SECTION BL

BODY, LOCK & SECURITY SYSTEM

CONTENTS

PRECAUTIONS

PFP:00001

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

EIS000PD

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 harness connectors.**

Precautions for work

EIS000PE

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

Wiring Diagnosis and Trouble Diagnosis

EIS000PF

When you read wiring diagrams, refer to the following:

- GI-12, "How to Read Wiring Diagrams"
- PG-3, "POWER SUPPLY ROUTING CIRCUIT"

When you perform trouble diagnosis, refer to the following:

- GI-10, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"
- GI-25, "How to Perform Efficient Diagnosis for an Electrical Incident"
  Check for any Service bulletins before servicing the vehicle.

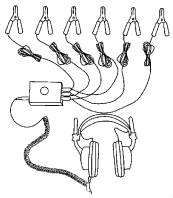
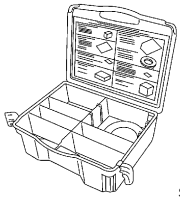
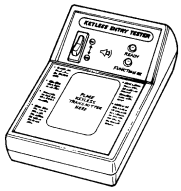
PREPARATION

PFP:00002

Special service tool

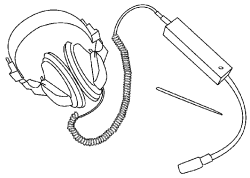
EIS000PG

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

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

Commercial Service Tool

EIS000PH

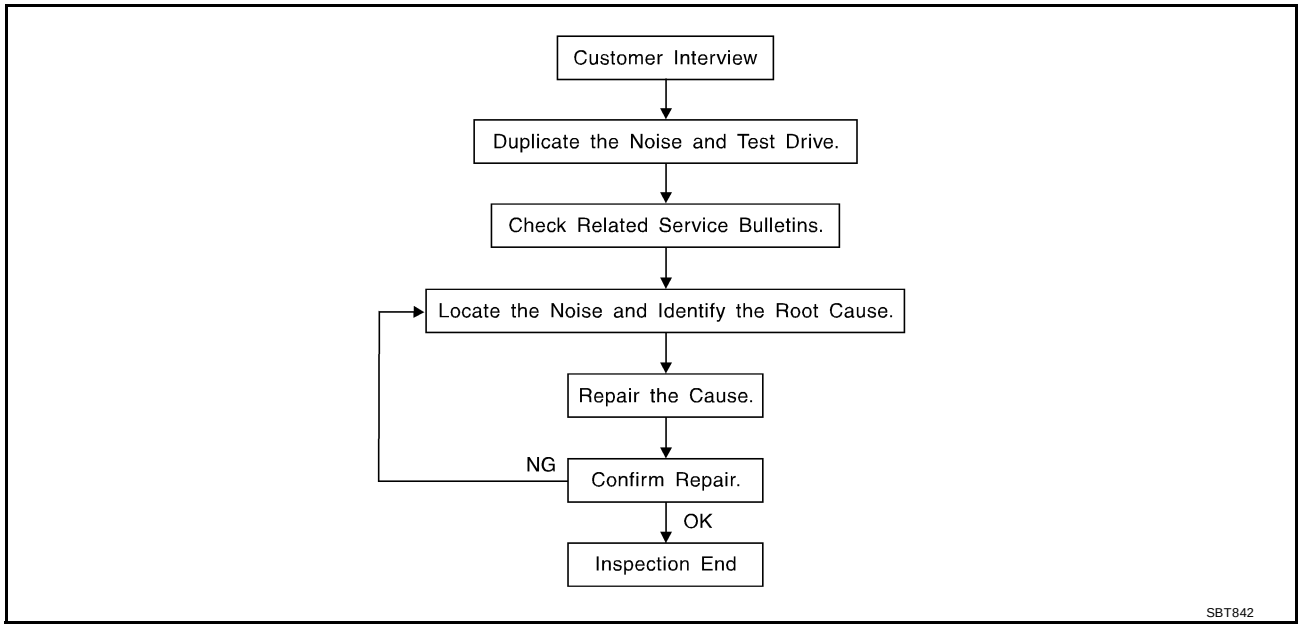
Tool name	Description
Engine ear  SIIA0995E	Locating the noise

SQUEAK AND RATTLE TROUBLE DIAGNOSIS

PFP:00000

Work Flow

EIS000PI



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 BL-10, "Diagnostic Worksheet" . This information is necessary to duplicate the conditions that exist when the noise occurs.

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

DUPLICATE THE NOISE AND TEST DRIVE

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

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

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

CHECK RELATED SERVICE BULLETINS

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

LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

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

- removing the components in the area that you suspect the noise is coming from.
  Do not use too much force when removing clips and fasteners, otherwise clips and 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-8, "Generic Squeak and Rattle Troubleshooting" .

REPAIR THE CAUSE

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

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

80845-71L00: 30 mm (1.18 in) thick, 30×50 mm (1.18×1.97 in)
FELT CLOTH TAPE
Used to insulate where movement does not occur.Ideal for instrument panel applications.
68370-4B000: 15×25 mm (0.59×0.98 in) pad/68239-13E00: 5 mm (0.20 in) wide tape roll The following materials, not found in the kit, can also be used to repair squeaks and rattles.
UHMW (TEFLON) TAPE
Insulates where slight movement is present. Ideal for instrument panel applications.
SILICONE GREASE
Used 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

EIS000PJ

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

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

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

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

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

CENTER CONSOLE

Components to pay attention to include:

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

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

DOORS

Pay attention to the:

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

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

TRUNK

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

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

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

SUNROOF/HEADLINER

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

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

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

SEATS

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

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

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

UNDERHOOD

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

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

These noise 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.

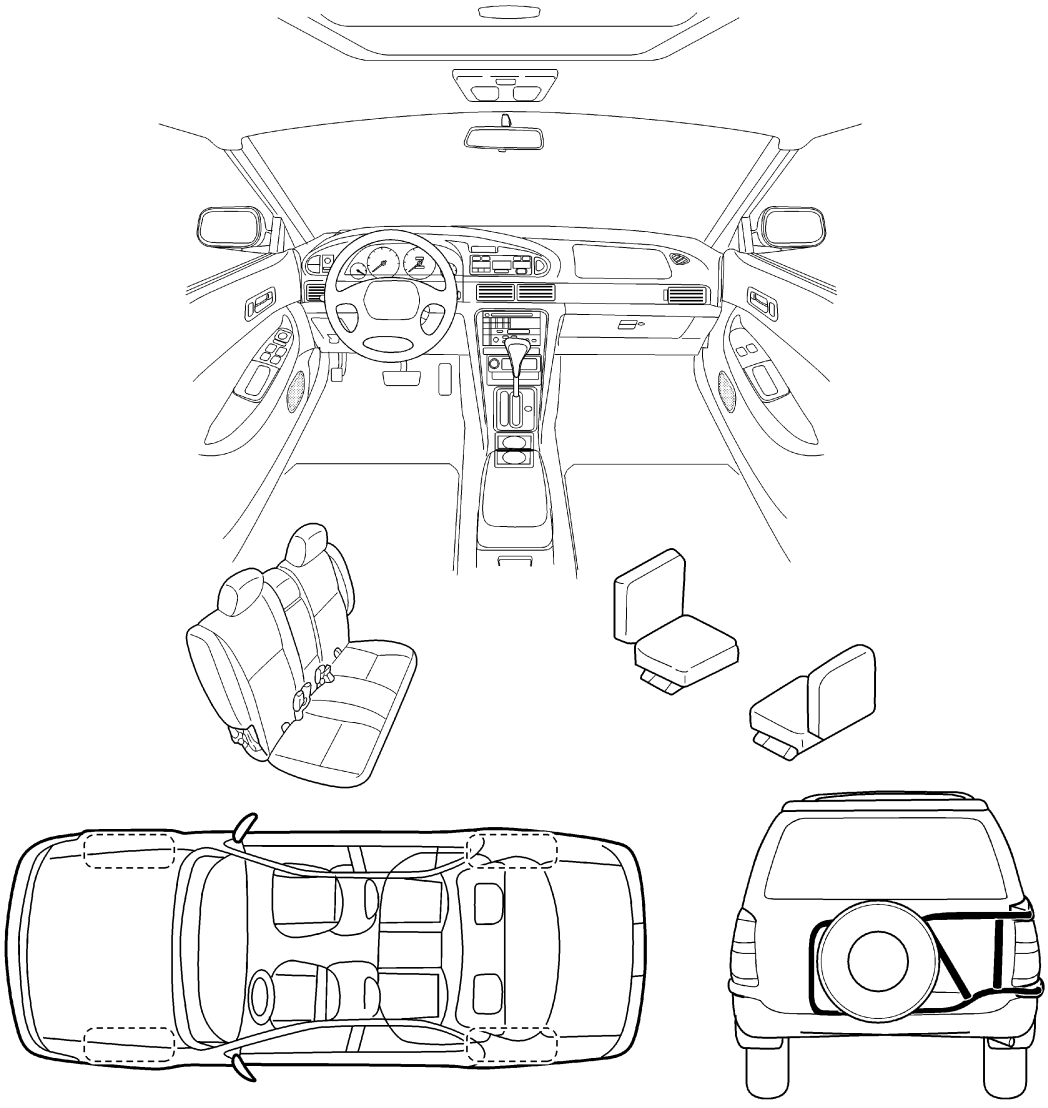
Diagnostic Worksheet

EIS000PK

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 DOESTHE 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.

ABT468

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: _____

SBT844

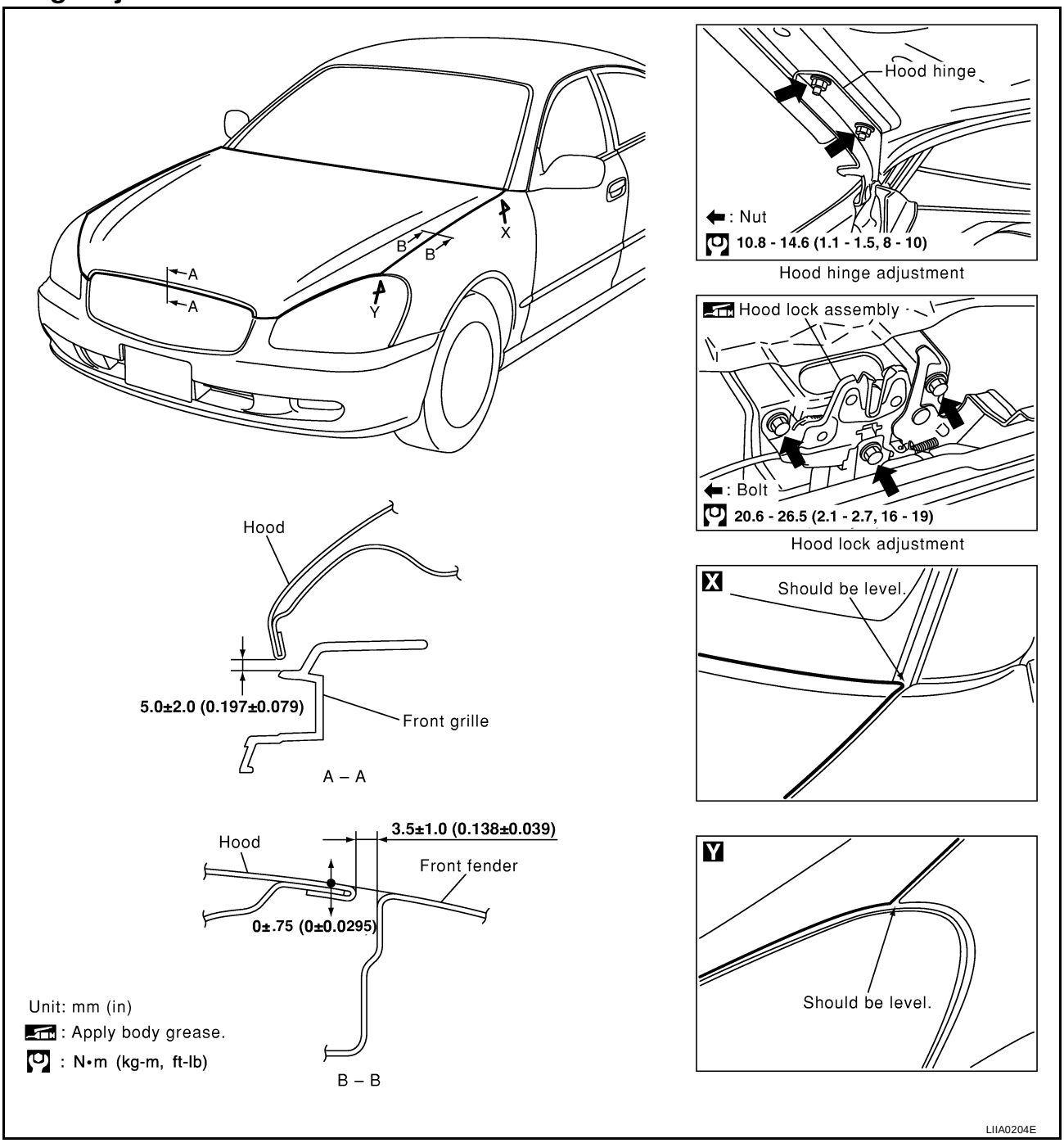
This form must be attached to Work Order

HOOD

PFP:F5100

Fitting Adjustment

EIS000PL



FRONT END HEIGHT ADJUSTMENT AND LATERAL/LONGITUDINAL CLEARANCE ADJUSTMENT.

1. Remove the hood lock and adjust the height by rotating the bumper rubber until the hood becomes 1 to 1.5 mm (0.04 to 0.059 in) higher 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 lock mounting bolt to the specified torque.

SURFACE HEIGHT ADJUSTMENT

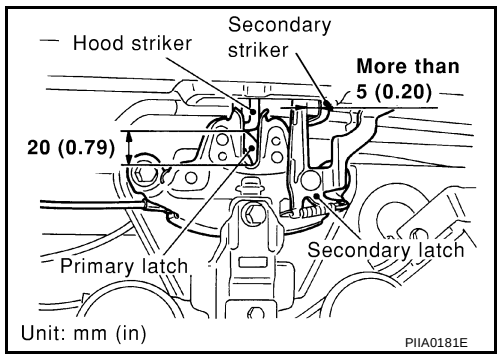
1. Remove the hood lock, and adjust the surface height difference of the hood and fender according to the fitting standard dimension, by rotating RH and LH bumper rubbers.
2. Install the hood lock temprarily, and align the hood striker and lock so that the centers of striker and lock become vertical viewed from the front, by moving the hood lock laterally.

3. Check that the secondary latch is properly engaged with the secondary striker with hood's own weight by dropping it from approx. 200 mm (7.87 in) height or by pressing it lightly approx. 3 kg (29 N).

   CAUTION:

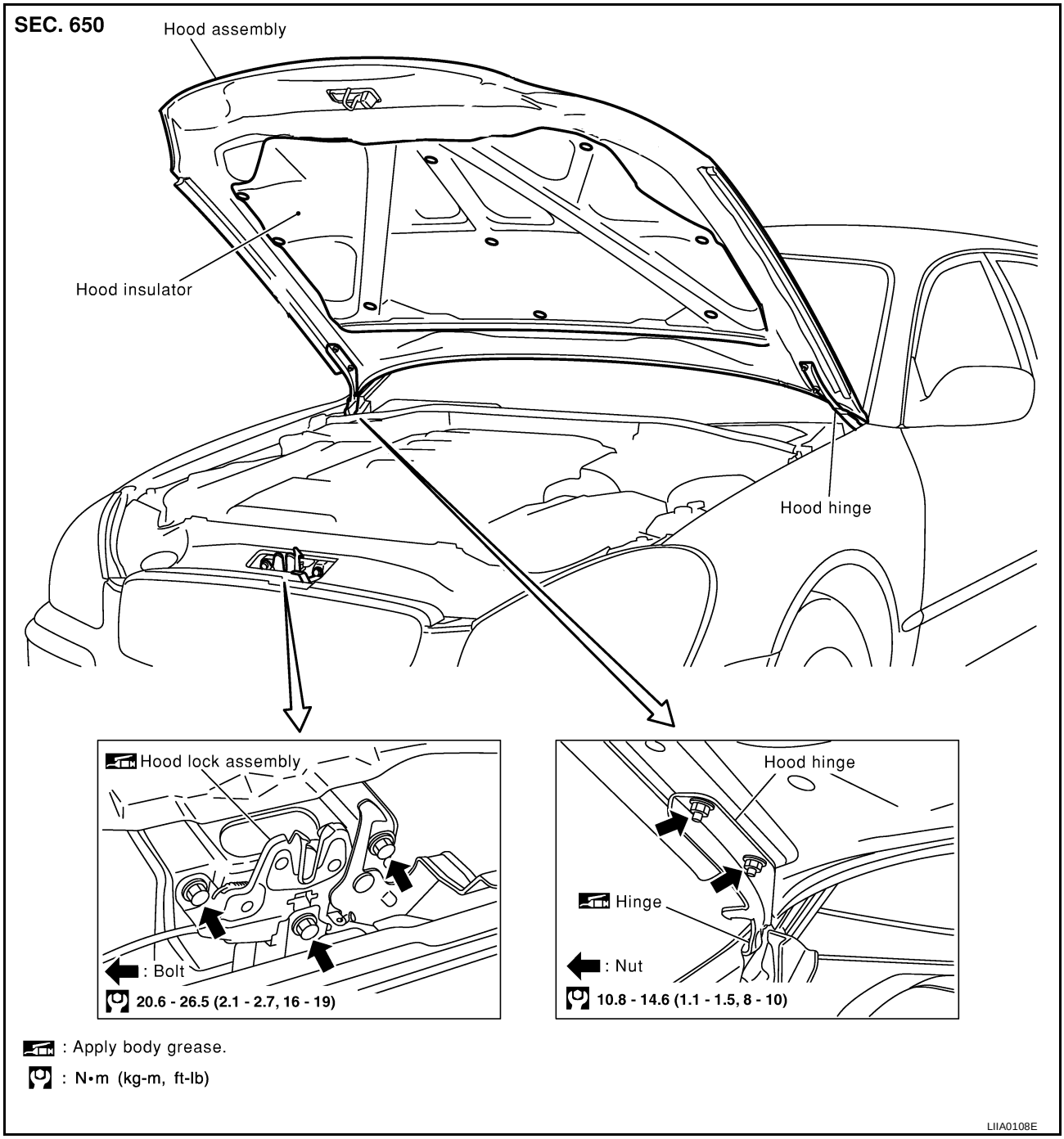
   Do not drop the hood from 300 mm (11.81 in) height or higher.

4. Move the hood lock up and down so that the striker and lock are engaged firmly with the hood closed.
5. Tighten the lock mounting bolts to the specified torque.



Removal and Installation of Hood Assembly

EIS000PM



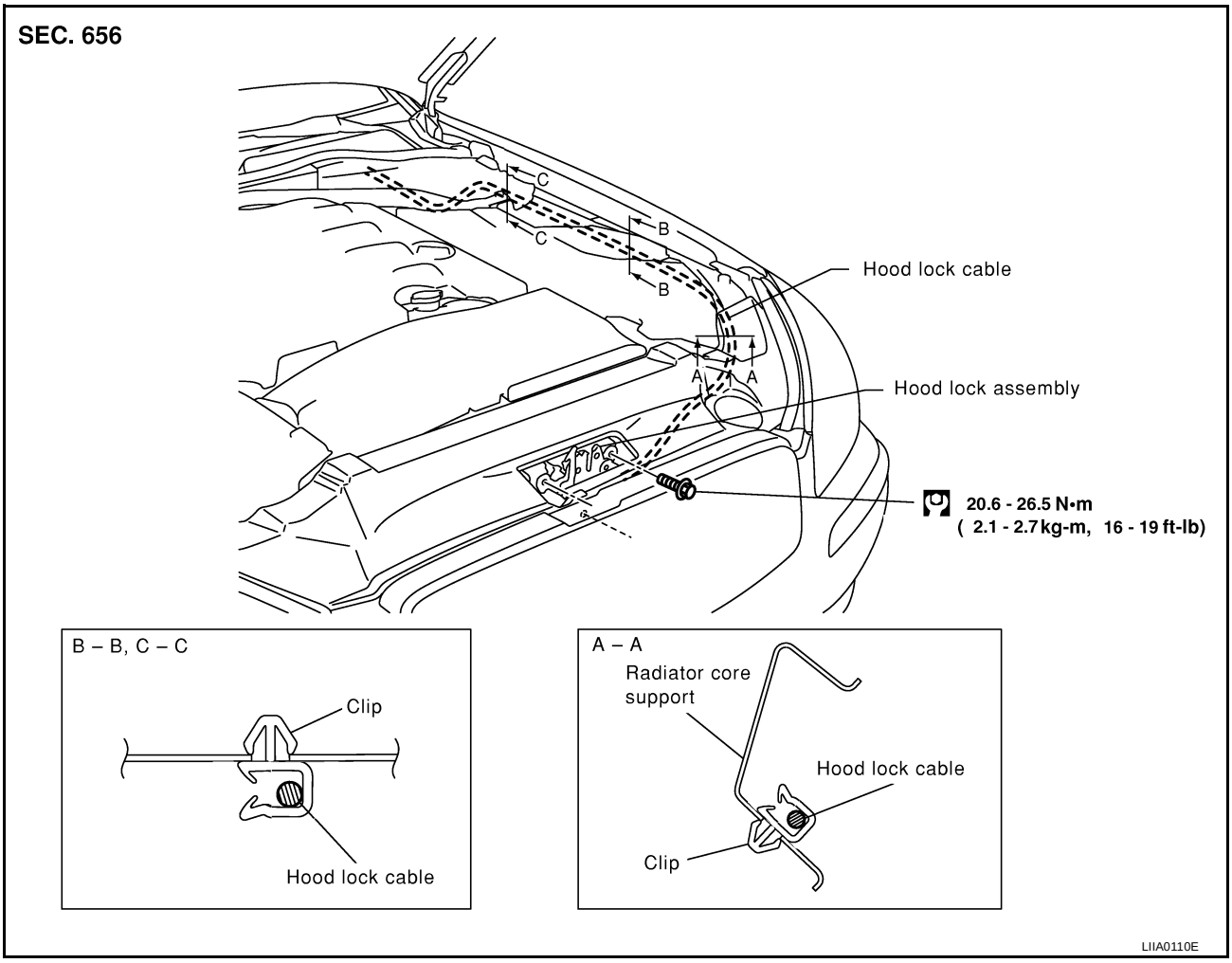
1. Remove the hinge mounting nuts on the hood to remove the hood assembly.

Install in the reverse order of removal.

Removal and Installation of Hood Lock Control

EIS000PN

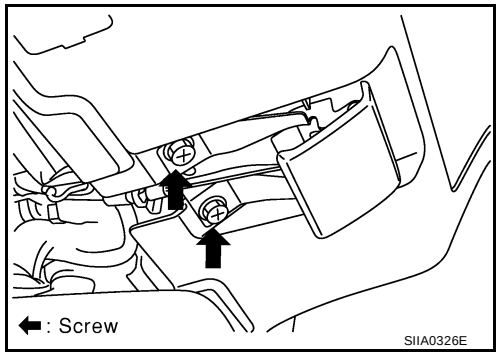
SEC. 656



REMOVAL

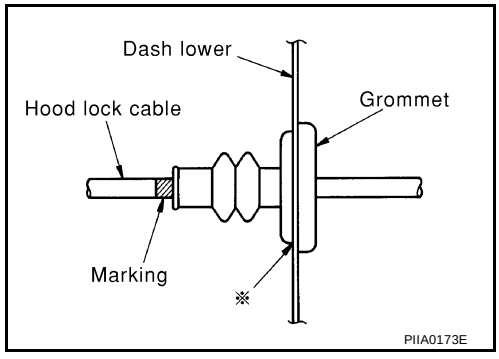
1. Disconnect the hood lock cable from the hood lock, and clip it from the radiator core upper support and hood ledge.
2. Remove the mounting screws, and remove the hood opener.
3. Remove the grommet on the instrument panel, and pull the hood lock cable toward the passenger compartment.

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

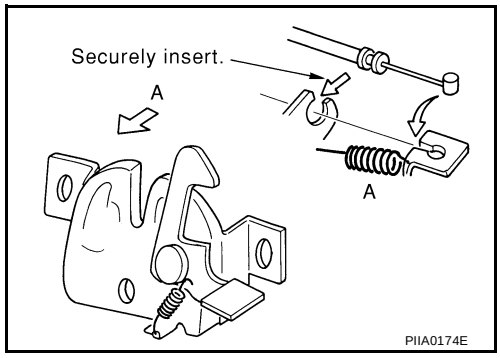


INSTALLATION

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



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

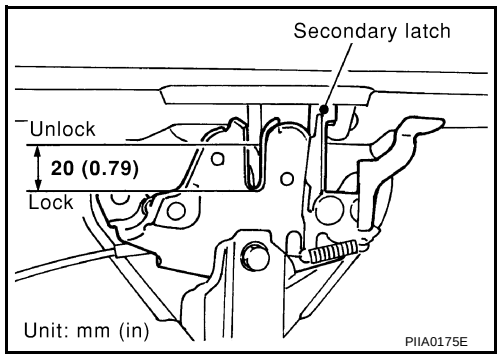


Hood Lock Control Inspection

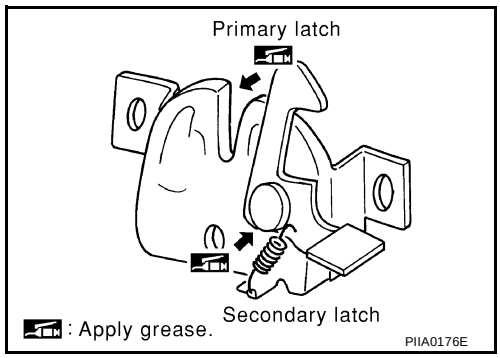
EIS000PO

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

1. Check that the secondary latch is properly engaged with the secondary striker with hood's own weight by dropping it from approx. 200 mm (7.87 in) height.
2. While operating the hood opener, carefully check that the front end of the hood is raised by approx. 20 mm (0.79 in). Also check that the hood opener returns to the original position.



