SECTION BL

BODY, LOCK & SECURITY SYSTEM

CONTENTS

PRECAUTIONS

PFP:00001

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

GIS00001

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. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

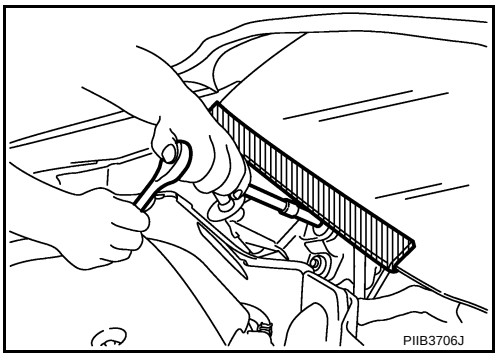
WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

Precautions for procedures with out cowl top cover

GIS00002

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



Precautions for Work

GIS00003

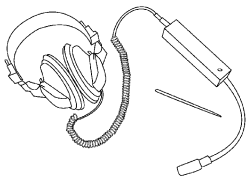
- After removing and installing the opening/closing parts, be sure to carry out fitting adjustments to check their operation.
- Check the lubrication level, damage, and wear of each part. If necessary, grease or replace it.

PREPARATION

PFP:00002

Commercial Service Tools

GIS00005

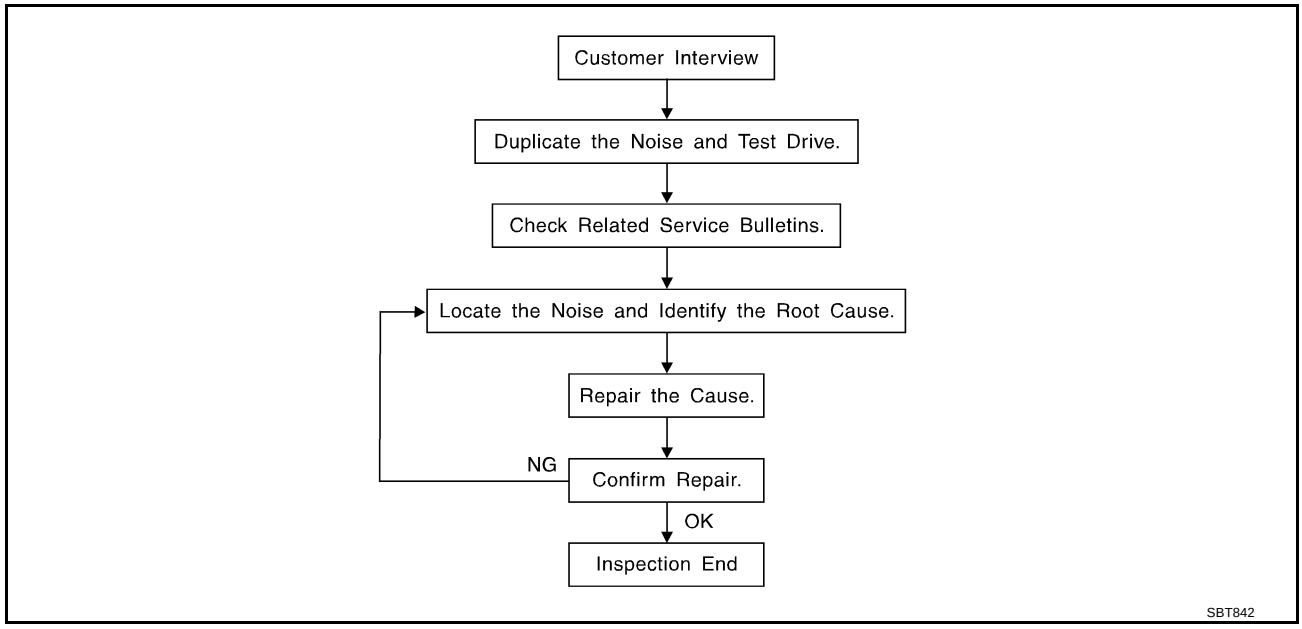
Tool name	Description
Engine ear  SIIA0995E	Locating the noise

SQUEAK AND RATTLE TROUBLE DIAGNOSES

PFP:00000

Work Flow

GIS00006



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-9, "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 models, drive position on A/T models).
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 (Engine Ear or mechanics stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:

- removing the components in the area that you suspect the noise is coming from.
  Do not use too much force when removing clips and fasteners, otherwise clips and fastener can be broken or lost during the repair, resulting in the creation of new noise.
- tapping or pushing/pulling the component that you suspect is causing the noise.
  Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
- feeling for a vibration with your hand by touching the component(s) that you suspect is (are) causing the noise.
- placing a piece of paper between components that you suspect are causing the noise.
- looking for loose components and contact marks.
  Refer to BL-7, "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 are available through your authorized Nissan Parts Department.

CAUTION:
Do not use excessive force as many components are constructed of plastic and may be damaged.

NOTE:
Always check with the Parts Department for the latest parts information.
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 CLOTHTAPE
Used to insulate where movement does not occur. Ideal for instrument panel applications.
68370-4B000: 15 × 25 mm (0.59 × 0.98 in) pad/68239-13E00: 5 mm (0.20 in) wide tape roll
The following materials, not available through NISSAN Parts Department, can also be used to repair squeaks and rattles.
UHMW(TEFLON) TAPE
Insulates where slight movement is present. Ideal for instrument panel applications.
SILICONE GREASE
Used in place of UHMW tape that will be visible or not fit.
Note: Will only last a few months.
SILICONE SPRAY
Use when grease cannot be applied.
DUCT TAPE
Use to eliminate movement.

CONFIRM THE REPAIR

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

Generic Squeak and Rattle Troubleshooting

GIS00007

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

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

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

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

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

CENTER CONSOLE

Components to pay attention to include:

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

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

DOORS

Pay attention to the:

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

Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. You can usually insulate the areas with felt cloth tape or insulator foam blocks 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 dumpers out of adjustment
2. Trunk lid striker out of adjustment
3. Trunk lid torsion bars knocking together
4. A loose license plate or bracket

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

SUNROOF/HEADLINING

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

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

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

SEATS

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

1. Headrest rods and holder
2. A squeak between the seat pad cushion and frame
3. 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

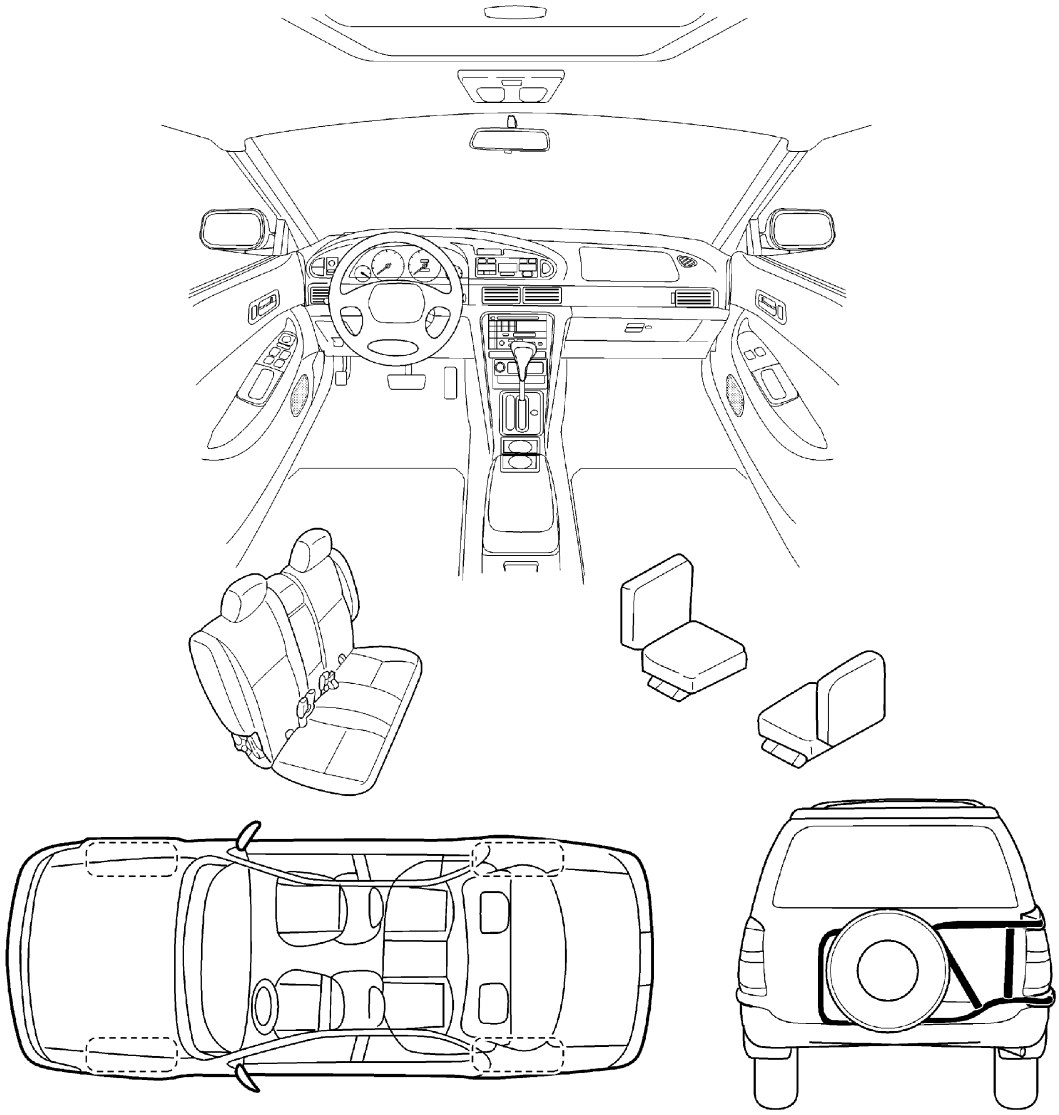
GIS00008

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

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

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

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



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

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SQUEAK & RATTLE DIAGNOSTIC WORKSHEET- page 2

Briefly describe the location where the noise occurs:

_____

_____

II. WHEN DOES IT OCCUR? (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 sun
❑ when it is raining or wet
❑ dry or dusty conditions
❑ other: _____

III. WHEN DRIVING:

❑ through driveways
❑ over rough roads
❑ over speed bumps
❑ only at about ____ mph
❑ on acceleration
❑ coming to a stop
❑ on turns : left, right or either (circle)
❑ with passengers or cargo
❑ other: _____
❑ after driving ____ miles or ____ minutes

IV. WHAT TYPE OF NOISE?

❑ squeak (like tennis shoes on a clean floor)
❑ creak (like walking on an old wooden floor)
❑ rattle (like shaking a baby rattle)
❑ knock (like a knock on a door)
❑ tick (like a clock second hand)
❑ thump (heavy, muffled knock noise)
❑ buzz (like a bumble bee)

TO BE COMPLETED BY DEALERSHIP PERSONNEL
Test Drive Notes:

_____

_____

	YES	NO	Initials of person performing
Vehicle test driven with customer	❑	❑	_____
- 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

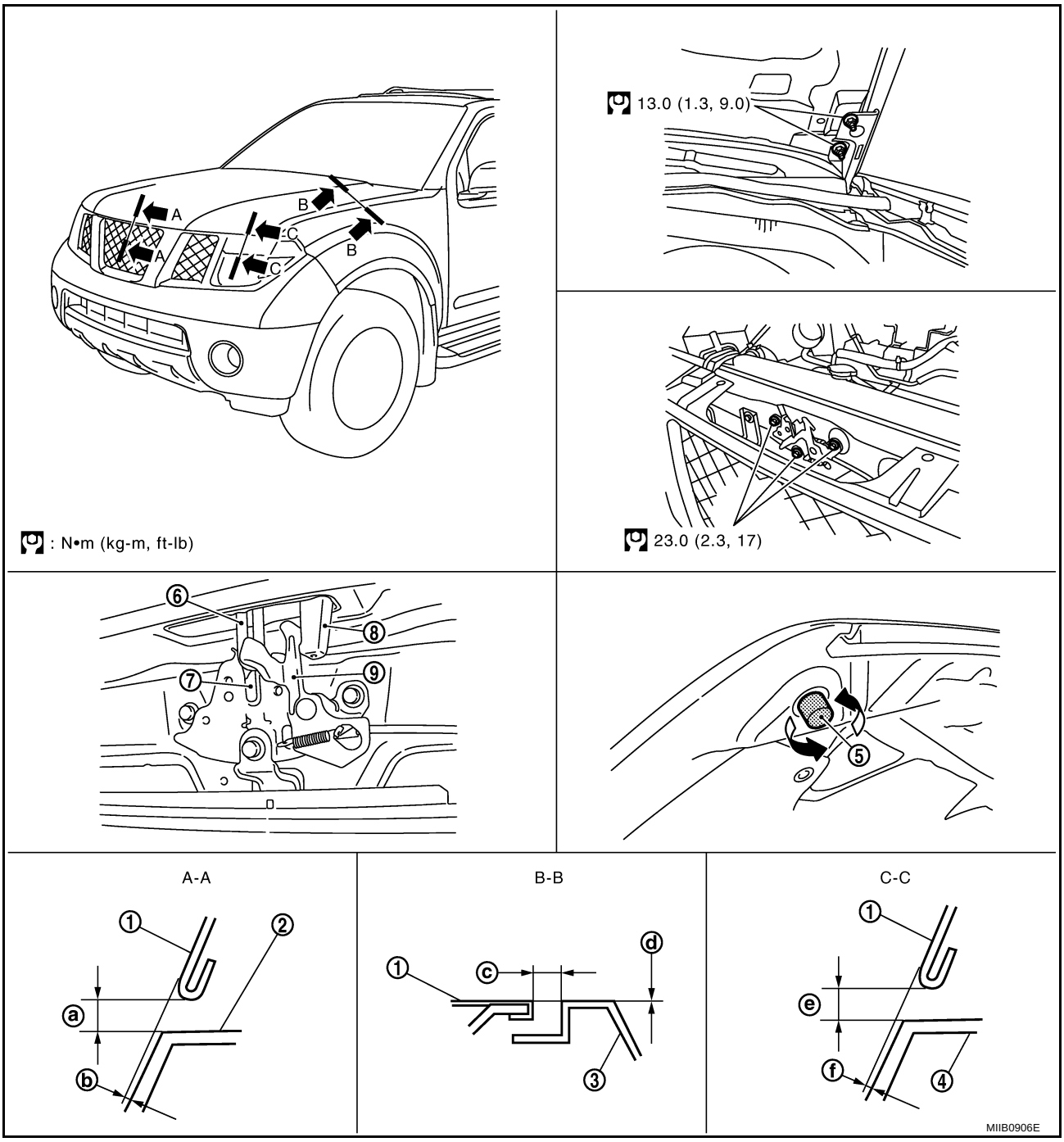
SBT844

HOOD

PFP:F5100

Fitting Adjustment

GIS00009



1. Hood
2. Front grille
3. Front fender
4. Headlamp assembly
5. Hood bumper rubber
6. Hood striker
7. Primary latch
8. Secondary striker
9. Secondary latch

LONGITUDINAL AND LATERAL CLEARANCE ADJUSTMENT

1. Remove the hood lock, loosen the hood hinge nuts and close the hood.
2. Adjust the lateral and longitudinal clearance, and open the hood to tighten the mounting bolts to the specified torque.

	Portion	Clearance
Hood - Front grille	A - A (a)	3.7 - 8.3 mm (0.146 - 0.327 in)
Hood - Front fender	B - B (c)	3.6 - 5.6 mm (0.142 - 0.220 in)
Hood - Headlamp	C - C (e)	6.0 - 8.0 mm (0.236 - 0.315 in)

3. Install the hood lock temporarily, and align the hood striker and lock so that the centers of striker and lock become vertical viewed from the front, by moving the hood lock laterally.
4. Tighten hood lock mounting bolts to the specified torque.

FRONT END HEIGHT ADJUSTMENT

1. Remove the hood lock and adjust the height by rotating the bumper rubber until the hood becomes 1 to1.5 mm (0.04 to 0.059 in) lower than the fender.
2. Temporarily tighten the hood lock, and position it by engaging it with the hood striker. Check the lock and striker for looseness, and tighten the hood lock mounting bolts to the specified torque.

CAUTION:
Adjust right/left clearance between hood and each part to the following specification.

	Portion	R / L difference
Hood - Front grille	A - A (a)	Less than 2.2 mm (0.087 in)
Hood - Front fender	B - B (c)	Less than 1.0 mm (0.039 In)

SURFACE HEIGHT ADJUSTMENT

1. Remove the hood lock, and adjust the surface height difference of hood, fender and headlamp according to the fitting standard dimension, by rotating RH and LH bumper rubbers.

	Portion	Surface height
Hood - Front grille	A - A (b)	-1.7 - 3.1 mm (-0.067 - 0.122 in)
Hood - Front fender	B - B (d)	-1.0 - 1.0 mm (-0.039 - 0.039 in)
Hood - Headlamp	C - C (f)	-1.3 - 2.7 mm (-0.051 - 0.106 in)

2. Install hood lock temporarily, and move hood lock laterally until the centers of striker and lock become vertical when viewed from the front.
3. Check that the hood lock secondary latch is properly engaged with the secondary striker with hood's own weight.
4. Check that the hood lock primary latch is securely engaged with the hood striker with hood's own weight by dropping hood from approx. 200 mm (7.87) height.

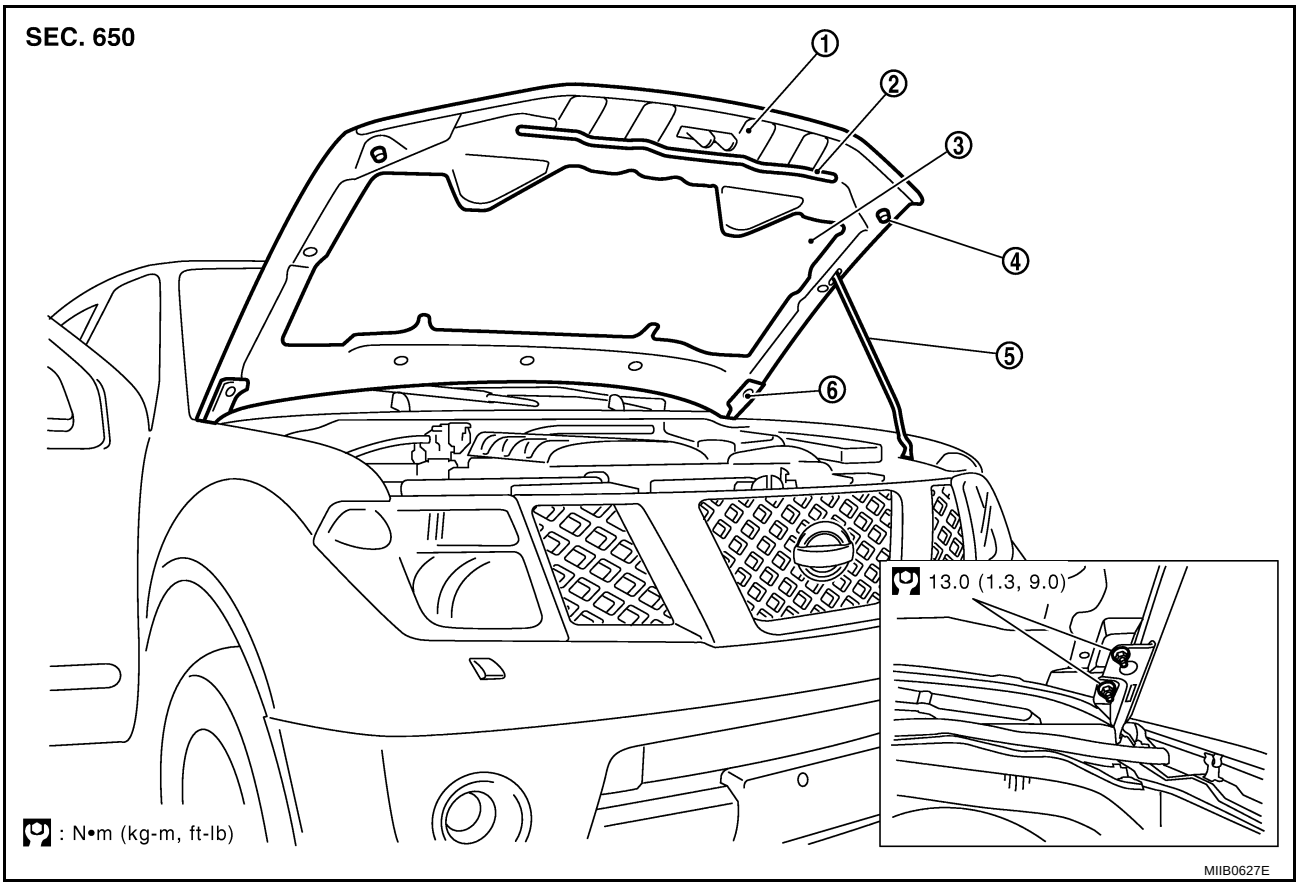
CAUTION:
Do not drop hood from a height of 300 mm (11.81 in) or more.

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

CAUTION:
- **After installing, apply touch-up paint (the body color) onto the head of the hinge mounting nuts.**
- **Adjust evenness between hood and each part to the following specification.**

Removal and Installation of Hood Assembly

GIS0000A

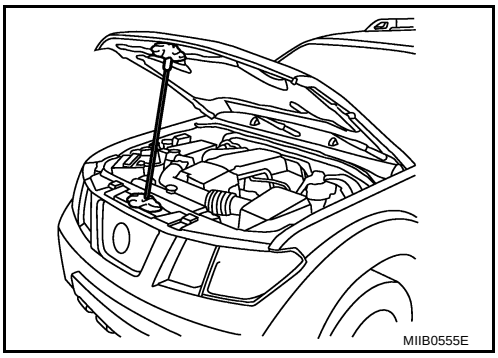


1. Hood assembly
2. Hood front sealing rubber
3. Hood insulator
4. Hood bumper rubber
5. Hood stay
6. Hood hinge

REMOVAL

1. Disconnect washer hose at the connecting point.
2. Support the hood striker with a proper material to prevent it from falling.

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



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

   CAUTION:
   Operate with two workers, because of its heavy weight.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

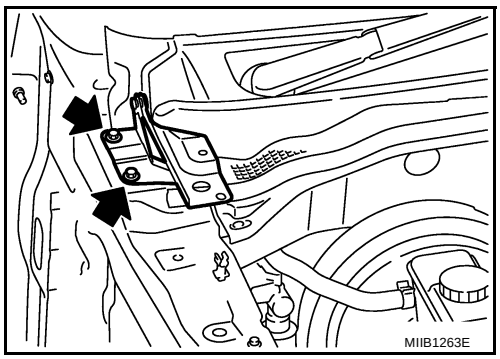
- **Before installing hood hinge, apply anticorrosive agent onto the mounting surface of the vehicle body.**
- **After installing, perform hood fitting adjustment. Refer to BL-11, "Fitting Adjustment" .**
- **After installing, apply touch-up paint (the body color) onto the head of the hinge mounting nuts.**

Removal and Installation of Hood Hinge

GIS0000B

REMOVAL

1. Remove the hood assembly. Refer to BL-13, "Removal and Installation of Hood Assembly" .
2. Remove the front fender. Refer to BL-19, "Removal and Installation" .
3. Remove the hood hinge mounting bolts and remove the hood hinge.



INSTALLATION

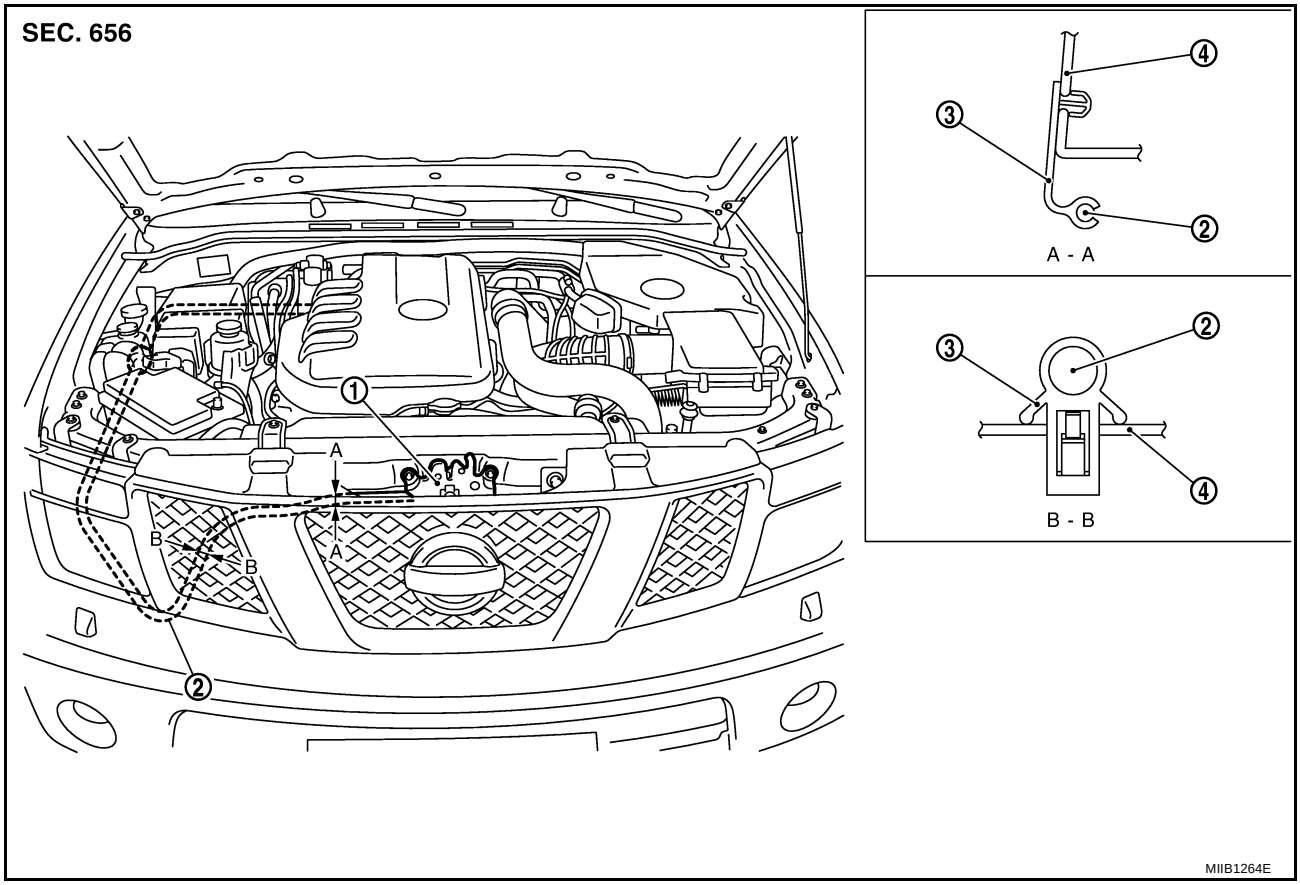
Install in the reverse order of removal.

CAUTION:

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

Removal and Installation of Hood Lock Control

GIS0000C



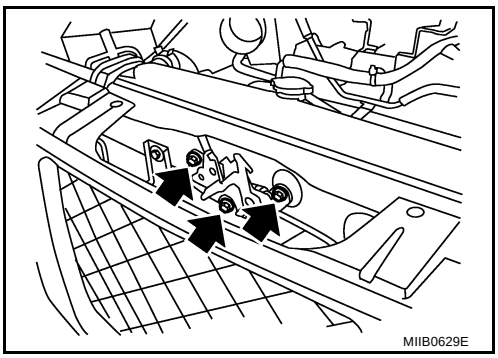
1. Hood lock assembly
2. Hood lock cable
3. Clip
4. Radiator core support

REMOVAL

1. Remove the front grill. Refer to EI-19, "FRONT GRILLE" .
2. Remove the battery. Refer to SC-13, "Removal and Installation" .
3. Remove the reservoir tank. Refer to CO-13, "RADIATOR" (VQ engine models) and CO-40, "RADIATOR" (YD engine models).
4. Remove the mounting bolts and remove the ECM.

5. Remove the hood lock assembly.

: 23.0 N·m (2.3 kg-m, 17.0 ft-lb)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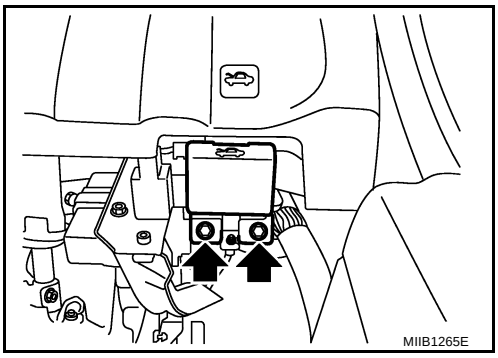
6. Disconnect the hood lock cable from the hood lock, and clip it from the radiator core support upper and hood ledge.
7. Remove the hood lock opener mounting bolts, and remove the hood lock opener.
8. Separate the grommet from the lower dash panel. Pull the hood lock cable out through the passenger compartment.

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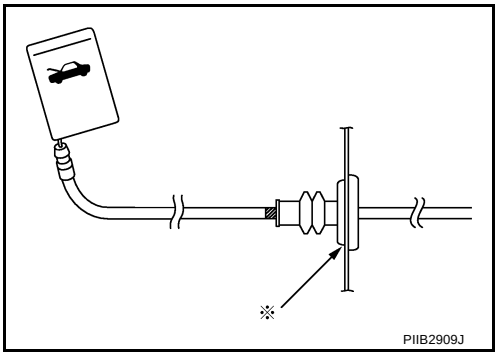
INSTALLATION

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

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

2. Make sure the cable is not offset from the positioning grommet, and push the grommet into the panel hole securely.
3. Apply the sealant to the grommet (at * mark) properly.



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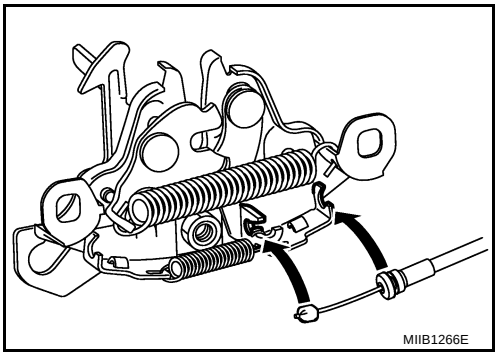
4. Install the cable securely to the hood lock assembly.
5. After installing, check the hood lock adjustment and hood opener operation.
6. After installing, perform hood fitting adjustment. Refer to BL-11, "Fitting Adjustment" .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Hood Lock Control Inspection

GIS0000D

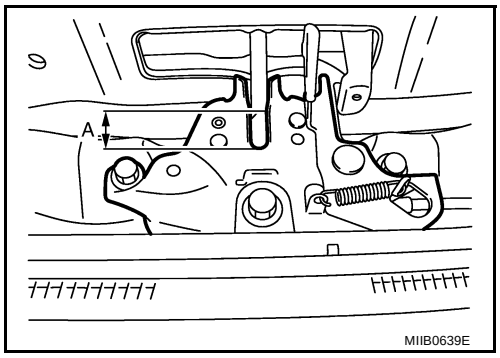
CAUTION:

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

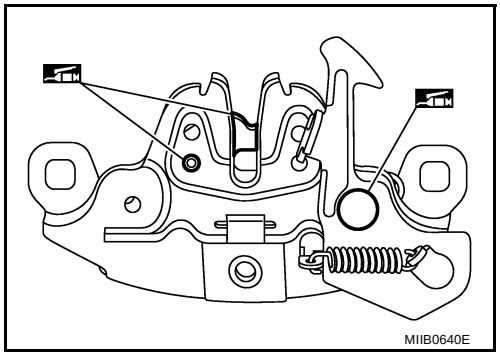
1. Make sure that the hood lock secondary latch is properly engaged with the secondary striker with hood's own weight.
2. Make sure that the hood lock primary latch is securely engaged with the hood striker with hood's own weight by dropping it from approx. 200 mm (7.87 in) height.

   CAUTION:

   Do not drop hood from a height of 300 mm (11.81 in) or more.
3. When pulling hood opener lever gently, make sure that front end of the hood rises by approximately 20 mm (0.79 in) and that hood striker and hood lock primary latch are disengaged. Also make sure that hood opener returns to the original position.
4. Install as static closing face of hood is 392 N·m (35 Kg-m, 253.0 ft-lb) ~ 441 N·m (45 Kg-m, 325.3 ft-lb).



5. Confirm hood lock is properly lubricated. If necessary, apply grease at the point shown in the figure.



RADIATOR CORE SUPPORT

PFP:62500

Removal and Installation

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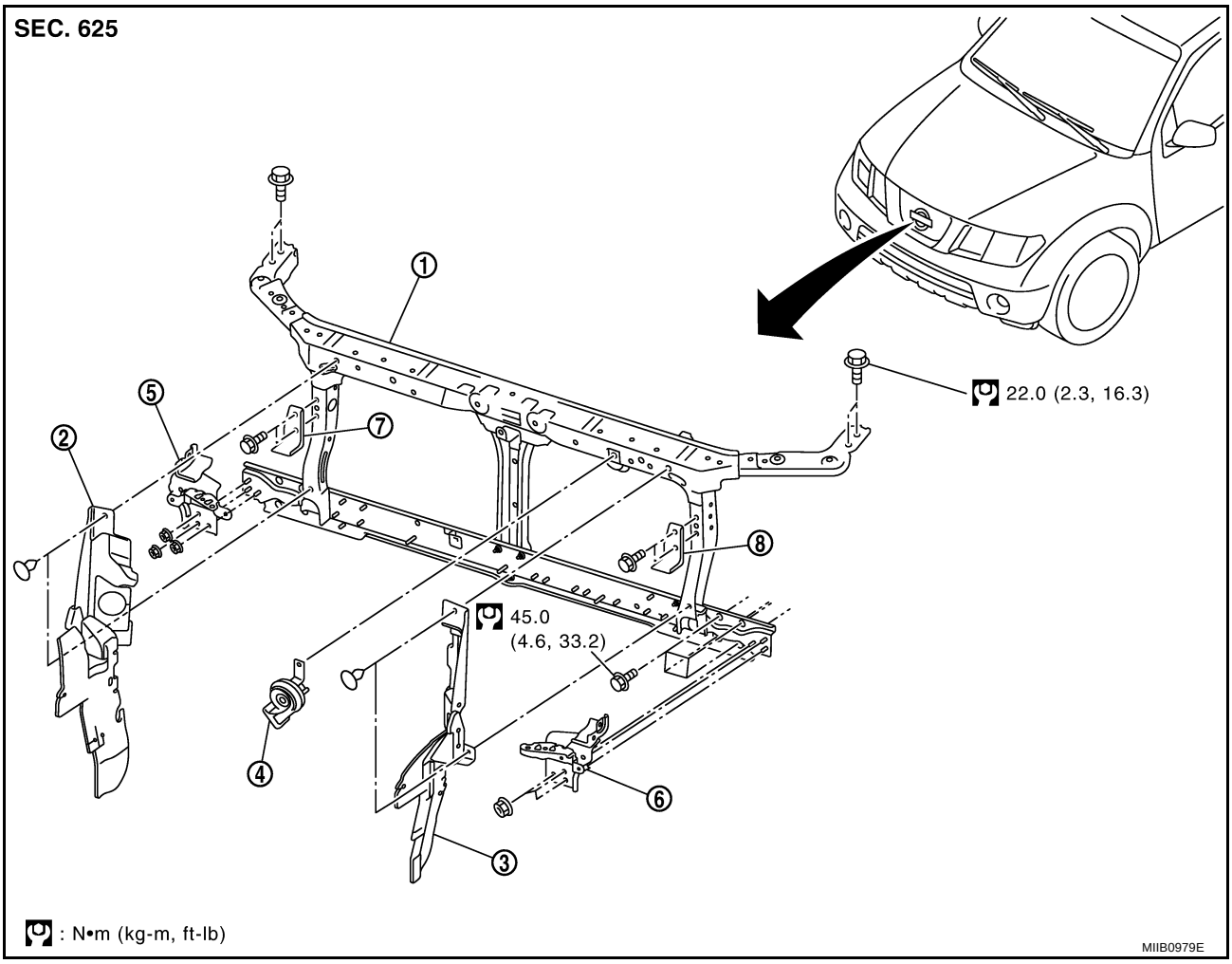


1. Radiator core support assembly
2. Air intake duct (Air guide) RH
3. Air intake duct (Air guide) LH
4. Horn (Low)
5. Headlamp lower bracket RH
6. Headlamp lower bracket LH
7. Headlamp side bracket RH
8. Headlamp side bracket LH

REMOVAL

1. Remove the hood assembly. Refer to BL-13, "Removal and Installation of Hood Assembly" .
2. Remove the front grille. Refer to EI-19, "FRONT GRILLE" .
3. Remove the front bumper, bumper reinforcement and bumper bracket. Refer to EI-15, "FRONT BUMPER" .
4. Remove the headlamp assembly (LH/RH). Refer to LT-30, "Removal and Installation" .
5. Remove the air intake duct (Air guide). Refer to EM-159, "AIR CLEANER AND AIR DUCT" .
6. Remove the charge air cooler. (for YD25 engine models only) Refer to EM-162, "CHARGE AIR COOLER" .
7. Remove the power steering oil cooler. Refer to PS-33, "HYDRAULIC LINE" .
8. Remove the A/T fluid cooler and A/T fluid cooler tube mounting nuts. Refer to AT-251, "A/T FLUID COOLER" .
9. Remove the hood lock assembly, and then remove the hood lock cable. Refer to BL-14, "Removal and Installation of Hood Lock Control" .
10. Remove the horn harness connector.
11. Remove the mounting harness clip on radiator core support assembly, the harness is separate.
12. Remove the upper radiator bracket. Refer to CO-40, "RADIATOR" .
13. Remove the radiator core support mounting bolts and remove the radiator core support assembly.

14. After removing the radiator core support assembly, the following parts are separate.
    - Horn (Low). Refer to WW-41, "Removal and Installation of Horn" .
    - Headlamp side bracket (LH/RH).
    - Headlamp lower bracket (LH/RH).

INSTALLATION

Install in the reverse order of removal.

