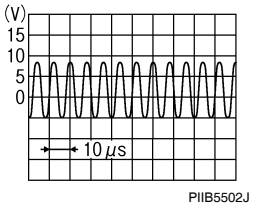
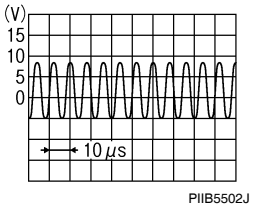
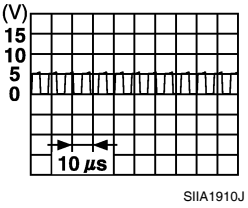
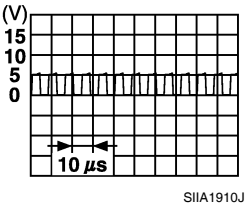
Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
65[7]	SB	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66[7]	G	Front door lock actuator RH, rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
67	B	Ground	Input	ON	—	0V
68[8]	L	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
69[8]	P	Battery power supply	Output	OFF	—	Battery voltage
70	Y	Battery power supply	Input	OFF	—	Battery voltage

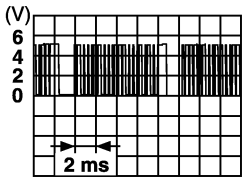
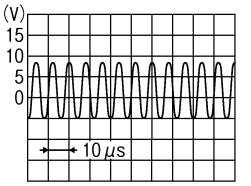
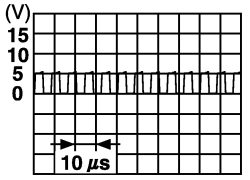
1: With Intelligent Key
2: Without Intelligent Key
3: Hatchback without Intelligent Key
4: Sedan without Intelligent Key
5: Hatchback
6: Sedan
7: With power door locks
8: With power windows

Terminal and Reference Value for Intelligent Key Unit

INFOID:0000000005612426

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 or A/T shift selector (park position switch)	ON	Shift lever in park position.		0
				Other than above		Battery voltage
11	SB	Power source (Fuse)	—	—		Battery voltage

Terminal	Wire Color	Item	Condition		Voltage (V) Approx.
			Ignition Switch Position	Operation or Conditions	
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			
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	B/R	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	LG	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

Terminal	Wire Color	Item	Condition		Voltage (V) Approx.
			Ignition Switch Position	Operation or Conditions	
29	V	Back door request switch (hatchback)	—	Press back door request switch.	0
				Other than above	5
		Trunk opener request switch (sedan)	—	Press trunk opener 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
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) or automatic transmission (A/T).

*2: With manual transmission (M/T).

CONSULT-III Function (BCM)

INFOID:0000000005396689

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

Diagnostic mode	Description
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 DIAGNOSTIC RESULT	Displays BCM self-diagnosis results.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ECU IDENTIFICATION	BCM part number can be read.
CONFIGURATION	Performs BCM configuration read/write functions.

CONSULT-III 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-III 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.
KEYLESS LOCK*	Indicates [ON/OFF] condition of lock signal from keyfob.
KEYLESS UNLOCK*	Indicates [ON/OFF] condition of unlock signal from keyfob.
I-KEY LOCK**	Indicates [ON/OFF] condition of lock signal from keyfob.
I-KEY UNLOCK**	Indicates [ON/OFF] condition of unlock 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.
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.

* : With remote keyless entry system

** : With Intelligent Key system

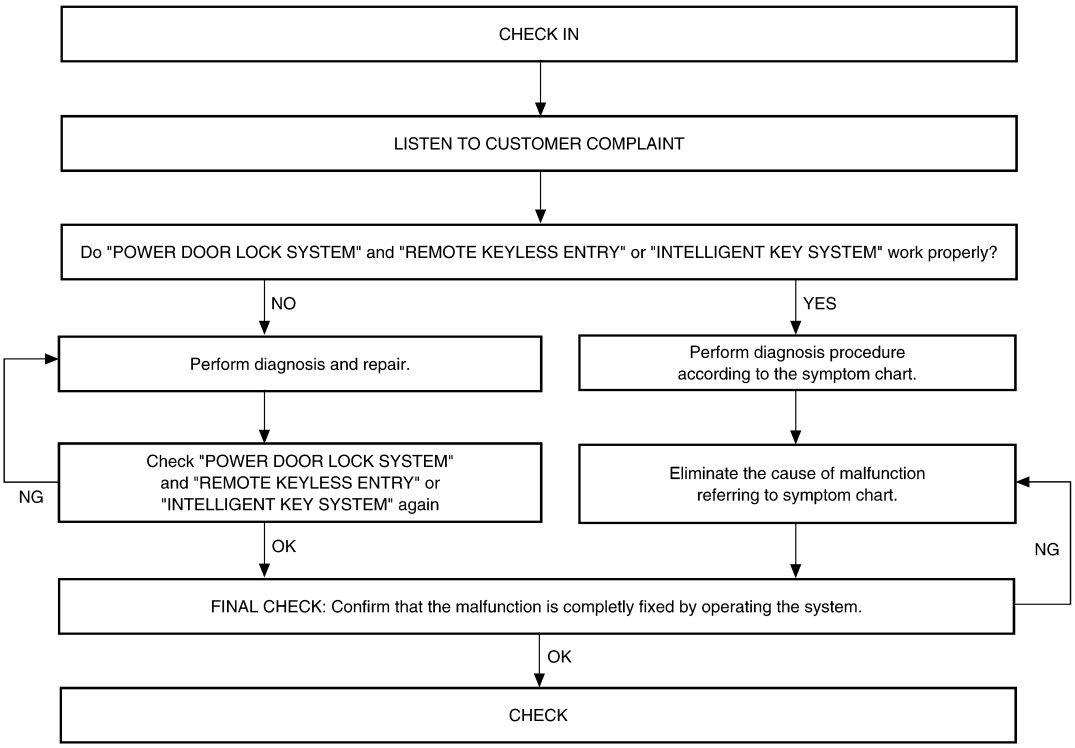
Active Test

Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation. The lamp will be turned on when “ON” on CONSULT-III 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-III 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-III screen is touched.

Trouble Diagnosis

INFOID:0000000005396690

WORK FLOW



LIIA2635E

- For “POWER DOOR LOCK SYSTEM” diagnosis, refer to BL-22.
- For "INTELLIGENT KEY SYSTEM” diagnosis, refer to BL-86.
- For “REMOTE KEYLESS ENTRY SYSTEM” diagnosis, refer to BL-58.

Preliminary Check

INFOID:0000000005396691

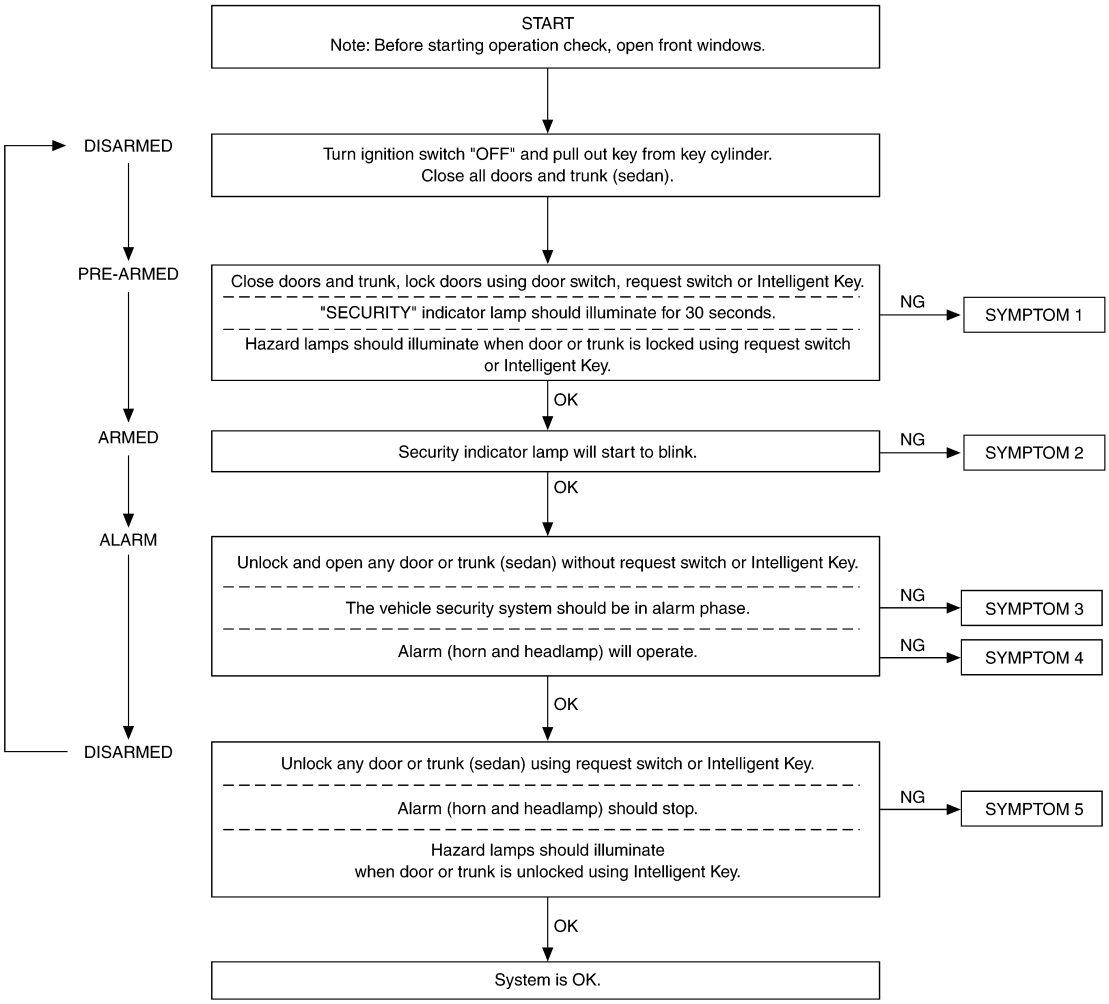
1.CHECK BCM CONFIGURATION

Confirm BCM configuration for "THEFT ALARM" is set to "WITH". Refer to BCS-19, "Configuration".

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-19, "Configuration".

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-237, "Symptom Chart".

Symptom Chart

INFOID:0000000005396692

	SYMPTOM	PROCEDURE	Diagnostic procedure
1	Vehicle security system cannot be set by ····	All items	Diagnostic Procedure 1 (Door switch check) (Hatchback) Refer to BL-238, "Diagnosis Procedure 1".
			Diagnostic Procedure 7 (Door switch check) (Sedan) Refer to BL-242, "Diagnosis Procedure 7".
			Diagnostic Procedure 8 (Trunk switch check) (Sedan) Refer to BL-244, "Diagnosis Procedure 8".
			If the above systems are “OK”, replace BCM. Refer to BCS-19, "Removal and Installation of BCM".
		Lock/unlock switch	Diagnostic Procedure 6 (Door lock/unlock switch check) Refer to BL-242, "Diagnosis Procedure 6".
			If the above systems are “OK”, check main power window and door lock/unlock switch. Refer to GW-19.
		Door outside key (driver)	Diagnostic Procedure 3 (Door key cylinder switch check) Refer to BL-242, "Diagnosis Procedure 3".
			If the above systems are “OK”, check main power window and door lock/unlock switch. Refer to GW-19.
		Intelligent key	Check Intelligent Key entry function. Refer to BL-88, "System Description"
			If the above systems are “OK”, replace BCM. Refer to BCS-19, "Removal and Installation of BCM".
		Keyfob (without Intelligent Key)	Check remote keyless entry function. Refer to BL-69, "Preliminary Check".
			If the above systems are “OK”, replace BCM. Refer to BCS-19, "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-241, "Diagnosis Procedure 2".
			If the above systems are “OK”, replace BCM. Refer to BCS-19, "Removal and Installation of BCM".
3	*1 Vehicle security system does not alarm when ····	Any door or trunk is opened.	Diagnostic Procedure 1 (Door switch check) (hatchback) Refer to BL-238, "Diagnosis Procedure 1".
			Diagnostic Procedure 7 (Door switch check) (Sedan) Refer to BL-242, "Diagnosis Procedure 7".
			Diagnostic Procedure 8 (Trunk switch check) (Sedan) Refer to BL-244, "Diagnosis Procedure 8".
			If the above systems are “OK”, replace BCM. Refer to BCS-19, "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-242, "Diagnosis Procedure 4".
			If the above systems are “OK”, check horn system. Refer to WW-39.
		Head lamp alarm	Diagnostic Procedure 5 (Head lamp alarm check). Refer to BL-242, "Diagnosis Procedure 5".
			If the above systems are “OK”, replace BCM. Refer to BCS-19, "Removal and Installation of BCM".

	SYMPTOM	PROCEDURE	Diagnostic procedure
5	Vehicle security system cannot be canceled by ····	Door outside key (driver)	Diagnostic Procedure 3 (Door key cylinder switch check). Refer to BL-242, "Diagnosis Procedure 3".
			If the above systems are “OK”, check main power window and door lock/unlock switch. Refer to GW-19.
		Trunk key cylinder switch (sedan)	Diagnostic Procedure 9 (Trunk key cylinder switch check) (Sedan) Refer to BL-245, "Diagnosis Procedure 9".
		Intelligent key	Check Intelligent Key entry function. Refer to BL-88, "System Description"
			If the above systems are “OK”, replace BCM. Refer to BCS-19, "Removal and Installation of BCM".
		Keyfob (without Intelligent Key)	Check remote keyless entry function. Refer to BL-69, "Preliminary Check".
			If the above systems are “OK”, replace BCM. Refer to BCS-19, "Removal and Installation of BCM".

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

Diagnosis Procedure 1

INFOID:0000000005396693

1-1 DOOR SWITCH CHECK (HATCHBACK)

1.CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-III

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in DATA MONITOR mode with CONSULT–III. Refer to BL-41, "CONSULT-III Function (BCM)".

- When doors are open:

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

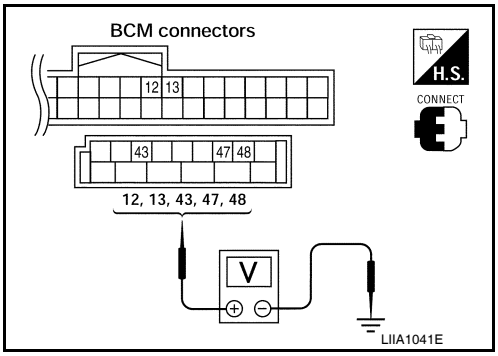
- When doors are closed:

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

Without CONSULT-III

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

OK1 >> Door switch circuit is OK (without Intelligent Key).
OK2 >> GO TO 6 (with Intelligent Key).
NG >> GO TO 2

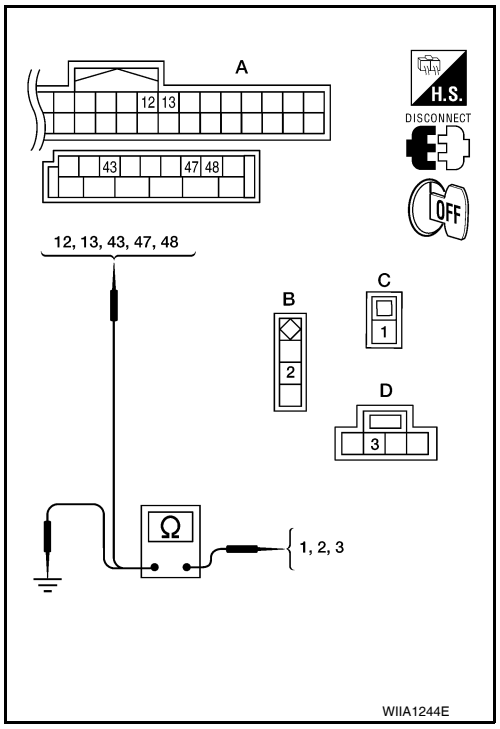
2. CHECK DOOR SWITCH CIRCUIT

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

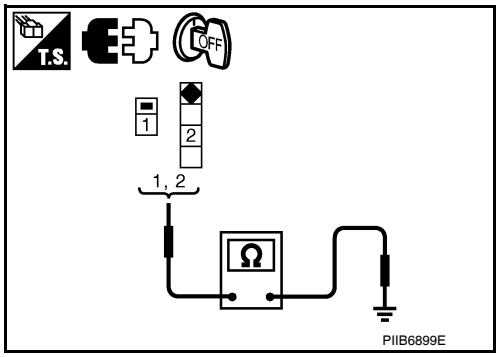
OK >> GO TO 3
NG >> Repair or replace harness.

3. CHECK DOOR SWITCHES

FRONT AND REAR DOORS

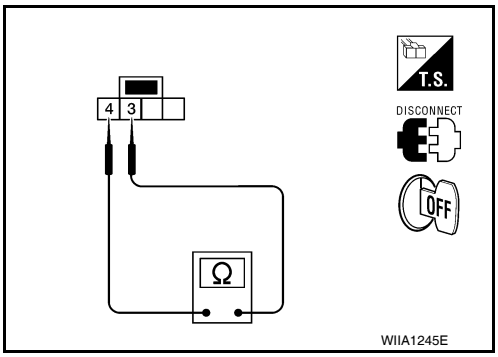
Check continuity between front door switch terminal 2 or rear door switch terminal 1 and exposed metal of switch while pressing and releasing switch.

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.



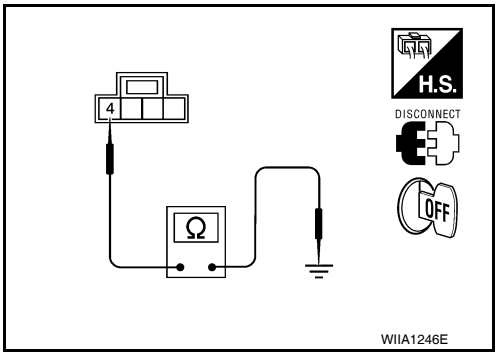
When back door is open : Continuity should exist.
When back door is closed : Continuity should not exist.

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.

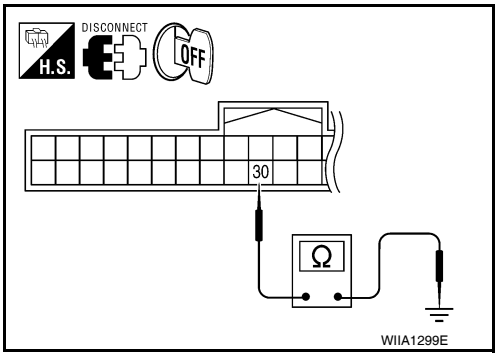
OK or NG

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.



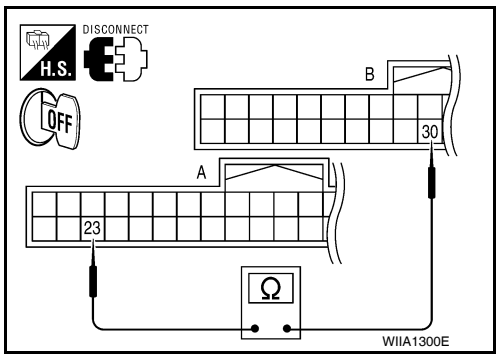
OK or NG

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.

Diagnosis Procedure 2

INFOID:0000000005396694

SECURITY INDICATOR LAMP CHECK

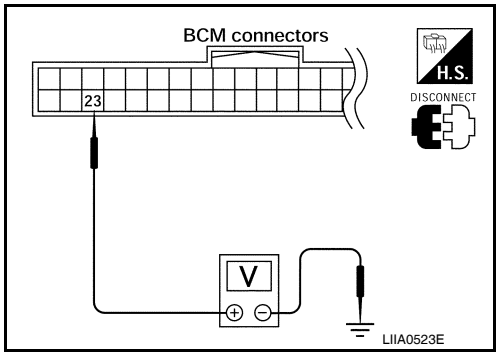
1.SECURITY INDICATOR LAMP ACTIVE TEST

With CONSULT-III

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

Without CONSULT-III

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

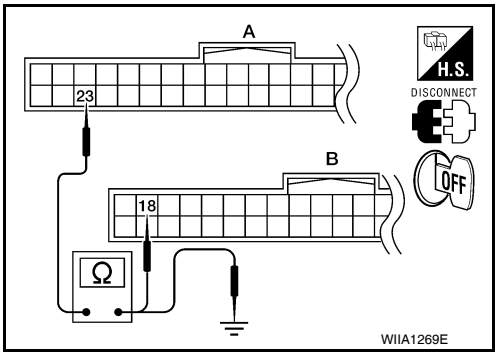
1. Turn ignition switch OFF.
2. Disconnect BCM and combination meter.

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.

Diagnosis Procedure 3

INFOID:0000000005396695

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-54, "Front Door Key Cylinder Switch LH Check".

Diagnosis Procedure 4

INFOID:0000000005396696

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-39.

Diagnosis Procedure 5

INFOID:0000000005396697

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-6 or LT-28.

Diagnosis Procedure 6

INFOID:0000000005396698

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-49, "Door Lock and Unlock Switch Check".

Diagnosis Procedure 7

INFOID:0000000005396699

DOOR SWITCH CHECK (SEDAN)

1.CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-III
Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR") in DATA MONITOR mode with CONSULT–III. Refer to BL-233, "CONSULT-III Function (BCM)".

- When doors are open:

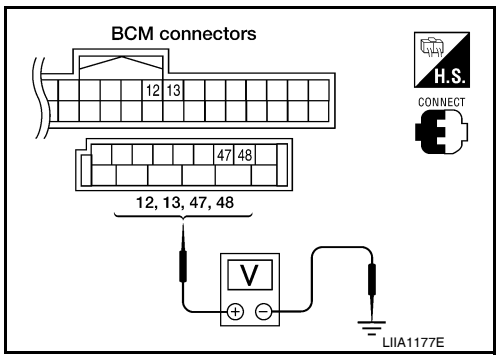
DOOR SW-DR	**: ON**
DOOR SW-AS	**: ON**
DOOR SW-RL	**: ON**
DOOR SW-RR	**: ON**

- When doors are closed:

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

Without CONSULT-III
Check voltage between BCM connector M18 or M19 terminals 12, 13, 47, 48 and ground.

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



OK or NG

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

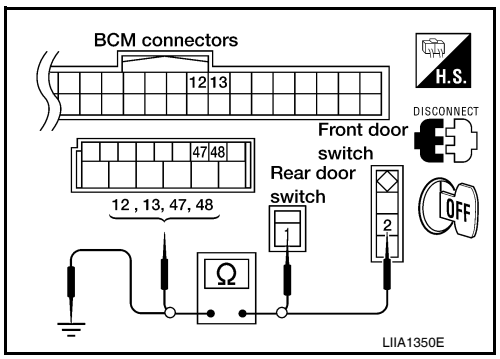
2.CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM.
3. Check continuity between door switch connector B8 (Front LH) or B108 (Front RH) terminal 2, B6 (Rear LH) or B116 (Rear RH) terminal 1 and BCM connector M18, M19 terminals 12, 13, 47 and 48.

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

4. Check continuity between door switch connector B8 (Front LH) or B108 (Front RH) terminal 2, B6 (Rear LH) or B116 (Rear RH) terminal 1 and ground.

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



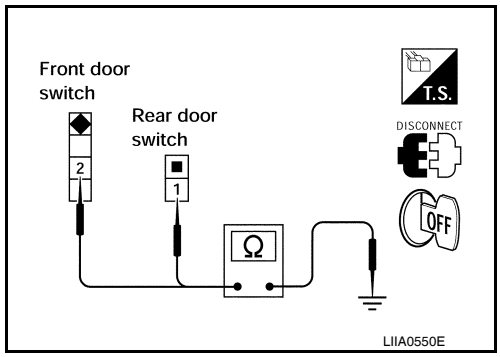
OK or NG

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

3.CHECK DOOR SWITCHES

Check continuity between door switch terminal and switch case ground.

Component	Terminals	Condition of switch	Continuity
Front door switch LH/RH	2 – Case ground	Pushed	No
		Released	Yes
Rear door switch LH/RH	1 – Case ground	Pushed	No
		Released	Yes



OK or NG

OK >> Check door switch case ground condition.
NG >> Replace door switch.

Diagnosis Procedure 8

INFOID:0000000005396700

TRUNK LAMP SWITCH CHECK (SEDAN)

1.CHECK TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID INPUT SIGNAL

With CONSULT-III

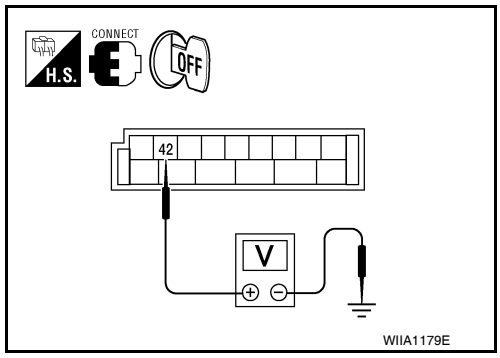
Check (“TRNK OPN MNTR”) in “DATA MONITOR” mode with CONSULT-III.

Monitor item	Trunk condition	
TRNK OPN MNTR	OPEN	: ON
	CLOSED	: OFF

Without CONSULT-III

1. Turn ignition switch OFF.
2. Check voltage between BCM harness connector M19 terminal 42 and ground.

Connector	Terminals (+)	Terminals (-)	Trunk condition	Voltage (V) (Approx.)
M19	42	Ground	CLOSED	Battery voltage
			OPEN	0



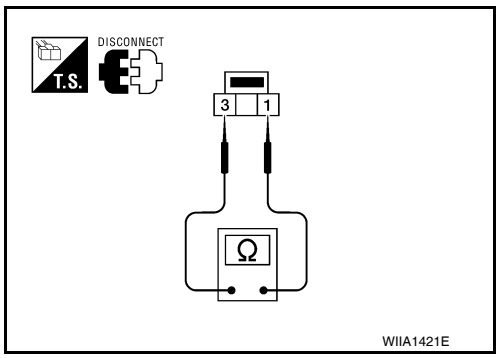
OK or NG

OK >> Trunk lamp switch and trunk release solenoid circuit is OK.
NG >> GO TO 2

2.CHECK TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID

1. Turn ignition switch OFF.
2. Disconnect trunk lamp switch and trunk release solenoid connector.
3. Check continuity between trunk lamp switch and trunk release solenoid terminals 1 and 3.

Terminals		Trunk condition	Continuity
1	3	CLOSED	No
		OPEN	Yes



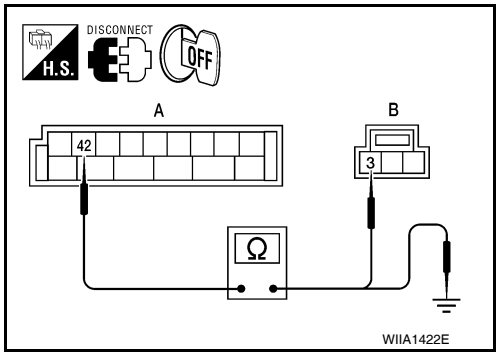
OK or NG

OK >> GO TO 3
NG >> Replace trunk lamp switch and trunk release solenoid.

3. CHECK TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID CIRCUIT

1. Disconnect BCM connector M19.
2. Check continuity between BCM harness connector M19 (A) terminal 42 and trunk room lamp switch harness connector B127 (B) terminal 3.

42 – 3 : Continuity should exist.



3. Check continuity between BCM harness connector M19 (A) terminal 42 and ground.

42 – Ground : Continuity should not exist.

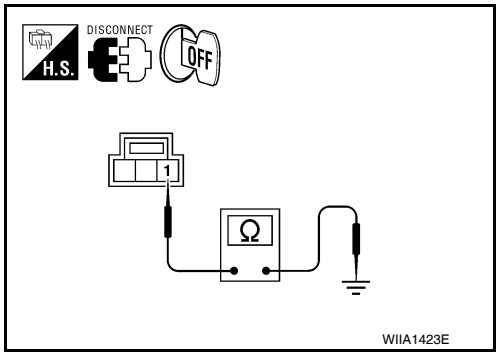
OK or NG

OK >> GO TO 4
NG >> Repair or replace harness between BCM and trunk room lamp switch.

4. CHECK TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID GROUND CIRCUIT

Check continuity between trunk room lamp switch harness connector B127 terminal 1 and ground.

1 – Ground : Continuity should exist.



OK or NG

OK >> Check connection of harness and connector.
NG >> Repair or replace trunk lamp switch and trunk release solenoid ground circuit.

Diagnosis Procedure 9

INFOID:0000000005396701

TRUNK KEY CYLINDER SWITCH CHECK (SEDAN)

1. CHECK TRUNK KEY CYLINDER SWITCH

With CONSULT-III

Check trunk key cylinder switch ("TRUNK CYL SW") in DATA MONITOR mode in CONSULT–III. Refer to BL-41, "CONSULT-III Function (BCM)".

- When key inserted in trunk key cylinder is turned to FULL STROKE:

TRUNK CYL SW : ON

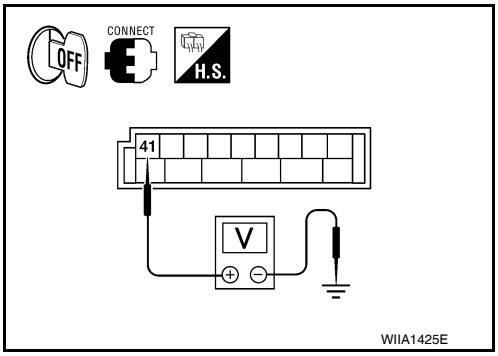
- When key is removed from the trunk key cylinder:

TRUNK CYL SW : OFF

⊗Without CONSULT-III

Check voltage between BCM connector M19 terminal 41 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(–)		
M19	41	Ground	Neutral (N)	5
			Full stroke (open)	0



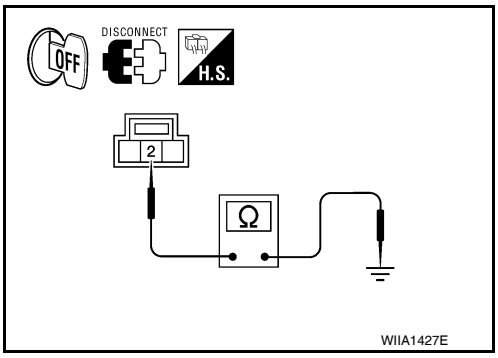
OK or NG

OK >> Trunk key cylinder switch signal is OK.
NG >> GO TO 2

2.CHECK TRUNK KEY CYLINDER SWITCH GROUND HARNESS

1. Turn ignition switch OFF.
2. Disconnect trunk key cylinder switch.
3. Check continuity between trunk key cylinder switch connector B142 terminal 2 and body ground.

Connector	Terminals	Continuity
B142	2 – Ground	Yes



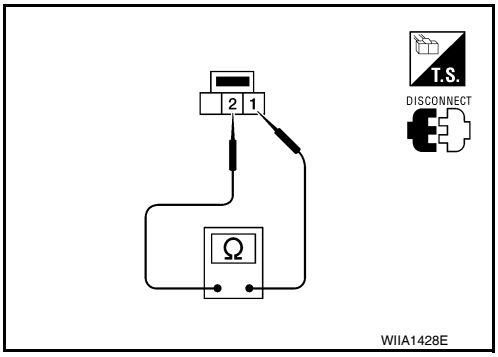
OK or NG

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

3.CHECK TRUNK KEY CYLINDER SWITCH

Check continuity between trunk key cylinder switch terminals.

Terminals	Trunk key cylinder switch position	Continuity
1 – 2	Neutral (N)	No
	Full Stroke (open)	Yes



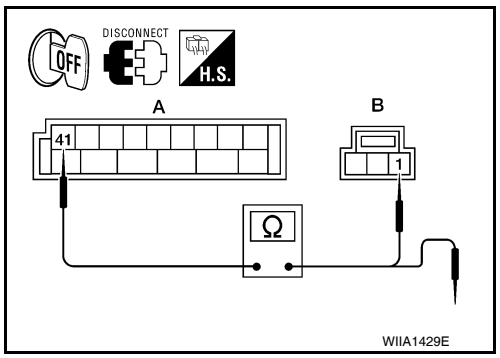
OK or NG

OK >> GO TO 4
NG >> Replace trunk key cylinder switch.

4.CHECK TRUNK KEY CYLINDER HARNESS

1. Disconnect BCM connector M19.

2. Check continuity between BCM connector (A) M19 terminal 41 and trunk key cylinder switch connector (B) B142 terminal 1 and body ground.



Connector	Terminal	Connector	Terminal	Continuity
A: M19	41	B: B142	1	Yes
		Ground		No

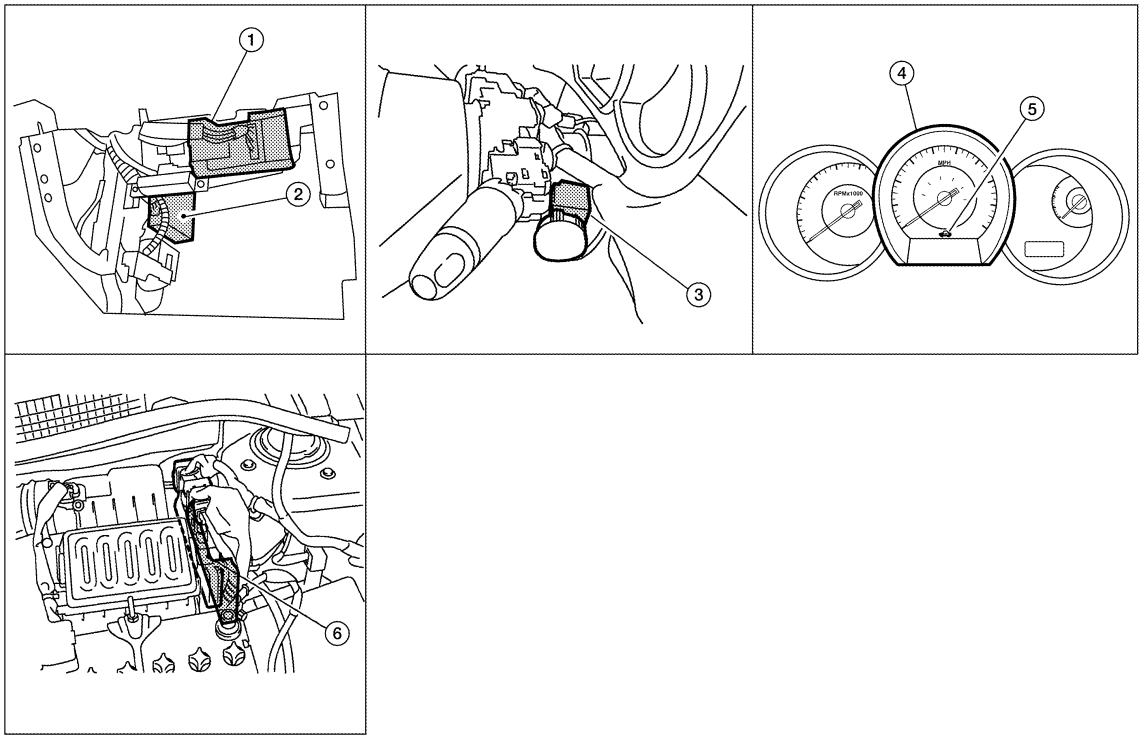
OK or NG

OK >> Trunk key cylinder switch circuit is OK.
NG >> Repair or replace harness.

NATS (NISSAN ANTI-THEFT SYSTEM)

Component Parts and Harness Connector Location

INFOID:0000000005396702



LIIA2920E

1. BCM M18, 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

INFOID:0000000005396703

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-III hardware and CONSULT-III 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-III 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)

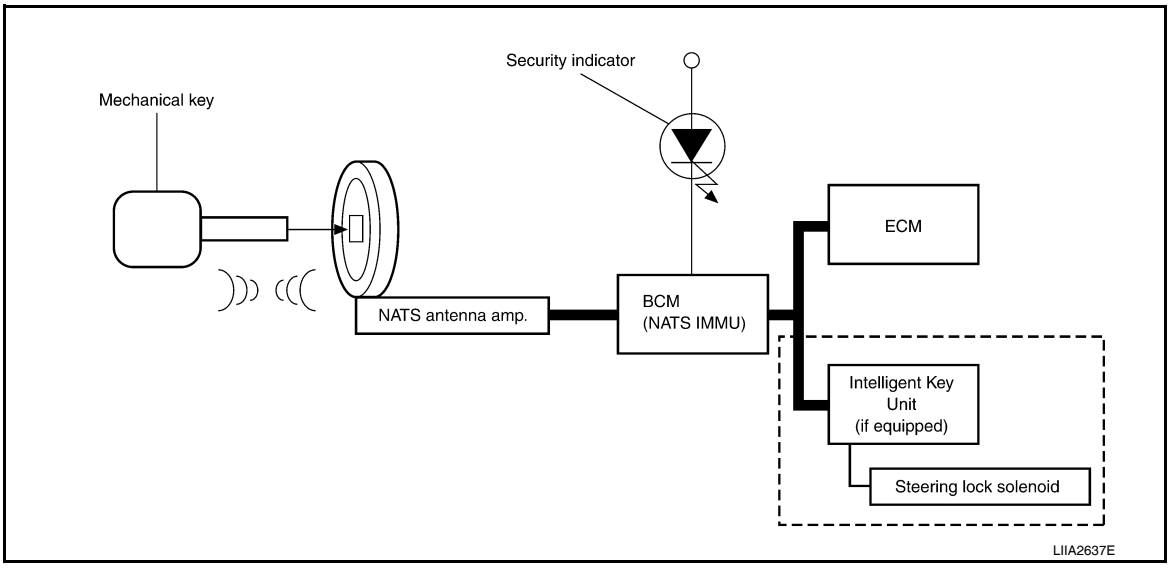
System Composition

INFOID:0000000005396704

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

INFOID:0000000005396705

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-III is not necessary)
NOTE:

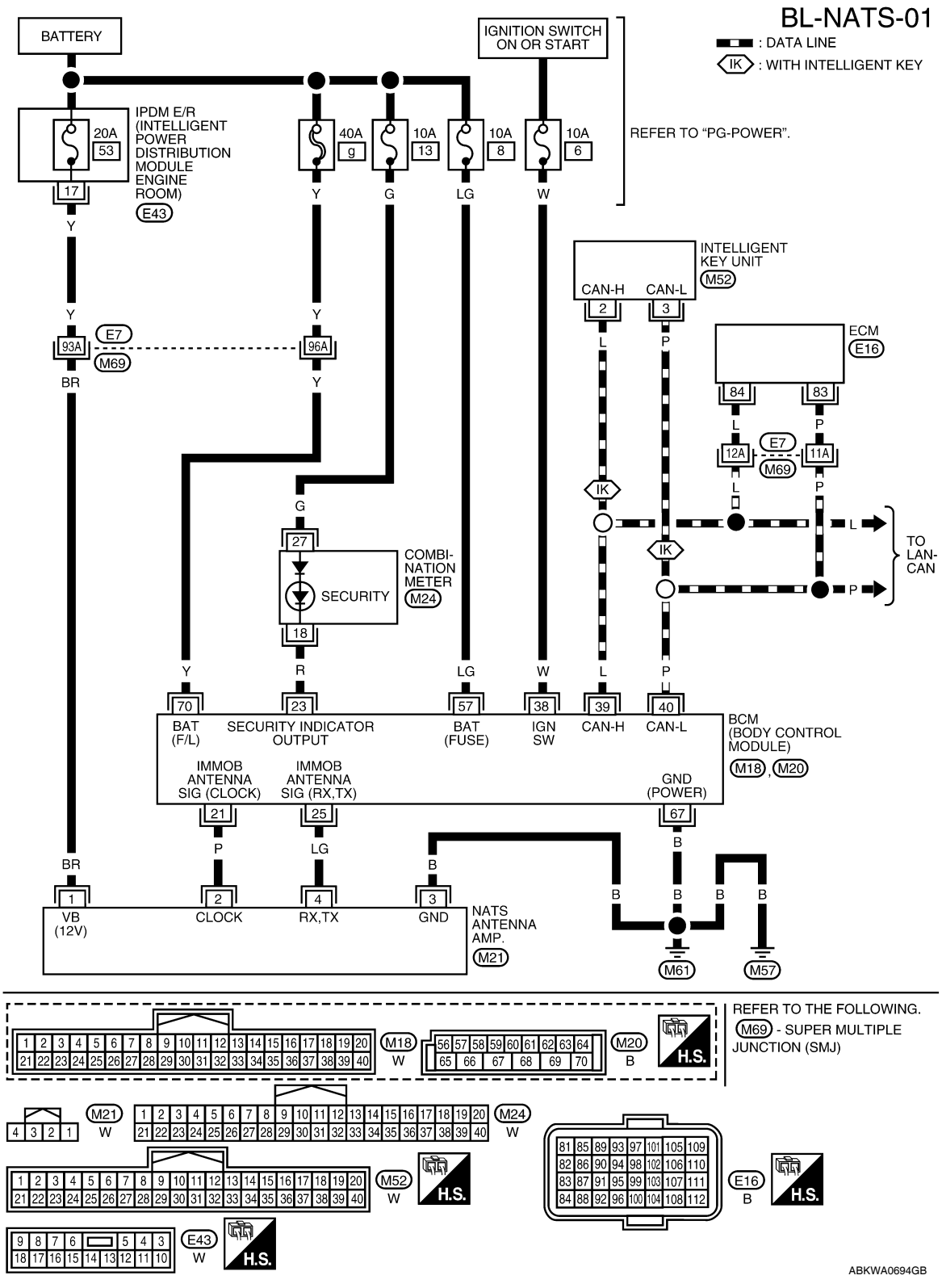
- **When registering new Key IDs or replacing the ECM other than brand new, refer to CONSULT-III Operation Manual NATS.**

- **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-III Operation Manual NATS and initialize control unit.