3. Check the hood lock lubrication condition. If necessary, apply "body grease" to the points shown in the figure.

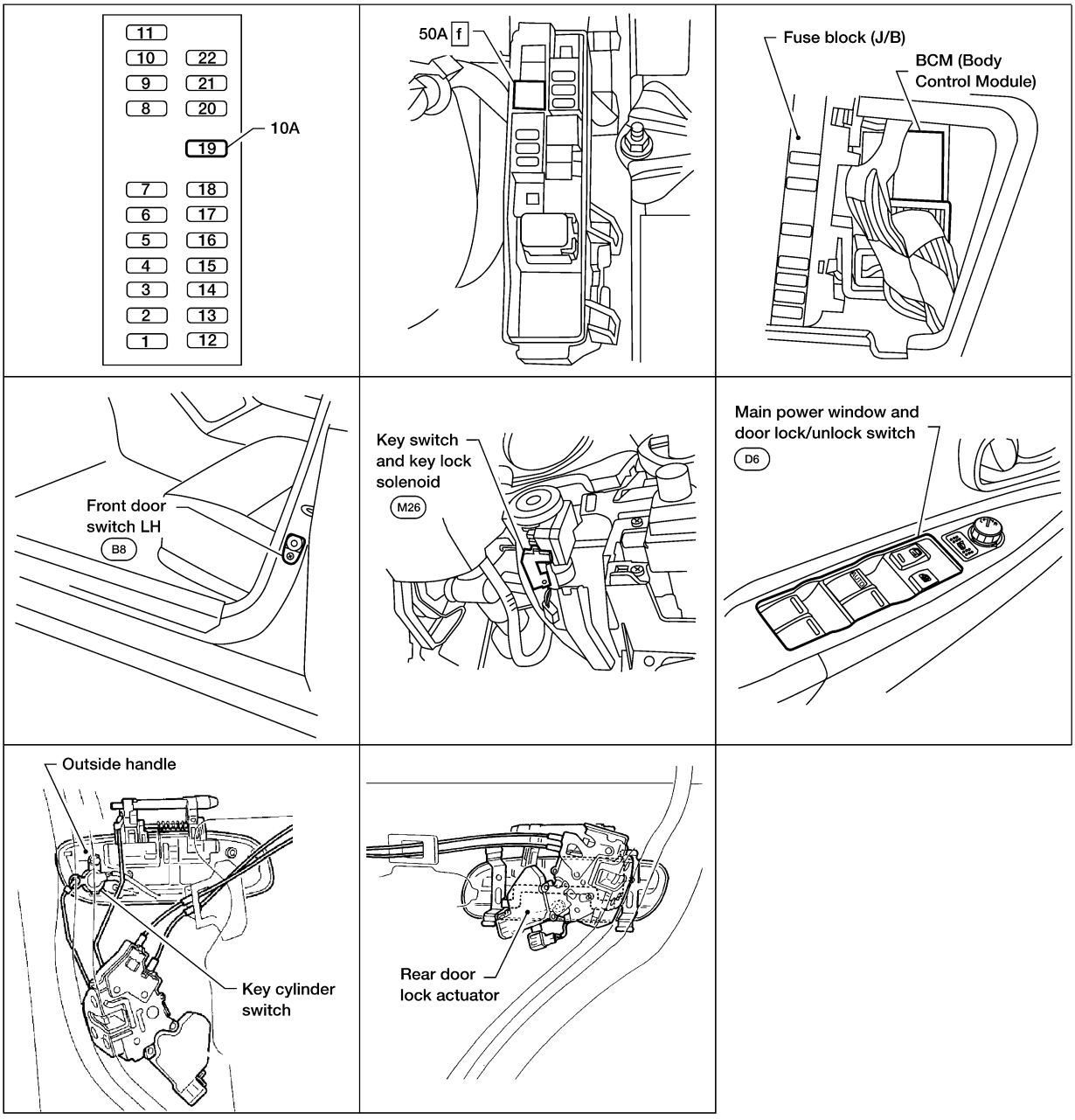


POWER DOOR LOCK SYSTEM

PFP:24814

Component Parts and Harness Connector Location

EIS000PP



LIIA0064E

System Description

EIS000PQ

Power is supplied at all time

- to BCM terminal 7
- through 50A fusible link (letter **f,** located in the fuse and fusible link box)
- through 10A fuse [No.19, located in the fuse block (J/B)]
- to key switch and keylock solenoid terminal 3.

With ignition key inserted, power is supplied

- through key switch and keylock solenoid terminal 4
- to BCM terminal 62.

Ground is supplied to terminal 8 of BCM through body grounds E15 and E24 and to terminals 27 and 63 of BCM through body ground M57 and M61.

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

- through terminal 19 of main power window and door lock/unlock switch through body grounds M57 and M61
- to BCM terminal 37 and
- through main power window and door lock/unlock switch terminal 18. (with left front only power window anti–pinch system)

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

- through terminal 19 of main power window and door lock/unlock switch through body grounds M57 and M61
- to BCM terminal 44
- through main power window and door lock/unlock switch terminal 17 (with left front only power window anti–pinch system).

When the door is locked with front power window switch RH, ground is suppied

- through terminal 19 front power window switch RH through body grounds M57 and M61
- to BCM terminal 37
- through front power window switch RH terminal 18 (with left front only power window anti–pinch system).

When the door is unlocked with front power window switch RH, ground is supplied

- through terminal 19 of front power window switch RH through body grounds M57 and M61
- to BCM terminal 44
- through front power window switch RH terminal 20 (with left front only power window anti–pinch system).

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

- to body grounds M57 and M61
- through BCM terminal 59 (with left front only power window anti–pinch system).

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

- to body grounds M57 and M61
- through BCM terminal 60 (with left front only power window anti–pinch system).

BCM is connected to main power window and door lock/unlock switch and front power window switch RH as anti–pinch serial link (with left and right front power window anti–pinch system).

Main power window and door lock/unlock switch and front power window switch RH output to key cylinder lock/unlock switch, central lock/unlock switch and power window UP/DOWN control by key cylinder switch as DATALINE (anti–pinch serial link) to BCM.

OUTLINE

Functions available by operating the central switches on driver's door and passenger's door

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

Functions available by operating the key cylinder switch on driver's door

- Interlocked with the locking operation of door key cylinder, door lock actuators of all doors are locked.
- When door key cylinder is unlocked, fron door lock actuator LH is unlocked.

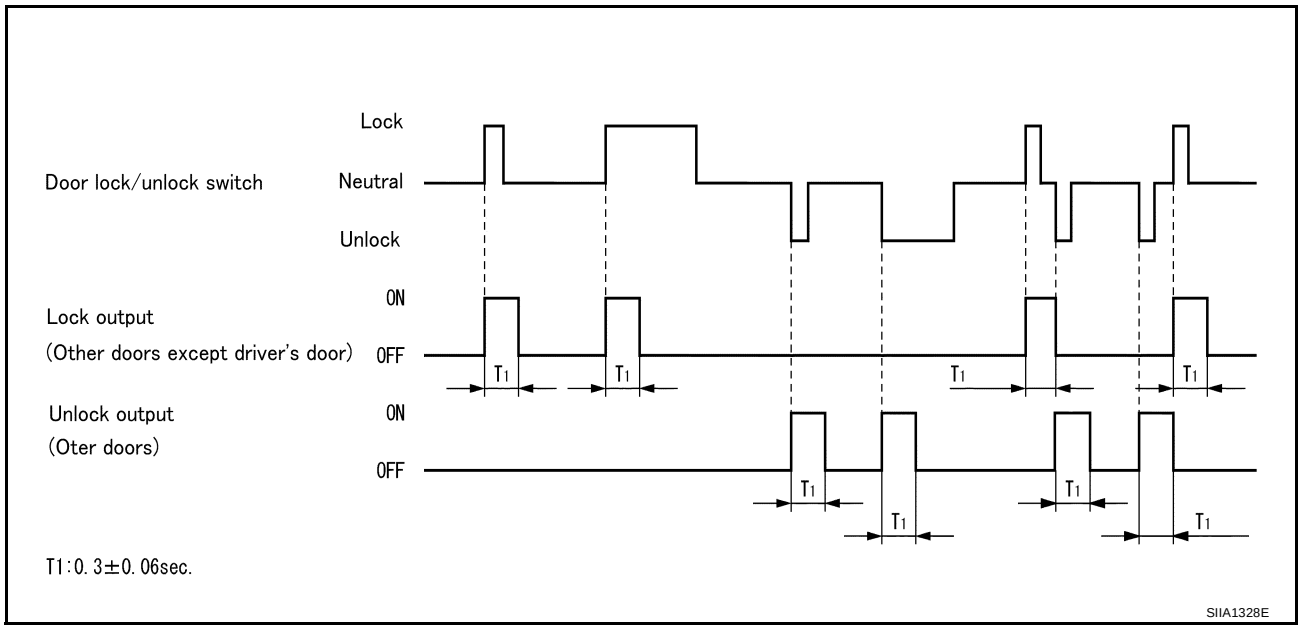
- When door key cylinder is unlocked for the second time within 5 seconds after the first operation, door lock actuators on all doors are unlocked.

Key–trap preventive function

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

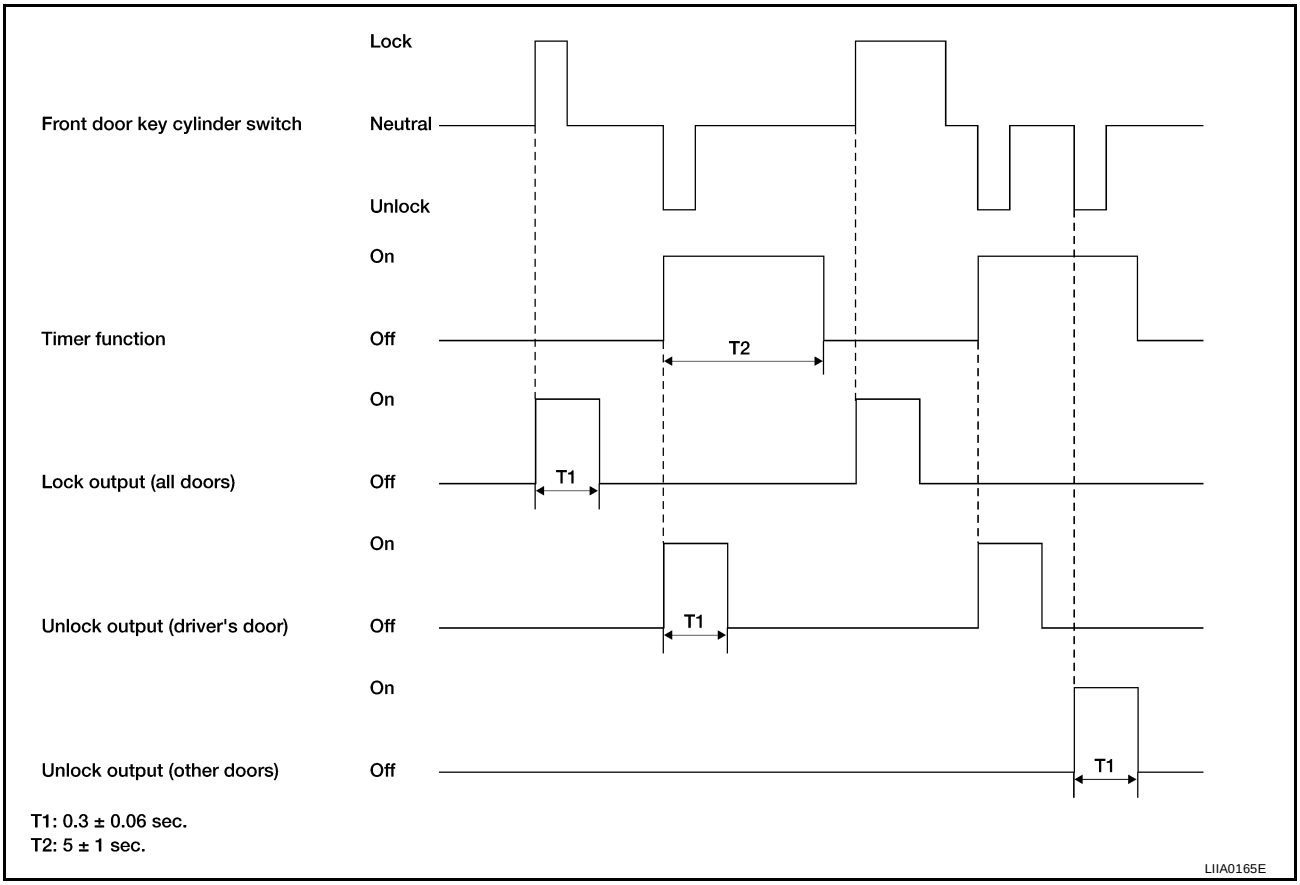
OPERATIONS BY MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Time chart



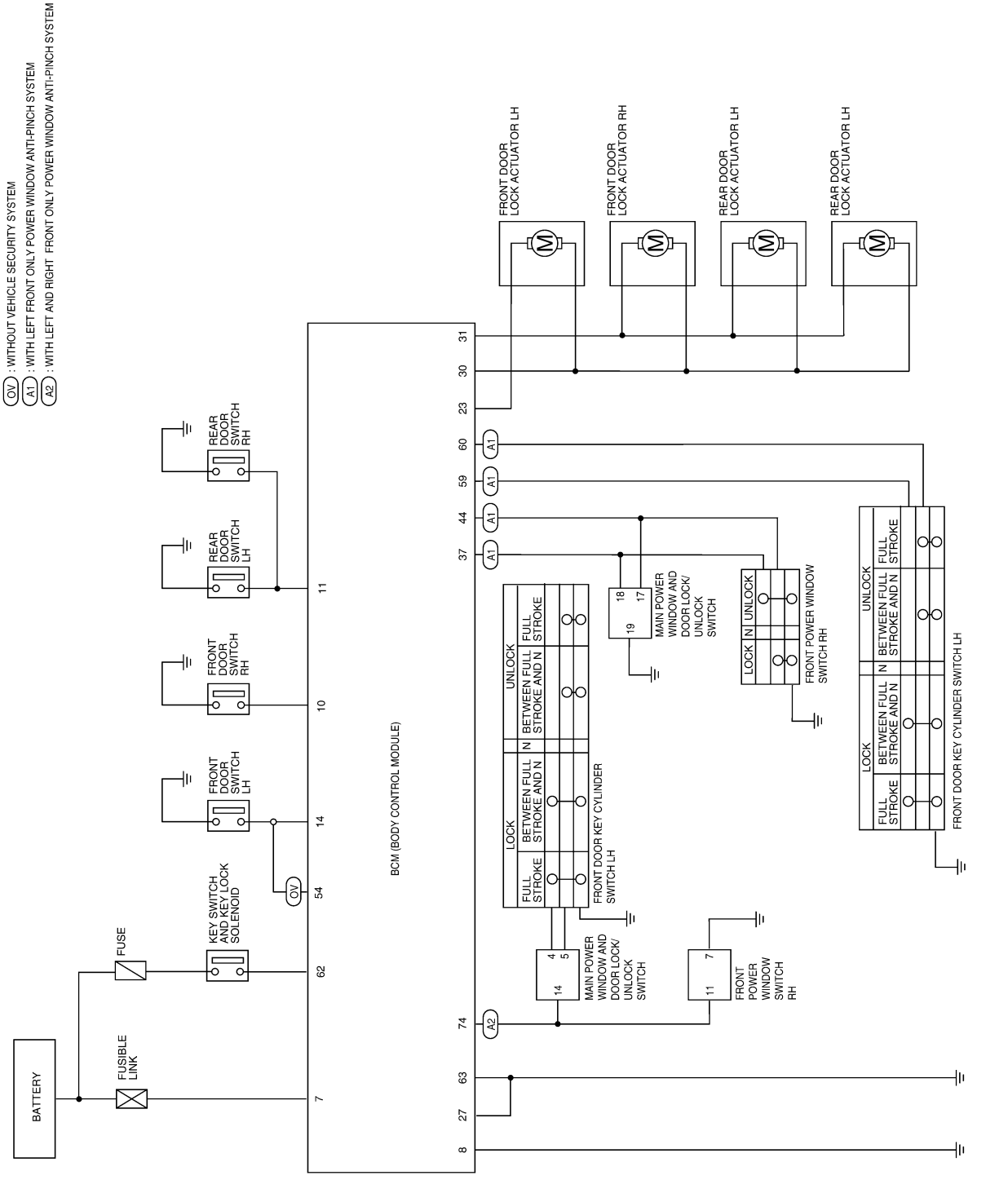
KEY–TRAP PREVENTIVE FUNCTION

Time chart



Schematic

EIS000PR



LIWA0030E

Wiring Diagram -D/LOCK-

EIS000PS

FIG. 1

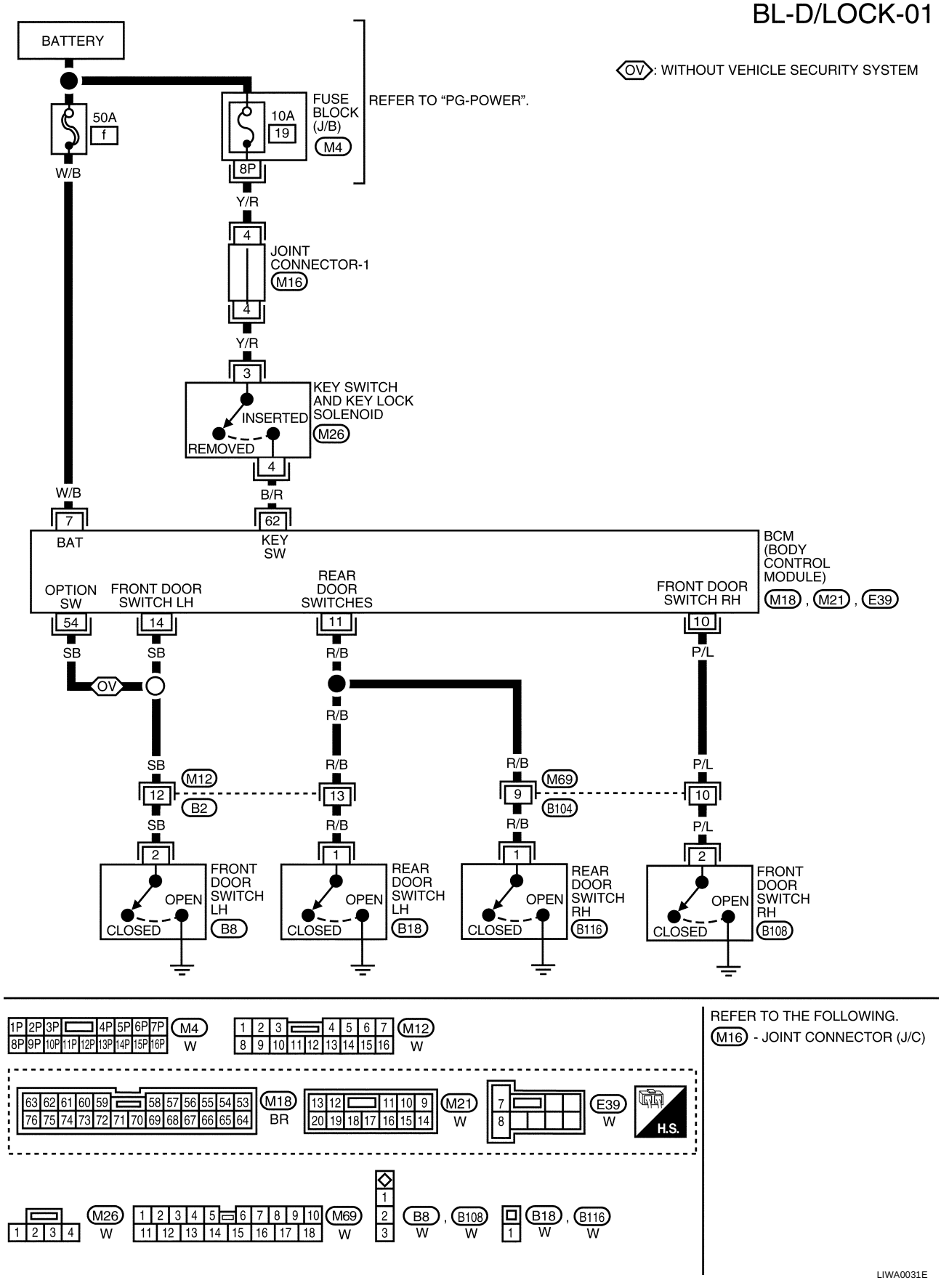
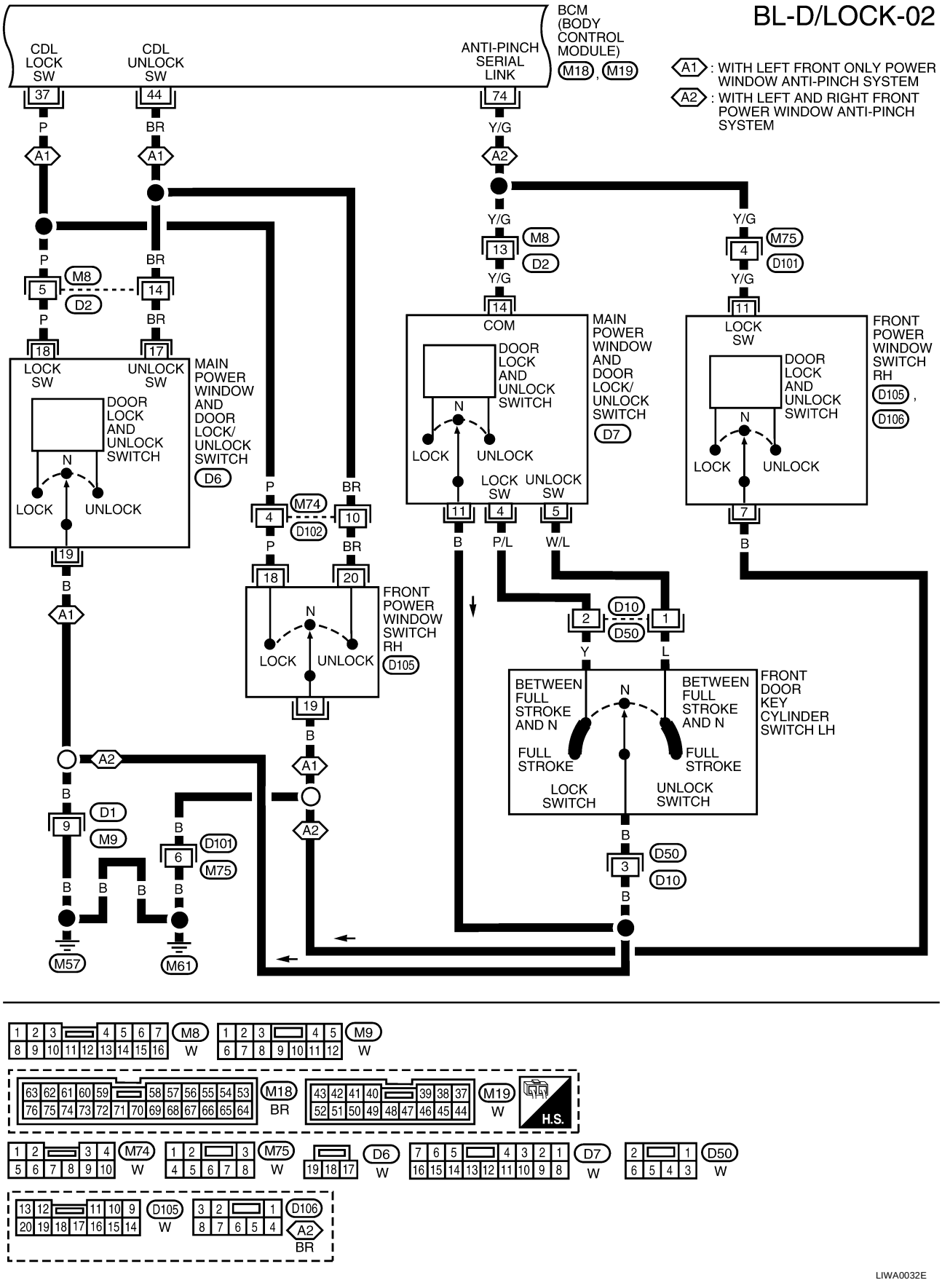