CAUTION:

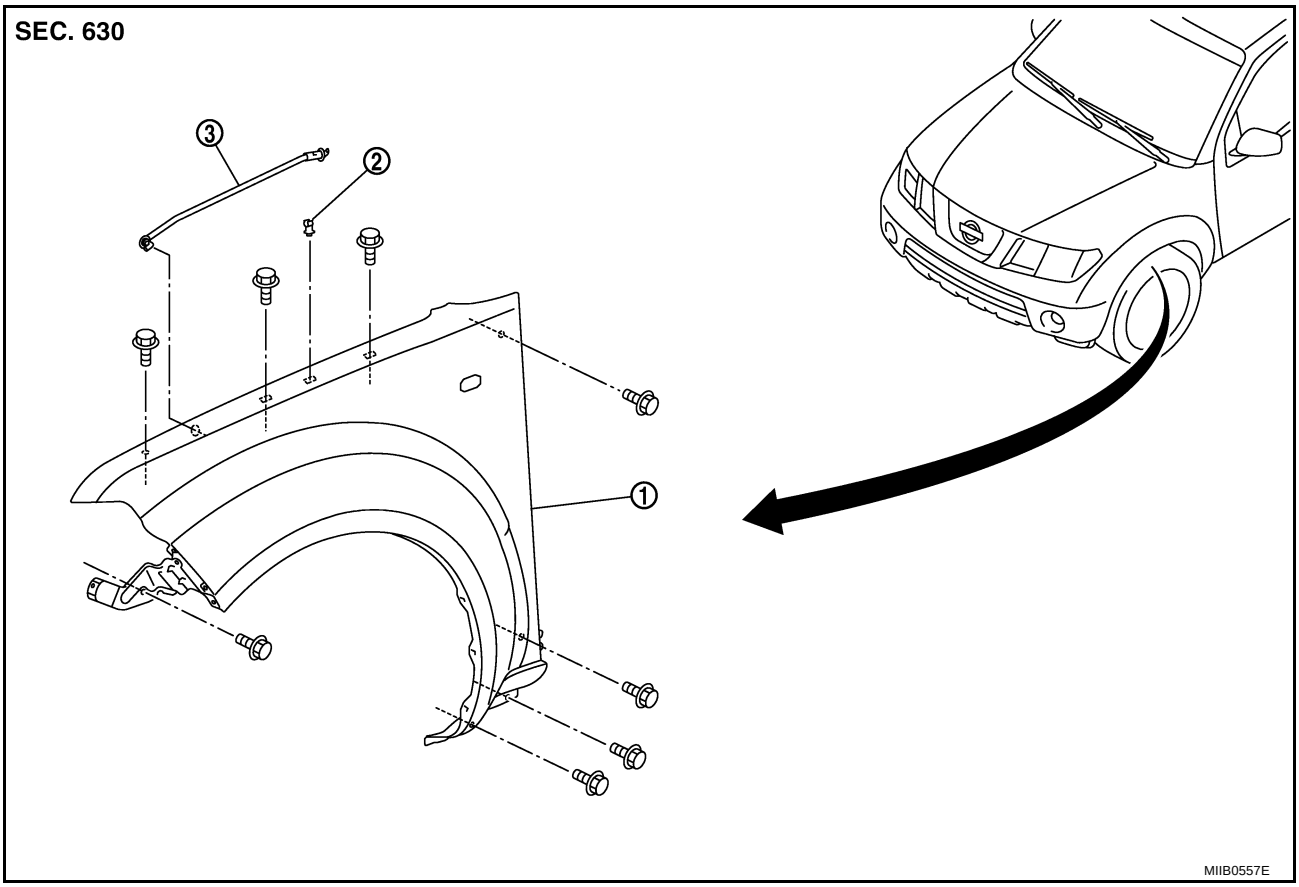
After installing, check the hood adjustment and hood opener operation. Refer to BL-11, "Fitting Adjustment" and BL-16, "Hood Lock Control Inspection" .

FRONT FENDER

PFP:63100

Removal and Installation

GIS0000F



1. Front fender
2. Hood stay holder
3. Hood stay

REMOVAL

1. Remove the front bumper. Refer to EI-15, "FRONT BUMPER" .
2. Remove the headlamp. Refer to LT-30, "Removal and Installation" .
3. Remove the front fender protector. Refer to EI-22, "Removal and Installation of Front Fender Protector" .
4. Remove the front side turn signal lamp. Refer to LT-65, "Removal and Installation of Front Turn Signal Lamp" .
5. Remove the front fender mounting bolt and remove the front fender.

CAUTION:

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

INSTALLATION

Install in the reverse order of removal.

CAUTION:

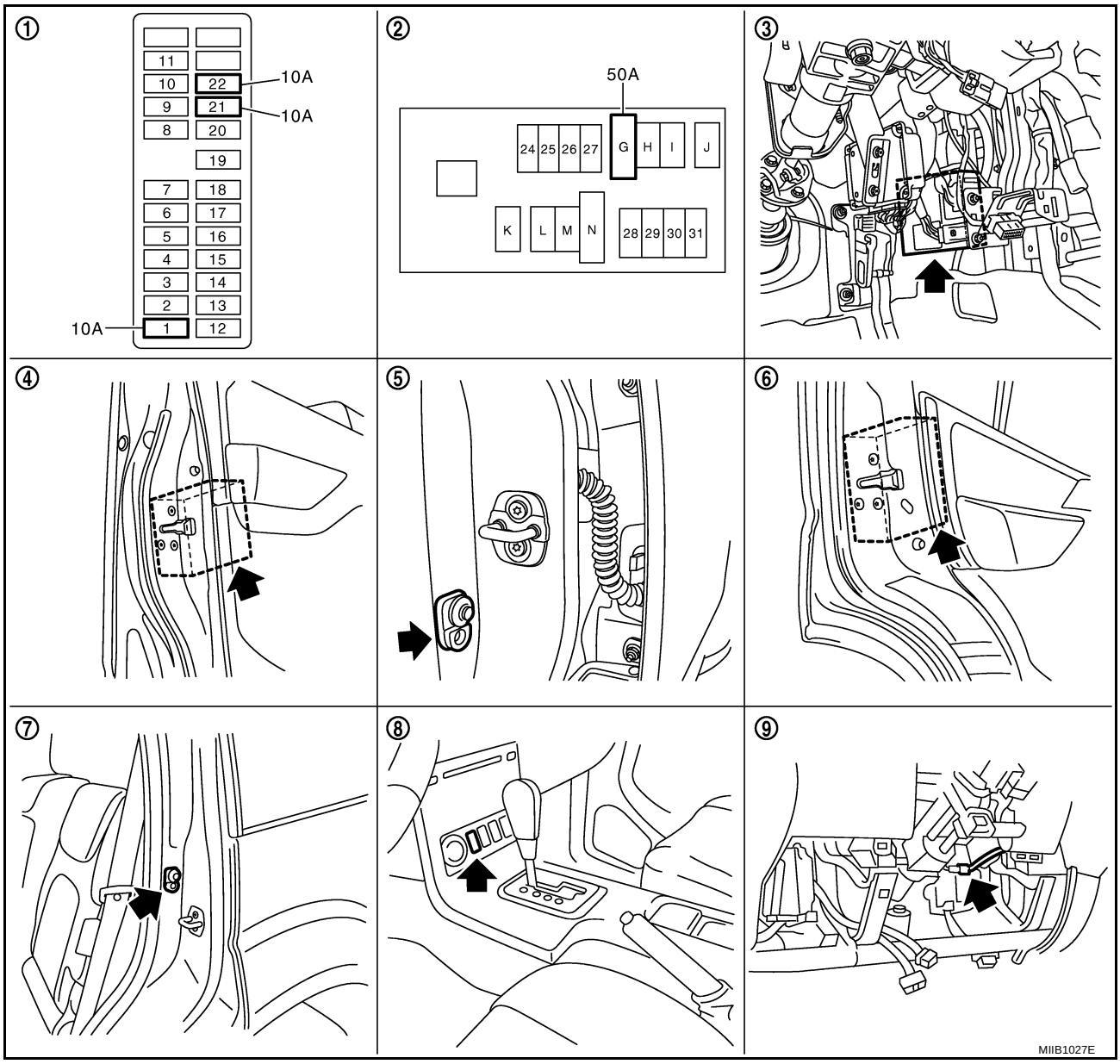
- **After installing, apply touch-up paint (the body color) onto the head of the front fender mounting bolts.**
- **After installing, check front fender adjustment. Refer to BL-11, "Fitting Adjustment" and BL-66, "Fitting Adjustment" .**

POWER DOOR LOCK SYSTEM

PFP:24814

Component Parts and Harness Connector Location

GIS0000G



1. Fuse block (J/B) fuse layout
2. Fuse and fusible link box
3. BCM M42, M43, M44 (View with instrument lower panel LH removed)
4. Front door lock actuator (Driver side) D10
5. Front door switch (Driver side) B19
6. Rear door lock actuator (LH) D65
7. Rear door switch (LH) B23
8. Door lock/unlock switch M52
9. Key switch M35

System Description

GIS0000H

Power is supplied at all times

- through 50A fusible link (letter **G** , located in the fuse and fusible link box)
- to BCM terminal 57
- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to BCM terminal 41
- through 10A fuse [No. 22, located in the fuse block (J/B)]
- to key switch terminal 2.

When key switch is ON, power is supplied

- through key switch terminal 1
- to BCM terminal 5.

When ignition switch is in ON or START position

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to BCM terminal 3.

Ground is supplied

- to BCM terminal 55
- through body grounds M21, M80 and M83.

Door switch operation

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

- to BCM terminal 15
- through front door switch (driver side) terminal 2
- through front door switch (driver side) case ground.

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

- to BCM terminal 14
- through front door switch (passenger side) terminal 2
- through front door switch (passenger side) case ground.

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

- to BCM terminal 16
- through rear door switch LH terminal 2
- through rear door switch LH case ground.

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

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

Key cylinder switch operation (Without multi-remote control system)

When key cylinder is turned to lock position, ground is supplied

- through BCM terminal 34
- to key cylinder switch (driver and passenger side) terminals 4
- through key cylinder switch (driver and passenger side) terminals 5
- through body ground M21, M80 and M83

then all doors are locked.

When key cylinder is turned to unlock position, ground is supplied

- through BCM terminal 32
- to key cylinder switch (driver and passenger side) terminal 6
- through key cylinder switch (driver and passenger side) terminal 5
- through body ground M21, M80 and M83

then all doors are unlocked.

Power door lock operation with door lock/unlock switch

When doors are lock by door lock/unlock switch, ground is supplied

- to BCM terminal 34
- through door lock /unlock switch terminals 1 and 3
- through body grounds M21, M80 and M83.

then all doors are locked.
When door lock/unlock switch is locked, ground is supplied

- through BCM terminal 56
- through all door actuators terminal 3
- through all door lock actuators terminal 2
- through back door lock actuator terminals 1 and 3
- to BCM terminals 54 and 60.

then all doors actuators are locked

Power door unlock operation with door lock/unlock switch

When doors are unlock by door lock/unlock switch, ground is supplied

- to BCM terminal 32
- through door lock/unlock switch terminals 2 and 3
- through body grounds M21, M80 and M83.

then all doors are locked.
When door lock/unlock switch is unlocked, ground is supplied

- through BCM terminals 54 and 60
- through all door lock actuators terminal 2
- through all door lock actuators terminal 3
- then all door actuators are unlock
- to BCM terminal 56.

Door lock/unlock switch indicator operation

When door lock/unlock switch is locked, all doors are locked, door lock/unlock switch indicator is on, and ground is supplied

- to BCM terminal 17
- through door lock/unlock switch terminals 5 and 3
- through body grounds M21, M80 and M83.

OUTLINE

Function Available by Operating the Door Lock/Unlock Switch

- Operating the door lock/unlock switch to “LOCK” will lock all doors.
- Operating the door lock/unlock switch to “UNLOCK” will unlock all doors.

NOTE:
Unlock via the interior door handles and door lock/unlock switch is always possible.

Door Lock Warning Function

Under following conditions lock actuators will not respond and buzzer warning will beeps while pressing door lock/unlock switch in LOCK direction.

- Ignition switch is turned OFF
- Mechanical key is out of ignition key cylinder
- Door is opened (except driver side door)

Key Reminder Function

Under following conditions lock actuators will lock the door once, but then immediately unlock all doors and buzzer warning will beeps while pressing door lock/unlock switch in LOCK direction.

- Ignition switch is turned OFF
- Mechanical key is inserted in ignition key cylinder
- Driver side door is opened

Door Lock/Unlock Switch Indicator

The Door lock/unlock switch indicates door lock status. The indicator will illuminates when a lock operation is accomplish, during this state, if any door is open, the indicator will turn OFF.

Door lock indicator timer

Door lock indicator timer is designed to reacts and shut down the indicator. The default timer values are 1 minute and 30 minutes.

- When the lock operation is activated by keyfob or auto door lock (for further details, refer to BL-50, "Auto Re-lock Function"), then the illuminate time is set to 1 minute.
- When the lock operation is activated by door lock/unlock switch, then the timer is set to 30 minutes.

  NOTE:
  When the 30 minutes timer is active and ignition switch is turned ON, the indicator illuminate for permanently, unless ignition switch is turned OFF then timer will be reset back to 30 minutes.

CAN Communication System Description

GIS0000I

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

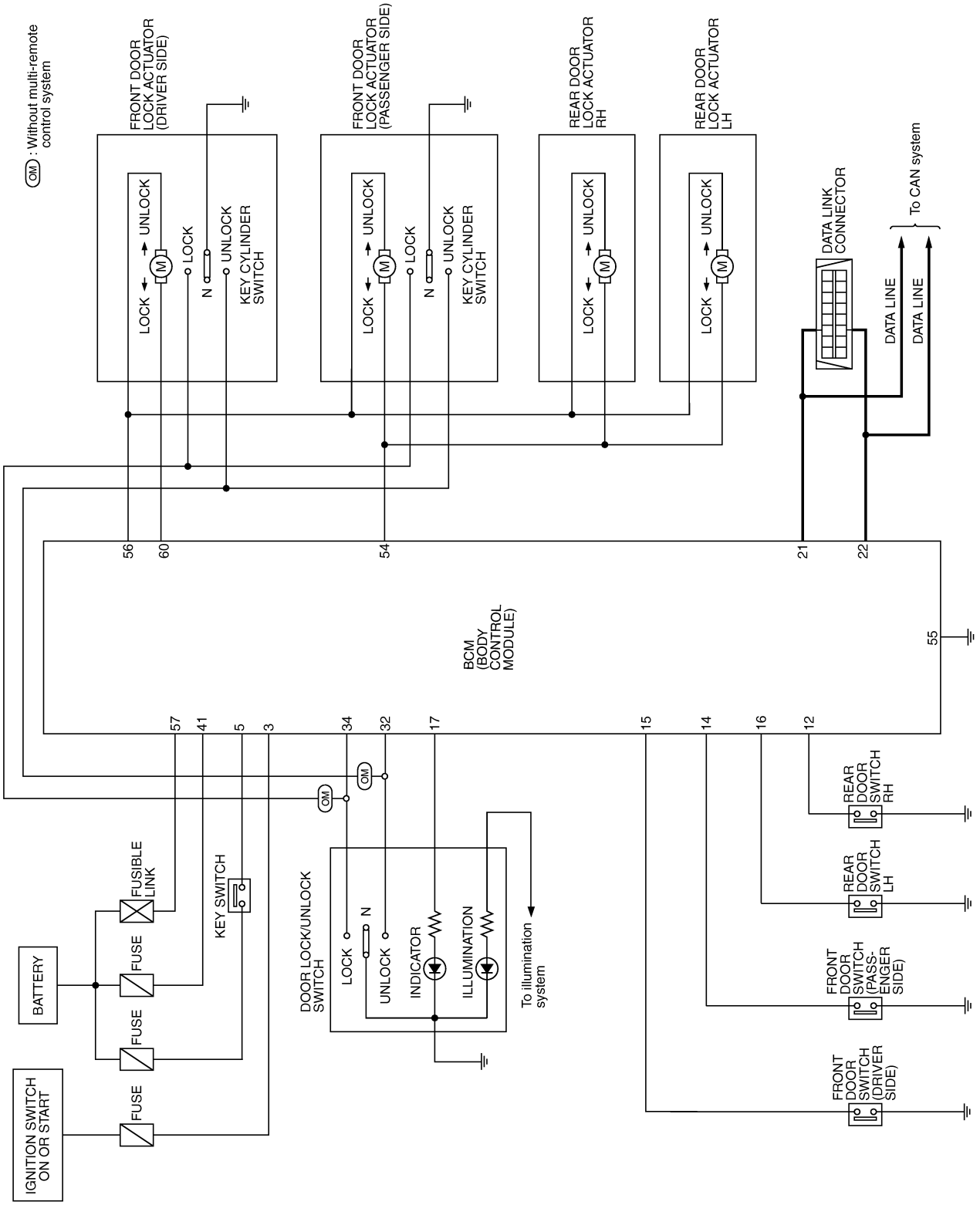
CAN Communication Unit

GIS0000J

Refer to LAN-21, "CAN COMMUNICATION" .

Schematic

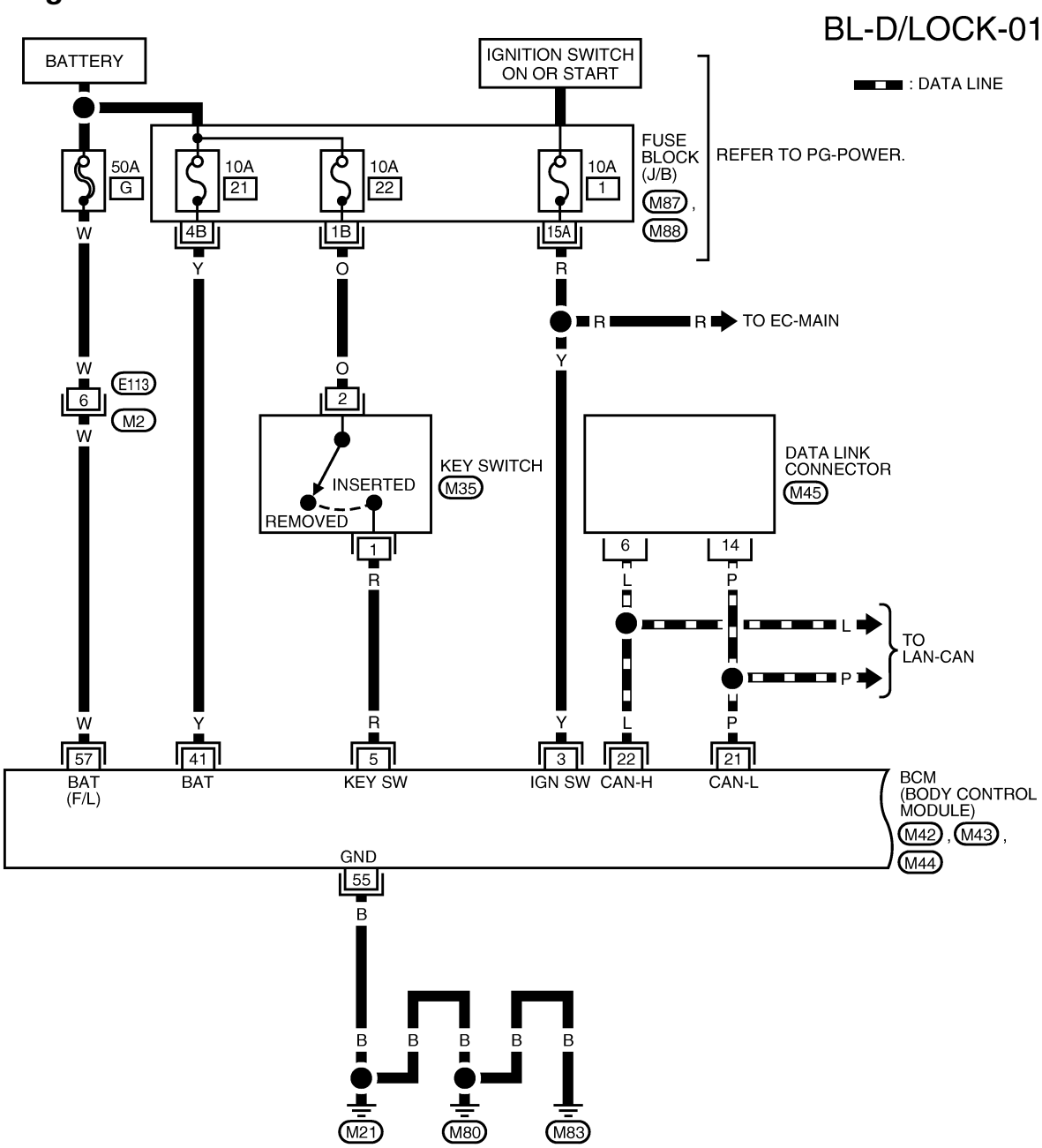
GIS0000K

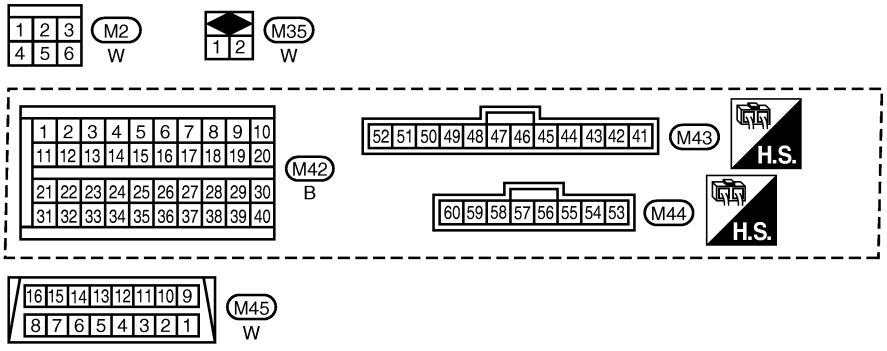


MIWA0648E

Wiring Diagram —D/LOCK—

GIS0000L

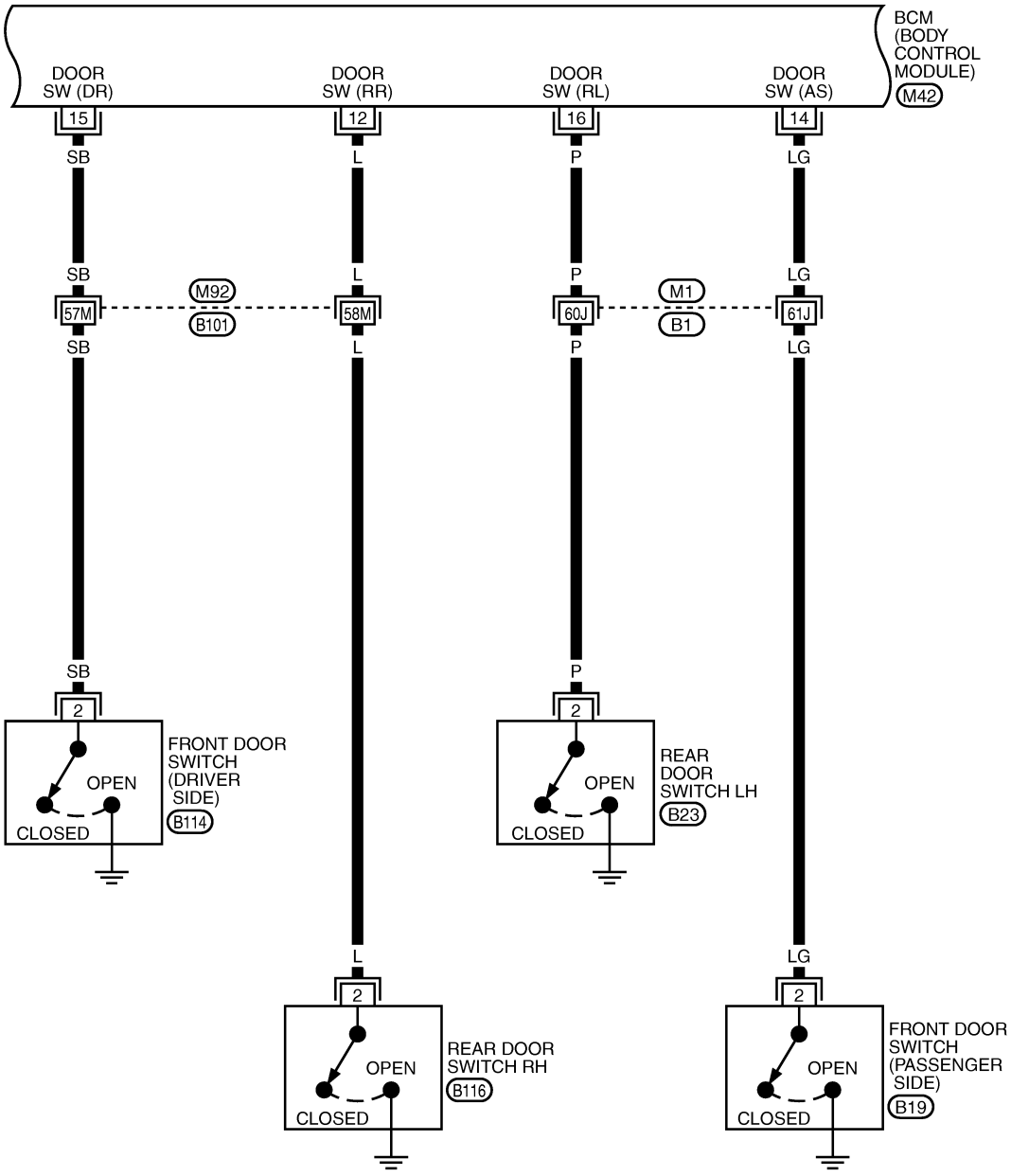


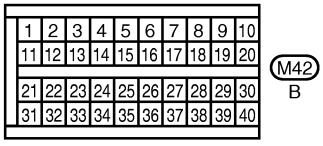


REFER TO THE FOLLOWING.
M87, M88 -FUSE BLOCK JUNCTION BOX (J/B)

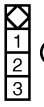
MIWA0188E

BL-D/LOCK-02





M42
B

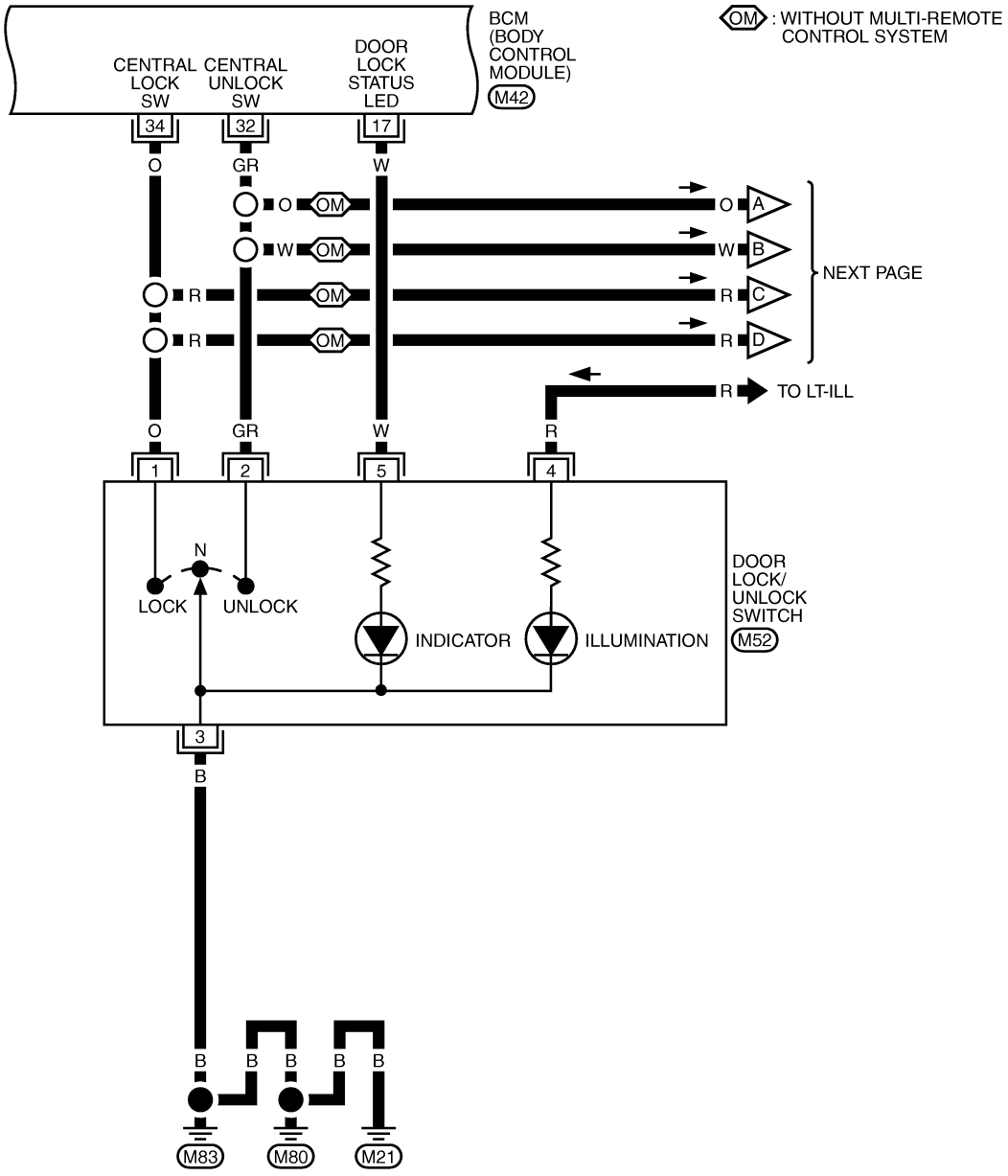


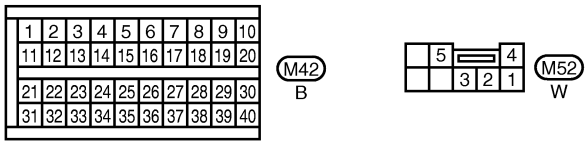
B19 , B23 , B114 , B116
W W W W

REFER TO THE FOLLOWING.
M1 , M92 - SUPER MULTIPLE JUNCTION (SMJ)

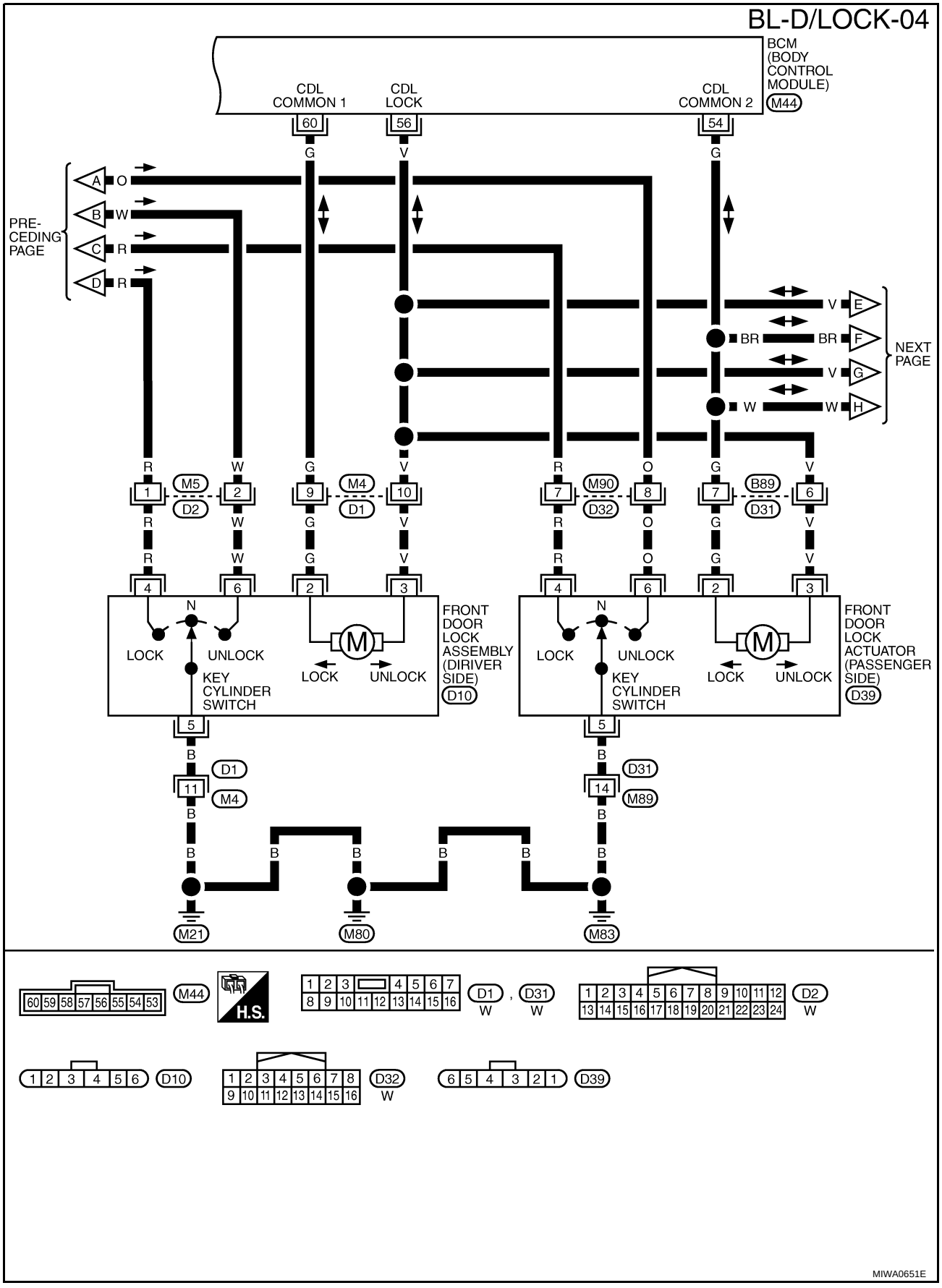
MIWA0649E

BL-D/LOCK-03

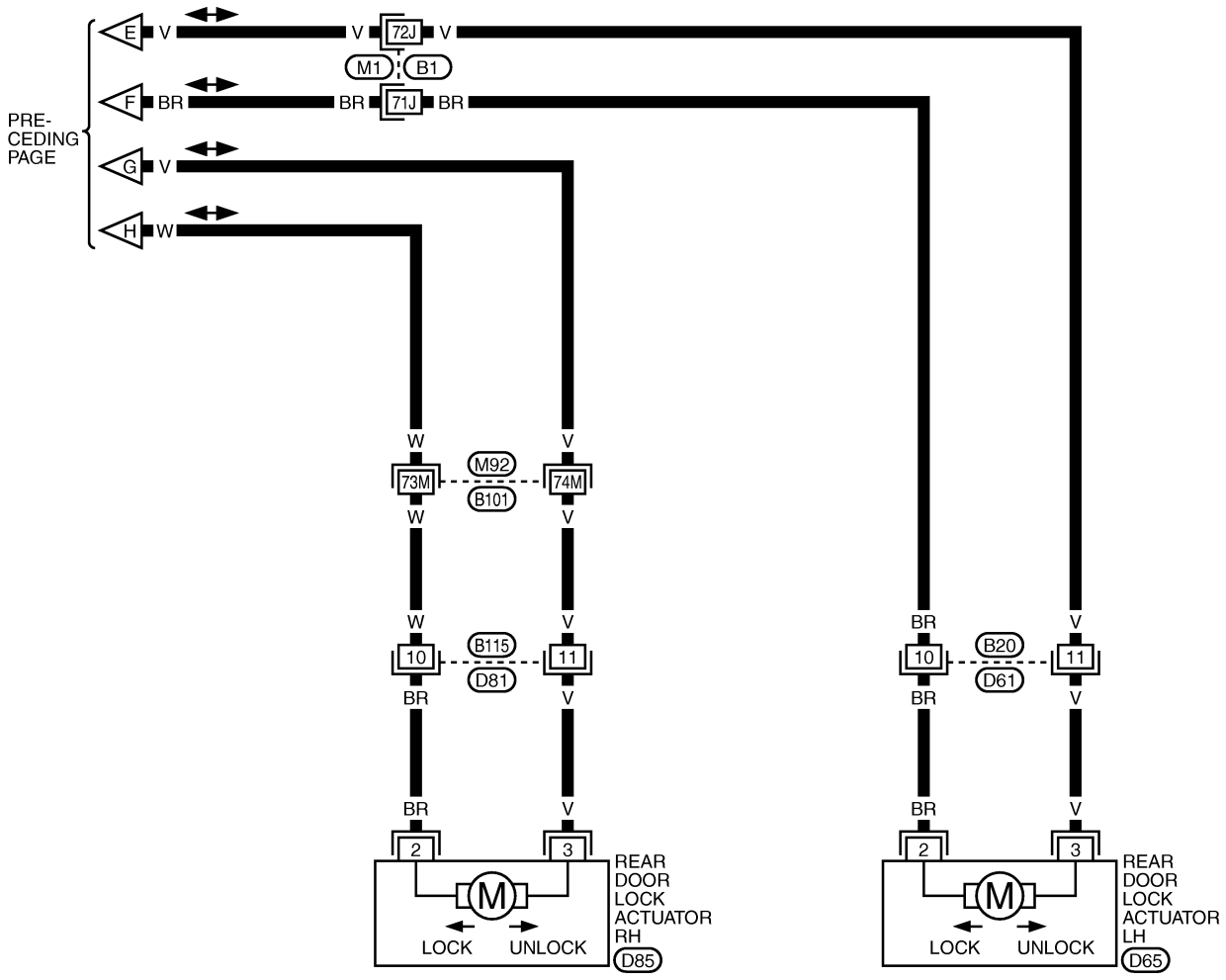


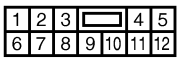


MIWA0650E

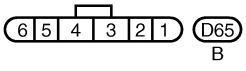

BL-D/LOCK-04
BCM (BODY CONTROL MODULE) M44
CDL COMMON 1
CDL LOCK
CDL COMMON 2
60
56
54
PRE-CEDING PAGE
NEXT PAGE
M5
D2
M4
D1
M90
D32
B89
D31
FRONT DOOR LOCK ASSEMBLY (DIRIVER SIDE) D10
FRONT DOOR LOCK ACTUATOR (PASSENGER SIDE) D39
LOCK
UNLOCK
KEY CYLINDER SWITCH
M21
M80
M83
H.S.
MIWA0651E

BL-D/LOCK-05

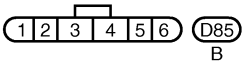




D61 , D81
W W



D65
B



D85
B

REFER TO THE FOLLOWING.
M1 , M92 - SUPER MULTIPLE JUNCTION (SMJ)

MIWA0652E

Terminals and Reference Value for BCM

GIS0000M

TERMINAL	WIRE COLOR	ITEM	CONDITION		VOLTAGE [V] (Approx.)
3	Y	Ignition switch	Ignition switch ON		Battery voltage
5	R	Key switch	Key switch ON		Battery voltage
			Key switch OFF		0
12	L	Rear door switch RH	ON (Door is opened) → OFF (Door is closed)		0 → Battery voltage
14	LG	Front door switch (Passenger side)	ON (Door is opened) → OFF (Door is closed)		0 → Battery voltage
15	SB	Front door switch (Driver side)	ON (Door is opened) → OFF (Door is closed)		0 → Battery voltage
16	P	Rear door switch LH	ON (Door is opened) → OFF (Door is closed)		0 → Battery voltage
17	W	Door lock/unlock switch indicator	All door closed	Lock operation (Illuminates)	Battery voltage
				Other than above	0
21	P	CAN-L	—		—
22	L	CAN-H	—		—
32	GR	Door lock/unlock switch	All door closed	Unlock	0
				Other than above	5
34	O	Door lock/unlock switch	All door closed	Lock	0
				Other than above	5
41	Y	Power switch (Fuse)	—		Battery voltage
54	G	Passenger and rear door lock actuators (unlock)	Door lock/unlock switch (Free → Lock)		0 → Battery voltage → 0
55	B	Ground	—		0
56	V	All door lock actuators (lock)	Door lock/unlock switch (Free → Lock)		0 → Battery voltage → 0
57	W	Power source (Fusible link)	—		Battery voltage
60	G	Driver door lock actuator (unlock)	Door lock/unlock switch (Free → Lock)		0 → Battery voltage → 0

CONSULT-II Function (BCM)

GIS0000N

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

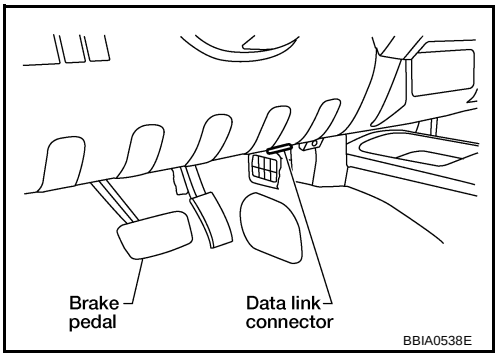
BCM diagnosis part	Inspection item, self-diagnosis mode	Content
DOOR LOCK	WORK SUPPORT	Changes the setting for each function.
	DATA MONITOR	Displays the input data of BCM in real time.
	ACTIVE TEST	Give a drive signals to load to check the operation.