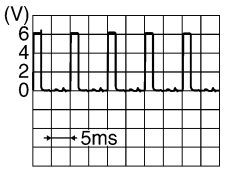
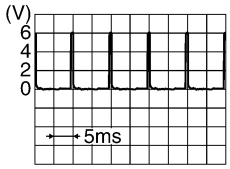
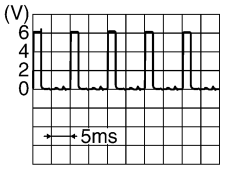
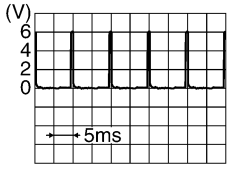
Wiring Diagram - NATS -

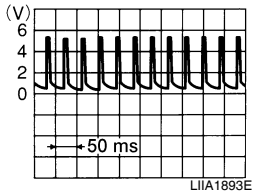
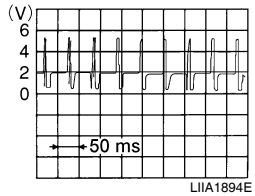
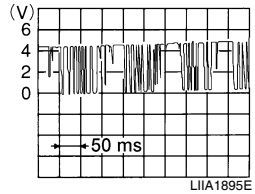
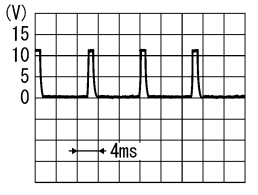
INFOID:0000000005396706

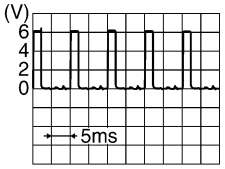
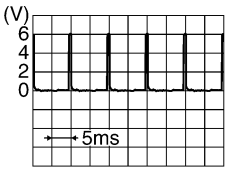
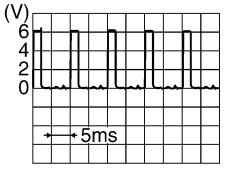
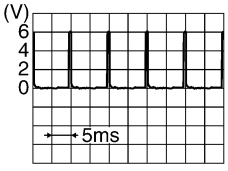


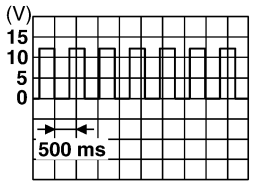
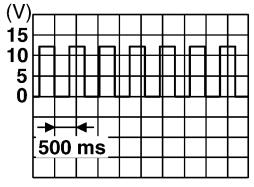
Terminal and Reference Value for BCM

INFOID:0000000005612423

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
2	BR	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	GR	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	L	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	G	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	V	Combination switch input 1				
7[7]	BR	Front door key cylinder switch LH (unlock)	Input	OFF	ON (open, 2nd turn)	Momentary 1.5V
					OFF (closed)	0V
8[7]	Y	Front door key cylinder switch LH (lock)	Input		On (open)	Momentary 1.5V
					OFF (closed)	0V
9	W	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
10	R	Defrost A/C switch signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
11	L	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	SB	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
15	W	Tire pressure warning check connector	Input	OFF	—	5V
18	V	Remote keyless entry receiver (ground)	Output	OFF	—	0V
19	BR	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	 LIIA1893E
20	G	Remote keyless entry receiver signal (signal)	Input	OFF	Stand-by (keyfob buttons released)	 LIIA1894E
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	 LIIA1895E
21	P	NATS antenna amp.	Input/ Output	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
23	R	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	LG	NATS antenna amp.	Input/ Output	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
26	GR	Thermo control amp.	Input	ON	A/C switch ON	 ZJIA0719J
27	O	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
28	P	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	L	Hazard switch	Input	OFF	ON	0V
					OFF	5V

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
30[1]	LG	Back door/trunk output	Output	—	Back door open (switch closed)	0V
					Back door closed (switch open)	5V
30[3]	LG	Back door opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
30[4]	V	Trunk lid opener switch	Input	—	All doors locked (SW OFF)	Battery voltage
					All doors unlocked (SW ON)	0V
32	LG	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	V	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
35	R	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	P	Combination switch output 1				
37[1]	G	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage
					Intelligent Key removed	0V
37[2]	G	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key removed	0V
38	W	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
41[6]	W	Trunk key cylinder switch	Input	—	ON (Full unlock position)	0V
					OFF (Neutral position)	5V
42[6]	Y	Trunk lamp switch	Input	OFF	ON (trunk open)	0V
					OFF (trunk closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
43[5]	R	Back door switch	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
44[5]	LG	Rear wiper auto stop	Input	ON	Rear wiper operating	0
					Rear wiper stopped	Battery
45[7]	GR	Lock switch	Input	OFF	ON (lock)	0V
					OFF	Battery voltage
46[7]	L	Unlock switch	Input	OFF	ON (unlock)	0V
					OFF	Battery voltage
47	BR	Front door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
48	O	Rear door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
49	P	Luggage room lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage
50	SB	A/C indicator	Output	ON	A/C OFF	0
					A/C ON	Battery voltage
53[5]	R	Back door lock assembly (actuator)	Output	OFF	Back door (open)	Battery voltage
53[6]	R	Trunk lamp switch and trunk release solenoid	Output	OFF	Trunk lid (open)	Battery voltage
55[5]	V	Rear wiper motor output	Output	ON	OFF	0
					ON	Battery voltage
56	R	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	LG	Battery power supply	Input	OFF	—	Battery voltage
59[7]	G	Front door lock actuator LH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	V	Turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
61	W	Turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
63	BR	Interior room lamp	Output	OFF	Any door switch: ON (open)	0V
					Any door switch: OFF (closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
65[7]	SB	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66[7]	G	Front door lock actuator RH, rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
67	B	Ground	Input	ON	—	0V
68[8]	L	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
69[8]	P	Battery power supply	Output	OFF	—	Battery voltage
70	Y	Battery power supply	Input	OFF	—	Battery voltage

1: With Intelligent Key
2: Without Intelligent Key
3: Hatchback without Intelligent Key
4: Sedan without Intelligent Key
5: Hatchback
6: Sedan
7: With power door locks
8: With power windows

CONSULT-III Function

INFOID:0000000005396708

CONSULT-III DIAGNOSTIC TEST MODE FUNCTION

Diagnostic 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 DIAGNOSTIC RESULT	Detected items (screen terms) are as shown in the chart. Refer to "NATS SELF-DIAGNOSTIC RESULTS ITEM CHART" .

*: When replace ECM, refer to BL-249, "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-III 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.

NATS SELF DIAGNOSTIC RESULT 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 MALFUNCTION 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-260
DIFFERENCE OF KEY [P1615]	NATS MALFUNCTION P1615	BCM can receive the key ID signal but the result of ID verification between key ID and BCM is NG.	BL-266
CHAIN OF IMMU-KEY [P1614]	NATS MALFUNCTION P1614	BCM cannot receive the key ID signal.	BL-262
ID DISCORD, IMM-ECM [P1611]	NATS MALFUNCTION P1611	The result of ID verification between BCM and ECM is NG. System initialization is required.	BL-263
LOCK MODE [P1610]	NATS MALFUNCTION 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-265
DON'T ERASE BEFORE CHECKING ENG DIAG	—	All engine trouble codes except NATS trouble code has been detected in ECM.	BL-257

Trouble Diagnosis Procedure

INFOID:0000000005396709

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-III 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-158, "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 >> Refer to BL-119, "Trouble Diagnosis Symptom Chart" .

KEY warning lamp illuminates red >> Refer to BL-119, "Trouble Diagnosis Symptom Chart" .

Does not illuminate >> Refer to BL-119, "Trouble Diagnosis Symptom Chart" .

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-III operation manual.
The engine cannot be started by all mechanical keys >> "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-III.

Malfunction is detected >> Refer to BL-117, "CONSULT-III Application Item" .
No malfunction is detected >> Refer to BL-115, "Trouble Diagnosis Procedure" .

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 NATS SELF-DIAGNOSIS using CONSULT-III.
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-III. Refer to BL-259, "Trouble Diagnosis" .

>> GO TO 4

4.NATS TROUBLE DIAGNOSIS

Repair NATS (if necessary, perform “C/U INITIALIZATION” with CONSULT-III.)

>> GO TO 5

5.ERASE SELF-DIAGNOSIS

Erase the record of “SELF-DIAGNOSIS” by using CONSULT-III.

>> 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 >> Inspection End.

7.IDENTIFYING NATS AND ENGINE CONTROL MALFUNCTION

NATS malfunction and “DON’T ERASE BEFORE CHECKING ENG DIAG” are displayed on the CONSULT-III 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-III.)

NOTE:
Do not erase “SELF-DIAGNOSIS” by using CONSULT-III.

>> 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-468, "DTC Index" (HR16DE) or EC-503, "U0101-U1001" (MR18DE).
Without engine diagnostic codes present, refer to EC-484, "Symptom Table" (HR16DE) or EC-585, "Trouble Diagnosis Introduction" (MR18DE).

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-III NATS program card.

>> GO TO 13

13.COMFIRMATION

Perform running test with CONSULT-III in engine “SELF-DIAGNOSIS” mode.

“NO DTC” is displayed >> Inspection End.
Malfunction information is displayed >>GO TO 2

Trouble Diagnosis

INFOID:0000000005396710

SYMPTOM MATRIX CHART 1

Self-diagnosis related item

SYMPTOM	Displayed "SELF-DIAG RESULTS" on CONSULT-III 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-260)	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
	DIFFERENCE OF KEY [P1615]	PROCEDURE 6 (BL-266)	Unregistered ignition key is used.
			BCM is malfunctioning.
	CHAIN OF IMMU-KEY [P1614]	PROCEDURE 2 (BL-262)	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-263)	System initialization has not yet been completed.
			ECM
	LOCK MODE [P1610]	PROCEDURE 5 (BL-265)	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-257)	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-264)	Security indictor.
		Open circuit between Fuse and BCM
		BCM

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

Diagnosis Procedure 1

INFOID:0000000005396711

Self-diagnostic results:
"CHAIN OF ECM-IMMU" displayed on CONSULT-III screen
First perform the "SELF-DIAG RESULTS" in "BCM" with CONSULT-III, then perform the trouble diagnosis of malfunction system indicated "SELF-DIAG RESULTS" of "BCM". Refer to BCS-18, "CAN Communication Inspection Using CONSULT-III (Self-Diagnosis)" .

1.CONFIRM SELF-DIAGNOSTIC RESULTS

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

NOTE:

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

Is “CHAIN OF ECM-IMMU” displayed?

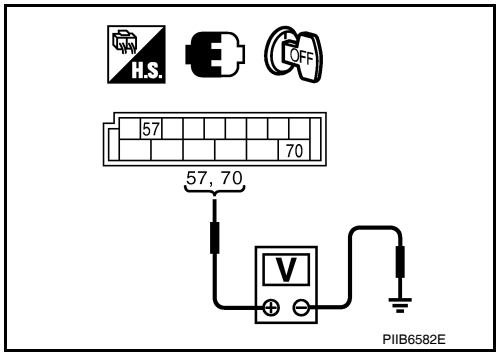
Yes >> GO TO 2

No >> GO TO BL-259, "Trouble Diagnosis" .

2.CHECK POWER SUPPLY CIRCUIT FOR BCM

1. Turn ignition switch OFF.
2. Check voltage between BCM and ground with CONSULT-III or tester.

BCM connector	Terminals		Voltage [V] (Approx.)
	(+)	(–)	
M20	57	Ground	Battery voltage
	70		



OK or NG

OK >> GO TO 3

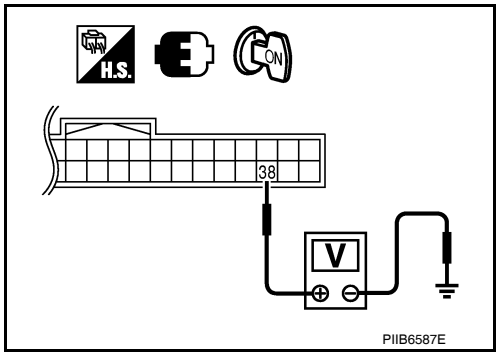
NG >> Check the following.

- 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-III or tester.

BCM connector	Terminal		Voltage [V] (Approx.)
	(+)	(–)	
M18	38	Ground	Battery voltage



OK or NG

OK >> GO TO 4

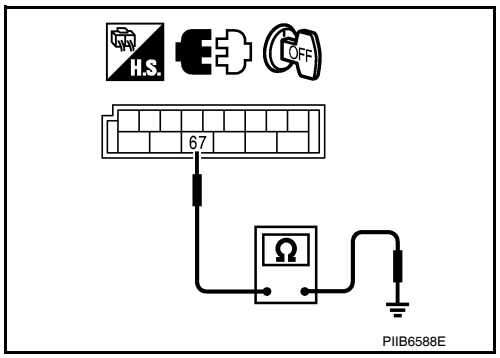
NG >> Check the following.

- 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. Refer to BCS-19, "Removal and Installation of BCM".
2. Perform initialization with CONSULT-III.
   For initialization, refer to “CONSULT-III Operation Manual NATS”.

Does the engine start?

Yes >> BCM is malfunctioning.
- Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .
- Perform initialization with CONSULT-III
- For initialization, refer to “CONSULT-III Operation Manual NATS”

No >> ECM is malfunctioning.
- Replace ECM.
- Perform initialization or re-communicating function
- For initialization, refer to “CONSULT-III Operation Manual NATS”
- For re-communicating function, refer to BL-249, "ECM Re-communicating Function"

Diagnosis Procedure 2

INFOID:0000000005396712

Self-diagnostic results:
“CHAIN OF IMMU-KEY” displayed on CONSULT-III screen

1.CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “CHAIN OF IMMU-KEY” displayed on CONSULT-III screen.

Is “CHAIN OF IMMU-KEY” displayed?

Yes >> GO TO 2
No >> GO TO BL-259, "Trouble Diagnosis" .

2.CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to BL-266, "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?

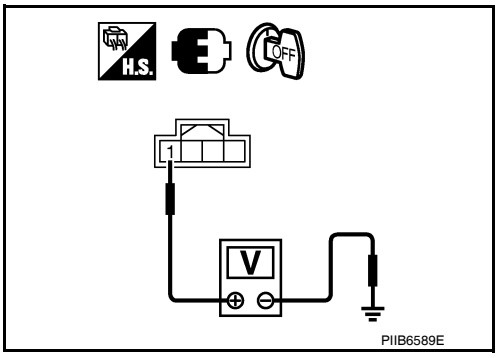
Yes >> Ignition key ID chip is malfunctioning.
- Replace the ignition key
- Perform initialization with CONSULT-III
  For initialization, refer to “CONSULT-III Operation Manual NATS”

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



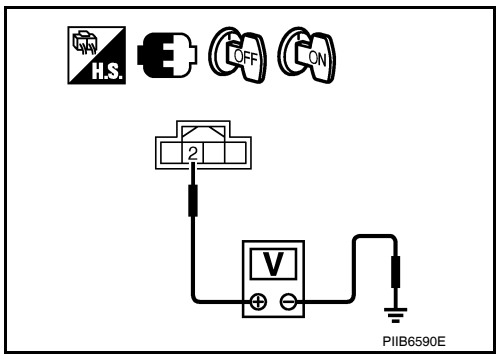
OK or NG

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

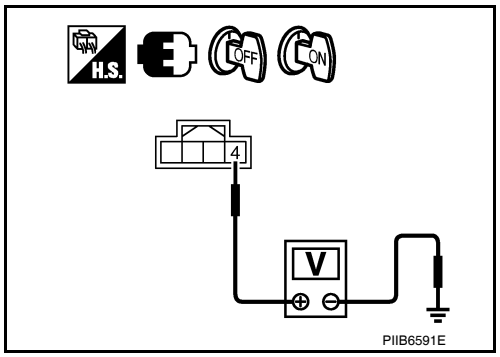
OK >> GO TO 6

NG >> • Check harness for open or short between NATS antenna amp. and BCM.
NOTE:
If harness is OK, replace BCM, perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III 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

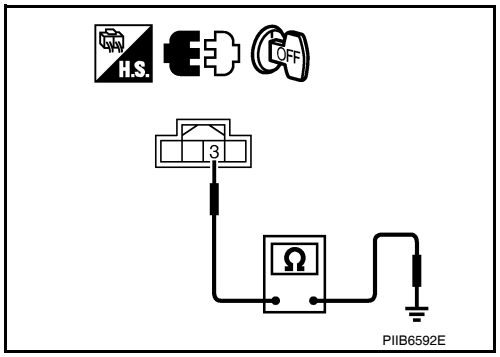
OK >> GO TO 7

NG >> • Check harness for open or short between NATS antenna amp. and BCM.
NOTE:
If harness is OK, replace BCM, perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual.

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.

Diagnosis Procedure 3

INFOID:0000000005396713

Self-diagnostic results:
"ID DISCORD, IMM-ECM" displayed on CONSULT-III screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

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

"ID DISCORD IMM-ECM":
Registered ID of BCM is in discord with that of ECM.

Is "ID DISCORD IMM-ECM" displayed?

Yes >> GO TO 2
No >> GO TO BL-259, "Trouble Diagnosis" .

2.PERFORM INITIALIZATION WITH CONSULT-III

Perform initialization with CONSULT-III. Re-register all NATS ignition key IDs.
For initialization, refer to "CONSULT-III Operation Manual NATS".
NOTE:
If the initialization is not completed or malfunctions, CONSULT-III 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-III
For initialization, refer to "CONSULT-III Operation Manual NATS"

Diagnosis Procedure 4

INFOID:0000000005396714

"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.

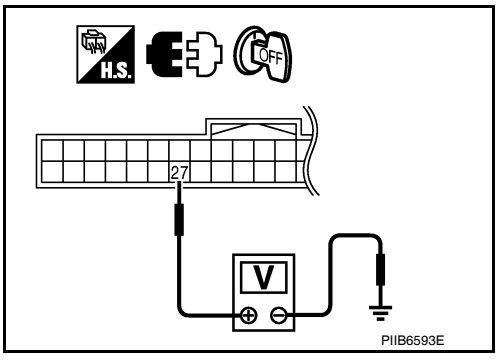
OK or NG

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



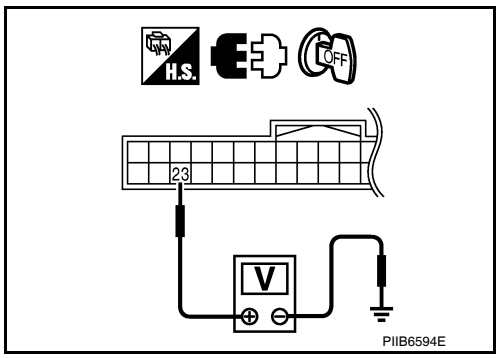
OK or NG

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-19, "Removal and Installation of BCM" .
- Perform initialization with CONSULT-III
- For initialization, refer to “CONSULT-III Operation Manual.

NG >> Check the following.
- Harness for open or short between combination meter (security) and BCM
- Indicator lamp condition

Diagnosis Procedure 5

INFOID:0000000005396715

Self-diagnostic results:
“LOCK MODE” displayed on CONSULT-III screen

1.CONFIRM SELF-DIAGNOSTIC RESULTS

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

Is “LOCK MODE” displayed?

Yes >> GO TO 2
No >> GO TO BL-259, "Trouble Diagnosis" .

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-III

Perform initialization with CONSULT-III.
For initialization, refer to “CONSULT-III Operation Manual.

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

Can the system be initialized?

Yes >> System is OK.
No >> GO TO 4

4.PERFORM INITIALIZATION WITH CONSULT-III AGAIN

1. Replace BCM.
2. Perform initialization with CONSULT-III.
   For initialization, refer to “CONSULT-III Operation Manual NATS”.

NOTE:
If the initialization is not completed or malfunctions, CONSULT-III 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-III
- For initialization, refer to “CONSULT-III Operation Manual NATS”

Diagnosis Procedure 6

INFOID:0000000005396716

Self-diagnostic results:
“DIFFERENCE OF KEY” displayed on CONSULT-III screen

1.CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “DIFFERENCE OF KEY” displayed on CONSULT-III screen.

Is “DIFFERENCE OF KEY” displayed?

YES >> GO TO 2
NO >> GO TO BL-259, "Trouble Diagnosis".

2.PERFORM INITIALIZATION WITH CONSULT-III

Perform initialization with CONSULT-III. Re-register all NATS ignition key IDs.
For initialization and registration of NATS ignition key IDs, refer to CONSULT-III Operation Manual.

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

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

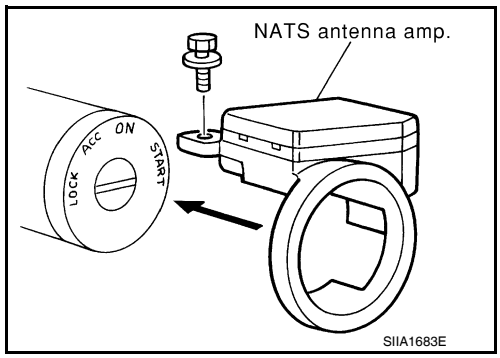
YES >>
- Ignition key ID was unregistered.

NO >>
- BCM is malfunctioning.
- Replace BCM. Refer to BCS-19, "Removal and Installation of BCM".
- Perform initialization with CONSULT-III.
- For initialization, refer to CONSULT-III Operation Manual.

How to Replace NATS Antenna Amp

INFOID:0000000005396717

NOTE:
- **If NATS antenna amp. is not installed correctly, NATS system will not operate properly and SELF-DIAG RESULTS on CONSULT-III 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.**

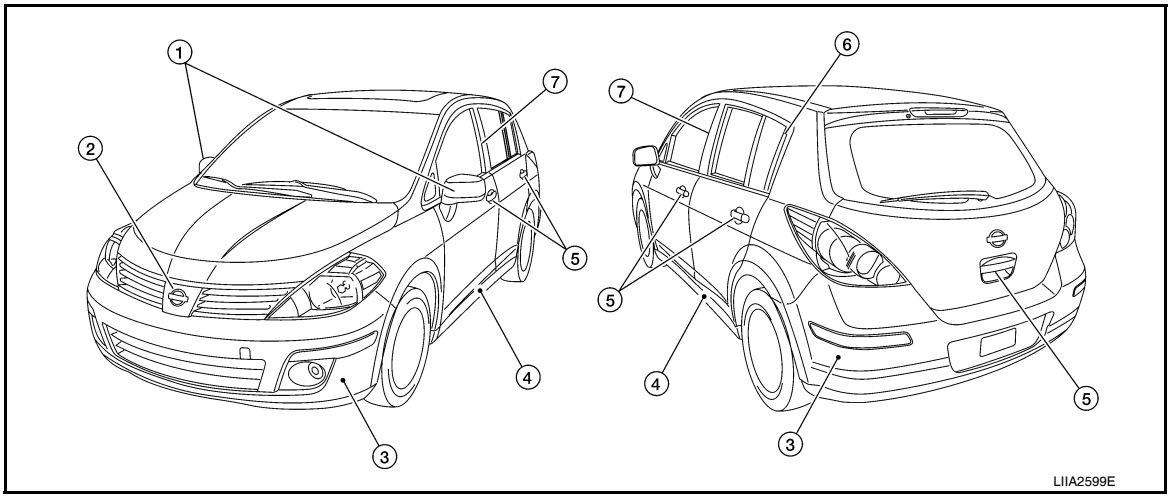


BODY REPAIR

Body Exterior Paint Color

INFOID:0000000005396718

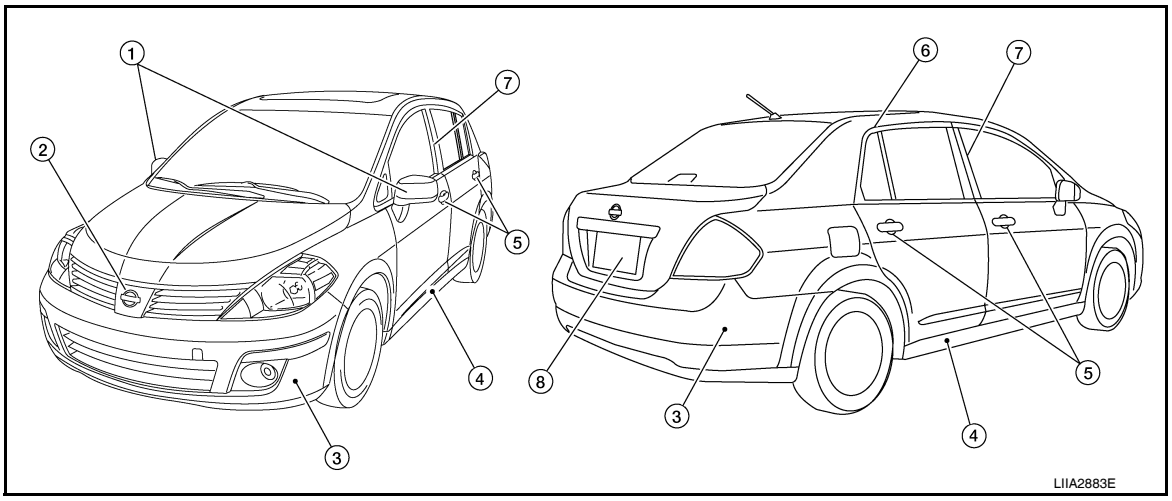
Hatchback



Component		Color code	NAC	A20	B17	CAE	RAF	B23	K23	HAB	K36	KH3	QM1
		Description	Red Brick	Red Alert	Metallic Blue	Expresso Black	Arctic Blue	Blue Onyx	Brilliant Silver	Sonoran Sand	Magnetic Grey	Super Black	Fresh Powder
		Paint type	2M	2M	2M	2M	2M	2M	2M	2M	2M	2M	S
		Hard clear coat	t	t	t	t	t	t	t	t	t	t	t
1	Outside mirror	Body color	NAC	A20	B17	CAE	RAF	B23	K23	HAB	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	Cr2P + G02-1	Cr2P + G02-1	Cr2P + G02-1	Cr2P + G02-1
3	Bumper fascia	Body color	NAC	A20	B17	CAE	RAF	B23	K23	HAB	K36	KH3	QM1
4	Center mudguard	Body color/ Black	NAC/ G01-1	A20/ G01-1	B17/ G01-1	CAE/ G01-1	RAF/ G01-1	B23/ G01-1	K23/ G01-1	HAB/ G01-1	K36/ G01-1	KH3/ G01-1	QM1/ G01-1
5	Outside handle	Body color	NAC	A20	B17	CAE	RAF	B23	K23	HAB	K36	KH3	QM1
6	Rear pillar trim	Black	G01-1	G01-1	G01-1	G01-1	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	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;t:Carbamate clear

Sedan



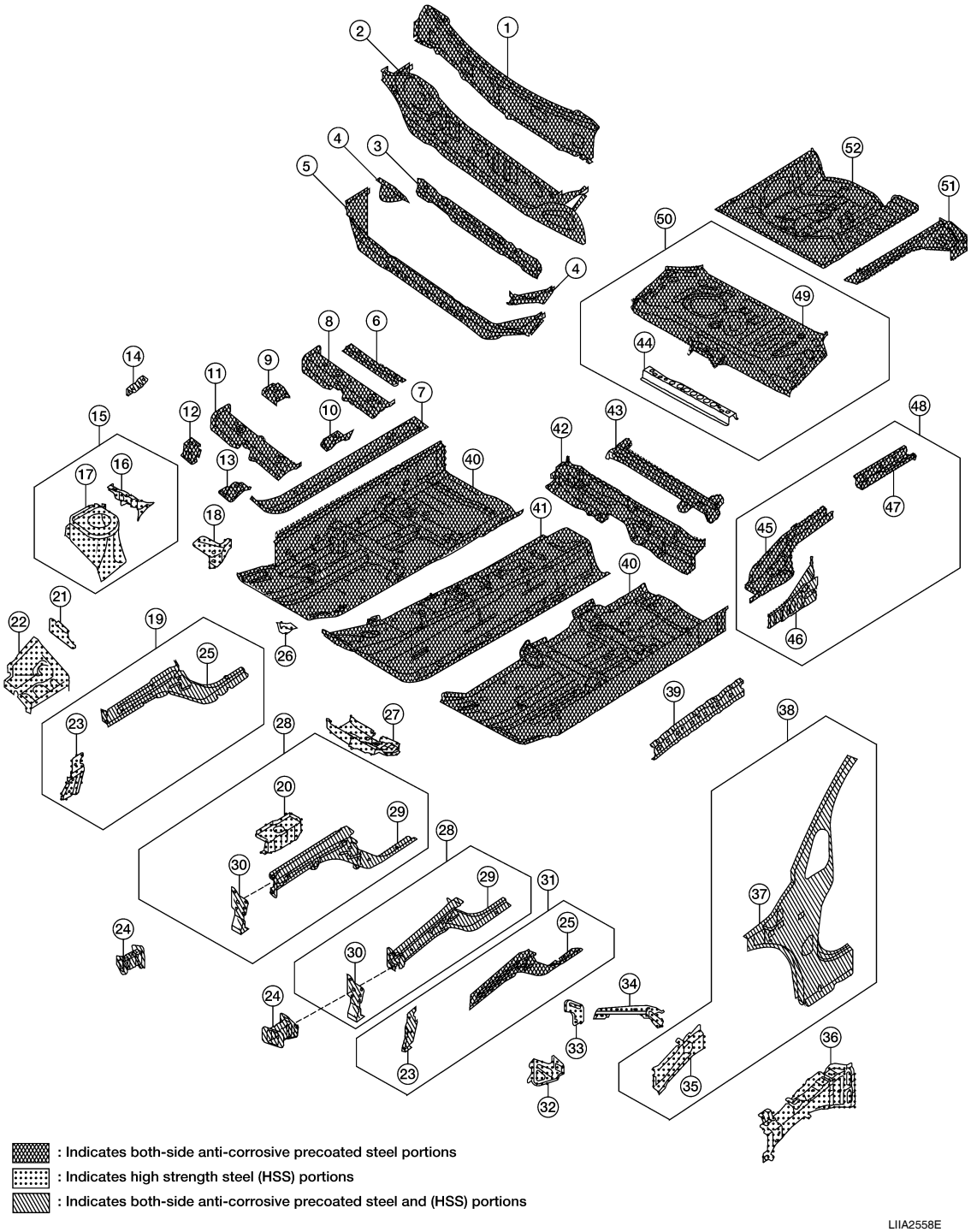
Component		Color code	NAC	A20	B17	CAE	RAF	B23	K23	HAB	K36	KH3	QM1
		Description	Red Brick	Red Alert	Metallic Blue	Expresso Black	Arctic Blue	Blue Onyx	Brilliant Silver	Sonoran Sand	Magnetic Grey	Super Black	Fresh Powder
		Paint type	2M	2M	2M	2M	2M	2M	2M	2M	2M	2M	S
		Hard clear coat	t	t	t	t	t	t	t	t	t	t	t
1	Outside mirror	Body color	NAC	A20	B17	CAE	RAF	B23	K23	HAB	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	Cr2P + G02-1	Cr2P + G02-1	Cr2P + G02-1	Cr2P + G02-1
3	Bumper fascia	Body color	NAC	A20	B17	CAE	RAF	B23	K23	HAB	K36	KH3	QM1
4	Center mudguard	Body color/ Black	NAC/ G01-1	A20/ G01-1	B17/ G01-1	CAE/ G01-1	RAF/ G01-1	B23/ G01-1	K23/ G01-1	HAB/ G01-1	K36/ G01-1	KH3/ G01-1	QM1/ G01-1
5	Outside handle	Body color	NAC	A20	B17	CAE	RAF	B23	K23	HAB	K36	KH3	QM1
6	Rear pillar trim	Black	G01-1	G01-1	G01-1	G01-1	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	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 ;t:Carbamate clear

Body Component Parts

INFOID:0000000005396719

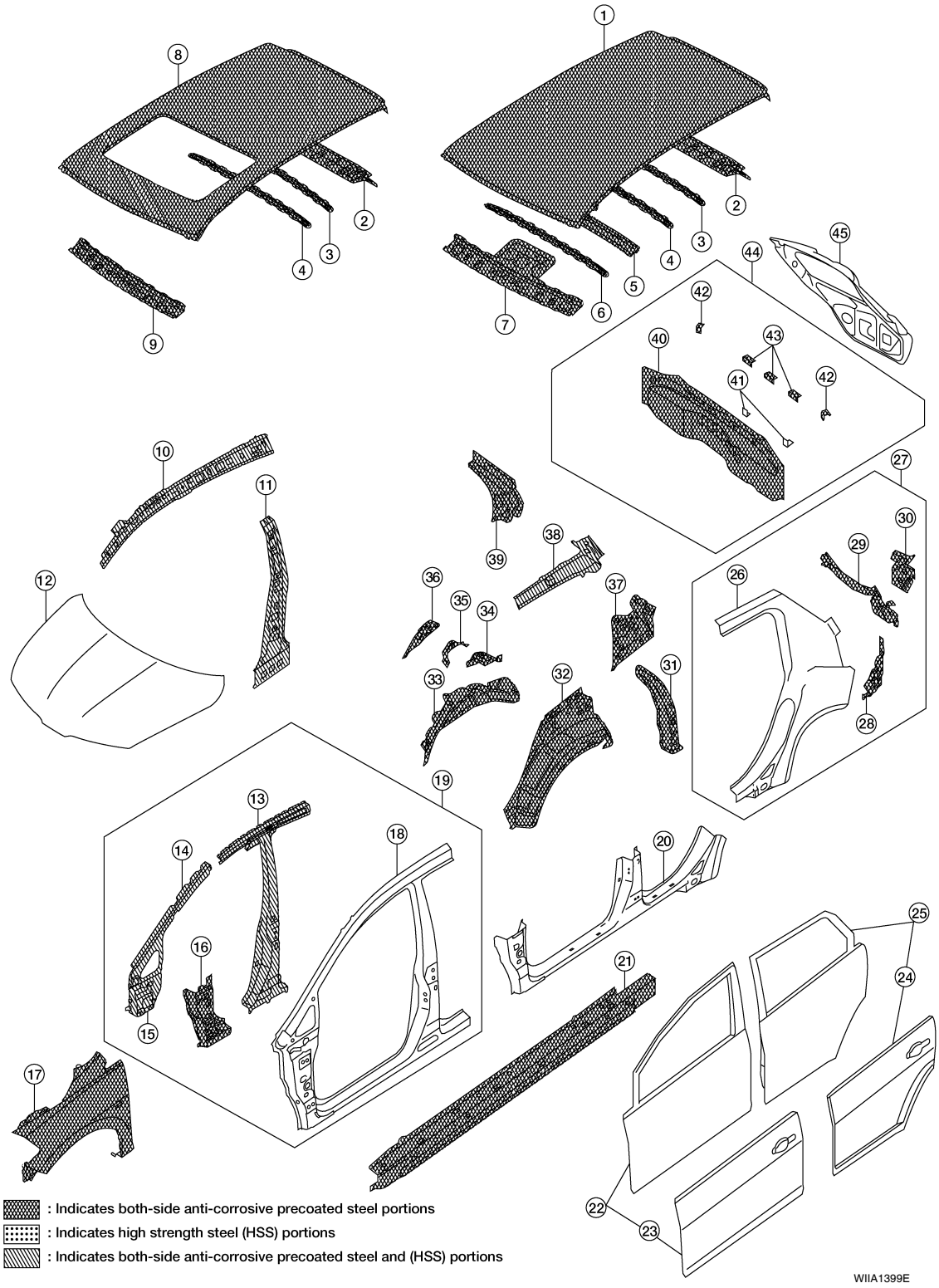
UNDERBODY COMPONENT PARTS



1. Upper dash assembly
2. Lower dash assembly
3. Lower dash crossmember

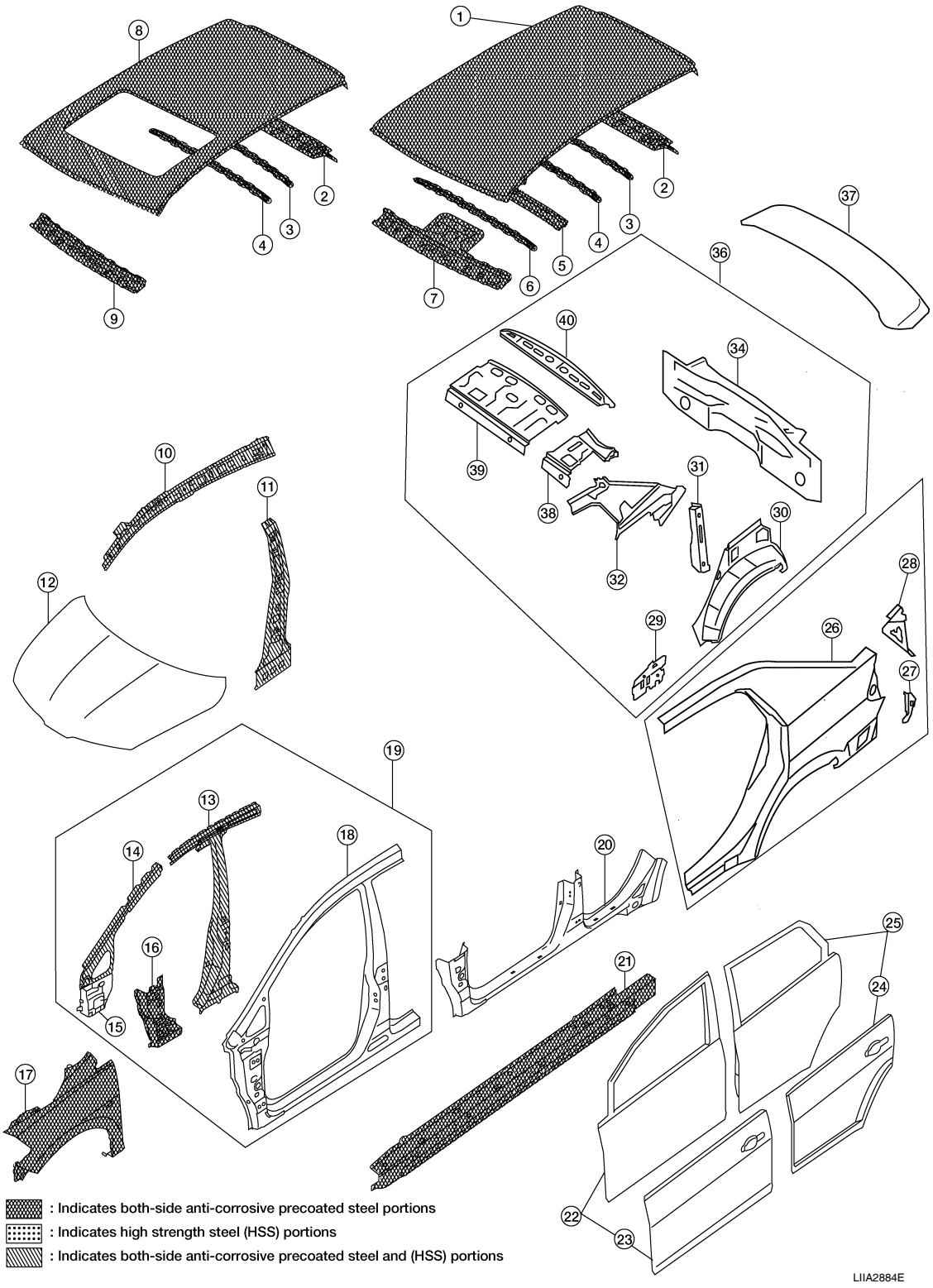
4. Front pillar inner reinforcement (RH&LH)
5. Lower dash reinforcement
6. 4th crossmember (RH&LH)
7. Front side member rear extension (RH&LH)
8. 3rd crossmember (RH&LH)
9. Front seat outer rear bracket (RH&LH)
10. Front seat inner rear bracket (RH&LH)
11. 2nd crossmember (RH&LH)
12. Front seat outer 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

Hatchback



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
41. Rear bumper fascia lower bracket
42. Rear bumper fascia upper bracket
43. Rear bumper fascia center bracket
44. Rear panel assembly
45. Back door assembly



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 corner (RH & LH)
28. Rear combination lamp base (RH & LH)
29. Rear wheel housing front extension (RH & LH)
30. Rear wheel housing outer (RH & LH)
31. Rear pillar inner reinforcement (RH & LH)
32. Rear body side inner (RH & LH)
33. Rear wheel housing inner (RH & LH)
34. Rear panel assembly
35. Rear bumper fascia upper bracket
36. Rear bumper fascia center bracket
37. Trunk lid assembly
38. Parcel shelf side (RH & LH)
39. Parcel shelf assembly
40. Rear waist panel
41. Rear bumper fascia lower bracket

Corrosion Protection

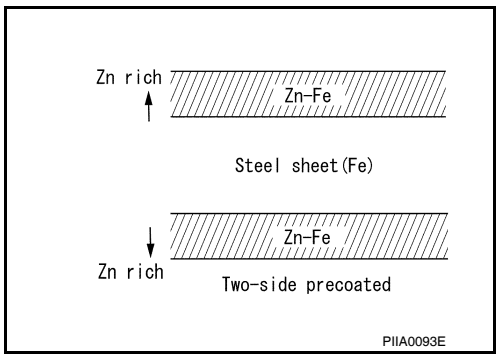
INFOID:0000000005396720

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.