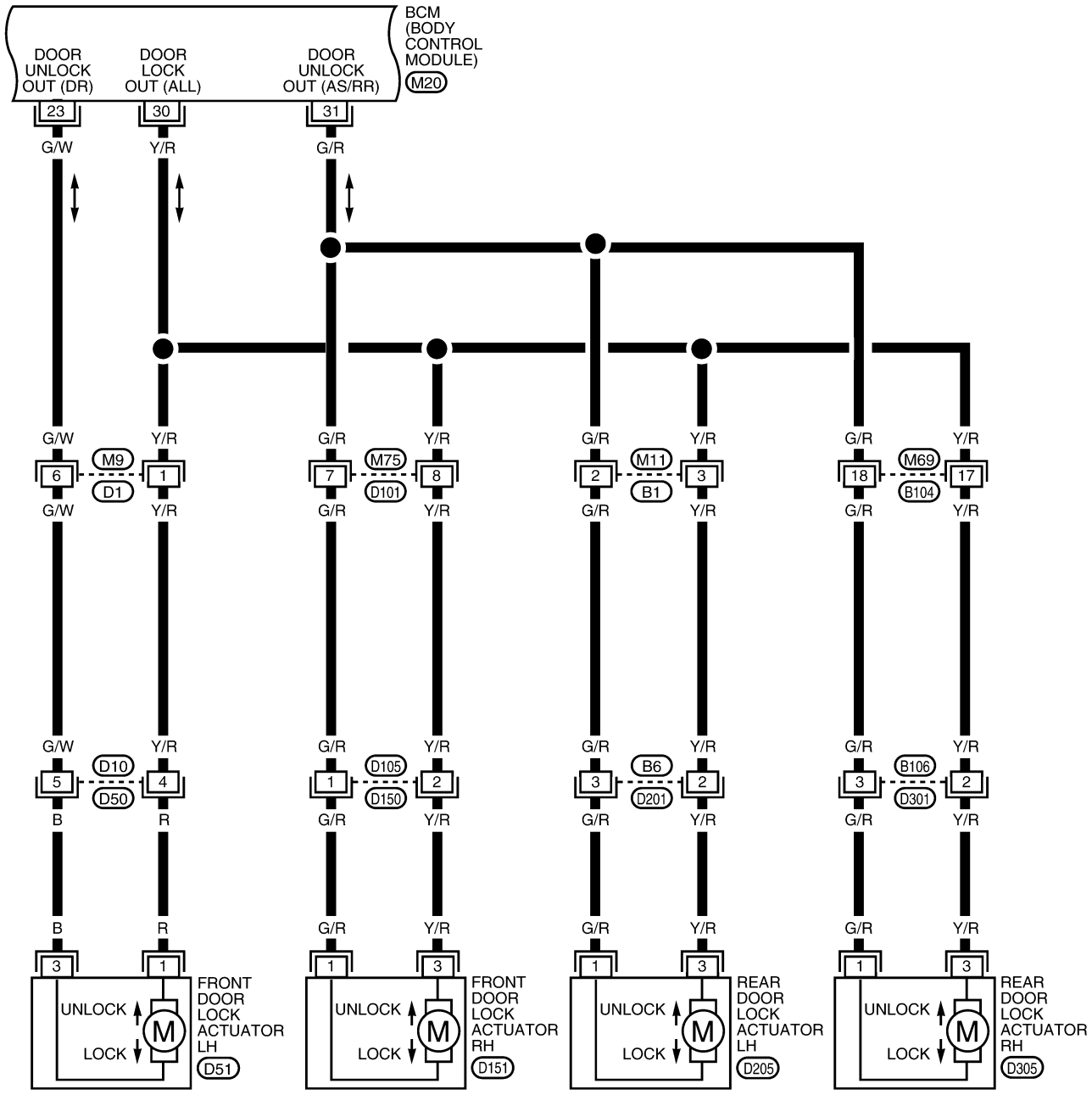
FIG. 2

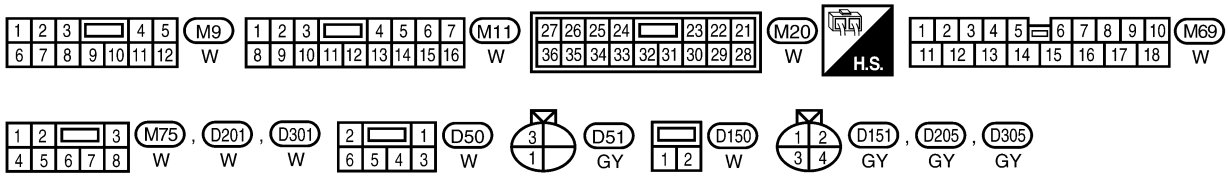


LIWA0032E

FIG. 3

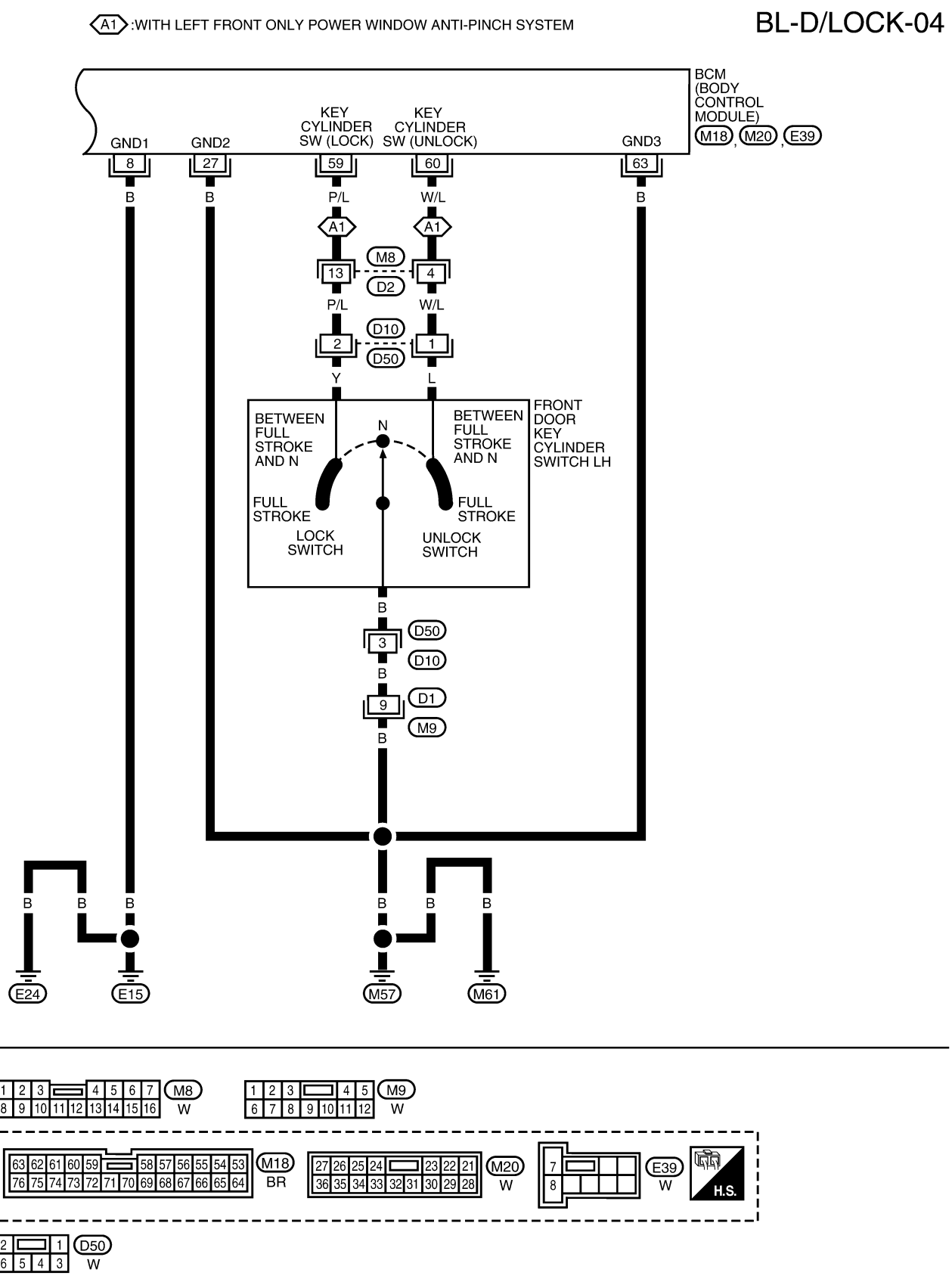
BL-D/LOCK-03





LIWA0033E

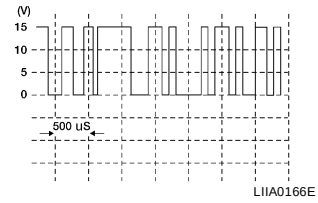
FIG. 4



LIWA0034E

Terminals and Reference Value for BCM

EIS000PT

TERMI-NAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE
7	W/B	BAT power supply	—	Battery voltage
8	B	Ground	—	—
10	P/L	Front door switch RH	Door open (ON) → Door close (OFF)	0V → Battery voltage
11	R/B	Rear door switch LH/RH	Door open (ON) → Door close (OFF)	0V → Battery voltage
14	SB	Front door switch LH	Door open (ON) → Door close (OFF)	OV → Battery voltage
23	G/W	Front door lock actuator LH (unlock)	Driver door lock knob (locked → un locked)	0V → Battery voltage
27	B	Ground	—	—
30	Y/R	All door lock actuator (lock)	Driver door lock knob (neutral → lock)	0V → Battery voltage
31	G/R	Front door lock actuator RH and Rear door lock actuators LH/RH (unlock)	Door lock and unlock switch (locked → unlocked)	0V → Battery voltage
37	P	Lock switch signal	Door lock and unlock switch (unlocked → locked)	Battery voltage → 0V
44	BR	Unlock switch signal	Door lock and unlock switch (locked → unlocked)	Battery voltage → 0V
54*	SB	Option switch	Door open (ON) → Door close (OFF)	0V → Battery voltage
59	P/L	Front door key cylinder switch LH (lock)	OFF (neutral) → ON (locked)	5V → 0V
60	W/L	Front door key cylinder switch LH (unlock)	OFF (neutral) → ON (unlocked)	5V → 0V
62	B/R	Key switch (insert)	Key inserted (ON) → Key removed from IGN key cylinder (OFF)	Battery voltage → 0V
63	B	Ground	—	—
74	Y/G	Anti–pinch serial link	—	

*:Without vehicle security system.

Work Flow

EIS000PU

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to BL-17, "System Description" .
3. Perform the preliminary check. Refer to BL-25, "Preliminary Check" .
4. According to the trouble diagnosis chart, repair or replace the cause of the malfunction.Refer to BL-27, "Symptom Chart" .
5. Does rear window defogger operate normally? OK: GO TO 6, NG: GO TO 4.
6. INSPECTION END.

Preliminary Check

EIS000PV

FUSE CHECK

1. FUSE INSPECTION

- Check the following BCM fuse and fusible link.

COMPONENT PARTS	TERMINAL NO. (SIGNAL)	AMPERE	NO.	LOCATION
BCM	62 (BAT power supply)	10A	19	Fuse block (J/B)
BCM	7 (BAT power supply)	50A	f	Fuse and fusible link box

NOTE:
Refer to BL-16, "Component Parts and Harness Connector Location" .

OK or NG ?

OK >> **Inspection End** .
NG >> If fuse is blown, be sure to eliminate cause of problem before installing new fuse, refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

CONSULT–II Function

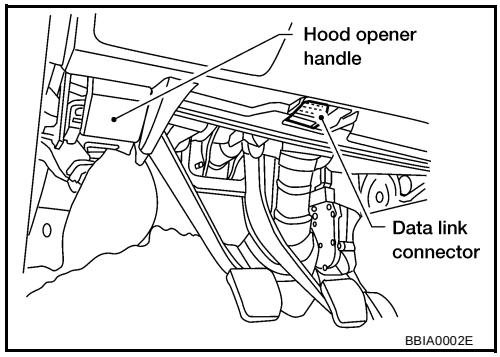
EIS000PW

Power door lock system check with data monitor and active test can be executed by combining data reception and command transmission via communication line from BCM.

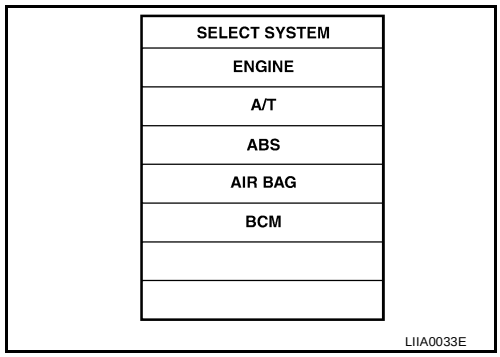
BCM diagnosis part	Inspection item, self–diagnosis mode	Content
Door lock	Data monitor	Displays BCM input data on real–time basis.
	Active test	Sends drive signals to door lock actuator to perform operation check.

CONSULT–II BASIC OPERATION PROCEDURE

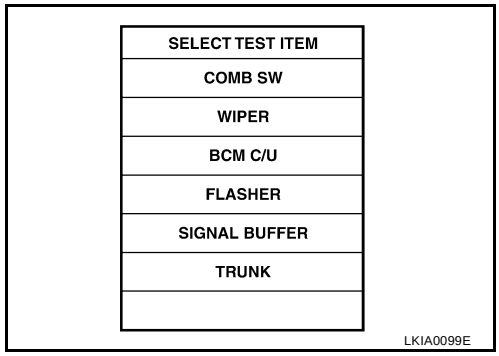
1. With ignition switch OFF, connect CONSULT–II to data link connector on vehicle, and turn ON ignition switch.
2. Touch “START”.



3. Touch “BCM” on “SELECT SYSTEM” screen.



4. Select item to be diagnosed on “SELECT TEST ITEM” screen.



DATA MONITOR

Operation procedure

1. Touch "DOOR LOCK" on the "SELECT TEST ITEM" screen.
2. Touch "DATA MONITOR" on the "SELECT DIAG MODE" screen.
3. Touch either "ALL SIGNALS" or "SELECTION FROM MENU" on the "DATA MONITOR" screen.

ALL SIGNALS	Monitor all items.
SELECTION FROM MENU	Select and monitor the item.

4. Touch "START".
5. If "SELECTION FROM MENU" is selected, touch the desired monitor item. If "ALL SIGNALS" is selected, all the items are monitored.
6. During monitoring, touching "COPY" can start recording the monitor item status.

Display item list

Monitor item "OPERATION"		Content
KEY ON SW	"ON/OFF"	Indicates [ON/OFF] condition of key switch.
LOCK SW DR/AS	"ON/OFF"	Indicates [ON/OFF] condition of lock signal from lock/unlock switch LH and RH.
UNLK SW DR/AS	"ON/OFF"	Indicates [ON/OFF] condition of unlock signal from lock/unlock switch LH and RH.
KEY CYL LK-SW	"ON/OFF"	Indicates [ON/OFF] condition of lock signal from key cylinder.
KEY CYL UN-SW	"ON/OFF"	Indicates [ON/OFF] condition of unlock signal from key cylinder.
LK BUTTON/SIG	"ON/OFF"	Indicates [ON/OFF] condition of lock signal from key fob.
UN BUTTON/SIG	"ON/OFF"	Indicates [ON/OFF] condition of unlock signal from key fob.
IGN ON SW	"ON/OFF"	Indicates [ON/OFF] condition of ignition switch.
DOOR SW–DR	"ON/OFF"	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW–AS	"ON/OFF"	Indicates [ON/OFF] condition of front door switch RH.
DOOR SW–RR	"ON/OFF"	Indicates [ON/OFF] condition of door switch (Rear).

ACTIVE TEST

Operation procedure

1. Touch "DOOR LOCK" on the "SELECT TEST ITEM" screen.
2. Touch "ACTIVE TEST" on the "SELECT DIAG MODE" screen.
3. Touch the item to be tested, and check the operation.
4. During the operation check, touching "OFF" deactivates the operation.

Display item list

Test item	Content
ALL D/LK MTR	This test is able to check all door lock actuators lock operation. These actuators lock when "ON" on CONSULT–II screen is touched.

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

Symptom Chart

EIS000PX

Symptom	Malfunctioning system	Power window system
Key reminder door system does not operate properly.	Door switch check. Refer to BL-28, "Door Switch Check" .	—
	Key switch (Insert) check. Refer to BL-29, "Key Switch (Insert) Check" .	
	If above systems are "OK", replace BCM.	
Power door lock does not operate with door lock and unlock switch on main power window and door lock/unlock switch or front power window switch RH	Door lock and unlock switch check. Refer to BL-30, "Door Lock/Unlock Switch Check (With left front only power window anti–pinch system)" .	With left front only anti–pinch system.
	Door lock and unlock switch check. Refer to BL-33, "Door Lock/Unlock Switch Check (With left and right front power window anti–pinch system)" .	With left and right front anti–pinch system.
Power door lock does not operate with driver door lock knob switch.	Door lock actuator check –Driver–. Refer to BL-36, "Door Lock Actuator Check (Front LH)" .	—
Specific door lock acutuator does not operate.	Door lock actuator check (passenger, Rear LH/RH).Refer to BL-37, "Door Lock Actuator Check (Front RH and rear LH/RH)" .	—
Power door lock does not operate with front door key cylinder LH operation.	Front door key cylinder switch LH check. Refer to BL-38, "Front Door Key Cylinder Switch LH Check (With left front only power window anti-pinch system)" .	With left front only anti–pinch system.
	Door lock and unlock switch check. Refer to BL-39, "Door Lock/Unlock Switch Check (With left and right front power window anti–pinch system)" .	With left and right front anti–pinch system.
	Front door key cylinder switch LH check. Refer to BL-41, "Front Door Key Cylinder Switch LH Check (With left and right front power window anti–pinch system)" .	
	If above system are "OK", replace BCM.	—

Door Switch Check

EIS000PY

1. CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

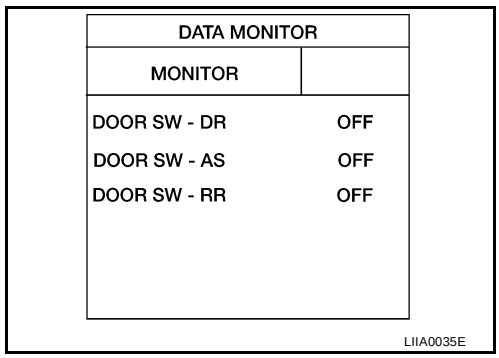
Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RR") in DATA MONITOR mode with CONSULT–II.Refer to BL-26, "DATA MONITOR" .

- When any doors are open :

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

- When any doors are closed :

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

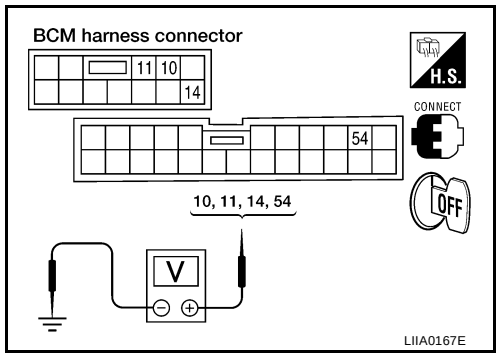


Without CONSULT-II

Check voltage between BCM connector M18 or M21 terminals 10(P/L), 11(R/B) and 14(SB) or 54*(SB) and body ground.

NOTE:
*:Without vehicle security system.

Connector		Terminals		Condition	Voltage (V) (Approx.)
		(+)	(–)		
M18,M21	Front door switch LH	14,54	Ground	Open	0
				Closed	Battery voltage
M21	Front door switch RH	10	Ground	Open	0
				Closed	Battery voltage
	Rear door switch LH/RH	11	Ground	Open	0
				Closed	Battery voltage



OK or NG

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

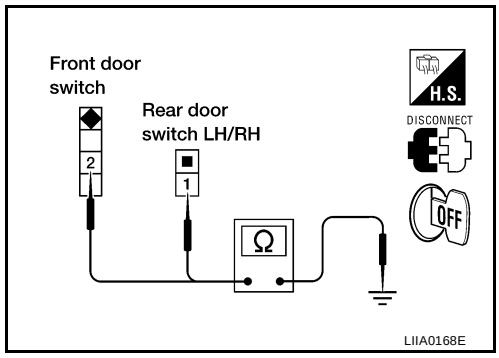
2. CHECK DOOR SWITCHES

- Disconnect door switch harness connector.
- Check continuity between door switch connector terminals.

	Terminals	Condition	Continuity
Front door switch LH/RH	2 – Ground	Open	Yes
		Closed	No
Rear door switch LH/RH	1 – Ground	Open	Yes
		Closed	No

OK or NG ?

OK >> Repair or replace harness.
NG >> Replace door switch.



Key Switch (Insert) Check

EIS000PZ

1. CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

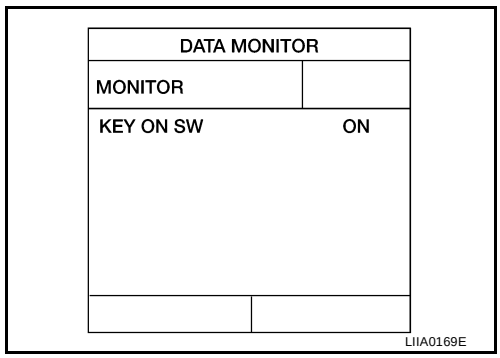
Check key switch "KEY ON SW" in DATA MONITOR mode with CONSULT–II.Refer to BL-26, "DATA MONITOR" .

- When key is inserted to ignition key cylinder :

  KEY ON SW :ON

- When key is removed from ignition key cylinder :

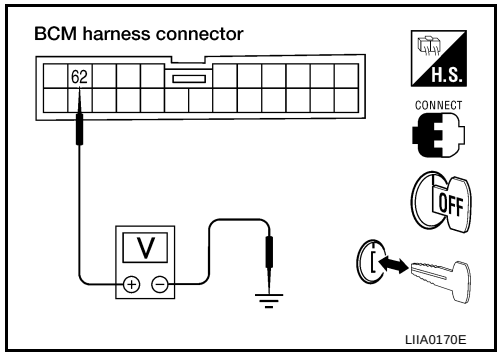
  KEY ON SW :OFF



Without CONSULT-II

Check voltage between BCM connector M18 terminal 62(B/R) and ground.

Connector	Terminal (+)	Terminal (–)	Condition	Voltage (V)
M18	62	Ground	Key is inserted.	Battery voltage
			Key is removed.	0



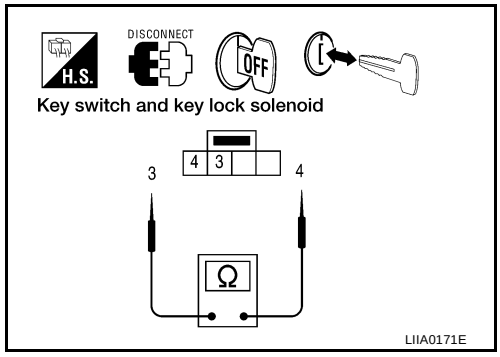
OK or NG ?

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

2. CHECK KEY SWITCH (INSERT)

Check continuity between key switch connector terminals.

Terminals	Condition	Continuity
3 – 4	Key is inserted.	Yes
	Key is removed.	No



OK or NG ?

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

Door Lock/Unlock Switch Check (With left front only power window anti–pinch system)

EIS000Q0

1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT-II

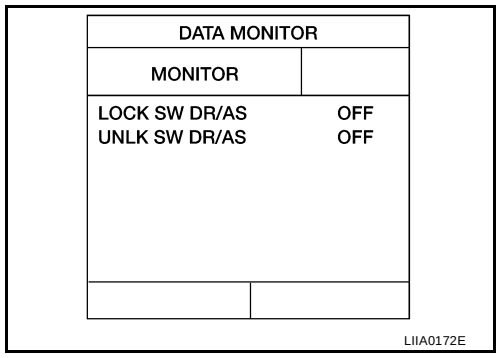
Check door lock/unlock switch ("LOCK SW DR/AS", "UNLK SW DR/AS") in DATA MONITOR mode in CONSULT–II.Refer to BL-26, "DATA MONITOR"

- When door lock/unlock switch is turned to LOCK :

  LOCK SW DR/AS :ON

- When door lock/unlock switch is turned to UNLOCK :

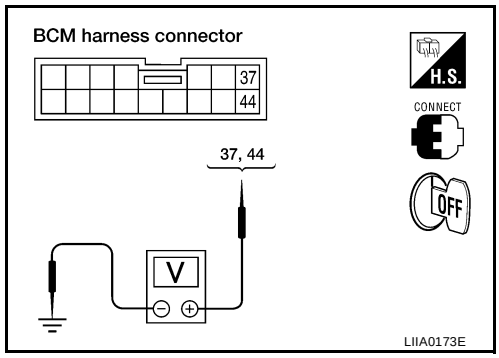
  UNLK SW DR/AS :ON



Without CONSULT-II

Check voltage between BCM connector M19 terminals 37(P) and 44(BR) and ground.

Connector	Terminal (+)	Terminal (–)	Condition	Voltage (V)
M19	37	Ground	Door lock/unlock switch is neutral.	Battery voltage
			Door lock/unlock switch is turned to LOCK.	0
	44	Ground	Door lock/unlock switch is neutral.	Battery voltage
			Door lock/unlock switch is turned to UNLOCK.	0



OK or NG ?

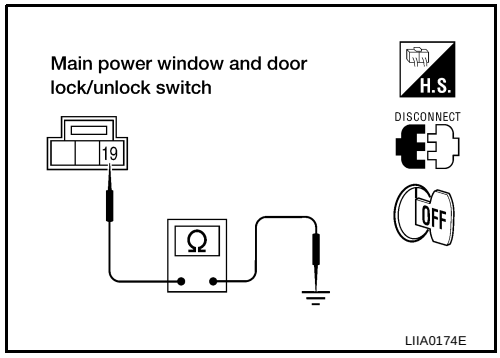
OK >> System is OK.
NG >> GO TO 2.

2. CHECK DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

Check continuity between main power window and door lock/unlock switch connector D6 terminal 19(B) and front power window switch RH connector D105 terminal 19(B) and body ground.

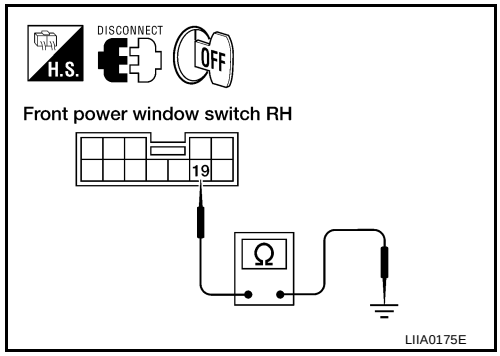
- Main power window and door lock/unlock switch

Connector	Terminals	Continuity
D6	19 – Ground	Yes



- Front power window switch RH

Connector	Terminals	Continuity
D105	19 – Ground	Yes



OK or NG ?

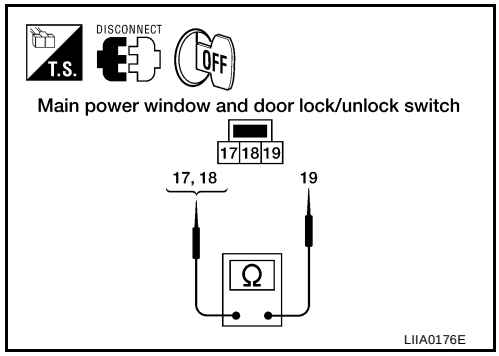
OK >> GO TO 3.
NG >> Repair or replace harness.

3. CHECK DOOR LOCK/UNLOCK SWITCH

1. Disconnect main power wondow and door lock/unlock switch or front power window switch RH
2. Check continuity between each door lock/unlock switch terminals.

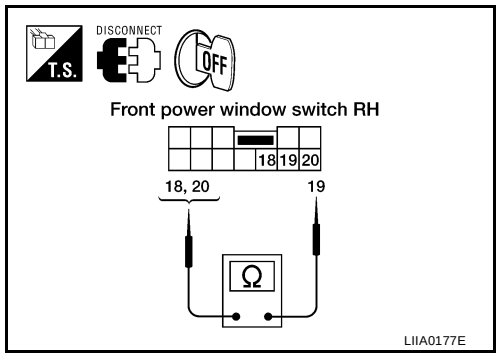
- Main power window and door lock/unlock switch

Terminals	Condition	Continuity
18 – 19	Neutral	No
	Lock	Yes
17 – 19	Neutral	No
	Unlock	Yes



- Front power window switch RH

Terminals	Condition	Continuity
18 – 19	Neutral	No
	Lock	Yes
20 – 19	Neutral	No
	Unlock	Yes



OK or NG ?

OK >> Repair or replace harness.
NG >> Replace main power window and door lock/unlock switch or front power window switch RH.

Door Lock/Unlock Switch Check (With left and right front power window anti–pinch system)

EIS000Q1

1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT-II

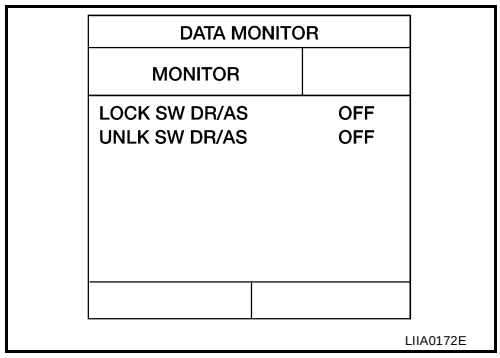
Check door lock/unlock switch ("LOCK SW DR/AS", "UNLK SW DR/AS") in DATA MONITOR mode in CONSULT–II.Refer to BL-26, "DATA MONITOR" .

- When door lock/unlock switch is turned to LOCK :

  LOCK SW DR/AS :ON

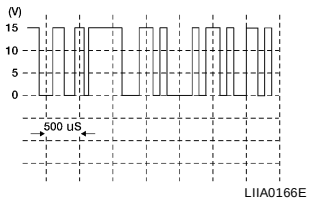
- When door lock/unlock switch is turned to UNLOCK :

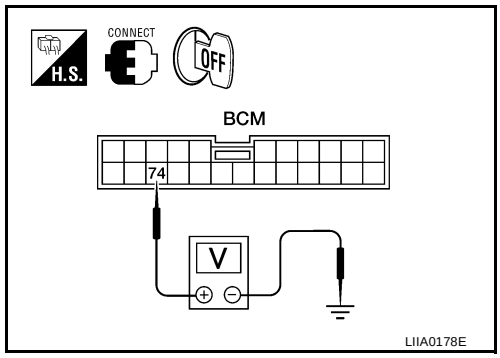
  UNLK SW DR/AS :ON



Without CONSULT-II

Check voltage between BCM connector M18 terminal 74(Y/G) and ground.