CONSULT-II BASIC OPERATION PROCEDURE

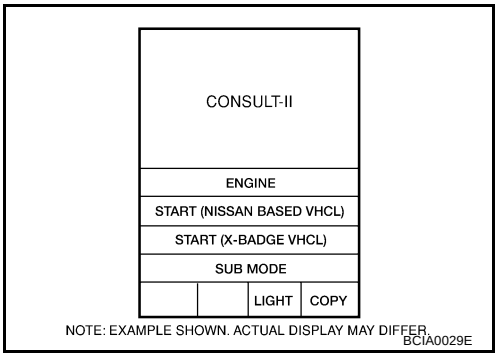
CAUTION:

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

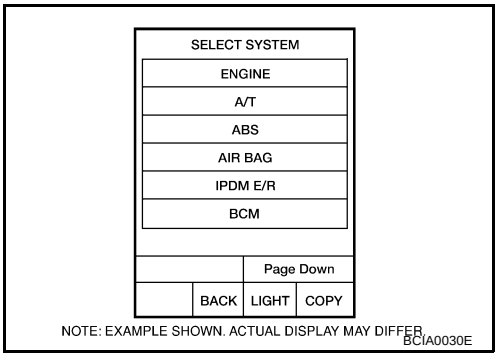
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” and “CONSULT-II CONVERTER” to data link connector.



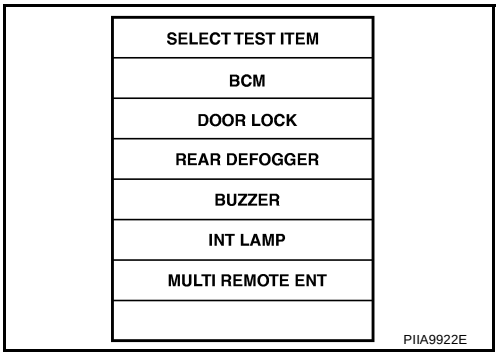
3. Turn ignition switch “ON”.
4. Touch “START (NISSAN BASED VHCL)”.



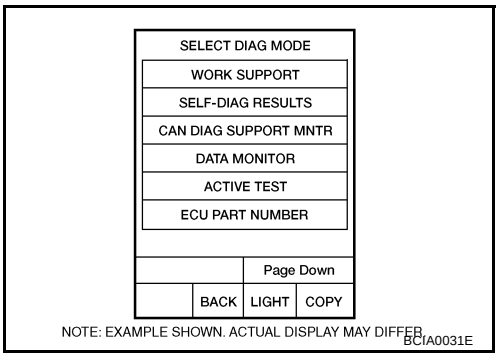
5. Touch “BCM” on “SELECT SYSTEM” screen.
   If “BCM” is not indicated, go to GI-47, "CONSULT-II Data Link Connector (DLC) Circuit" .



6. Touch “DOOR LOCK”.



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



CONSULT-II APPLICATION ITEMS

Work Support

Work item	Description
SECURITY DOOR LOCK SET	Anti-hijack mode can be changed in this mode. Selects ON-OFF of anti-hijack mode.

Data Monitor

Monitor item	Content
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from door lock/unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock/unlock switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch driver side.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch passenger side.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	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.
I-KEY LOCK	Indicates [ON/OFF] condition of lock signal from Intelligent Key.
I-KEY UNLOCK	Indicates [ON/OFF] condition of unlock signal from Intelligent Key.

Active Test

Test item in “DOOR LOCK”	Content
ALL LOCK	This test is able to check all door lock actuators lock operation. These actuators lock when “ALL LOCK” on CONSULT-II screen is touched.
ALL UNLOCK	This test is able to check all door lock actuators unlock operation. These actuators unlock when “ALL UNLOCK” on CONSULT-II screen is touched.

Test item in “DOOR LOCK”	Content
DR UNLOCK	This test is able to check door lock actuator (driver side) lock/unlock operation. This actuator unlock when “DR UNLOCK” on CONSULT-II screen is touched.
OTHER UNLOCK	This test is able to check all door lock actuators (except driver side) unlock operation. These actuators unlock when “OTHER UNLOCK” on CONSULT-II screen is touched.

Work Flow

GIS0000O

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to BL-21, "System Description" .
3. According to the trouble diagnosis, repair or replace the cause of the malfunction. Refer to BL-33, "Trouble Diagnoses Chart by Symptom" .
4. Does power door lock system operate normally?
   YES: GO TO 5.
   NO: GO TO 2.
5. INSPECTION END.

Trouble Diagnoses Chart by Symptom

GIS0000P

NOTE:
Always check the “Work Flow” before troubleshooting. Refer to BL-33, "Work Flow" .

Symptom	Diagnosis service procedure	Refer to page
Power door lock does not operate at all.	1. Check power supply and ground circuit.	BL-33
	2. Replace BCM	BCS-15
Key reminder system does not operate.	1. Check key switch.	BL-37
	2. Check door switch (except back door switch).	BL-35
	3. Replace BCM.	BCS-15
Power door does not operate with door lock/unlock switch, when lock is pressed.	1. Check all door switch (except driver side)	BL-35
Power door lock does not operate with door lock/unlock switch.	1. Check door lock/unlock switch.	BL-45
Specific door does not operate.	1.Check front door lock actuator (driver side).	BL-41
	2.Check front door lock actuator (passenger side).	BL-42
	3.Check rear door lock actuator (LH).	BL-43
	3.Check rear door lock actuator (RH).	BL-43
Door lock/unlock switch indicator does not illuminate.	1. Check door lock/unlock switch indicator.	BL-46
	2. Replace BCM.	BCS-15
Power door lock does not operate with key cylinder switch (Without multi-remote control system)	1. Check door key cylinder switch.	BL-38
	2. Replace BCM	BCS-15

Check Power Supply and Ground Circuit

GIS0000Q

1. FUSE INSPECTION

Check the following.

- 50A fusible link (letter **G** , located in the fuse and fusible link box)
- 10A fuse [No. 1, located in the fuse block (J/B)]
- 10A fuse [No.21, located in the fuse block (J/B)]

NOTE:
Refer to BL-20, "Component Parts and Harness Connector Location" .

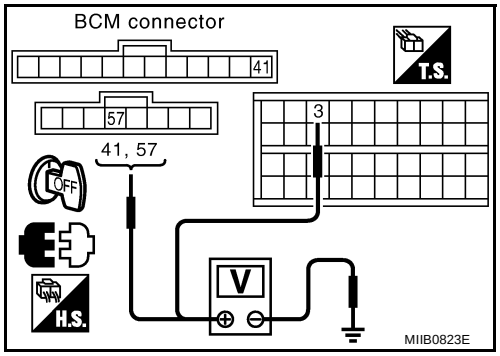
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse, refer to PG-4, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

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

Connector	Terminals		Ignition switch position		
	(+)	(-)	OFF	ACC	ON
M42	3	Ground	0V	0V	Battery voltage
M43	41		Battery voltage	Battery voltage	Battery voltage
M44	57				



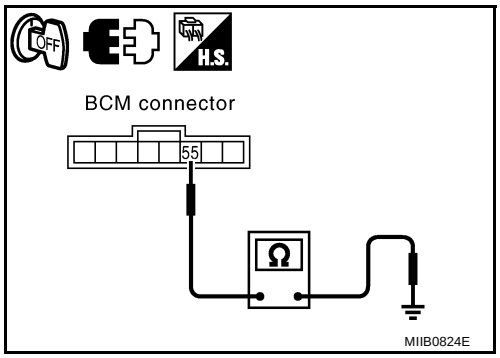
OK or NG

OK >> GO TO 3.
NG >> Repair or replace BCM power supply circuit.

3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M44 terminal 55 and ground.

55 – Ground : Continuity should exist.



OK or NG

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

Check Door Switch

GIS0000R

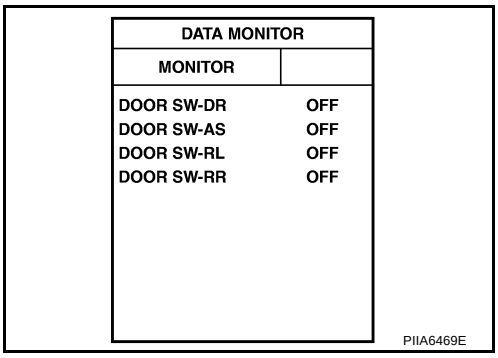
CHECK DOOR SWITCH

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

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

Monitor item	Condition	DATA MONITOR
DOOR SW-DR	CLOSE ↓ OPEN	OFF ↓ ON
DOOR SW-AS		
DOOR SW-RL		
DOOR SW-RR		

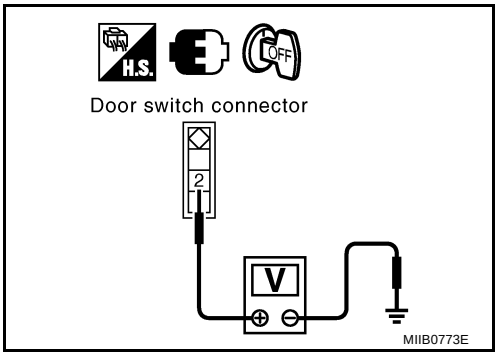


Without CONSULT-II

Check voltage between each door switch connector and ground.

Item	Connector	Terminals (+)	Terminals (-)	Door condition	Voltage [V] (Approx.)
Driver side	B114	2	Ground	CLOSE ↓ OPEN	Battery voltage ↓ 0
Rear LH	B23	2			
Passenger side	B19	2			
Rear RH	B116	2			

( ): RHD model



OK or NG

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

2. CHECK DOOR SWITCH

1. Turn ignition switch OFF.
2. Disconnect door switch connector.
3. Check continuity between door switch terminal 2 and ground part of door switch.

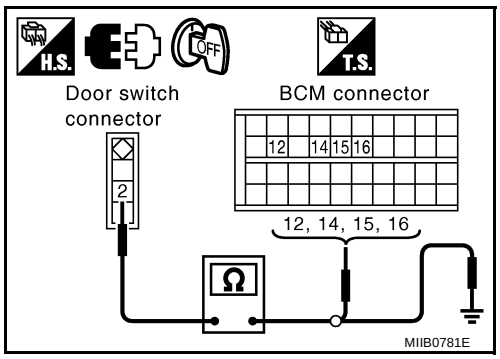
Terminal		Door switch condition	Continuity
2	Ground part of door switch	Pushed	No
		Released	Yes

OK or NG

OK >> GO TO 3.
NG >> Replace door switch.

3. CHECK DOOR SWITCH CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between door switch connector B19, B23, B114, B116 terminals 2 and BCM connector M42 terminals 12, 14, 15, 16.



Item	Connector	Terminals		Door condition	Continuity
		(+)	(–)		
Driver side	B114	2	15	CLOSE to OPEN	Continuity should exist.
Rear LH	B23	2	16		
Passenger side	B19	2	14		
Rear RH	B116	2	12		

3. Check continuity between door switch connector B19, B23, B114, B116 terminal 2 and ground.

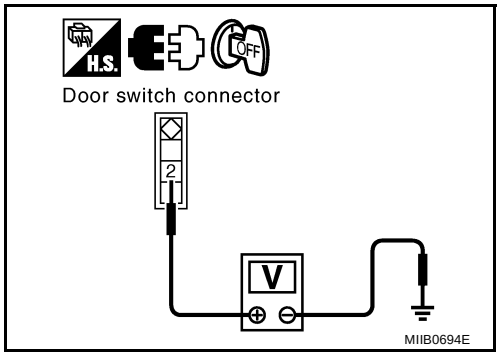
Item	Connector	Terminals		Door condition	Continuity
		(+)	(–)		
Driver side	B114	2	Ground	CLOSE to OPEN	Continuity should not exist.
Rear LH	B23	2			
Passenger side	B19	2			
Rear RH	B116	2			

OK or NG

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

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between each door switch connector B19, B23, B114, B116 terminal 2 and ground.



Item	Connector	Terminals		Door condition	Voltage [V] (Approx.)
		(+)	(–)		
Driver side	B114	2	Ground	CLOSE to OPEN	Battery voltage
Rear LH	B23	2			
Passenger side	B19	2			
Rear RH	B116	2			

OK or NG

OK >> Check harness condition or door switch installation condition.
NG >> Replace BCM.

Check Key Switch

GIS0000S

1. CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

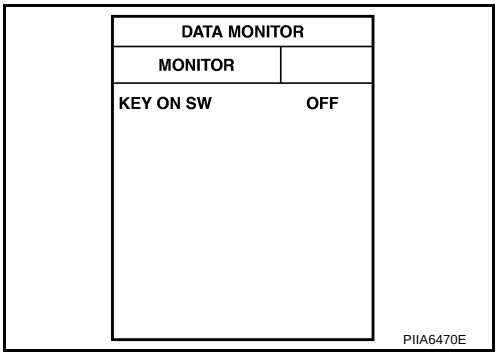
Check ignition key switch “KEY ON SW” in “DATA MONITOR” mode with CONSULT-II.

- When key is inserted in ignition key cylinder

  KEY ON SW : ON

- When key is removed from ignition key cylinder

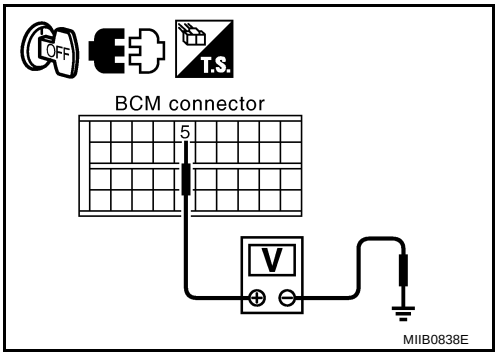
  KEY ON SW : OFF



Without CONSULT-II

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

Connector	Terminal (+)	Terminal (–)	Condition	Voltage [V] (Approx.)
M42	5	Ground	Key is removed from ignition key cylinder.	0
			Key is inserted in to ignition key cylinder.	Battery voltage



OK or NG

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

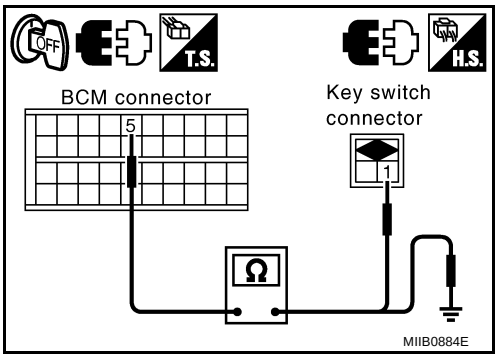
2. CHECK KEY SWITCH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and key switch connector.
3. Check continuity between BCM harness connector M42 terminal 5 and key switch harness connector M35 terminal 1.

   5 – 1 : Continuity should exist.

4. Check continuity between BCM harness connector M42 terminal 5 and ground.

   5 – Ground : Continuity should not exist.



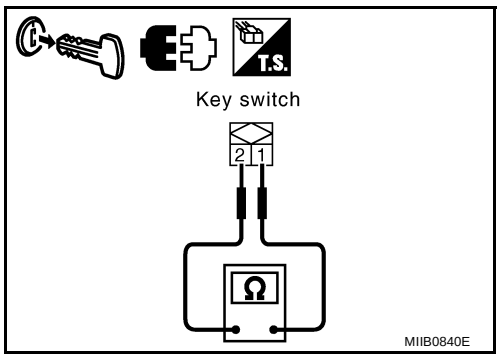
OK or NG

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

3. CHECK KEY SWITCH

Check continuity between key switch connector M35 terminals 1 and 2.

Terminal		Condition	Continuity
1	2	Key is removed from ignition key cylinder.	No
		Key is inserted in ignition key cylinder.	Yes



OK or NG

OK >> Check the following
- 10A fuse [No. 22, located in the fuse block (J/B)]
- Harness for open or short between key switch and fuse.

NG >> Replace key cylinder assembly.

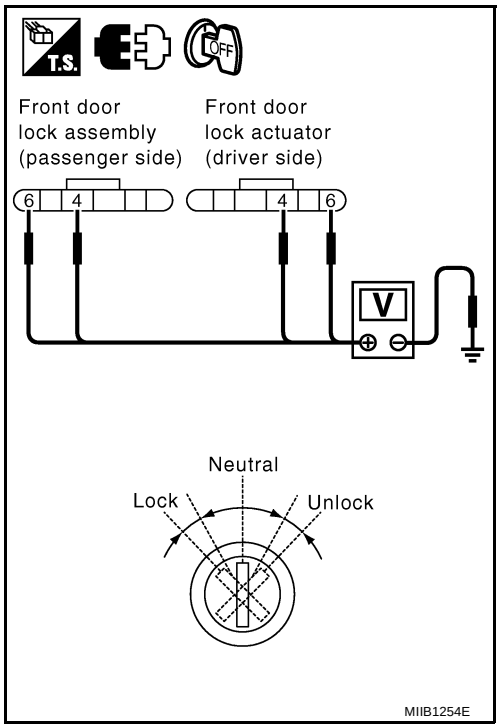
Check Door Key Cylinder Switch

GIS0000T

1. CHECK DOOR KEY CYLINDER SWITCH SIGNAL

1. Connect BCM connector and key cylinder switch.
2. Check voltage between BCM and front door lock actuators D10 (driver side), D39 (passenger side) harness connector terminals 4, 6 and ground.

Terminals		Condition of door key cylinder switch	Voltage [V] (Approx.)
(+)	(–)		
4	Ground	Neutral or Lock	5
		Unlock	0
6		Neutral or Unlock	5
		Lock	0



OK or NG

OK >> Door key cylinder switch circuit is OK.

NG >> GO TO 2.

2. CHECK DOOR KEY CYLINDER UNLOCK CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and key cylinder switch connector.
3. Check continuity between BCM connector M42 terminal 32 and door key cylinder switch connector D10, D39 terminal 6.

Driver side

32 - 6 : Continuity should exist.

Passenger side

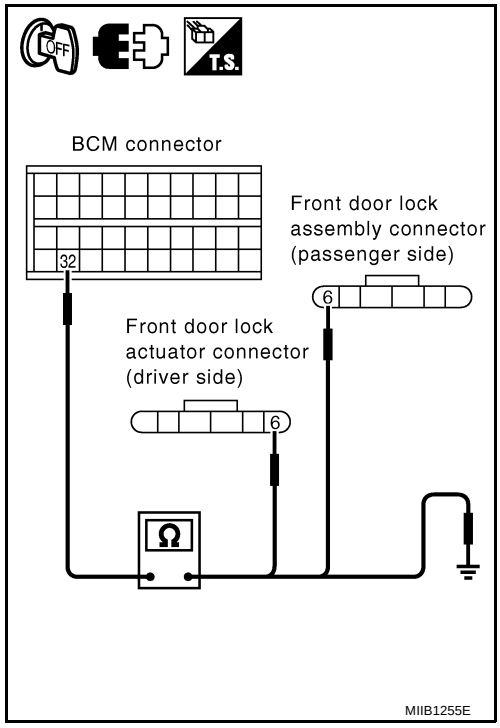
32 - 6 : Continuity should exist.

4. Check continuity between BCM connector M42 terminal 32 and ground.

32 - Ground : Continuity should not exist.

OK or NG

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



3. CHECK DOOR KEY CYLINDER LOCK CIRCUIT

1. Check continuity between BCM connector M42 terminal 34 and door key cylinder switch connector D10, D39 terminal 4.

Driver side

34 - 4 : Continuity should exist.

Passenger side

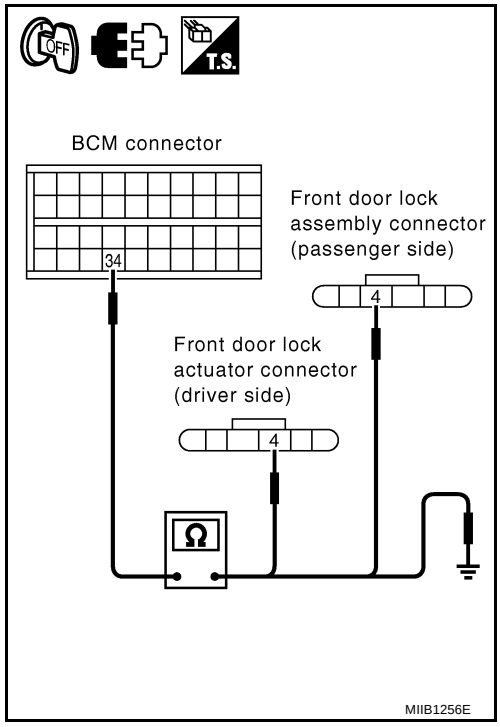
34 - 4 : Continuity should exist.

2. Check continuity between BCM connector M42 terminal 34 and ground.

34 - Ground : Continuity should not exist.

OK or NG

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



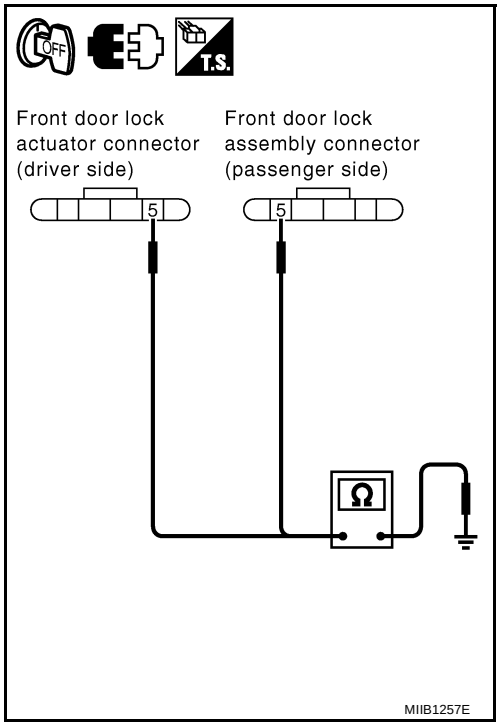
4. CHECK DOOR KEY CYLINDER LOCK GROUND HARNESS

Check continuity between key cylinder switch connector D10, D39 terminal 5 and ground.

5 - Ground : Continuity should exist.

OK or NG

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



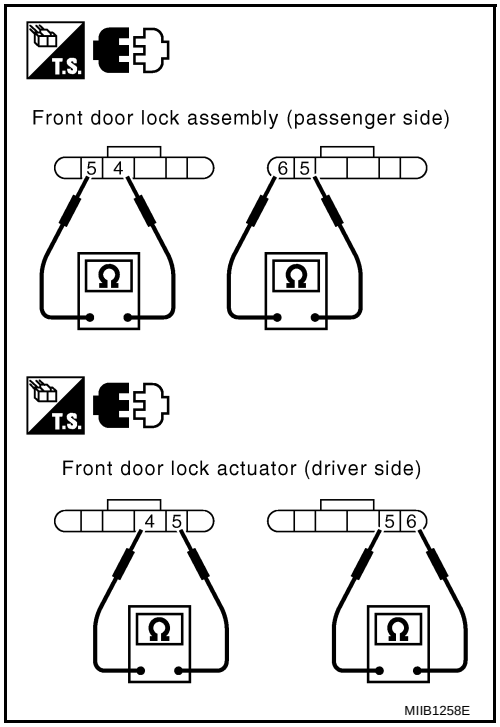
5. CHECK DOOR KEY CYLINDER SWITCH

Check continuity between door key cylinder switch connectors D10 and D39 driver and/or passenger side terminals 4, 5 and 6.

Terminals		Condition of door key cylinder switch	Continuity	
			Driver side	Passenger side
4	5	Neutral or Unlock	No	Yes
		Lock	Yes	No
6		Neutral or Lock	No	Yes
		Unlock	Yes	No

OK or NG

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



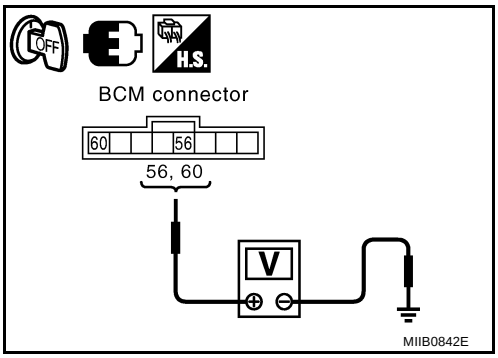
Check Front Door Lock Actuator (Driver Side)

GIS0000U

1. CHECK OUTPUT SIGNAL

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

Connector	Terminal (+)	Terminal (–)	Condition of door lock/unlock switch	Voltage [V] (Approx.)
M44	56	Ground	Locked	0 → Battery voltage → 0
	60		Unlocked	0 → Battery voltage → 0



OK or NG

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

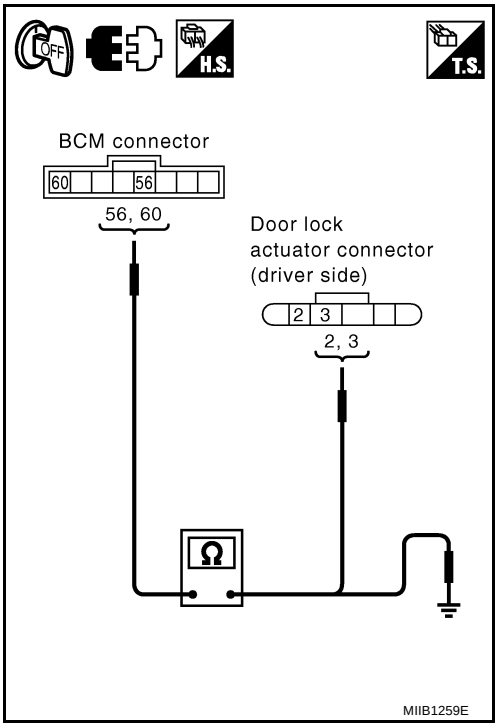
2. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect BCM connector and front door lock actuator (driver side) connector.
2. Check continuity between BCM connector M44 terminals 56, 60 and front door lock actuator (driver side) connector D10 for LHD model or D39 for RHD model terminals 2, 3.

56 – 3 : Continuity should exist.
60 – 2 : Continuity should exist.

3. Check continuity between BCM connector M44 terminals 56, 60 and ground.

56 – Ground : Continuity should not exist.
60 – Ground : Continuity should not exist.



OK or NG

OK >> Replace front door lock actuator (driver side).
NG >> Repair or replace harness.

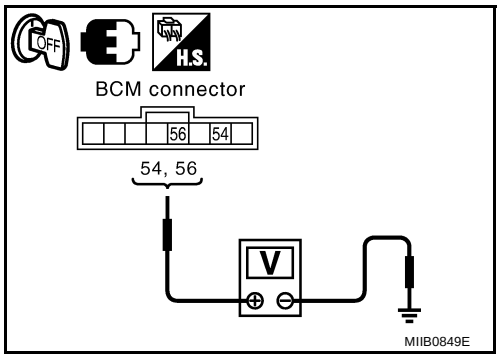
Check Front Door Lock Actuator (Passenger Side)

GIS0000V

1. CHECK OUTPUT SIGNAL

1. Turn ignition OFF.
2. Check voltage between BCM connector and ground.

Connector	Terminal (+)	Terminal (–)	Condition of door lock/ unlock switch	Voltage [V] (Approx.)
M44	54	Ground	Unlocked	0 → Battery voltage → 0
	56		Locked	0 → Battery voltage → 0



OK or NG

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

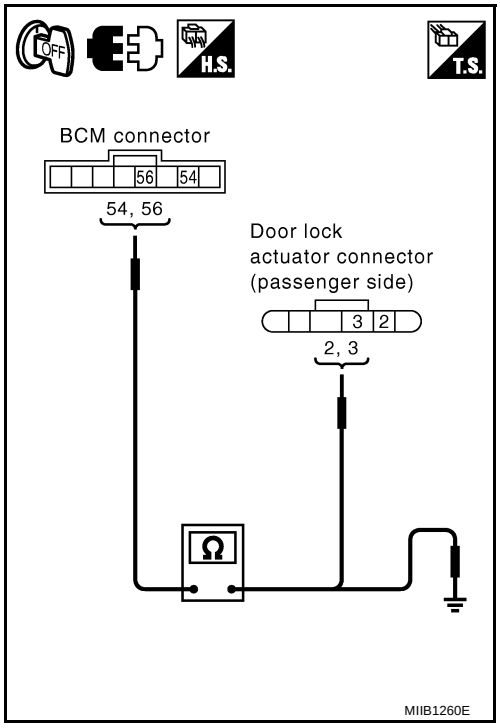
2. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect BCM connector and front door lock actuator (driver side) connector.
2. Check continuity between BCM connector M44 terminals 54, 56 and front door lock actuator (passenger side) connector D39 terminals 2, 3.

54 – 2 : Continuity should exist.
56 – 3 : Continuity should exist.

3. Check continuity between BCM connector M44 terminals 54, 56 and ground.

54 – Ground : Continuity should not exist.
56 – Ground : Continuity should not exist.



OK or NG

OK >> Replace front door lock actuator (passenger side).
NG >> Repair or replace harness.

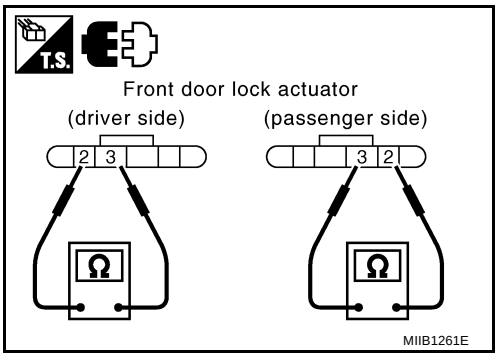
Check Front Door Lock Actuator Switch

GIS0000W

1. CHECK FRONT DOOR LOCK ACTUATOR

Check continuity between front door lock actuator connectors D10 and D39 driver and/or passenger side terminals side terminals 2 and 3.

Terminals		Condition of front door lock actuators	Continuity	
			Driver side	Passenger side
4	5	Neutral or Unlock	No	Yes
		Lock	Yes	No
6		Neutral or Lock	No	Yes
		Unlock	Yes	No



OK or NG

OK >> Check condition of harness and connector.
NG >> Replace front door lock actuators.

Check Rear Door Lock Actuator LH

GIS0000X

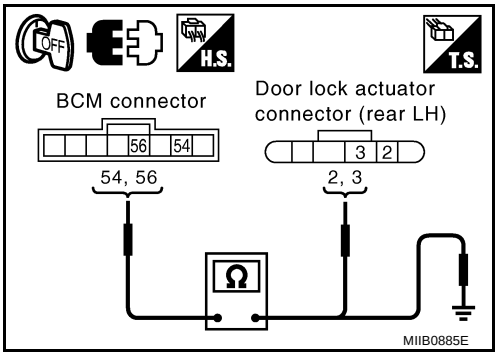
1. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and rear door lock actuator LH connector.
3. Check continuity between BCM connector M44 terminals 54, 56 and rear door lock actuator LH connector D65 terminals 2, 3.

54 – 2 : Continuity should exist.
56 – 3 : Continuity should exist.

4. Check continuity between BCM connector M44 terminals 54, 56 and ground.

54 – Ground : Continuity should not exist.
56 – Ground : Continuity should not exist.



OK or NG

OK >> Replace rear door lock actuator LH.
NG >> Repair or replace harness.

Check Rear Door Lock Actuator RH

GIS0000Y

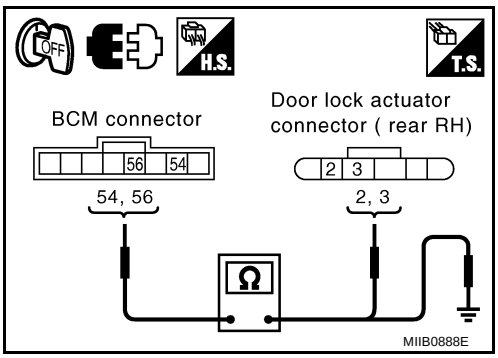
1. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and rear door lock actuator RH connector.
3. Check continuity between BCM connector M44 terminals 54, 56 and rear door lock actuator RH connector D85 terminals 2, 3.

54 – 2 : Continuity should exist.
56 – 3 : Continuity should exist.

4. Check continuity between BCM connector M44 terminals 54, 56 and ground.

54 – Ground : Continuity should not exist.
56 – Ground : Continuity should not exist.



OK or NG

OK >> Replace rear door lock actuator RH.
NG >> Repair or replace harness.

Check RH and LH Rear Door Lock Actuator Switch

GIS0000Z

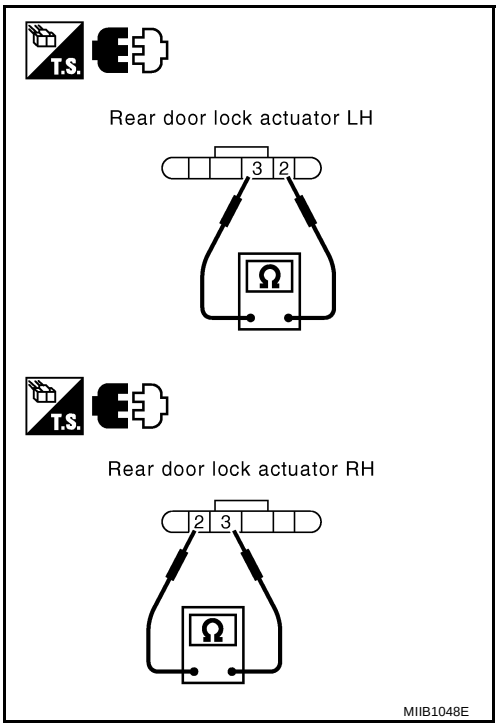
1. CHECK RH AND LH REAR DOOR LOCK ACTUATORS

Check continuity between rear door lock actuator RH connector D85 and rear door lock actuator LH connector D65, terminals 2 and 3.

Terminals		Condition of rear door lock actuators	Continuity	
			Driver side	Passenger side
2	3	Neutral or Unlock	No	Yes
		Lock	Yes	No
		Neutral or Lock	No	Yes
		Unlock	Yes	No

OK or NG

OK >> Check condition of harness and connector.
NG >> Replace rear door lock actuators.



Check Door Lock/Unlock Switch

GIS00010

1. CHECK DOOR LOCK/UNLOCK SWITCH SIGNAL

With CONSULT- II

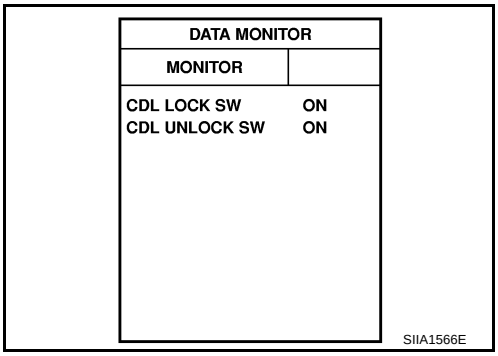
Check door lock/unlock switch input signal (“CDL LOCK SW” CDL UNLOCK SW”) in “DATA MONITOR” mode with CONSULT-ll

When door lock/unlock switch is turned to LOCK:

CDL LOCK SW ⇒ ON

When door lock/unlock switch is turned to UNLOCK:

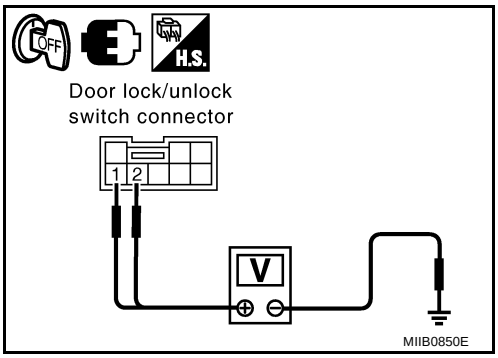
CDL UNLOCK SW ⇒ ON



Without CONSULT- II

1. Turn ignition switch OFF.
2. Operate door lock/unlock switch, check voltage between BCM connector and ground.

Connector	Terminals (+)	Terminals (-)	Condition	Voltage (V) (Approx.)
M52	1	Ground	Lock	0
			Neutral / Unlock	5
	2		Unlock	0
			Neutral / Lock	5



OK or NG

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

2. CHECK DOOR LOCK/UNLOCK SWITCH CIRCUIT

1. Disconnect BCM connector and door lock/unlock switch connector.
2. Check continuity between BCM connector M42 terminals 32, 34 and door lock/unlock switch connector M52 terminals 1, 2.

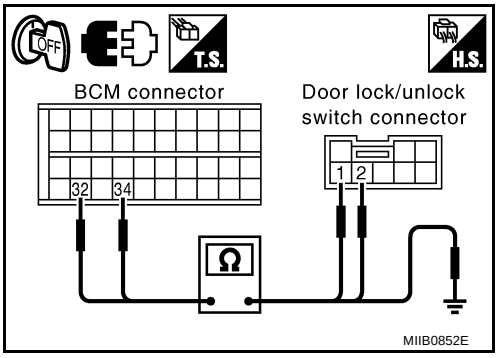
32 – 2 : Continuity should exist.

34 – 1 : Continuity should exist.

3. Check continuity between BCM connector M42 terminals 32, 34 and ground.

32 – Ground : Continuity should not exist.

34 – Ground : Continuity should not exist.



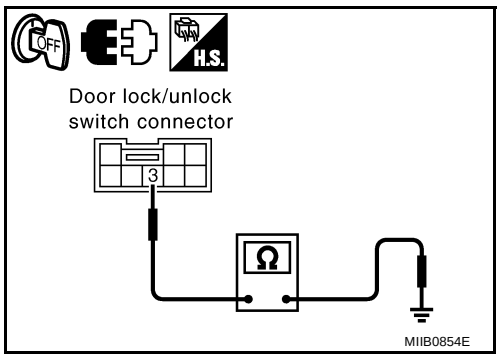
OK or NG

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

3. CHECK GROUND CIRCUIT

Check continuity between door lock/unlock switch connector M52 terminal 3 and ground.

3 – Ground : Continuity should exist.