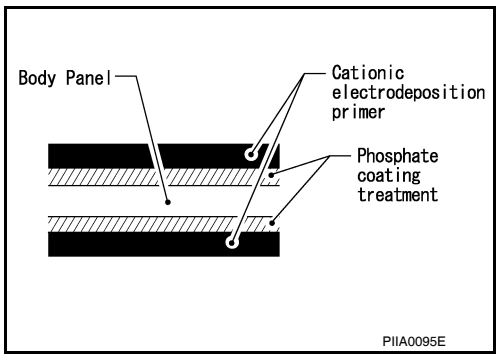
Nissan Genuine Service Parts are fabricated from galvannealed steel. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

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.

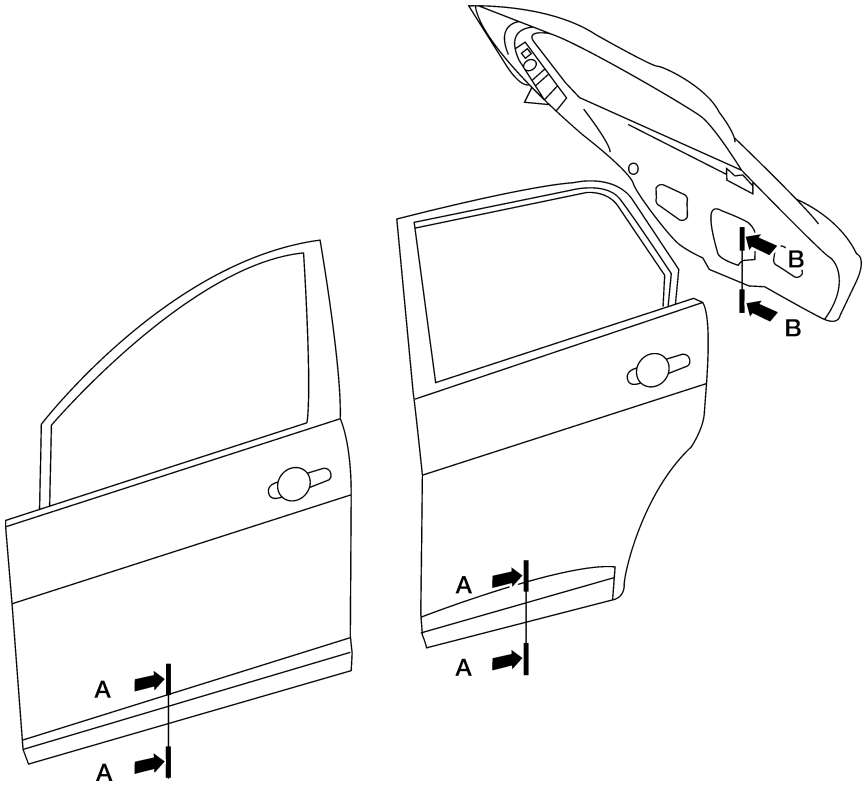


Nissan Genuine Service Parts are also treated in the same manner. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain anti-corrosive performance built into the vehicle at the factory.

ANTI-CORROSIVE WAX

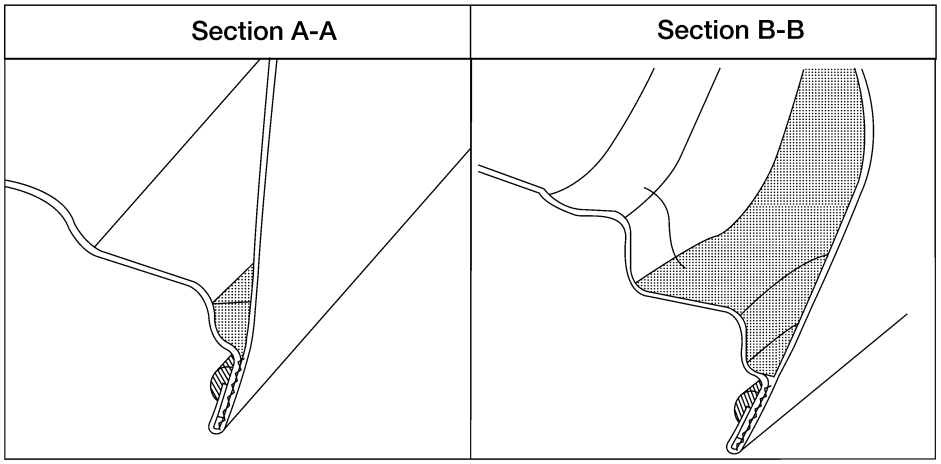
To improve corrosion resistance, anti-corrosive wax is applied inside the body sill and inside other closed sections. Accordingly, when replacing these parts, be sure to apply anti-corrosive wax to the appropriate areas of the new parts. Select an excellent anti-corrosive wax which will penetrate after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

Hatchback



: indicates outside body sealant

: Indicates anti-corrosive wax coated portions



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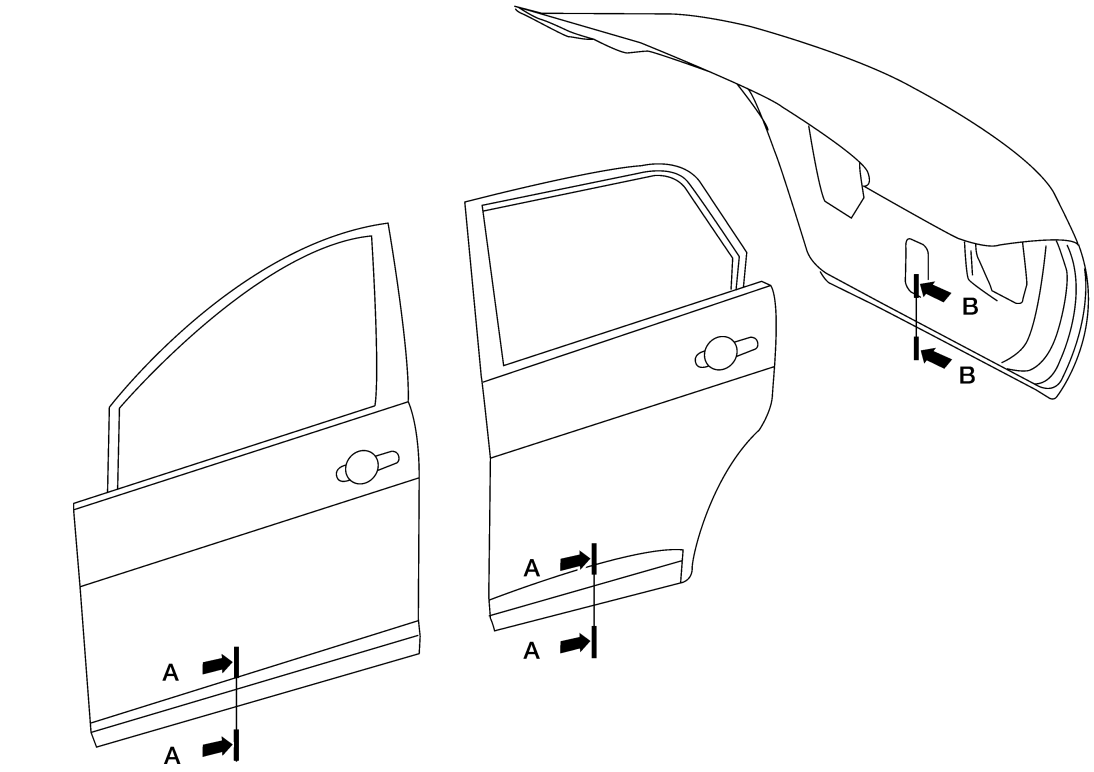
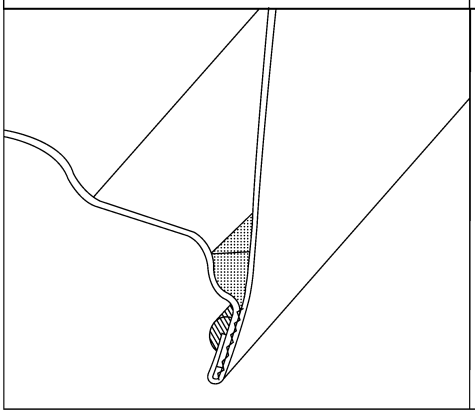
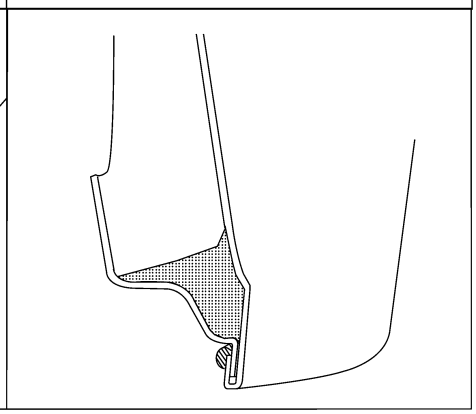
Sedan



: indicates outside body sealant

: Indicates anti-corrosive wax coated portions

Section A-A	Section B-B
	

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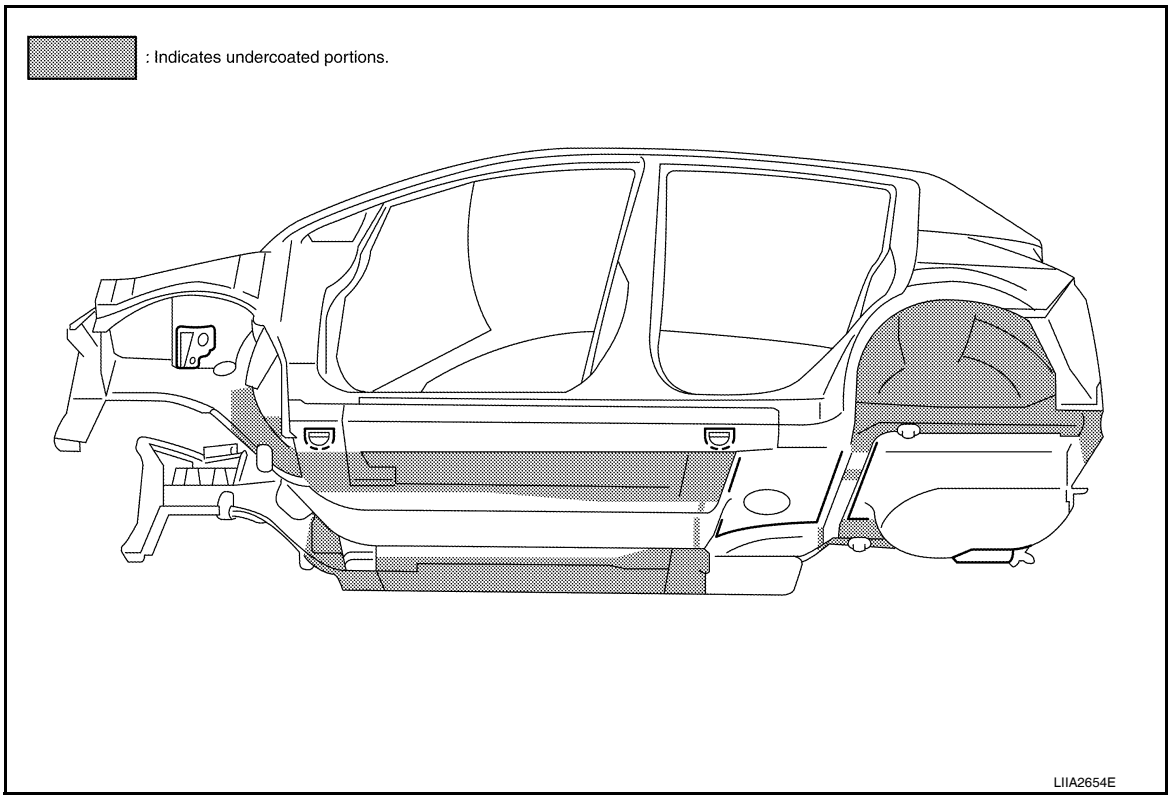
UNDERCOATING

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.

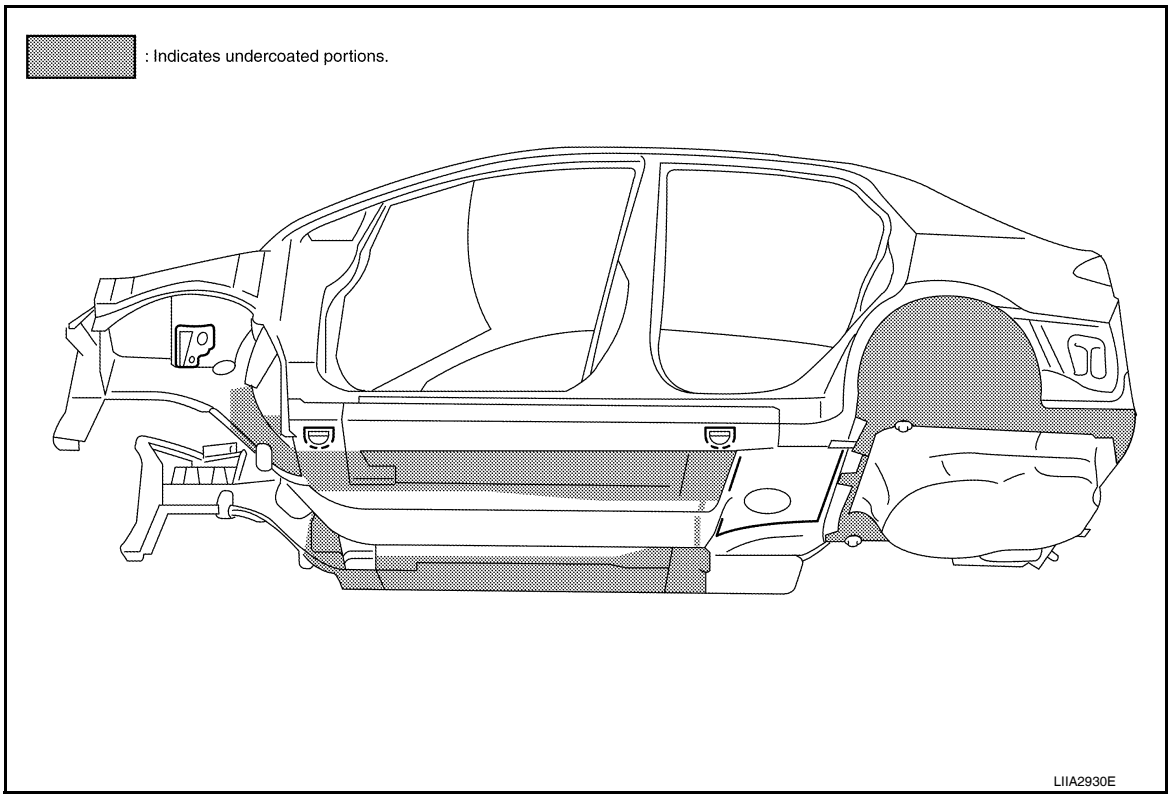
Precautions in undercoating

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.

Hatchback



Sedan

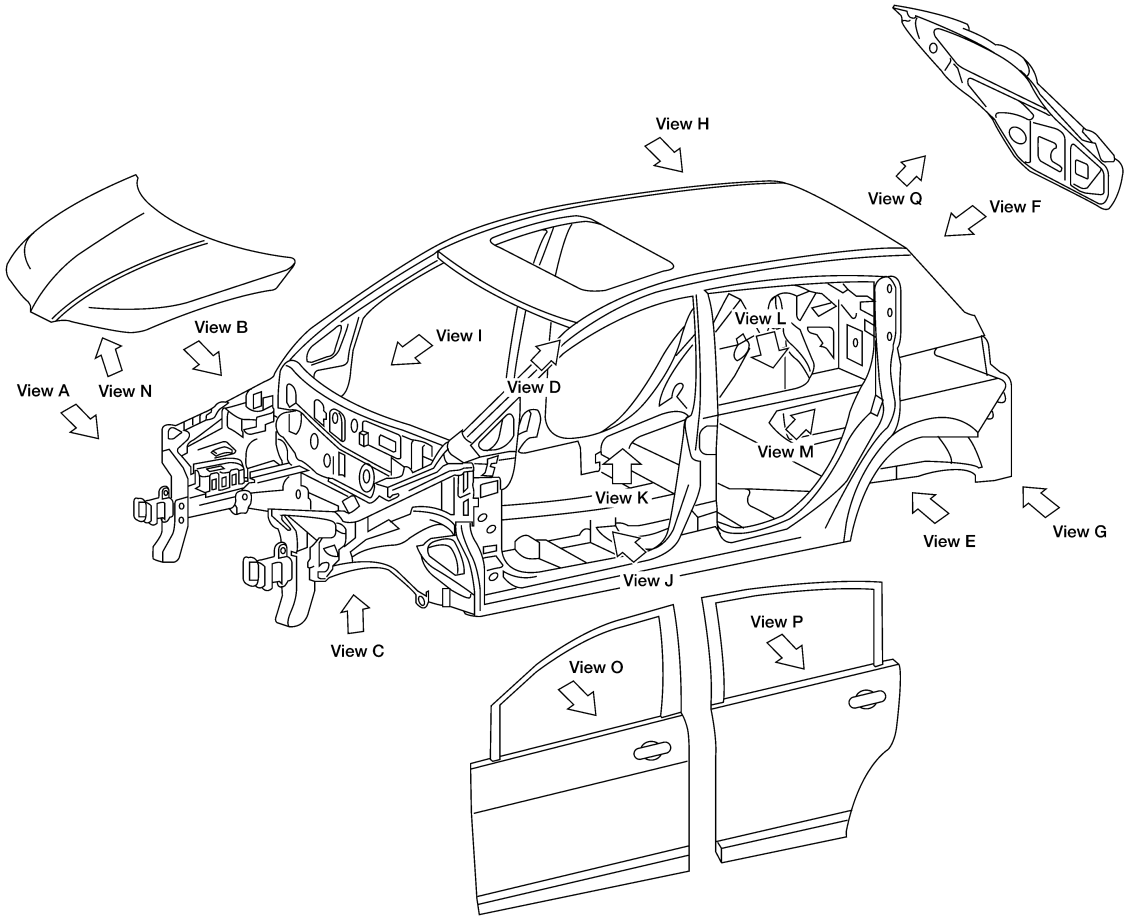


Body Sealing

INFOID:0000000005396721

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.


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


View A
View B
Front
Front

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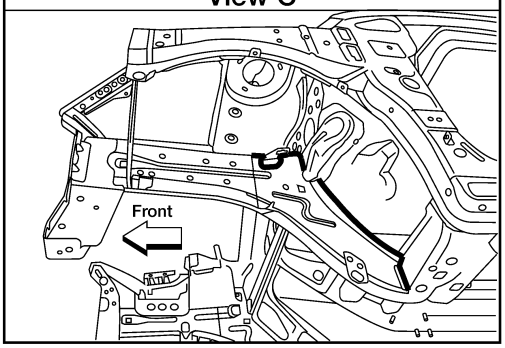
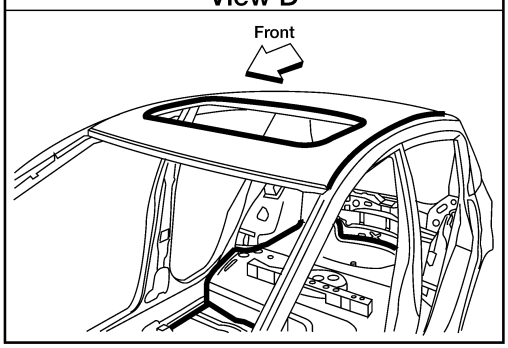
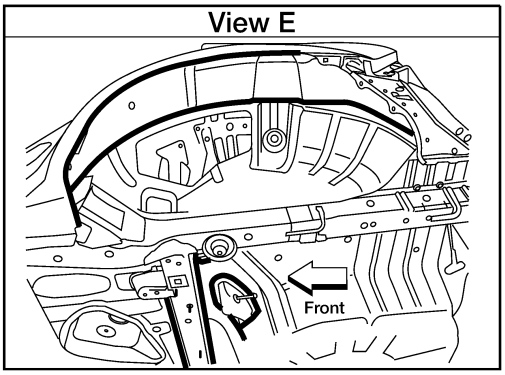
View C



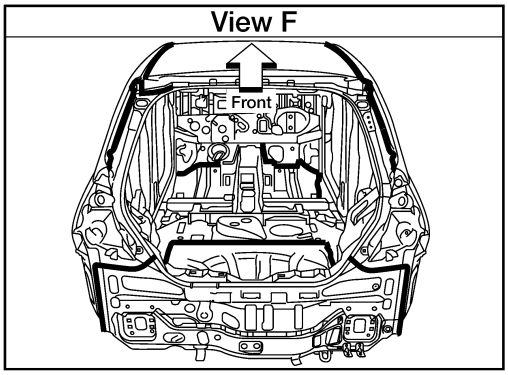
View D



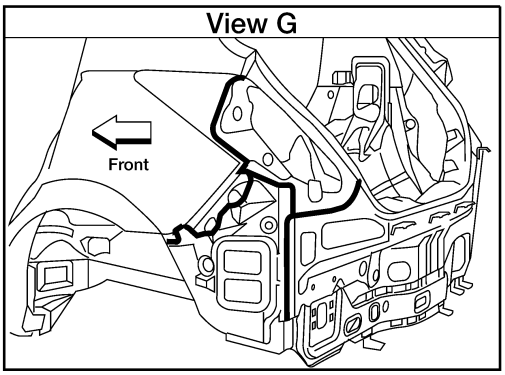
View E



View F



View G



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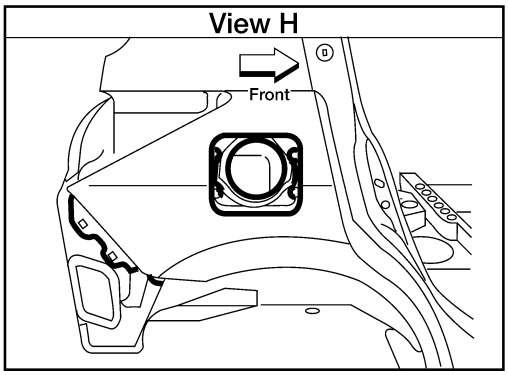

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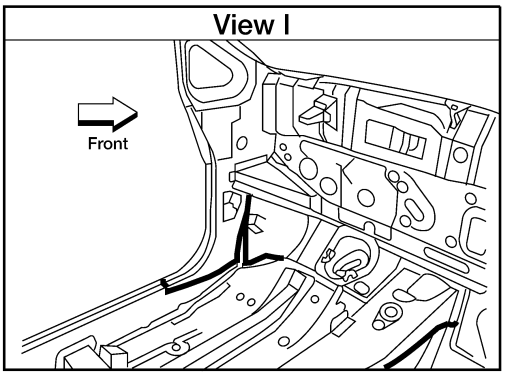

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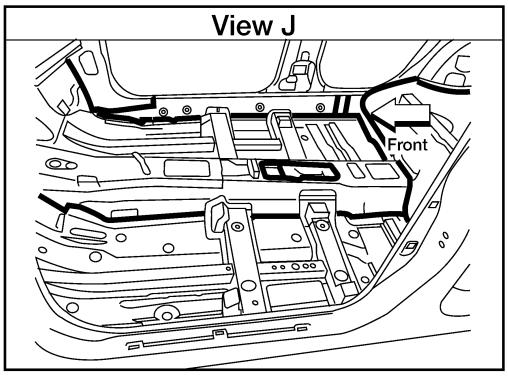

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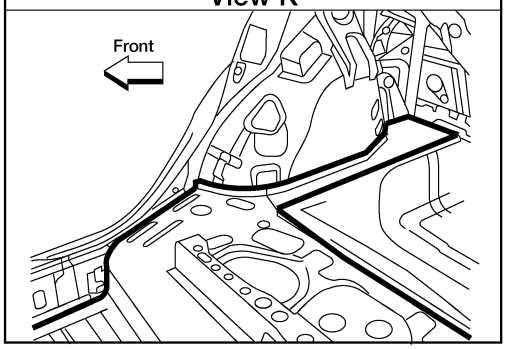

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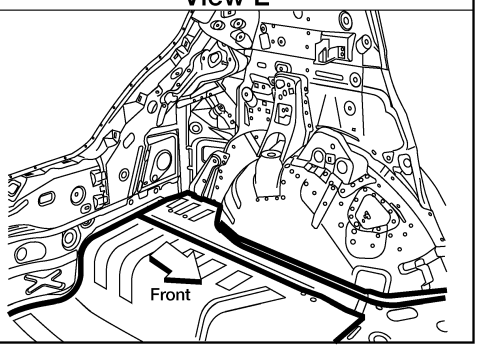

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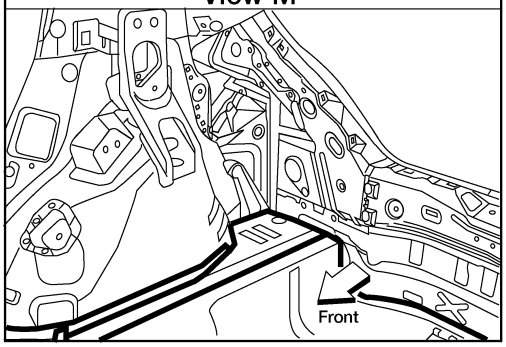

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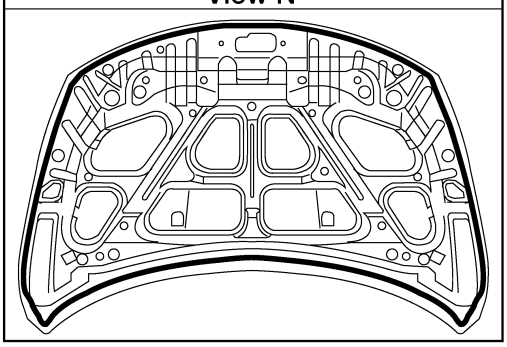
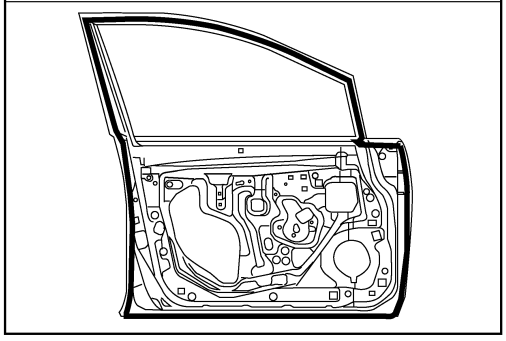
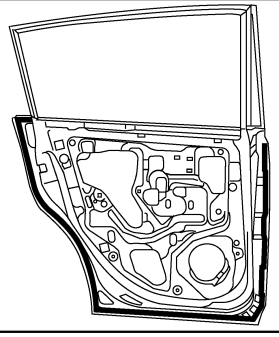


View O



View P



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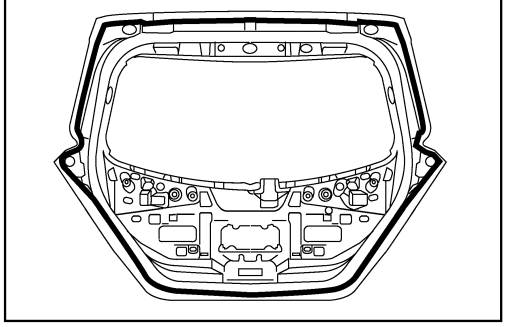

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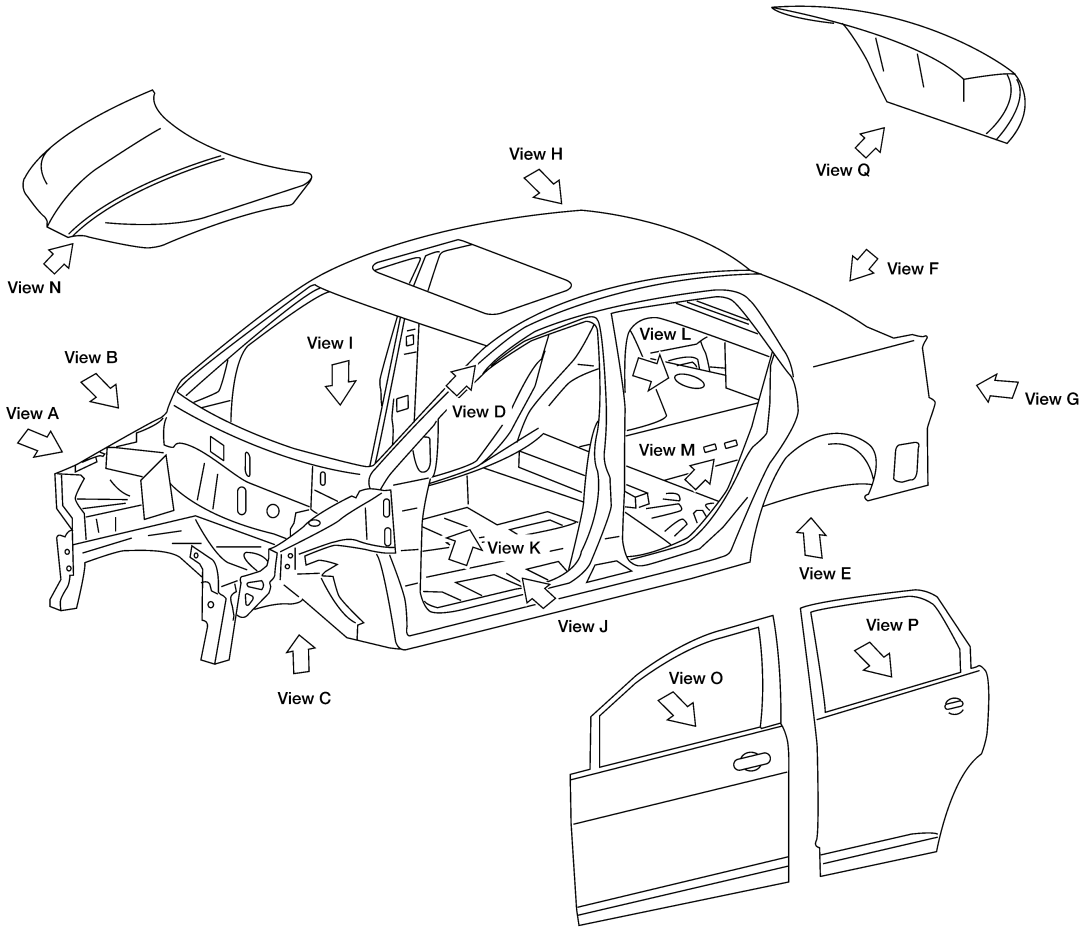
View H
View Q
View N
View F
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View L
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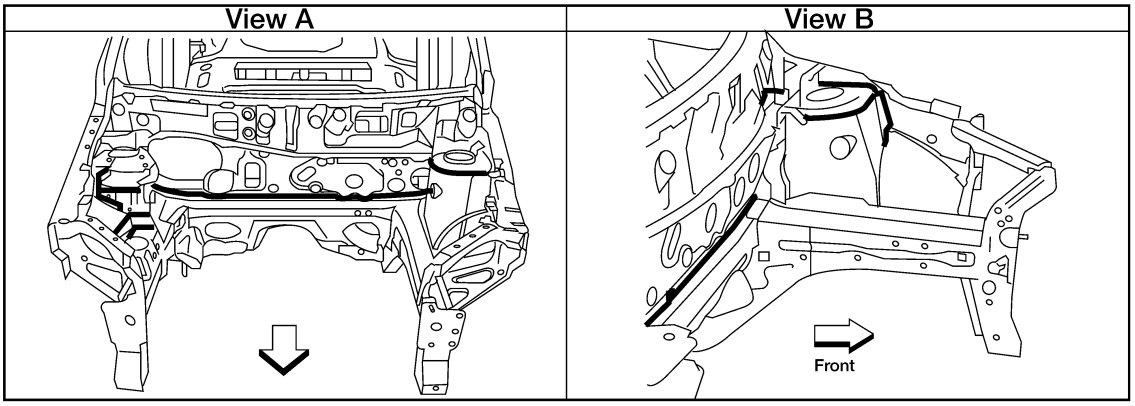
View J
View P
View O
View C


View A
View B
Front

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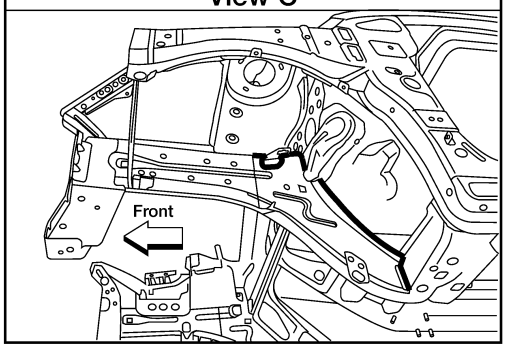
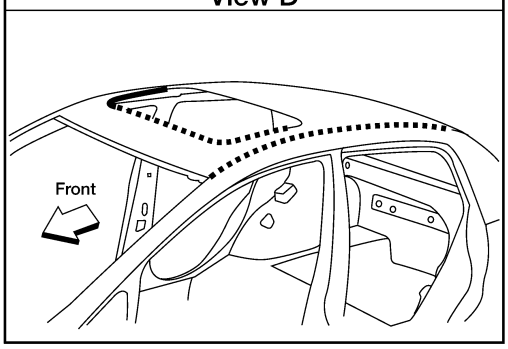
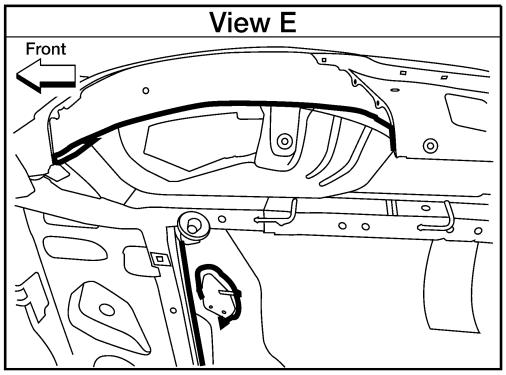
View C



View D



View E



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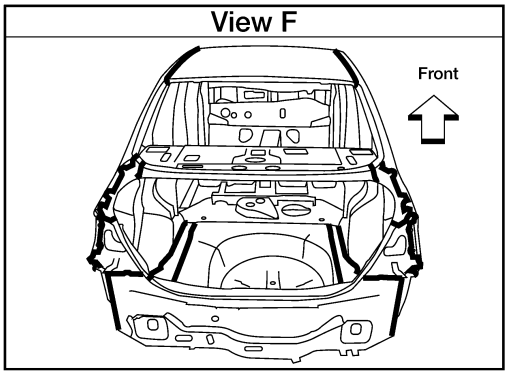
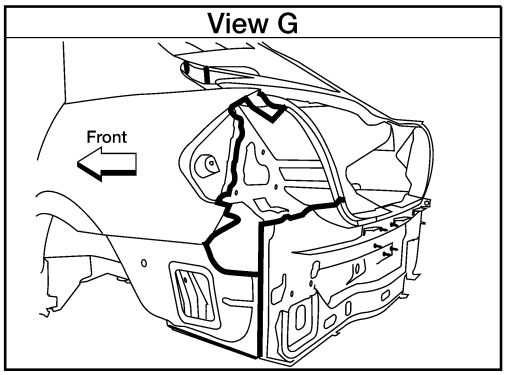


View G



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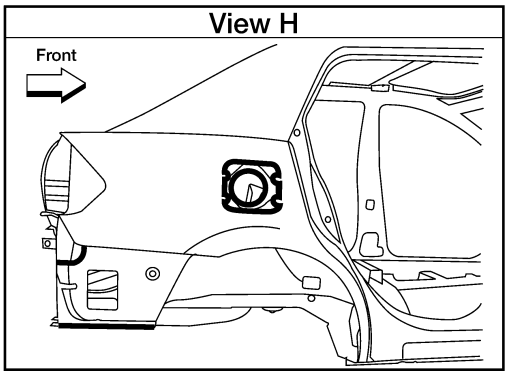
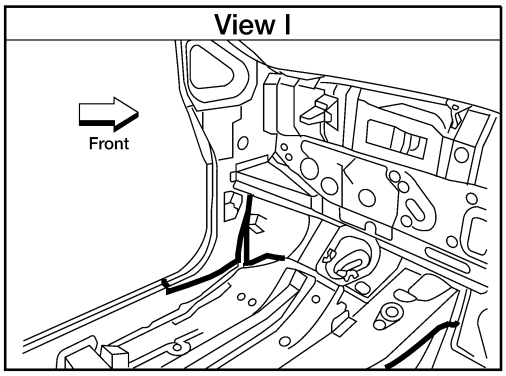


View I



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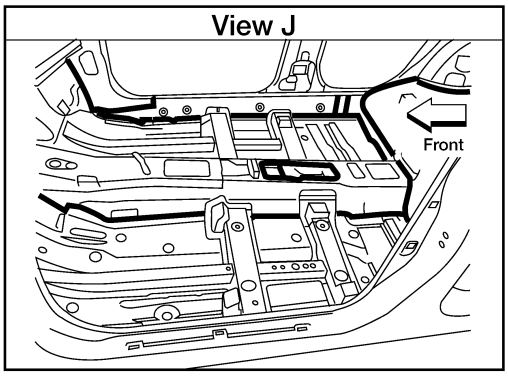