Connector	Terminal (+)	Terminal (–)	Condition	Voltage (V)
M18	74	Ground	—	



OK or NG ?

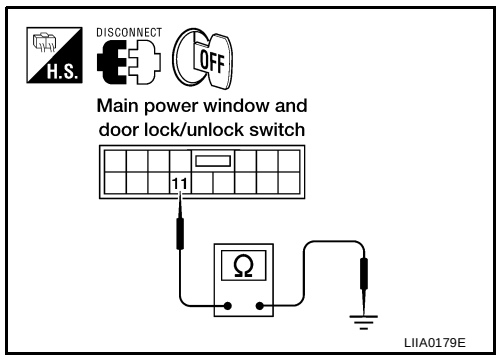
OK >> System is OK.
NG >> GO TO 2.

2. CHECK DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

Check continuity between main power window and door lock/unlock switch connector D7 terminal 11(B) and front power window switch RH connector D106 terminal 7(B) and body ground.

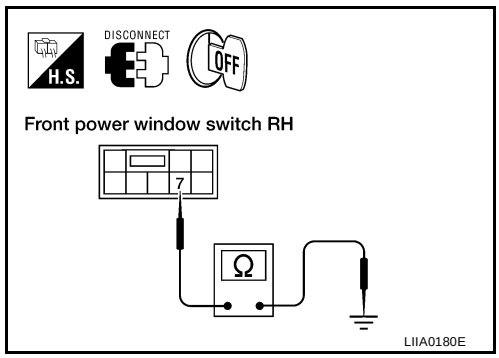
- Main power window and door lock/unlock switch

Connector	Terminals	Continuity
D7	11 – Ground	Yes



- Front power window switch RH

Connector	Terminals	Continuity
D106	7 – Ground	Yes

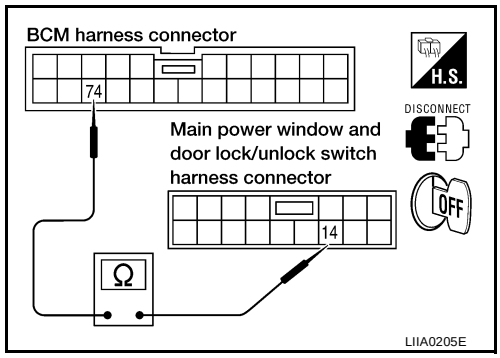


OK or NG ?

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

3. CHECK ANTI-PINCH SERIAL LINK CIRCUIT

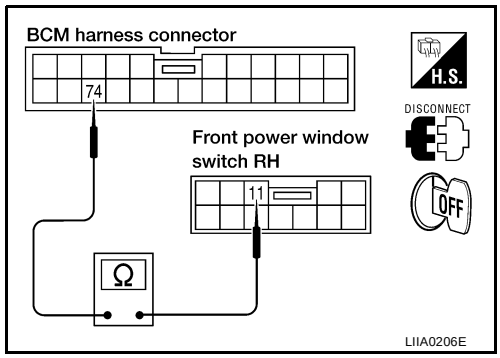
Check continuity between BCM connector M18 terminal 74 (Y/G) and main power window and door lock/unlock switch connector D7 terminal 14 (Y/G).



Check continuity between BCM connector M18 terminal 74 (Y/G) and front power window switch RH connector D105 terminal 11 (Y/G).

OK or NG

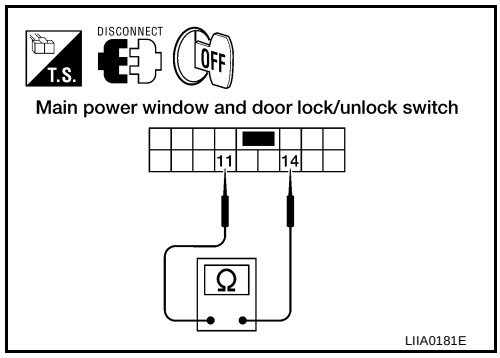
OK >> GO TO 4.
NG >> Repair or replace harness.



4. CHECK DOOR LOCK/UNLOCK SWITCH

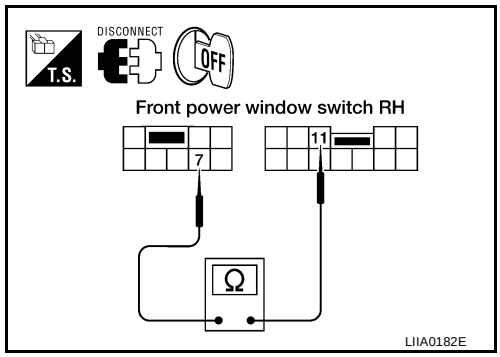
- Check voltage between main power window and door lock/unlock switch connector D7 terminal 11 (B) and ground.

Terminals	Condition	Voltage (Approx.)
11 – Ground	Neutral	0V
	Lock/Unlock	5V



- Check voltage between main power window and door lock/unlock switch connector D106 terminal 7 (B) and ground.

Terminals	Condition	Voltage (Approx.)
7 – Ground	Neutral	0V
	Unlock/Unlock	5V



OK or NG ?

OK >> Repair or replace harness.
NG >> Replace main power window and door lock/unlock switch or front power window switch RH.

Door Lock Actuator Check (Front LH)

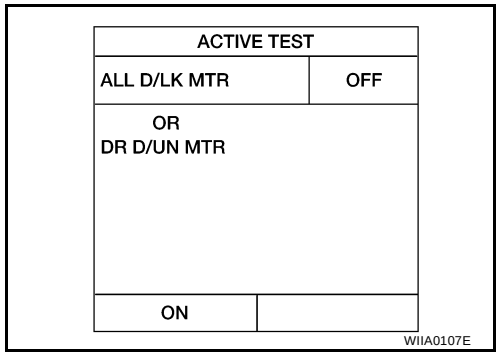
EIS000Q2

1. CHECK DOOR LOCK ACTUATOR SIGNAL

With CONSULT-II

Check front door lock actuator LH "ALL D/LK MTR", "DR D/UN MTR" in ACTIVE TEST mode with CONSULT–II. Refer to BL-26, "ACTIVE TEST" .

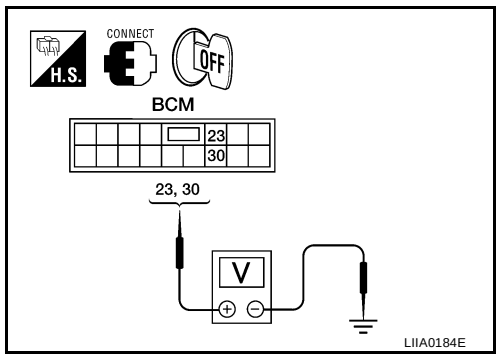
ALL D/LK MTR : ON/OFF
DR D/UN MTR : ON/OFF



Without CONSULT-II

Check voltage between BCM connector M20 terminals 23(G/W), 30(Y/R) and ground.

Connector	Terminal		Condition	Voltage (V)
	(+)	(–)		
M20	23	Ground	Driver door lock knob is turned to UNLOCK.	0 → Battery voltage
	30	Ground	Driver door lock knob is turned to LOCK.	0 → Battery voltage



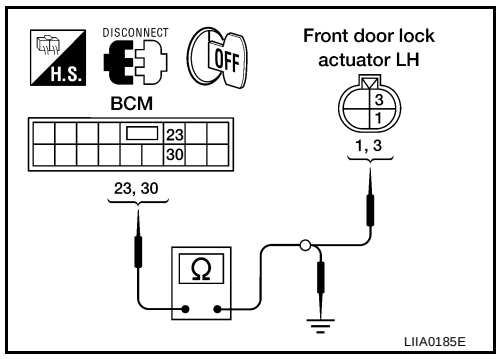
OK or NG ?

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

2. CHECK DOOR LOCK ACTUATOR HARNESS

Check continuity between BCM connector M20 terminals 23(G/W), 30(Y/R) and front door lock actuator LH connector D51 terminals 1 (R), 3(B) and body ground.

Connector	Terminal	Connector	Terminal	Continuity
M20	23	D51	3	Should exist
	30		1	Should exist
	23, 30	Ground		Should not exist



OK or NG ?

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

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

EIS000Q3

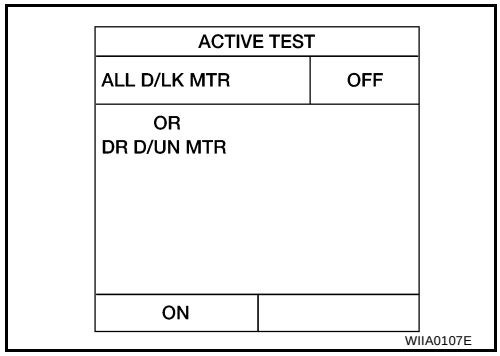
1. CHECK DOOR LOCK ACTUATOR SIGNAL

With CONSULT-II

Check door lock actuators "ALL D/LK MTR", "NON DR D/UN" in ACTIVE TEST mode with CONSULT–II. Refer to BL-26, "ACTIVE TEST" .

ALL D/LK MTR : ON/OFF

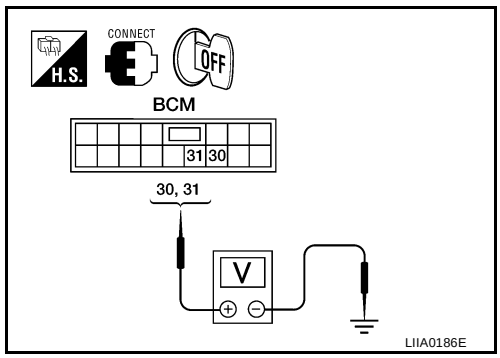
NON DR D/UN : ON/OFF



Without CONSULT-II

Check voltage between BCM connector M20 terminals 30(Y/R), 31(G/R) and ground.

Connector	Terminal (+)	Terminal (–)	Condition	Voltage (V)
M20	30	Ground	Driver door lock knob is turned to LOCK.	0 → Battery voltage
	31	Ground	Door lock/unlock switch is turned to UNLOCK.	0 → Battery voltage



OK or NG ?

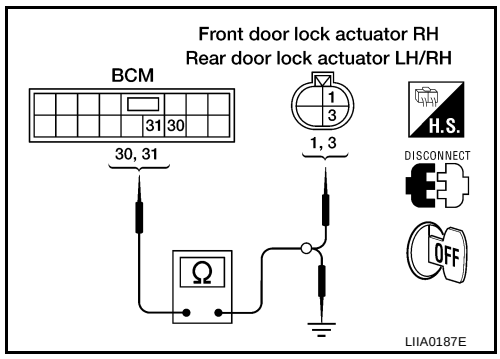
OK >> System is OK.

NG >> GO TO 2.

2. CHECK DOOR LOCK ACTUATOR HARNESS

Check continuity between BCM connector M20 terminals 30(Y/R), 31(G/R) and front door lock actuator RH, rear door lock actuator LH/RH connector D151, D205 and D305 terminals 1(G/R), 3(Y/R) and body ground.

Connector	Terminal	Connector	Terminal	Continuity
M20	30	D151, D205, D305	3	Should exist
	31		1	Should exist
	30, 31	Ground		Should not exist



OK or NG ?

OK >> Replace front door lock actuator RH or rear door lock actuator LH/RH.

NG >> Repair or replace harness.

Front Door Key Cylinder Switch LH Check (With left front only power window anti-pinch system)

EIS000Q4

1. CHECK DOOR KEY CYLINDER SWITCH LH SIGNAL

With CONSULT-II

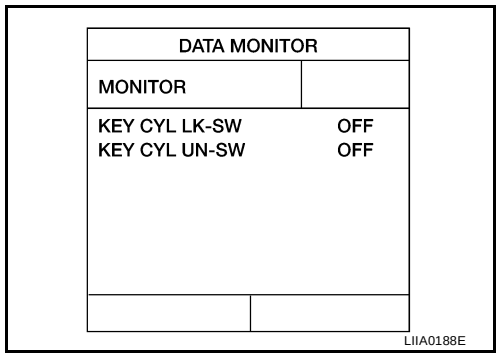
Check front door key cylinder switch ("KEY CYL LK-SW", "KEY CYL UN-SW") in DATA MONITOR mode in CONSULT–II.Refer to BL-26, "DATA MONITOR" .

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

  KEY CYL LK-SW : ON

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

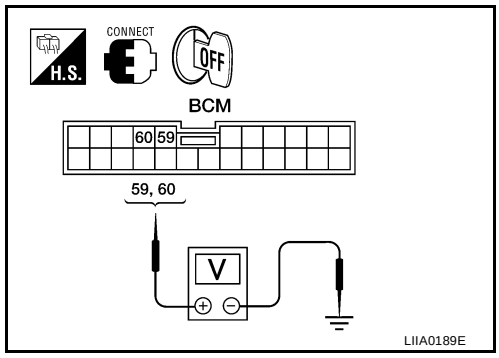
  KEY CYL UN-SW : ON



Without CONSULT-II

Check voltage between BCM connector M18 terminals 59 (P/L), 60 (W/L) and ground.

Connector	Terminal (+)	Terminal (–)	Condition	Voltage (V)
M18	59	Ground	Front door key cylinder switch LH is neutral.	Approx.5
			Front door key cylinder switch LH is turned to LOCK.	0
	60	Ground	Front door key cylinder switch LH is neutral.	Approx.5
			Front door key cylinder switch LH is turned to UNLOCK.	0



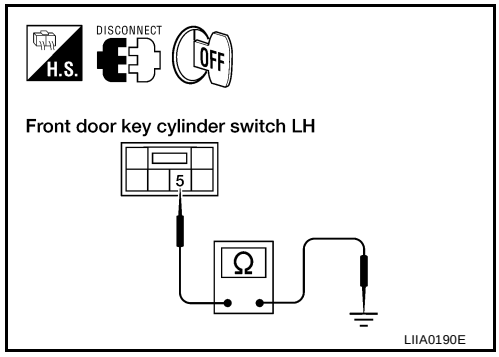
OK or NG ?

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

2. CHECK FRONT DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

Check continuity between front door key cylinder switch LH connector D50 terminal 3 (B) and body ground.

Connector	Terminals	Continuity
D50	3 – Ground	Yes



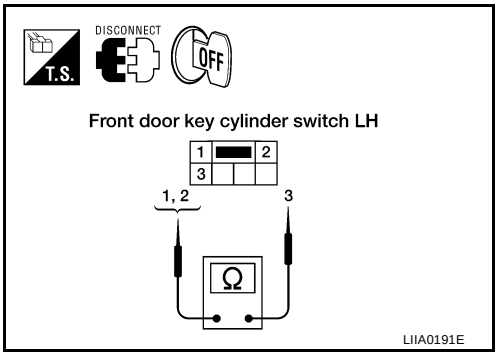
OK or NG ?

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

3. CHECK DOOR KEY CYLINDER SWITCH LH

Check continuity between door key cylinder switch LH connector terminals.

Terminals	Condition	Continuity
1 – 3	Key is turned to LOCK or neutral.	No
	Key is turned to UNLOCK	Yes
2 – 3	Key is turned to UNLOCK or neutral.	No
	Key is turned to LOCK.	Yes



OK or NG ?

OK >> Repair or replace harness.
NG >> Replace front door key cylinder switch LH.

Door Lock/Unlock Switch Check (With left and right front power window anti–pinch system)

EIS000Q5

1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT-II

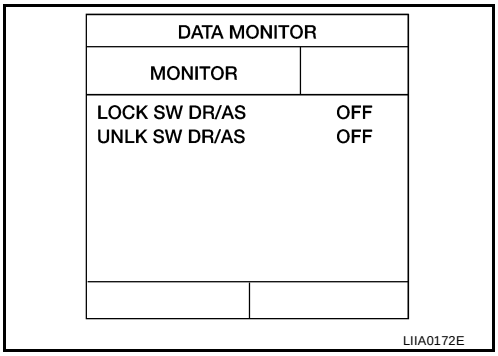
Check main power window and door lock/unlock switch ("LOCK SW DR/AS", "UNLK SW DR/AS") in DATA MONITOR mode in CONSULT–II.Refer to BL-26, "DATA MONITOR" .

- When main power window and door lock/unlock switch is turned to LOCK :

  LOCK SW DR/AS :ON

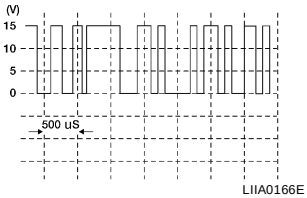
- When main power window and door lock/unlock switch is turned to UNLOCK :

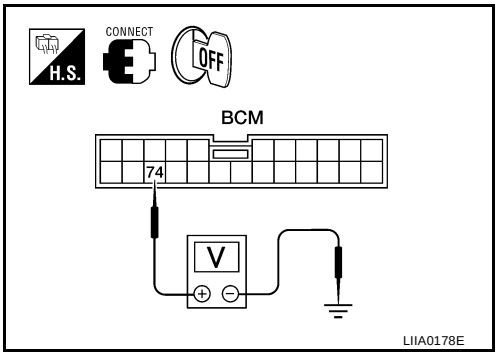
  UNLK SW DR/AS :ON



Without CONSULT-II

Check voltage between BCM connector M18 terminal 74(Y/G) and ground.

Connector	Terminal (+)	Terminal (–)	Condition	Voltage (V)
M18	74	Ground	—	



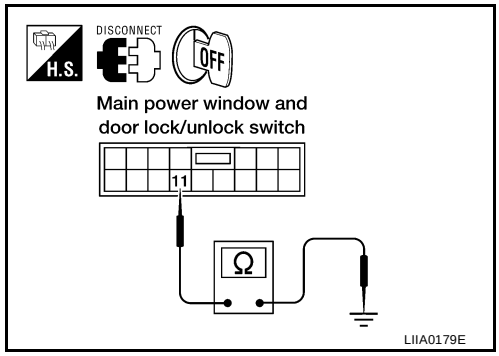
OK or NG ?

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

2. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH GROUND HARNESS

Check continuity between main power window and door lock/unlock switch connector D7 terminal 11(B) and body ground.

Connector	Terminals	Continuity
D7	11 – Ground	Yes



OK or NG ?

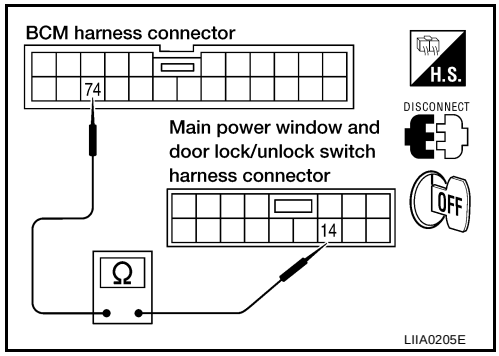
OK >> GO TO 3.
NG >> Repair or replace harness.

3. CHECK ANTI-PINCH SERIAL LINK CIRCUIT

Check continuity between BCM connector M18 terminal 74 (Y/G) and main power window and door lock/unlock switch connector D7 terminal 14 (Y/G).

OK or NG

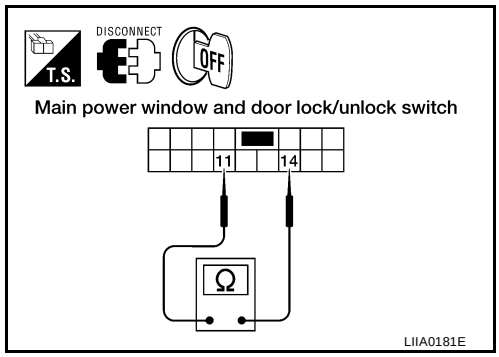
OK >> GO TO 4.
NG >> Repair or replace harness.



4. CHECK DOOR LOCK/UNLOCK SWITCH

- Check voltage between main power window and door lock/unlock switch connector D7 terminal 11 (B) and ground.

Terminals	Condition	Voltage (Approx.)
11 – Ground	Neutral	0V
	Lock/Unlock	5V



OK or NG ?

OK >> Repair or replace harness.
NG >> Replace main power window and door lock/unlock switch or front power window switch RH.

Front Door Key Cylinder Switch LH Check (With left and right front power window anti–pinch system)

EIS000Q6

1. CHECK DOOR KEY CYLINDER SWITCH LH SIGNAL

With CONSULT-II

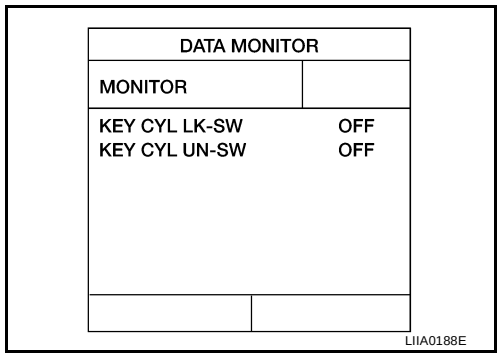
Check front door key cylinder switch ("KEY CYL LK-SW", "KEY CYL UN-SW") in DATA MONITOR mode in CONSULT–II.Refer to BL-26, "DATA MONITOR" .

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

  KEY CYL LK-SW : ON

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

  KEY CYL UN-SW : ON



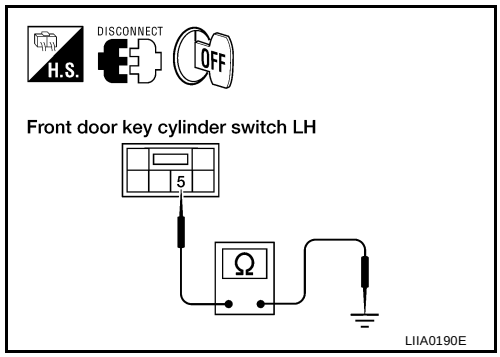
OK or NG ?

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

2. CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

Check continuity between front door key cylinder switch LH connector D50 terminal 3 (B) and body ground.

Connector	Terminals	Continuity
D50	3 – Ground	Yes



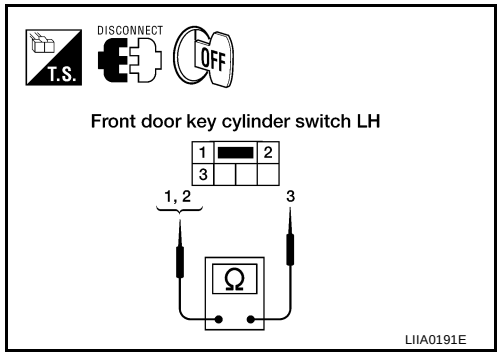
OK or NG ?

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

3. CHECK DOOR KEY CYLINDER SWITCH LH

Check continuity between door key cylinder switch LH connector terminals.

Terminals	Condition	Continuity
1 – 3	Key is turned to LOCK or neutral.	No
	Key is turned to UNLOCK	Yes
2 – 3	Key is turned to UNLOCK or neutral.	No
	Key is turned to LOCK.	Yes



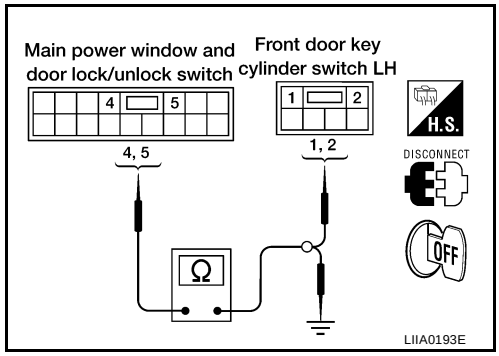
OK or NG ?

OK >> GO TO 4.
NG >> Replace front door key cylinder switch LH.

4. CHECK DOOR KEY CYLINDER HARNESS

Check continuity between main power window and door lock/unlock switch connector D7 terminals 4(P/L), 5(W/L) and front door key cylinder switch LH connector D50 terminals 1(L), 2(Y) and body ground.

Connector	Terminal	Connector	Terminal	Continuity
D7	4	D50	2	Should exist
	5		1	Should exist
	4,5	Ground		Should not exist



OK or NG ?

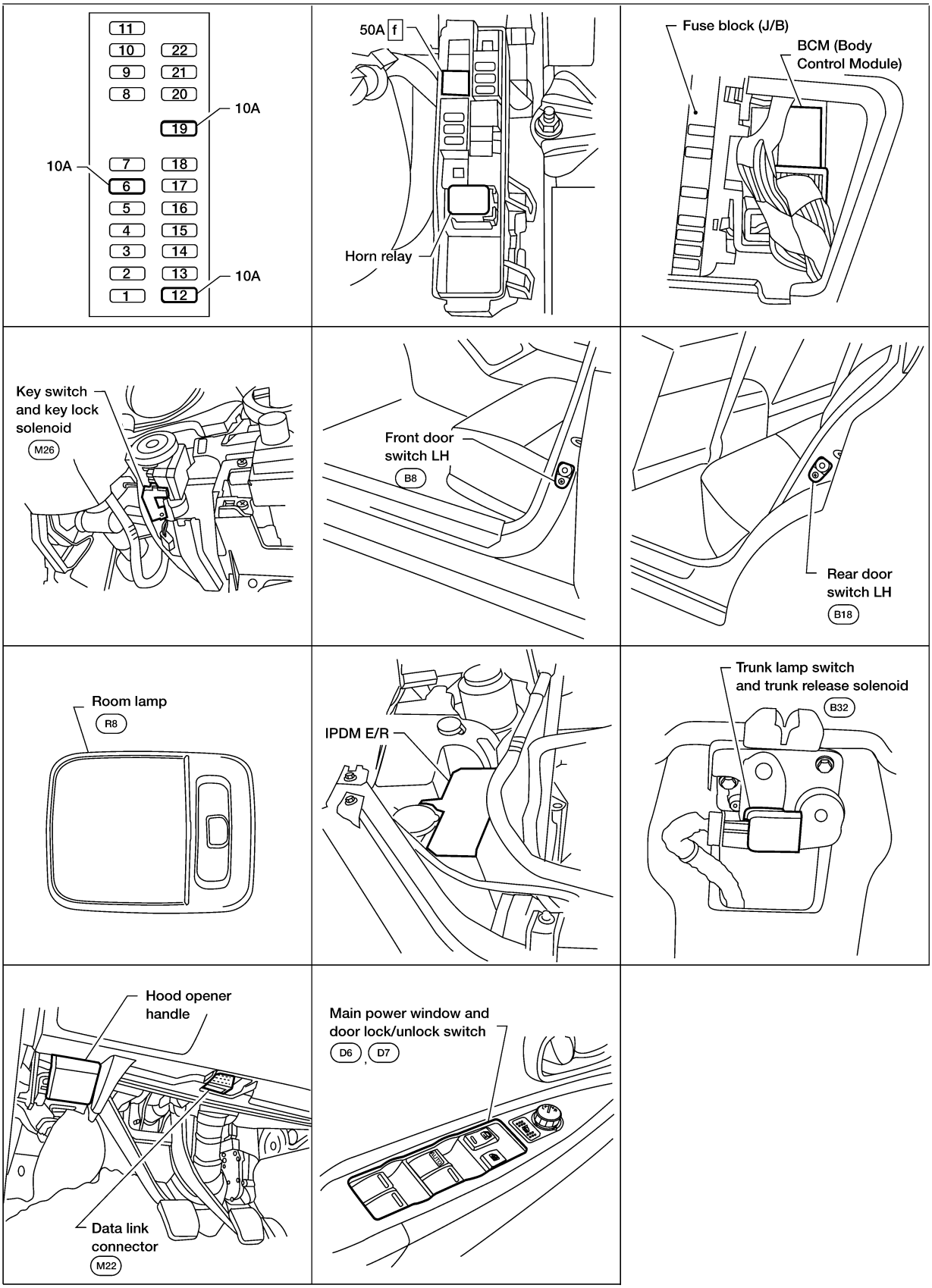
OK >> Replace main power window and door lock/unlock switch.
NG >> Repair or replace harness.