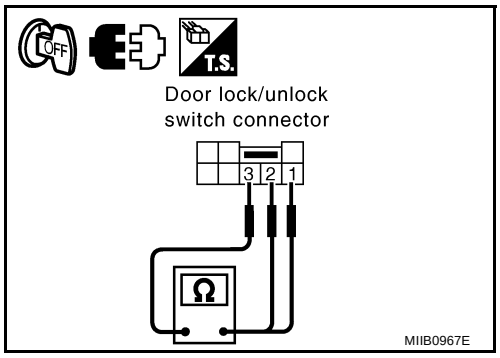
OK or NG

OK >> GO TO 4.
NG >> Replace harness.

4. CHECK DOOR LOCK/UNLOCK SWITCH

1. Turn ignition switch OFF.
2. Check continuity between door lock/unlock switch terminals 1, 2 and 3.

Terminals		Condition	Continuity
1	3	Lock	YES
		Neutral / Unlock	NO
2		Unlock	YES
		Neutral / Lock	NO



OK or NG

OK >> Check the condition of harness and connector.
NG >> Replace door lock/unlock switch.

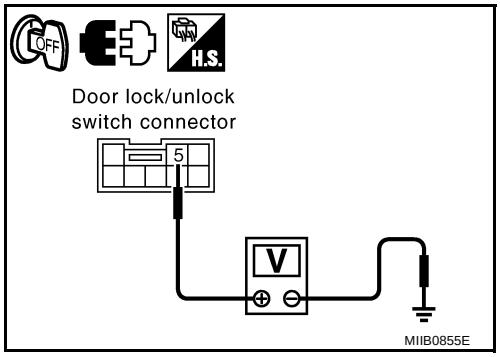
Check Door Lock/Unlock Switch Indicator

GIS00011

1. CHECK DOOR LOCK/UNLOCK SWITCH INDICATOR SIGNAL

Operate door lock/unlock switch, check voltage between door lock/unlock switch connector M52 terminal 5 and ground.

5 – Ground : Approx. 5V



OK or NG

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

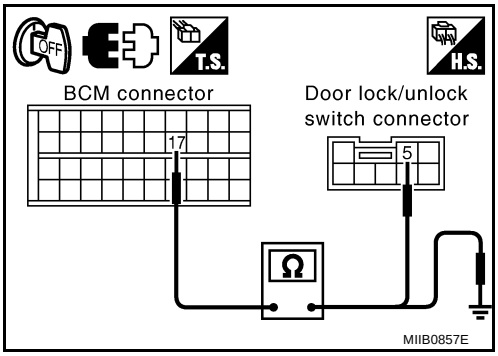
2. CHECK DOOR LOCK/UNLOCK SWITCH INDICATOR CIRCUIT

1. Turn ignition switch OFF
2. Disconnect BCM connector and door lock/unlock switch connector.
3. Check continuity between BCM connector M42 terminal 17 and door lock/unlock switch connector M52 terminal 5.

17 – 5 : Continuity should exist.

4. Check continuity between BCM connector M42 terminal 17 and ground.

17 – Ground : Continuity should not exist.



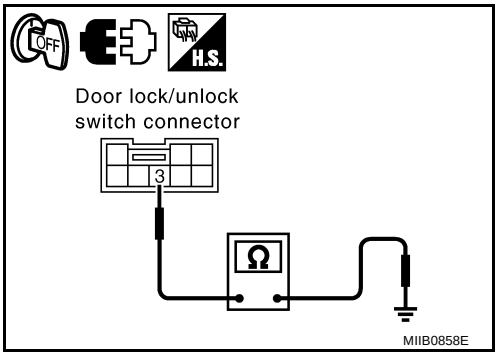
OK or NG

OK >> GO TO 3.
NG >> Replace harness.

3. CHECK GROUND CIRCUIT

Check continuity between door lock/unlock switch connector M52 terminal 3 and ground.

3 – Ground : Continuity should exist.



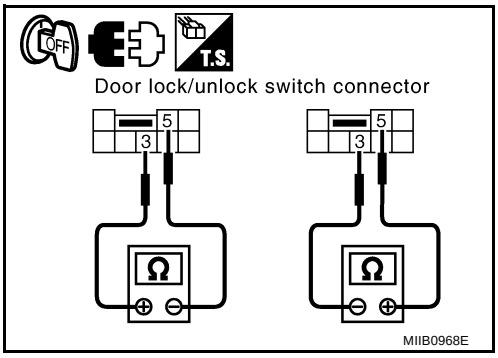
OK or NG

OK >> GO TO 4.
NG >> Replace harness.

4. CHECK DOOR LOCK/UNLOCK SWITCH INDICATOR

Check continuity between door lock/unlock switch indicator harness connector B52 terminal 3 and 5.

Terminals		Continuity
(+)	(-)	
3	5	Yes
5	3	No



OK or NG

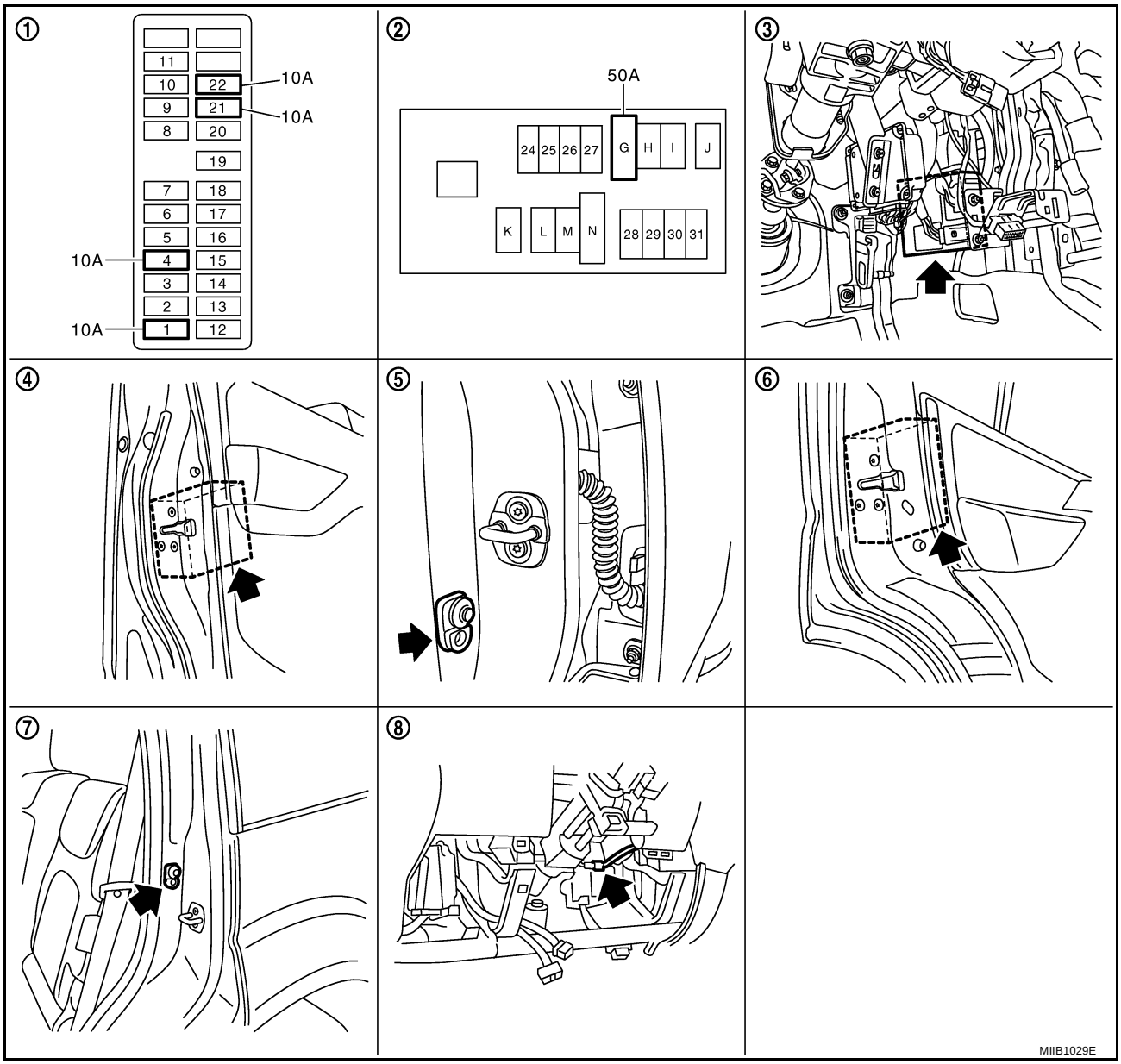
OK >> Check condition of harness and connector.
NG >> Replace door lock/unlock switch.

MULTI-REMOTE CONTROL SYSTEM

PFP:25362

Component Parts and Harness Connector Location

GIS0001R



1. Fuse block (J / B) fuse layout
2. Fuse and fusible link box
3. BCM M42, M43, M44 (View with instrument lower panel LH removed)
4. Front door lock actuator (Driver side) D10
5. Front door switch (Driver side) B19
6. Rear door lock actuator (LH) D65
7. Rear door switch (LH) B23
8. Key switch M35

System Description

GIS0001S

INPUTS

Power is supplied at all times

- to BCM terminal 57
- through 50A fusible link (letter **G** , located in the fuse and fusible link box).
- to BCM terminal 41
- through 10A fuse [No. 21, located in the fuse block (J/B)].

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

- to BCM terminal 5
- through key switch terminals 2 and 1
- through 10A fuse [No. 22, located in the fuse block (J/B)].

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

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

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

- to BCM terminal 3
- through 10A fuse [No. 1, located in the fuse block (J/B)].

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

- to BCM terminal 15
- through front door switch (driver side) terminal 2
- to front door switch (driver side) case ground.

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

- to BCM terminal 14
- through front door switch (passenger side) terminal 2
- to front door switch (passenger side) case ground.

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

- to BCM terminal 16
- through rear door switch LH terminal 2
- to rear door switch LH case ground.

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

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

The multi-remote control system controls operation of the

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

OPERATING PROCEDURE

Power Door Lock Operation

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

Hazard Reminder

When the doors are locked or unlocked by keyfob, power is supplied to hazard warning lamp.
Hazard reminder does not operate if any door switches are ON (any doors are OPEN).

How to change hazard and horn reminder mode

Hazard and horn reminder can be changed using “WORK SUPPORT” mode in “MULTI ANSWER BACK SET”.
Refer to BL-54, "CONSULT-II Function (BCM)" .

Auto Re-lock Function

The BCM is equipped with an auto re-lock function, when no further user action occurs after an full or partial unlock, the doors will automatically re-lock after 2 minutes (default value).
The auto re-lock function will not be activated under the following state.

- Key switch is On
- Mechanical key is inserted
- Any door is opened

NOTE:
The 2 minutes timer of auto re-lock will be reset if unlock button from the key fob is pressed.
Auto relock function can be changed using “WORK SUPPORT” mode in “AUTO LOCK SET”.
Refer to BL-56, "Work Support" .

Room Lamp Operation

When the following conditions are met:

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

With input of UNLOCK signal from keyfob multi-remote control system turns on interior lamp (for 30 seconds).

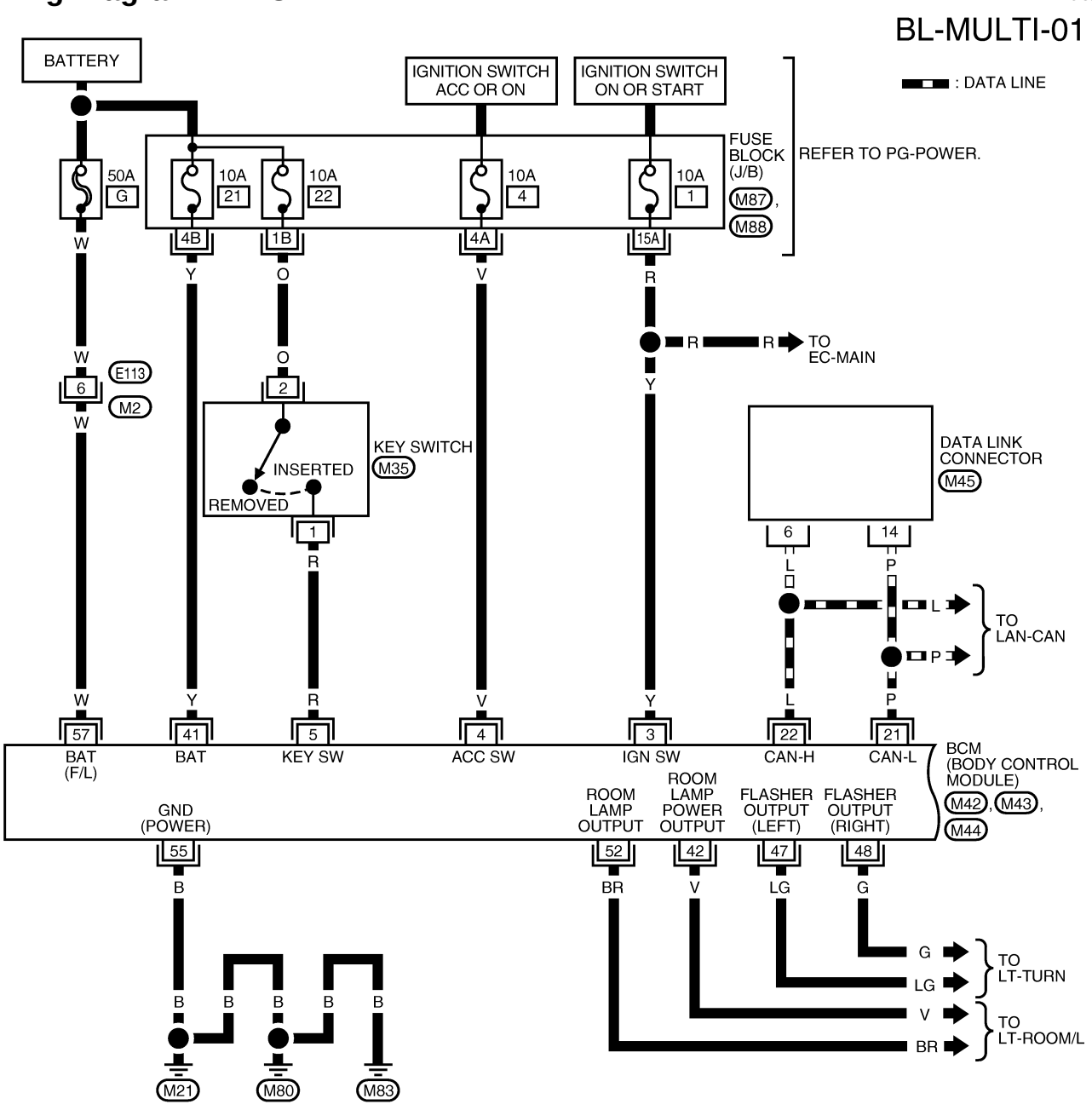
CAN Communication System Description

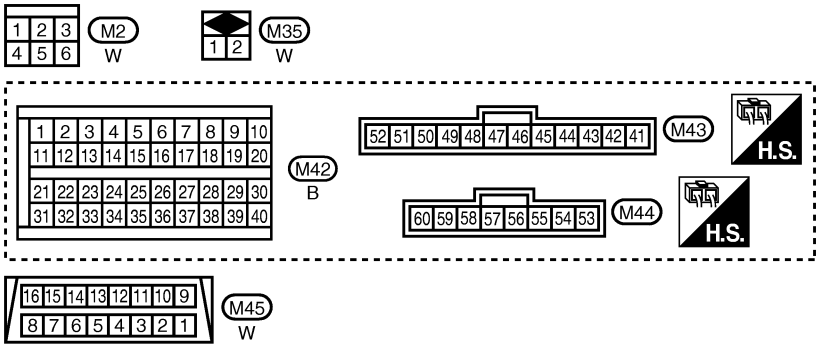
GIS0001T

Refer to LAN-21, "CAN COMMUNICATION" .

Wiring Diagram — MULTI —

GIS0001V

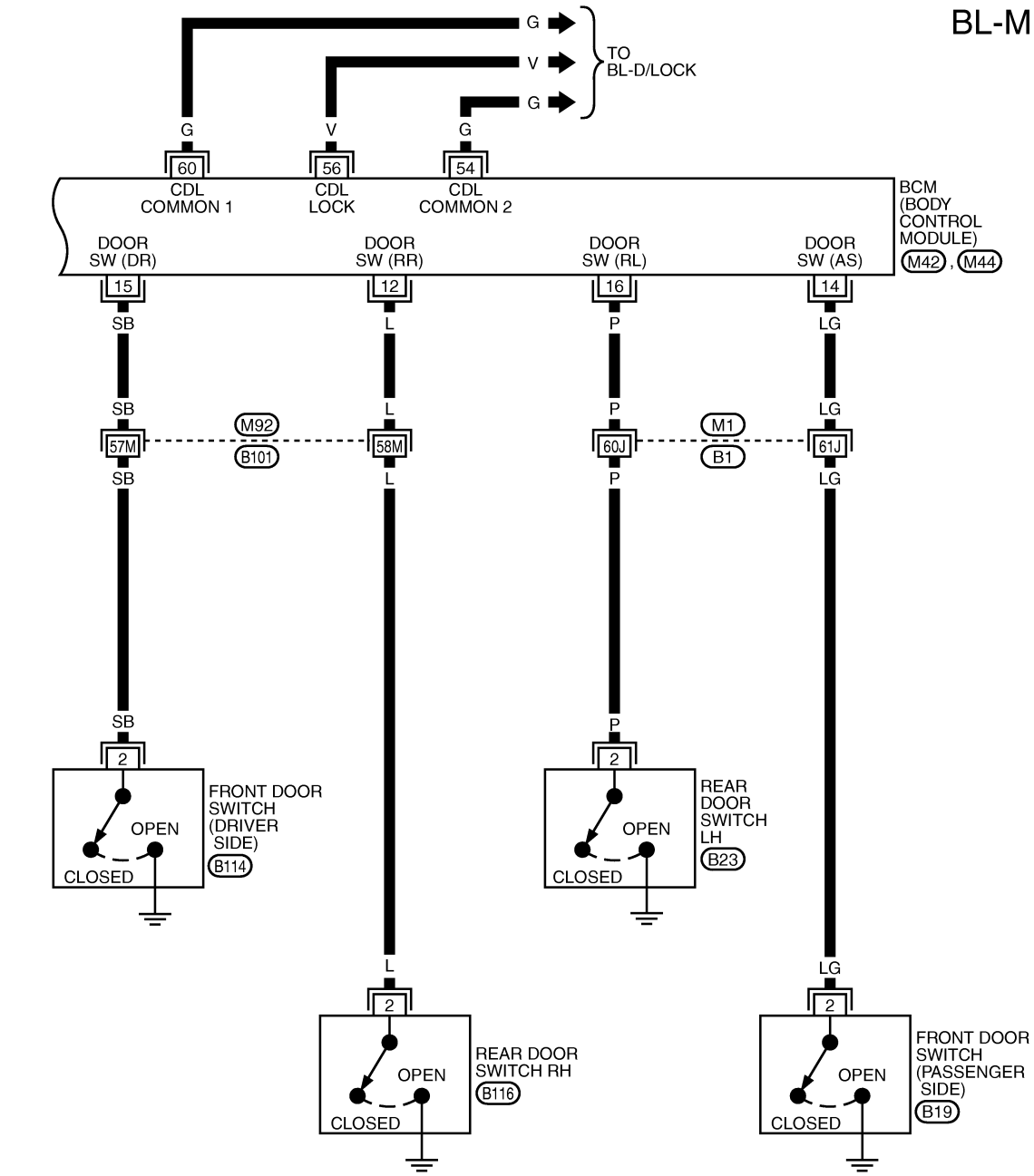


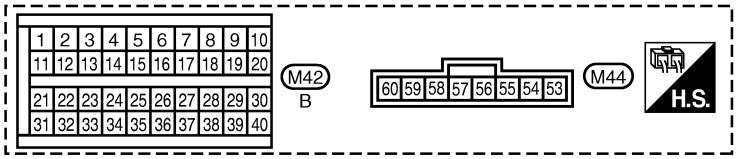


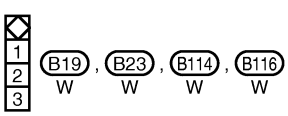
REFER TO THE FOLLOWING.
M87, M88 -FUSE BLOCK JUNCTION BOX (J/B)

MIWA0214E

BL-MULTI-02







REFER TO THE FOLLOWING.
M1 , M92 - SUPER MULTIPLE JUNCTION (SMJ)

MIWA0653E

Terminals and Reference Value for BCM

GIS0001W

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
3	Y	Ignition switch ON or START	Ignition switch ON or START	Battery voltage
4	V	Ignition switch ACC or ON	Ignition switch ACC or ON	Battery voltage
5	R	Key switch	ON (Key is inserted in key cylinder)	Battery voltage
			OFF (Key is removed from key cylinder)	0
12	L	Rear door switch RH	ON (door open)	0
			OFF (door closed)	Battery voltage
14	LG	Front door switch (Passenger side)	ON (door open)	0
			OFF (door closed)	Battery voltage
15	SB	Front door switch (Driver side)	ON (door open)	0
			OFF (door closed)	Battery voltage
16	P	Rear door switch LH	ON (door open)	0
			OFF (door closed)	Battery voltage
21	P	CAN L	—	—
22	L	CAN H	—	—
41	Y	Power source (Fuse)	—	Battery voltage
55	B	Ground	—	0
57	W	Power source (Fusible link)	—	Battery voltage

CONSULT-II Function (BCM)

GIS0001X

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

BCM diagnostic test item	Diagnostic mode	Description
MULTI REMOTE ENT	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
	DATA MONITOR	Displays BCM input/output data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.

CONSULT-II Inspection Procedure

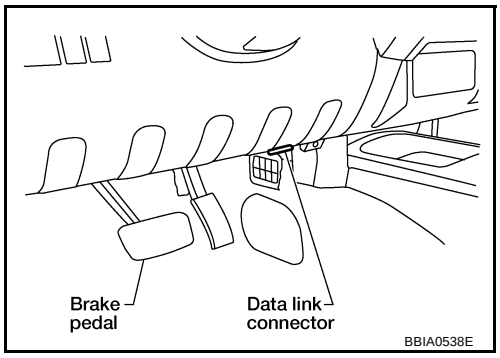
GIS0001Y

"MULTI REMOTE ENT"

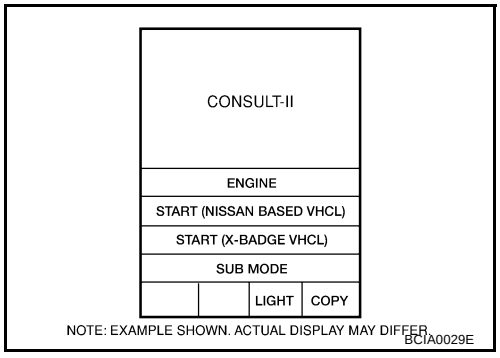
CAUTION:

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

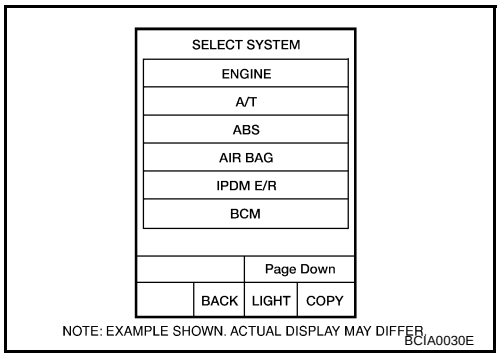
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.



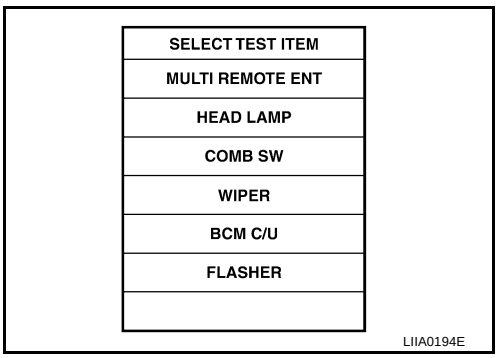
3. Turn ignition switch ON.
4. Touch "START (NISSAN BASED VHCL)".



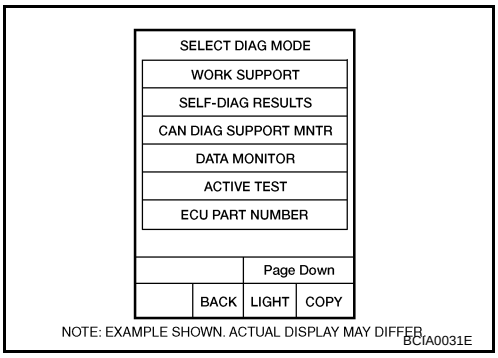
5. Touch "BCM".
   If "BCM" is not indicated, refer to GI-47, "CONSULT-II Data Link Connector (DLC) Circuit" .



6. Touch “MULTI REMOTE ENT”.



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



CONSULT-II Application Items
“MULTI REMOTE ENT”

GIS0001Z

Data Monitor

Monitored Item	Description
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch passenger side.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch driver side.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
KEYLESS PANIC	This is display even when it is not equipped.
KEYLESS UNLOCK	Indicates [ON/OFF] condition of unlock signal from keyfob.
KEYLESS LOCK	Indicates [ON/OFF] condition of lock signal from keyfob.
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from door key cylinder switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from lock/unlock switch.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from lock/unlock switch.
RKE LCK-UNLCK	Indicates [ON/OFF] condition of lock/unlock signal at the same time from keyfob.
RKE KEEP UNLK	Indicates [ON/OFF] condition of unlock signal from keyfob.
TRNK OPEN MNTR	This is display even when it is not equipped.

Active Test

Test Item	Description
FLASHER	This test is able to check right and left hazard reminder operation. The right hazard lamp turns on when “RH” on CONSULT-II screen is touched and the left hazard lamp turns on when "LH" on CONSULT-II screen is touched.
DOOR LOCK	This test is able to check door lock operation. The doors lock and unlock based on the item on CONSULT-II screen is touched.

Work Support

Test Item	Description
REMO CONT ID CONFIR	It can be checked whether keyfob ID code is registered or not in this mode.
HAZARD LAMP SET	Hazard lamp function mode can be changed in this mode. The function mode will be changed when "CHANG SETT" on CONSULT-II screen is touched.
HAZARD LAMP SET	Hazard reminder mode can be changed in this mode. The hazard reminder mode will be changed when “CHANGE SETT” on CONSULT-II screen is touched.
AUTO LOCK SET	Auto locking function mode can be changed in this mode. The function mode will be changed when "CHANG SETT" on CONSULT-II screen is touched.

HORN CHIRP SET

Horn chirp function	ON	OFF

HAZARD LAMP SET

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

AUTO LOCK SET

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

Trouble Diagnosis Procedure

GIS00020

1. Check the trouble symptom and customer's requests.
2. Understand outline of system. Refer to BL-49, "System Description" .
3. Confirm the power door lock system operates normally.
   Refer to BL-20, "POWER DOOR LOCK SYSTEM" .
4. Refer to trouble diagnosis chart by symptom, repair or replace any malfunctioning parts. Refer to BL-57, "Trouble Diagnosis Chart by Symptom" .
5. Inspection End.

Trouble Diagnosis Chart by Symptom

GIS00021

NOTE:

- Always check the “Trouble Diagnosis Procedure” before troubleshooting. Refer to BL-56, "Trouble Diagnosis Procedure" .
- Always check keyfob battery before replacing keyfob. Refer to BL-65, "Remote Controller Battery Replacement" .

Symptom	Diagnoses/service procedure	Reference page
All function of remote multi-remote control system do not operate.	1. Check keyfob battery and function.	BL-58
	2. Replace keyfob. Refer to ID Code Entry Procedure. **NOTE:** If the result of keyfob function with CONSULT-II is OK, keyfob is not malfunctioning.	BL-64
	3. Replace BCM.	BCS-15
The new ID of keyfob cannot be registered.	1. Check keyfob battery and function.	BL-58
	2. Check key switch.	BL-62
	3. Check door switch.	BL-60
	4. Check ACC switch.	BL-59
	5. Replace keyfob. Refer to ID Code Entry Procedure. **NOTE:** If the result of keyfob function with CONSULT-II is OK, keyfob is not malfunctioning.	BL-64
	6. Replace BCM.	BCS-15
Door lock or unlock does not function with keyfob. (Power door lock system is “OK”.)	1. Check keyfob battery and function.	BL-58
	2. Replace keyfob. Refer to ID Code Entry Procedure. **NOTE:** If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning.	BL-64
	3. Replace BCM.	BCS-15
Hazard reminder does not activate properly when pressing lock or unlock button of keyfob. (Horn reminder is “OK”.)	1. Check hazard reminder mode.* *: Hazard reminder mode can be changed. First check the hazard reminder setting.	BL-54
	2. Check hazard function.	BL-63
	3. Replace BCM.	BCS-15
Auto door lock operation does not activate properly. (All other remote multi-remote control system function is OK.)	1. Check auto door lock operation mode.* *: Auto door lock operation mode can be changed. First check the auto door lock operation setting.	BL-54
	2. Replace BCM.	BCS-15
Map lamp and ignition keyhole illumination operation does not activate properly.	1. Check map lamp and ignition keyhole illumination operation.	BL-63
	2. Check door switch.	BL-60
	3. Replace BCM.	BCS-15

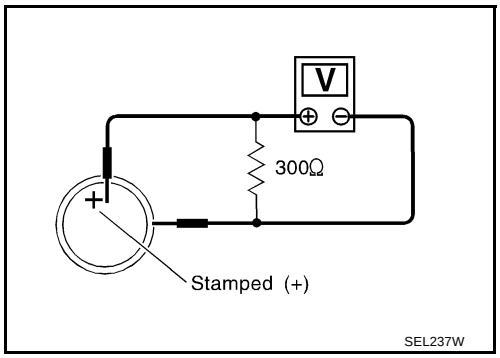
Check Keyfob Battery and Function

GIS00022

1. CHECK KEYFOB BATTERY

1. Remove keyfob battery. Refer to BL-65, "Remote Controller Battery Replacement" .
2. Measure voltage between battery positive and negative terminals, (+) and (–).

Voltage : 2.5 – 3.0V



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

OK or NG

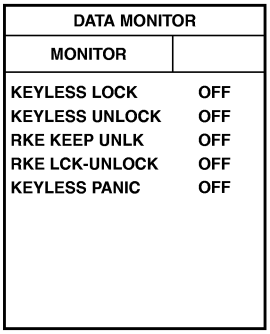
OK >> GO TO 2.
NG >> Replace battery.

2. CHECK KEYFOB FUNCTION

With CONSULT-II

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

Condition	Monitor item	
Pushing LOCK	KEYLESS LOCK	: ON
Pushing UNLOCK	KEYLESS UNLOCK	: ON
Press and hold UNLOCK	RKE KEEP UNLK*	: ON
	*: Press and hold the unlock button for 3 seconds.	
Pushing LOCK and UNLOCK at the same time	RKE LCK-UNLOCK	: ON



OK or NG

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

Check ACC Switch

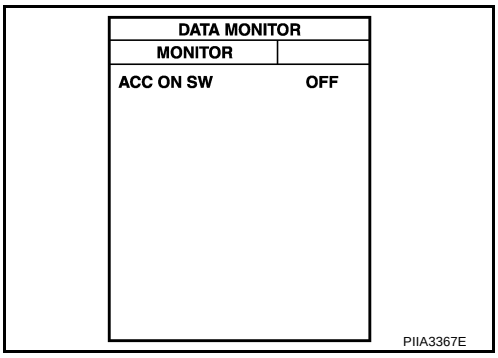
GIS00023

1. CHECK ACC SWITCH

With CONSULT-II

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

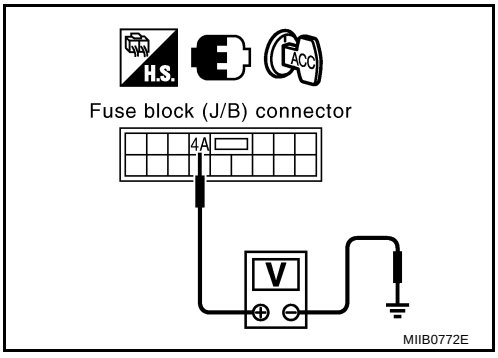
Monitor item	Condition	
ACC ON SW	Ignition switch position is ACC or ON	: ON
	Ignition switch position is OFF	: OFF



Without CONSULT-II

Check voltage between fuse block (J/B) connector and ground.

Connector	Terminal (+)	Terminal (–)	Ignition switch position	Voltage [V] (Approx.)
M88	4A	Ground	ACC	Battery voltage
			OFF	0



OK or NG

OK >> ACC switch is OK.

NG >> Check the following.

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

Check Door Switch

GIS00024

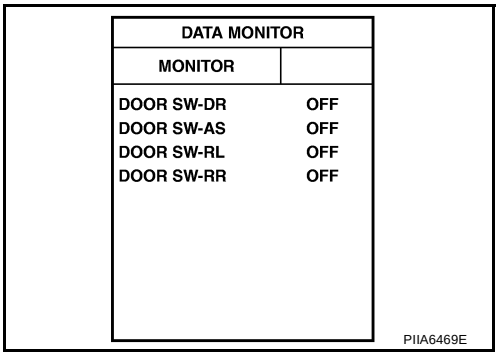
CHECK DOOR SWITCH

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

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

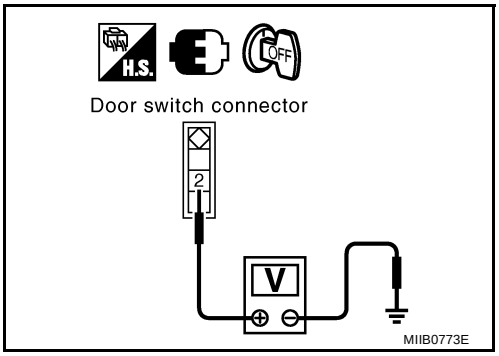
Monitor item	Condition	DATA MONITOR
DOOR SW-DR	CLOSE ↓ OPEN	OFF ↓ ON
DOOR SW-AS		
DOOR SW-RL		
DOOR SW-RR		



Without CONSULT-II

Check voltage between each door switch connector and ground.

Item	Connector	Terminals (+)	Terminals (-)	Door condition	Voltage [V] (Approx.)
Driver side	B114	2	Ground	CLOSE ↓ OPEN	Battery voltage ↓ 0
Rear LH	B23	2			
Passenger side	B19	2			
Rear RH	B116	2			



OK or NG

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

2. CHECK DOOR SWITCH

1. Turn ignition switch OFF.
2. Disconnect door switch connector.
3. Check continuity between door switch terminal 2 and ground part of door switch.

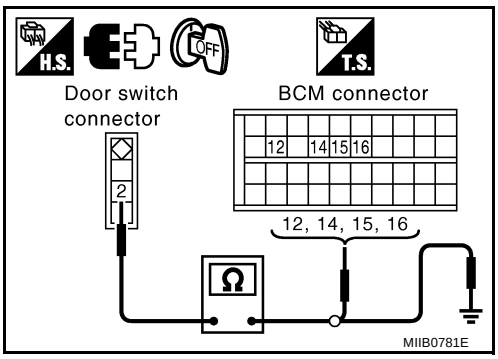
Terminal		Door switch condition	Continuity
2	Ground part of door switch	Pushed	No
		Released	Yes

OK or NG

OK >> GO TO 3.
NG >> Replace door switch.

3. CHECK DOOR SWITCH CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between door switch connector B19, B23, B114, B116 terminals 2 and BCM connector M42 terminals 12, 14, 15, 16.



Item	Connector	Terminals		Door condition	Continuity
		(+)	(–)		
Driver side	B114	2	15	CLOSE to OPEN	Continuity should exist.
Rear LH	B23	2	16		
Passenger side	B19	2	14		
Rear RH	B116	2	12		

3. Check continuity between door switch connector B19, B23, B114, B116 terminal 2 and ground.

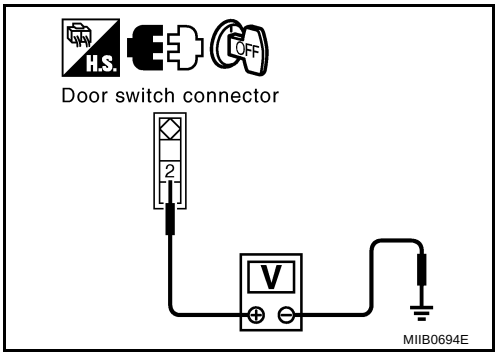
Item	Connector	Terminals		Door condition	Continuity
		(+)	(–)		
Driver side	B114	2	Ground	CLOSE to OPEN	Continuity should not exist.
Rear LH	B23	2			
Passenger side	B19	2			
Rear RH	B116	2			

OK or NG

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

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between each door switch connector B19, B23, B114, B116 terminal 2 and ground.



Item	Connector	Terminals		Door condition	Voltage [V] (Approx.)
		(+)	(–)		
Driver side	B114	2	Ground	CLOSE to OPEN	Battery voltage
Rear LH	B23	2			
Passenger side	B19	2			
Rear RH	B116	2			

OK or NG

OK >> Check harness condition or door switch installation condition.
NG >> Replace BCM.

Check Key Switch

GIS00025

1. CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

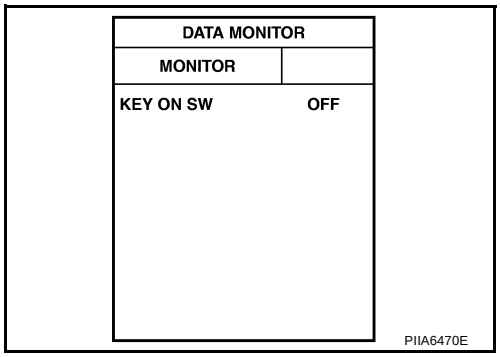
Check ignition key switch “KEY ON SW” in “DATA MONITOR” mode with CONSULT-II.

- When key is inserted in ignition key cylinder

  KEY ON SW : ON

- When key is removed from ignition key cylinder

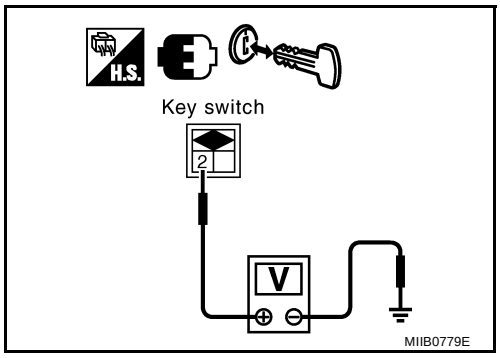
  KEY ON SW : OFF



Without CONSULT-II

Check voltage between key switch connector and ground.

Connector	Terminal (+)	Terminal (–)	Condition of key switch	Voltage [V] (Approx.)
M35	2	Ground	Key is inserted in ignition key cylinder.	Battery voltage
			Key is removed from ignition key cylinder.	0



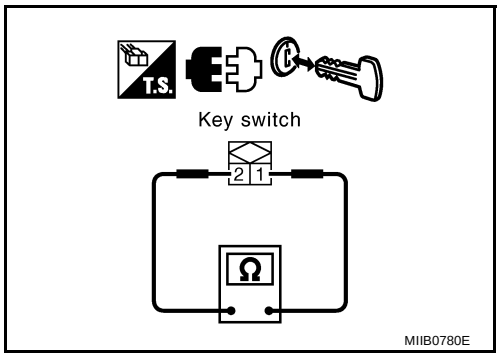
OK or NG

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

2. CHECK KEY SWITCH

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

Key switch condition	Continuity
Key switch is “ON”. (Key is inserted in IGN key cylinder.)	Yes
Key switch is “OFF”. (Key is removed from IGN key cylinder.)	No



OK or NG

OK >> Check the following.
- 10A fuse [No. 22, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between BCM and key switch

NG >> Replace key switch.