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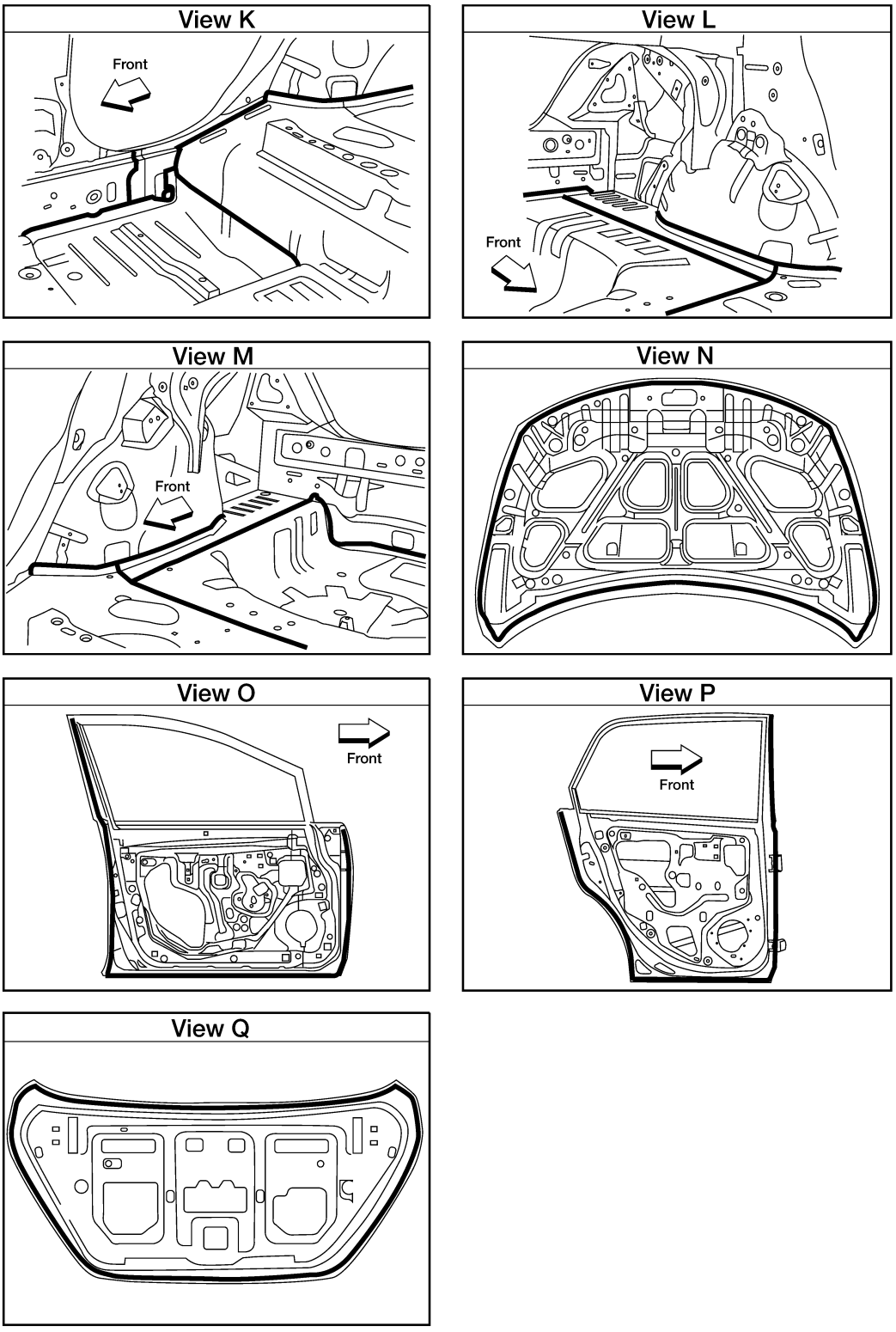

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Body Construction

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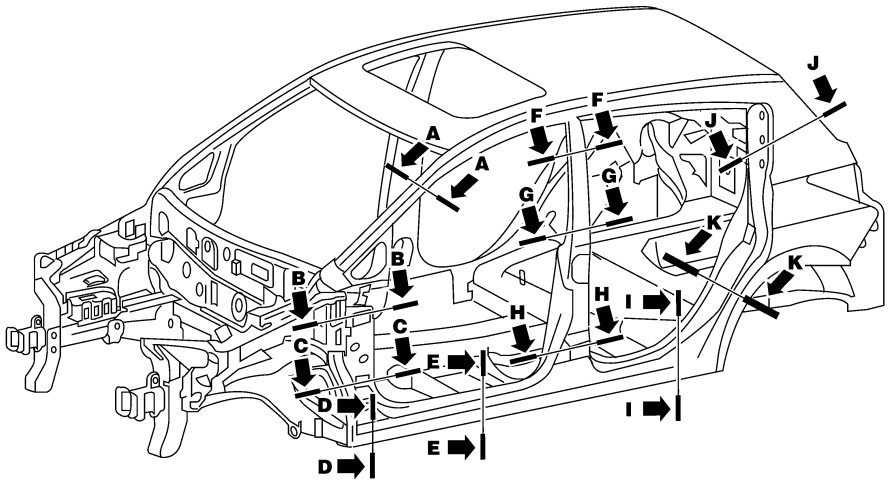
BODY CONSTRUCTION



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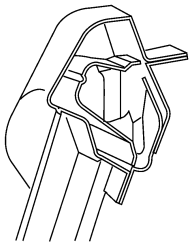
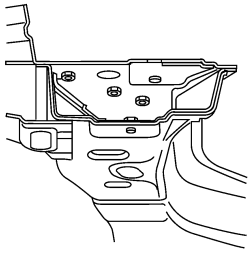
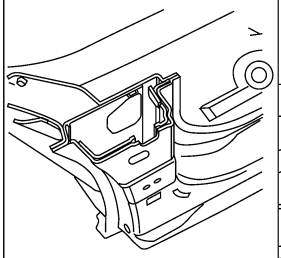
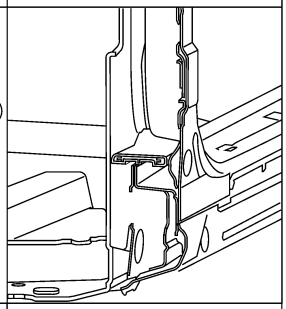
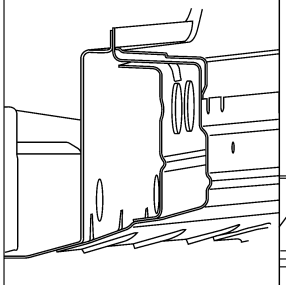
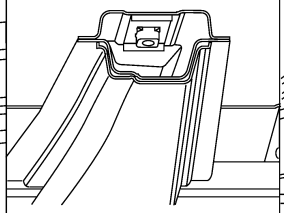
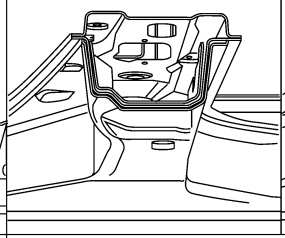
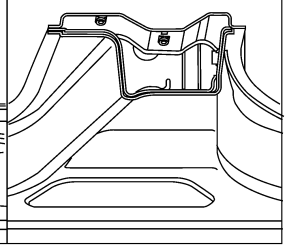
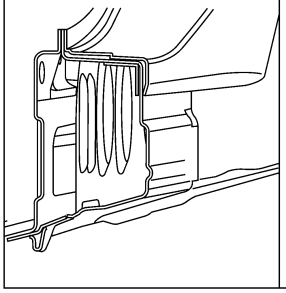
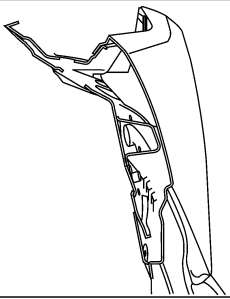
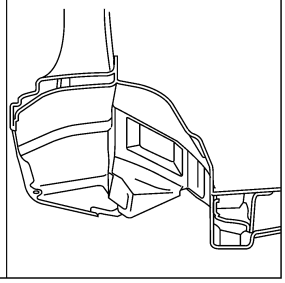
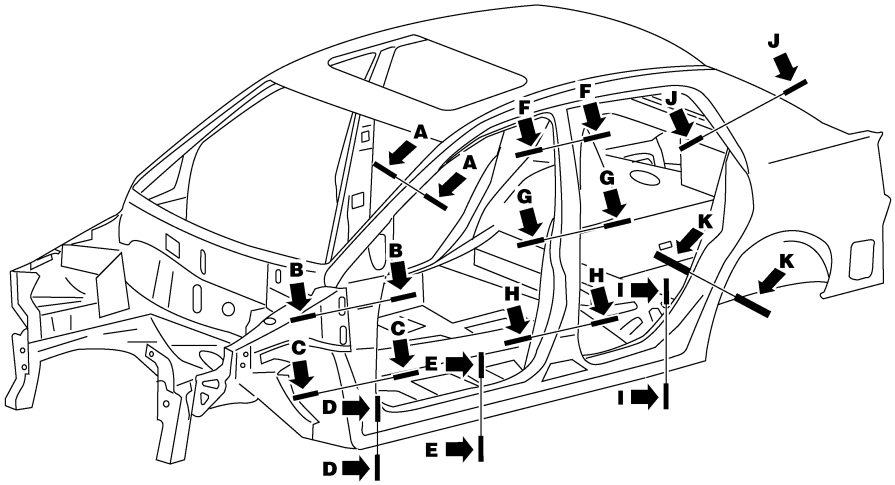
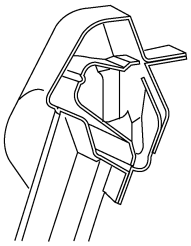
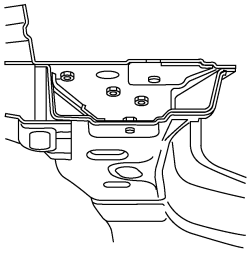
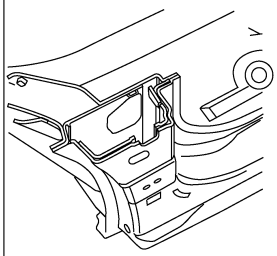
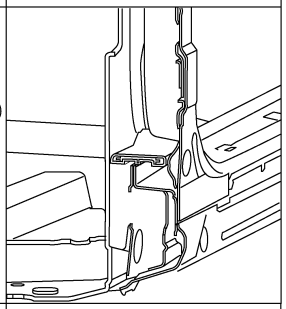
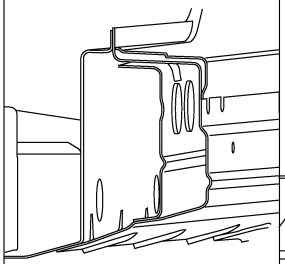
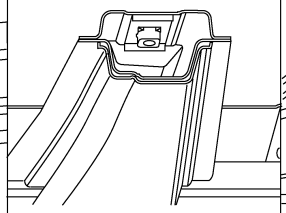
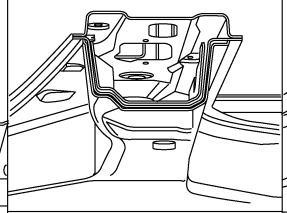
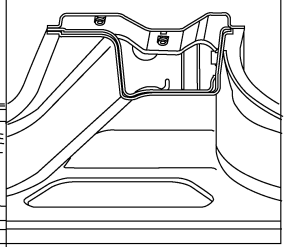
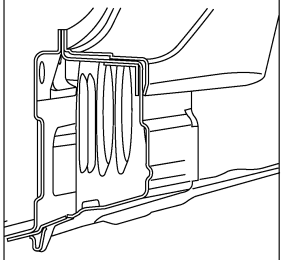
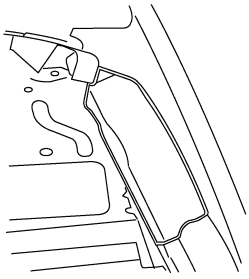
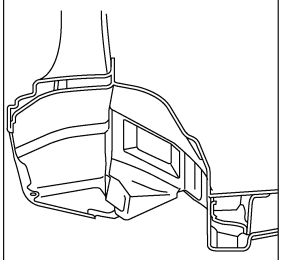
			
Section E - E	**Section F - F**	**Section G - G**	**Section H - H**
			
Section I - I	**Section J - J**	**Section K - K**	
			

LIIA2548E



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**	
			

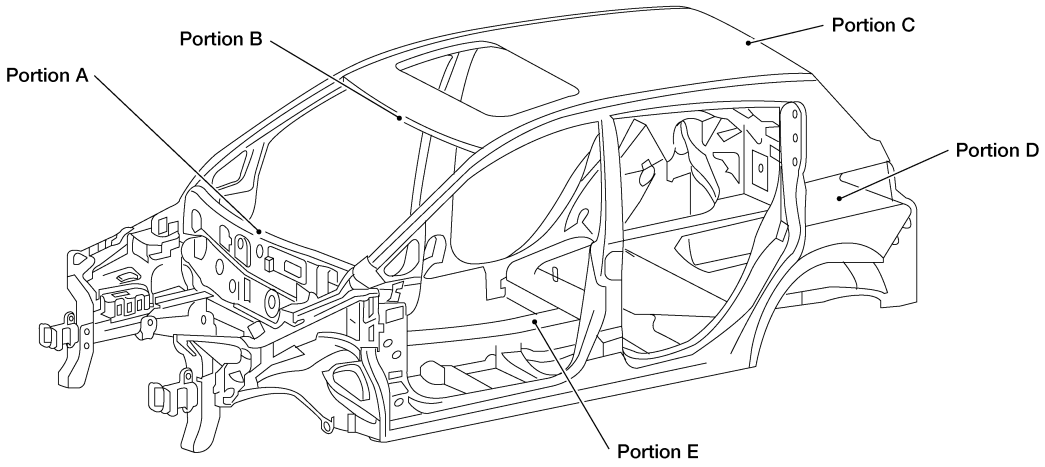
LIIA2881E

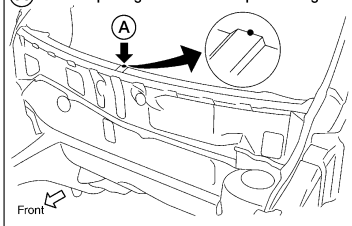
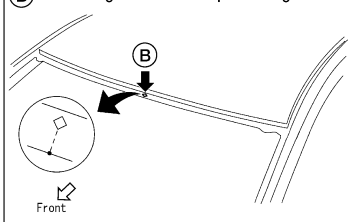
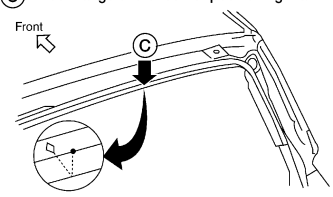
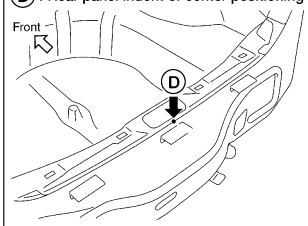
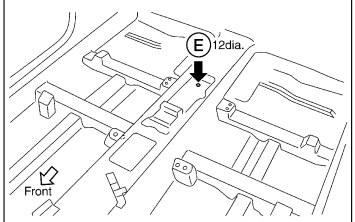
Body Alignment

INFOID:0000000005396723

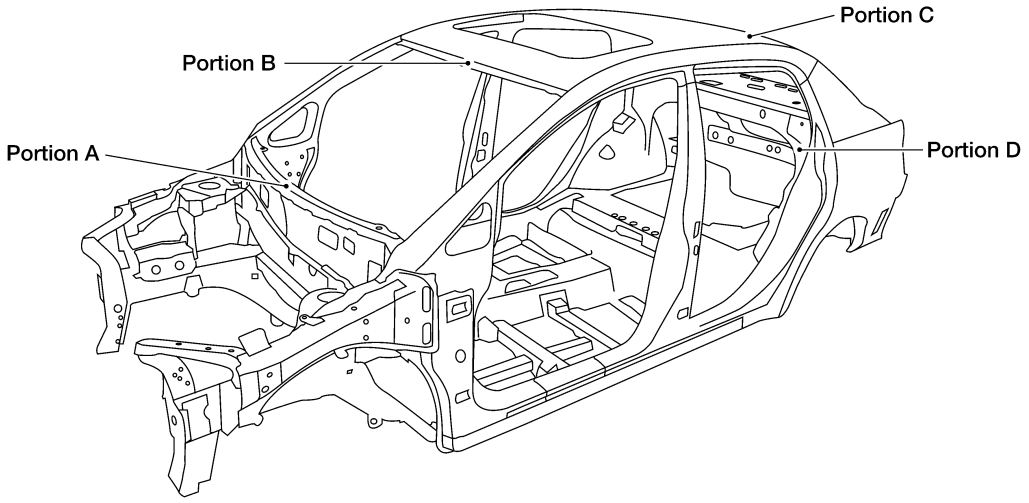
BODY CENTER MARKS

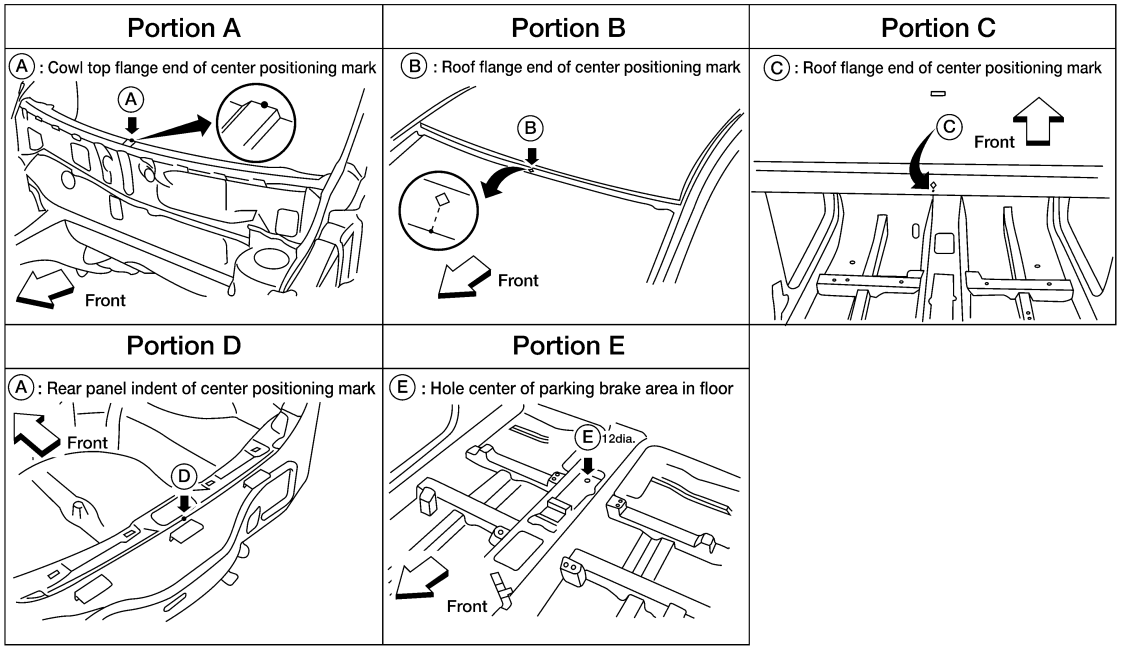
A mark has been placed on each part of the body to indicate the vehicle center. When repairing parts damaged by an accident which might affect the vehicle frame (members, pillars, etc.), more accurate and effective repair will be possible by using these marks together with body alignment specifications.



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

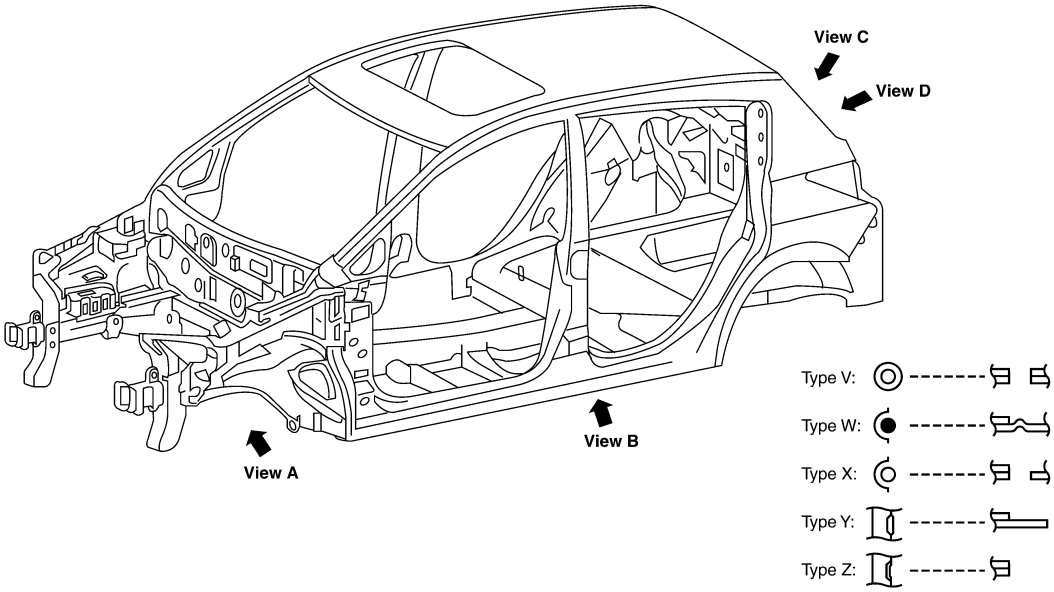


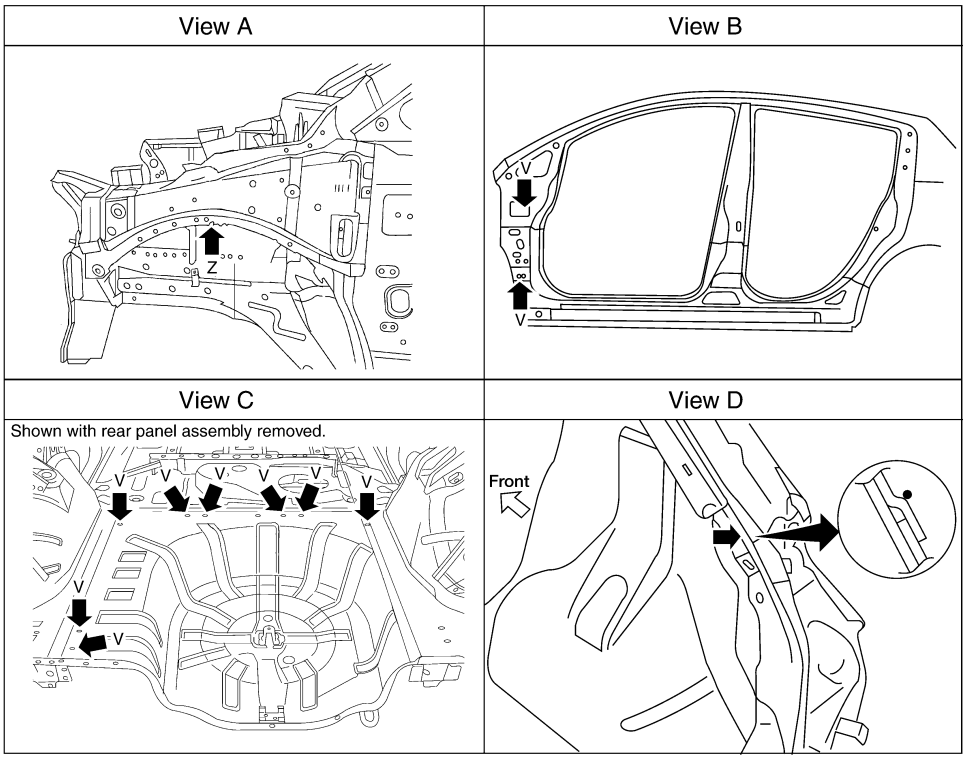


LIIA2879E

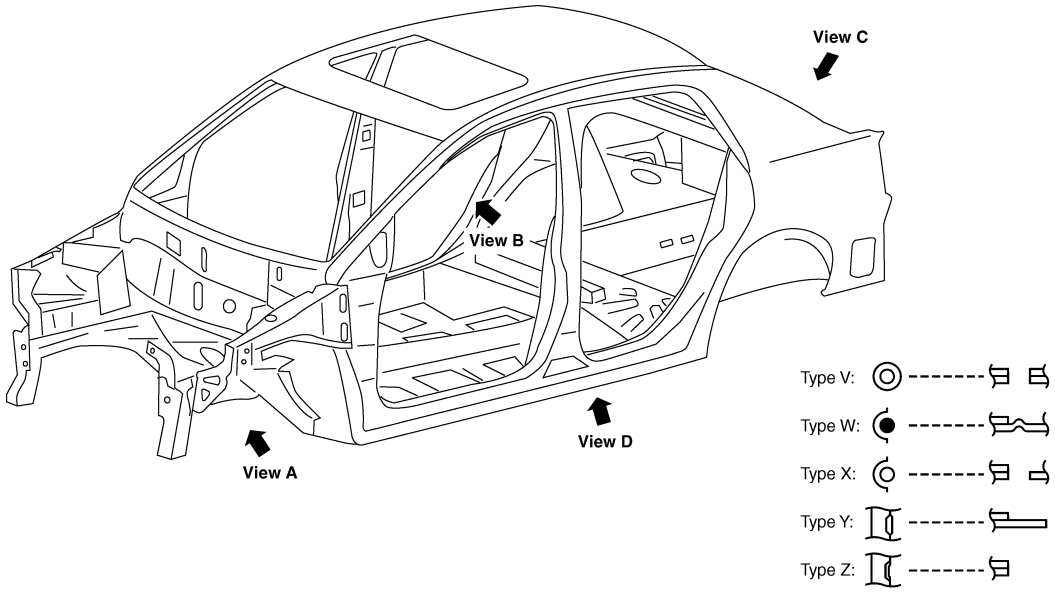
PANEL PARTS MATCHING MARKS

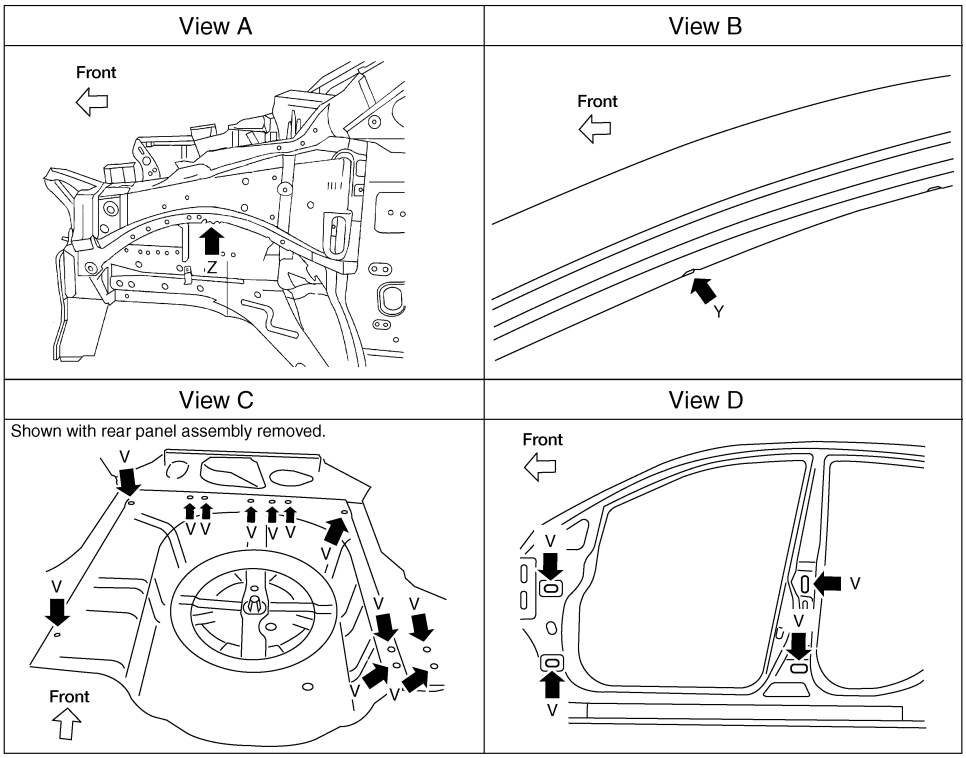
A mark has been placed on each body panel to indicate the parts matching positions. When repairing parts damaged by an accident which might affect the vehicle structure (members, pillars, etc.), more accurate and effective repair will be possible by using these marks together with body alignment specifications.


View C
View D
View A
View B
Type V:
Type W:
Type X:
Type Y:
Type Z:


View A
View B
Z
V
V
View C
View D
Shown with rear panel assembly removed.
V
V
V
V
V
V
V
V
V
Front

LIIA2628E

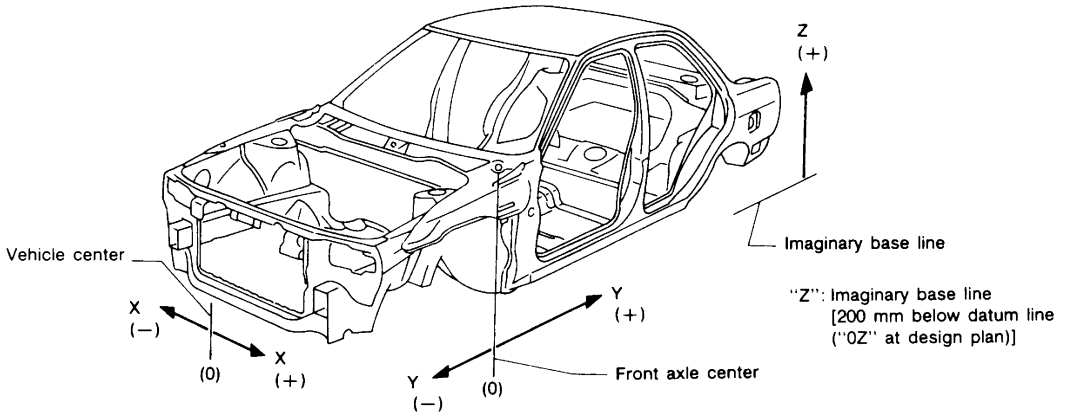




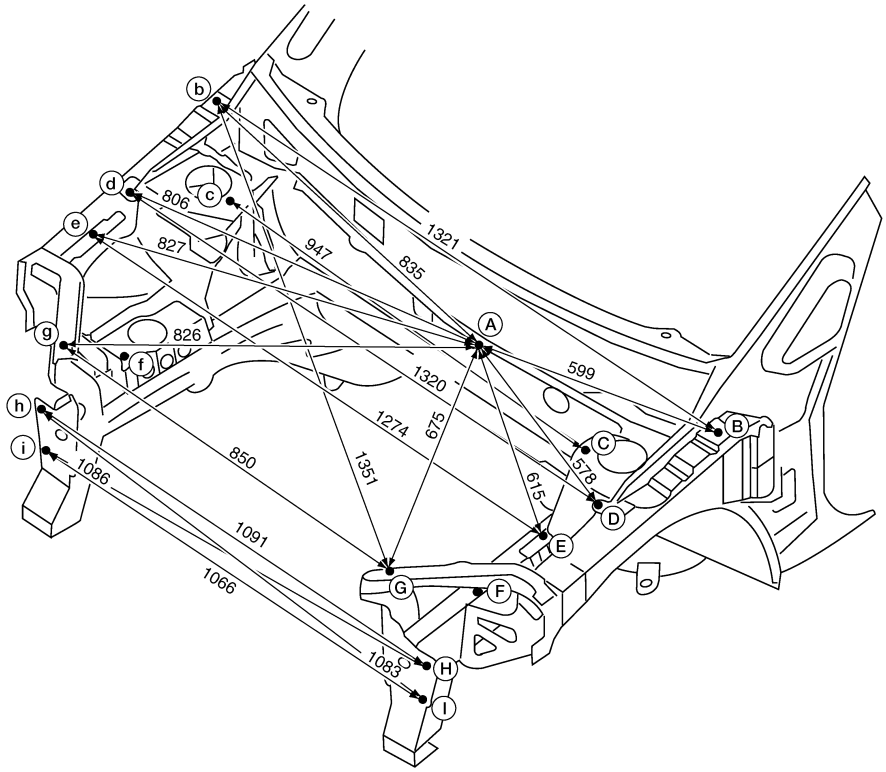
LIIA2882E

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

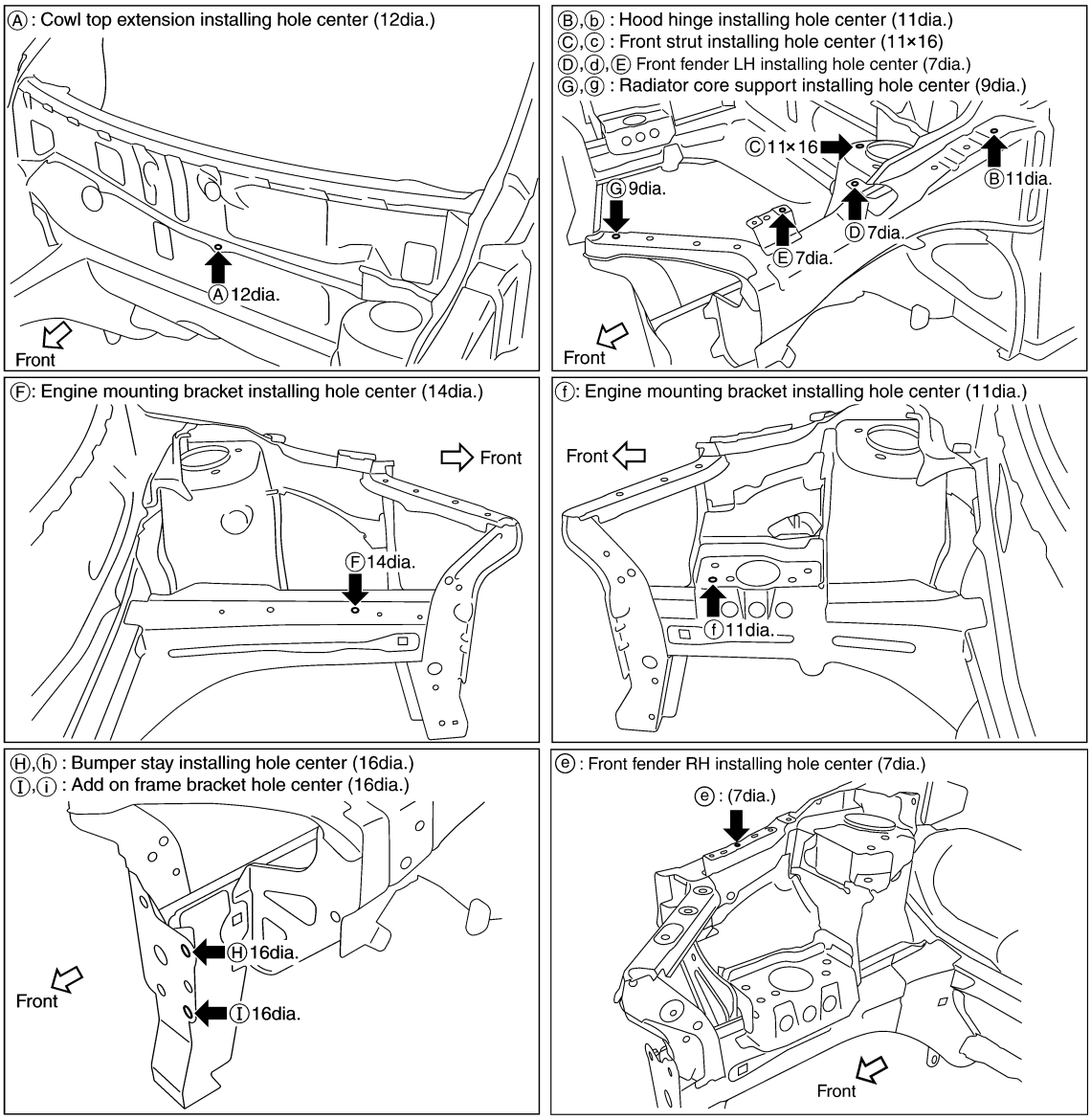


Point	Dimension	Point	Dimension	Point	Dimension
Ⓐ~Ⓕ	555	Ⓒ~ⓕ	1072	Ⓔ~ⓕ	1147
Ⓐ~ⓕ	745	Ⓒ~Ⓖ	502	ⓔ~Ⓕ	1143
Ⓑ~Ⓒ	266	Ⓒ~ⓖ	1108	ⓔ~ⓕ	264
Ⓑ~ⓒ	1236	ⓒ~Ⓖ	1096	Ⓔ~Ⓖ	317
ⓑ~ⓒ	1239	ⓒ~ⓖ	484	Ⓔ~ⓖ	1143
Ⓑ~Ⓓ	294	Ⓓ~Ⓔ	135	ⓔ~Ⓖ	1127
Ⓑ~ⓓ	1396	Ⓓ~ⓔ	1304	ⓔ~ⓖ	290
Ⓑ~Ⓔ	429	Ⓓ~Ⓕ	373	Ⓕ~ⓕ	966
Ⓑ~ⓔ	1408	Ⓓ~ⓕ	1187	Ⓕ~Ⓖ	319
Ⓑ~Ⓖ	728	ⓓ~ⓕ	343	Ⓕ~ⓖ	1002
Ⓑ~ⓖ	1361	ⓓ~Ⓕ	1179	ⓕ~Ⓖ	982
Ⓒ~Ⓓ	177	Ⓓ~Ⓖ	443	ⓕ~ⓖ	243
Ⓒ~ⓓ	1183	Ⓓ~ⓖ	1201		
Ⓒ~Ⓔ	266	ⓓ~Ⓖ	1186		
Ⓒ~ⓔ	1180	ⓓ~ⓖ	418		
Ⓒ~Ⓕ	380	Ⓔ~Ⓕ	313		