REMOTE KEYLESS ENTRY SYSTEM

PFP:28596

Component Parts and Harness Connector Location

EIS000Q7



LIIA0147E

System Description

EIS000Q8

INPUTS

Power is supplied at all times

- to BCM terminal 7
- through 50A fusible link (letter **f** , located in the fuse and fusible link box).
- to key switch terminal 3
- through 10A fuse [No. 19, located in the fuse block (J/B)].

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

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

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

- to BCM terminal 14 and 54 (without vehicle security system).
- through front door switch LH terminal 2
- to driver door switch case ground.

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

- to BCM terminal 10
- through front door switch RH terminal 2
- to front door switch RH case ground.

When the rear door switches are ON (door is OPEN), ground is supplied

- to BCM terminal 11
- through rear door switches terminal 1
- to rear door switches case grounds.

Key fob signal is inputted to smart entrance control unit (the antenna of the system is combined with BCM).
The remote keyless entry system controls operation of the

- power door lock
- trunk lid opener
- interior lamp and step lamps
- panic alarm
- hazard and horn reminder
- keyless power window down (open)

OPERATED PROCEDURE

Power Door Lock Operation

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

Hazard and Horn Reminder

BCM output to IPDM E/R for hazard and horn reminder signal as DATA LINE (CAN H line and CAN L line).
The hazard and horn reminder has C mode (horn chirp mode) and S mode (non-horn chirp mode).

Operating function of hazard and horn reminder

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

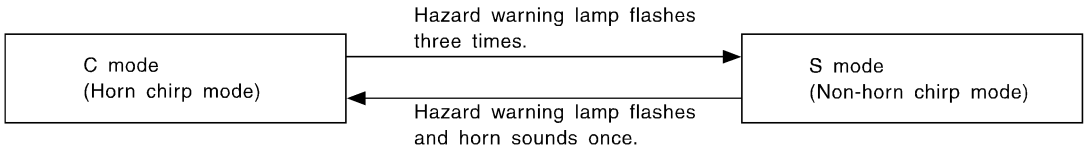
How to change hazard and horn reminder mode

With CONSULT-II

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

Without CONSULT-II

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



SEL153WA

Interior Lamp Operation

When the following input signals are both supplied:

- door switch CLOSED (when all the doors are closed);
- driver's door LOCKED;

Remote keyless entry system turns on interior lamp and ignition illumination (for 30 seconds) with input of UNLOCK signal from key fob.
For detailed description, refer to LT-123, "INTERIOR LAMP TIMER OPERATION" .

Panic Alarm Operation

When key switch is OFF (when ignition key is not inserted in key cylinder), remote keyless entry system turns on and off horn and headlamp intermittently with input of PANIC ALARM signal from key fob.
The alarm automatically turns off after 25 seconds or when BCM receives any signal from key fob.
For detailed description, refer to BL-87, "VEHICLE SECURITY (THEFT WARNING) SYSTEM" .

Trunk Lid Opener Operation

When a TRUNK OPEN signal is sent with key OFF (ignition key removed from key cylinder) from key fob, power is supplied

- through BCM terminal 19
- to trunk lid opener actuator terminal 3.

When power and ground are supplied, trunk lid opener actuator opens trunk lid.

Keyless Power Window Down (open) Operation

When key fob unlock switch is turned ON with ignition switch OFF, and the switch is detected to be on continuously for 3 seconds, the driver's door and passenger's door (with left and right front power window anti-pinch system) power windows are simultaneously opened.
Power window is operated to open and the operation continues as long as the key fob unlock switch is pressed.

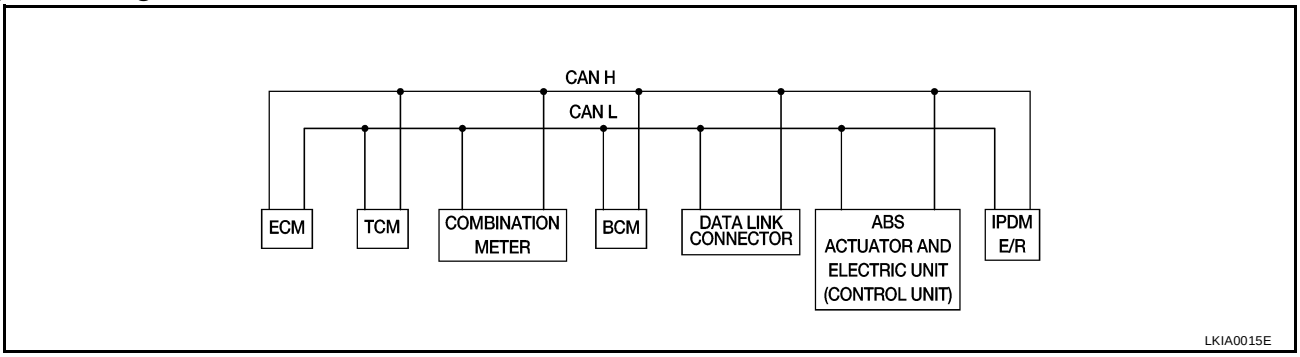
CAN Communication System Description

EIS000Q9

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.

FOR TCS MODELS

System diagram



Input/output signal chart

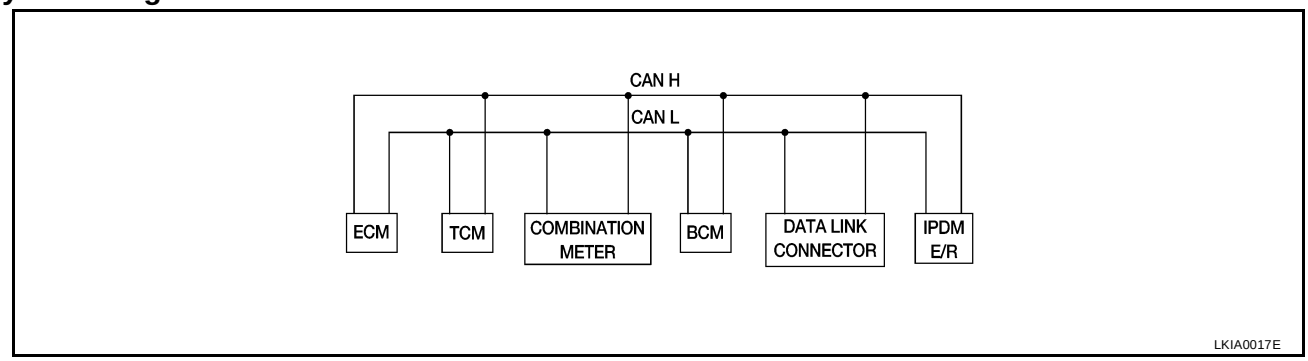
T: Transmit R: Receive

Signals	ECM	TCM	COMBINATION METER	BCM	ABS/TCS control unit	IPDM E/R
Engine speed signal	T		R		R	
Engine coolant temperature signal	T		R			
Accelerator pedal position signal	T					
Fuel consumption monitor signal	T		R			
A/T warning lamp signal		T	R			
A/T position indicator signal	R	T	R	R(R range only)	R	
ABS operation signal	R				T	
TCS operation signal	R	R			T	
Air conditioner switch signal	R			T		
Air conditioner compressor signal	R					T
A/C compressor request signal	T					R
Cooling fan motor operation signal	R					T
Cooling fan speed request signal	T					R
Position lights request			R	T		R
Position lights status				R		T
Low beam request				T		R
Low beam status	R			R		T
High beam request			R	T		R
High beam status	R			R		T
Front fog lights request				T		R
Front fog light status				R		T
OD cancel switch signal		R	T			R
Brake switch signal		R	T			
Vehicle speed signal	R		T			
	R		T	R		
Oil pressure switch			R			T
Sleep request1			R	T		
Sleep request2				T		R
N range switch signal		R	T			
P range switch signal		R	T			
Seat belt buckle switch signal			T	R		

Signals	ECM	TCM	COMBINATION METER	BCM	ABS/TCS control unit	IPDM E/R
Door switch signal			R	T		R
Tail lamp request			R	T		R
Turn indicator signal			R	T		
Buzzer output signal			R	T		
Trunk switch signal			R	T		
ASCD main switch signal	T		R			
ASCD cruise signal	T		R			
Wiper operation				R		T
Wiper stop position signal				R		T
Rear window defogger switch signal				T		R
Rear window defogger control signal	R			R		T

FOR A/T MODELS

System diagram



Input/output signal chart

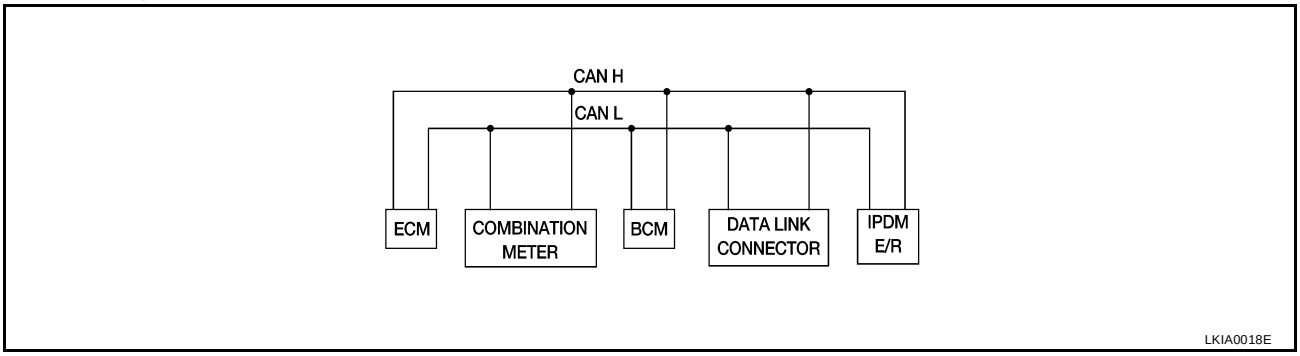
T: Transmit R: Receive

Signals	ECM	TCM	COMBINATION METER	BCM	IPDM E/R
Engine speed signal	T		R		
Engine coolant temperature signal	T		R		
Accelerator pedal position signal	T				R
Fuel consumption monitor signal	T		R		
A/T warning lamp signal		T	R		
A/T position indicator signal	R	T	R	R(R range only)	
Air conditioner switch signal	R			T	
Air conditioner compressor signal	R				T
A/C compressor request signal	T				R
Blower fan switch signal	R(QR25DE)			T	
Cooling fan motor operation signal	R			T	
Cooling fan speed request signal	T				R
Position lights request			R	T	R
Position lights status				R	T
Low beam request				T	R
Low beam status	R			R	T
High beam request			R	T	R

Signals	ECM	TCM	COMBINATION METER	BCM	IPDM E/R
High beam status	R			R	T
Front fog lights request				T	R
Front fog light status				R	T
OD cancel switch signal		R	T		R
Brake switch signal		R	T		
Vehicle speed signal	R		T		
	R		T	R	
Oil pressure switch			R		T
Sleep request1			R	T	
Sleep request2				T	R
N range switch signal		R	T		
P range switch signal		R	T		
Seat belt buckle switch signal			T	R	
Door switch signal			R	T	R
Tail lamp request			R	T	R
Turn indicator signal			R	T	
Buzzer output signal			R	T	
Trunk switch signal			R	T	
ASCD main switch signal	T		R		
ASCD cruise signal	T		R		
Wiper operation				R	T
Wiper stop position signal				R	T
Rear window defogger switch signal				T	R
Rear window defogger control signal	R			R	T

FOR M/T MODELS

System diagram



Input/output signal chart

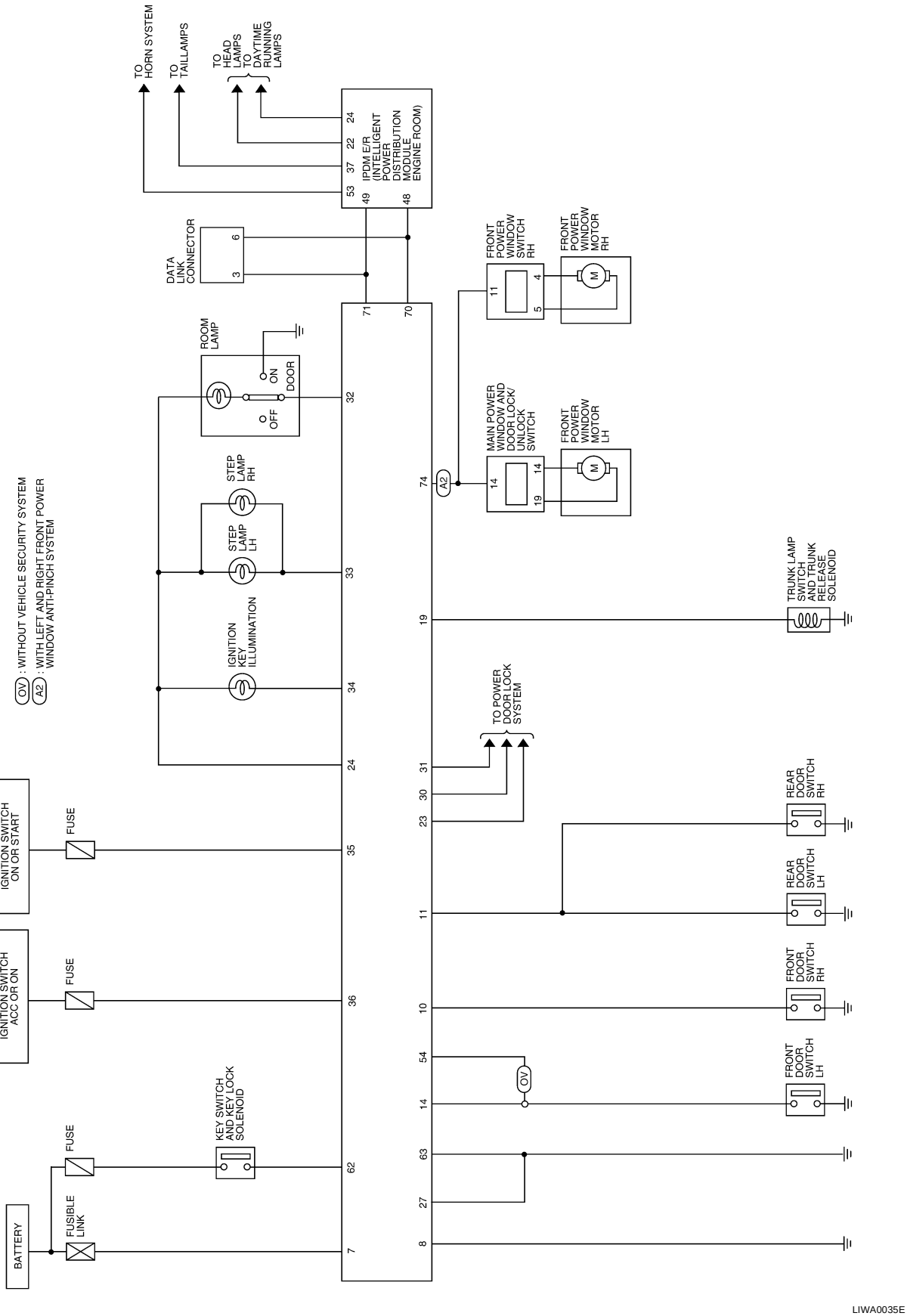
T: Transmit R: Receive

Signals	ECM	COMBINATION METER	BCM	IPDM E/R
Engine speed signal	T			
Engine coolant temperature signal	T			
Fuel consumption monitor signal	T			
Air conditioner switch signal	R		T	
Air conditioner compressor signal	R			T
A/C compressor request signal	T			R

Signals	ECM	COMBINATION METER	BCM	IPDM E/R
Blower fan switch signal	R(QR25DE)		T	
Cooling fan motor operation signal	R			T
Cooling fan speed request signal	T			R
Position lights request		R	T	R
Position lights status			R	T
Low beam request			T	R
Low beam status	R		R	T
High beam request		R	T	R
High beam status	R		R	T
Front fog lights request			T	R
Front fog light status			R	T
Vehicle speed signal	R	T		
Oil pressure switch		R		T
Sleep request1		R	T	
Sleep request2			T	R
Seat belt buckle switch signal		T	R	
Door switch signal		R	T	R
Tail lamp request		R	T	R
Turn indicator signal		R	T	
Buzzer output signal		R	T	
Trunk switch signal		R	T	
ASCD main switch signal	T	R		
ASCD cruise signal	T	R		
Wiper operation			R	T
Wiper stop position signal			R	T
Rear window defogger switch signal			T	R
Rear window defogger control signal	R		R	T

Schematic

EIS000QA

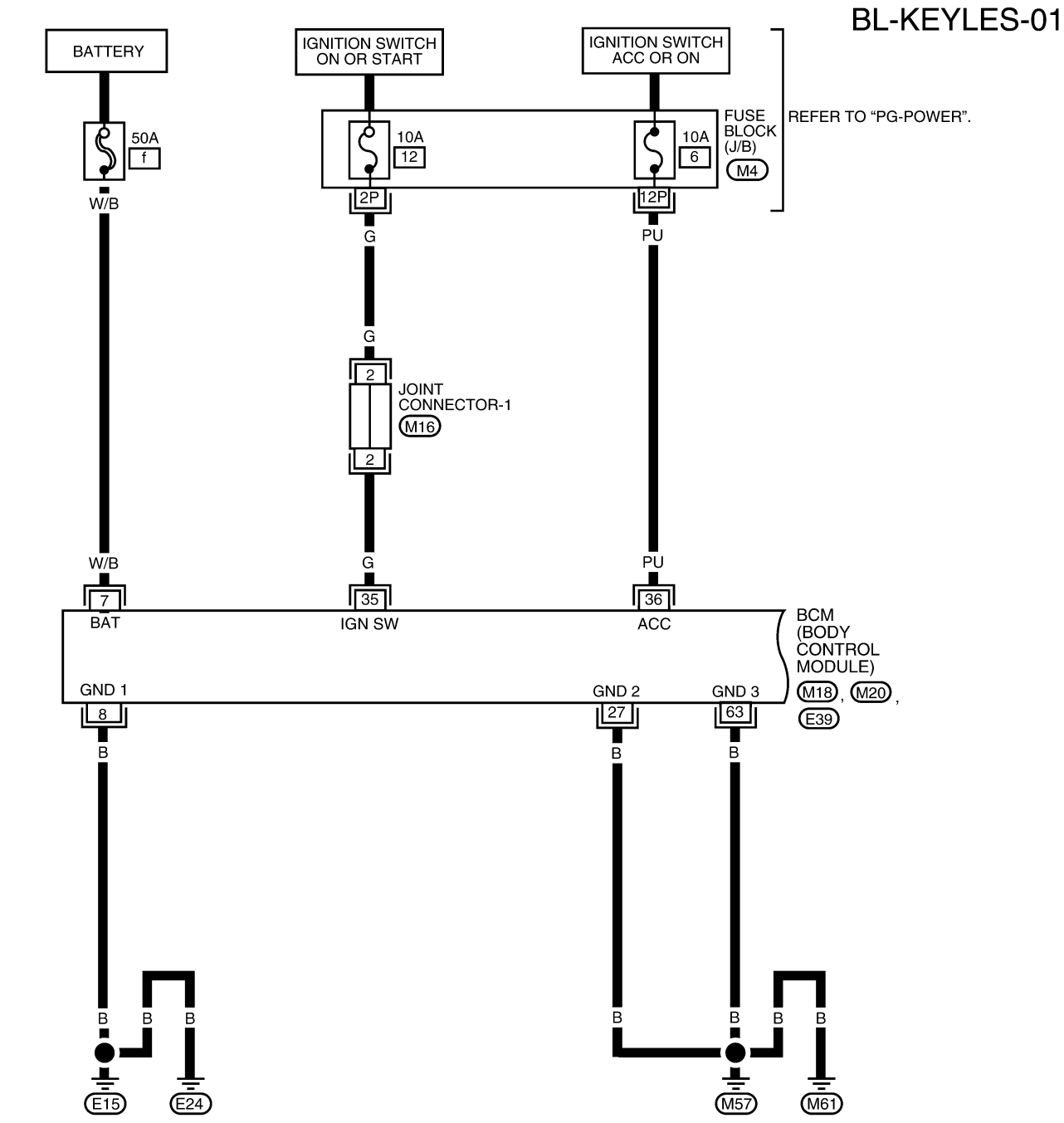


LIWA0035E

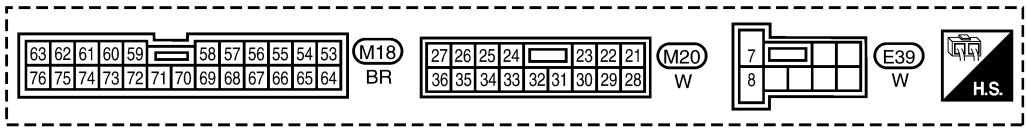
Wiring Diagram — KEYLES—

EIS000QB

FIG. 1



REFER TO THE FOLLOWING.
M16 - JOINT CONNECTOR (J/C)



LIWA0036E

FIG. 2

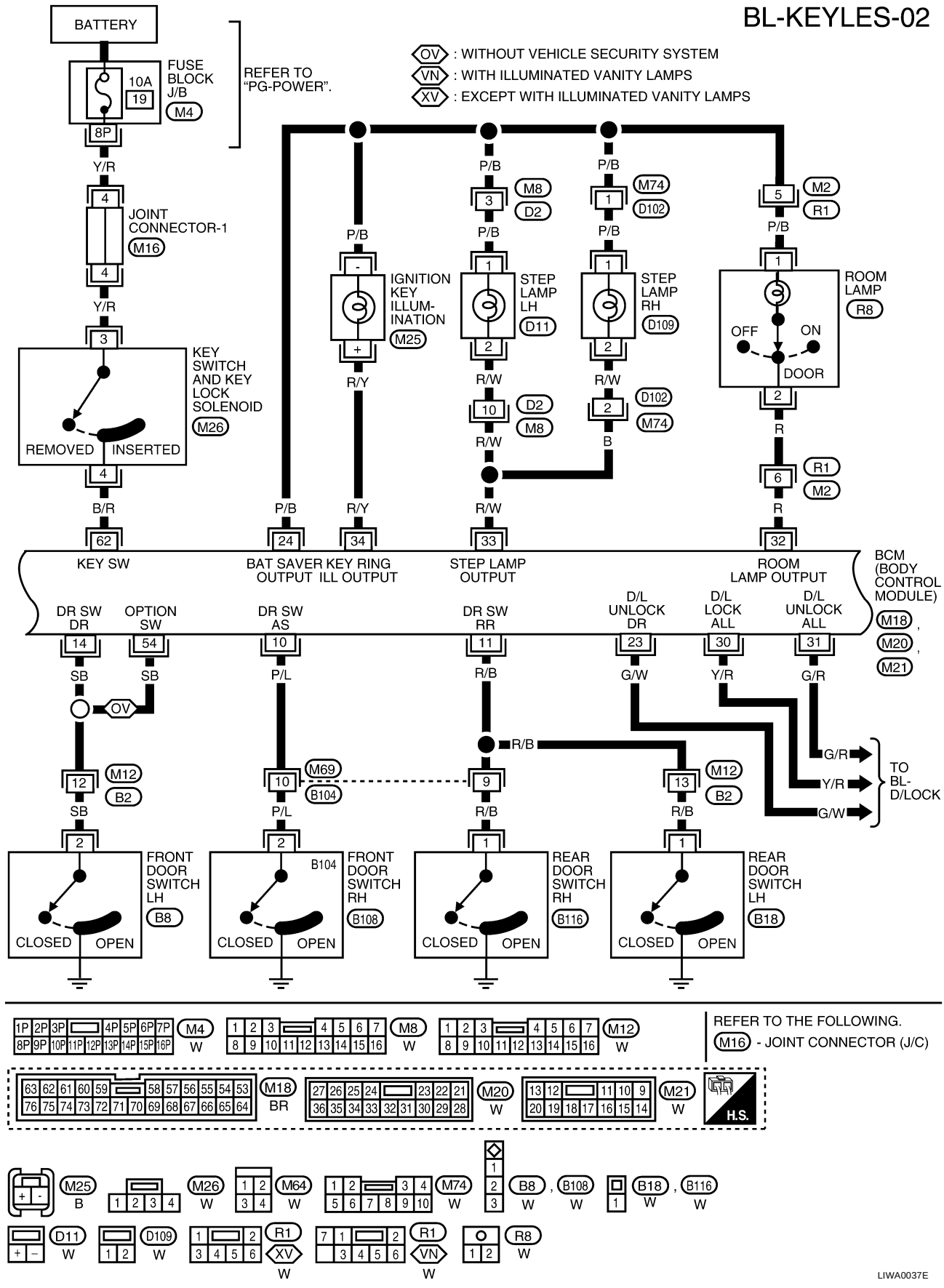
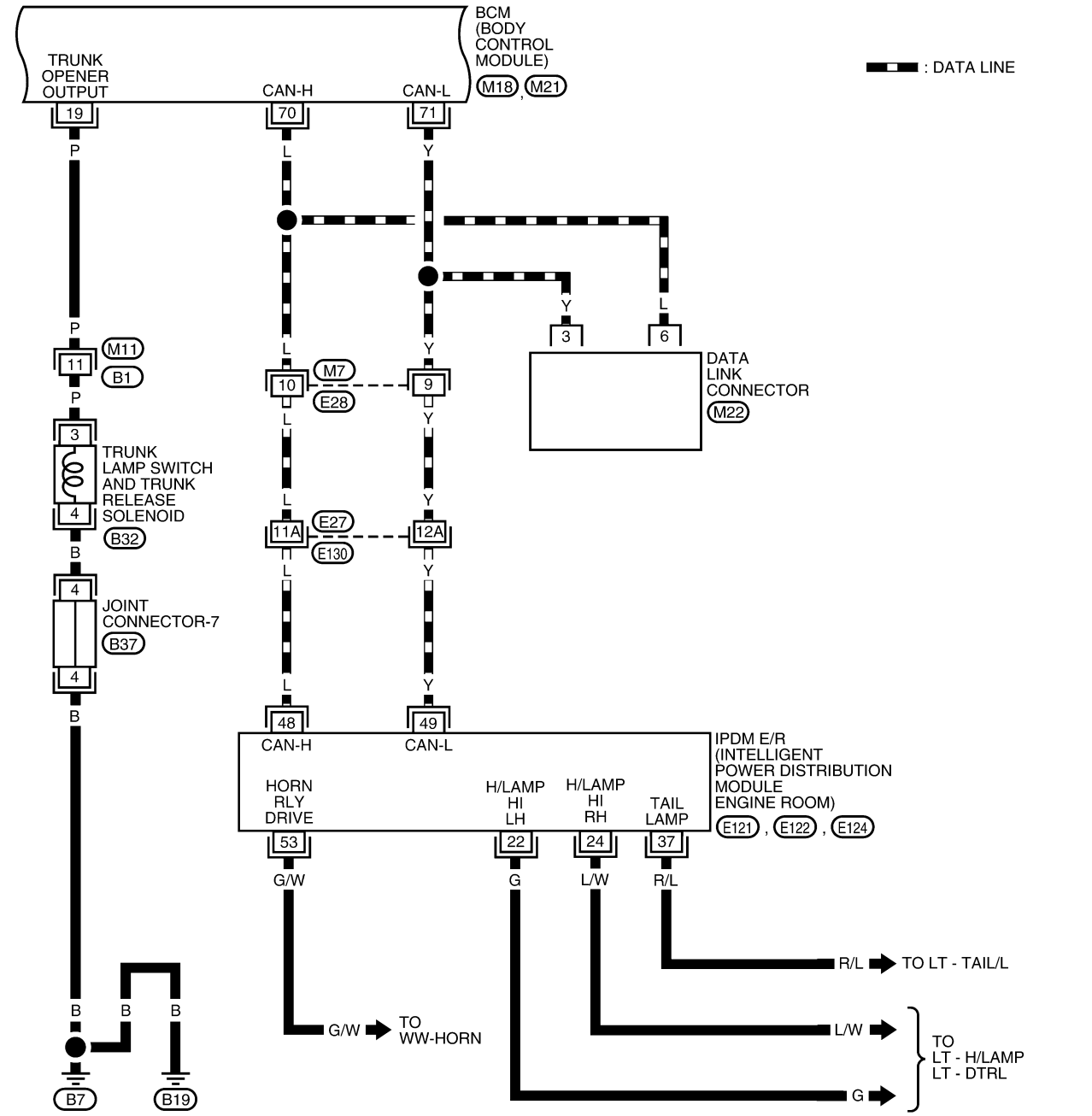