Check Hazard Function

GIS00026

1. CHECK HAZARD WARNING LAMP

Does hazard warning lamp flash while hazard switch is pressed?

YES or NO

YES >> Hazard warning lamp circuit is OK.
NO >> Check hazard circuit. Refer to LT-52, "TURN SIGNAL AND HAZARD WARNING LAMPS" .

Check Map Lamp and Ignition Keyhole Illumination Function

GIS00027

1. CHECK MAP LAMP AND IGNITION KEYHOLE ILLUMINATION FUNCTION

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

Map lamp and ignition keyhole illumination should illuminate.

OK or NG

OK >> Map lamp and ignition switch key hole illumination circuit is OK.
NG >> Check ignition illumination circuit. Refer to LT-93, "INTERIOR ROOM LAMP" .

ID Code Entry Procedure

GIS00028

KEYFOB ID SET UP

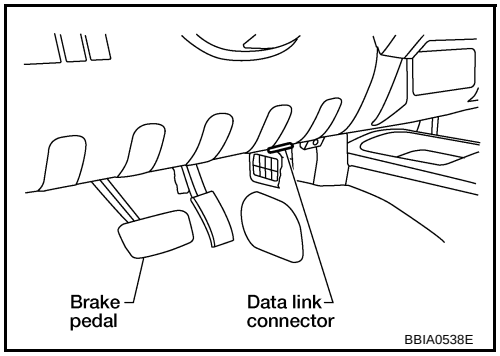
NOTE:
Keyfob ID setup procedure is same as ignition key registration (NATS initialization) procedure.
When the registration of the ignition key (NATS initialization) is performed with a NATS program card, the registration of keyfob ID is done at the same time.
Regarding the procedures of NATS initialization and ignition key ID registration, refer to CONSULT-II operation manual, NATS.
If additional key or key replacement is demanded, request all registed key fobs to be brought to the dealer.
During the NATS initialization process, all registered key IDs will be deleted, thus, it is necessary to re-register all keys.

CONSULT-II INSPECTION PROCEDURE

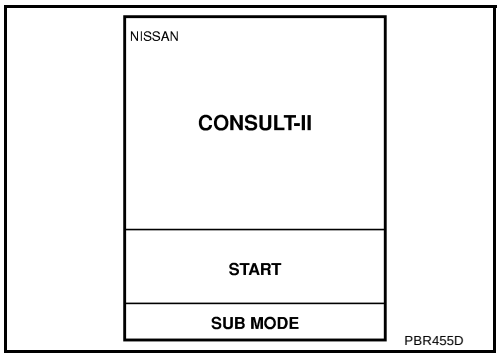
1. Turn ignition switch OFF.
2. Insert NATS program card into CONSULT-II.

   Program card : NATS (AEN04A-1)

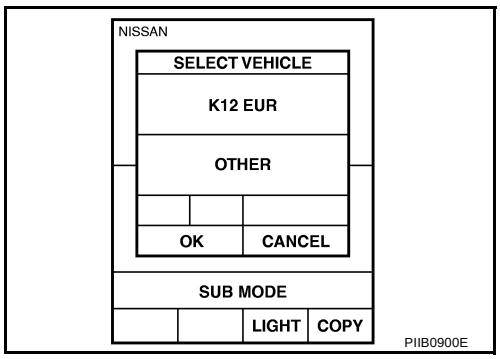
3. Connect CONSULT-II and CONSULT-II CONVERTER to data link connector.



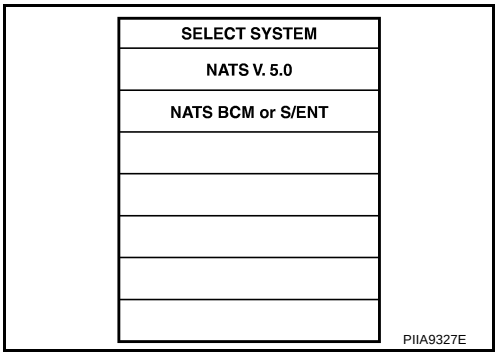
4. Turn ignition switch ON.
5. Touch “START”.



6. Touch “OTHER”.

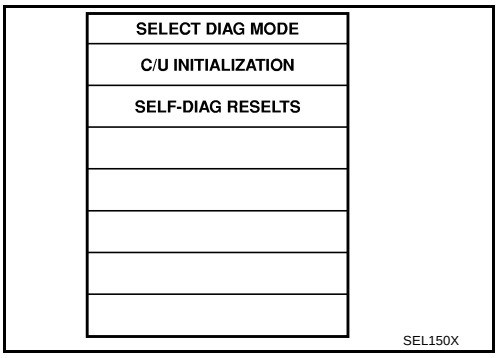


7. Select “NATS V.5.0”.
If “NATS V5.0” is not indicated, go to GI-47, "CONSULT-II Data Link Connector (DLC) Circuit" .



8. Perform each diagnostic test mode according to each service procedure.

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



Remote Controller Battery Replacement

GIS00029

1. Remove installation screw(5) on the rear of remote controller.
2. Place the key with the lower housing(4) facing up. Set a screwdriver A wrapped with tape into illustration of the lower housing (4) and separate the lower housing(4) from the upper housing(1).

CAUTION:
Please use only a small slotted screwdriver A for opening the key housing.

3. When replacing the circuit board assembly, remove circuit board assembly(2) from the upper housing(1).
(Circuit board assembly(2): Switch rubber + Board surface)

CAUTION:
Be careful not to touch the printed circuits directly.

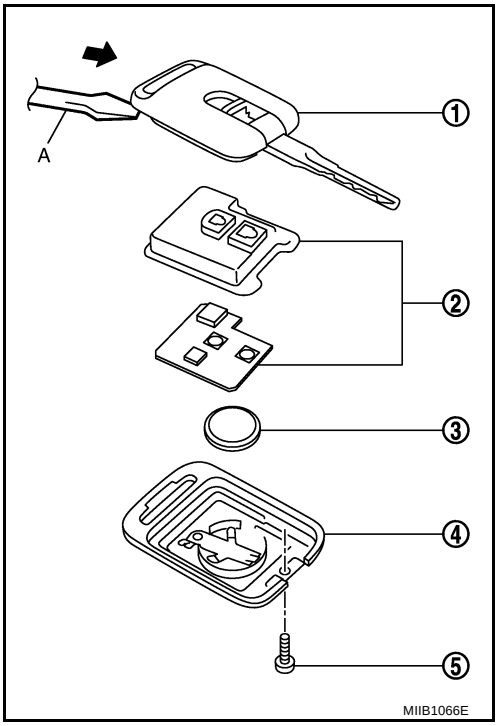
4. When replacing the battery.
Remove battery(3) from the lower housing(4) and replace it.

Battery replacement : Coin-type lithium battery (CR2016)

CAUTION:
When replacing battery, be sure to keep dirt, grease and other foreign materials off the electrode contact area.

5. After replacement, fit the lower and upper housing together, part and tighten with the screw(5).

CAUTION:
After replacing the battery, be sure to check that door locking operates normally using the remote controller.

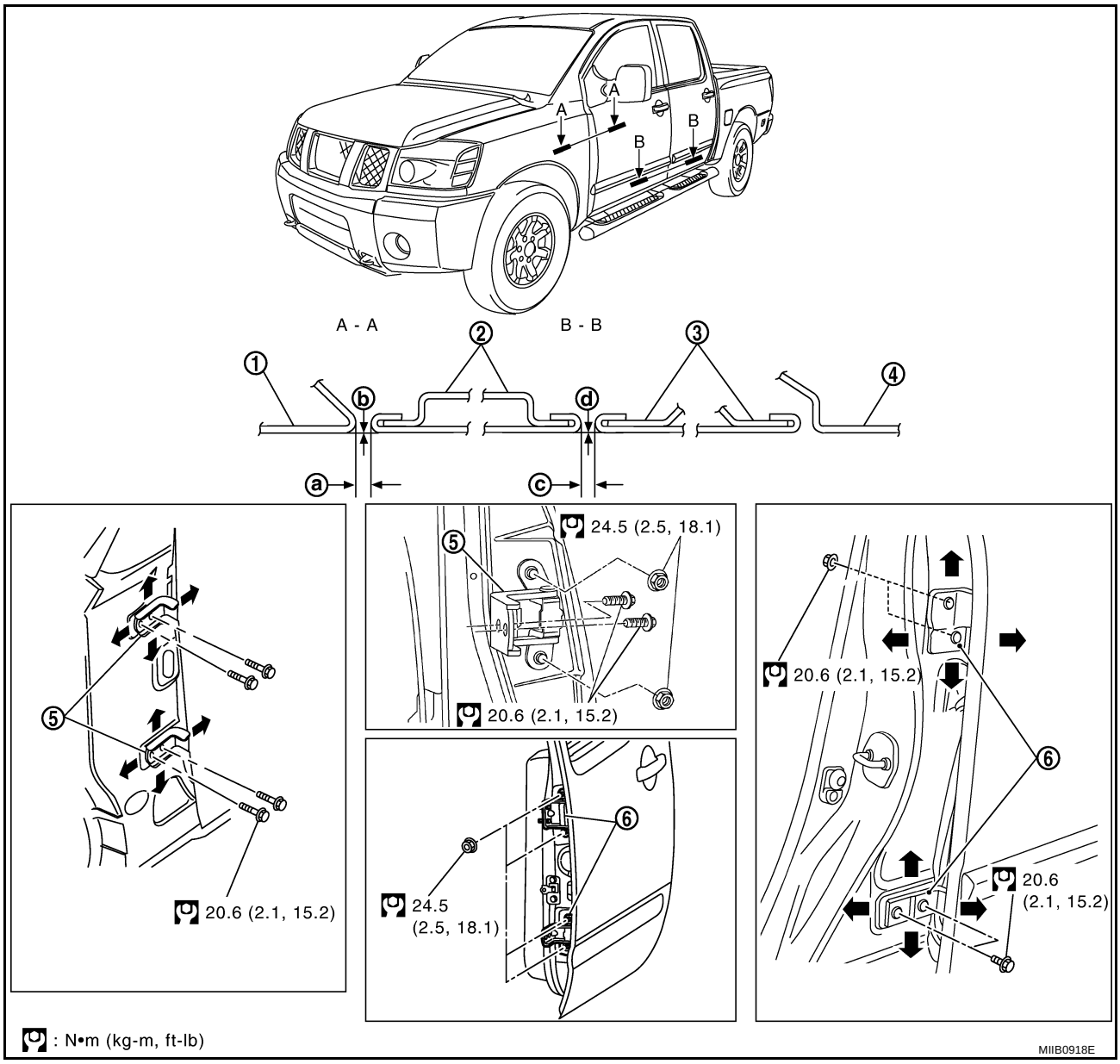


DOOR

PFP:80100

Fitting Adjustment

GIS0002B



1. Front fender
2. Front door
3. Rear door
4. Body side outer
5. Front door hinge
6. Rear door hinge

FRONT DOOR

Longitudinal Clearance and Surface Height Adjustment at Front End

1. Remove the front fender. Refer to BL-19, "Removal and Installation" .
2. Loosen the hinge mounting bolts. Raise or lower the front door at rear end to adjust.

REAR DOOR

Longitudinal Clearance and Surface Height Adjustment at Front End

1. Remove the center pillar upper finisher. Refer to EI-31, "CENTER PILLAR UPPER FINISHER" .
2. Loosen the lower hinge mounting bolts.
3. From inside the vehicle, loosen the upper hinge mounting nuts. Open the door, and raise or lower the rear end of the door to adjust.

	Portion	Clearance
Front fender- Front door outer	A - A (a)	3.5 - 5.5 mm (0.138 - 0.217 in)
Front door outer - Rear door outer	B - B (c)	3.5 - 5.5 mm (0.138 - 0.217 in)

	Portion	Surface height
Front fender- Front door outer	A - A (b)	- 1.0 - 1.0 mm (- 0.039 - 0.039 in)
Front door outer - Rear door outer	B - B (d)	- 1.0 - 1.0 mm (- 0.039 - 0.039 in)

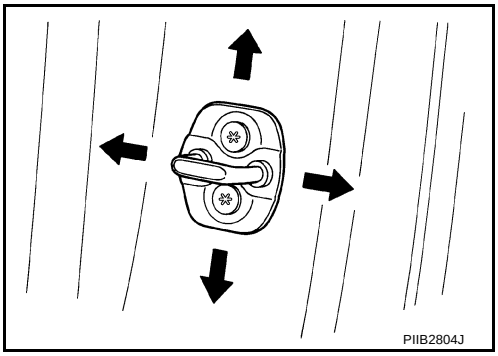
CAUTION:

After installing, apply touch-up paint (the body color) onto the head of the hinge mounting nuts and mounting bolts.

STRIKER ADJUSTMENT

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

: 16.7 N·m (1.7 kg-m, 12.4 ft-lb)



GIS0002C

Removal and Installation of Front Door

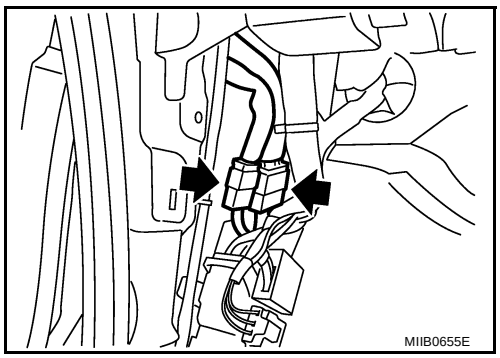
CAUTION:

- **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-66, "Fitting Adjustment" .**
- **Check the hinge rotating part for poor lubrication. If necessary, apply “body grease”.**
- **After installing, apply touch-up paint (the body color) onto the head of the hinge mounting nuts.**
- **Operate with two workers, because of its heavy weight.**
- **After installing, check operation.**

REMOVAL

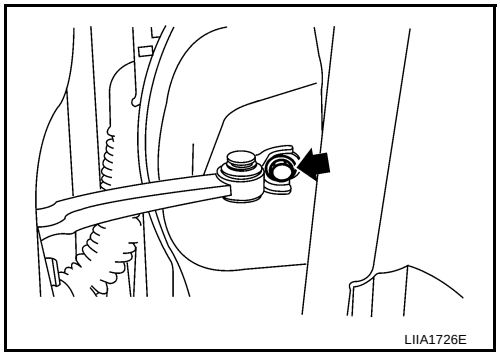
1. Remove the front kicking plate and the dash side finisher. Refer to EI-30, "BODY SIDE TRIM" .

2. Disconnect the front door harness connector.



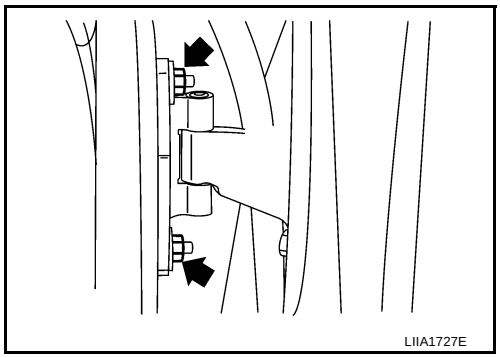
3. Grommet is pulled out, and the front door harness is pulled out.
4. Remove the mounting bolts of the check link on the vehicle.

: 14.7 N·m (1.5 kg-m, 11 ft-lb)



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

: 24.5 N·m (2.5 kg-m, 18 ft-lb)



INSTALLATION

Install in the reverse order of removal.

Removal and Installation of Rear Door

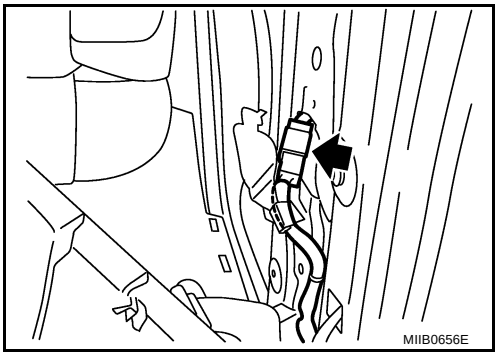
GIS0002E

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-66, "Fitting Adjustment" .**
- **Check the hinge rotating part for poor lubrication. If necessary, apply “body grease”.**
- **After installing, apply touch-up paint (the body color) onto the head of the hinge mounting nuts.**
- **Operate with two workers, because of its heavy weight.**
- **After installing, check operation.**

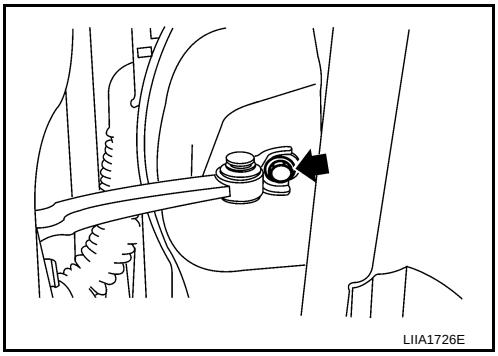
REMOVAL

1. Remove the center pillar lower finisher. Refer to EI-30, "BODY SIDE TRIM" .
2. Disconnect the rear door harness connector.


MIIB0656E

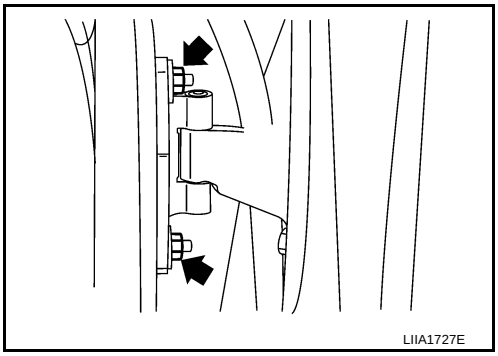
3. Grommet is pulled out, and the rear door harness is pulled out.
4. Remove the mounting bolts of the check link on the vehicle.

: 14.7 N·m (1.5 kg-m, 11 ft-lb)


LIIA1726E

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

: 24.5 N·m (2.5 kg-m, 18 ft-lb)

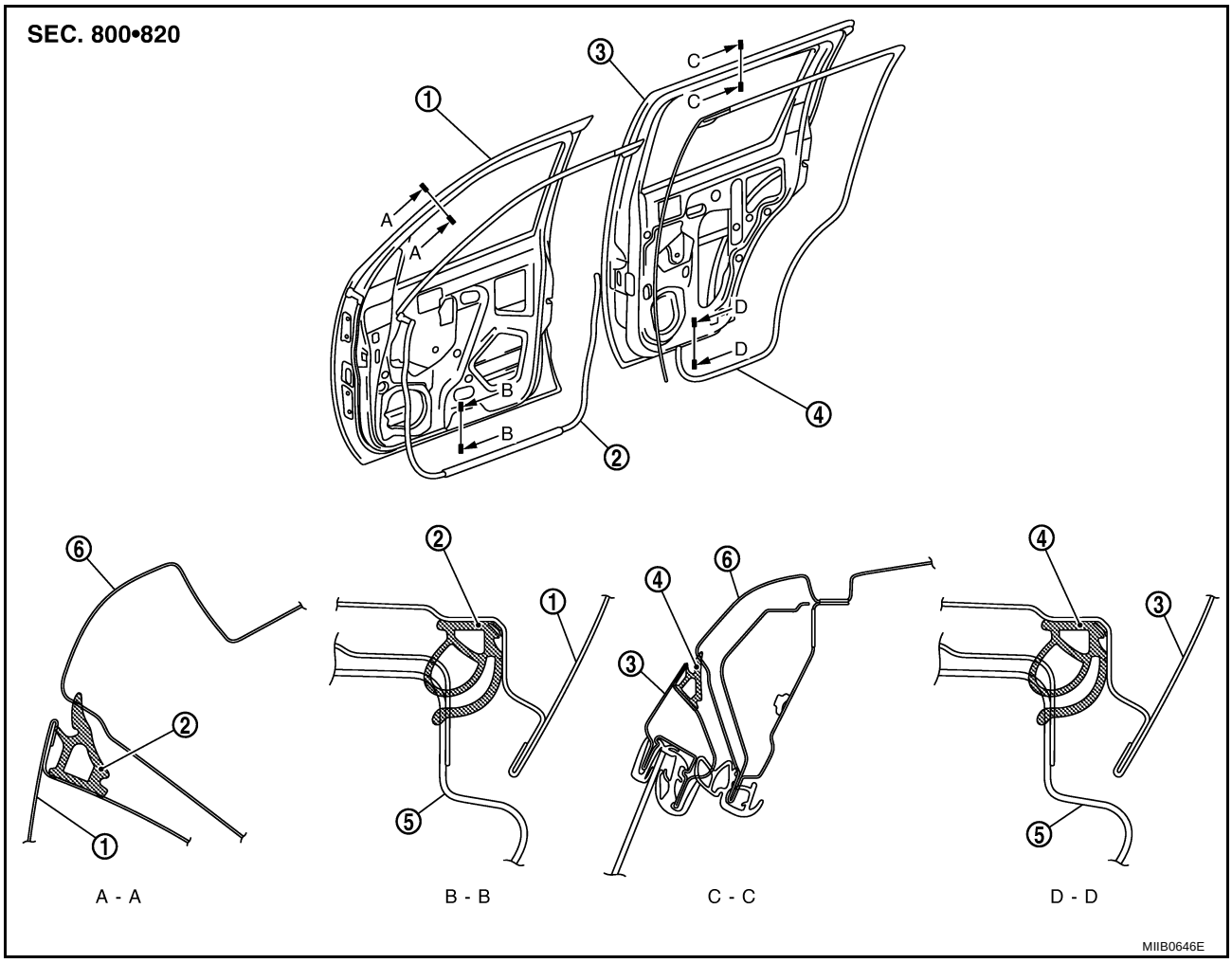

LIIA1727E

INSTALLATION

Install in the reverse order of removal.

Removal and Installation of Door Weather-strip

GIS0002G



1. Front door outer
2. Front door weather-strip
3. Rear door outer
4. Rear door weather-strip
5. Sill outer
6. Body side outer

REMOVAL

CAUTION:

After removal, do not pull strongly on the weather-strip.

Remove the weather-strip clips, and remove weather-strip.

INSTALLATION

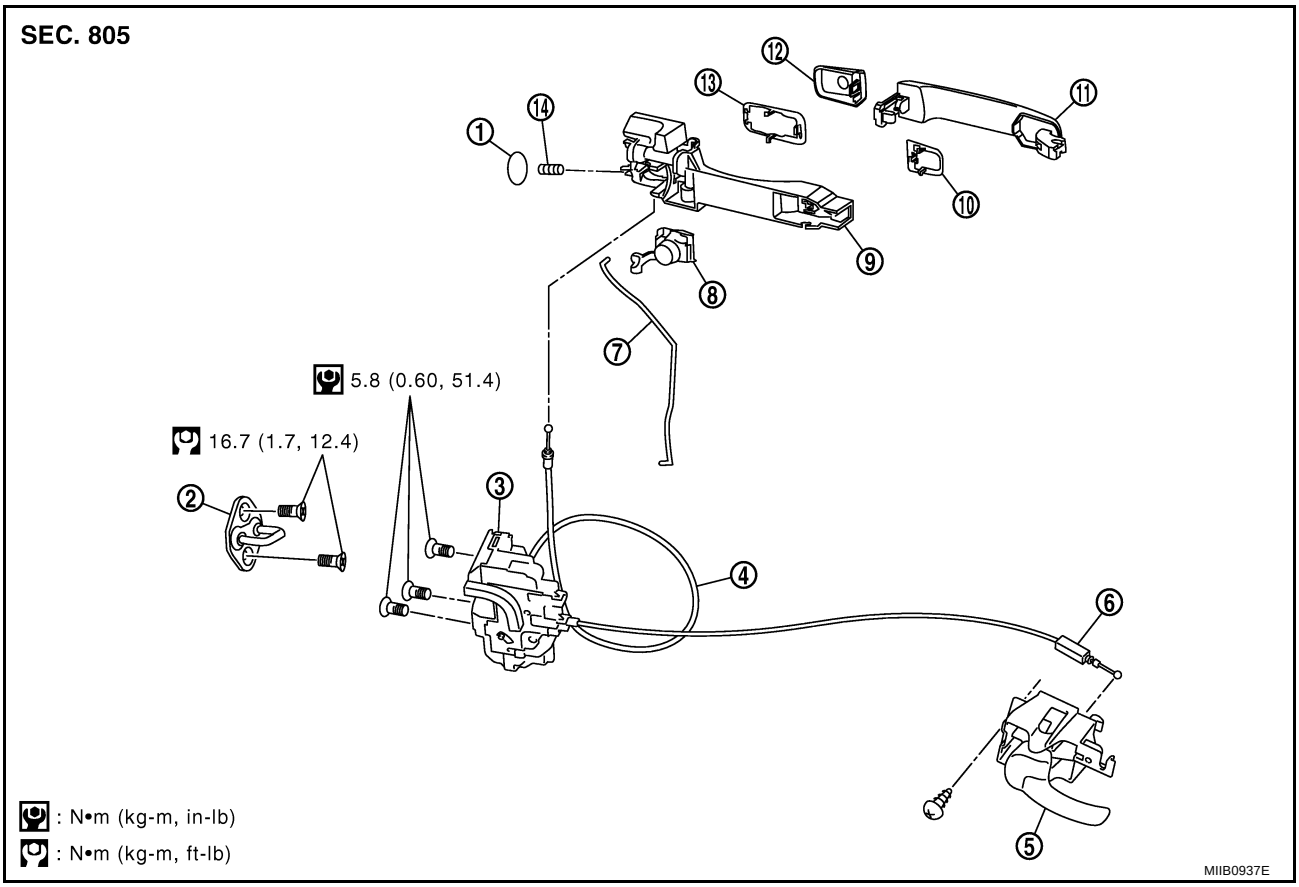
Install in the reverse order of removal.

FRONT DOOR LOCK

PFP:80502

Removal and Installation

GIS0002H



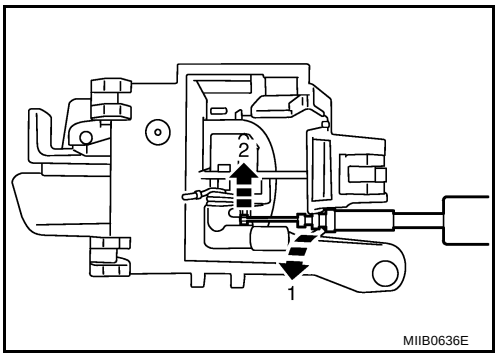
1. Grommet	2. Front door striker	3. Door lock assembly
4. Outside handle cable	5. Inside handle assembly	6. Inside handle cable
7. Key cylinder rod (Driver side only)	8. Door key cylinder	9. Outside handle bracket
10. Front gasket	11. Outside handle	12. Outside handle escutcheon
13. Rear gasket	14. TORX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

REMOVAL

1. Remove the front door finisher. Refer to EI-28, "FRONT DOOR" .
2. Fully close the 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 the lower sash (rear). Refer to GW-35, "Removal and Installation" .
5. Remove the inside handle assembly.
6. Disconnect the inside handle knob cable from the back side of the inside handle in order of (1) and (2).

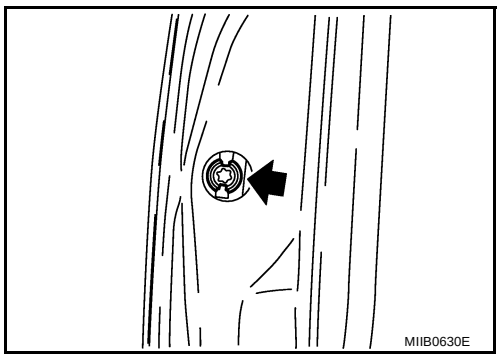
   CAUTION:
   During removal and installation, work so as not to bend the ends of the inside handle.



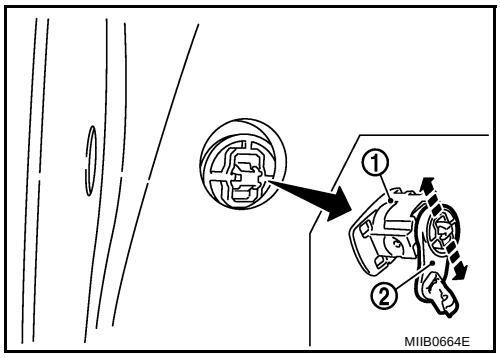
7. Remove the door side grommet, and remove the outside handle bracket bolt from grommet hole.

   CAUTION:
   Do not forcibly remove the TORX bolt.

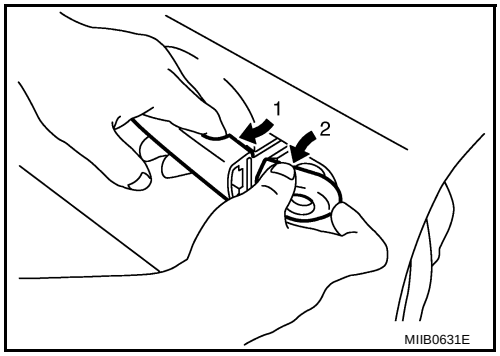
   : 6.1 N·m (0.63 kg-m, 54.0 in-lb)



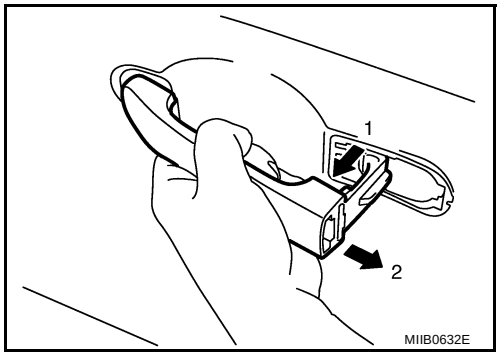
8. Reach to separate the key cylinder rod and outside handle rod connection (on the handle). If no door key cylinder is found, go to 10.
9. Remove the door side grommet, and door key cylinder is decomposed into (1) and (2).



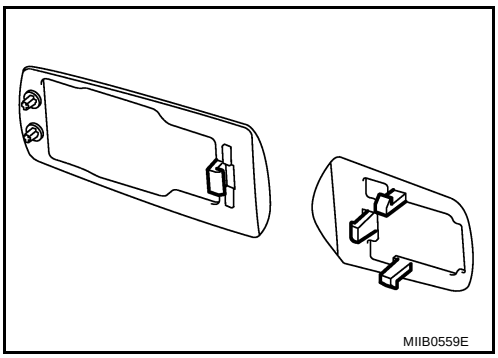
10. While pulling the outside handle, remove the door key cylinder assembly in order of (1) and (2).



11. While pulling outside handle, slide toward rear of vehicle to remove the outside handle in order of (1) and (2).

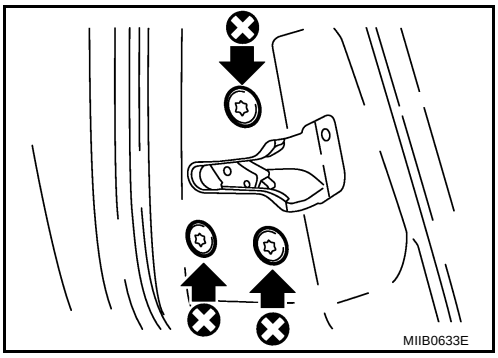


12. Remove the front gasket and rear gasket.

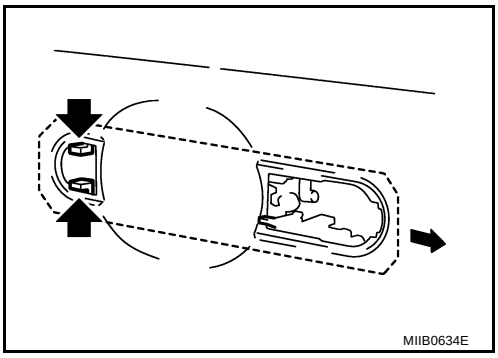


13. Remove the TORX bolts (T30), remove the door lock assembly.

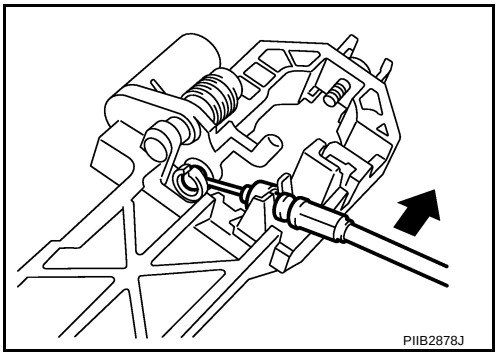
: 5.8 N·m (0.60 kg-m, 51.4 in-lb)



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



15. Disconnect the door lock actuator connector.
16. Reach in to separate the key cylinder rod and outside handle cable connection.

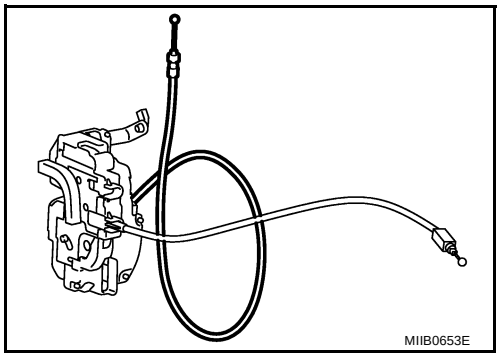


INSTALLATION

Note the following, and install in the reverse order of removal.

CAUTION:

- **Install each rod by rotating the rod holder until it engages with a tactile feel.**
- **When installing door lock assembly, be careful so that the outside handle cable bends as shown in the figure.**
- **Place the outside handle cable on the front of door lock assembly before installing.**

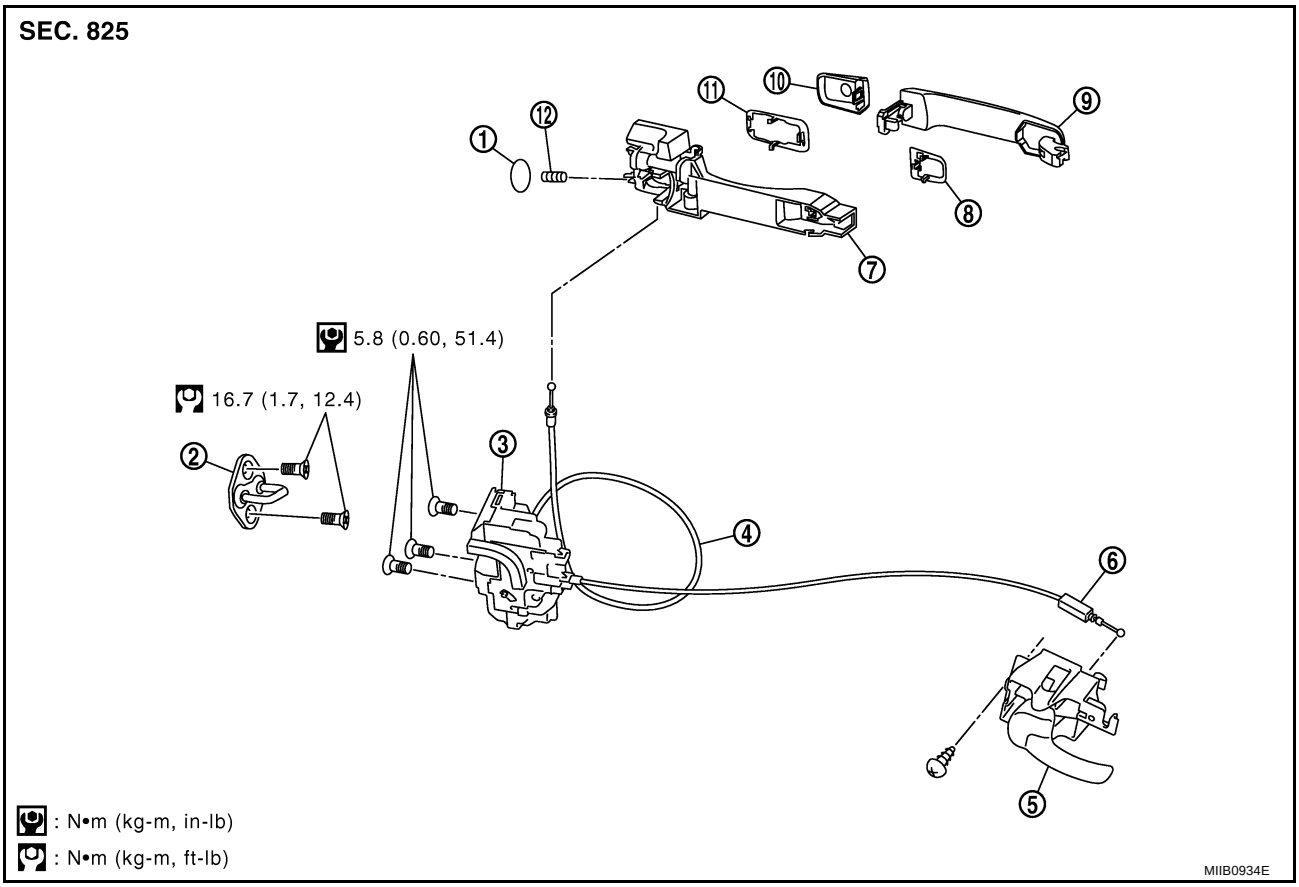


REAR DOOR LOCK

PFP:82502

Removal and Installation of Rear Door Lock

GIS0002J



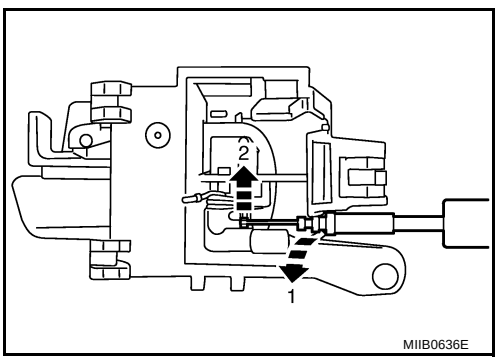
1.	Grommet	2.	Rear door striker	3.	Rear door lock assembly
4.	Outside door handle cable	5.	Inside door handle assembly	6.	Inside door handle cable
7.	Outside handle bracket	8.	Front gasket	9.	Outside handle
10.	Outside handle escutcheon	11.	Rear gasket	12.	TORX bolt

REMOVAL

1. Remove the rear door finisher. Refer to EI-29, "REAR DOOR" .
2. Fully close the rear door window.
3. Remove the rear door sealing screen.

   NOTE:
   If searing screen is reused, cut butyl-tape in a way that leaves it on the sealing screen.
4. Remove the inside door handle.
5. Disconnect the door lock and inside door handle cables from the inside door handle in order of (1) and (2).