Unit : mm

LIIA2885E

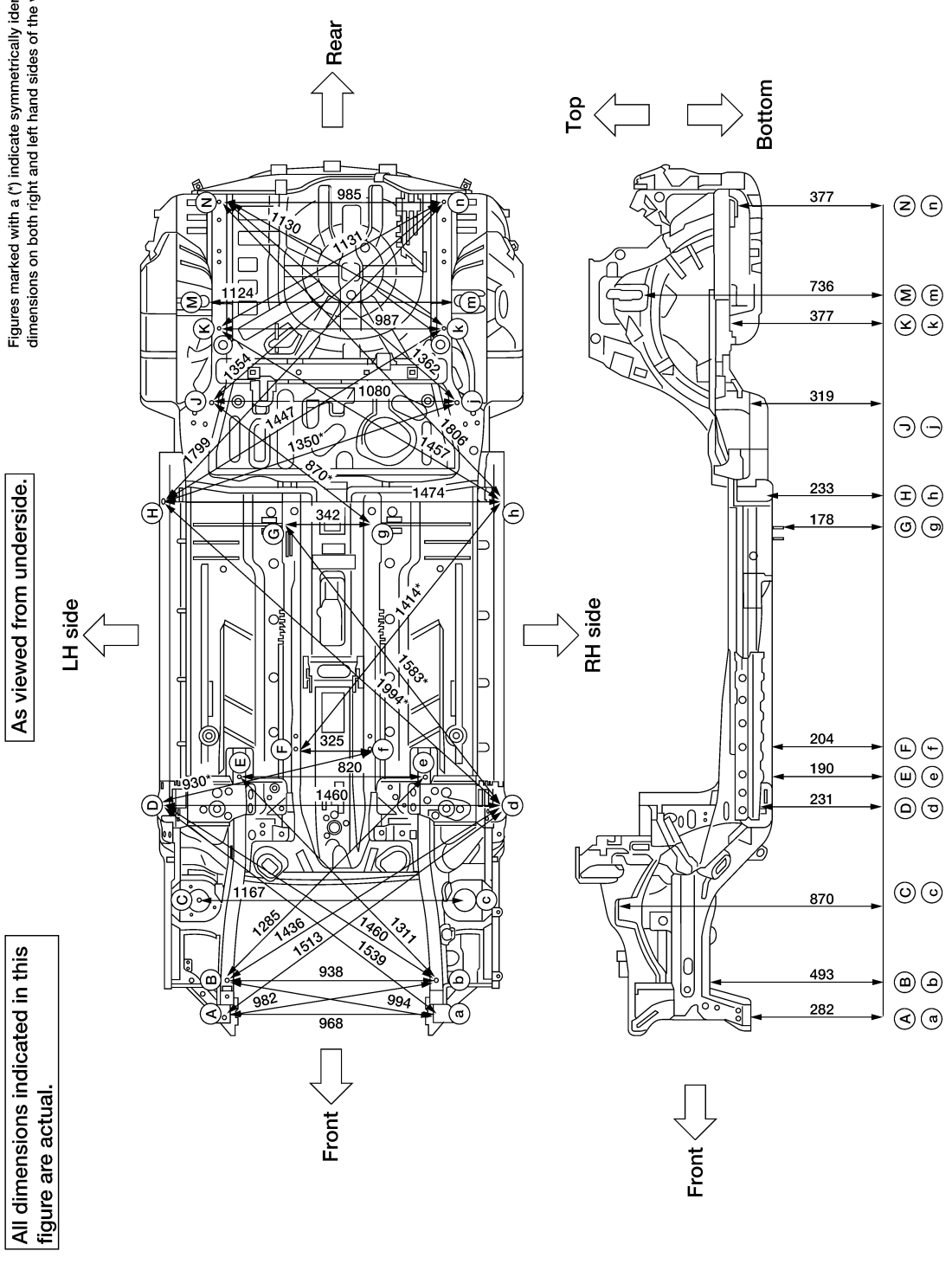
Measurement Points

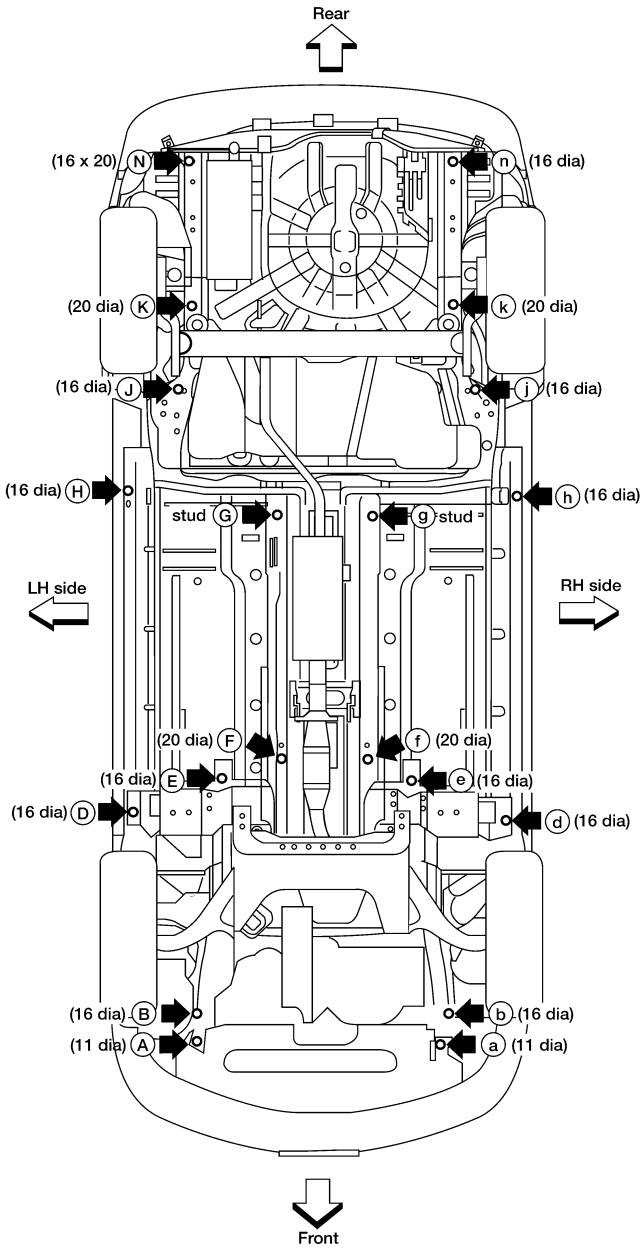


LIIA2611E

UNDERBODY

Unit: mm


Figures marked with a (*) indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.
Rear
Top
Bottom
LH side
RH side
As viewed from underside.
All dimensions indicated in this figure are actual.
Front
Front
985
1130
1131
1124
987
1354
1362
1080
1447
1350*
1799
1457
1806
870*
1474
342
1414*
1583*
1994*
325
820
930*
1460
1167
1285
1436
1513
1460
1311
1539
938
982
994
968
377
736
377
319
233
178
204
190
231
870
493
282
N n
M m
K k
J j
H h
G g
F f
E e
D d
C c
B b
A a
LIIA2601E



Coordinates:

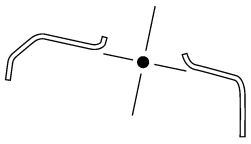
A	a
X : -476	X : 492
Y : -502	Y : -525
Z : 282	Z : 282
B	b
X : -462	X : 475
Y : -346	Y : -372
Z : 493	Z : 493
D, d	k
X : ±730	X : 488
Y : 410	Y : 2518
Z : 231	Z : 377
E, e	n
X : ±410	X : 487
Y : 547	Y : 3070
Z : 190	Z : 377
F, f	
X : ±162	
Y : 670	
Z : 204	
G, g	
X : ±171	
Y : 1710	
Z : 178	
H, h	
X : ±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



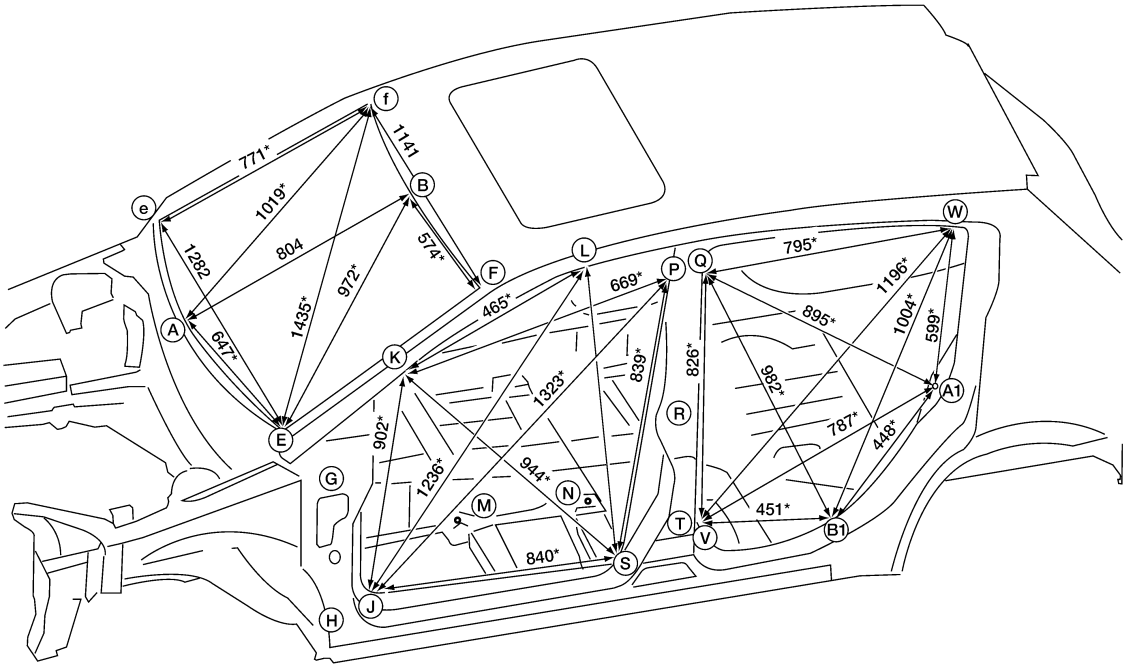
Unit: mm

LIIA2602E

PASSENGER COMPARTMENT HATCHBACK

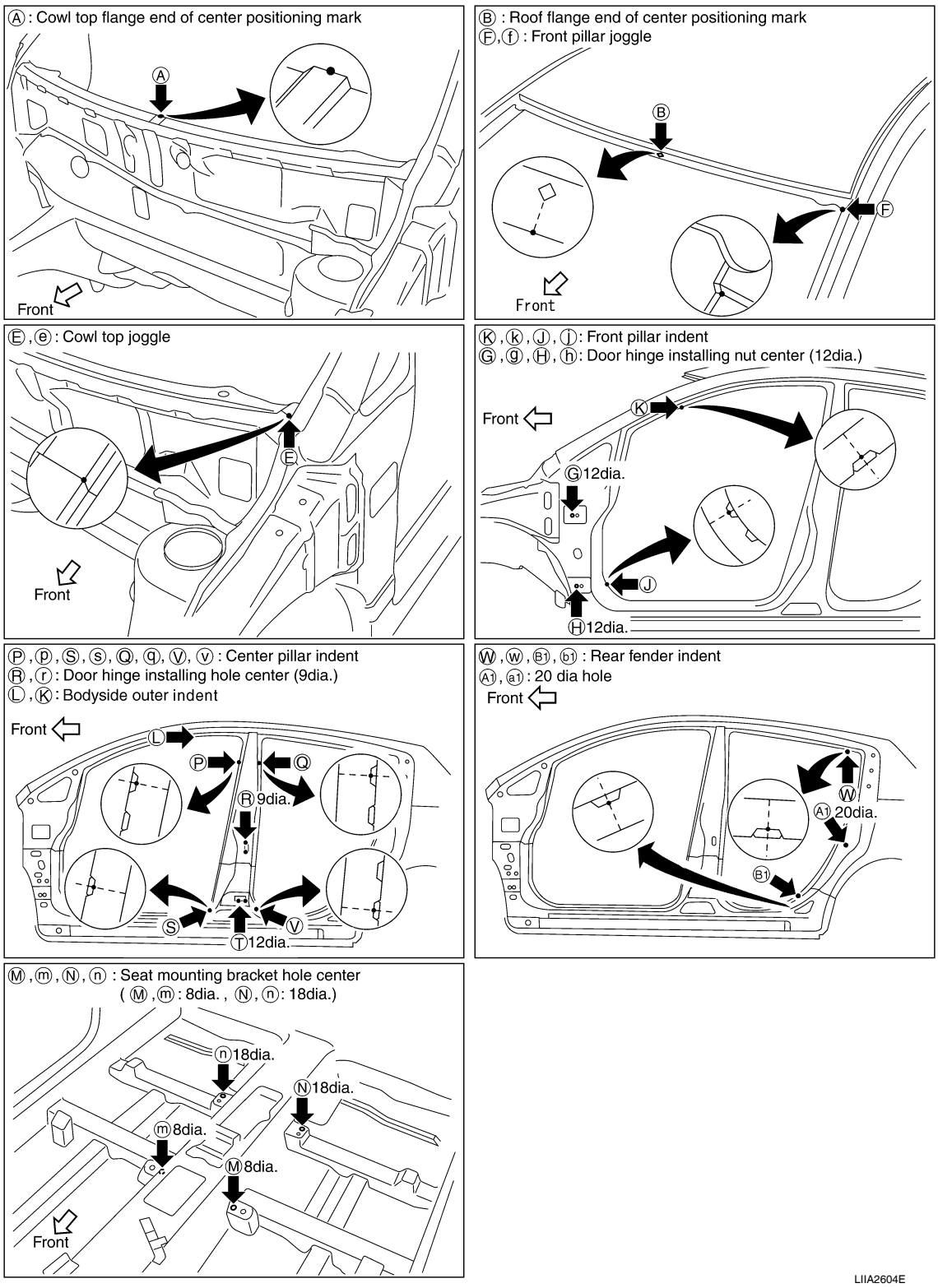
Unit : mm

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



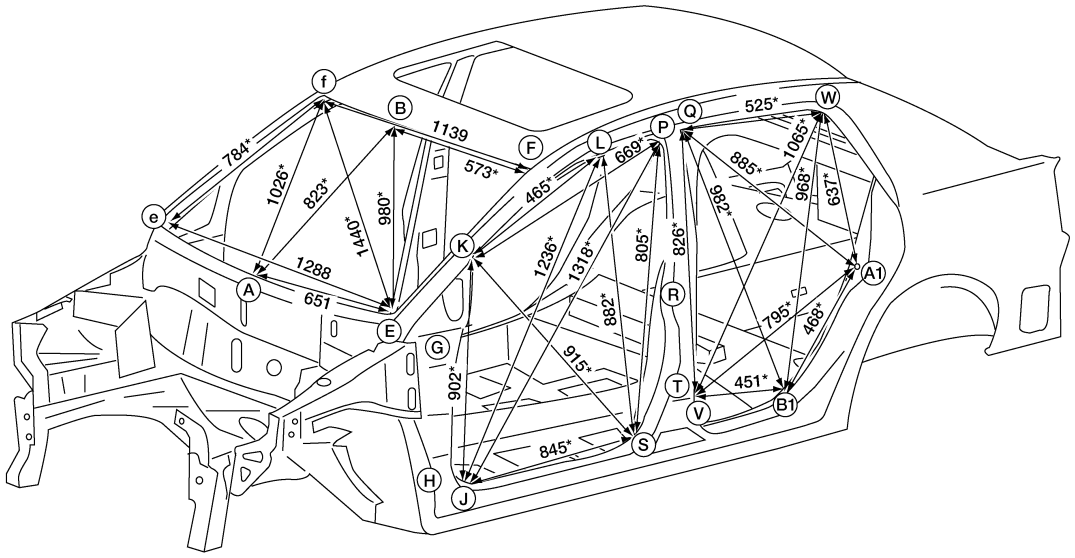
Point	Dimension	Point	Dimension	Point	Dimension
Ⓚ~ⓚ	1,238	Ⓠ~ⓐ1	1,580*	Ⓜ~ⓚ	1,114*
Ⓚ~ⓙ	1,586*	Ⓠ~ⓑ1	1,628*	Ⓜ~Ⓟ	1,260*
Ⓚ~ⓟ	1,405*	Ⓠ~ⓦ	1,440*	Ⓜ~Ⓙ	728*
Ⓚ~ⓢ	1,613*	Ⓥ~ⓥ	1,380	Ⓜ~Ⓢ	714*
Ⓙ~ⓙ	1,373	Ⓥ~ⓐ1	1,588*	Ⓝ~Ⓠ	1,162*
Ⓙ~ⓟ	1,855*	Ⓥ~ⓑ1	1,448*	Ⓝ~Ⓦ	1,541*
Ⓙ~ⓢ	1,612*	Ⓥ~ⓦ	1,746*	Ⓝ~Ⓐ1	1,172*
Ⓟ~ⓟ	1,232	Ⓦ~ⓦ	1,172	Ⓝ~Ⓑ1	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



PASSENGER COMPARTMENT SEDAN

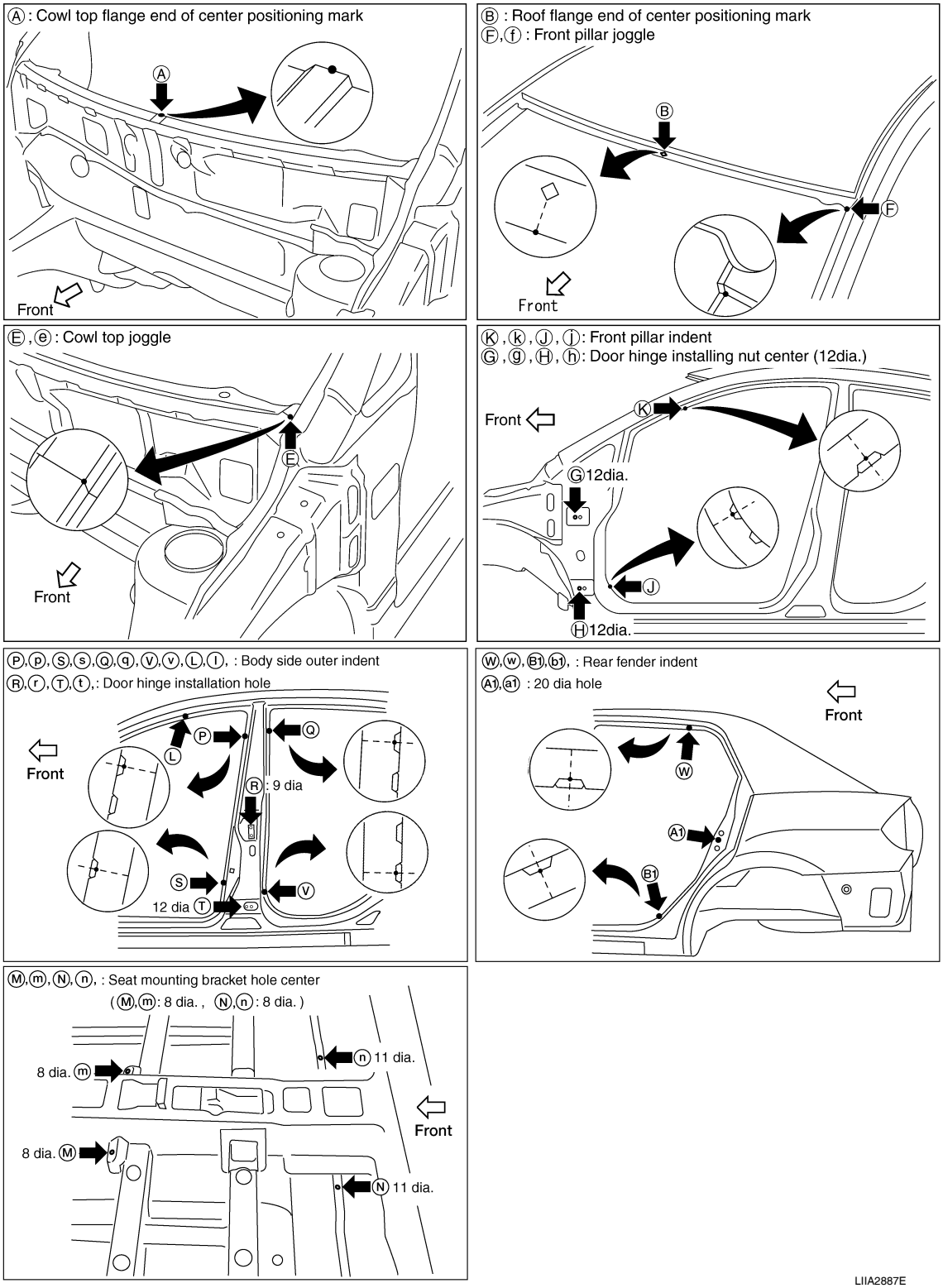
Figures marked with a (*) indicate symmetrically identical dimensions on both right and left side of the vehicle.



Point	Dimension	Point	Dimension	Point	Dimension
Ⓚ~ⓚ	1,240	Ⓠ~ⓐ1	1,580*	Ⓜ~ⓚ	1,103*
Ⓚ~ⓙ	1,586*	Ⓠ~ⓑ1	1,628*	Ⓜ~Ⓟ	1,250*
Ⓚ~ⓟ	1,405*	Ⓠ~ⓦ	1,440*	Ⓜ~Ⓙ	705*
Ⓚ~ⓢ	1,613*	Ⓥ~ⓥ	1,382	Ⓜ~Ⓢ	704*
Ⓙ~ⓙ	1,373	Ⓥ~ⓐ1	1,588*	Ⓝ~Ⓠ	1,162*
Ⓙ~ⓟ	1,855*	Ⓥ~ⓑ1	1,448*	Ⓝ~Ⓦ	1,541*
Ⓙ~ⓢ	1,612*	Ⓥ~ⓦ	1,746*	Ⓝ~Ⓐ1	1,172*
Ⓟ~ⓟ	1,232	Ⓦ~ⓦ	1,155	Ⓝ~Ⓑ1	834*
Ⓟ~ⓢ	1,550*	Ⓦ~ⓐ1	1,405*	Ⓝ~Ⓥ	603*
Ⓢ~ⓢ	1,383*	Ⓦ~ⓑ1	1,618*	Ⓖ~Ⓡ	1,158*
Ⓠ~ⓠ	1,234*	Ⓐ1~ⓐ1	1,379	Ⓖ~Ⓣ	1,170*
Ⓠ~ⓥ	1,542*	Ⓐ1~ⓑ1	1,447*	Ⓗ~Ⓡ	1,205*
Ⓛ~ⓘ	1,161	ⓜ~Ⓛ	1,237*	Ⓗ~Ⓣ	1,104*

Unit : mm

LIIA2886E

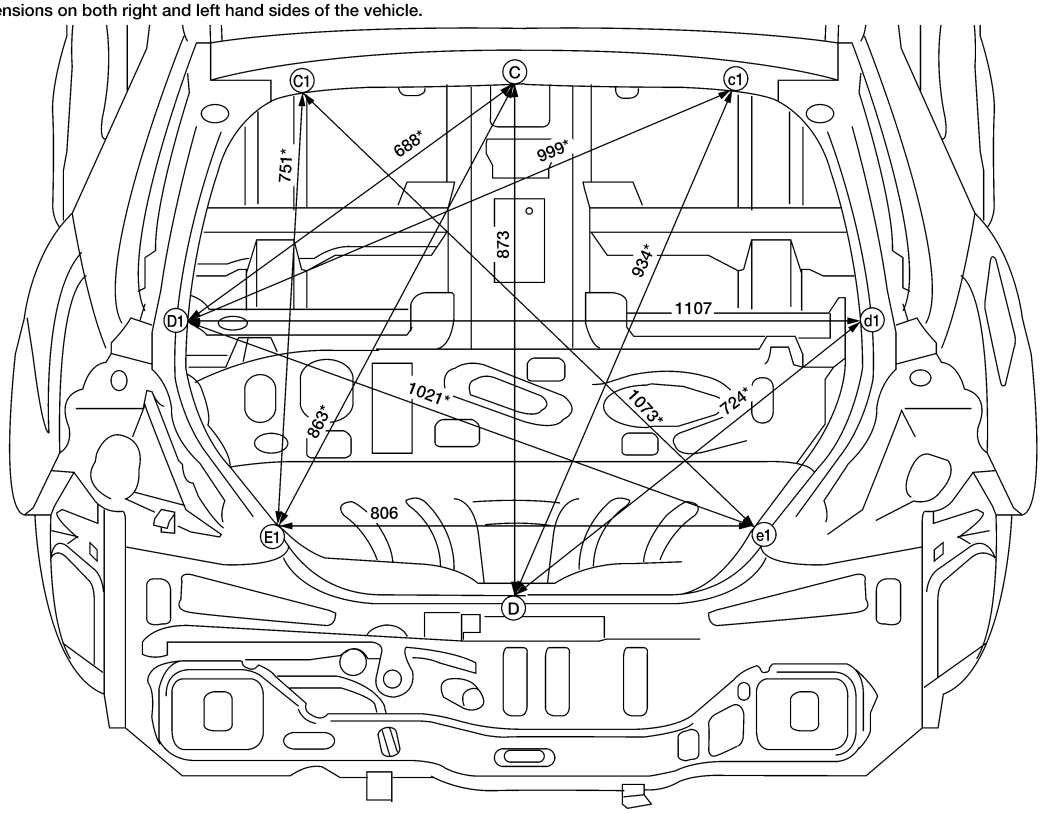


LIIA2887E

REAR BODY HATCHBACK

Measurement

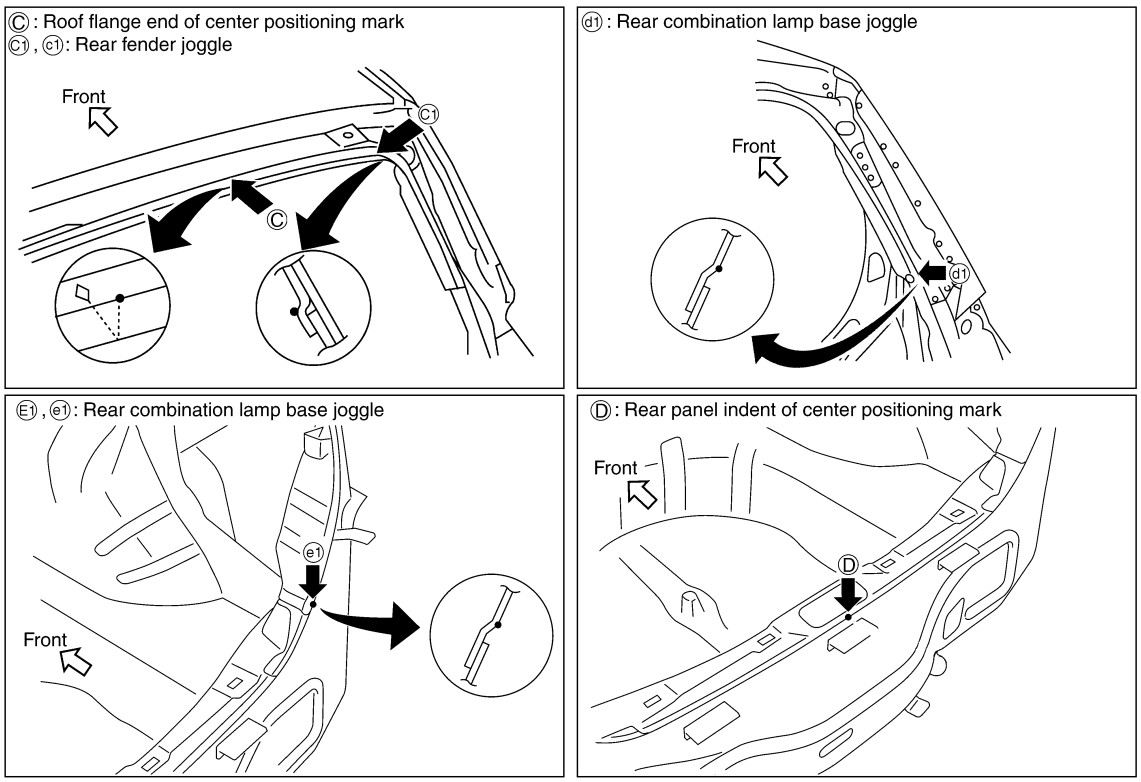
Figures marked with a (*) indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.



Unit: mm

LIIA2605E

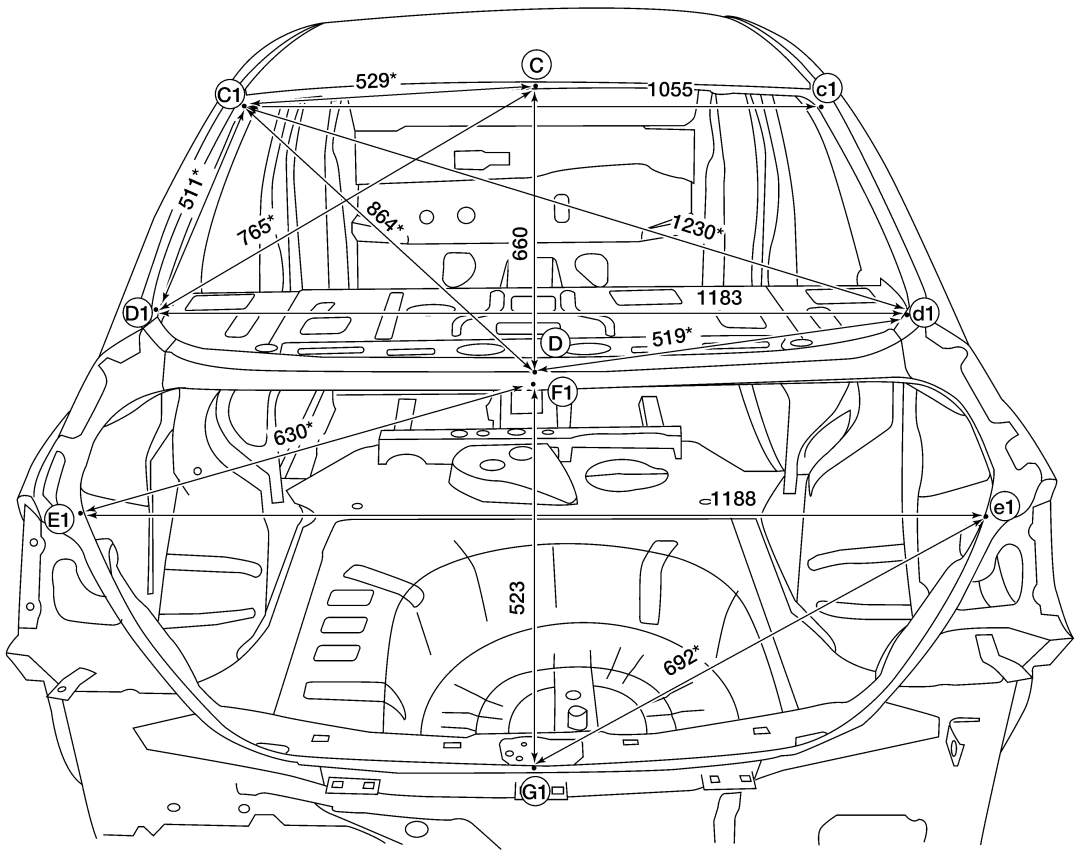
Measurement Points



LIIA2606E

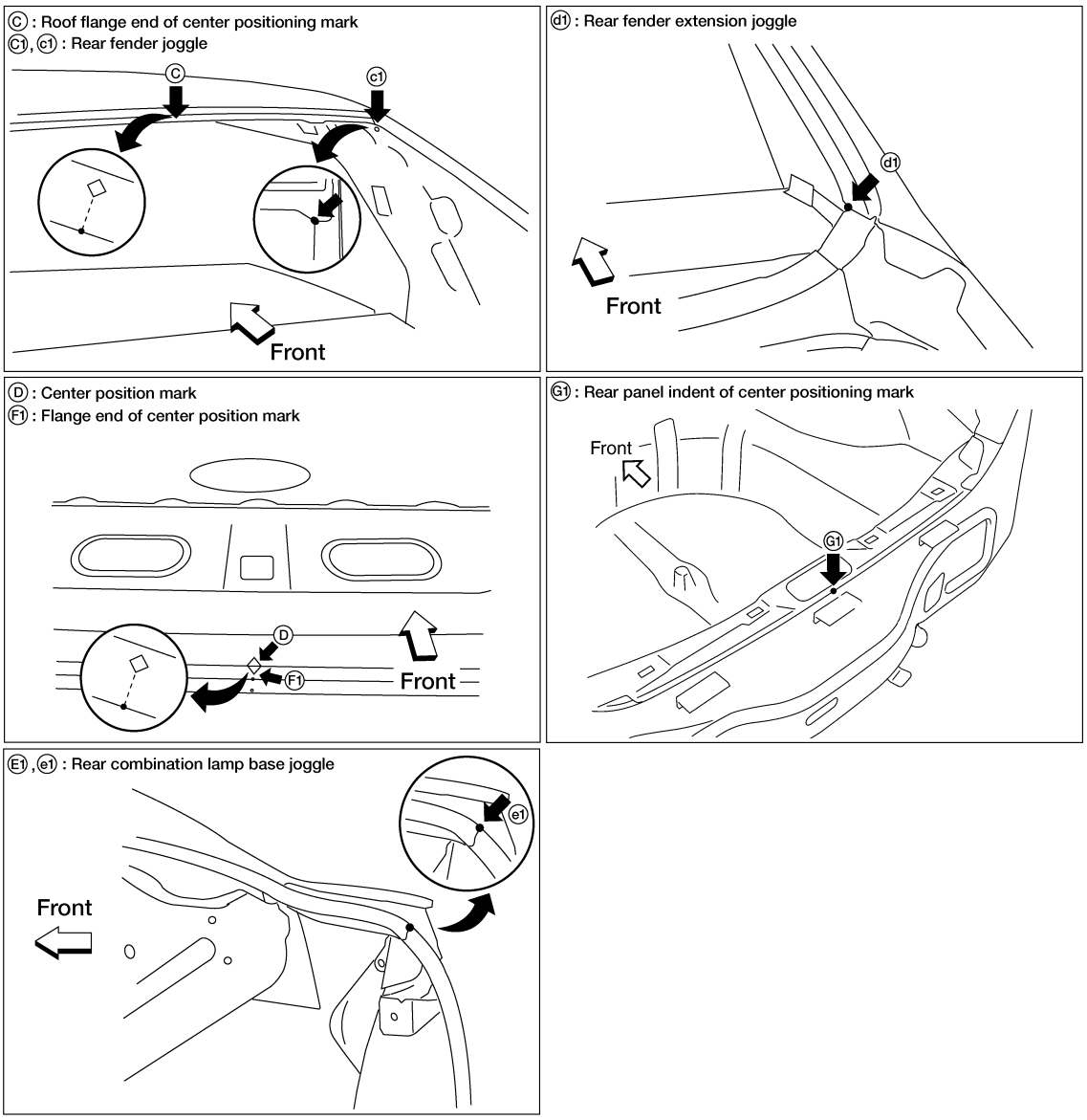
REAR BODY SEDAN

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



LIIA2880E

Measurement Points



LIIA2888E

Handling Precaution for Plastics

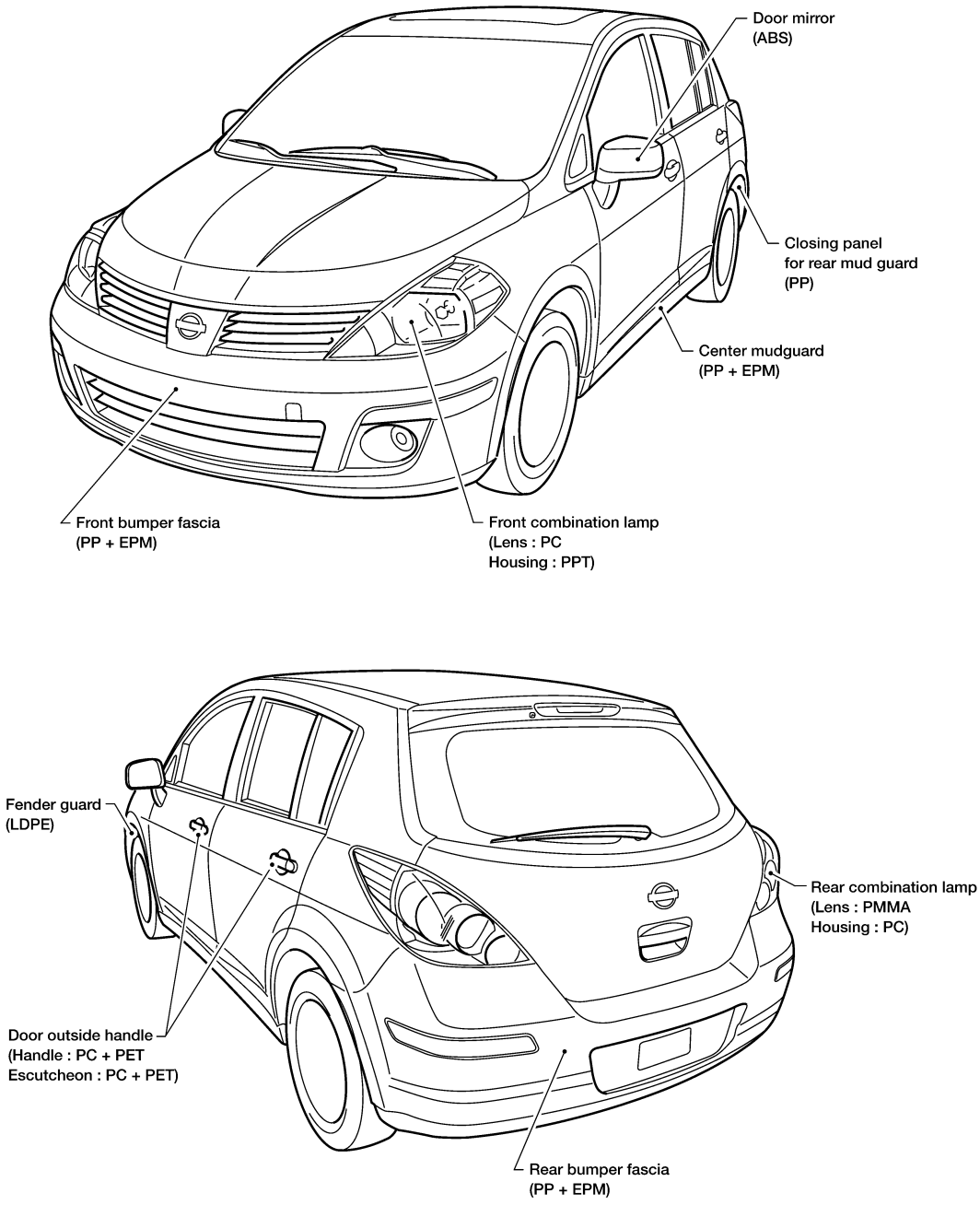
INFOID:0000000005396724

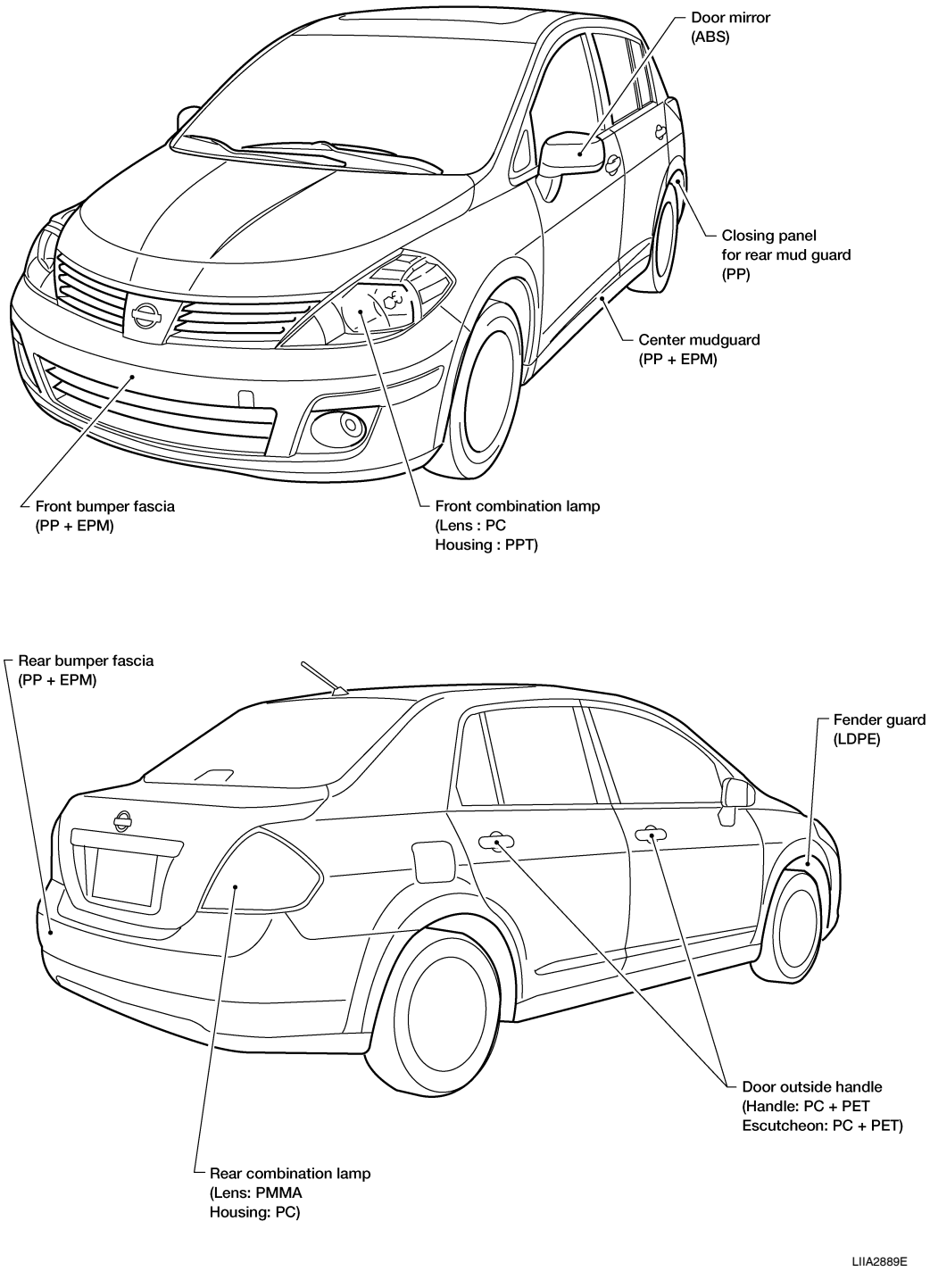
HANDLING PRECAUTIONS FOR PLASTICS

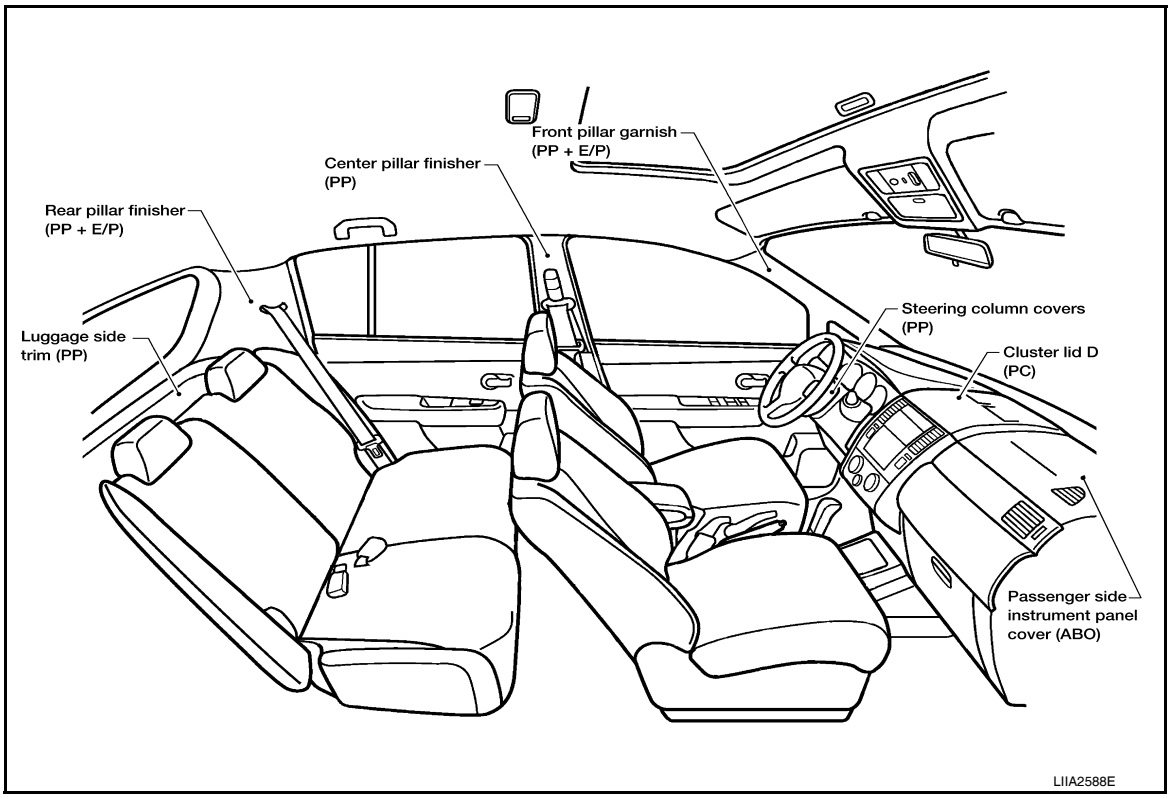
Abbre-viation	Material name	Heatresisting temperature °C (°F)	Resistance to gasoline and solvents	Other cautions
PE	Polyethylene	60 (140)	Gasoline and most solvents are harmless if applied for a very short time (wipe up quickly).	Flammable
PVC	Polyvinyl Chloride	80 (176)	Same as above.	Poison gas is 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


Door mirror
(ABS)
Closing panel
for rear mud guard
(PP)
Center mudguard
(PP + EPM)
Front bumper fascia
(PP + EPM)
Front combination lamp
(Lens : PC
Housing : PPT)
Fender guard
(LDPE)
Rear combination lamp
(Lens : PMMA
Housing : PC)
Door outside handle
(Handle : PC + PET
Escutcheon : PC + PET)
Rear bumper fascia
(PP + EPM)
LIIA2587E


Door mirror
(ABS)
Closing panel
for rear mud guard
(PP)
Center mudguard
(PP + EPM)
Front bumper fascia
(PP + EPM)
Front combination lamp
(Lens : PC
Housing : PPT)
Rear bumper fascia
(PP + EPM)
Fender guard
(LDPE)
Door outside handle
(Handle: PC + PET
Escutcheon: PC + PET)
Rear combination lamp
(Lens: PMMA
Housing: PC)
LIIA2889E



Precaution in Repairing High Strength Steel

INFOID:0000000005396725

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)

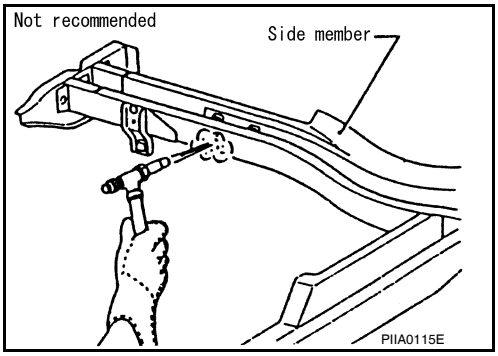
SP130 is the most commonly used HSS.