BL-KEYLES-02
OV : WITHOUT VEHICLE SECURITY SYSTEM
VN : WITH ILLUMINATED VANITY LAMPS
XV : EXCEPT WITH ILLUMINATED VANITY LAMPS
BATTERY
FUSE BLOCK J/B
10A
19
M4
8P
REFER TO "PG-POWER".
Y/R
JOINT CONNECTOR-1
M16
KEY SWITCH AND KEY LOCK SOLENOID
M26
REMOVED
INSERTED
B/R
62
KEY SW
IGNITION KEY ILLUM-INATION
M25
R/Y
24
BAT SAVER OUTPUT
34
KEY RING ILL OUTPUT
P/B
M8
D2
STEP LAMP LH
D11
R/W
10
33
STEP LAMP OUTPUT
M74
D102
STEP LAMP RH
D109
2
B
M2
R1
ROOM LAMP
R8
OFF
ON
DOOR
R
6
32
ROOM LAMP OUTPUT
BCM (BODY CONTROL MODULE)
M18
M20
M21
DR SW DR
OPTION SW
14
54
SB
OV
DR SW AS
10
P/L
DR SW RR
11
R/B
D/L UNLOCK DR
23
G/W
D/L LOCK ALL
30
Y/R
D/L UNLOCK ALL
31
G/R
TO BL-D/LOCK
12
M12
B2
M69
B104
9
13
FRONT DOOR SWITCH LH
B8
FRONT DOOR SWITCH RH
B104
B108
REAR DOOR SWITCH RH
B116
REAR DOOR SWITCH LH
B18
CLOSED
OPEN
REFER TO THE FOLLOWING.
M16 - JOINT CONNECTOR (J/C)
M4
W
M8
W
M12
W
M18
BR
M20
W
M21
W
H.S.
M25
B
M26
W
M64
W
M74
W
B8
B108
B18
B116
D11
D109
R1
XV
VN
R8
LIWA0037E

FIG. 3

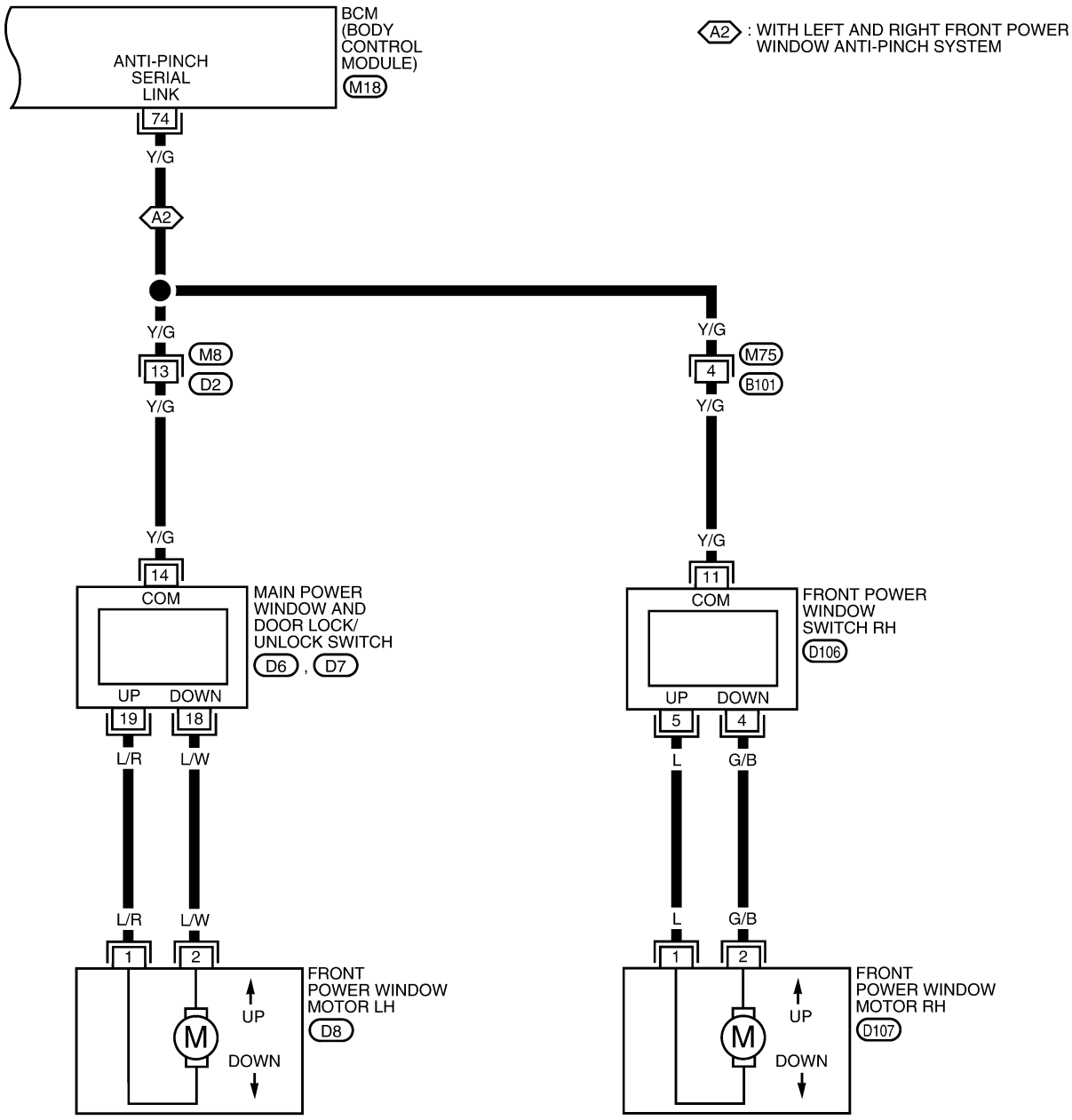
BL-KEYLES-03

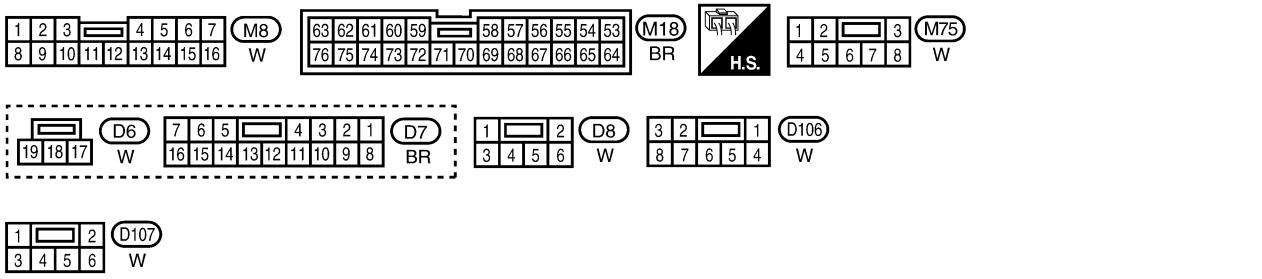


LIWA0038E

FIG. 4

BL-KEYLES-04

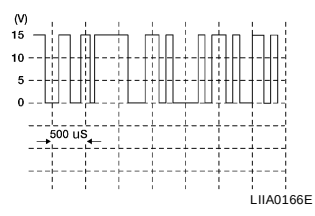




LIWA0039E

Terminals and Reference Value for BCM

EIS000QC

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (Approximate value)
7	W/B	Power source (BAT)	—	Battery voltage
8	B	Ground	—	—
10	P/L	Front door switch RH	Door Close (OFF) → Open (ON)	Battery voltage → 0V
11	R/B	Rear door switch RH and LH	Door Close (OFF) → Open (ON)	Battery voltage → 0V
14	SB	Front door switch LH (with vehicle security system)	Door Close (OFF) → Open (ON)	Battery voltage → 0V
19	P	Trunk release solenoid	When trunk lid release solenoid is operated using key fob (ON → OFF)	0V → Battery voltage
23	G/W	Driver door lock actuator	Door lock & unlock switch (Neutral → Unlock)	0V → Battery voltage
24	P/B	Battery saver (Interior lamp)	Battery saver does operated → Does not operated (ON → OFF)	Battery voltage → 0V
27	B	Ground	—	—
30	Y/R	Door lock actuators	Door lock & unlock switch (Neutral → Lock)	0V → Battery voltage
31	G/R	Passenger and rear doors lock actuator	Door lock & unlock switch (Neutral → Unlock)	0V → Battery voltage
32	R	Room lamp	When doors are locked using key fob (Lamp switch in "DOOR" position)	Battery voltage
33	R/W	Step lamp LH and RH	When doors are unlocked using key fob (OFF → Unlock)	Battery voltage → 0V
34	R/Y	Ignition key illumination	When doors are unlocked using key fob (OFF → Unlock)	Battery voltage → 0V
35	G	Ignition switch (ON)	—	Battery voltage
36	PU	Ignition switch (ACC)	—	Battery voltage
54	SB	Front door switch LH (without vehicle security system)	Door Close (OFF) → Open (ON)	Battery voltage → 0V
62	B/R	Ignition key switch (insert)	Key inserted → Key removed from key cylinder	Battery voltage → 0V
63	B	Ground	—	—
70	L	CAN H	—	—
71	Y	CAN L	—	—
74	Y/G	Anti-pinch serial link	—	

CONSULT-II Function

EIS000QD

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

BCM diagnosis position	Inspection items and diagnosis mode		Description
BCM C/U*	Self–diagnosis results		Carries out the self–diagnosis.
	Data monitor	CAN diagnosis support monitor	Displays CAN communication system diagnosis, disabled transmission status, and communication status of each unit communicated with BCM.
		Selection from menu	Displays the input data to BCM on real–time basis.
MULTI REMOTE ENT	Data monitor		Displays the input remote keyless entry system data to BCM on real–time basis.
	Active test		Gives a drive to a load to check the operation.
	Work support		Changes the setting for each function.

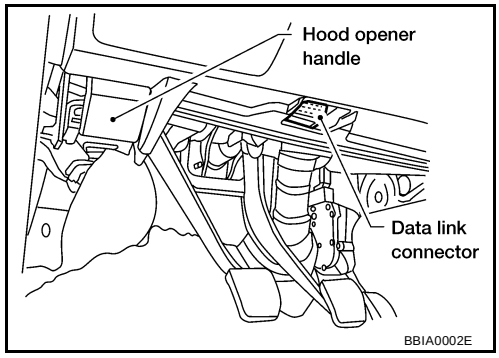
*:Refer to BCS-15, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)" .

CONSULT-II Inspection Procedure

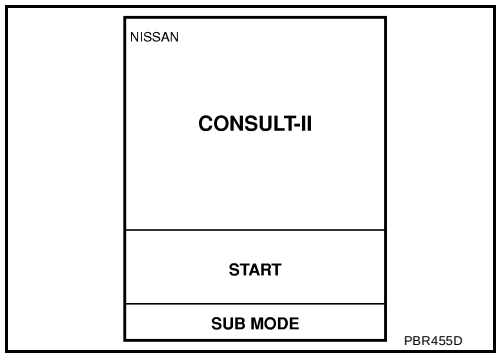
EIS000QE

“MULTI REMOTE ENT”

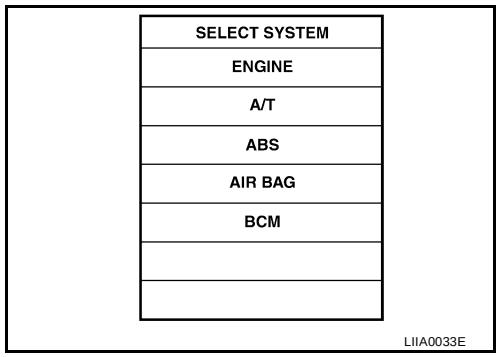
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



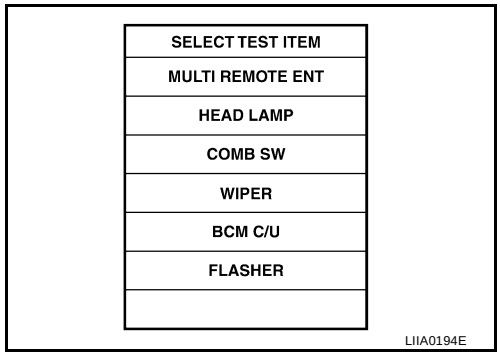
3. Turn ignition switch “ON”.
4. Touch “START”.



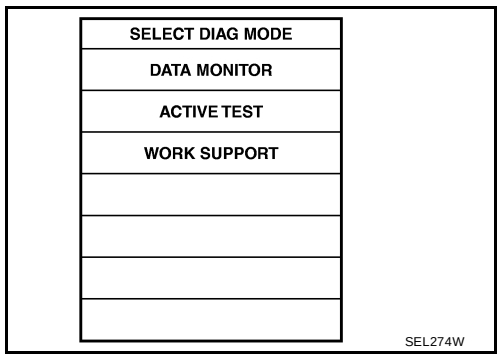
5. Touch “BCM”.



6. Touch “MULTI REMOTE ENT”.



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



CONSULT-II Application Items
“MULTI REMOTE CONT SYS”

EIS000QF

Data Monitor

Monitored Item	Description
DOOR SW-AS	Indicates [ON/OFF] condition of door switch RH.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
PANIC BTN	Indicates [ON/OFF] condition of panic signal from key fob.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from key fob.
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from key fob.
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from door key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from door key cylinder switch.
UNLK SW DR/AS	Indicates [ON/OFF] condition of unlock signal from lock/unlock switch.
LOCK SW DR/AS	Indicates [ON/OFF] condition of lock signal from lock/unlock switch.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch.
LK/UN BTN ON	Indicates [ON/OFF] condition of lock/unlock signal at the same time from key fob.
TRUNK BTN/SIG	Indicates [ON/OFF] condition of trunk open signal from key fob.
UN BUTTON ON	Indicates [ON/OFF] condition of unlock signal from key fob.

Active Test

Test Item	Description
INT ILLUM	This test is able to check interior lamp illumination operation. The interior lamp illumination is turned on when “ON” on CONSULT-II screen is touched.
IGN ILLUM	This test is able to check ignition illumination operation. The ignition illumination is turned on when “ON” on CONSULT-II screen is touched.
FLASHER RIGHT(CAN)	This test is able to check right hazard reminder operation. The right hazard lamp turns on when “ON” on CONSULT-II screen is touched.

Test Item	Description
FLASHER LEFT(CAN)	This test is able to check left hazard reminder operation. The left hazard lamp turns on when “ON” on CONSULT-II screen is touched.
HORN	This test is able to check panic alarm and horn reminder operations. The alarm activate for 0.5 seconds after “ON” on CONSULT-II screen is touched.
HEAD LAMP(HI)	This test is able to check headlamps panic alarm operation. The headlamp illuminates for 0.5 seconds after “ON” on CONSULT-II screen is touched.
TRUNK/BACK DOOR	This test is able to check trunk lid opener actuator operation. The trunk is unlocked when “ON” on CONSULT-II screen is touched.

Work Support

Test Item	Description
REMO CONT ID CONFIR	It can be checked whether key fob ID code is registered or not in this mode.
REMO CONT ID REGIST	Key fob ID code can be registered.
REMO CONT ID ERASUR	Key fob ID code can be erased.
MULTI ANSWER BACK SET	Hazard and horn reminder mode can be changed in this mode. The reminder mode will be changed when “MODE SET” 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 "MODE SET" on CONSULT-II screen is touched.
PANIC ALRM SET	Panic alarm operation mode can be changed in this mode. The operaition mode will be changed when "MODE SET" on CONSULT-II screen is touched.
TRUNK OPEN SET	Trunk lid opener operation mode can be changed in this mode. The operation mode will be changed when "MODE SET" on CONSULT-II screen is touched.
PW DOWN SET	Keyless power window down (open) operation mode can be changed in this mode. The operation mode will be changed when "MODE SET" on CONSULT-II screen is touched.

Hazard and horn reminder mode

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

Auto locking function mode

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

Panic alarm operation mode

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

Trunk open operation mode

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

Power window down operation mode

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

Trouble Diagnosis Procedure

EIS000QG

1. Check the trouble symptom and customer's requests.
2. Understand outline of system. Refer to BL-44, "System Description" .

3. Confirm that power door lock system operates normally. Refer to BL-16, "POWER DOOR LOCK SYSTEM" .
4. Perform pre-diagnosis inspection. Refer to BL-59, "Pre-Diagnosis Inspection" .
5. Refer to trouble diagnosis chart by symptom, repair or replace any malfunctioning parts. Refer to BL-59, "Trouble Diagnoses" .
6. **Inspection End.**

Pre-Diagnosis Inspection

EIS000QH

BCM POWER SUPPLY AND GROUND CIRCUIT INSPECTION

1. FUSE INSPECTION

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

Unit	Terminal No.	Signal name	No.	Location
BCM	7	Battery power supply	f	Fuse and fuslible link box
	36	ACC power supply	6	Fuse block (J/B)
	35	IGN power supply	12	Fuse block (J/B)

OK or NG

OK >> GO TO 2.
NG >> Replace the fuse or fusible link.

2. POWER SUPPLY CIRCUIT INSPECTION

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

Unit	Terminal No.	Signal name	Ignition switch	Voltage
BCM	7	Battery power supply	OFF	Battery voltage
	36	ACC power supply	ACC	Battery voltage
	35	IGN power supply	ON	Battery voltage

OK or NG

OK >> GO TO 3.
NG >> Replace applicable power circuit harness.

3. GROUND CIRCUIT INSPECTION

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

Unit	Terminal No.	Signal name	Ignition switch	Continuity
BCM	8, 27, 63	Ground	OFF	Yes

OK or NG

OK >> Power supply and ground circuits are normal.
NG >> Replace BCM ground circuit harness.

Trouble Diagnoses

EIS000QI

SYMPTOM CHART

NOTE:

- Always check key fob battery before replacing key fob.
- The panic alarm operation and trunk lid opener operation of remote keyless entry system do not activate with the ignition key inserted in the ignition key cylinder.
- Use Remote Keyless Entry Tester J-43241 (follow instructions on tester) to check operation of key fob before replacing key fob.

Symptom	Diagnoses/service procedure	Reference page
All function of remote keyless entry system do not operate.	1. Key fob battery and function check (use Remote Keyless Entry Tester J-43241)	BL-61
	2. Replace key fob (use Remote Keyless Entry Tester J-43241). Refer to ID Code Entry Procedure. **NOTE:** If the result of key fob function check with CONSULT-II is OK, Key fob is not malfunctioning.	BL-71
The new ID of key fob cannot be entered.	1. Key fob battery and function check (use Remote Keyless Entry Tester J-43241)	BL-61
	2. Key switch (insert) check	BL-63
	3. Door switch check	BL-62
	4. Replace key fob (use Remote Keyless Entry Tester J-43241). Refer to ID Code Entry Procedure. **NOTE:** If the result of key fob function check with CONSULT-II is OK, Key fob is not malfunctioning.	BL-71
Door lock or unlock does not function. (If the power door lock system does not operate manually, check power door lock system. Refer to BL-16, "POWER DOOR LOCK SYSTEM")	1. Key fob battery and function check (use Remote Keyless Entry Tester J-43241)	BL-61
	2. Replace key fob (use Remote Keyless Entry Tester J-43241). Refer to ID Code Entry Procedure . **NOTE:** If the result of key fob function check with CONSULT-II is OK, Key fob is not malfunctioning.	BL-71
Hazard and horn reminder does not activate properly when pressing lock or unlock button of key fob.	1. Hazard reminder check	BL-65
	2. Horn reminder check	BL-67
	3. Door switch check	BL-62
	4. Replace BCM.	—
Room lamp, ignition illumination and step lamp operation do not activate properly.	1. Room lamp operation check	BL-68
	2. Ignition illumination operation check	BL-69
	3.Step lamp operation check	BL-70
	4. Door switch check	BL-62
Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed.	1. Key fob battery and function check (use Remote Keyless Entry Tester J-43241)	BL-61
	2. Vehicle security operation check. Refer to Vehicle security system.	BL-87
	3. Key switch (insert) check	BL-63
	4. Replace key fob (use Remote Keyless Entry Tester J-43241). Refer to ID Code Entry Procedure. **NOTE:** If the result of key fob function check with CONSULT-II is OK, Key fob is not malfunctioning.	BL-71
Trunk lid does not open when trunk opener button is continuously pressed.	1. Key fob battery and function check (use Remote Keyless Entry Tester J-43241)	BL-61
	2. Trunk release solenoid check	BL-64
	3. Key switch (insert) check	BL-63
	4. Replace BCM.	—

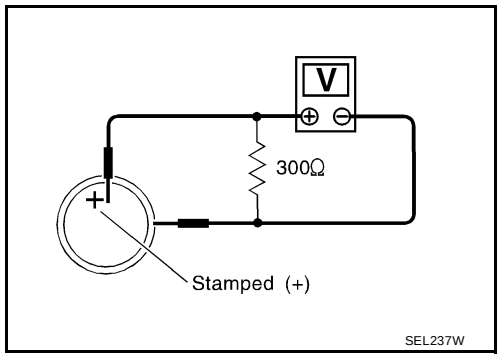
Key Fob Battery and Function Check

EIS000QJ

1. CHECK KEY FOB BATTERY

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

Voltage : 2.5V - 3.0V



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

OK or NG?

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

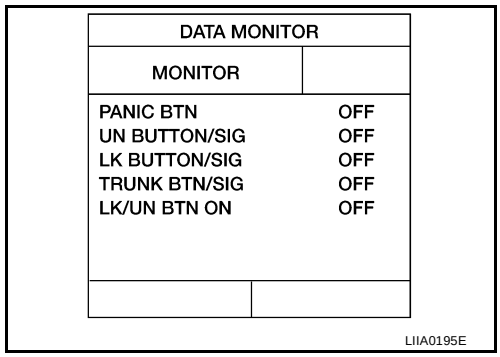
2. CHECK KEY FOB FUNCTION

With CONSULT-II

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

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

Condition	Monitor item	
Pushing LOCK	LK BUTTON/SIG	: ON
Pushing UNLOCK	UN BUTTON/SIG	: ON
Pushing TRUNK	TRUNK BTN/SIG	: ON
Pushing PANIC	PANIC BTN	: ON
Pushing LOCK and UNLOCK at the same time	LK/UN BTN ON	: ON



OK or NG?

OK >> Key fob is OK. Further inspection is necessary. Refer to BL-59, "SYMPTOM CHART" .
NG >> Replace key fob.

Door Switch Check

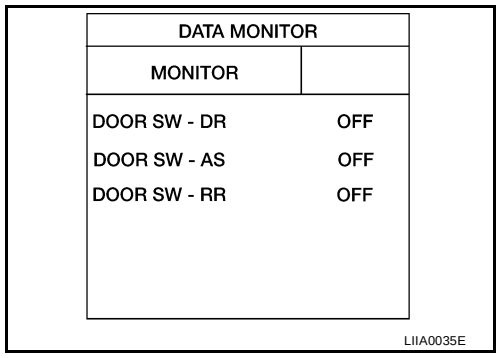
EIS000QK

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

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

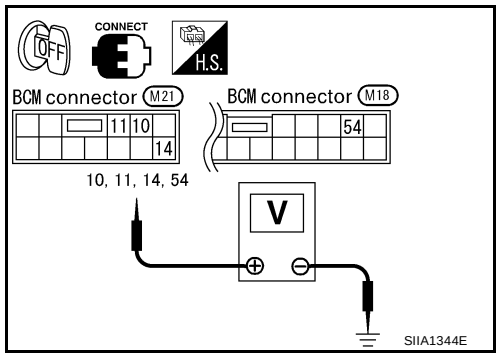
Monitor item	Condition	
DOOR SW-RR	OPEN	: ON
	CLOSE	: OFF
DOOR SW-DR	OPEN	: ON
	CLOSE	: OFF
DOOR SW-AS	OPEN	: ON
	CLOSE	: OFF



Without CONSULT-II

Check voltage between BCM harness connector terminals 10 (P/L), 11 (R/B), 14 (SB) and/or 54 (SB) (without vehicle security system) and ground.