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

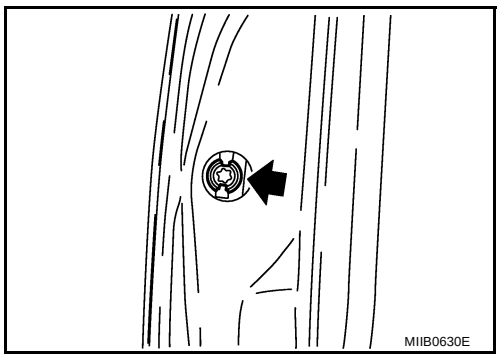


6. Remove the rear door sealing screen.

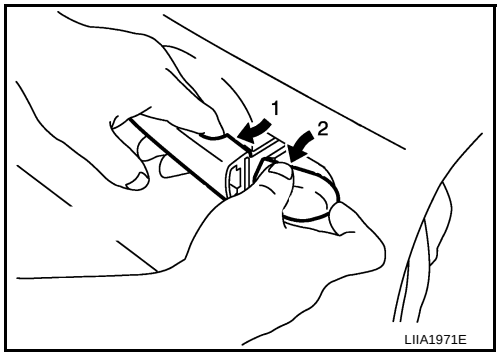
7. Remove the door side grommet, and remove the outside handle bracket bolt from grommet hole.

CAUTION:
Do not forcibly remove the TORX bolt.

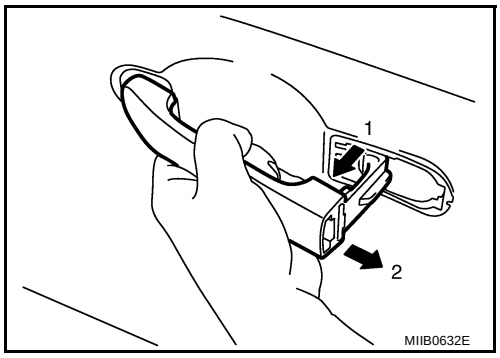
: 6.1 N·m (0.63 kg-m, 54.0 in-lb)



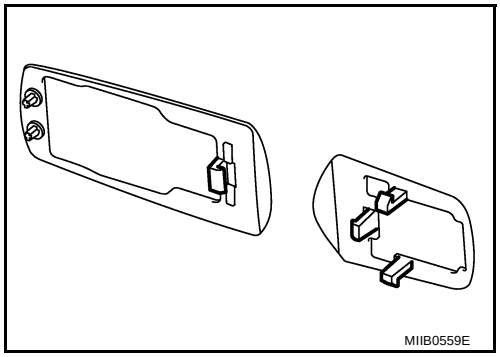
8. While pulling the outside handle, remove outside handle escutcheon in order of (1) and (2).



9. While pulling outside handle, slide toward rear of vehicle to remove the outside handle in order of (1) and (2).

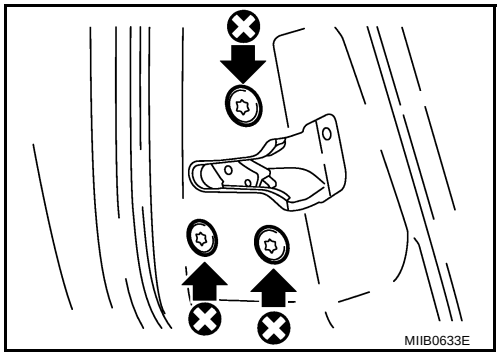


10. Remove the front gasket and rear gasket.

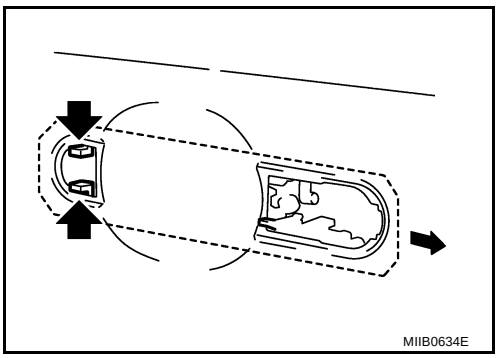


11. Remove the TORX bolts (T30), remove the door lock assembly.

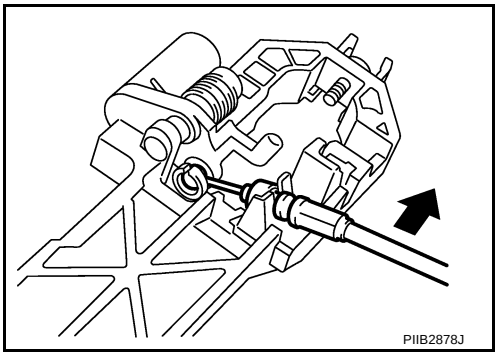
: 5.8 N·m (0.60 kg-m, 51.4 in-lb)



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



13. Disconnect the door lock actuator connector.
14. Reach in to separate the key cylinder rod and outside handle cable connection.



INSTALLATION

Note the following, and install in the reverse order of removal.

CAUTION:

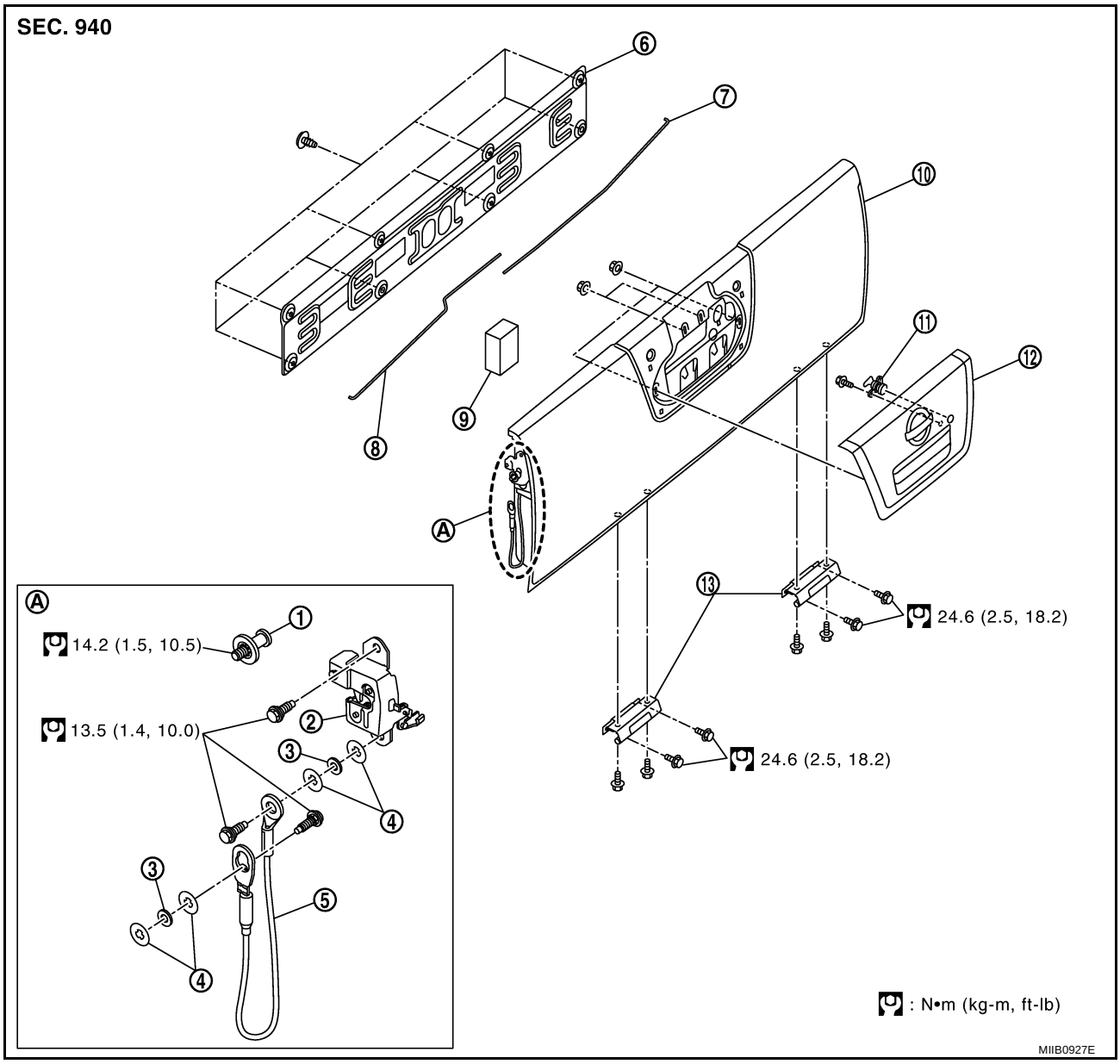
- **To install each rod, be sure to rotate the rod holder until a click is felt.**
- **Place the outside handle bracket cable on the rear of door lock assembly before installing.**

TAIL GATE

PFP:93400

Component Parts Location

GIS0002K



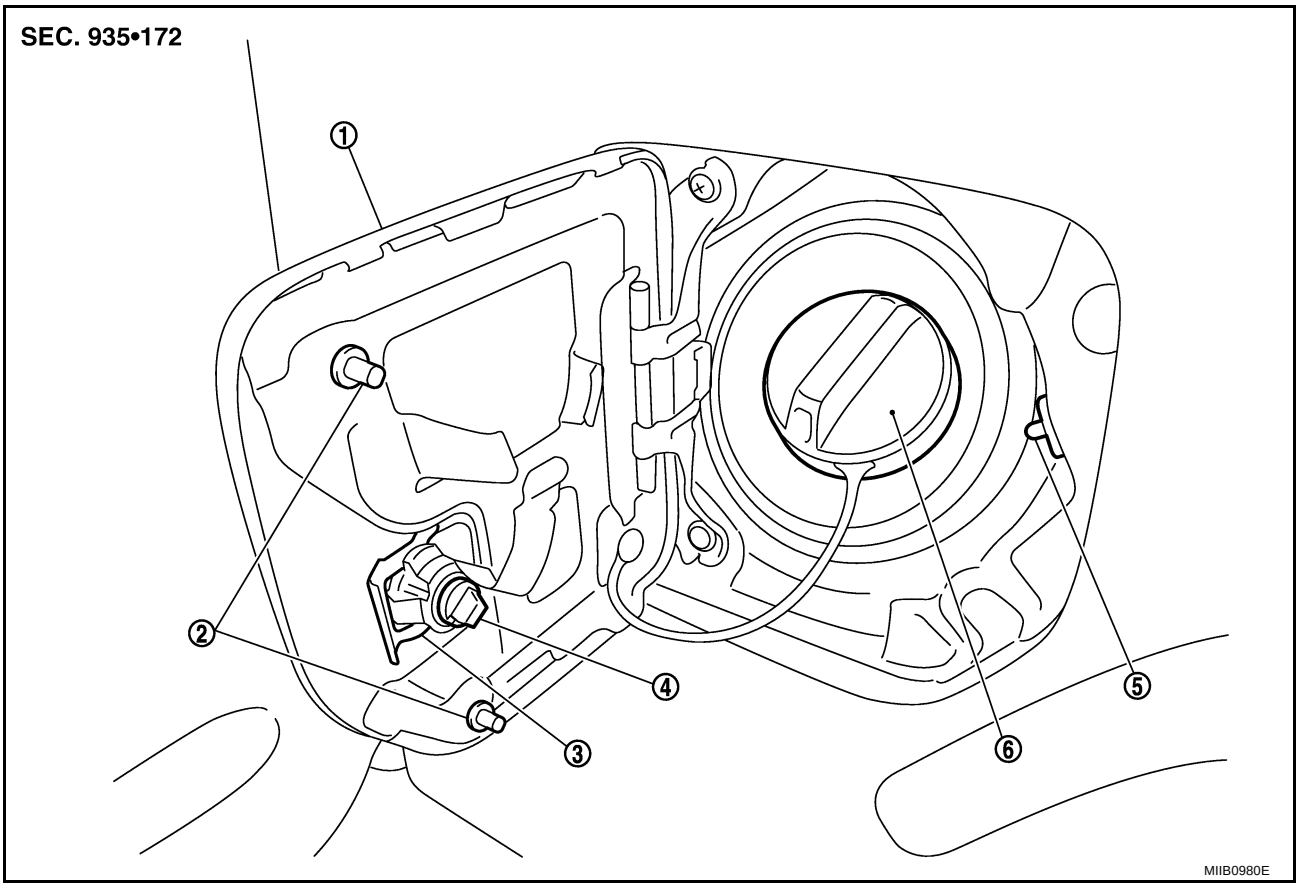
1. Rear gate striker
2. Rear gate lock assembly
3. Steel washer
4. Plastic washer
5. Rear gate stay assembly
6. Rear gate inner cover
7. Rear gate lock connecting lod (RH)
8. Rear gate lock connecting lod (LH)
9. Lock lod protector
10. Rear gate assembly
11. Rear gate lock cylinder
12. Rear gate finisher assembly
13. Rear gate hinge assembly (RH/LH)

FUEL FILLER LID OPENER

PFP:78820

Removal and Installation of Fuel Filler Lid

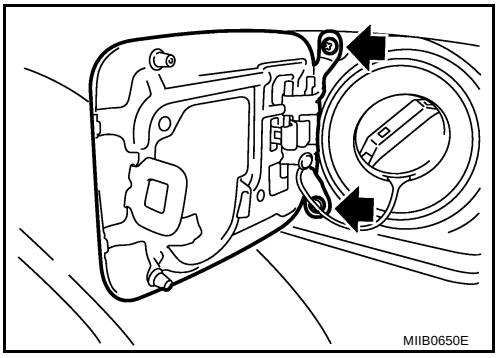
GIS0002L



1. Fuel filler lid
2. Fuel filler lid bumper
3. Cylinder lock clip
4. Fuel filler lid key cylinder
5. Fuel filler lid lock striker
6. Fuel cap assembly

REMOVAL

1. Fully open fuel filler lid.
2. Remove the fuel filler lid mounting screws, and then remove the fuel filler lid.



INSTALLATION

Install in the reverse order of removal.

CAUTION:

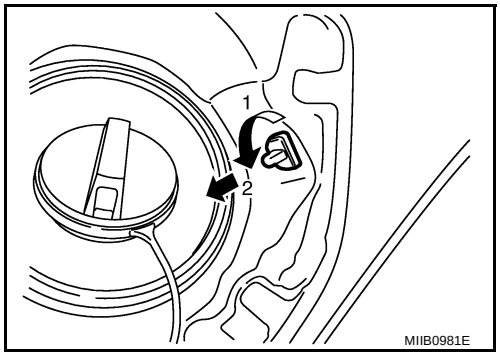
After installing, apply touch-up paint (the body color) onto the head of the mounting screws.

Removal and Installation of Fuel Lid Lock Striker

GIS0002M

REMOVAL

1. Fully open the fuel filler lid.
2. Turn and pull to detach fuel lid lock striker in order of (1) and (2).



INSTALLATION

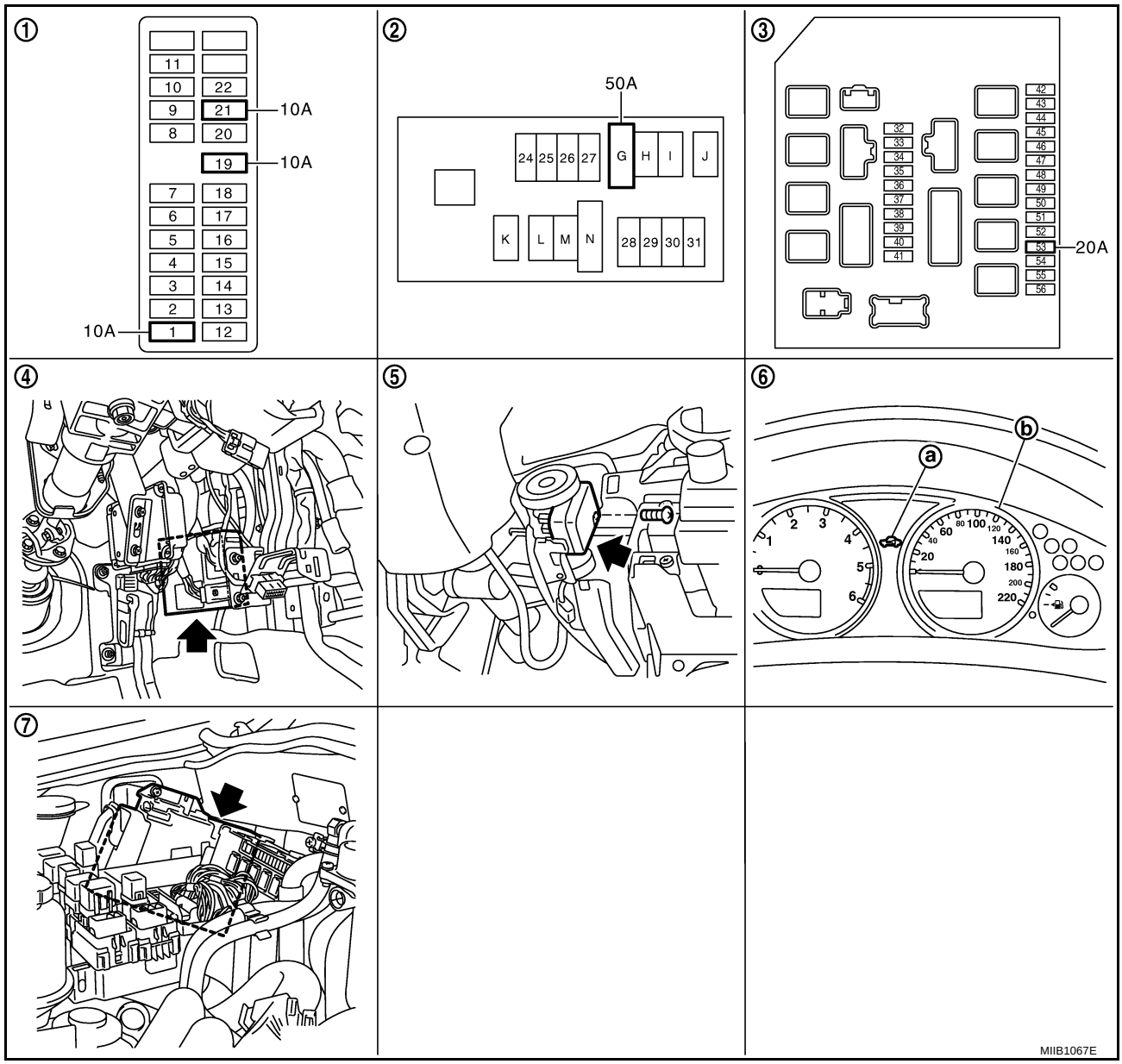
Install in the reverse order of removal.

NATS(NISSAN ANTI-THEFT SYSTEM)

PFP:28591

Component Parts and Harness Connector Location

GIS00033



1. Fuse block (J/B) fuse layout
2. Fuse and fusible link box
3. IPDM fuse layout
4. BCM M42, M43, M44 (View with instrument lower panel LH removed)
5. NATS antenna amp M37
6. a: Security indicator lamp b: Combination meter M23
7. ECM E20 (Engine room)

NOTE:
If customer reports a “No start” condition, request ALL KEYS to be brought to an NISSAN dealer in case of a NATS malfunction.

System Description

GIS000FA

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

- Since only NATS ignition keys, whose ID No. have been registered into the ECM and BCM, allow the engine to run, operation of a stolen vehicle without a NATS registered key is prevented by NATS.
  That is to say, NATS will immobilize the engine if someone tries to start it without the registered key of NATS.
- All of the originally supplied ignition key IDs have been NATS registered.
  If requested by the vehicle owner, a maximum of five key IDs can be registered into the NATS components.
- The security indicator blinks when the ignition switch is in “OFF” or “ACC” position. Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system.
- When NATS detects trouble, the security indicator lamp lights up while ignition key is in the “ON” position.
- NATS trouble diagnoses, system initialization and additional registration of other NATS ignition key IDs must be carried out using CONSULT-II hardware and CONSULT-II NATS software.
  When NATS initialization has been completed, the ID of the inserted ignition key is automatically NATS registered. Then, if necessary, additional registration of other NATS ignition key IDs can be carried out.
  Regarding the procedures of NATS initialization and NATS ignition key ID registration, refer to CONSULT-II Operation Manual NATS.
- **When servicing a malfunction of the NATS (indicated by lighting up of Security Indicator Lamp) or registering another NATS ignition key ID no., it may be necessary to re-register original key identification. Therefore, be sure to receive ALL KEYS from vehicle owner.**

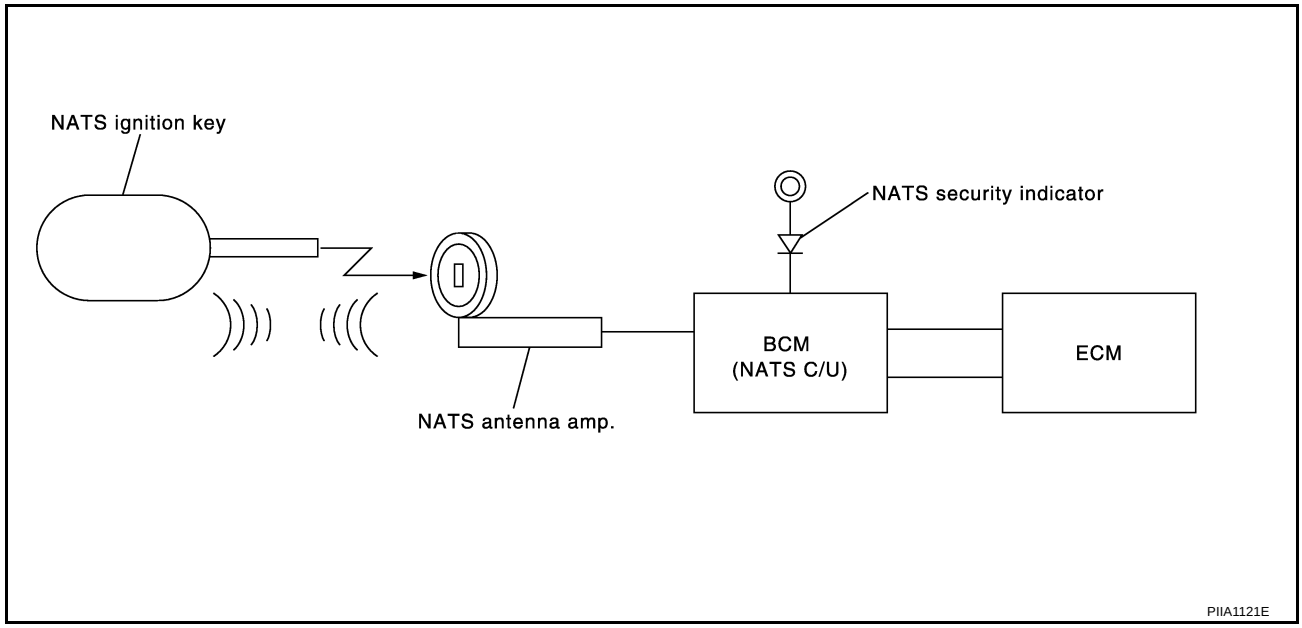
System Composition

GIS000FB

The immobilizer function of the NATS consists of the following:

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

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



ECM Re-communicating Function

GIS00036

Performing 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 (*1).
*1: New one means a virgin ECM which has never been energized on-board.
(In this step, initialization procedure by CONSULT-II is not necessary)

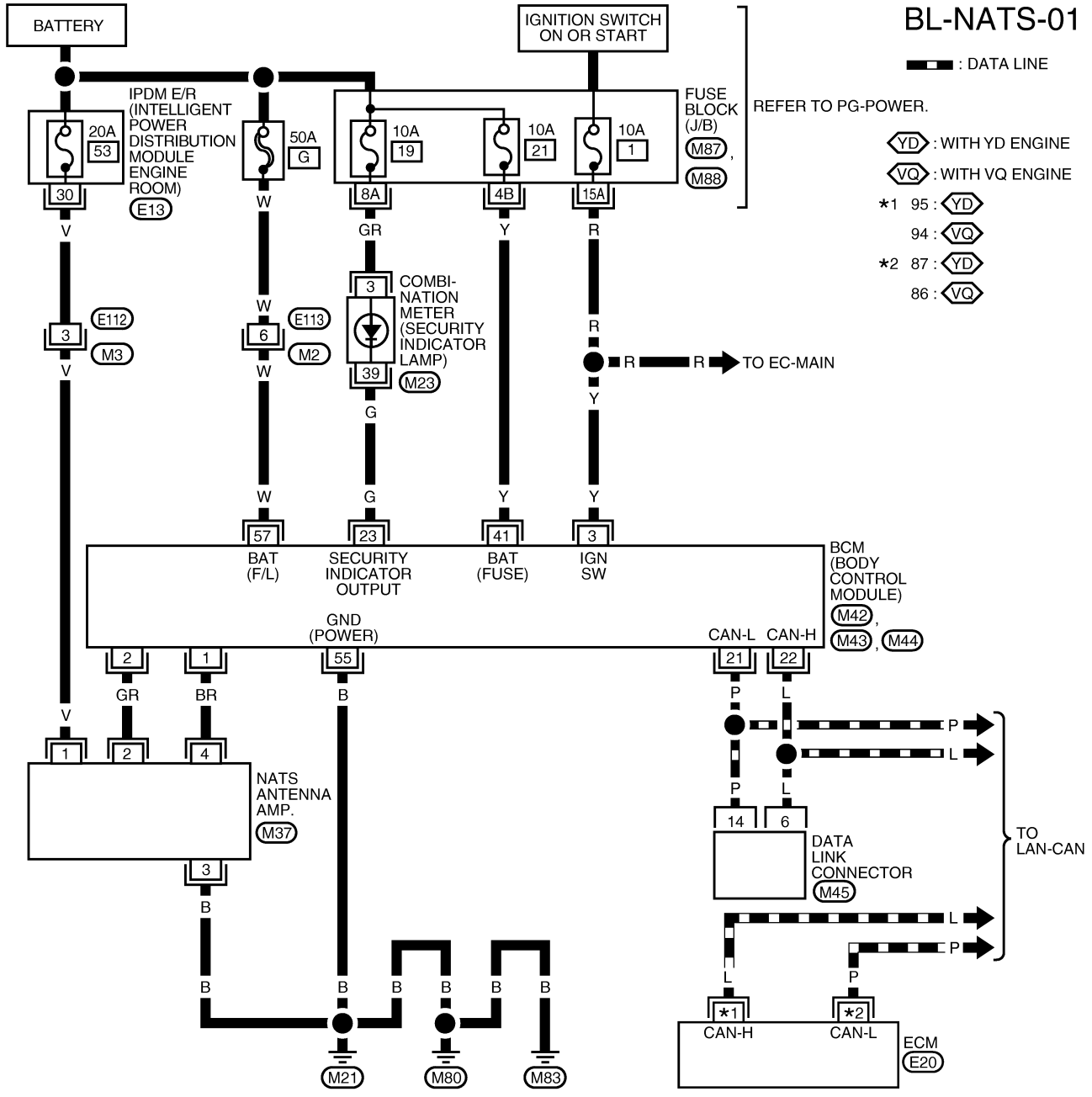
NOTE:

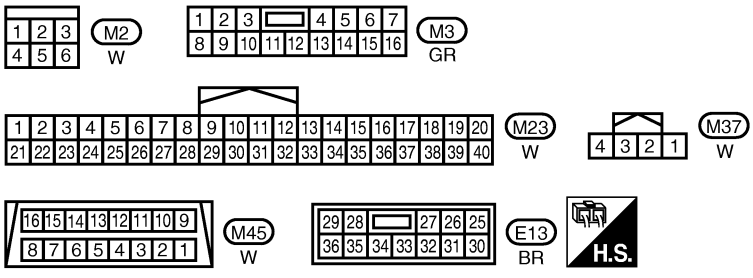
- **When registering new Key IDs or replacing the ECM other than brand new, refer to CONSULT-II Operation Manual NATS.**
- **If multiple keys are attached to the key holder, separate them before work.**
- **Distinguish keys with unregistered key ID from those with registered ID.**

1. Install ECM.
2. Using a registered key (*2), turn ignition switch to “ON”.
   *2: To perform this step, use the key (except for card plate key) that has been used before performing ECM replacement.
3. Maintain ignition switch in “ON” position for at least 5 seconds.
4. Turn ignition switch to “OFF”.
5. Start engine.
   If engine can be started, procedure is completed.
   If engine cannot be started, refer to CONSULT-II Operation Manual NATS and initialize control unit.

Wiring Diagram — NATS —

GIS00037





REFER TO THE FOLLOWING.
M87, M88 -FUSE BLOCK-JUNCTION BOX (J/B)
M42, M43, M44, E20 -ELECTRICAL UNITS

MIWA0654E

Terminals and Reference Value for BCM

GIS00038

Terminal	Wire Color	Item	Condition	Voltage [V] (Approx.)
1	BR	NATS antenna amp.	Ignition switch (OFF → ON)	Just after turning ignition switch “ON”: Pointer of tester should move.
2	GR	NATS antenna amp.	Ignition switch (OFF → ON)	Just after turning ignition switch “ON”: Pointer of tester should move.
3	Y	Ignition switch (ON or START)	Ignition switch (ON or START position)	Battery voltage
21	P	CAN-L	—	—
22	L	CAN-H	—	—
23	G	Security indicator lamp	Goes OFF → illuminates (Every 2.6 seconds)	Battery voltage → 0
41	Y	Power source (Fuse)	—	Battery voltage
55	B	Ground	—	0
57	W	Power source (Fusible link)	—	Battery voltage

CONSULT-II Function

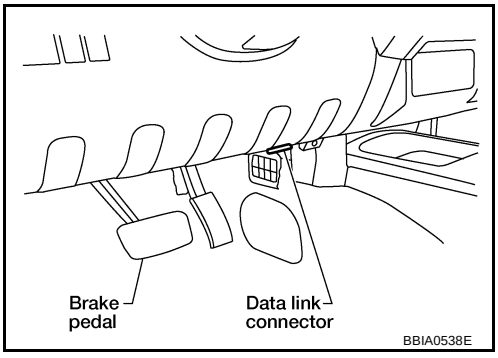
GIS00039

CONSULT-II INSPECTION PROCEDURE

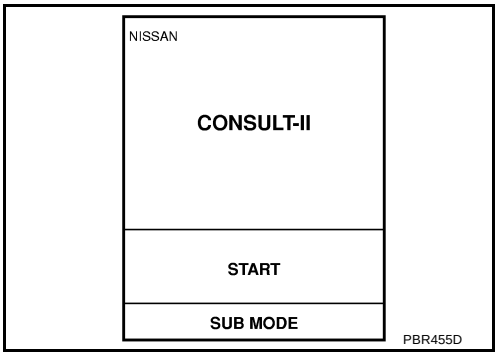
1. Turn ignition switch OFF.
2. Insert NATS program card into CONSULT-II.

Program card : NATS (AEN04A-1)

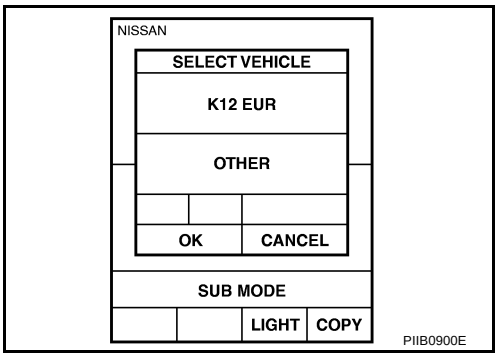
3. Connect CONSULT-II and CONSULT-II CONVERTER to data link connector.



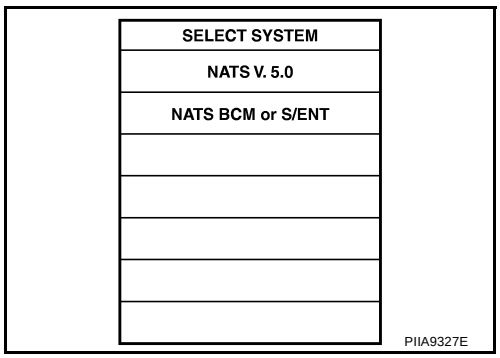
4. Turn ignition switch ON.
5. Touch “START”.



6. Touch “OTHER”.

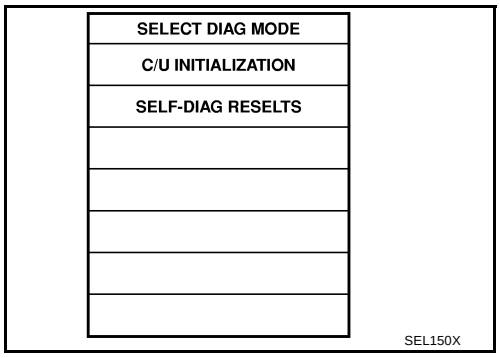


7. Select “NATS V.5.0”.
If “NATS V5.0” is not indicated, go to GI-47, "CONSULT-II Data Link Connector (DLC) Circuit" .



8. Perform each diagnostic test mode according to each service procedure.

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



CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

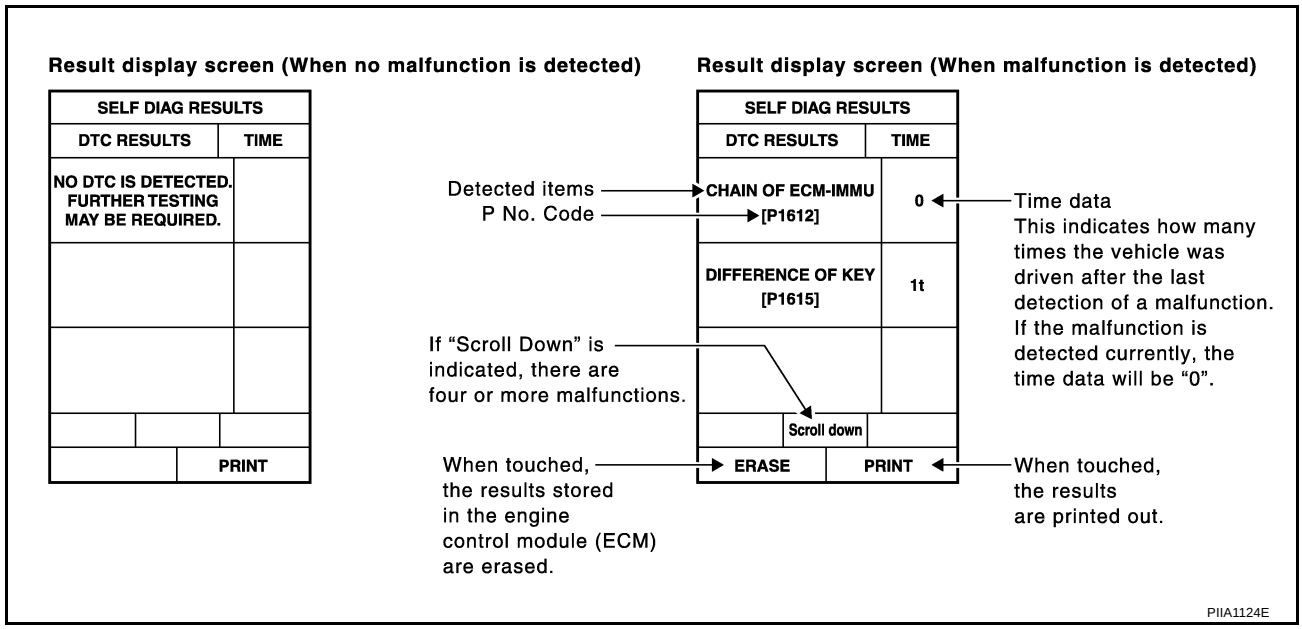
CONSULT-II DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following components, C/U initialization and re-registration of all NATS ignition keys are necessary. [NATS ignition key/ BCM/ ECM*]
SELF-DIAG RESULTS	Detected items (screen terms) are as shown in the chart. Refer to BL-87, "NATS SELF-DIAGNOSTIC RESULTS ITEM CHART" .

*: When replace ECM, refer to BL-83, "ECM Re-communicating Function" .

NOTE:

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

HOW TO READ SELF-DIAGNOSTIC RESULTS



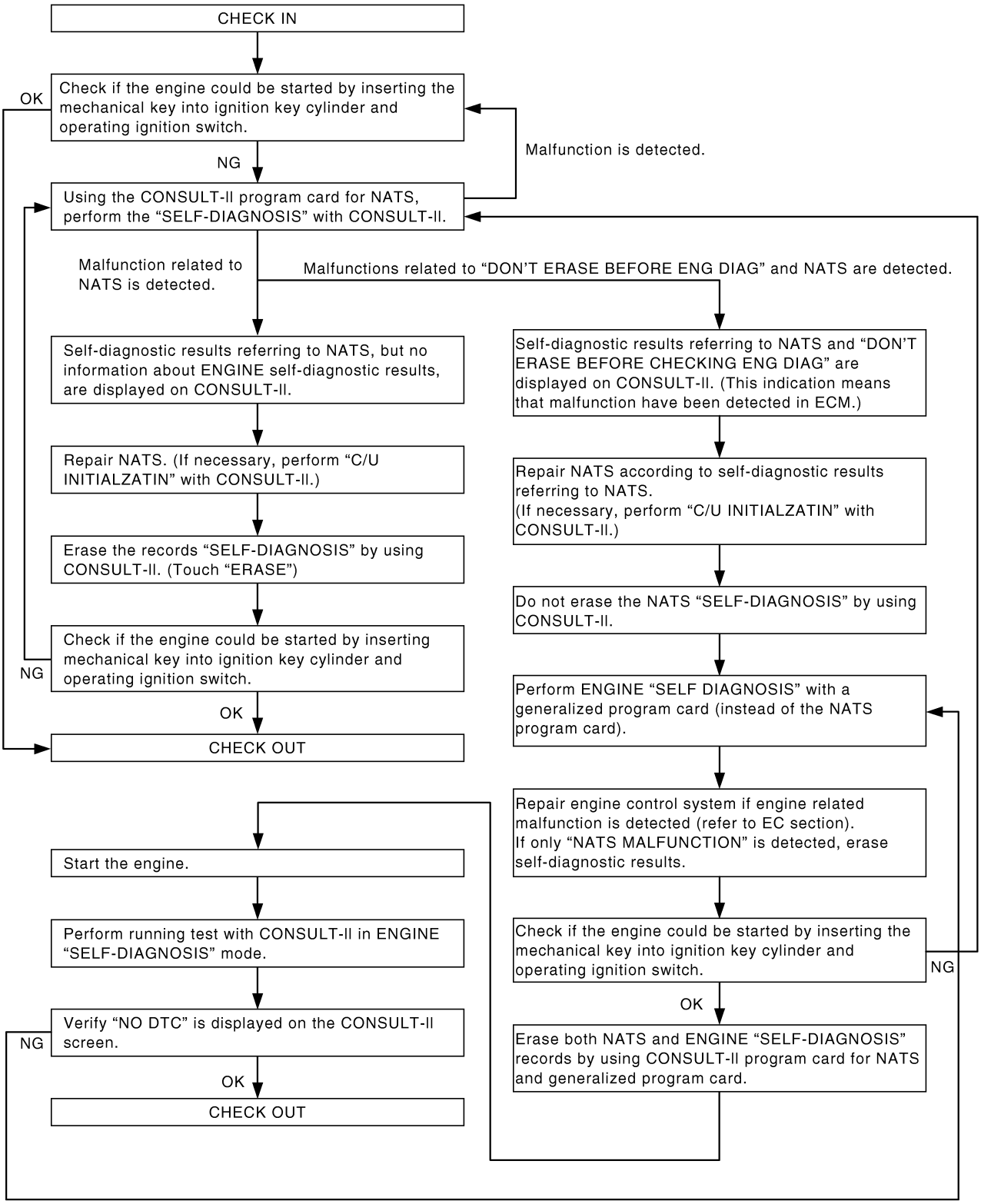
NATS SELF-DIAGNOSTIC RESULTS ITEM CHART

Detected items [NATS program card screen terms]	P No. Code (Self-diagnostic result of “ENGINE”)	Malfunction is detected when.....	Reference page
CHAIN OF ECM-IMMU [P1612]	NATS 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-90
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-92
CHAIN OF IMMU-KEY [P1614]	NATS MALFUNCTION P1614	BCM cannot receive the key ID signal.	BL-92
ID DISCORD, IMM-ECM [P1611]	NATS MALFUNCTION P1611	The result of ID verification between BCM and ECM is NG. System initialization is required.	BL-95
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 ignition key is used. ● BCM or ECM’s malfunctioning.	BL-98
ECM [P1616]	ECM P1616	ECM ROM is malfunctioning.	EC-1257
DON'T ERASE BEFORE CHECKING ENG DIAG	—	All engine trouble codes except NATS trouble code has been detected in ECM.	BL-88

Trouble Diagnosis Procedure

GIS0003A

WORK FLOW



MIIB0944E

Trouble Diagnoses

GIS0003B

SYMPTOM MATRIX CHART 1

Self-diagnosis related item

SYMPTOM	Displayed “SELF-DIAG RESULTS” on CONSULT-II screen.	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)
● Security indicator lighting up*1 ● Engine cannot be started	CHAIN OF ECM-IMMU [P1612]	PROCEDURE 1 (BL-90)	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 2 (BL-92)	Unregistered key
			BCM
	CHAIN OF IMMU-KEY [P1614]	PROCEDURE 3 (BL-92)	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 4 (BL-95)	System initialization has not yet been completed.
			ECM
	ECM [P1616]	EC-1257, "DTC P1616 ECM"	ECM
● Security indicator lighting up*1 ● Engine cannot be started	LOCK MODE [P1610]	PROCEDURE 6 (BL-98)	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*1	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (BL-88)	Engine trouble data and NATS trouble data have been detected in ECM

*1: 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 5 (BL-96)	Security indictor.
		Open circuit between Fuse and BCM
		BCM

*: CONSULT-II self-diagnostic results display screen “no malfunction is detected”.