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

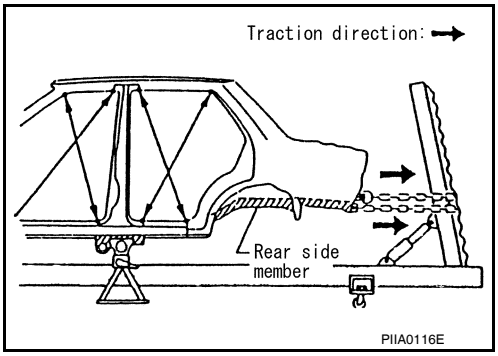
Read the Following Precautions When Repairing HSS:

1. Additional points to consider

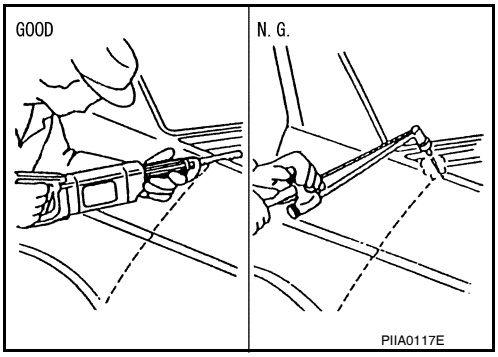
- The repair of reinforcements (such as side members) by heating is not recommended since it may weaken the component. When heating is unavoidable, do not heat HSS parts above 550°C (1,022°F).
  Verify heating temperature with a thermometer.
  (Crayon-type and other similar type thermometer are appropriate.)



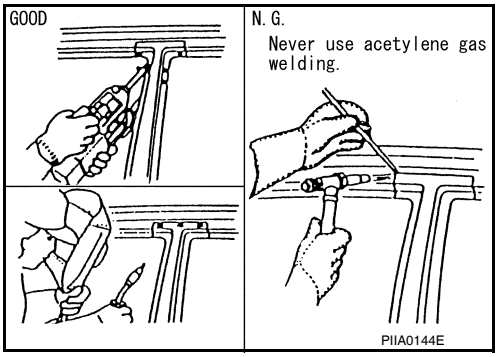
- When straightening body panels, use caution in pulling any HSS panel. Because HSS is very strong, pulling may cause deformation in adjacent portions of the body. In this case, increase the number of measuring points, and carefully pull the HSS panel.



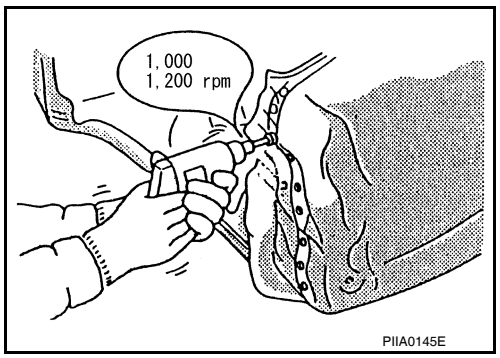
- When cutting HSS panels, avoid gas (torch) cutting if possible. Instead, use a saw to avoid weakening surrounding areas due to heat. If gas (torch) cutting is unavoidable, allow a minimum margin of 50 mm (1.97in).



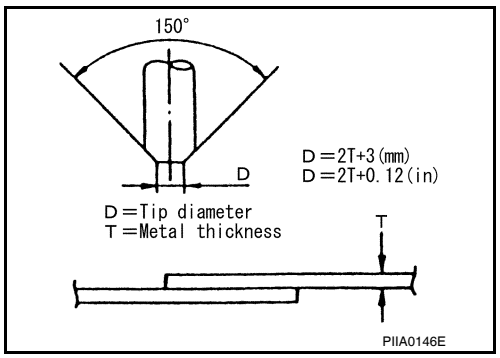
- When welding HSS panels, use spot welding whenever possible in order to minimize weakening surrounding areas due to heat.
  If spot welding is impossible, use M.I.G. welding. Do not use gas (torch) welding because it is inferior in welding strength.



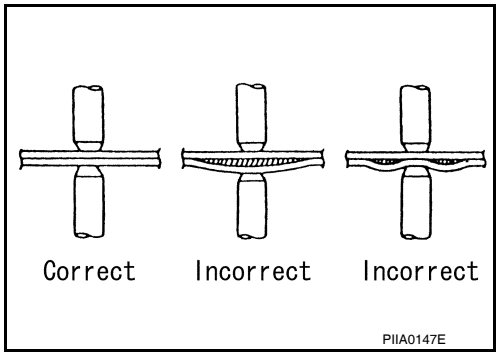
- The spot weld on HSS panels is harder than that of an ordinary steel panel.
  Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.



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.



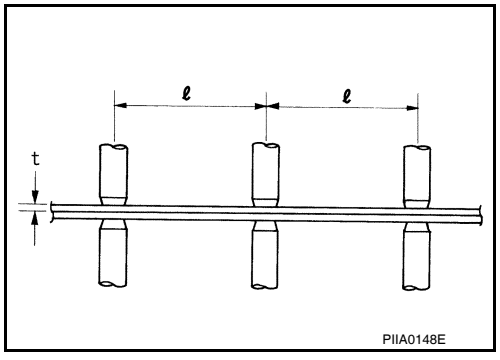
   - The panel surfaces must fit flush to each other, leaving no gaps.



   - 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



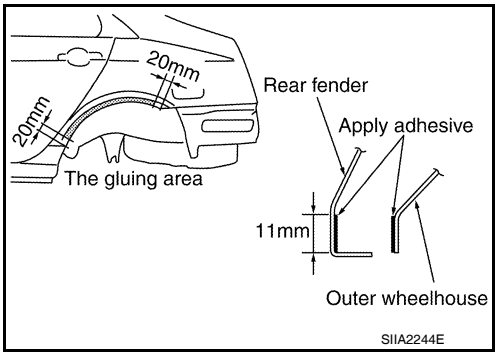
Rear fender hemming process

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

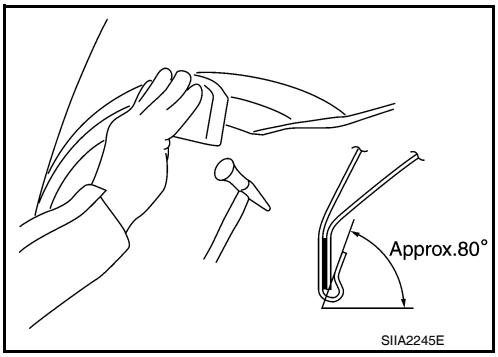
- Peel off old bonding material on the surface of outer wheelhouse and clean thoroughly.
- Peel off a primer coat in the specified area where new adhesive is to be applied on rear fender (the replacing part).
- Apply new adhesive to both specified areas of outer wheelhouse and rear fender.

<Adhesive> 3M automix panel bond 8115, or any equivalents

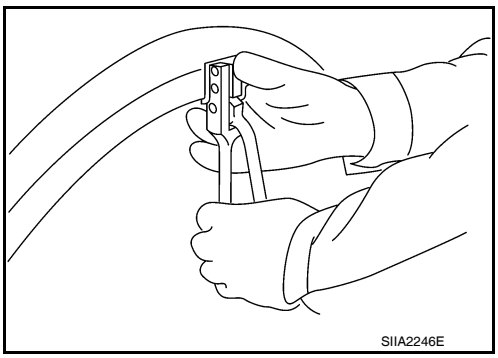


- Attach rear fender to the body of the car, and weld the required part except the hemming part.

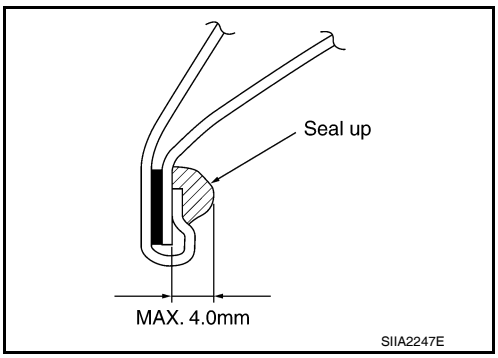
- Bend the welded part starting from the center of the wheel arch gradually with a hammer and a dolly. (Also hem the end of the flange.)
- Hemming with a hammer is conducted to an approximate angle of 80 degrees.



- 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

INFOID:0000000005396726

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.

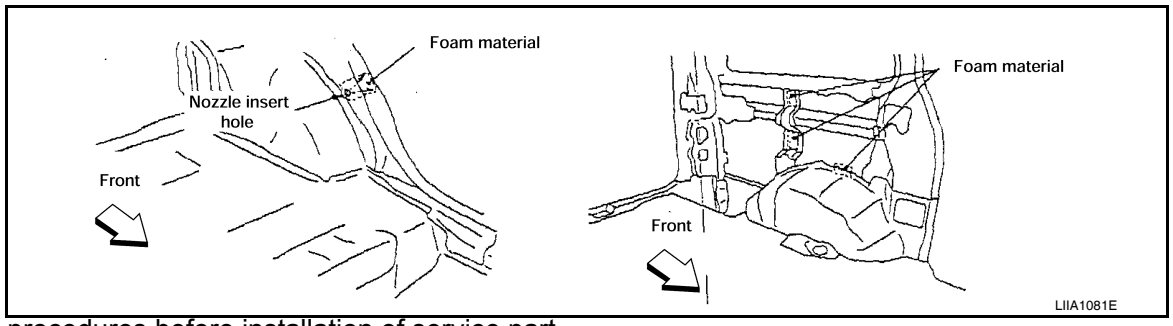
URETHANE FOAM APPLICATIONS

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.



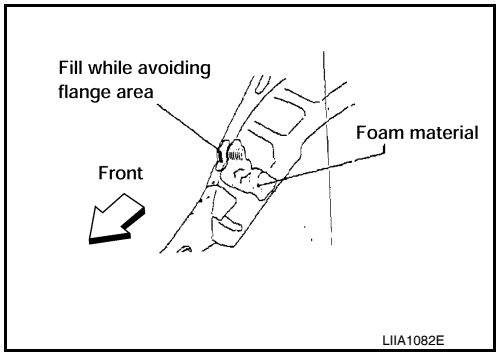
2. Fill procedures before installation of service part.

- Remove foam material remaining on vehicle side.
- Clean area in which foam was removed.
- Fill foam material on wheelhouse outer side.

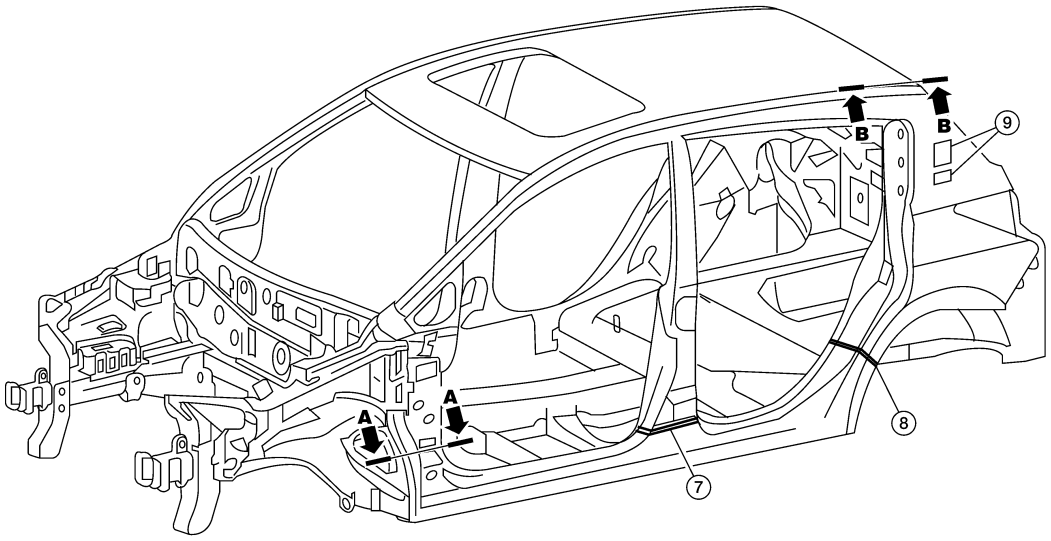
NOTE:
Fill in enough to close gap with service part while avoiding flange area.

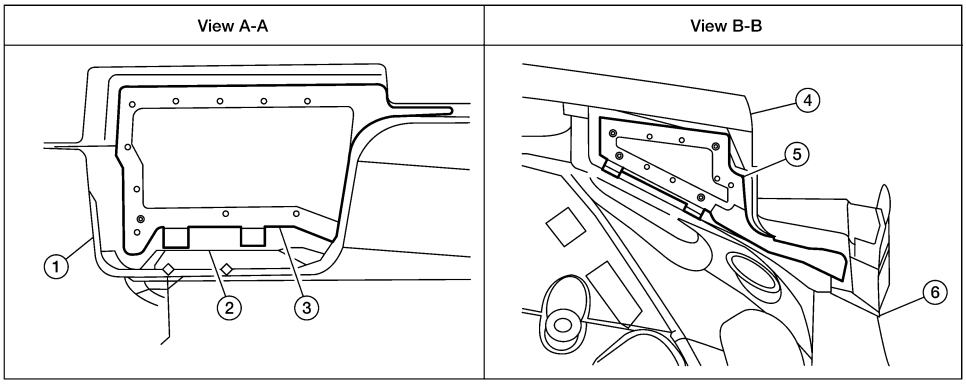
- Install service part.

NOTE:
Refer to label for information on working times.



Hatchback





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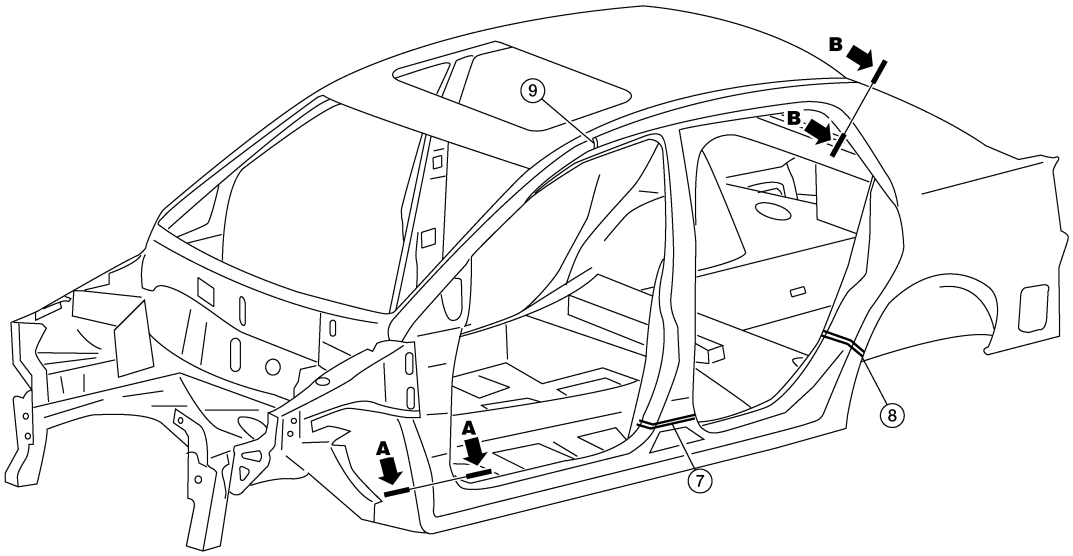
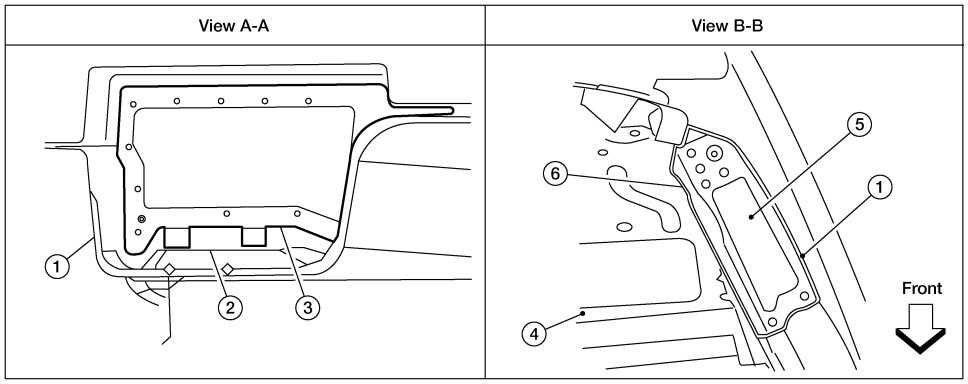
1. Body side outer
2. Front pillar lower reinforcement
3. Body side insulation (foam) front pillar
4. Roof panel assembly
5. Body side insulation (Foam) rear roof rail
6. Rear roof rail assembly
7. Body side insulation strip, center pillar
8. Body side insulation strip, rear pillar lower
9. Body side insulation strip, rear pillar upper

Sedan





LIIA2891E

1. Body side outer
2. Front pillar lower reinforcement
3. Body side insulation (foam) front pillar
4. Parcel shelf
5. Body side insulation (Foam) rear pillar
6. Rear body side inner
7. Body side insulation strip, center pillar
8. Body side insulation strip, rear pillar lower
9. Body side insulation (foam) roof side

Replacement Operation

INFOID:0000000005396727

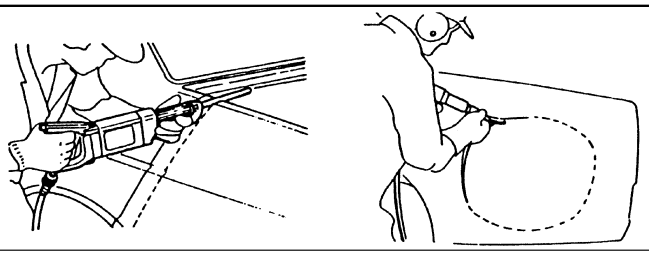
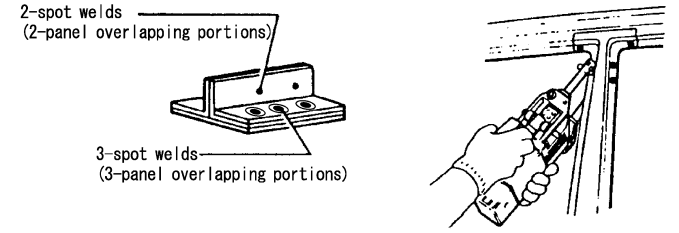
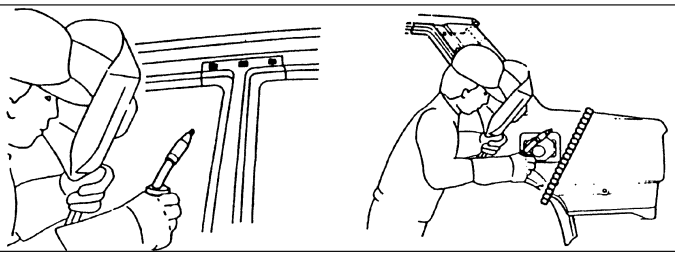
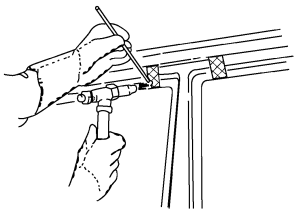
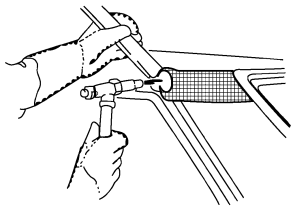
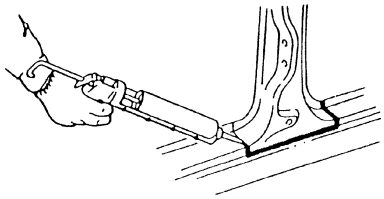
DESCRIPTION

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	

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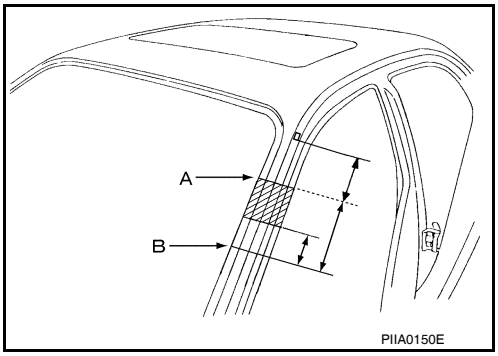
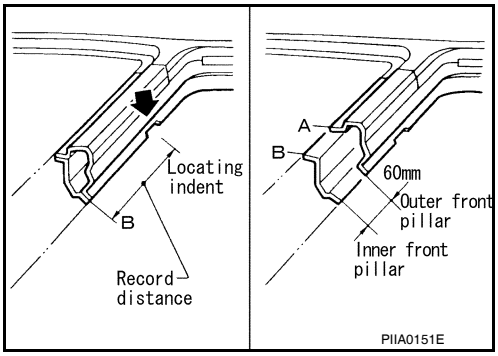
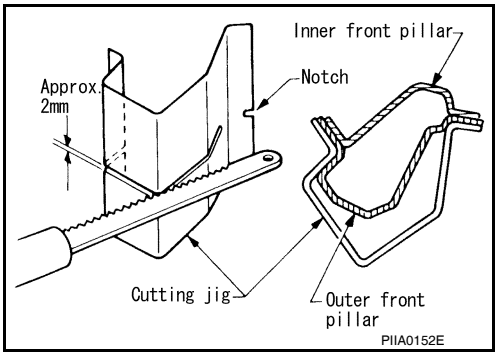
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle. Refer to the front pillar section.



- 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.

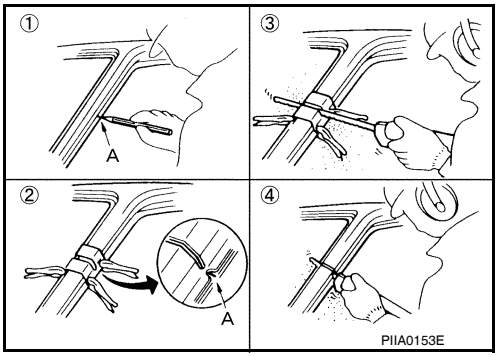


- Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit service part to be accurately cut at joint position.



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

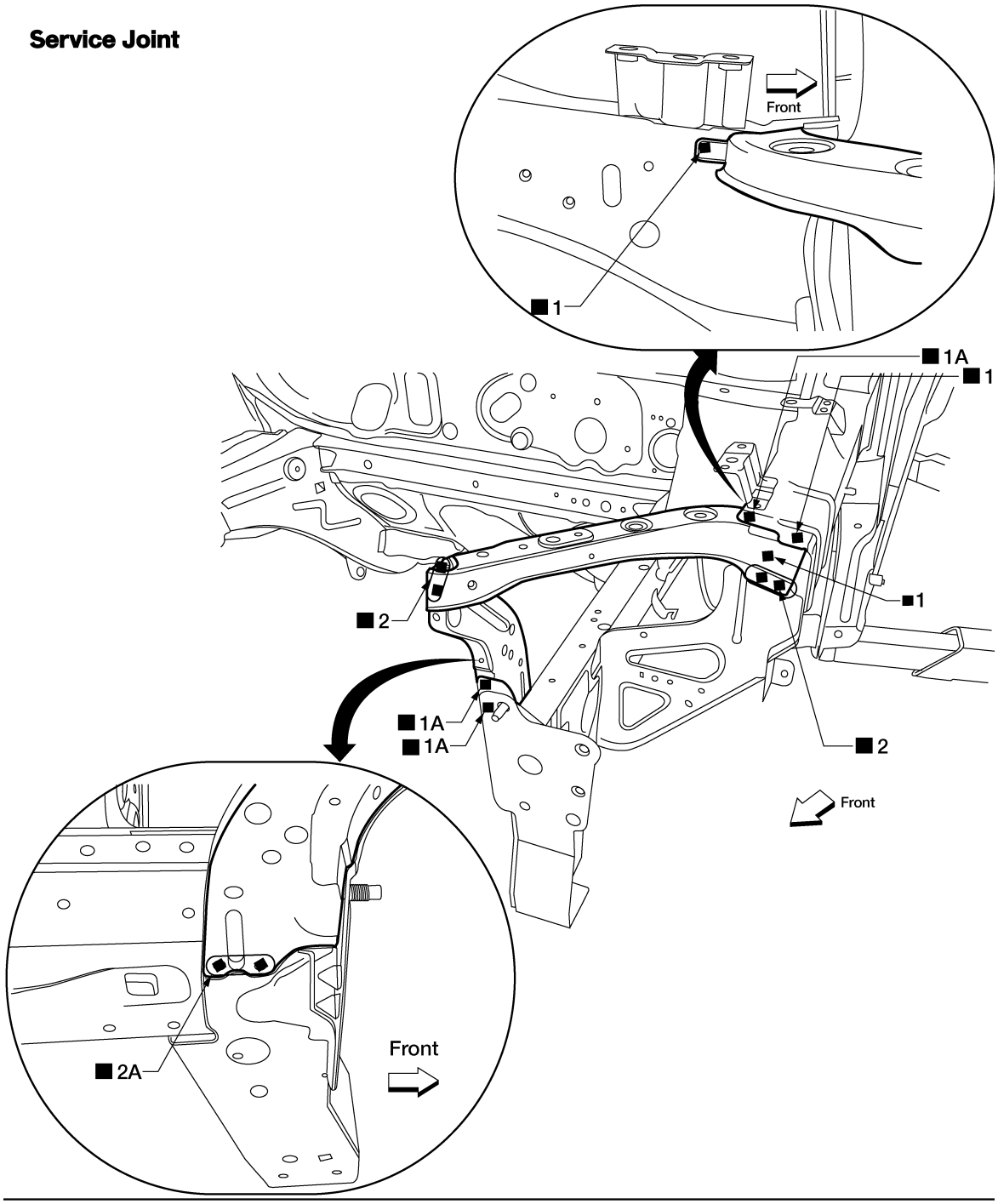
1. Mark cutting lines.
   A: Cut position of outer pillar
   B: Cut position of inner pillar
2. Align cutting line with notch on jig. Clamp jig to pillar.
3. Cut outer pillar along groove of jig. (At position A)
4. Remove jig and cut remaining portions.
5. Cut inner pillar at position B in same manner.

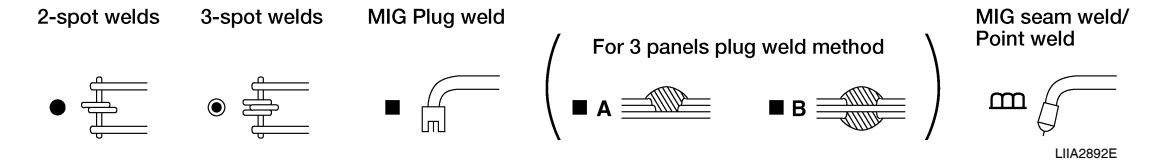


RADIATOR CORE SUPPORT

- Work after radiator core support upper and lower bolt on crossmembers have been removed.

Service Joint





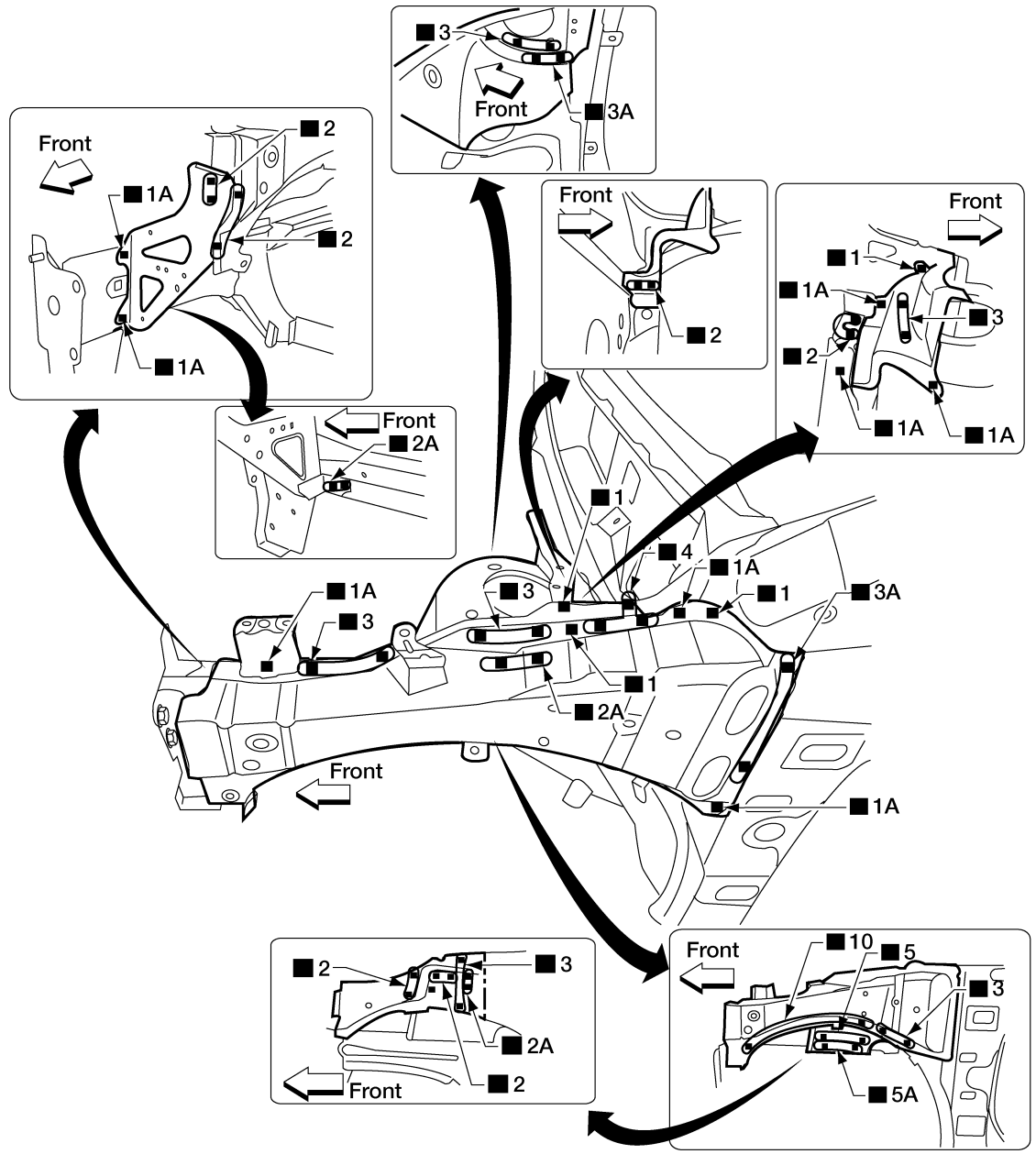
Change Parts

- Radiator core side support
- Radiator core support upper

HOODLEDGE LH

• Work after radiator core support upper and lower have been removed.

Service Joint

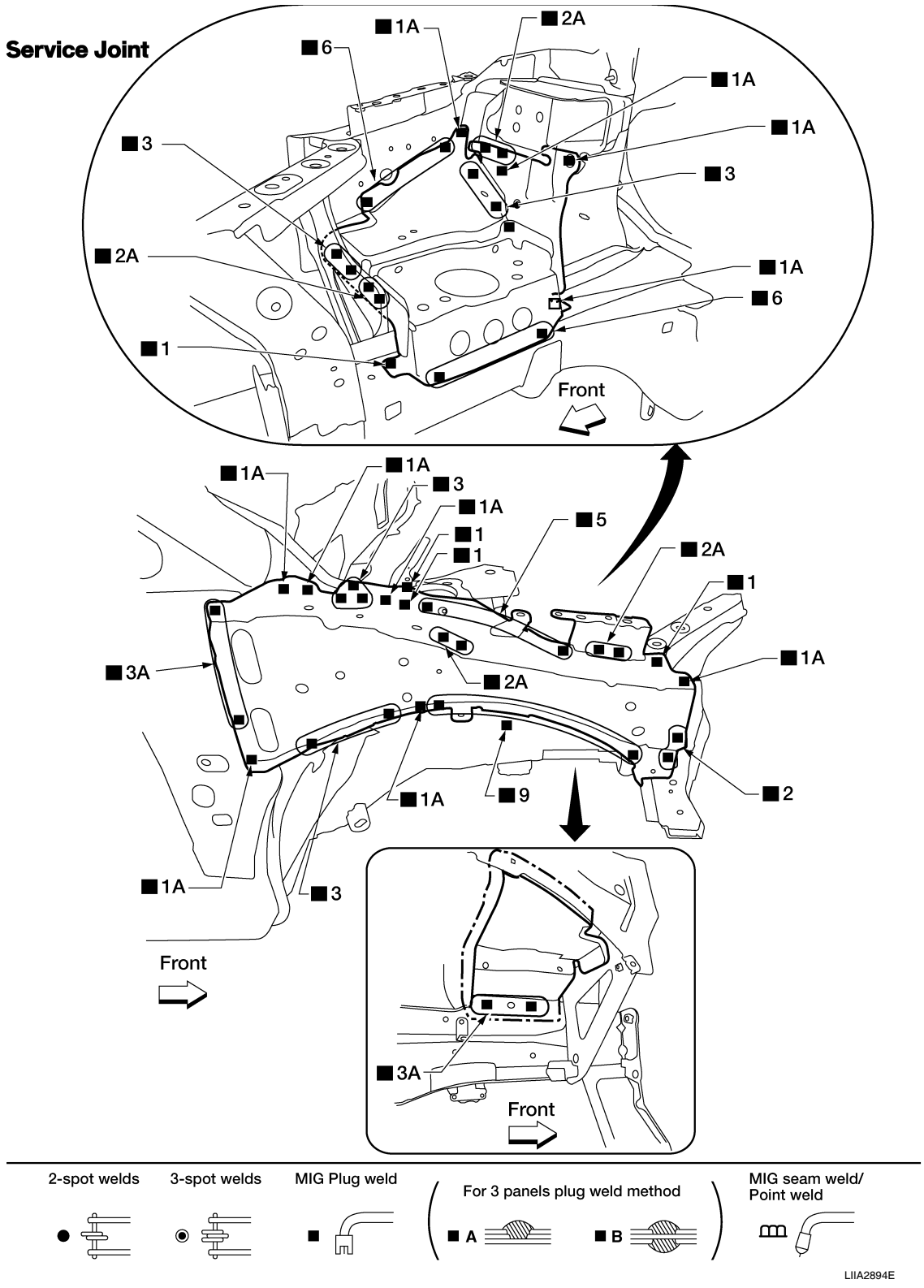


Change Parts

- 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.