	Terminals		Condition	Voltage [V]
	(+)	(-)		
Front door switch RH	10	Ground	OPEN	0
			CLOSE	Approx. 12
Rear door switch	11	Ground	OPEN	0V
			CLOSE	Approx. 12
Front door switch LH	14 and/ or 54	Ground	OPEN	0V
			CLOSE	Approx. 12



OK or NG?

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

2. CHECK DOOR SWITCH

1. Disconnect door switch and BCM harness connector.
2. Check continuity between door switch harness connector B8, B18, B108, B116 terminals 1 (R/B), 2 (SB or P/L) and BCM harness connector ? terminals 10 (P/L), 11 (R/B) , 14 (SB) and/or 54 (SB) (without vehicle security system).

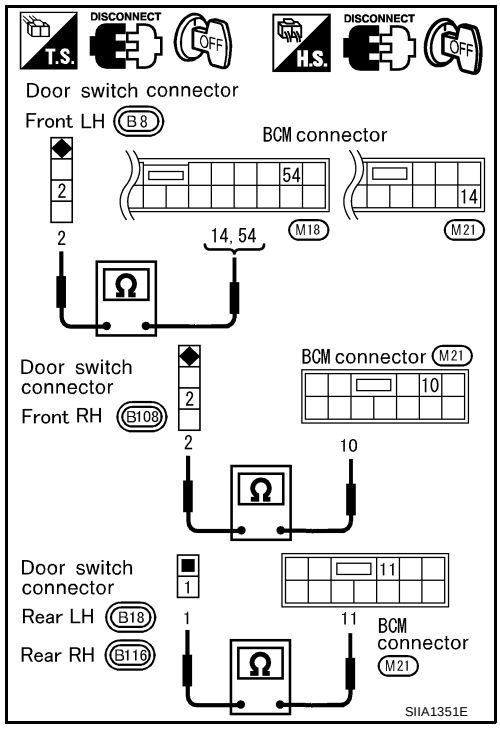
Front door RH	**2 (P/L) - 10 (P/L)**	**: Continuity should exist.**
Rear door	**1 (R/B) - 11 (R/B)**	**: Continuity should exist.**
Front door LH	**2 (SB) - 14 (SB) 2 (SB) - 54 (SB)**	**: Continuity should exist.**

3. Check continuity between door switch harness connector B8, B18, B108, B116 terminals 1(R/B), 2 (SB or P/L) and ground.

Front door RH	**2 (P/L) - Ground**	**: Continuity should not exist.**
Rear door	**1 (R/B) - Ground**	**: Continuity should not exist.**
Front door LH	**2 (SB) - Ground**	**: Continuity should not exist.**

OK or NG?

OK >> Replace door switch.
NG >> Replace door switch harness.



EIS000QL

Key Switch (insert) Check

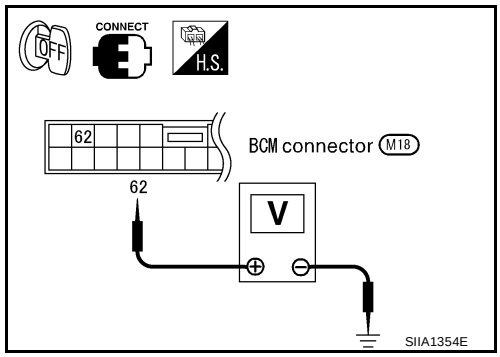
1. CHECK KEY SWITCH INPUT SIGNAL

Check voltage between BCM harness connector M18 terminal 62 (B/R) and ground.

Condition of key switch	Voltage [V]
Key is inserted.	**: Approx. 12**
Key is removed.	**: 0**

OK or NG?

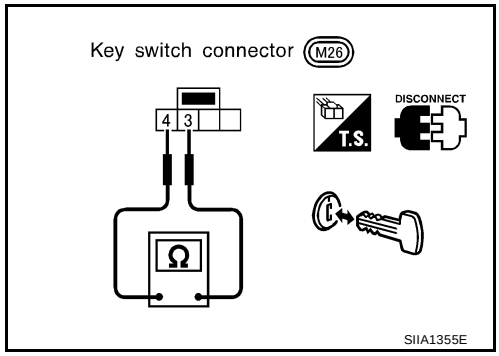
OK >> Key switch is OK.
NG >> GO TO 2



2. CHECK KEY SWITCH (INSERT)

Check continuity between key switch connector M26 terminals 3 and 4.

Condition of key switch	Continuity
Key is inserted.	Yes
Key is removed.	No



OK or NG?

OK >> Check the following.
- 10A fuse [No. 19, 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.

Trunk Release Solenoid Check

EIS000QM

1. CHECK TRUNK LID OPENER

Check trunk release operation with trunk lid opener switch.

NOTE:
First check trunk lid opener cancel switch position. Refer to BL-85, "TRUNK LID OPENER"

Does trunk lid open?

Yes >> GO TO 2.
No >> Check trunk release solenoid and the circuit.

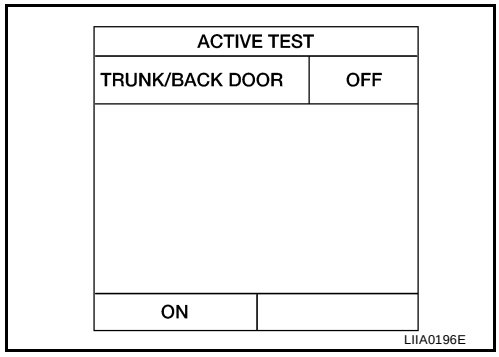
2. CHECK TRUNK LID OPENER ACTUATOR OPERATION

With CONSULT-II

1. Select “ACTIVE TEST” in “MULTI REMOTE ENT” with CONSULT-II.
2. Select “TRUNK/BACK DOOR” and touch “ON”.

Trunk release solenoid should operate.

NOTE:
If CONSULT-II is not available, skip this procedure and go to the next step.



OK or NG?

OK >> Trunk lid opener actuator circuit is OK.
NG >> Check harness for open or short between BCM and trunk lid opener actuator.

3. CHECK TRUNK LID OPENER ACTUATOR CIRCUIT

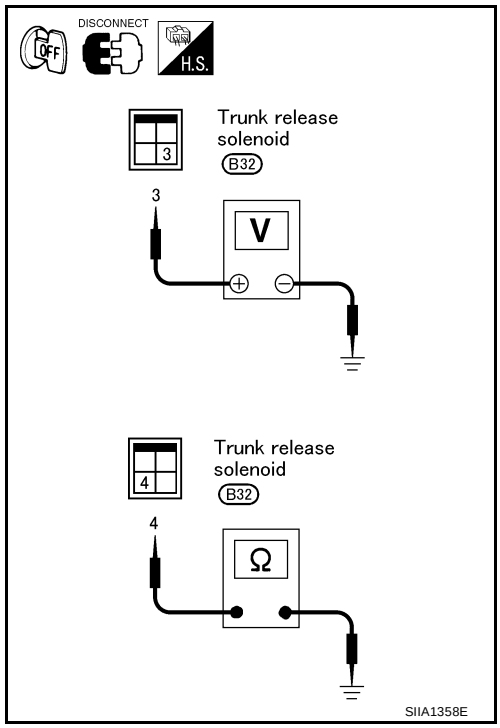
Without CONSULT-II

1. Disconnect trunk lamp switch and trunk release solenoid connector.
2. Check voltage between trunk lamp switch and trunk release solenoid harness connector B32 terminal 3 (P) and ground.

   3 (P) - Ground : Battery voltage should exist.

3. Check continuity between trunk lamp switch and trunk release solenoid harness connector B32 terminal 4 (B) and ground.

   4 (B) - Ground : Continuity should exist.



OK or NG?

OK >> Replace trunk release solenoid.
No >> Check the following.
1. Harness for open or short between BCM and trunk release solenoid
2. Harness for open or short between trunk lamp switch and trunk release solenoid and ground
3. Replace BCM

Hazard Reminder Check

EIS000QN

1. CHECK HAZARD INDICATOR

Check if hazard indicator flashes with hazard switch.

Does hazard indicator operate?

Yes >> GO TO 2
No >> Check “hazard indicator” Refer to LT-80, "TURN SIGNAL AND HAZARD WARNING LAMPS" .

2. SELF-DIAGNOSTIC RESULT CHECK

With CONSULT–II

- Select “BCM” on “SELECTSYSTEM” screen.
- Select “BCM C/U ” on “SELECT TEST ITEM”screen, and select “SELF-DIAG RESULTS”.
- Check display content in self-diagnostic results.

CONSULT-II display code	Diagnosis item
U1000	CAN COMM
	CAN CIRC 1
	CAN CIRC 2
	CAN CIRC 3
	CAN CIRC 4
	CAN CIRC 6

Contents displayed?

No malfunction >> GO TO 4.
Malfunction in CAN communication system>>GO TO 3.
Malfunction in diagnosis system or headlamp switch system>>BCS-16, "Combination Switch Inspection According to Self-Diagnostic Results".

3. SYMPTOM CHECK

With CONSULT–II

- Select “CAN DIAGNOSIS SUPPORT MONITOR” in "DATA MONITOR".
- Select “START” and check display content.

Diagnosis item	Self-diagnostic result content	
	Normal	Not normal (Example)
CAN COMM	OK	NG
CAN CIRC 1	OK	UNKWN
CAN CIRC 2	OK	UNKWN
CAN CIRC 3	OK	UNKWN
CAN CIRC 4	OK	UNKWN
CAN CIRC 6	OK	UNKWN

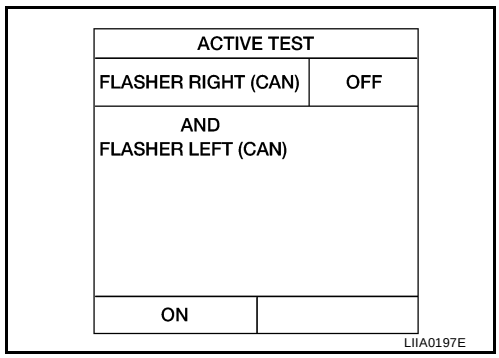
>> After printing the monitor items, go to “CAN System”. Refer to LAN-4, "CAN COMMUNICATION" .

4. CHECK HAZARD REMINDER OPERATION WITH CONSULT-II

With CONSULT-II

1. Select “ACTIVE TEST” in “MULT REMOTE ENT” with CONSULT-II.
2. Select “FLASHER RIGHT(CAN)” or "FLASHER LEFT(CAN)" and touch “ON”.

Hazard indicator should illuminate.



OK or NG?

OK >> Hazard reminder operation is OK.
NG >> Replace BCM.

Horn Reminder Check

EIS000QO

1. CHECK HORN

Check if horn sounds with horn switch.

Does horn operate?

Yes >> GO TO 2.
No >> Check horn circuit. Refer to WW-32, "HORN" .

2. SELF-DIAGNOSTIC RESULT CHECK

With CONSULT–II

- Select “BCM” on “SELECT SYSTEM” screen.
- Select “BCM C/U ” on “SELECT TEST ITEM”screen, and select “SELF-DIAG RESULTS”.
- Check display content in self-diagnostic results.

CONSULT-II display code	Diagnosis item
U1000	CAN COMM
	CAN CIRC 1
	CAN CIRC 2
	CAN CIRC 3
	CAN CIRC 4
	CAN CIRC 6

Contents displayed?

No malfunction >> GO TO 4.
Malfunction in CAN communication system >> GO TO 3.
Malfunction in diagnosis system or head lamp switch system >> BCS-16, "Combination Switch Inspection According to Self-Diagnostic Results" .

3. SYMPTOM CHECK

With CONSULT–II

- Select “CAN DIAGNOSIS SUPPORT MONITOR” in "DATA MONITOR".
- Select “START” and check display content.

Diagnosis item	Self-diagnostic result content	
	Normal	Not normal (Example)
CAN COMM	OK	NG
CAN CIRC 1	OK	UNKWN
CAN CIRC 2	OK	UNKWN
CAN CIRC 3	OK	UNKWN
CAN CIRC 4	OK	UNKWN
CAN CIRC 6	OK	UNKWN

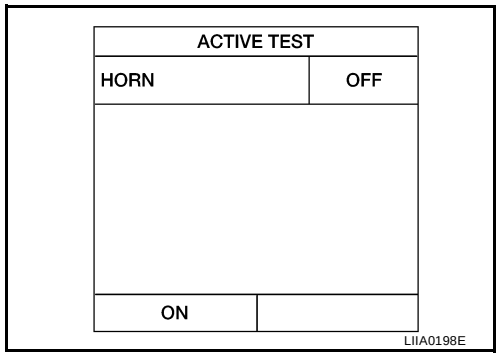
>> After printing the monitor items, go to “CAN System”. Refer to LAN-4, "CAN COMMUNICATION" .

4. CHECK HORN REMINDER OPERATION WITH CONSULT-II

With CONSULT-II

1. Select “ACTIVE TEST” in “MULTI REMOTE ENT” with CONSULT-II.
2. Select “HORN” and touch ON.

Horn should sound.



OK or NG?

OK >> Horn reminder operation is OK.
NG >> Replace BCM.

Interior Lamp Operation Check

EIS000QP

1. CHECK INTERIOR LAMP

Check if the interior lamp switch is in the ON position and the lamp illuminates.

Does interior lamp illuminate?

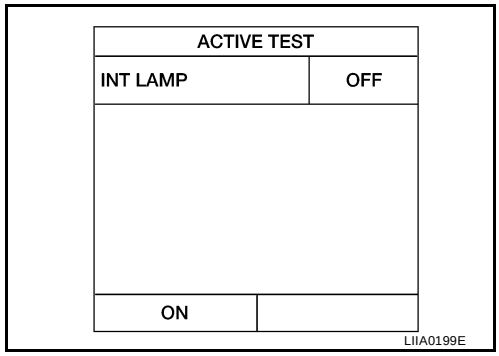
Yes >> GO TO 2
No >> Check interior room lamp circuit. Refer to LT-123, "INTERIOR ROOM LAMP" .

2. CHECK INTERIOR LAMP OPERATION

With CONSULT-II

1. Select “ACTIVE TEST” in “MULTI-REMOTE CONT SYS” with CONSULT-II.
2. Select “INT ILLUM” and touch ON.

Interior lamp should illminate.



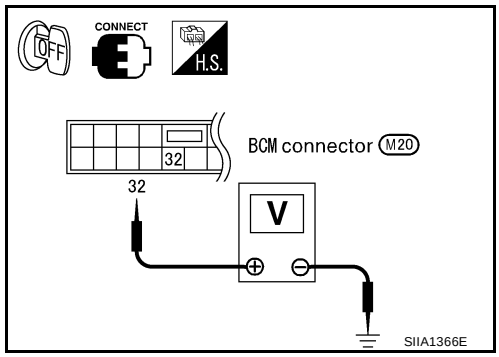
Without CONSULT-II

Push unlock button of key fob with all doors closed and driver's door locked, and check voltage between BCM harness connector M20 terminal 32 (R) and ground.

Key Fob	Voltage [V]
Unlock button is pushed.	: 0 (Approx. 30 seconds)
Unlock button is not pushed	: Battery voltage

OK or NG

OK >> System is OK.
NG >> Check harness open or short between BCM and interior lamp.



Ignition Illumination Operation Check

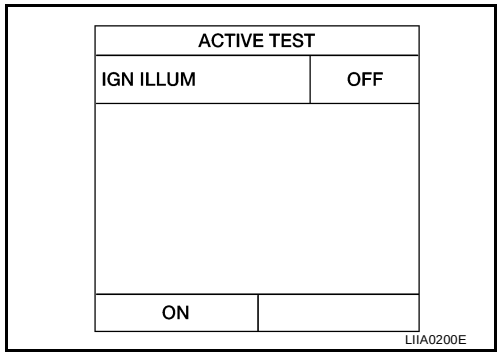
EIS000QQ

1. CHECK IGNITION ILLUMINATION OPERATION

With CONSULT-II

1. Select “ACTIVE TEST” IN “MULTI REMOTE ENT” with CONSULT-II.
2. Select “IGN ILLUM” and touch “ON”.

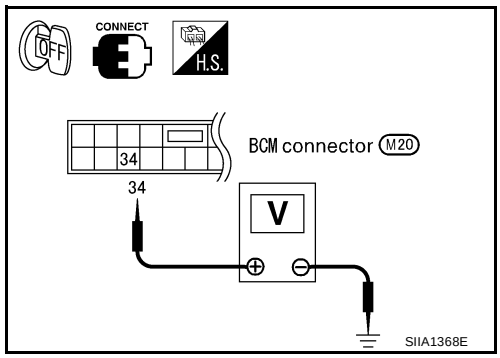
Ignition illuminate should illuminate.



Without CONSULT-II

Push unlock button of key fob with all doors closed and driver's door locked, and check voltage between BCM harness connector M20 terminal 34 (R/Y) and ground.

Key Fob	Voltage [V]
Unlock button is pushed.	: 0 (Approx. 30 seconds)
Unlock button is not pushed	: Battery voltage



OK or NG

OK >> System is OK.

NG >> Check the following.

- Harness for open or short between BCM and key hole illumination.
- Ignition illumination

Step Lamp Operation Check

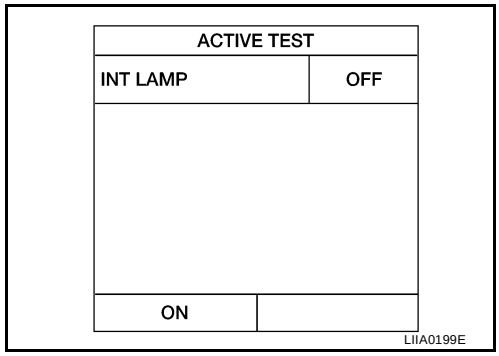
EIS000QR

1. CHECK STEP LAMP OPERATION

With CONSULT-II

1. Select “ACTIVE TEST” IN “MULTI REMOTE ENT” with CONSULT-II.
2. Select “INT ILLUM” and touch “ON”.

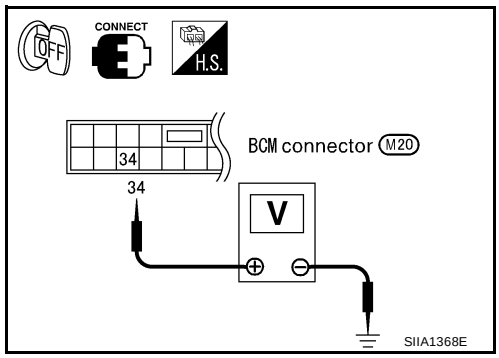
Step lamp should illuminate.



Without CONSULT-II

Push unlock button of key fob with all doors closed and driver's door locked, and check voltage between BCM harness connector M20 terminal 33 (R/W) and ground.

Key Fob	Voltage [V]
Unlock button is pushed.	: 0 (Approx. 30 seconds)
Unlock button is not pushed	: Battery voltage



OK or NG

OK >> System is OK.

NG >> Check the following.

- Harness for open or short between BCM and step lamp.
- Step lamp

ID Code Entry Procedure

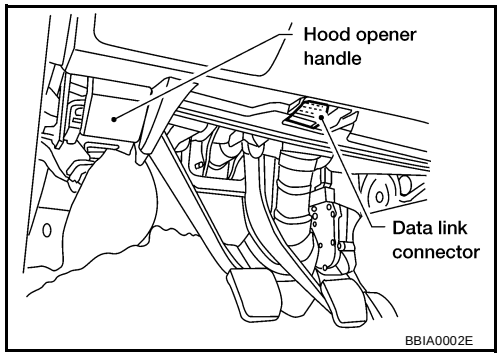
EIS000QS

KEY FOB ID SET UP WITH CONSULT-II

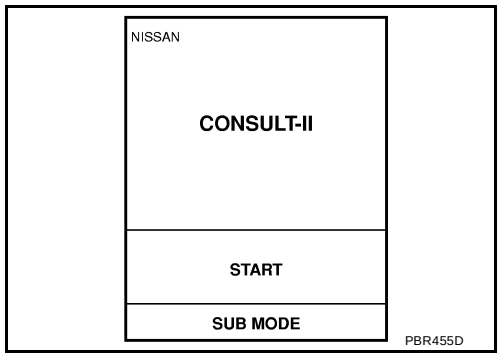
NOTE:

If a key fob is lost, the ID code of the lost key fob must be erased to prevent unauthorized use. When the ID code of a lost key fob is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new key fobs must be re-registered.

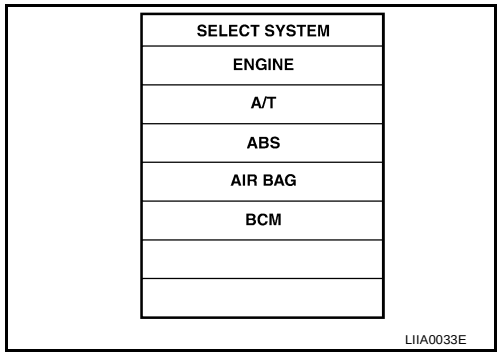
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



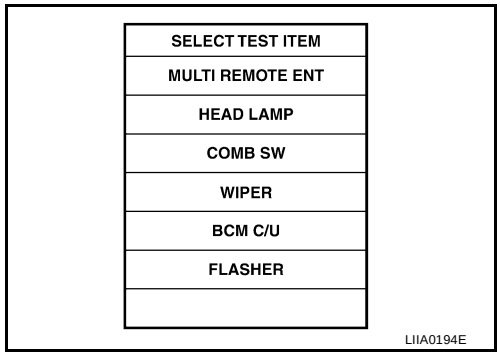
3. Turn ignition switch ON.
4. Touch “START”.



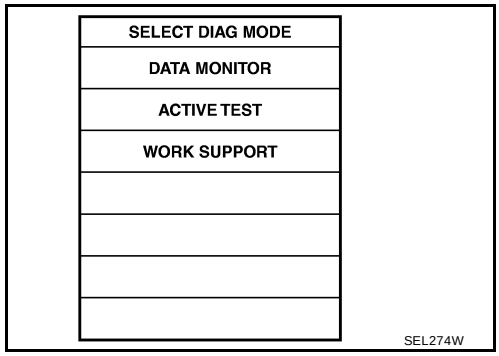
5. Touch “BCM”.



6. Touch “MULTI REMOTE ENT”.

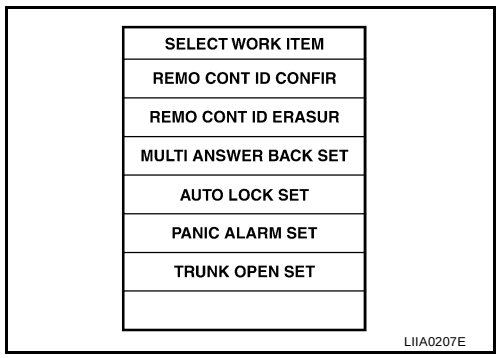


7. Touch “WORK SUPPORT”.

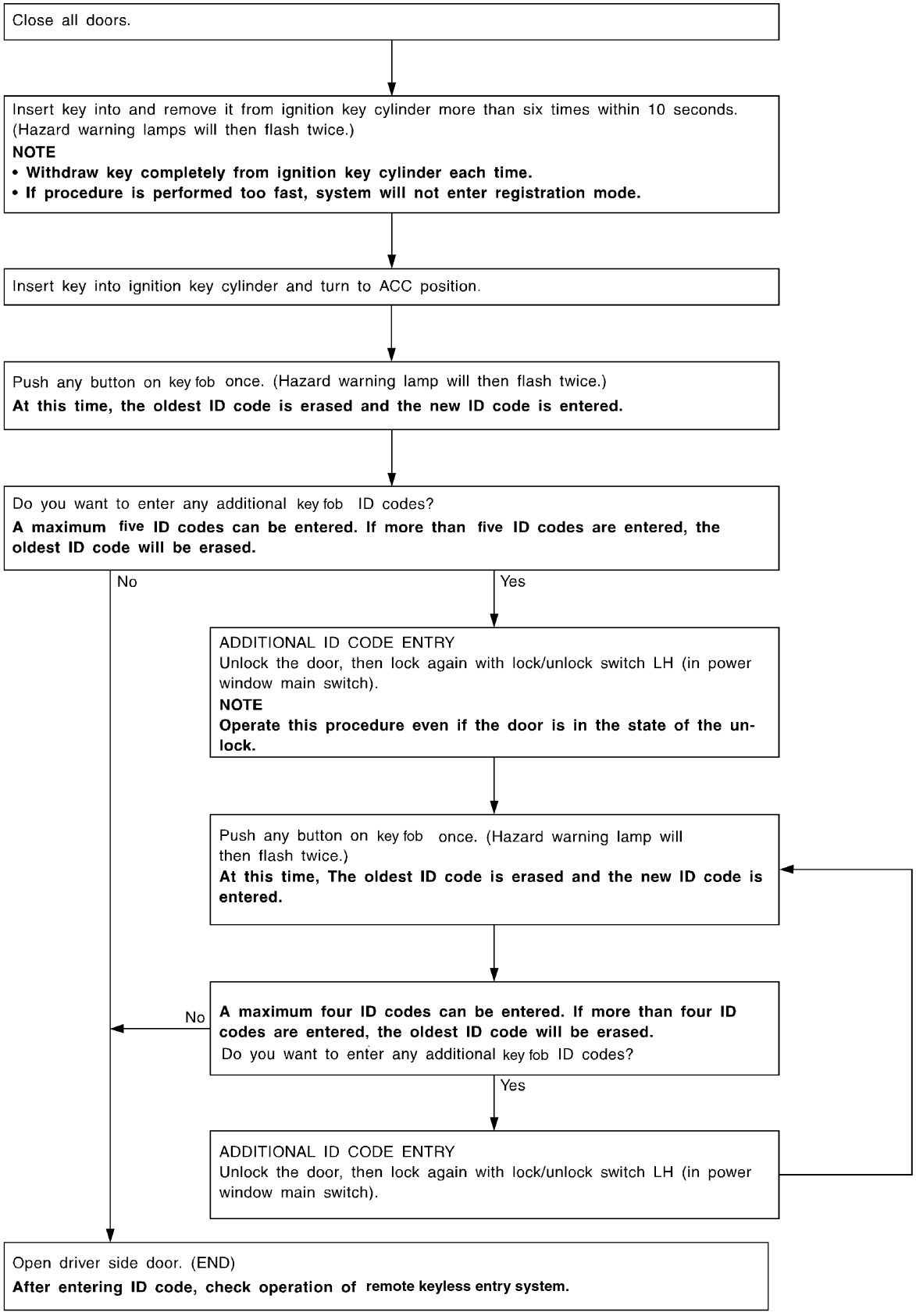


8. The items are shown on the figure at left can be set up.
   - “REMO CONT ID CONFIR”
     Use this mode to confirm if a key fob ID code is registered or not.
   - “REMO CONT ID REGIST”
     Use this mode to register a key fob ID code.