Diagnostic Procedure 1

GIS0003C

Self-diagnostic results:
“CHAIN OF ECM-IMMU” displayed on CONSULT-II screen
First perform the “SELF-DIAG RESULTS” in “BCM” with CONSULT-II, then perform the trouble diagnosis of malfunction system indicated “SELF-DIAG RESULTS” of “BCM”. Refer to BCS-14, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)" .

1. CONFIRM SELF-DIAGNOSTIC RESULTS

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

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

Is CONSULT-II screen displayed as shown in figure?

Yes >> GO TO 2.
No >> GO TO BL-89, "SYMPTOM MATRIX CHART 1" .

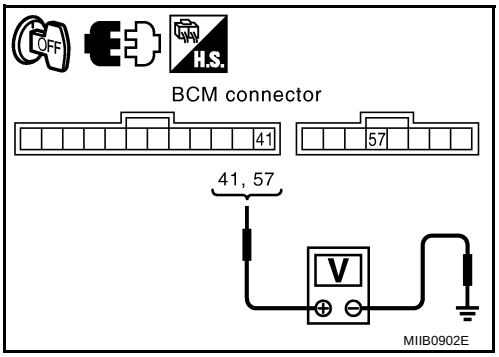
SELF DIAGNOSIS	
DTC RESULTS	TIME
CHAIN OF ECM-IMMU [P1612]	0

PIIA1260E

2. CHECK POWER SUPPLY CIRCUIT FOR BCM

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

Connector	Terminals		Voltage [V] (Approx.)
	(+)	(-)	
M42	41	Ground	Battery voltage
M44	57		



MIIB0902E

OK or NG

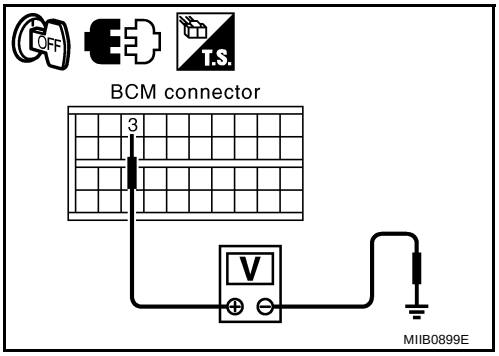
OK >> GO TO 3.
NG >> Check the following.

- 50A fusible link (letter **G** , located in the fuse and fusible link box)
- 10A fuse [No.21, 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 M42 terminal 3 and ground.

3 – Ground : Battery voltage



MIIB0899E

OK or NG

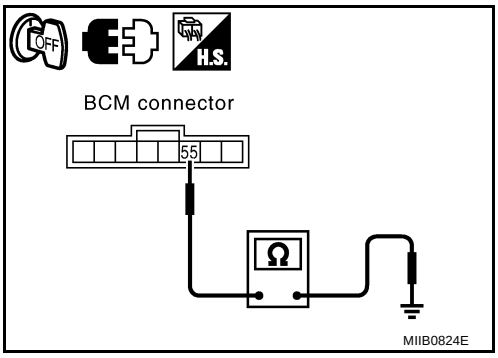
OK >> GO TO 4.
NG >> Check the following.

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

4. CHECK GROUND CIRCUIT FOR BCM

1. Turn ignition switch OFF.
2. Check continuity between BCM connector M44 terminal 55 and ground.

55 – Ground : Continuity should exist.



OK or NG

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

5. REPLACE BCM

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

Does the engine start?

Yes >> BCM is malfunctioning.
- Replace BCM.
- Perform initialization with CONSULT-II
- For initialization, refer to “CONSULT-II Operation Manual NATS”

No >> ECM is malfunctioning.
- Replace ECM.
- Perform initialization or re-communicating function
- For initialization, refer to “CONSULT-II Operation Manual NATS”
- For re-communicating function, refer to BL-83, "ECM Re-communicating Function"

Diagnostic Procedure 2

GIS0003D

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

1. CONFIRM SELF-DIAGNOSTIC RESULTS

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

Is CONSULT-II screen displayed as shown in figure?

Yes >> GO TO 2.
No >> GO TO BL-89, "SYMPTOM MATRIX CHART 1" .

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

PIIA1261E

2. PERFORM INITIALIZATION WITH CONSULT-II

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

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

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

Yes >> Ignition key ID was unregistered.
No >> BCM is malfunctioning.

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

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

SEL297W

Diagnostic Procedure 3

GIS0003E

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

1. CONFIRM SELF-DIAGNOSTIC RESULTS

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

Is CONSULT-II screen displayed as shown in figure?

Yes >> GO TO 2.
No >> GO TO BL-89, "SYMPTOM MATRIX CHART 1" .

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

PIIA1263E

2. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to BL-99, "Removal and Installation of NATS Antenna Amp" .

OK or NG

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

3. CHECK NATS IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

Does the engine start?

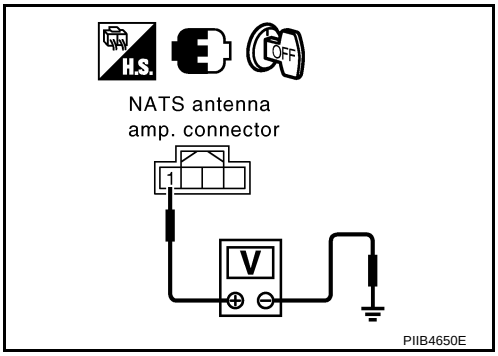
Yes >> Ignition key ID chip is malfunctioning.
- Replace the ignition key
- Perform initialization with CONSULT-II
  For initialization, refer to “CONSULT-II Operation Manual NATS”

No >> GO TO 4.

4. CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

1. Turn ignition switch “OFF”.
2. Check voltage between NATS antenna amp. connector M37 terminal 1 and ground.

1 – Ground : Battery voltage.



OK or NG

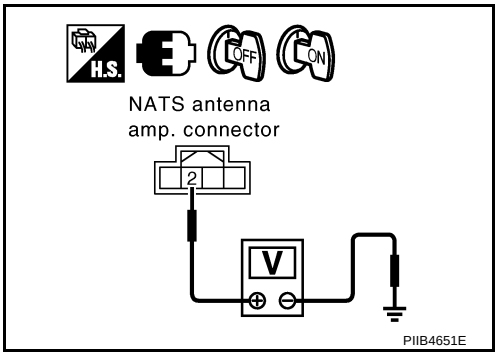
OK >> GO TO 5.

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 M37 terminal 2 and ground with analogue tester.

Before turning ignition switch “ON”
Voltage: Approx. 0V
Just after turning ignition switch “ON”
: Pointer of tester should move.



OK or NG

OK >> GO TO 6.

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

NOTE:
If harness is OK, replace BCM, perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II Operation Manual NATS”.

6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

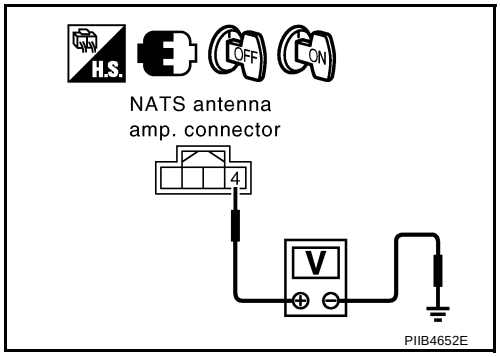
Check voltage between NATS antenna amp. connector M37 terminal 4 and ground with analogue tester.

Before turning ignition switch “ON”

Voltage: Approx. 0V

Just after turning ignition switch “ON”

: Pointer of tester should move.



OK or NG

OK >> GO TO 7.

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

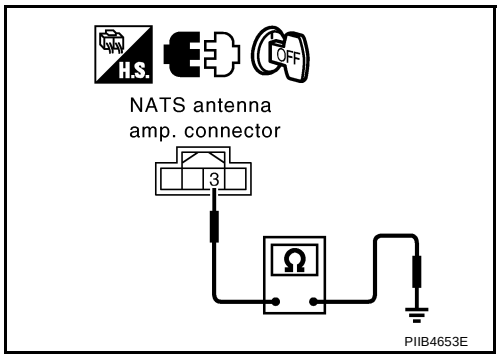
NOTE:

If harness is OK, replace BCM, perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II Operation Manual NATS”.

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 M37 terminal 3 and ground.

3 – Ground : Continuity should exist.



OK or NG

OK >> NATS antenna amp. is malfunctioning.

NG >> Repair or replace NATS antenna amp. ground circuit.

Diagnostic Procedure 4

GIS0003F

Self-diagnostic results:
“ID DISCORD, IMM-ECM” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

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

NOTE:
“ID DISCORD IMM-ECM”:
Registered ID of BCM is in discord with that of ECM.

Is CONSULT-II screen displayed as shown in figure?

Yes >> GO TO 2.
No >> GO TO BL-89, "SYMPTOM MATRIX CHART 1" .

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

PIIA1262E

2. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs.
For initialization, refer to “CONSULT-II Operation Manual NATS”.

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

Can the system be initialized?

Yes >>
- Start engine. (END)
- (System initialization had not been completed.)

No >> ECM is malfunctioning.
- Replace ECM.
- Perform initialization with CONSULT-II
  For initialization, refer to “CONSULT-II Operation Manual NATS”

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

SEL297W

Diagnostic Procedure 5

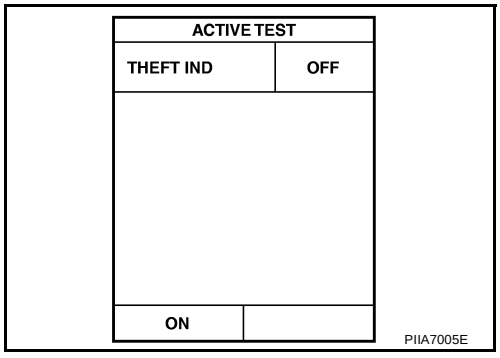
GIS0003G

“SECURITY INDICATOR LAMP DOES NOT LIGHT UP”

1. SECURITY INDICATOR LAMP ACTIVE TEST

With CONSULT-II

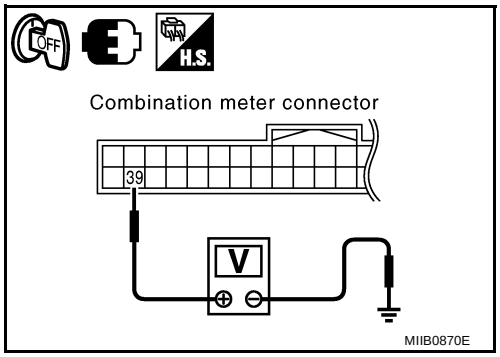
Check “THEFT IND” in “ACTIVE TEST” mode with CONSULT-II.



Without CONSULT-II

1. Turn ignition switch OFF.
2. Check voltage between combination meter (security indicator lamp) connector M23 terminal 39 and ground.

Connector	Terminal		Security indicator lamp condition	Voltage (V) (Approx.)
	(+)	(-)		
M23	39	Ground	Illuminated	0
			Not illuminated	Battery voltage



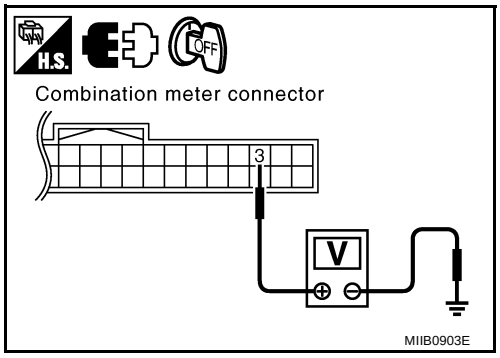
OK or NG

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

2. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

1. Disconnect combination meter connector.
2. Check voltage between combination meter connector M23 terminal 3 and ground.

3 – Ground : Battery voltage



OK or NG

OK >> GO TO 3.
NG >> Check harness for open or short between fuse and combination meter.

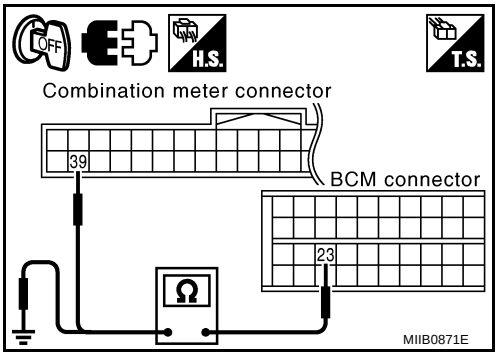
3. CHECK SECURITY INDICATOR OPERATION

1. Turn ignition switch OFF.
2. Disconnect BCM and combination meter connector.
3. Check continuity between BCM connector M42 terminal 23 and combination meter connector M23 terminal 39.

23 – 39 : Continuity should exist.

4. Check continuity between BCM connector M42 terminal 23 and ground.

23 – Ground : Continuity should not exist.



OK or NG

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

NG >> Repair or replace harness.

Diagnostic Procedure 6

GIS0003H

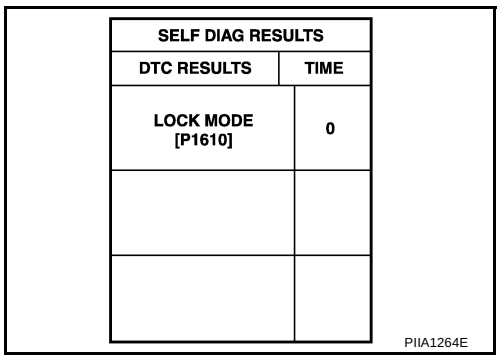
Self-diagnostic results:
“LOCK MODE” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

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

Is CONSULT-II screen displayed as shown in figure?

Yes >> GO TO 2.
No >> GO TO BL-89, "SYMPTOM MATRIX CHART 1" .



2. ESCAPE FROM LOCK MODE

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

Does engine start?

Yes >> System is OK (Now system is escaped from “LOCK MODE”).
No >> GO TO 3.

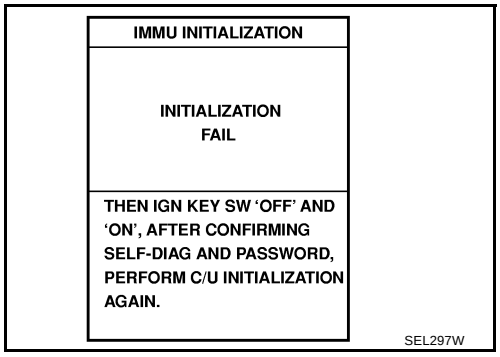
3. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II.
For initialization, refer to “CONSULT-II Operation Manual NATS”.

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

Can the system be initialized?

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



4. PERFORM INITIALIZATION WITH CONSULT-II AGAIN

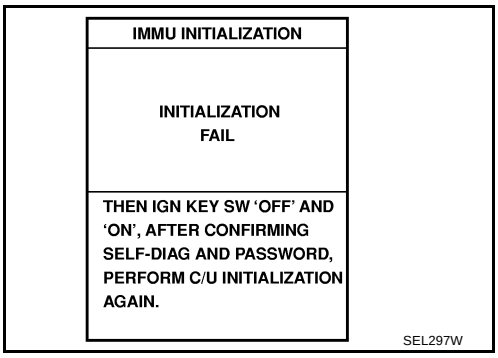
1. Replace BCM.
2. Perform initialization with CONSULT-II.
   For initialization, refer to “CONSULT-II Operation Manual NATS”.

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

Can the system be initialized?

Yes >> System is OK. (BCM is malfunctioning.)
No >> ECM is malfunctioning.

- Replace ECM.
- Perform initialization with CONSULT-II
- For initialization, refer to “CONSULT-II Operation Manual NATS”



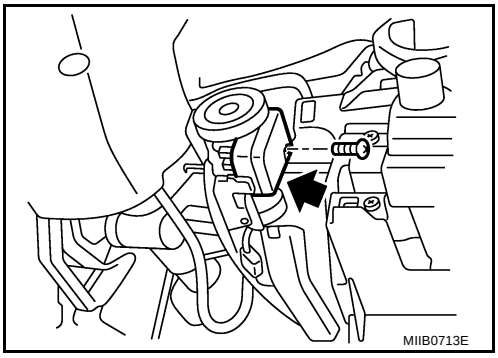
Removal and Installation of NATS Antenna Amp

GIS0003I

REMOVAL

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

1. Remove the cluster lid A. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Disconnect the NATS antenna amp connector, remove the screw and antenna amp.



INSTALLATION

Install in the reverse order of removal.

NOTE:

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

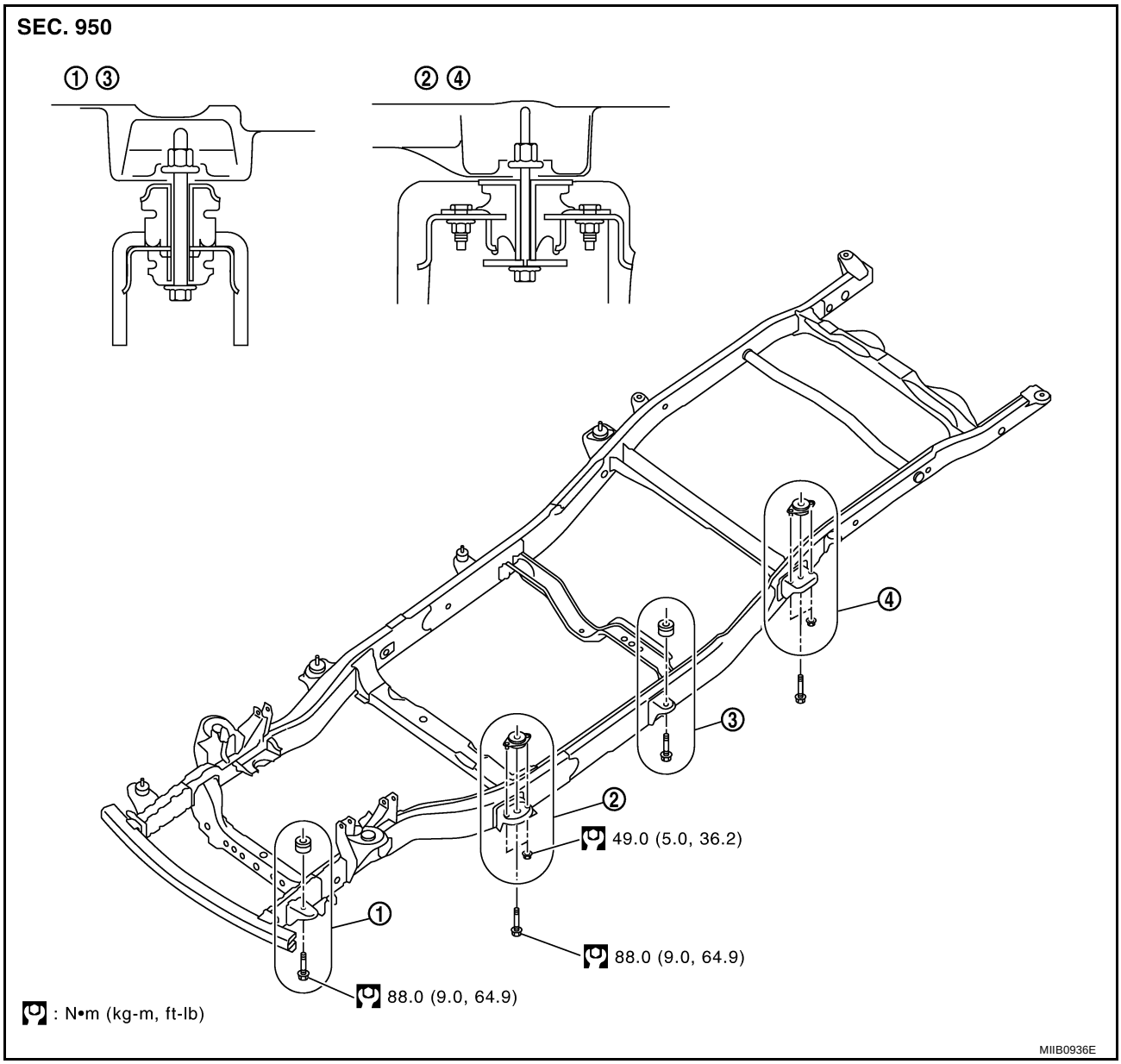
CAB AND REAR BODY

PFP:93020

Body Mounting

GIS0003K

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



1. Cab mounting insulator (1st)
2. Cab mounting insulator (2nd)
3. Cab mounting insulator (3rd)
4. Cab mounting insulator (4th)

BODY REPAIR

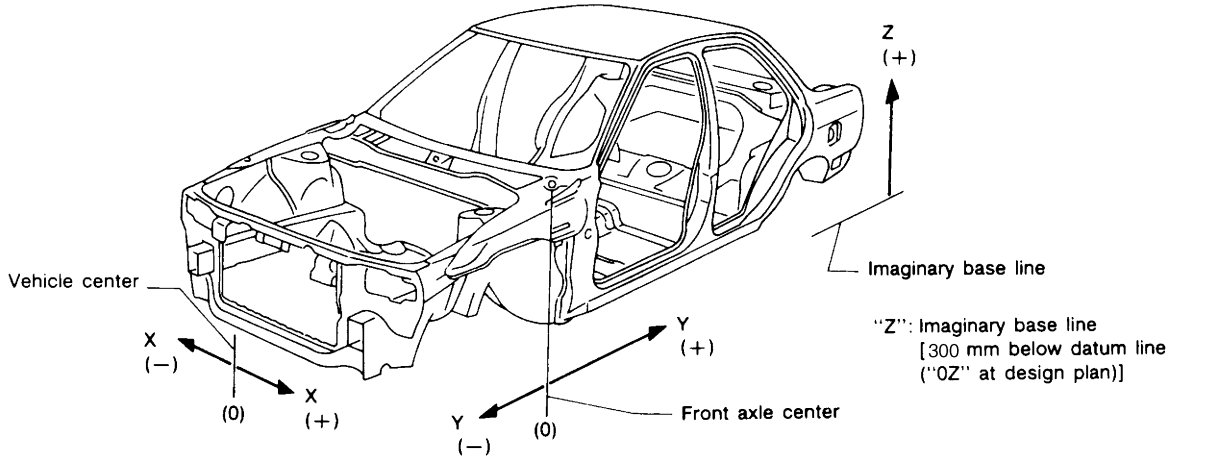
PFP:60100

Body Alignment

GIS000FC

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″.

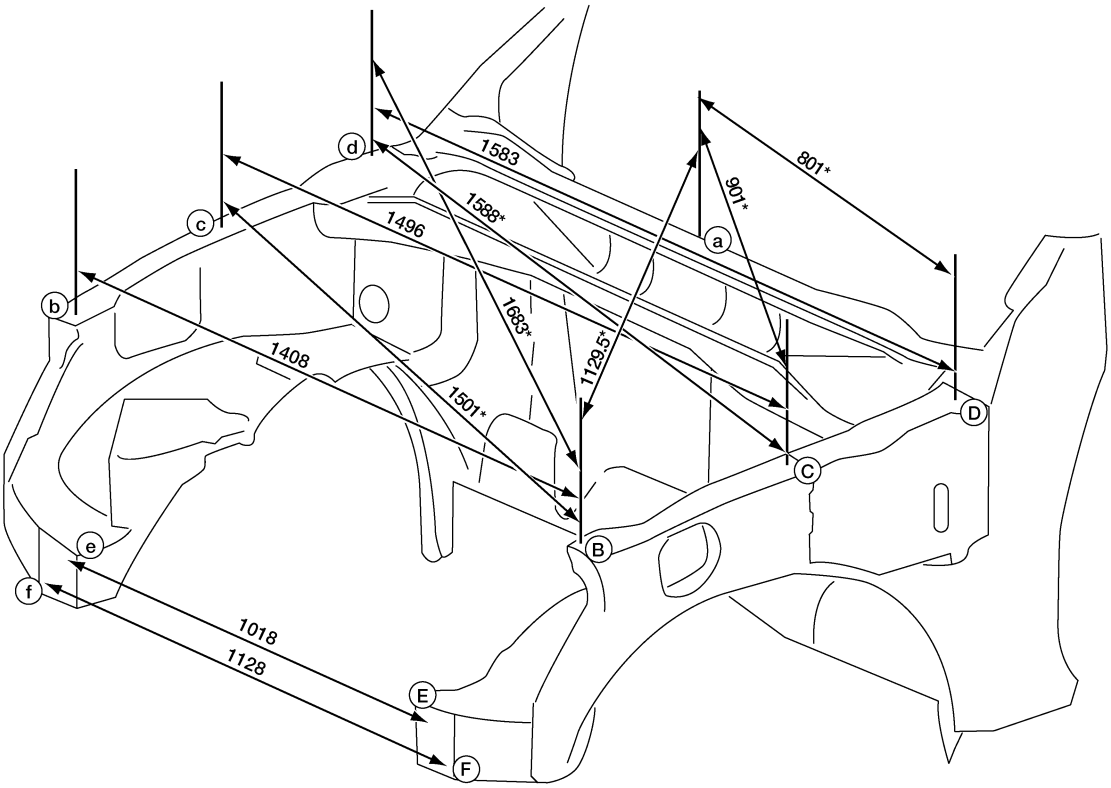


LIIA1506E

ENGINE COMPARTMENT
Measurement

All dimensions indicated in this figure are actual.

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

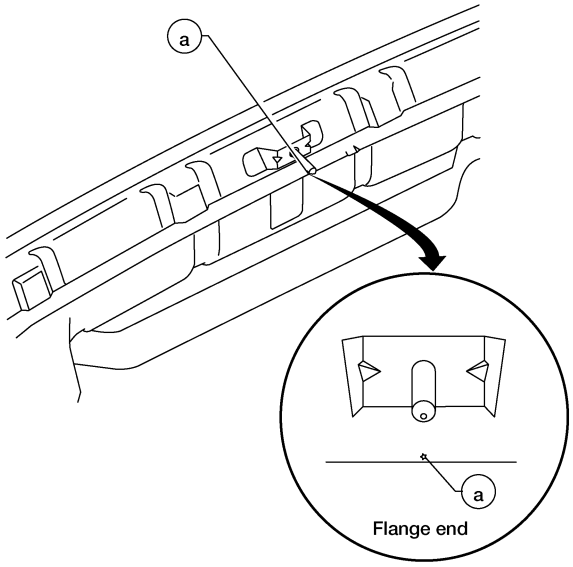


Unit: mm

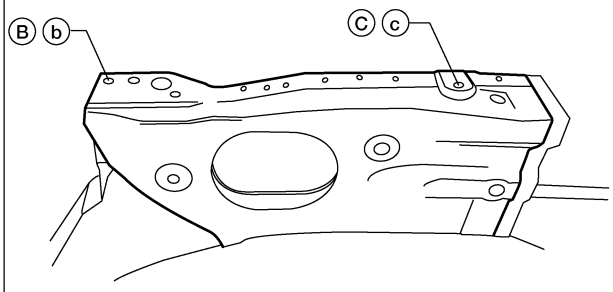
LIIA1792E

Measurement Points

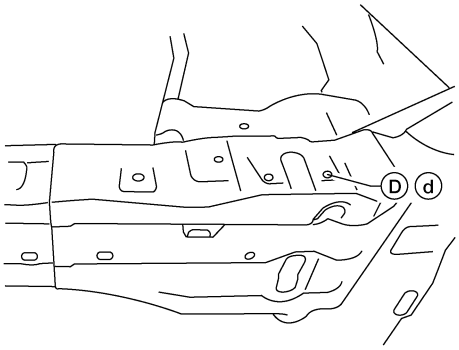
(a) Center of flange end of upper dash crossmember assembly.



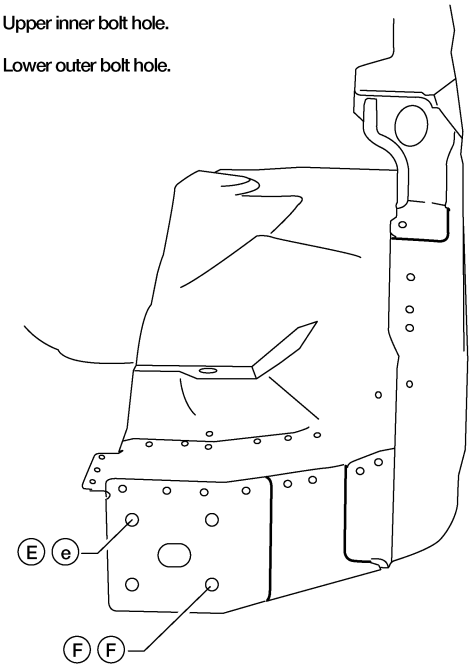
(B) (b) Front fender bolt hole.
(C) (c) Center fender bolt hole.



(D) (d) Rear hinge bolt hole.



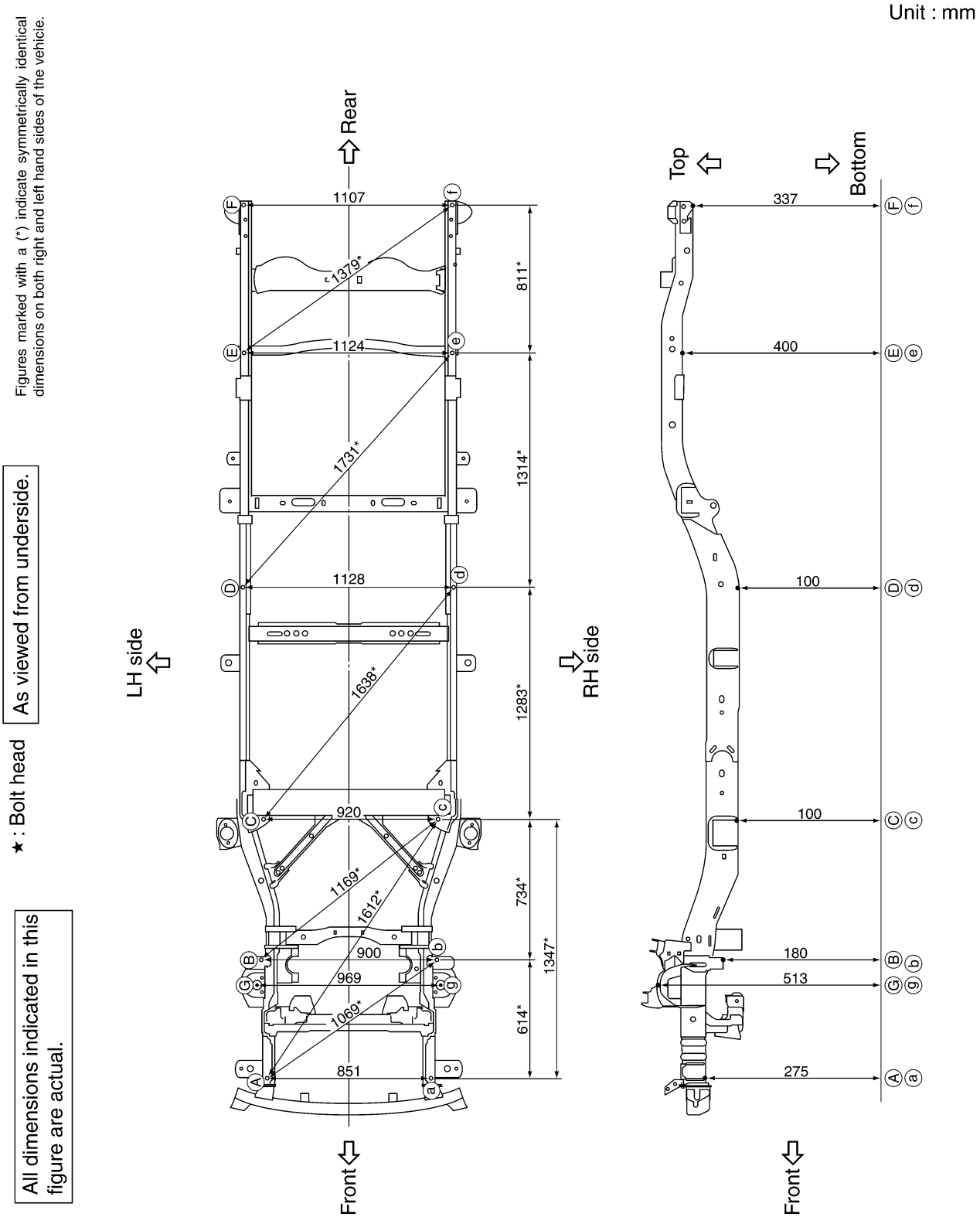
(E) (e) Upper inner bolt hole.
(F) (F) Lower outer bolt hole.



LIIA1793E

UNDERBODY
Measurement

Unit : mm

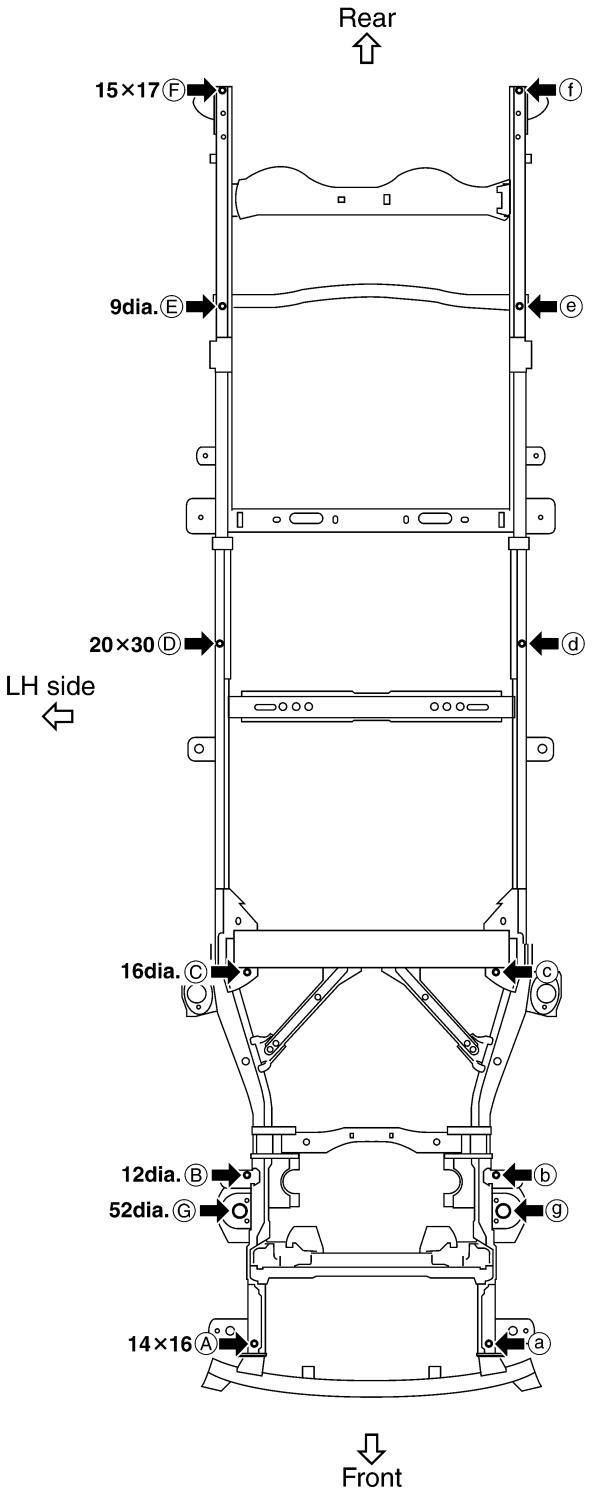


SIIA2537E

Measurement Points

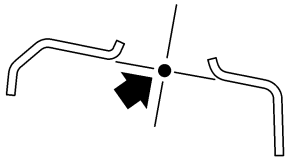
Unit : mm

As viewed from underside.