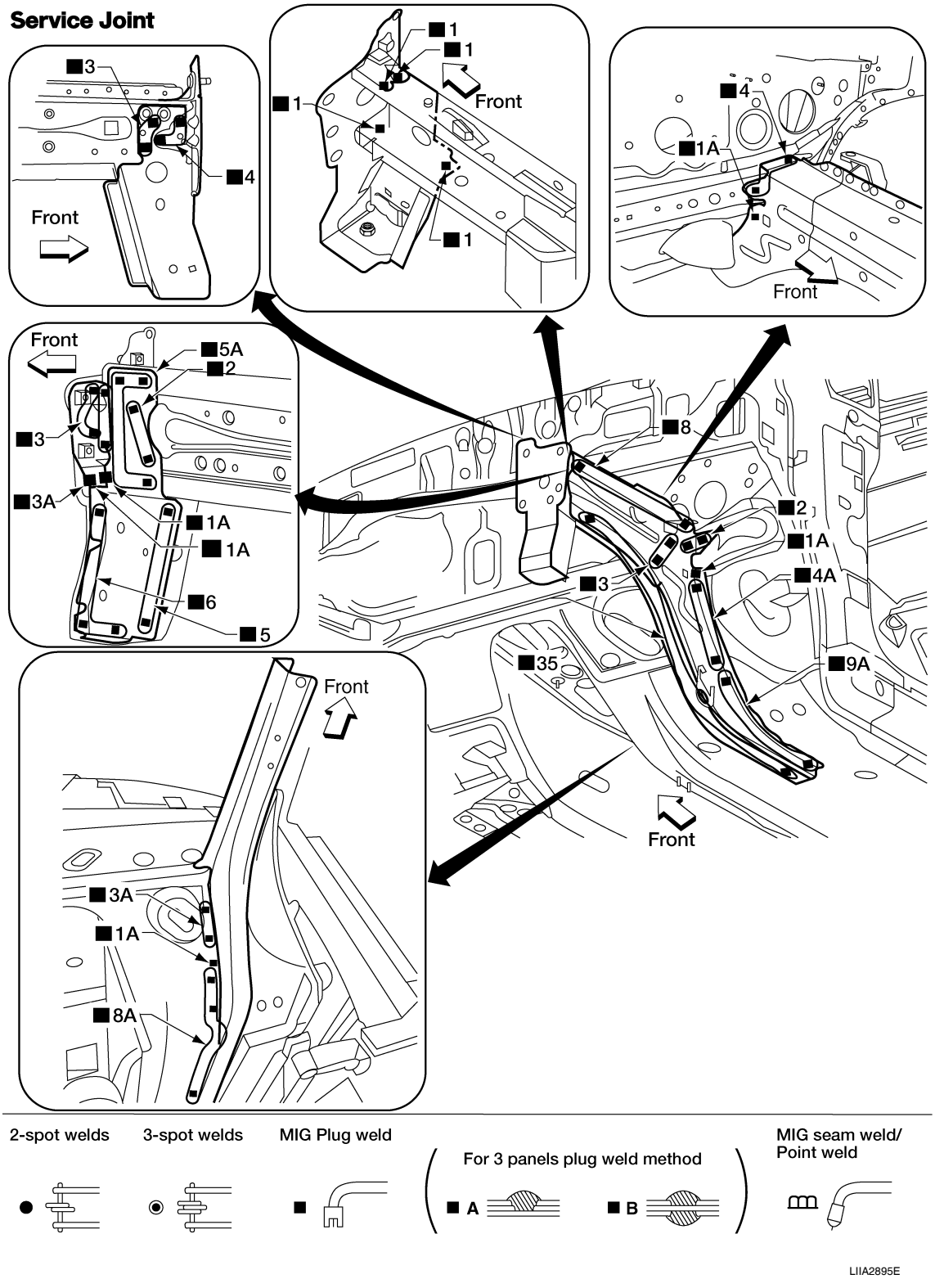


Change Parts

- 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

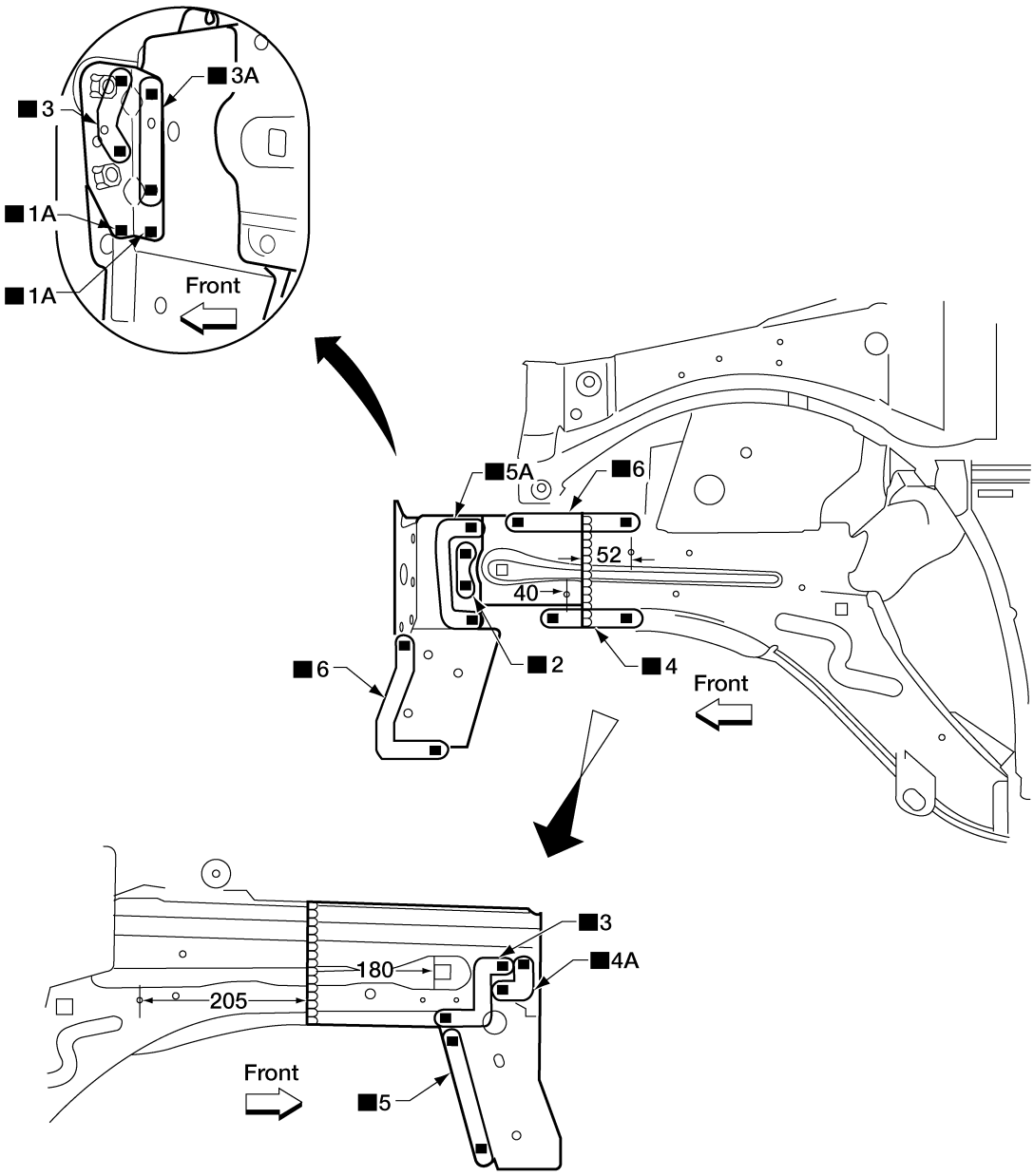
- Front side member
- Front side member closing plate
- Front side member outrigger
- Frame bracket outer

FRONT SIDE MEMBER PARTIAL

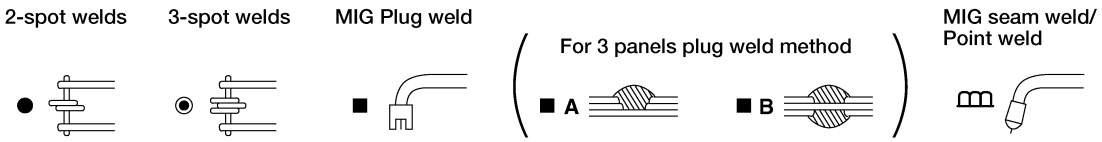
LH

• Work after radiator core support and hoodledge connector have been removed.

Service Joint



Unit: mm



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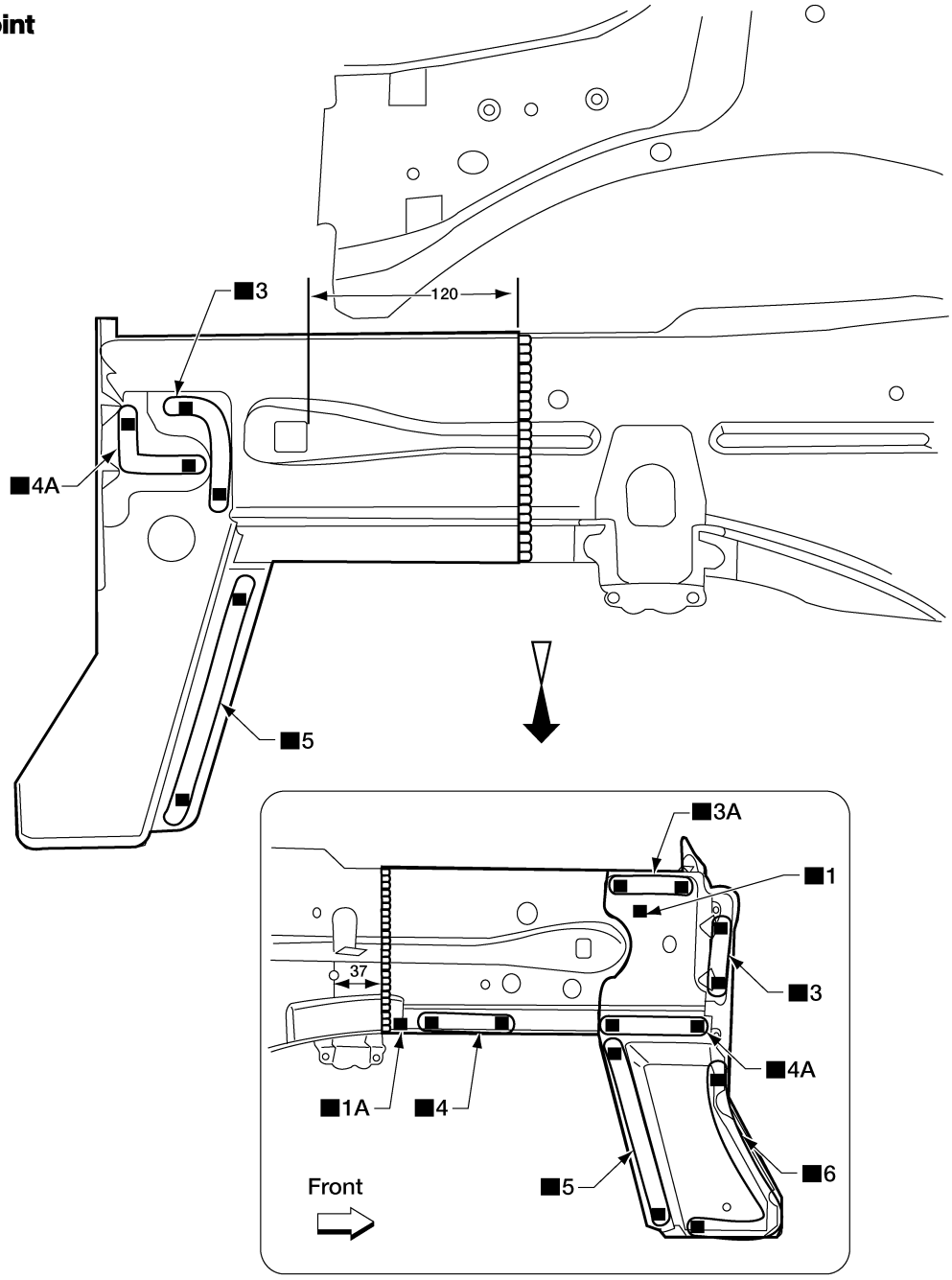
Change parts

- Front side member partial
- Front side member closing plate partial
- Frame bracket outer
- Frame bracket

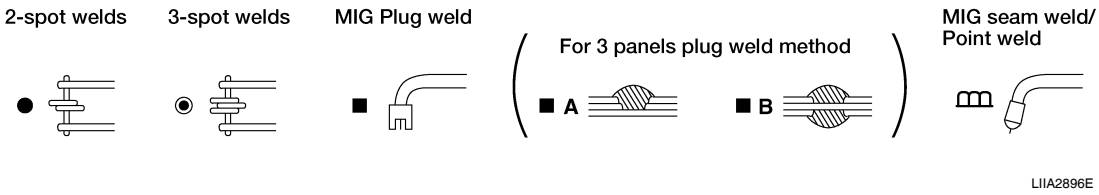
RH

- Work after radiator core support and hoodledge connector have been removed.

Service Joint



Unit:mm



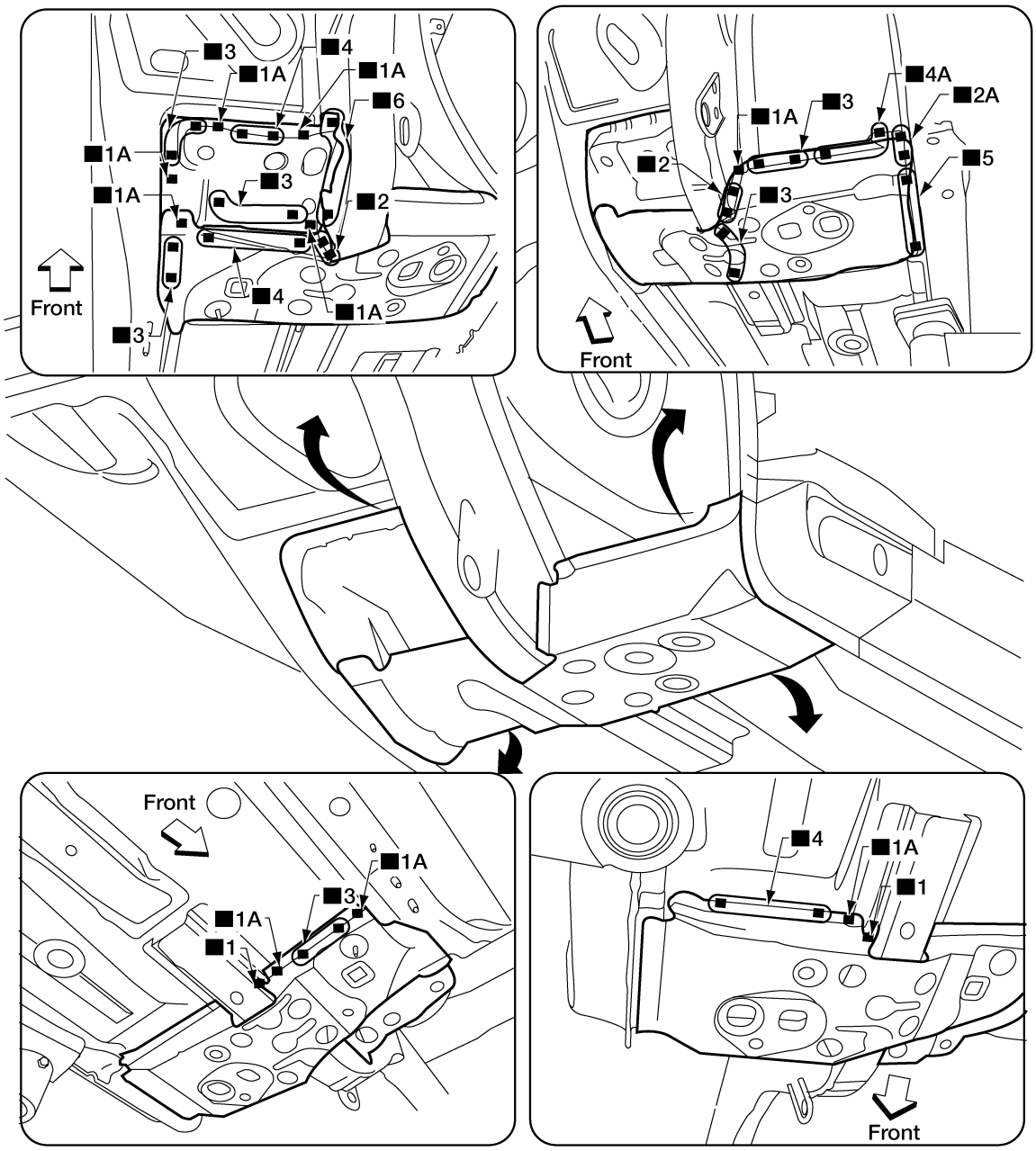
LIIA2896E

Change parts

- Front side member partial
- Front side member closing plate partial
- Frame bracket outer
- Frame bracket

OUTRIGGER

Service Joint



Change parts

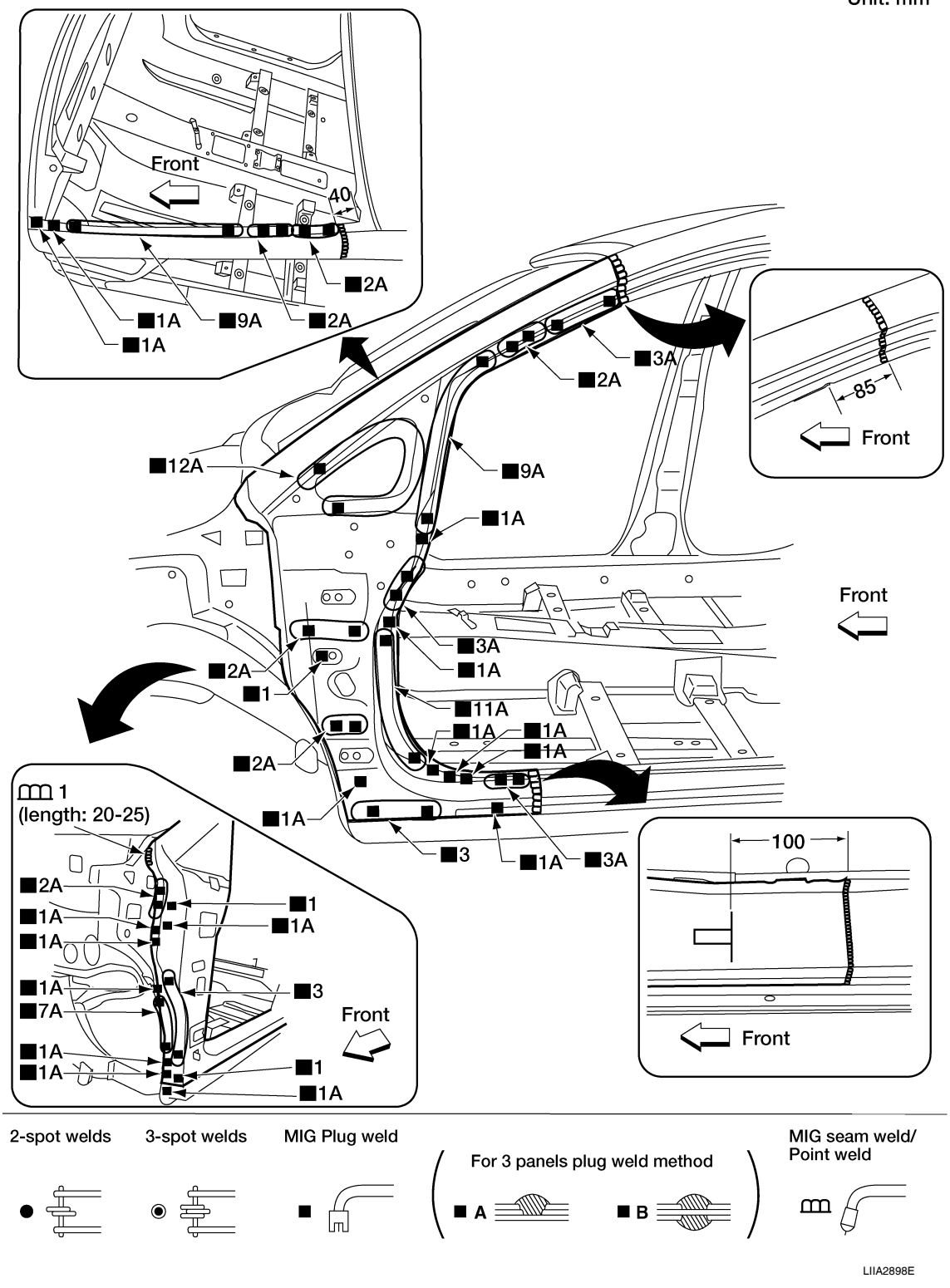
- Outrigger
- Front suspension bracket

FRONT PILLAR

- Work after the rear hoodledge reinforcement and the outer sill reinforcement have been removed.

Service Joint

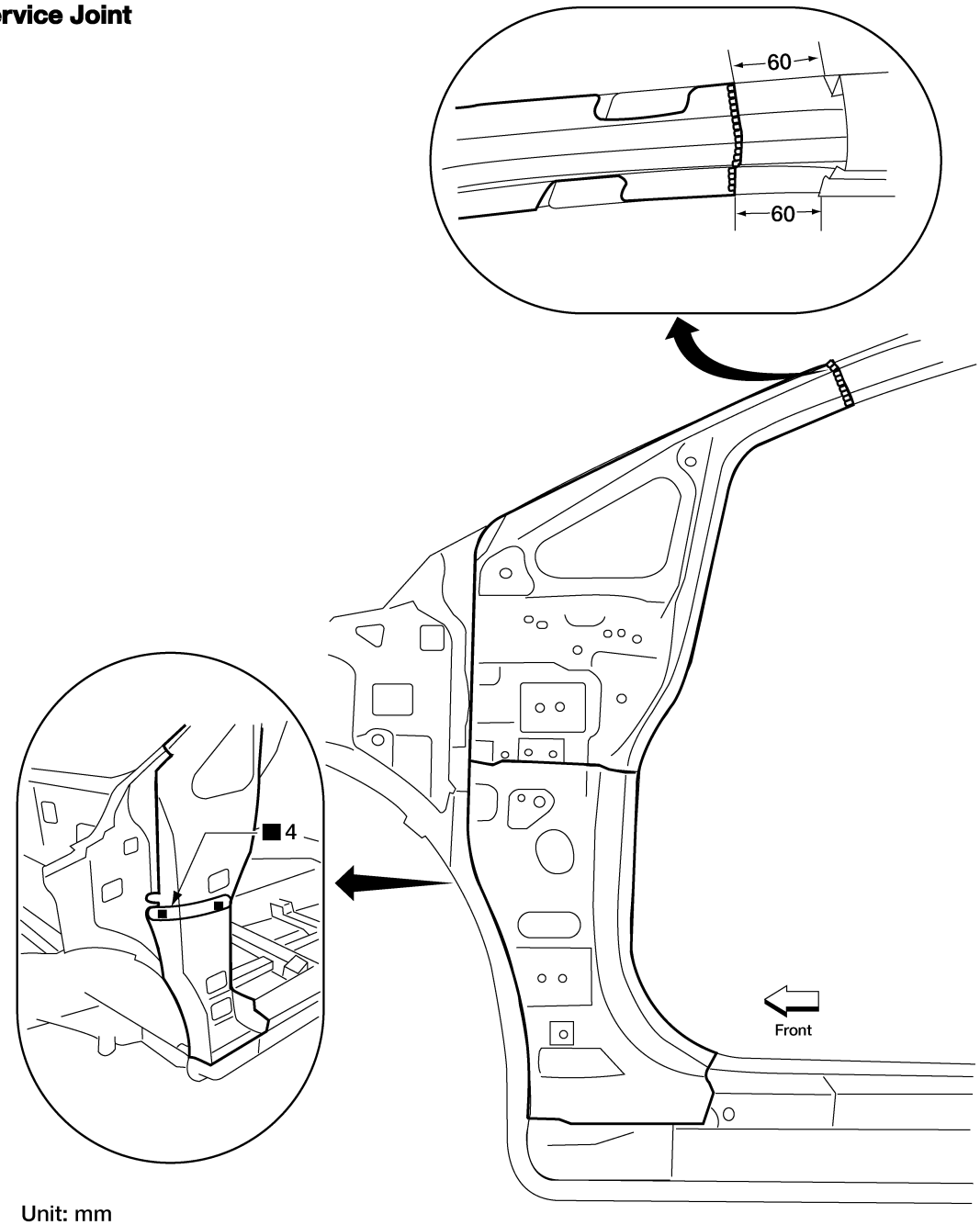
Unit: mm



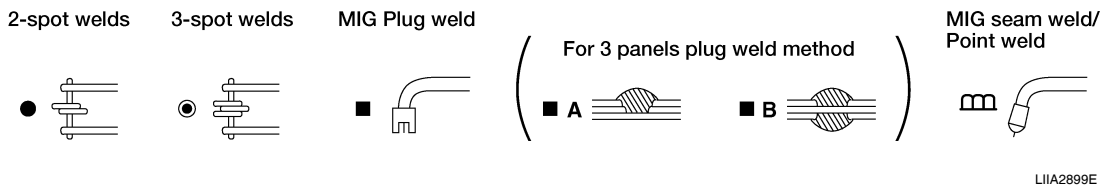
Change parts

- Front pillar section of side body

Service Joint



Unit: mm

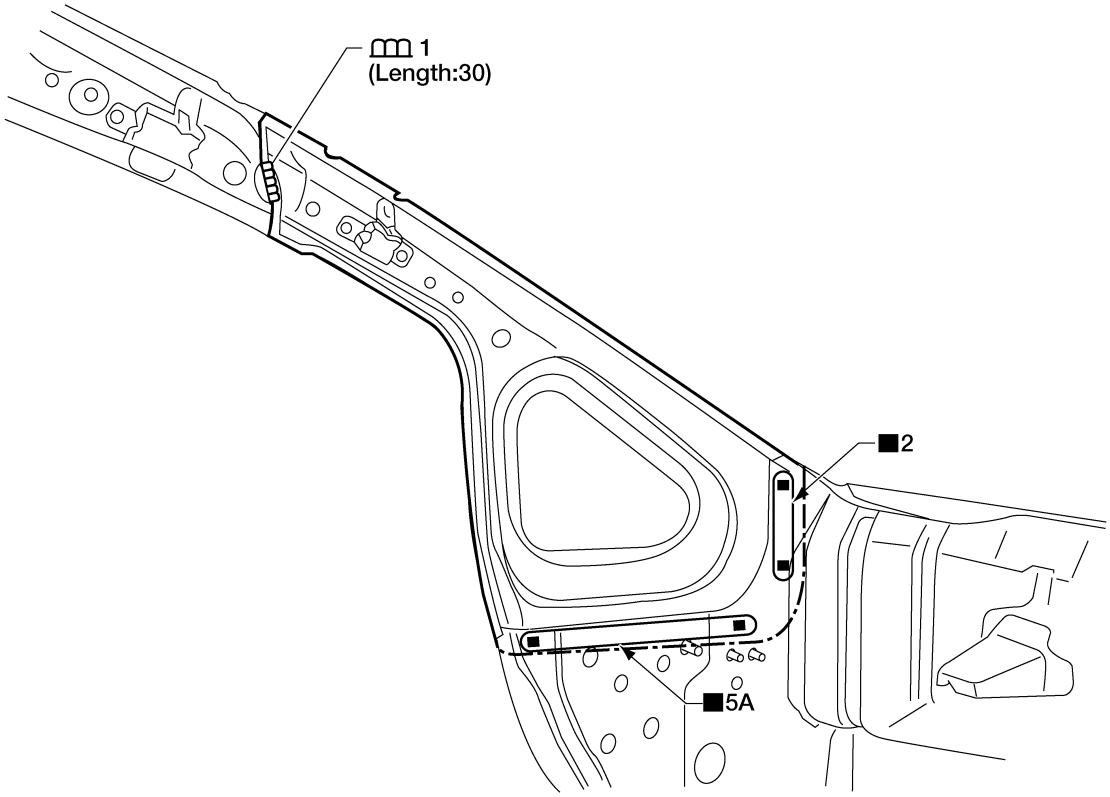


LIIA2899E

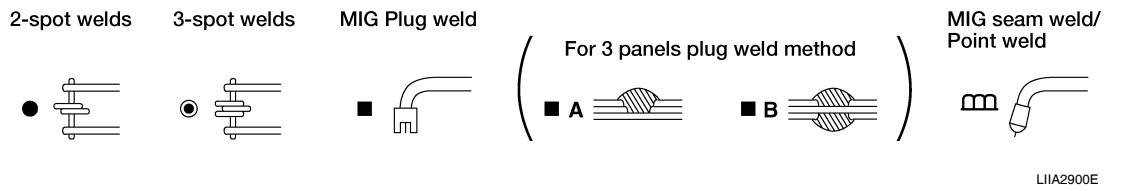
Change parts

- Front pillar upper reinforcement
- Front pillar lower reinforcement

Service Joint



Unit : mm



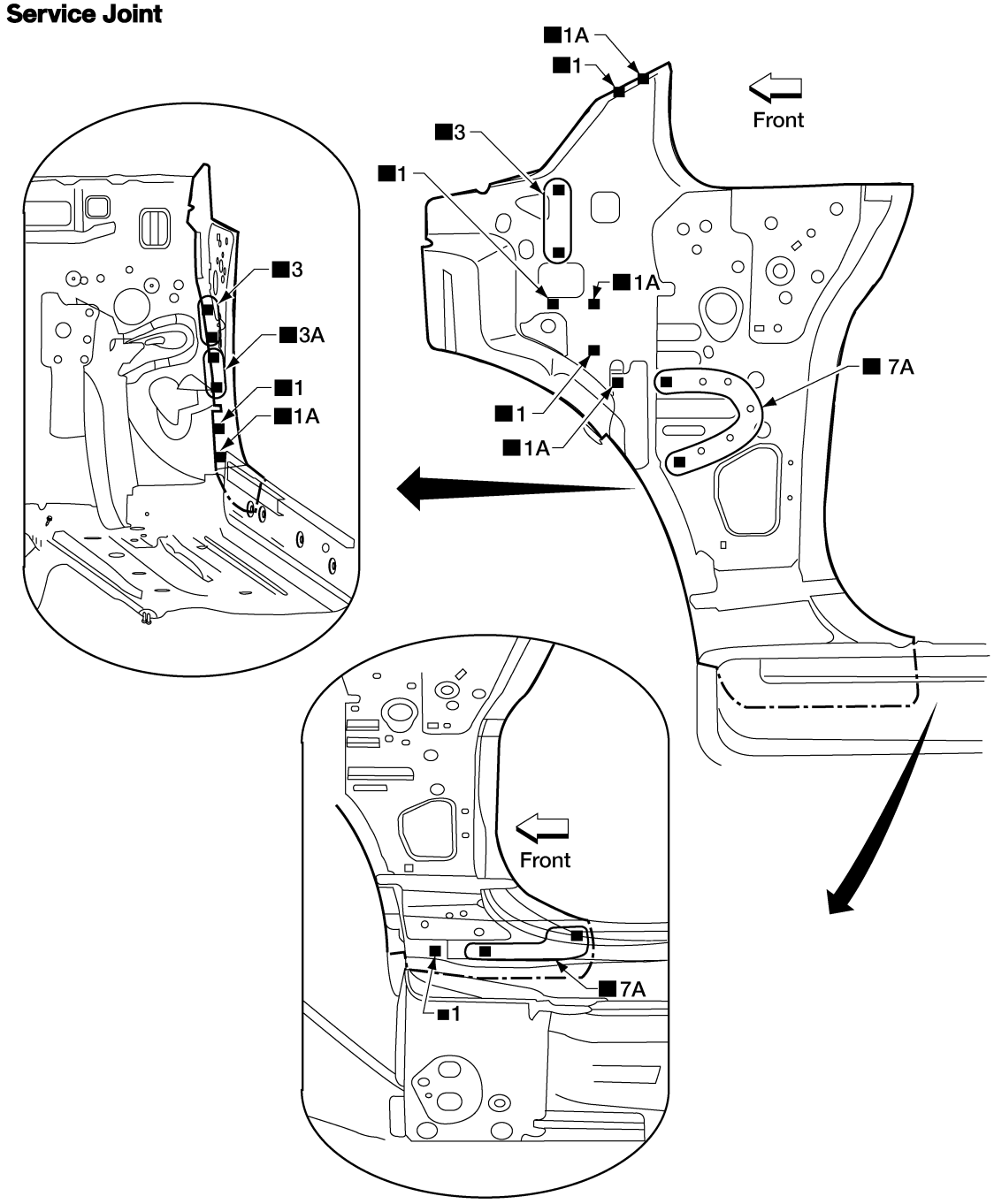
Change parts

- Front pillar inner reinforcement

DASH SIDE

Work after front pillar and outer sill reinforcement have been removed.

Service Joint



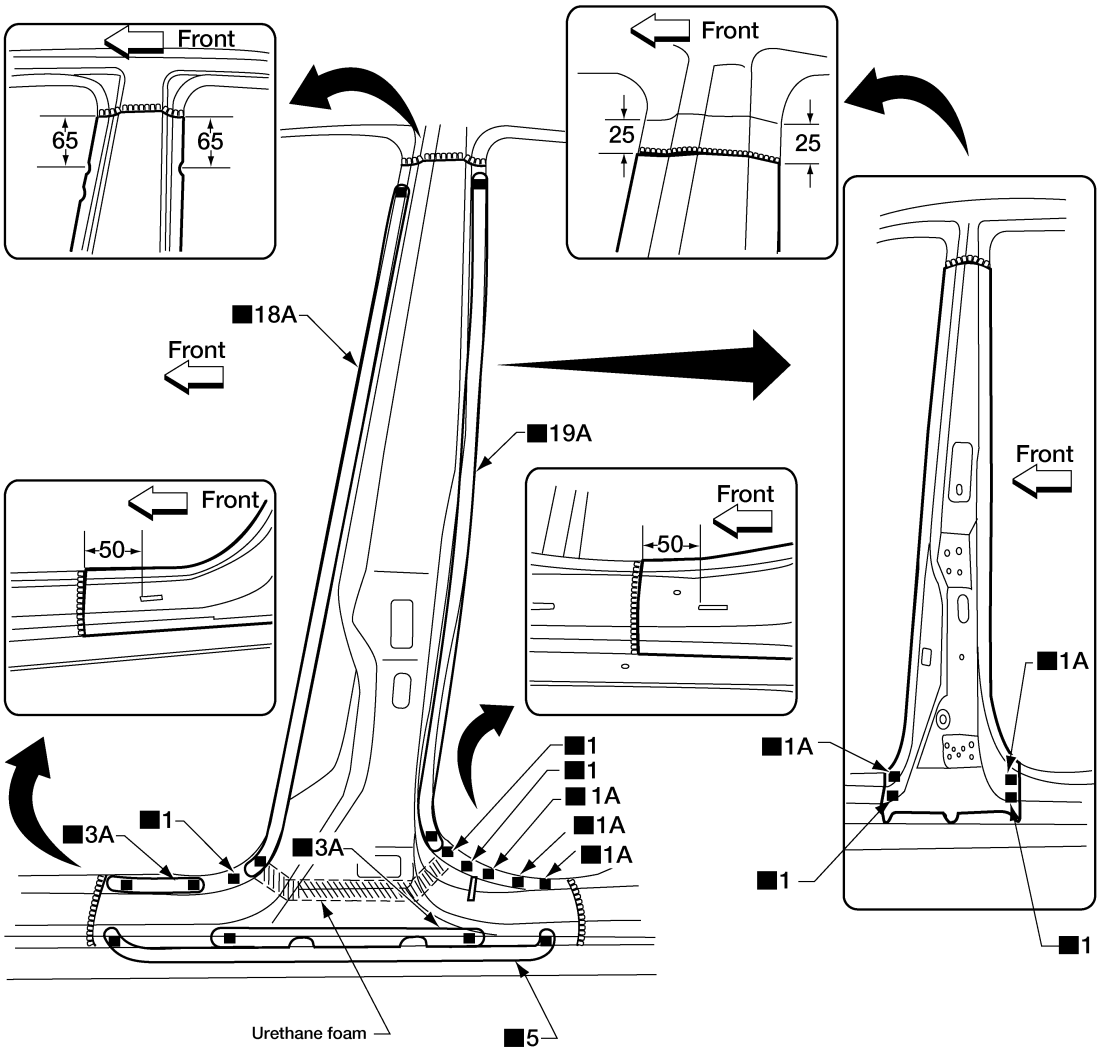
Change parts

- Dash side

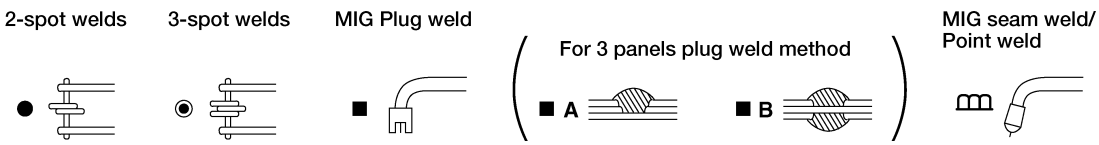
CENTER PILLAR

Outer

Service Joint



Unit : mm



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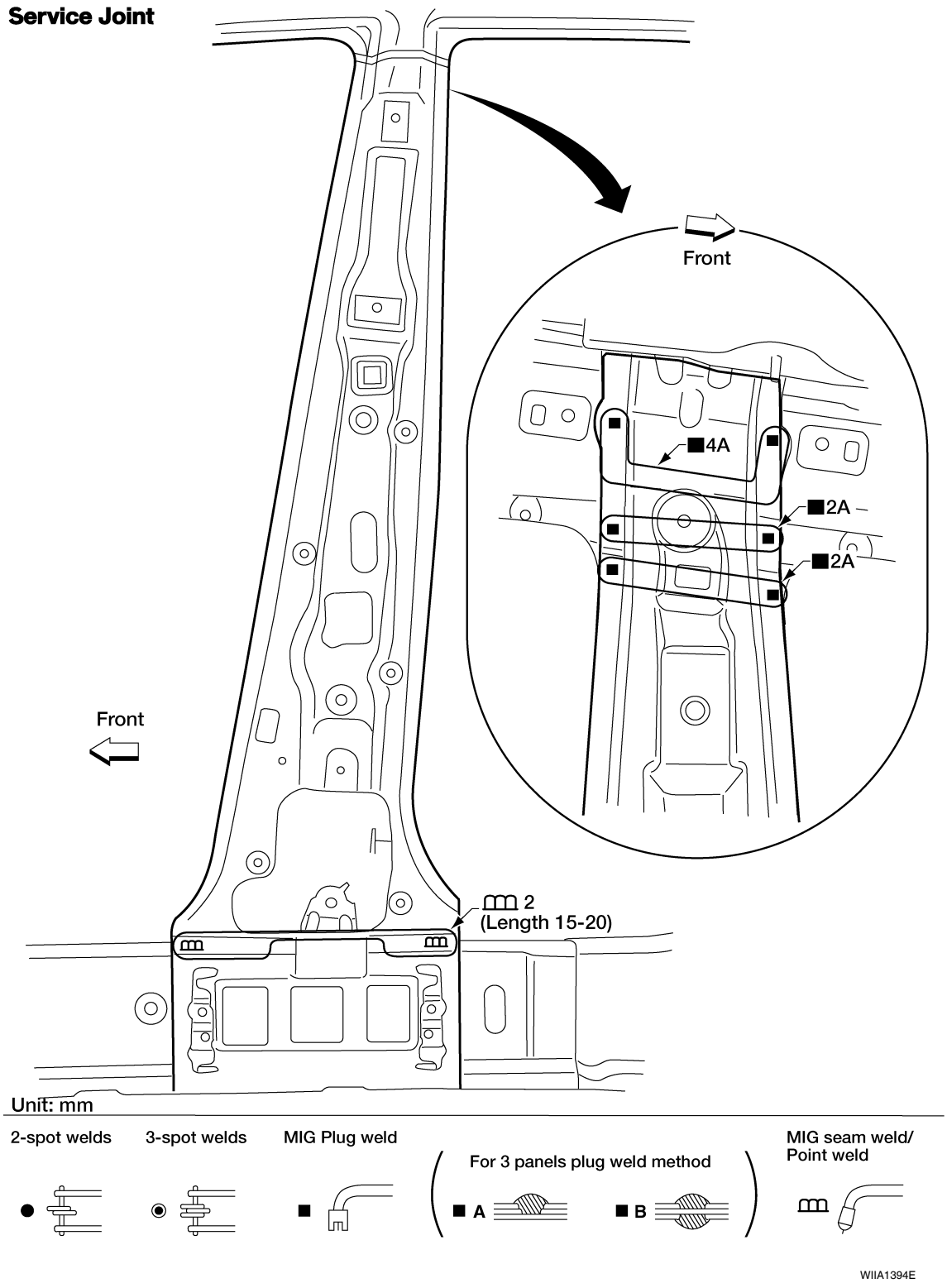
Change parts

- Center pillar portion of side body
- Lower portion of center pillar reinforcement

Inner
Work after outer sill reinforcement has been removed.

Service Joint

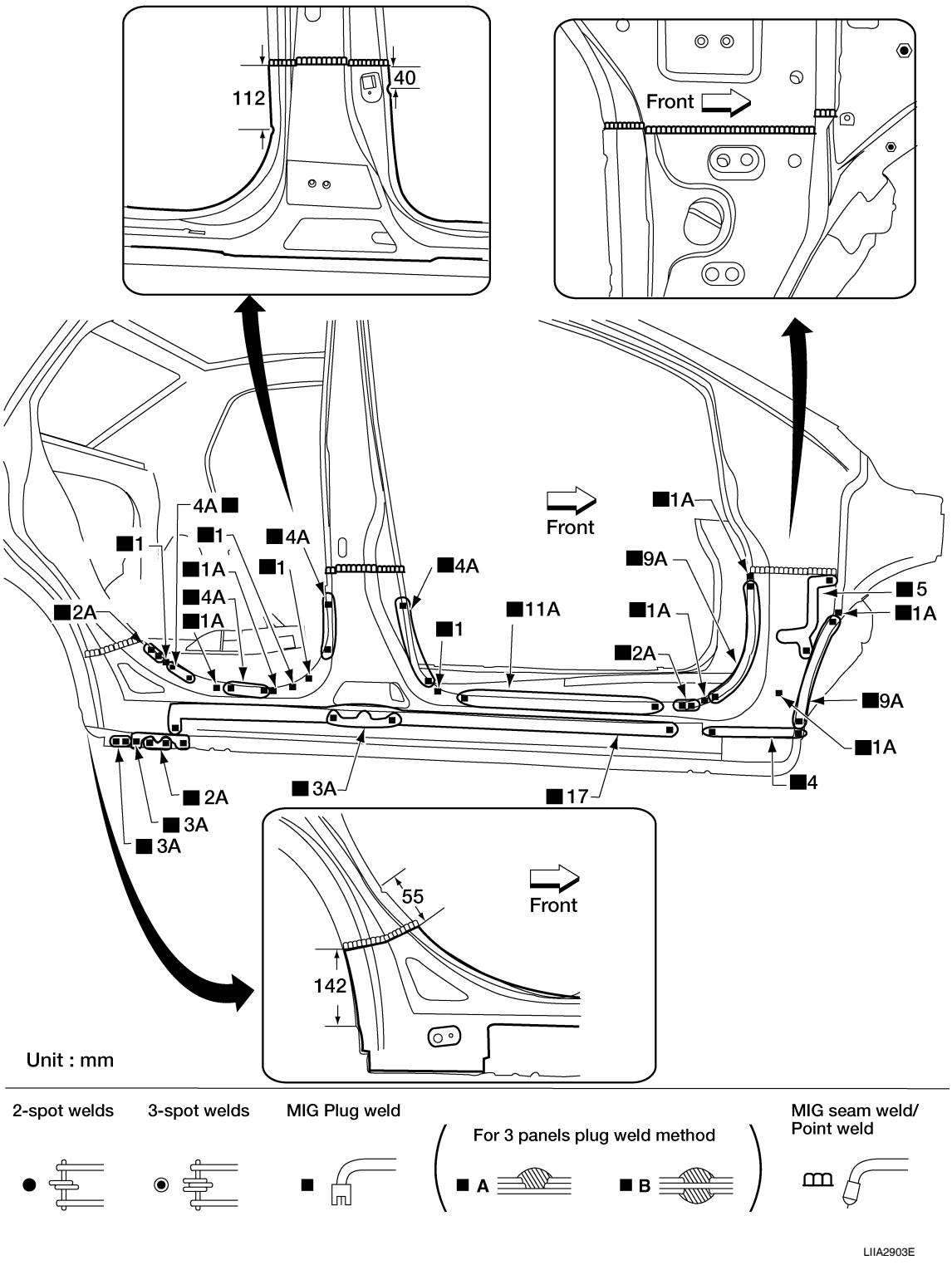


Change parts

- Inner center pillar

OUTER SILL

Service Joint



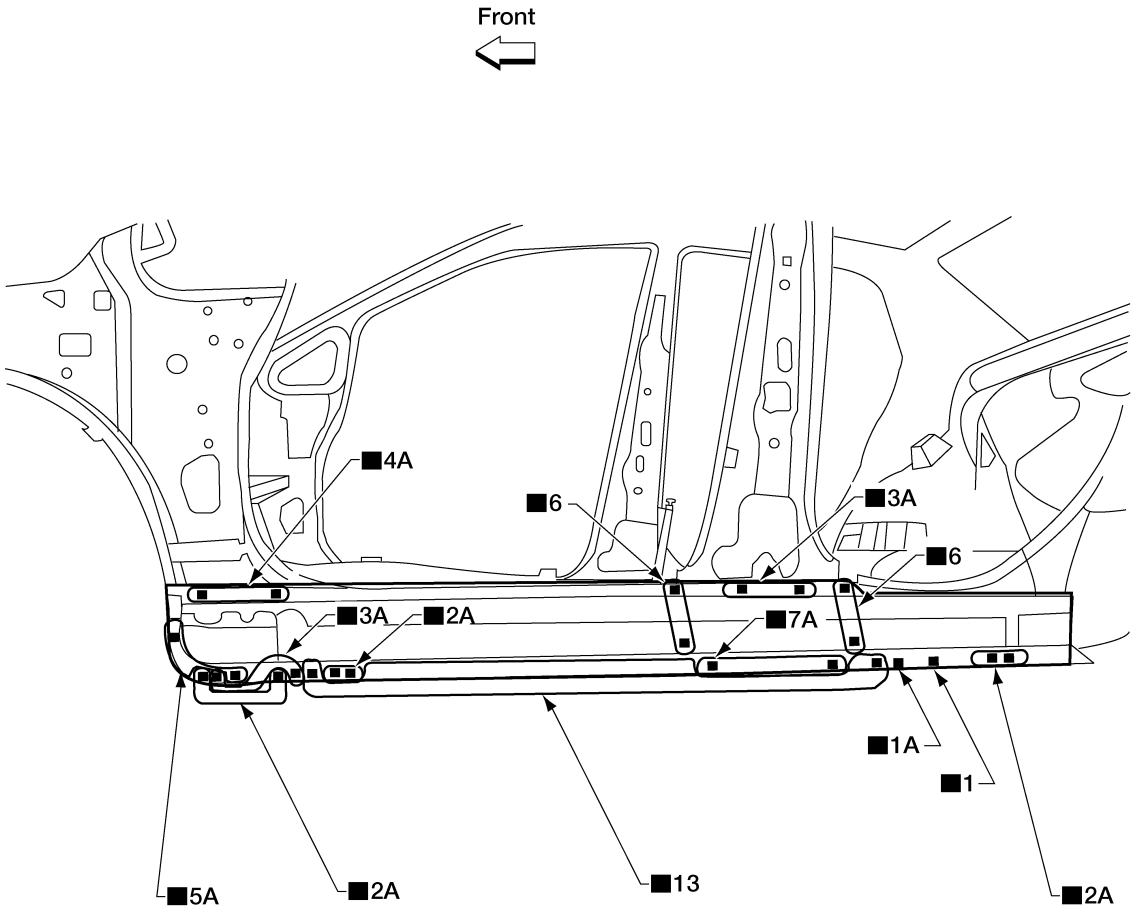
Change parts

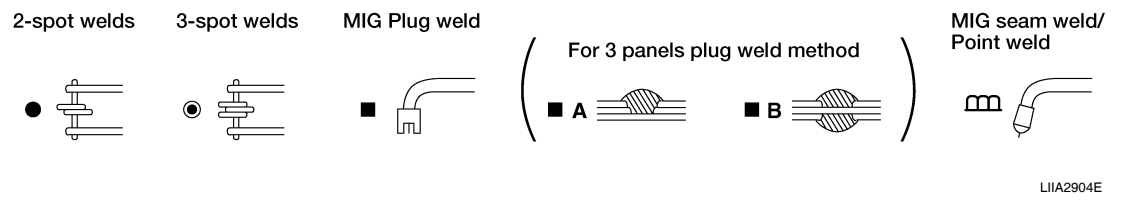
- Outer sill

OUTER SILL REINFORCEMENT

• Work with front pillar lower reinforcement, inner center pillar, and outer sill removed.

Service Joint





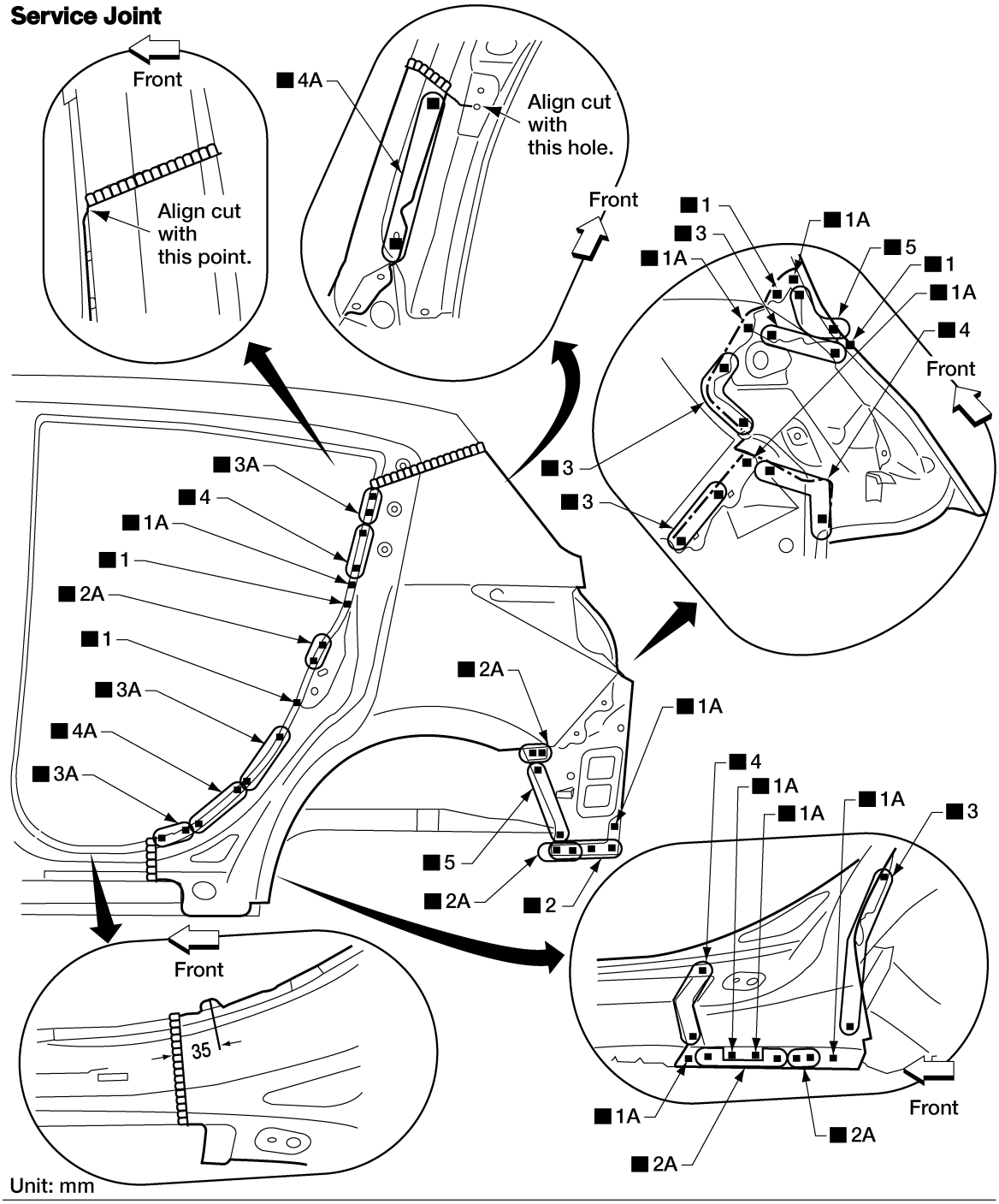
Change parts

- Outer sill reinforcement

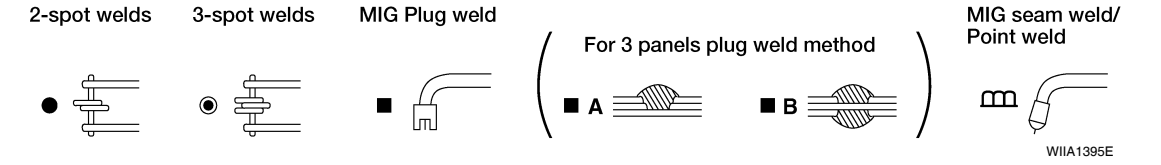
REAR FENDER

Hatchback

Service Joint



Unit: mm

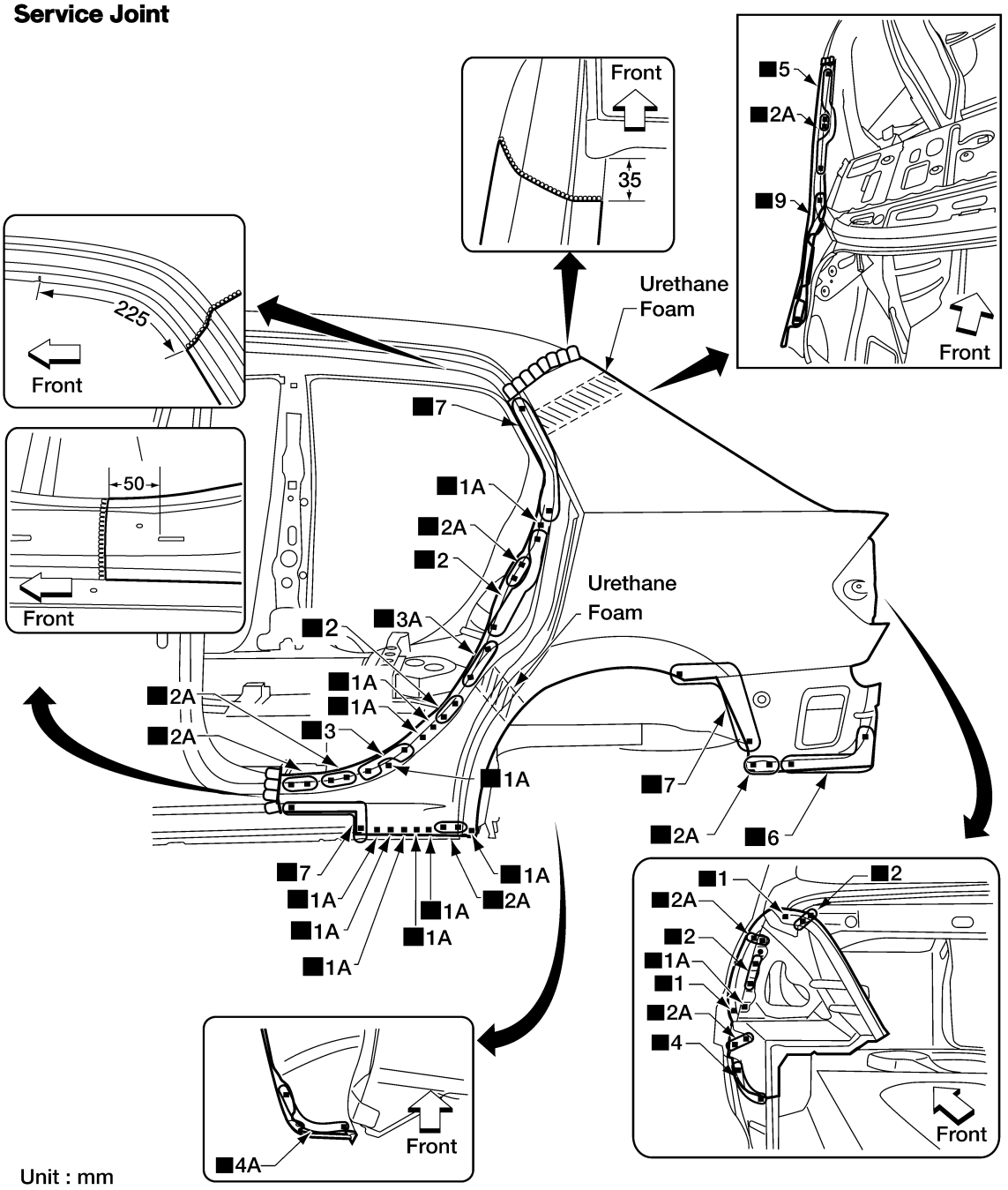


Change parts

- Rear fender
- Rear fender corner
- Rear combination lamp base

Sedan

Service Joint

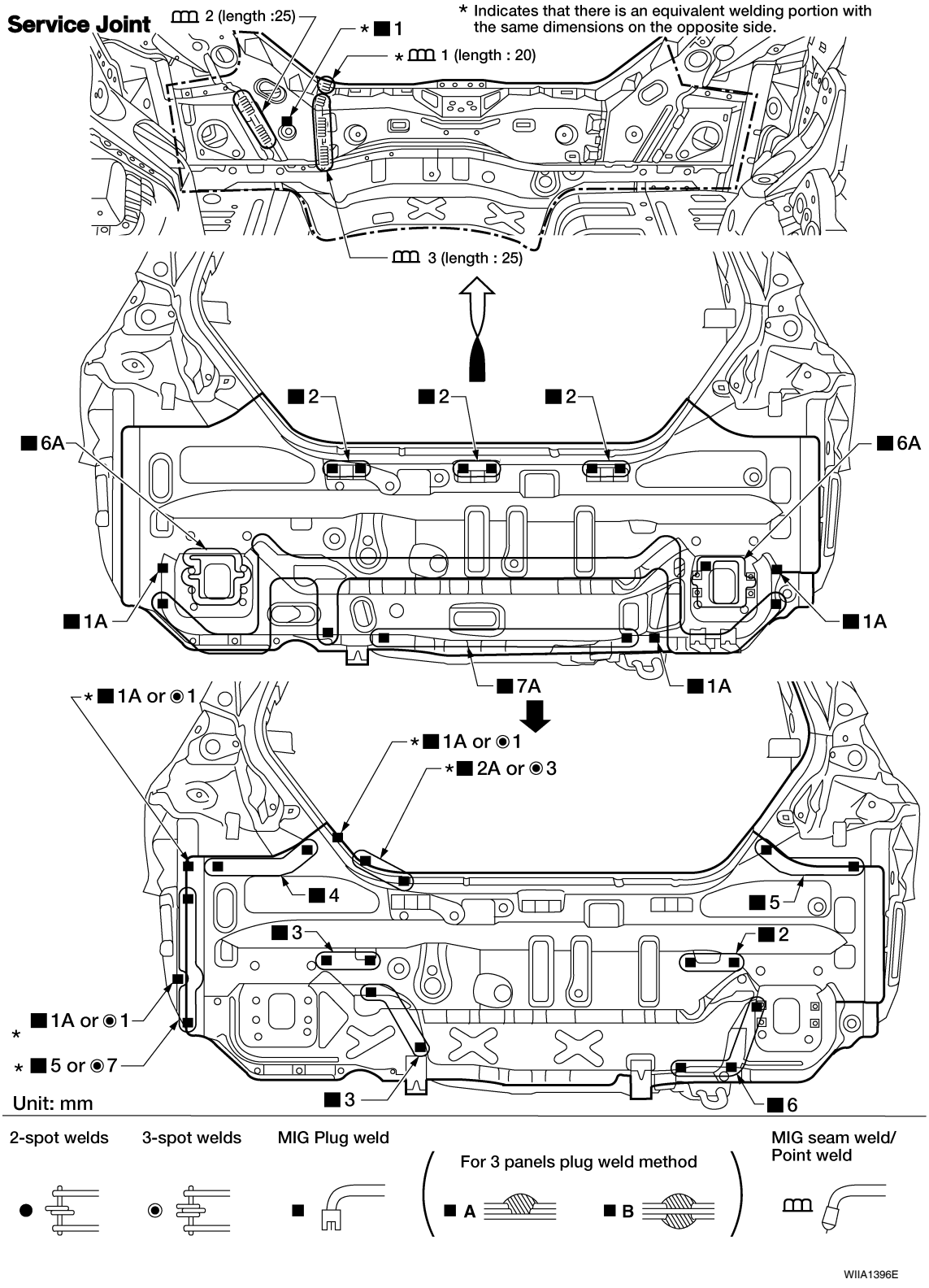


Change parts

- Rear fender
- Rear fender corner
- Rear combination lamp base

REAR PANEL

Hatchback

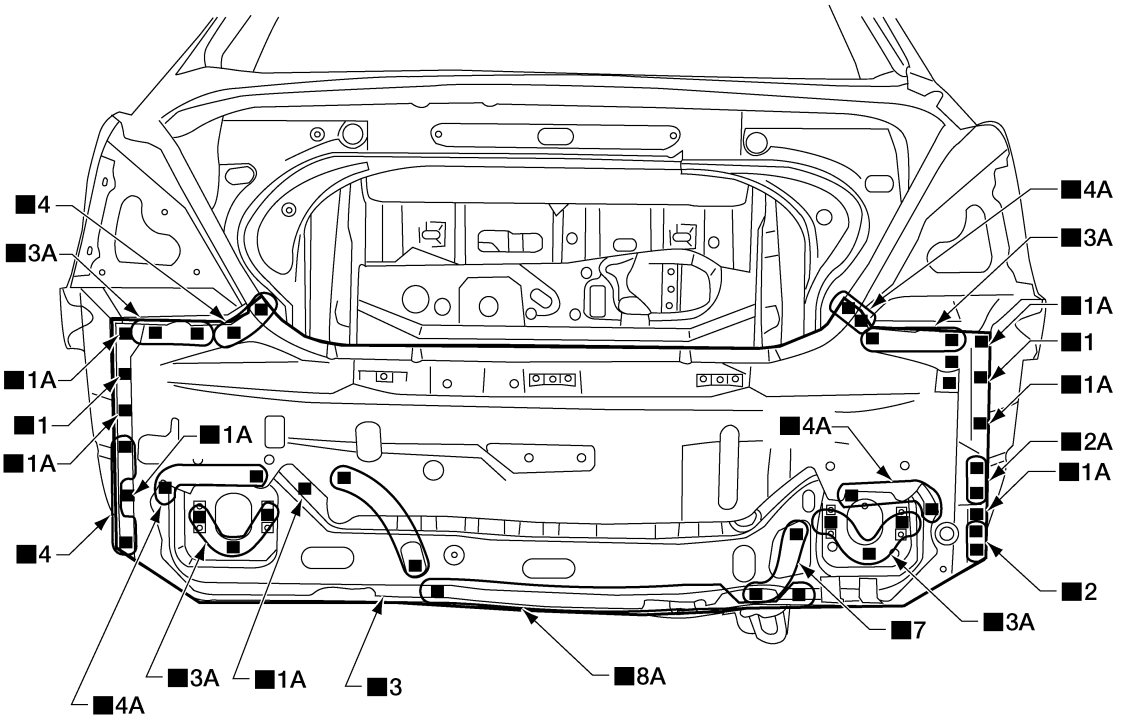


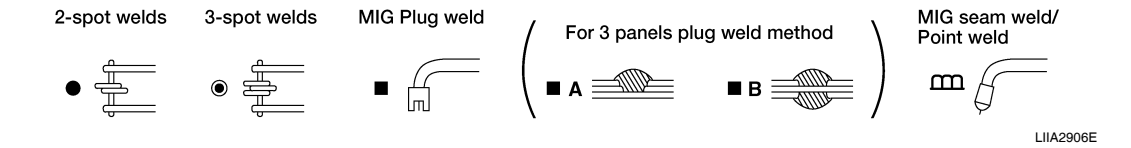
Change parts

- Rear end crossmember
- Rear panel assembly
- Rear bumper fascia brackets

Sedan

Service Joint





Change parts

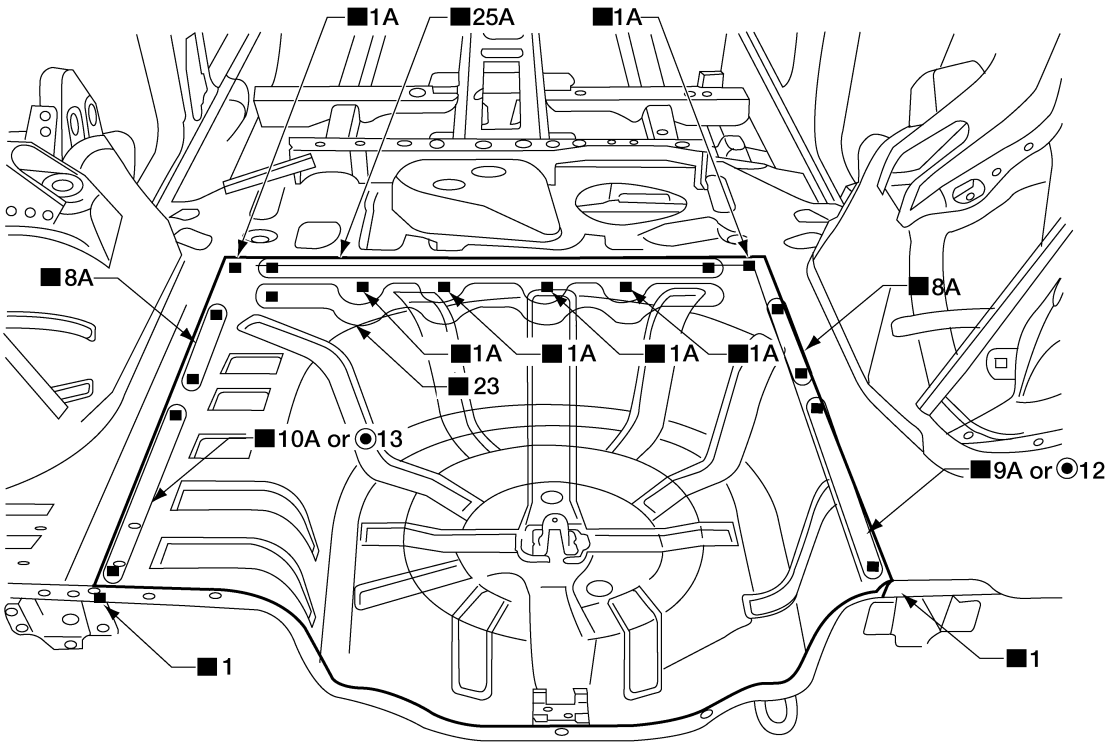
- Rear end crossmember
- Rear panel assembly
- Rear bumper fascia brackets

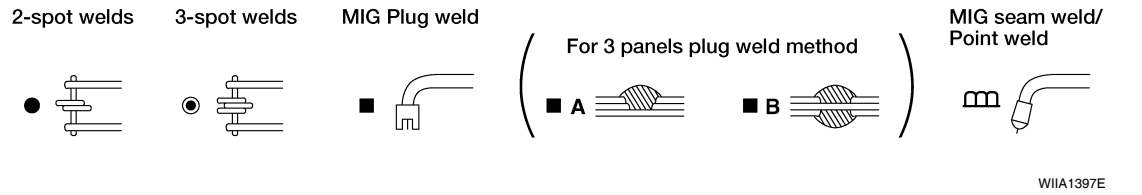
REAR FLOOR REAR

• Work after rear panel assembly has been removed.

Hatchback

Service Joint



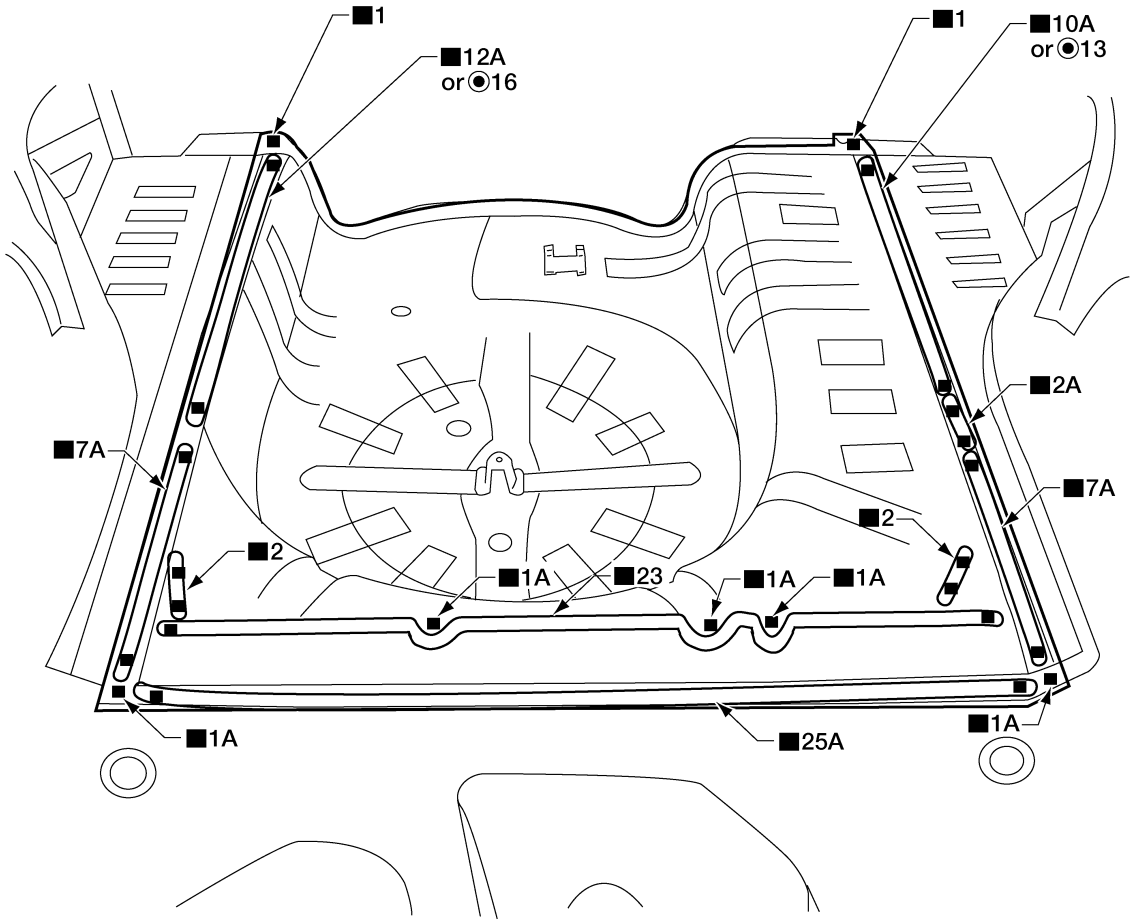


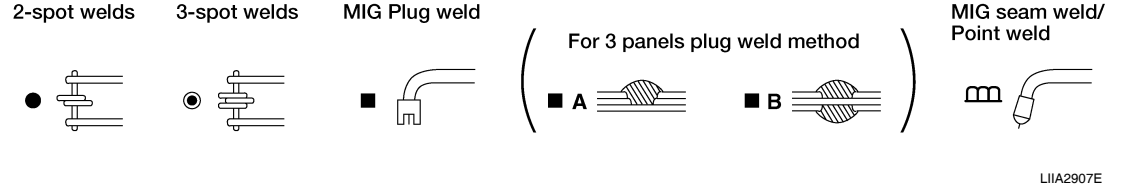
Change parts

- Rear floor rear

Sedan

Service Joint





Change parts

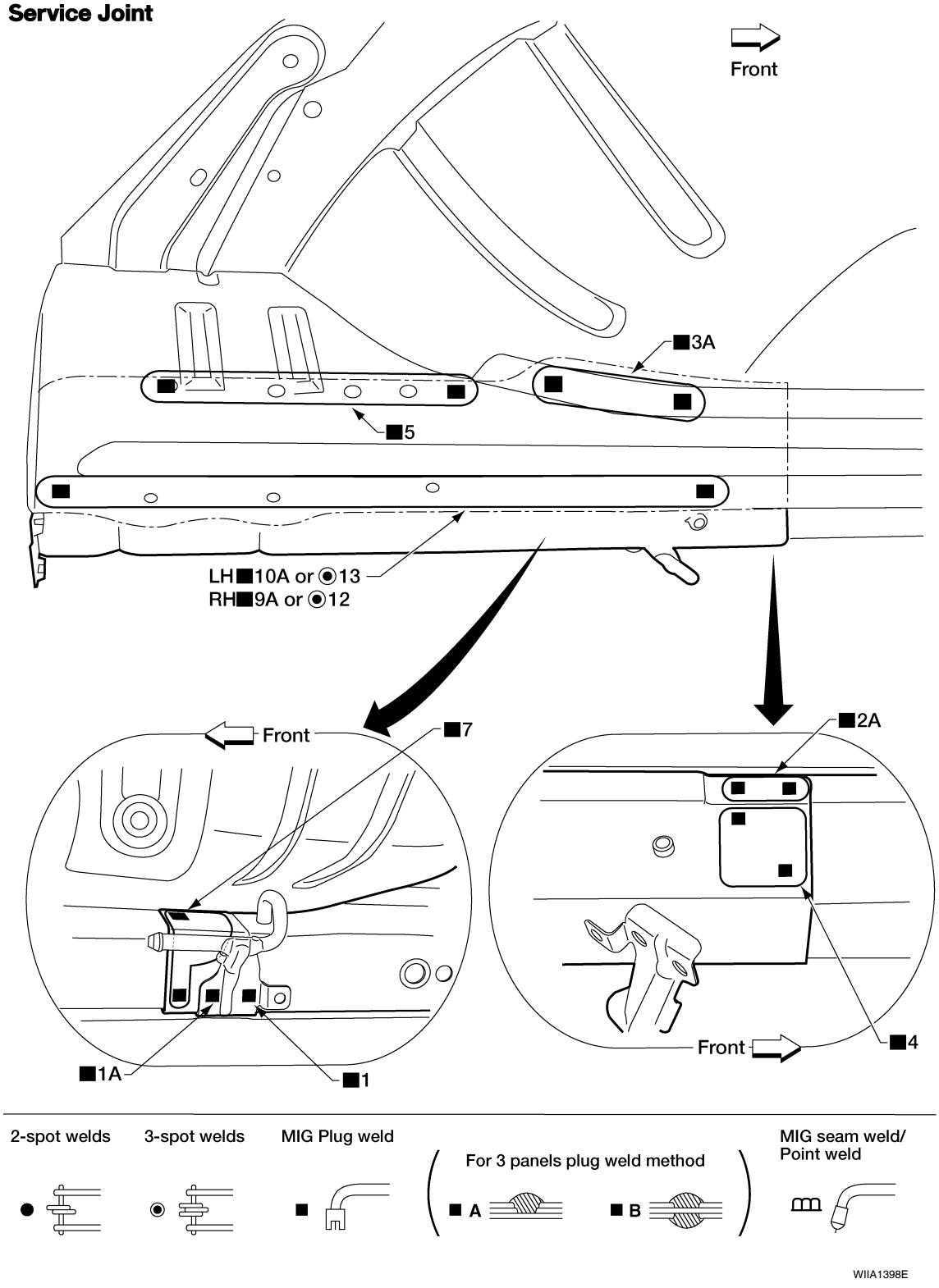
- Rear floor rear

REAR SIDE MEMBER EXTENSION

Hatchback

• Work after rear panel assembly and rear floor rear have been removed.

Service Joint

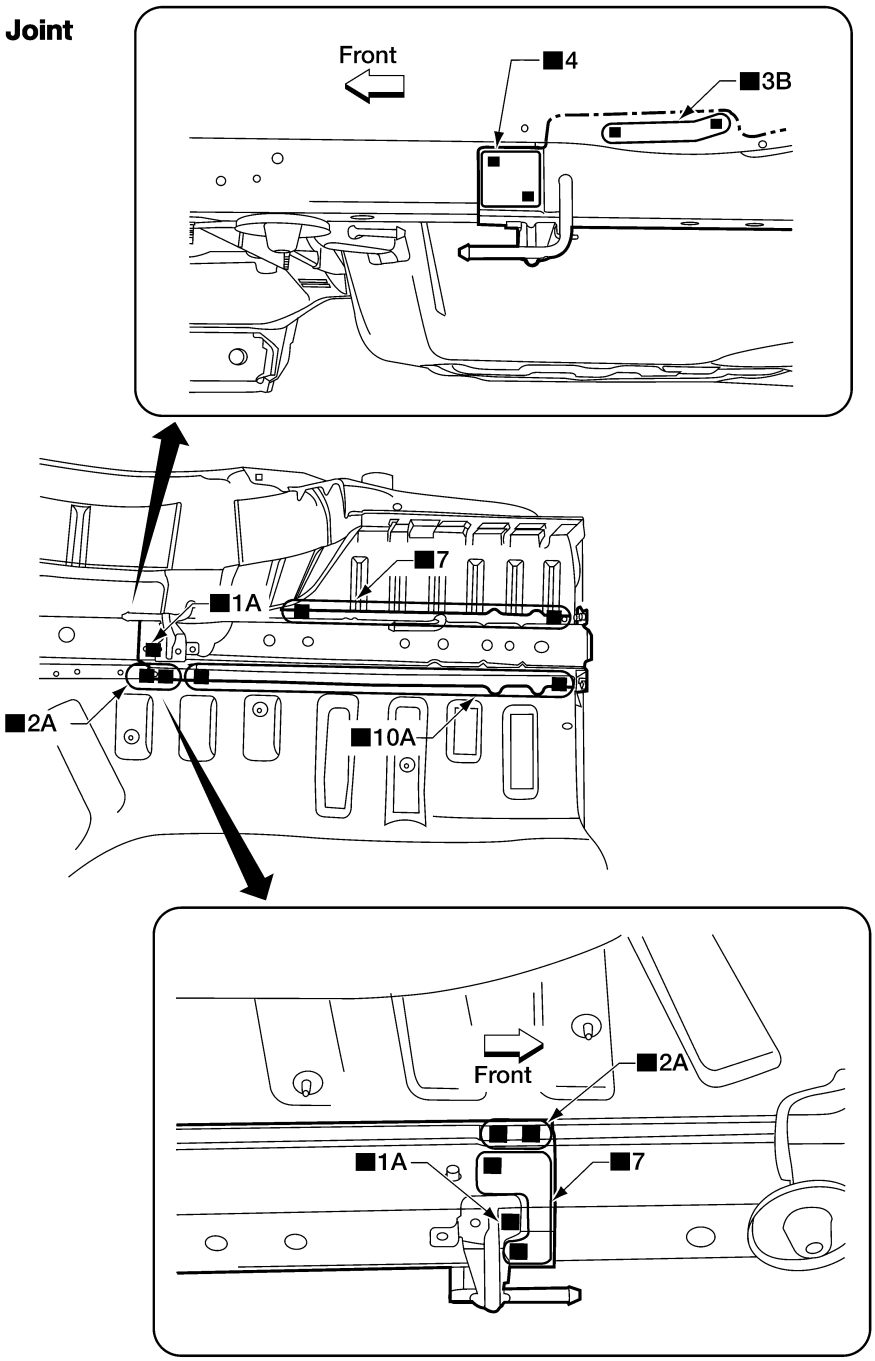


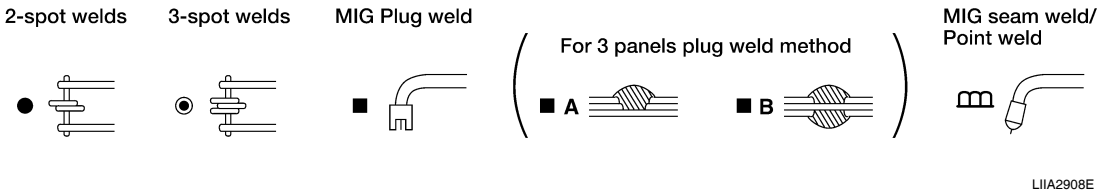
Change parts

- Rear side member extension

Sedan

Service Joint





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Change parts

- Rear side member extension