Coordinates:
Ⓐ, ⓐ
X:±426
Y:-528
Z:275
Ⓑ, ⓑ
X:±450
Y:78
Z:180
Ⓒ, ⓒ
X:±460
Y:807
Z:100
Ⓓ, ⓓ
X:±564
Y:2086
Z:100
Ⓔ, ⓔ
X:±562
Y:3365
Z:400
Ⓕ, ⓕ
X:±553
Y:4174
Z:337

Strut tower centers
Coordinates:
Ⓖ, ⓖ
X:±484
Y:-47
Z:513

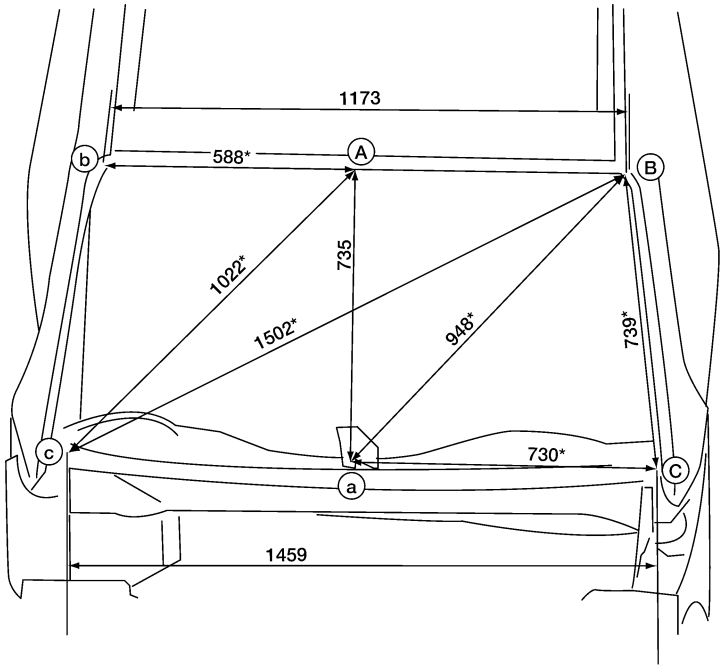


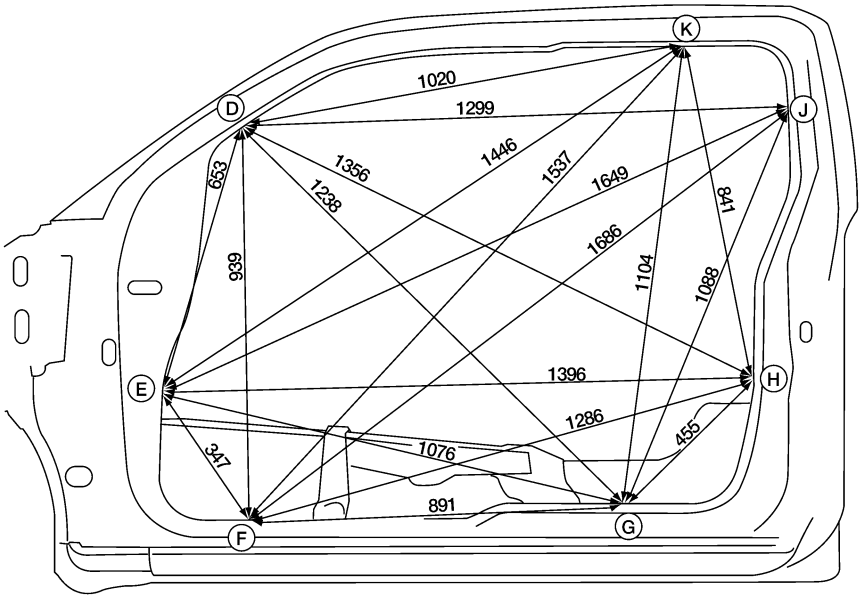
Front: Ⓖ, ⓖ **52dia.**

SIIA2536E

PASSENGER COMPARTMENT
Measurement (King Cab)

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

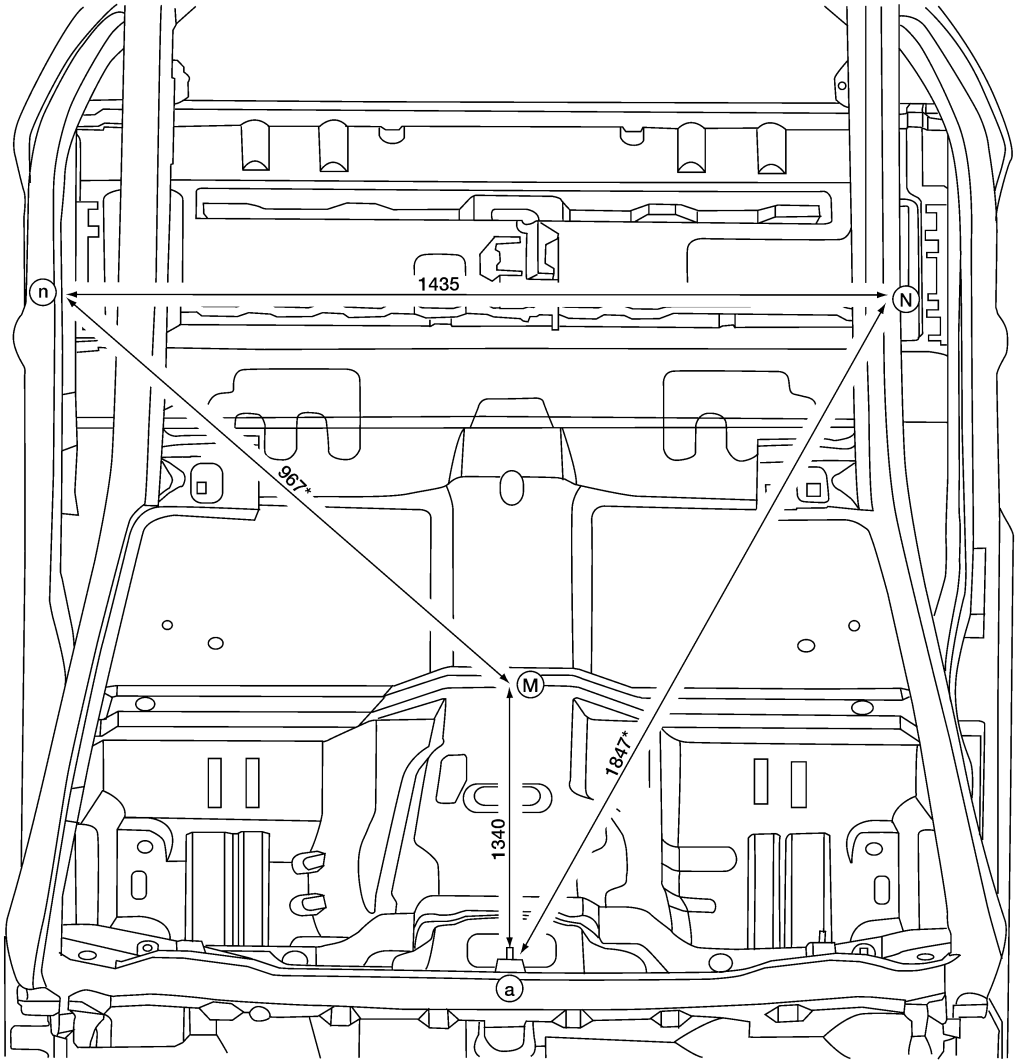




Unit: mm

LIIA2087E

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

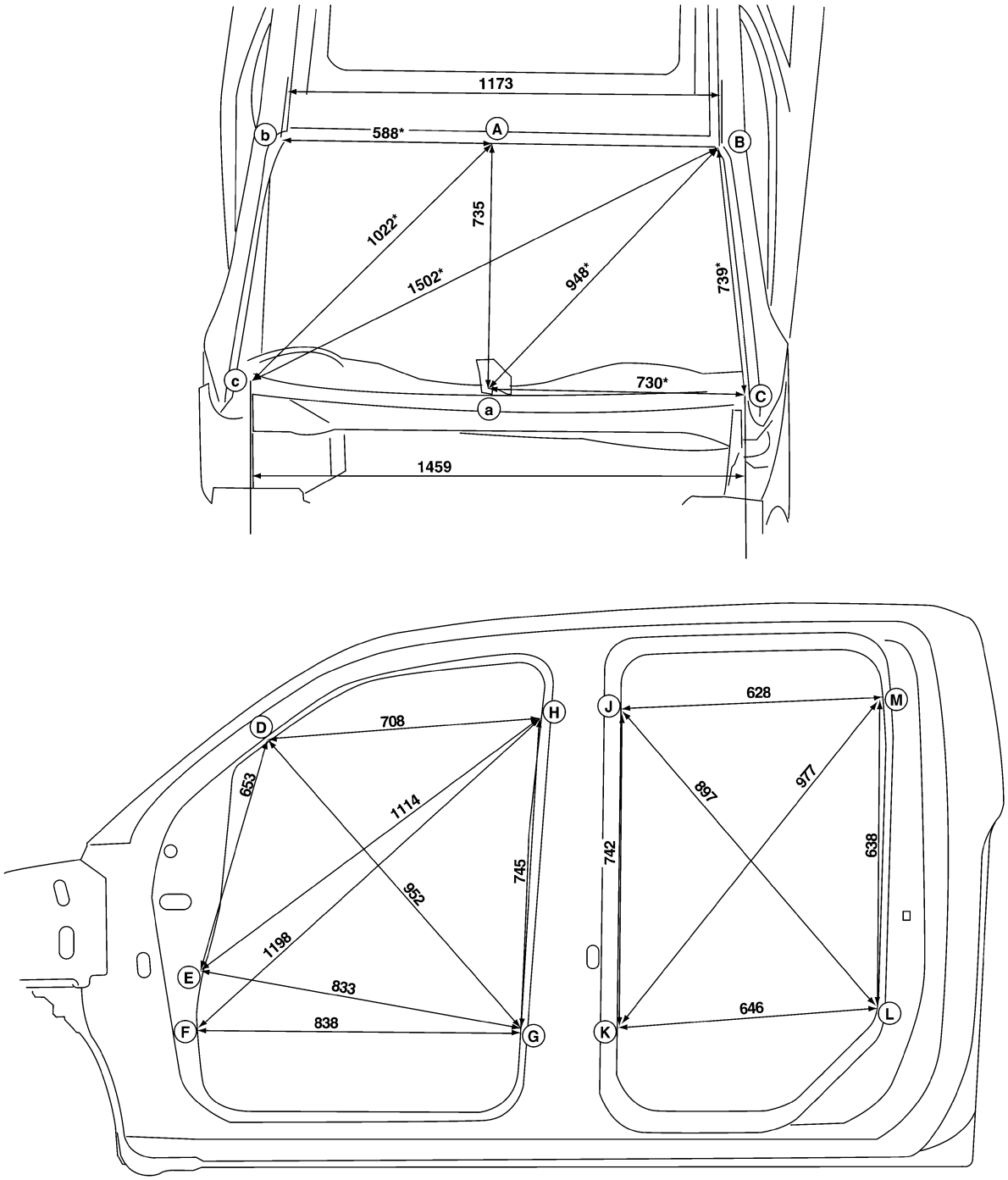


Unit: mm

LIIA2089E

Measurement (Double Cab)

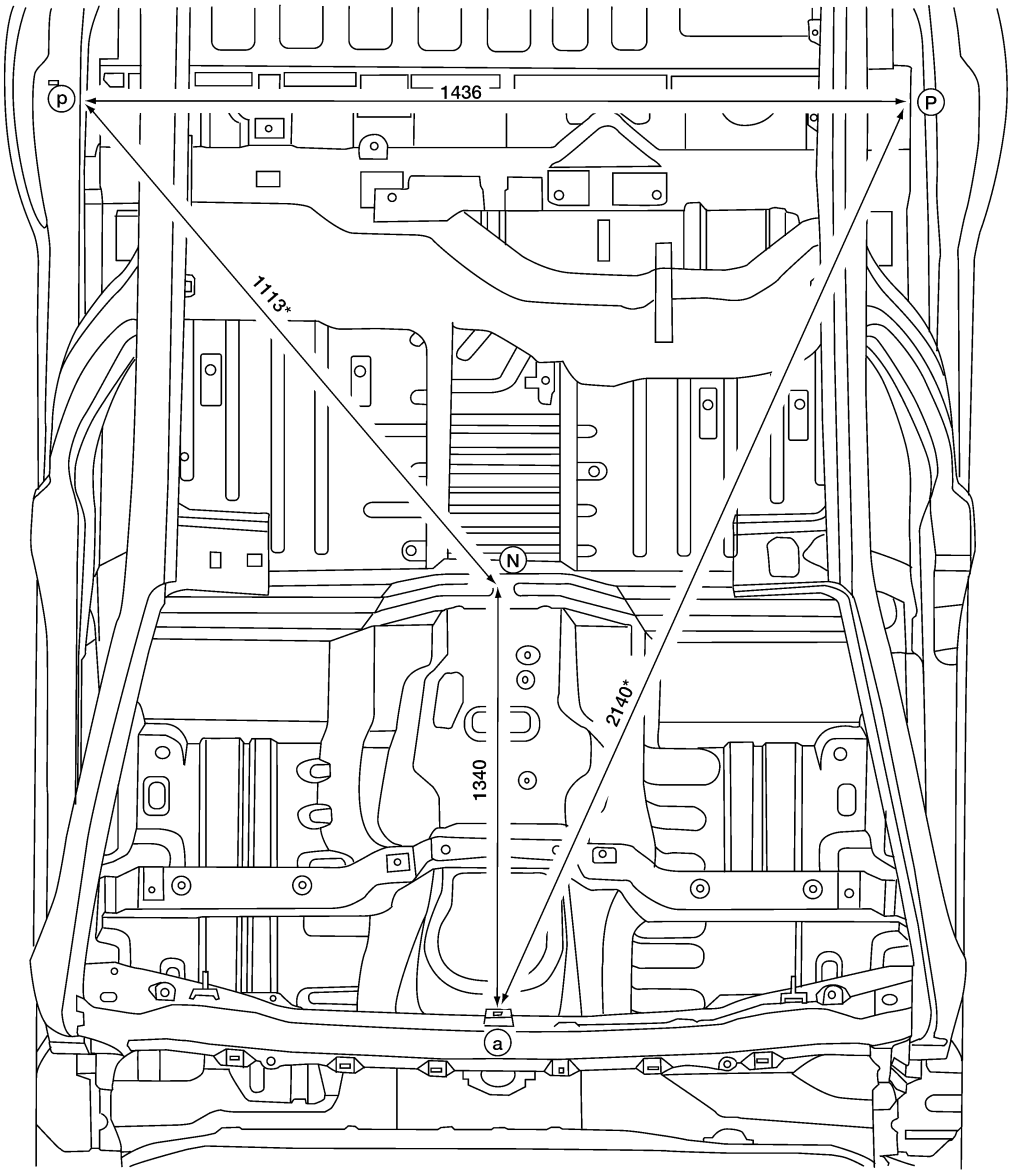
Figures marked with a (*) indicate symmeterically identical dimensions on both right and left hand sides of the vehicle.



Unit: mm

LIIA2086E

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

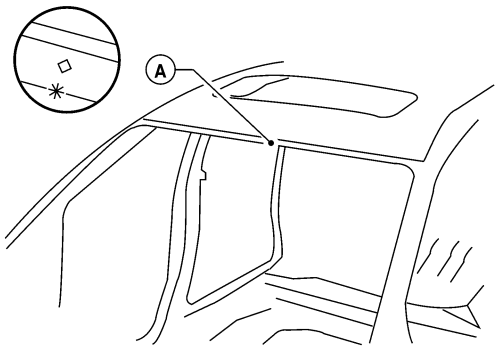


Unit: mm

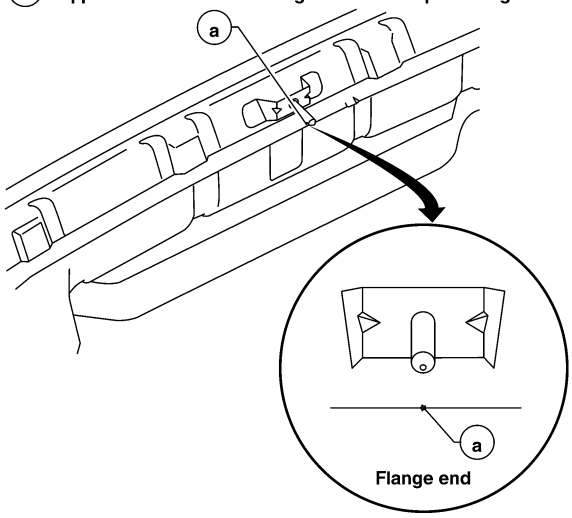
LIIA2088E

Measurement Points

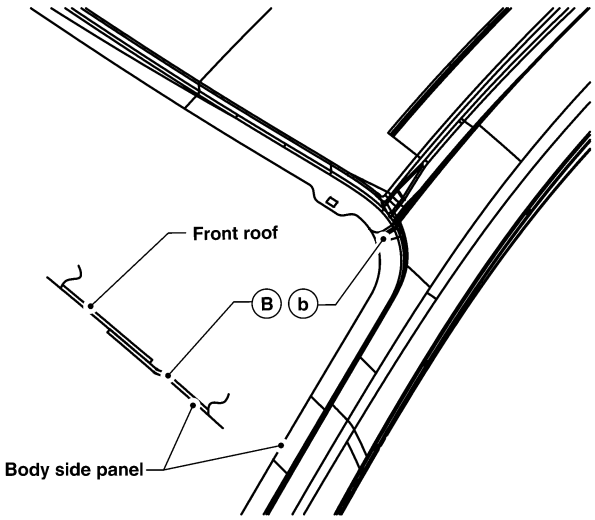
Ⓐ Front roof flange end of center positioning mark



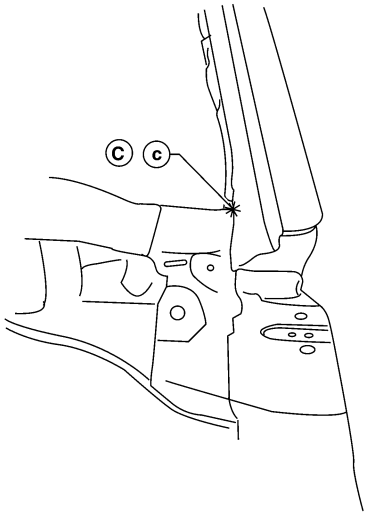
ⓐ Upper dash crossmember flange end of center positioning mark



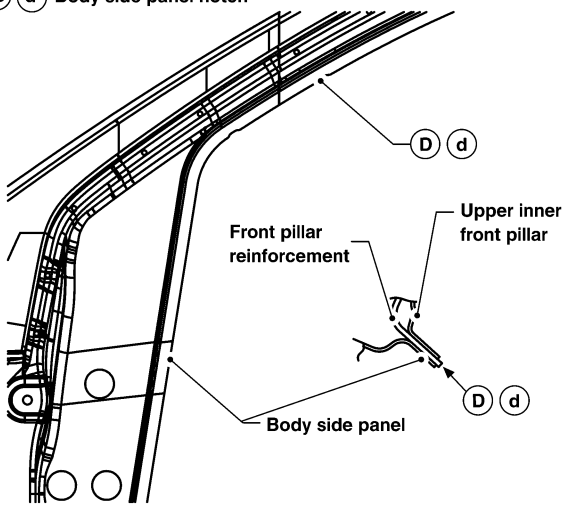
Ⓑ ⓑ Body side panel joggle



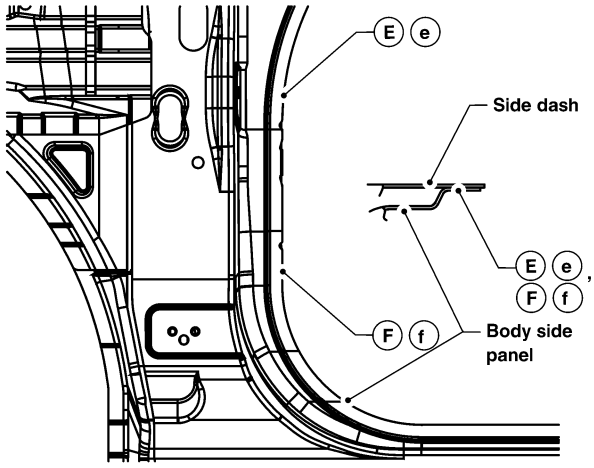
Ⓒ ⓒ Corner cowl top crossmember assembly and front pillar



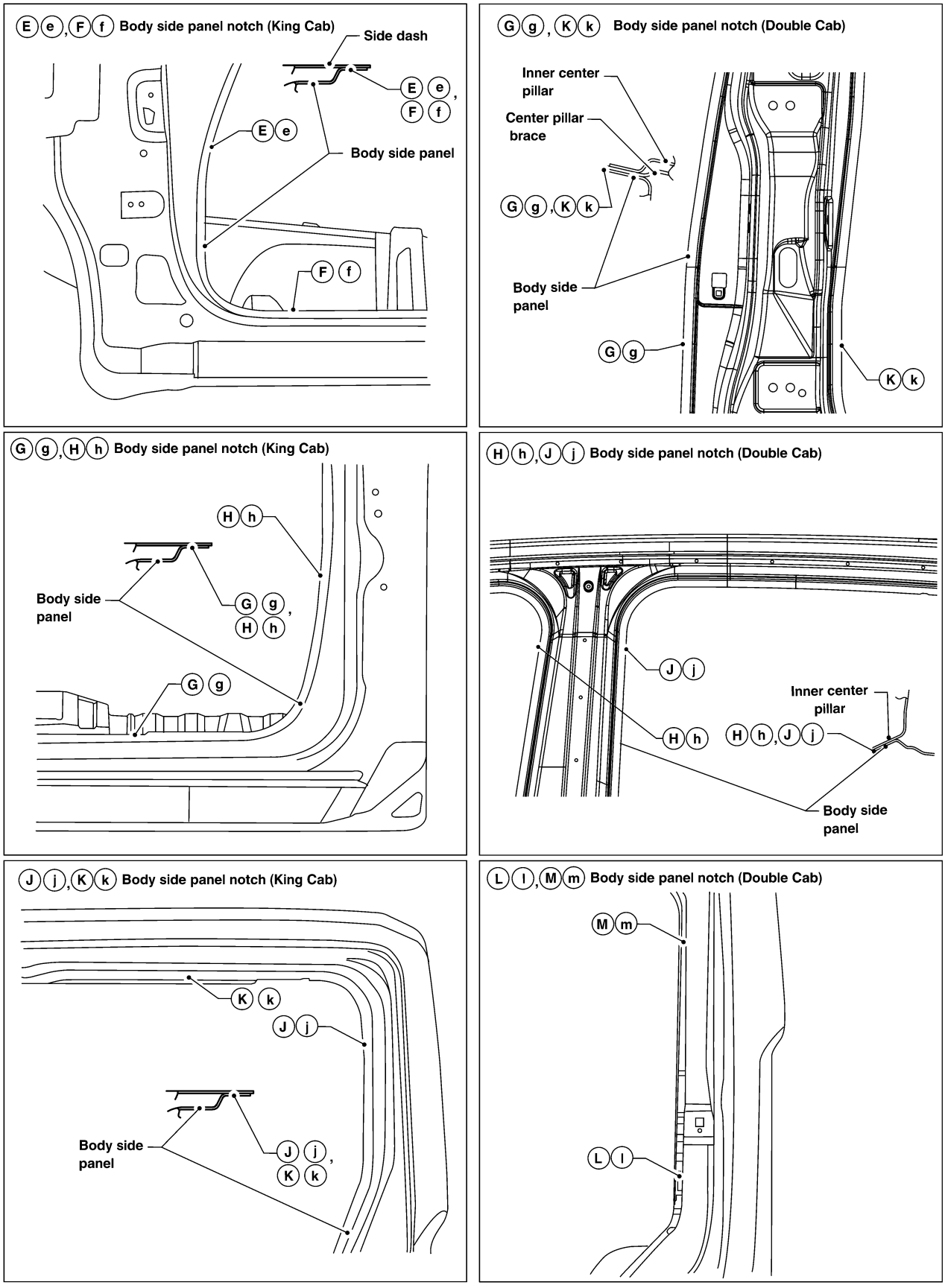
Ⓓ ⓓ Body side panel notch



Ⓔ ⓔ, Ⓕ ⓕ Body side panel notch (Double Cab)

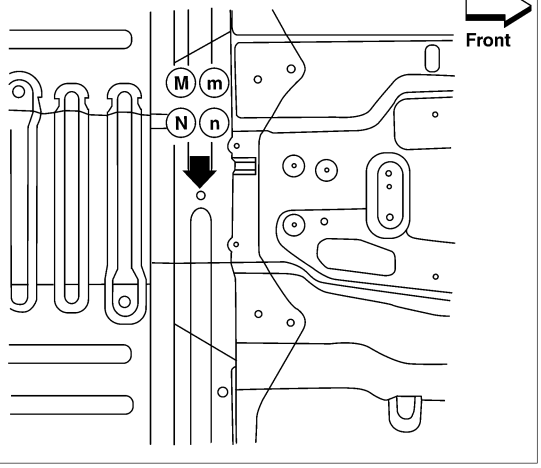


SIIA2562E

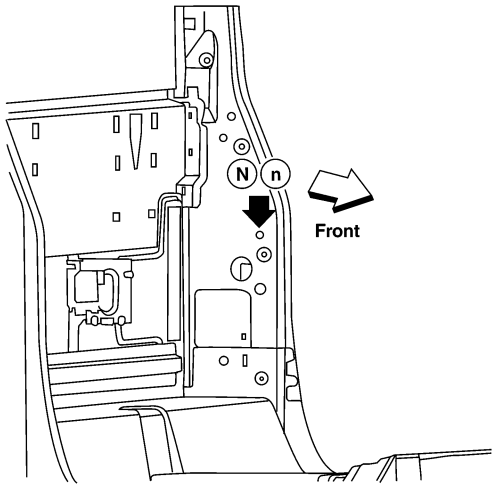

E e, F f Body side panel notch (King Cab)
Side dash
E e, F f
E e
Body side panel
F f
G g, K k Body side panel notch (Double Cab)
Inner center pillar
Center pillar brace
G g, K k
Body side panel
G g
K k
G g, H h Body side panel notch (King Cab)
H h
Body side panel
G g, H h
G g
H h, J j Body side panel notch (Double Cab)
J j
Inner center pillar
H h
H h, J j
Body side panel
J j, K k Body side panel notch (King Cab)
K k
J j
Body side panel
J j, K k
L l, M m Body side panel notch (Double Cab)
M m
L l

SIIA2563E

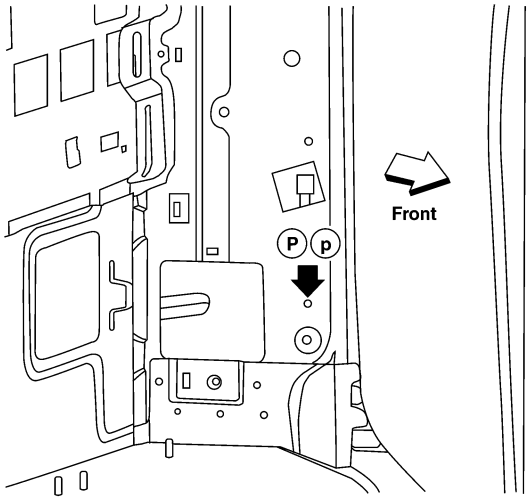
Ⓜ ⓜ Center pillar crossmember hole center (King Cab)
Ⓝ ⓝ Center pillar crossmember hole center (Double Cab)



Ⓝ ⓝ Inner lock pillar bolt hole center (King Cab)



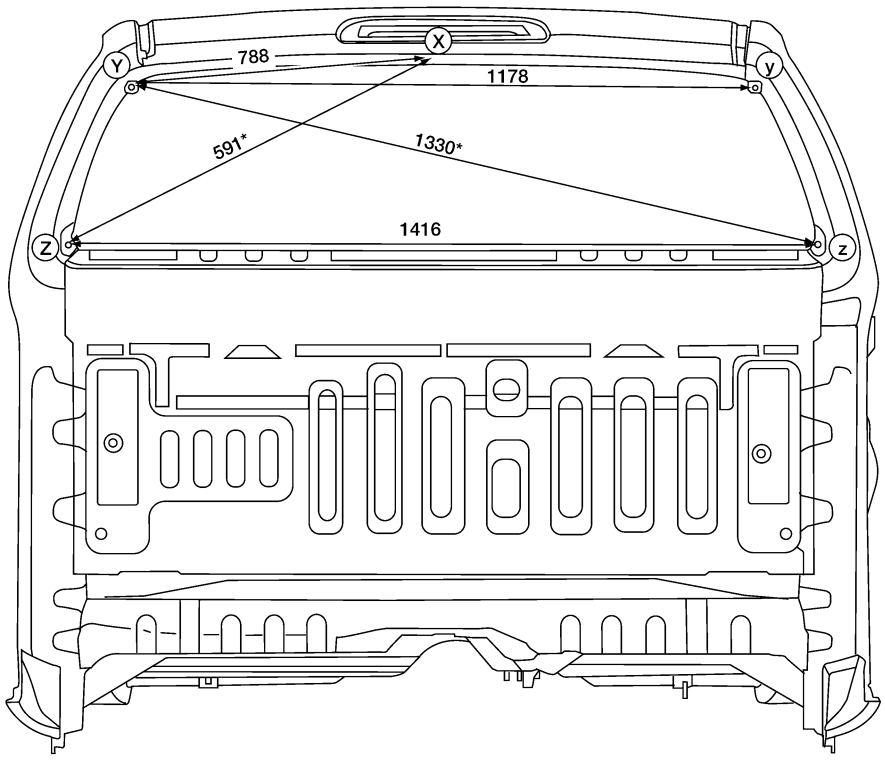
Ⓟ ⓟ Inner rear lock pillar bolt hole center (Double Cab)



SIIA2564E

REAR BODY
Measurement

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

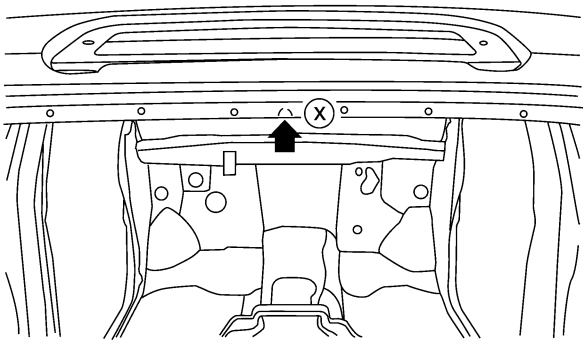


Unit: mm

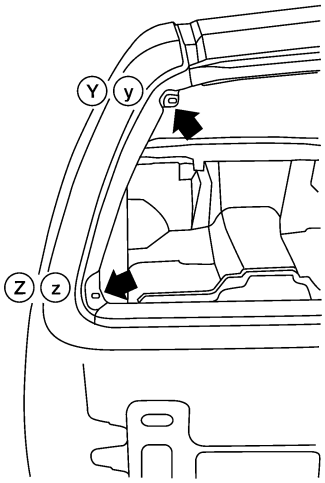
LIIA2093E

Measurement Points

Ⓧ Top center rear window opening flange end



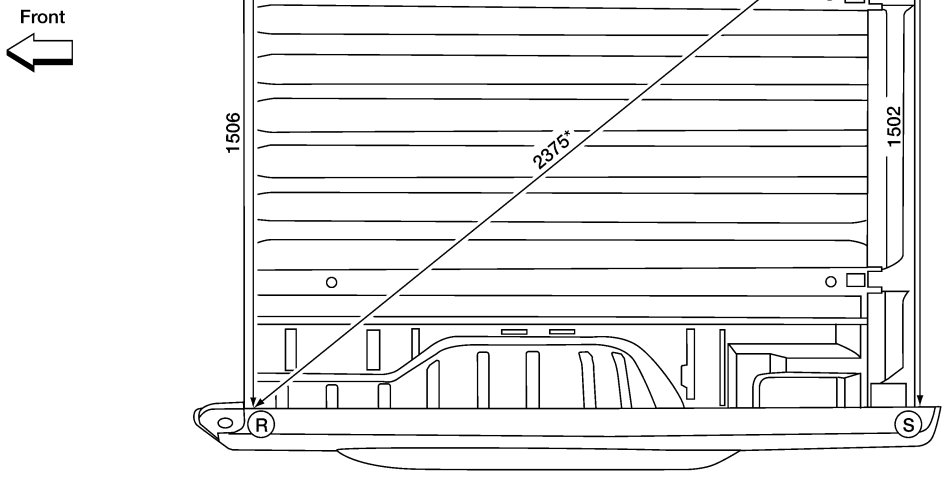
Ⓨ ⓨ Rear window upper installation tab hole
Ⓩ ⓩ Rear window lower tab hole

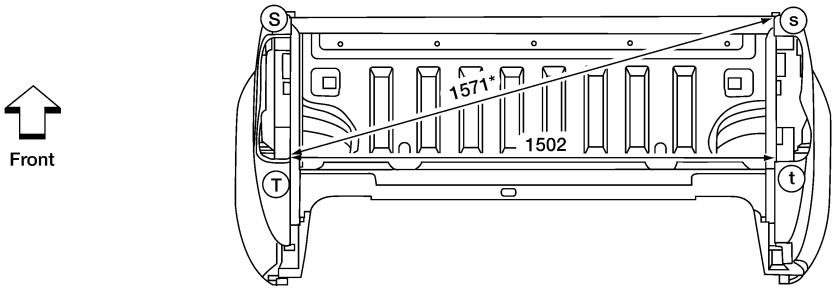


LIIA2094E

PICKUP BED
Measurement (King Cab)

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



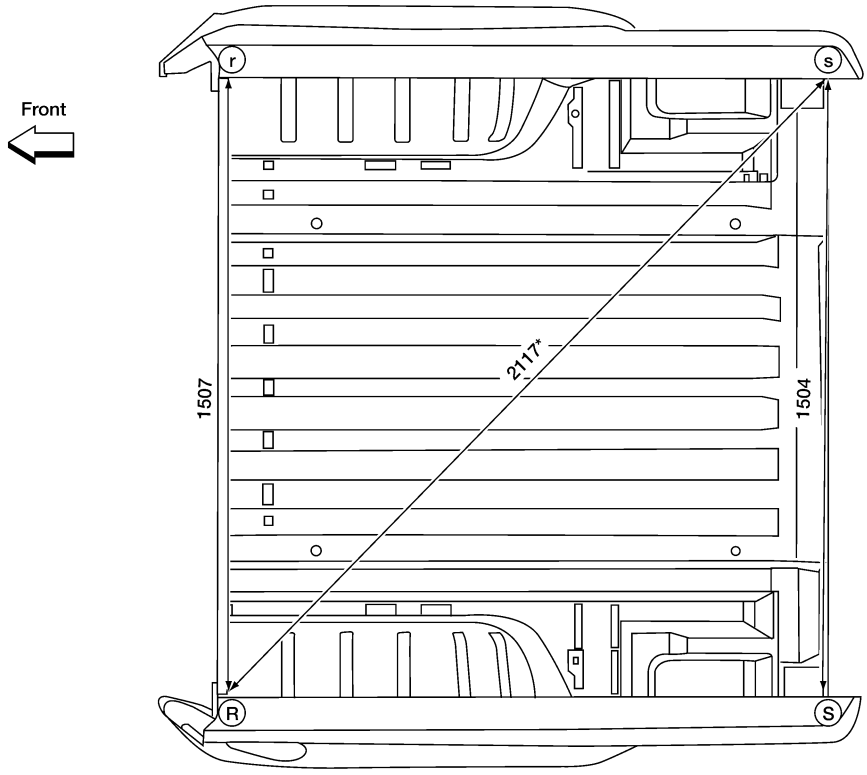


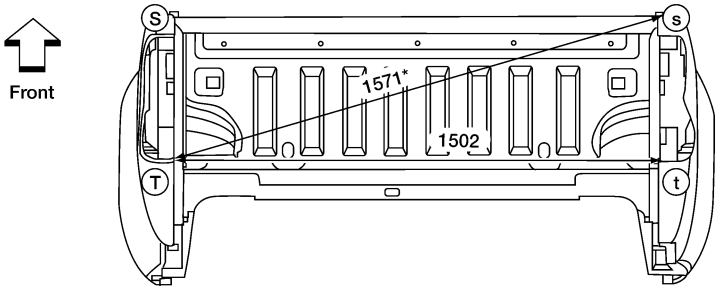
Unit: mm

LIIA2096E

Measurement (Double Cab)

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



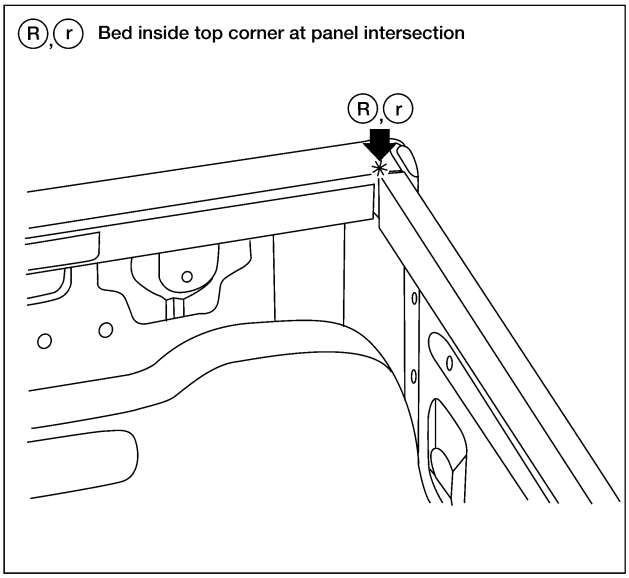


Unit: mm

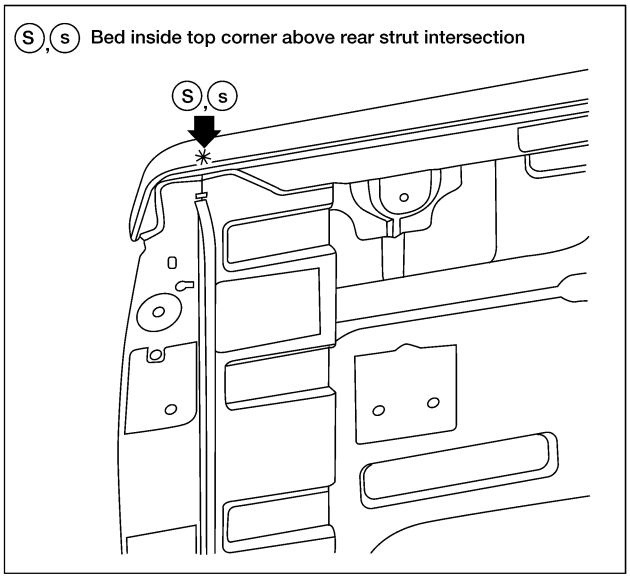
LIIA2095E

Measurement Points

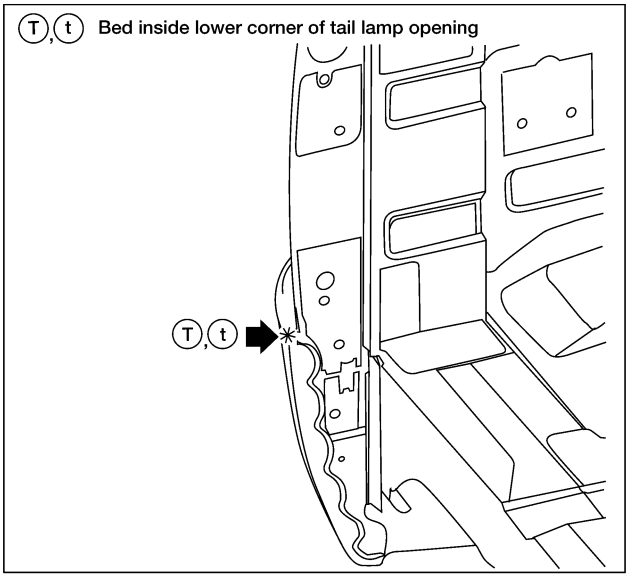
(R), (r) Bed inside top corner at panel intersection



(S), (s) Bed inside top corner above rear strut intersection



(T), (t) Bed inside lower corner of tail lamp opening



LIIA2097E