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



KEY FOB ID SET UP WITHOUT CONSULT-II



LIIA0208E

NOTE:

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

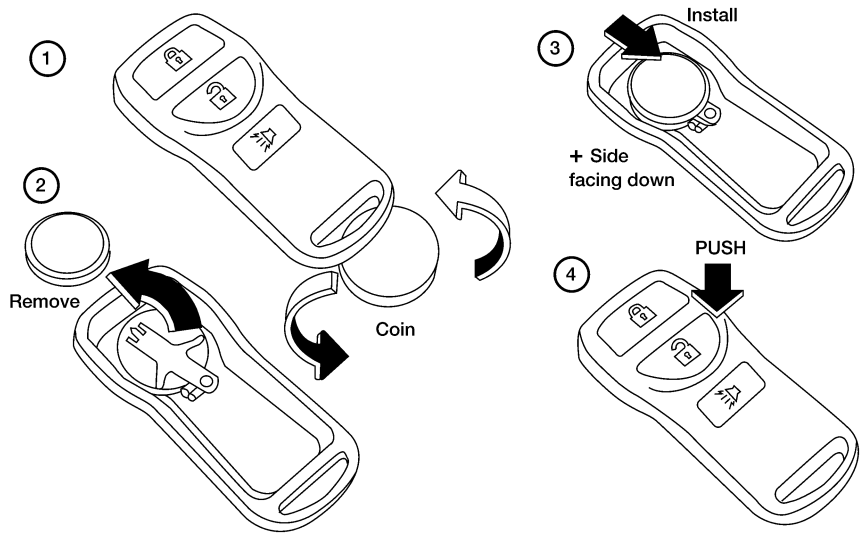
Key Fob Battery Replacement

EIS000QT

NOTE:

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

1. Open the lid using a coin.
2. Remove the battery.
3. Install the new battery, positive side down.
4. Close the lid securely. Push the key fob buttons two or three times to check operation.



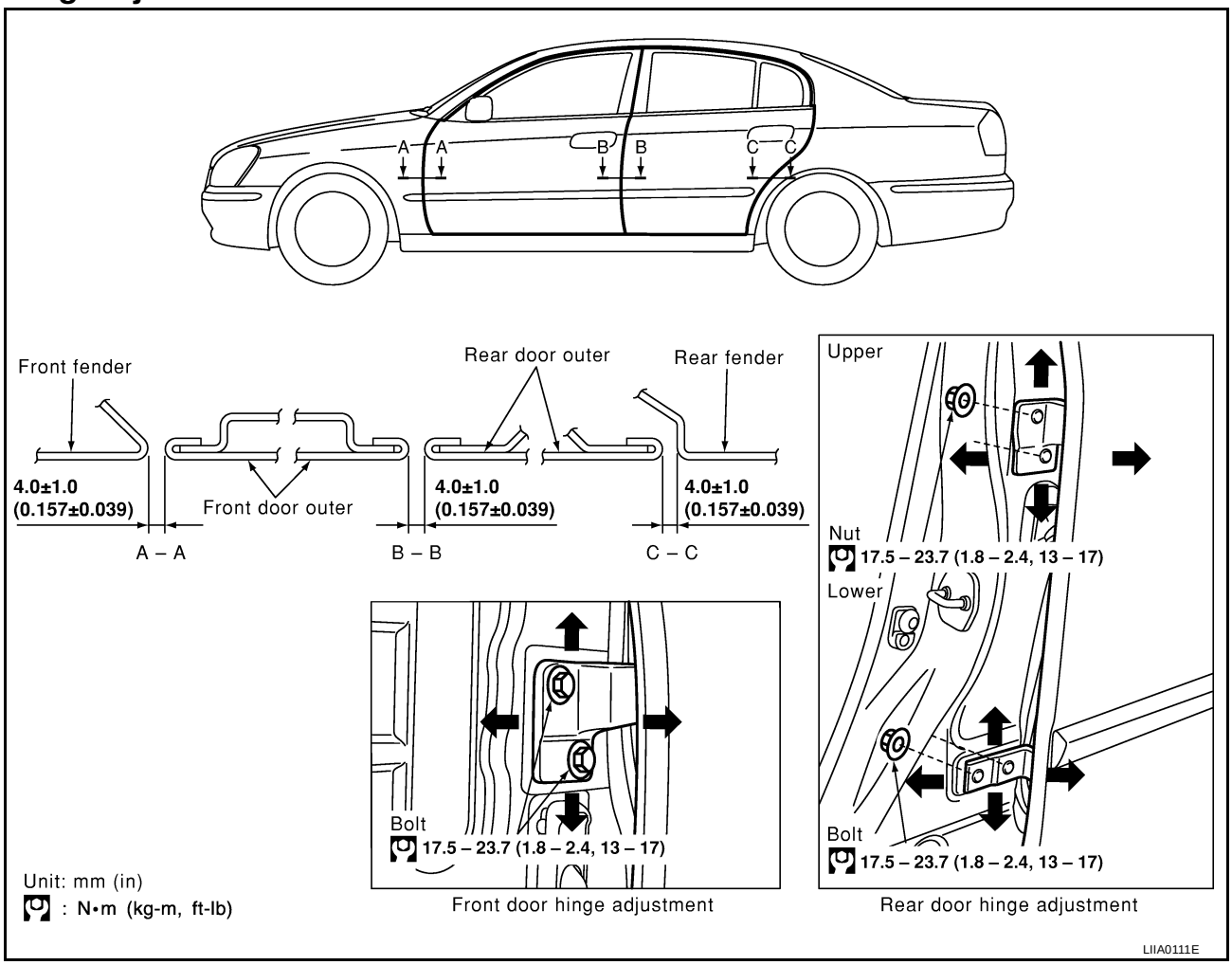
LIIA0203E

DOOR

PFP:80100

Fitting Adjustment

EIS000QU



FRONT DOOR

Longitudinal clearance and surface height adjustment at front end

1. Remove the fender. Refer to .
2. Loosen the hinge mounting bolts. Raise the front door at rear end to adjust.

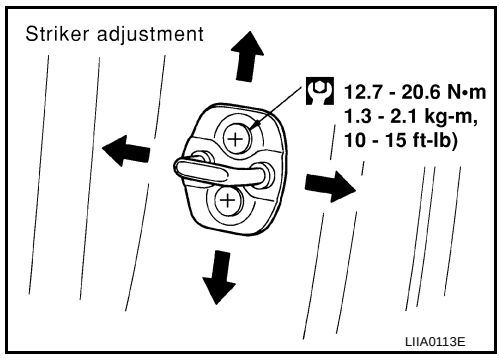
REAR DOOR

Longitudinal clearance and surface height adjustment at front end

1. Remove the center pillar upper garnish and center pillar lower garnish. Refer to EI-29, "Removal and Installation" .
2. Accessing from inside the vehicle, loosen the mounting nuts. Open the rear door, and raise the rear door at rear end to adjust.

STRIKER ADJUSTMENT

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



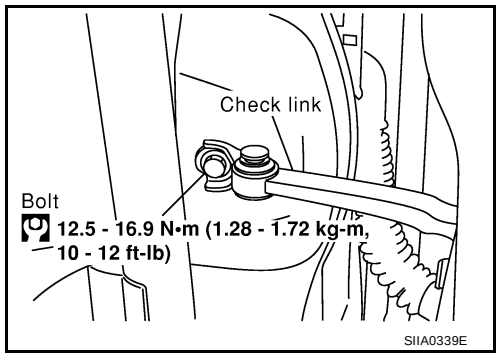
Removal and Installation

EIS000QV

CAUTION:

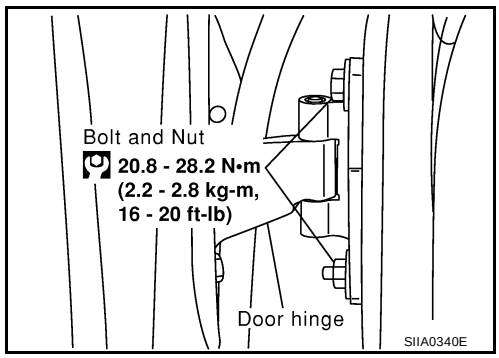
- **When removing and installing the door assembly, support the door with a jack and shop cloth to protect the door and body.**
- **When removing and installing door assembly, be sure to carry out the fitting adjustment.**
- **Check the hinge rotating part for poor lubrication. If necessary, apply "body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

1. Remove the door finisher. Refer to EI-27, "DOOR FINISHER" .
2. Remove the inner seal.
3. Remove the door window and module assembly. Refer to GW-34, "Removal and Installation" .
4. Remove the door harness.
5. Remove the check link cover.
6. Remove the mounting bolts of the check link on the vehicle.



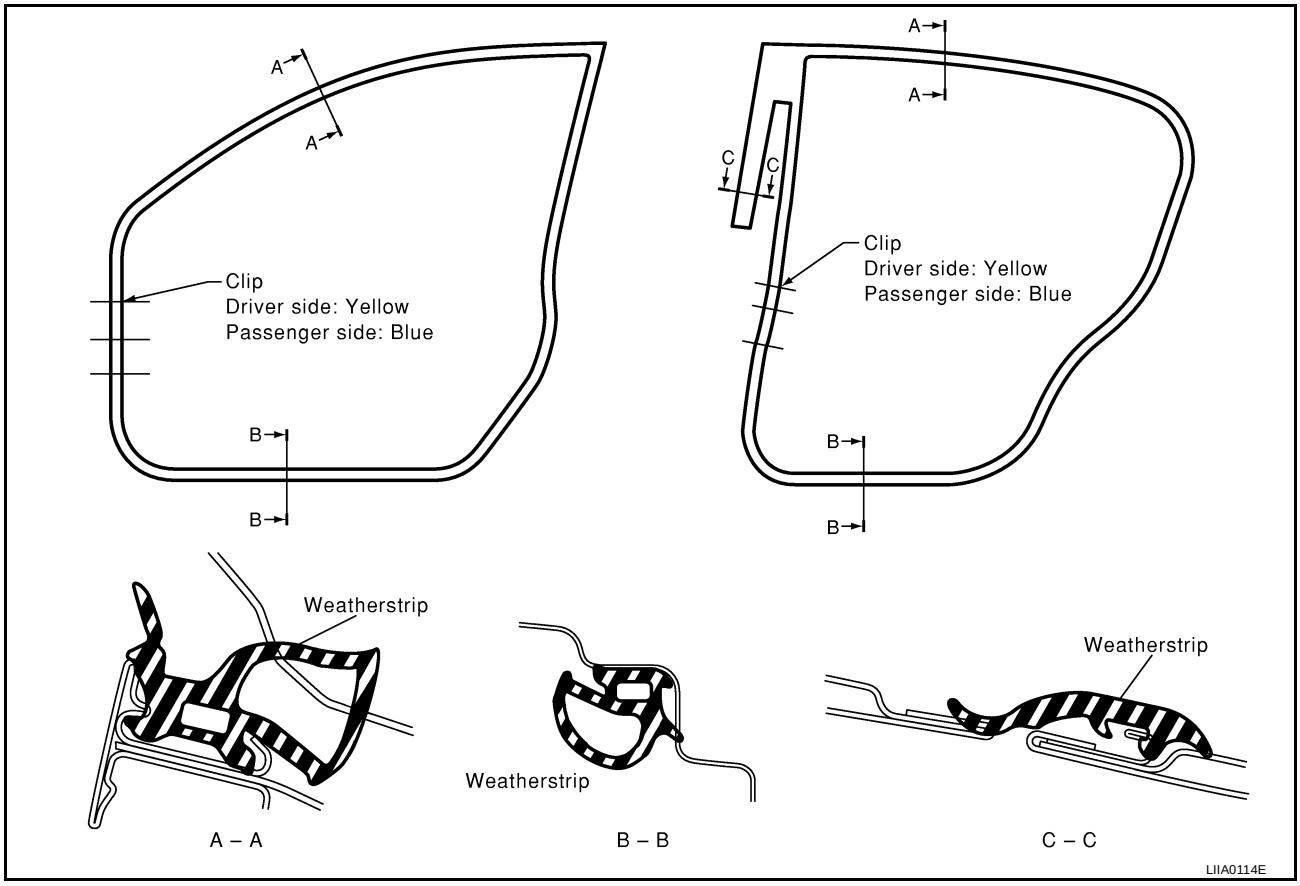
7. Remove the door-side hinge mounting nuts and bolts, and remove the door assembly.

Install in the reverse order of removal.



Door Weatherstrip

EIS000QW

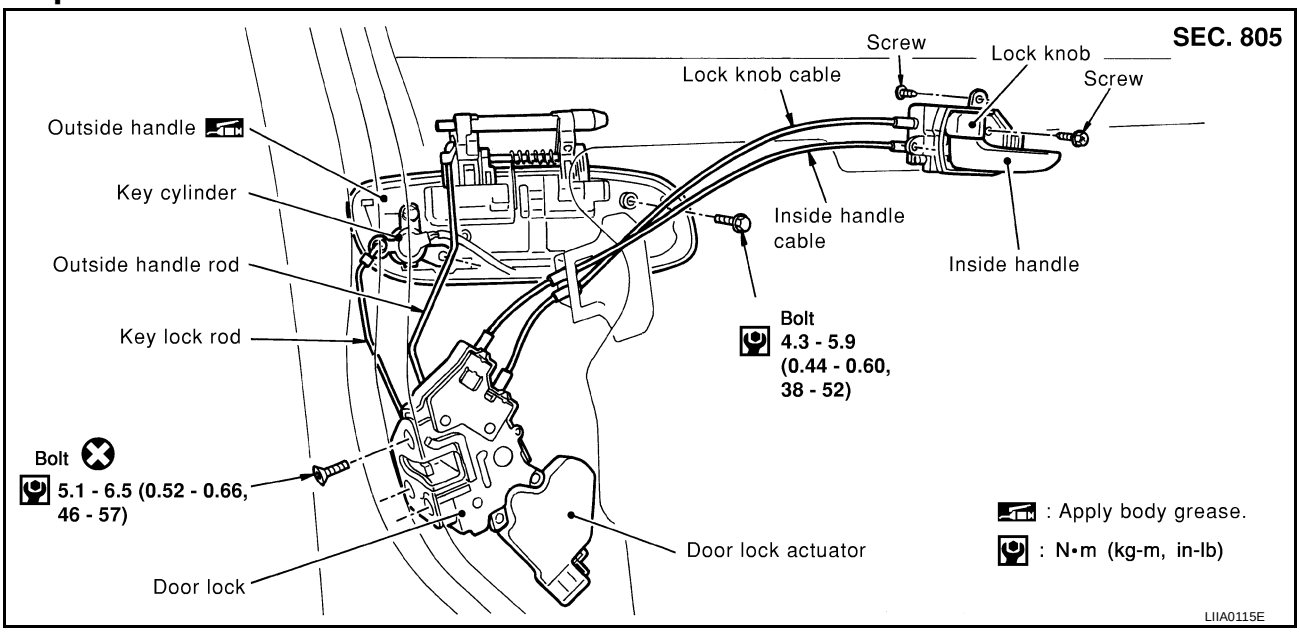


FRONT DOOR LOCK

PFP:80502

Component Structure

EIS000QX



Inspection and Adjustment.

EIS000QY

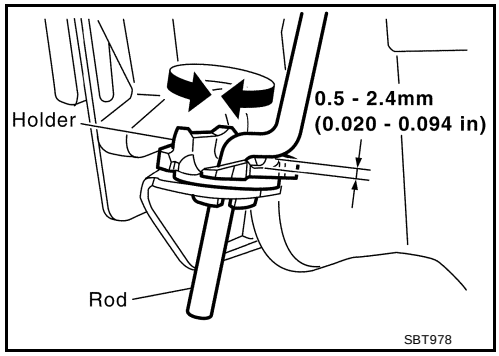
1. Remove the front door finisher. Refer to EI-27, "DOOR FINISHER" .
2. Remove the front door window and front door module assembly. Refer to GW-34, "FRONT DOOR GLASS AND REGULATOR" .

EXTERIOR HANDLE ROD ADJUSTMENT

- Rotate the bushing to adjust so that the clearance between the bushing and rod becomes as shown in the figure.

CAUTION:

Be careful not to make the clearance 0 mm (0 in) or the rod will be pressed continuously.

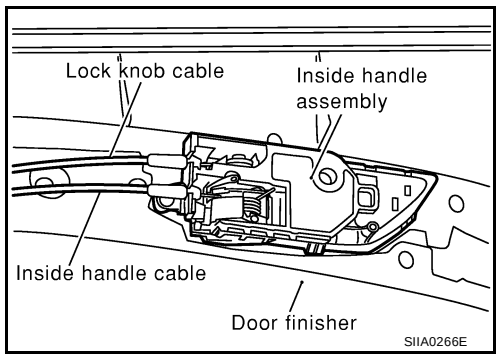


Removal and Installation

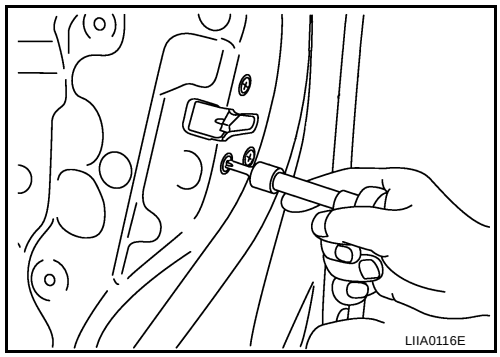
EIS000QZ

REMOVAL

1. Remove the front door finisher. Refer to EI-27, "DOOR FINISHER" .
2. Remove the front door window and front door module assembly. Refer to GW-34, "FRONT DOOR GLASS AND REGULATOR" .
3. Disconnect the interior handle cable and locking knob cable from the back side of the front door finisher.



4. Reach to separate the key cylinder rod and exterior handle rod connection (on the handle).
5. Remove the mounting screws (TORX T30), remove the door lock assembly.
6. Disconnect the door lock actuator connector.

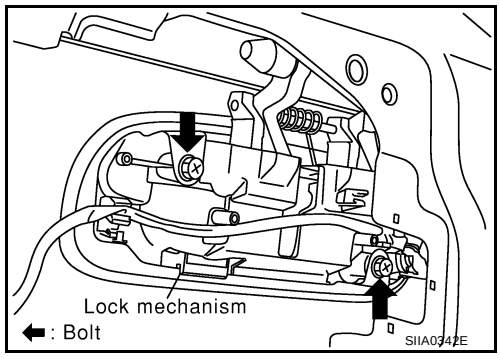


7. Remove the exterior handle mounting bolts, move the exterior handle assembly backward, and then remove it from the panel in front of the exterior handle escutcheon.

Install in the reverse order of removal.

CAUTION:

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



Disassembly and Assembly

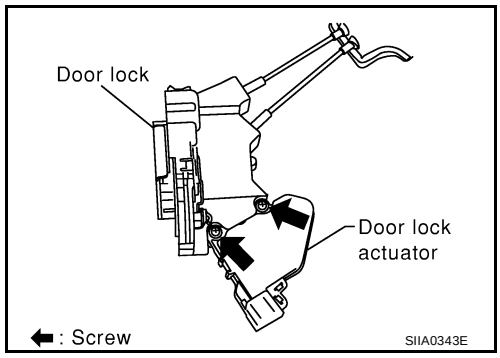
EIS000R0

DISASSEMBLY

CAUTION:

Be sure to remove or install the actuator with the door lock assembly removed.

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



ASSEMBLY

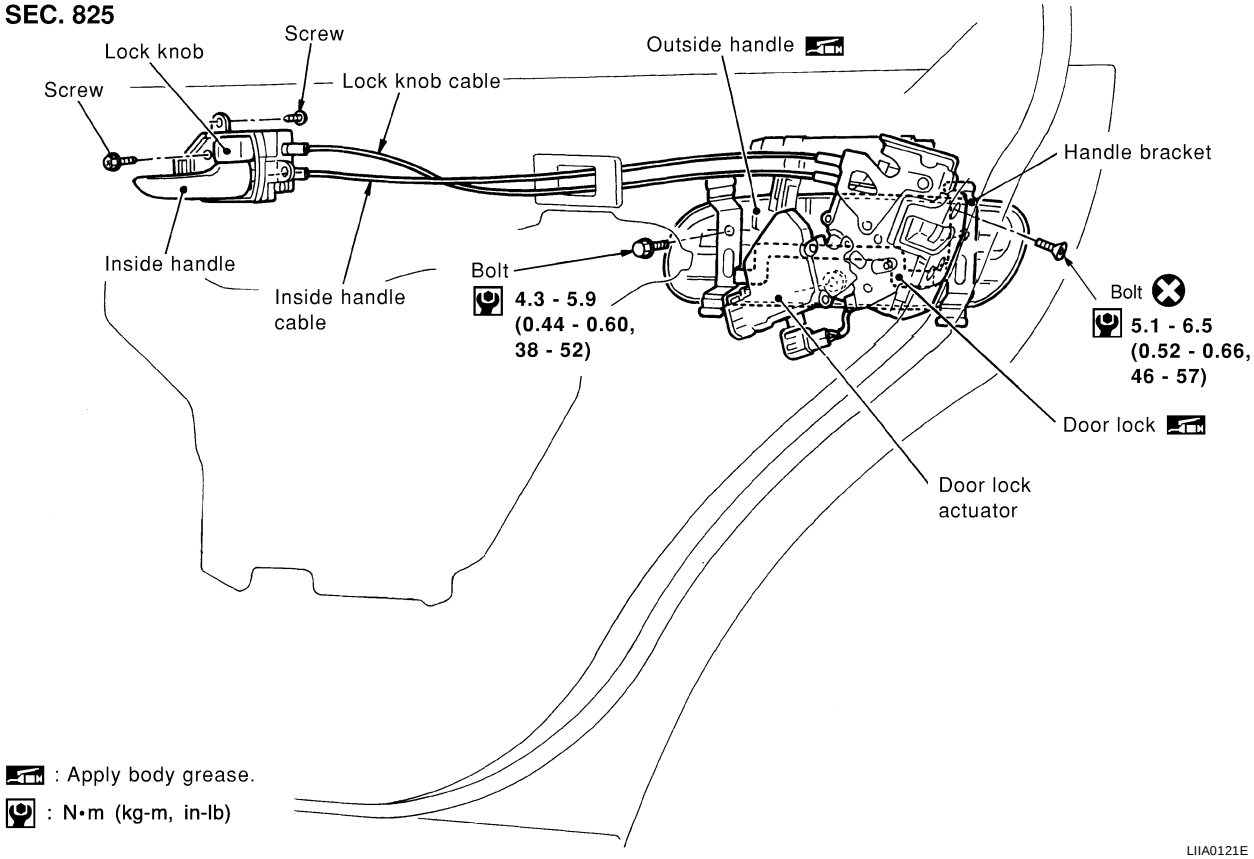
1. Align the actuator pivot with the cutout on the knob lever of the door lock assembly, then assemble the actuator.
2. Move the knob lever and the actuator pivot toward the lock-on direction, and check that it engages securely.

REAR DOOR LOCK

PFP:82502

Components

EIS000R1



Inspection and Adjustment

EIS000R2

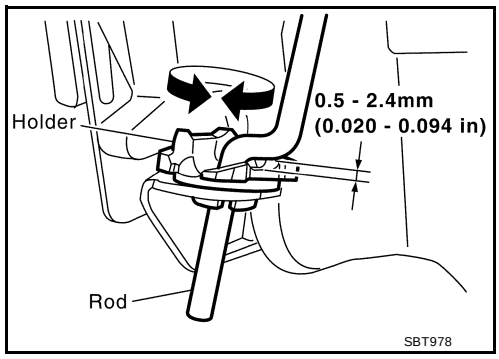
Remove the rear door finisher. Refer to EI-27, "DOOR FINISHER" .

EXTERIOR HANDLE ROD ADJUSTMENT

Rotate the bushing to adjust so that the clearance between the bushing and rod becomes as shown in the figure.

CAUTION:

Be careful not to make the clearance 0 mm (0 in) or the rod will be pressed continuously.



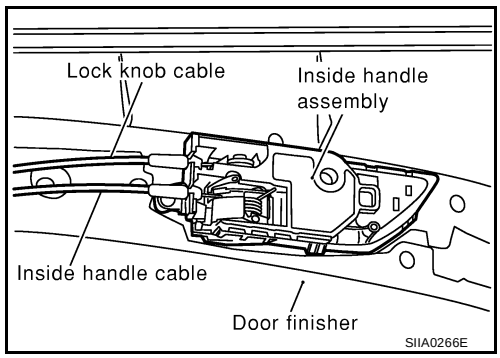
Removal and Installation of Door Lock

EIS000R3

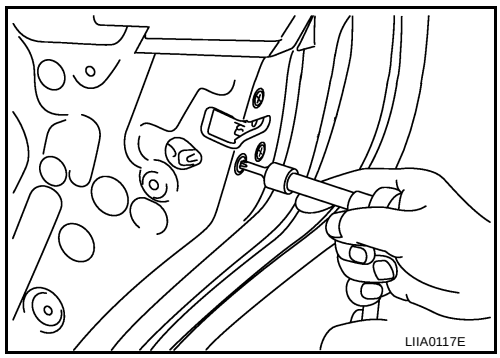
REMOVAL

1. Remove the rear door finisher. Refer to EI-27, "DOOR FINISHER"

2. After gaining access to the interior handle on the back side of the rear door finisher, disconnect the interior handle cable and locking knob cable.



3. Remove the mounting screws (TORX T30), remove the door lock assembly.
4. Disconnect the door lock actuator connector.

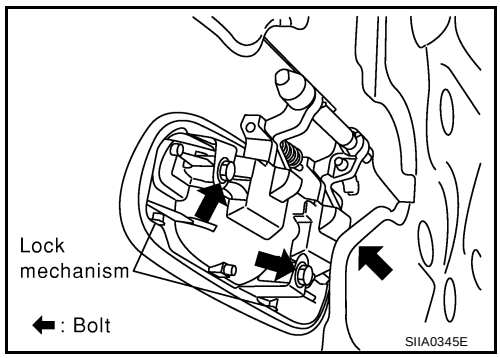


5. Remove the exterior handle mounting bolts, and move the handle backward to disengage it from the panel in front of the exterior handle escutcheon, then remove the handle.

Install in the reverse order of removal.

CAUTION:

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



Disassembly and Assembly

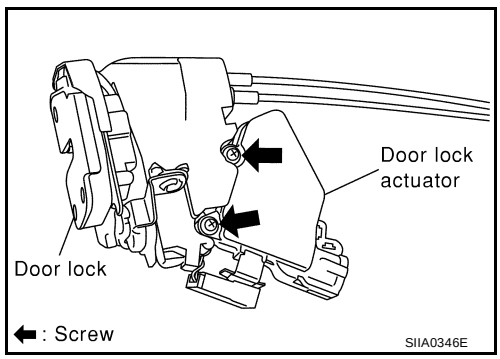
EIS000R4

DISASSEMBLY

CAUTION:

Be sure to remove or install the actuator with the door lock assembly removed.

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



ASSEMBLY

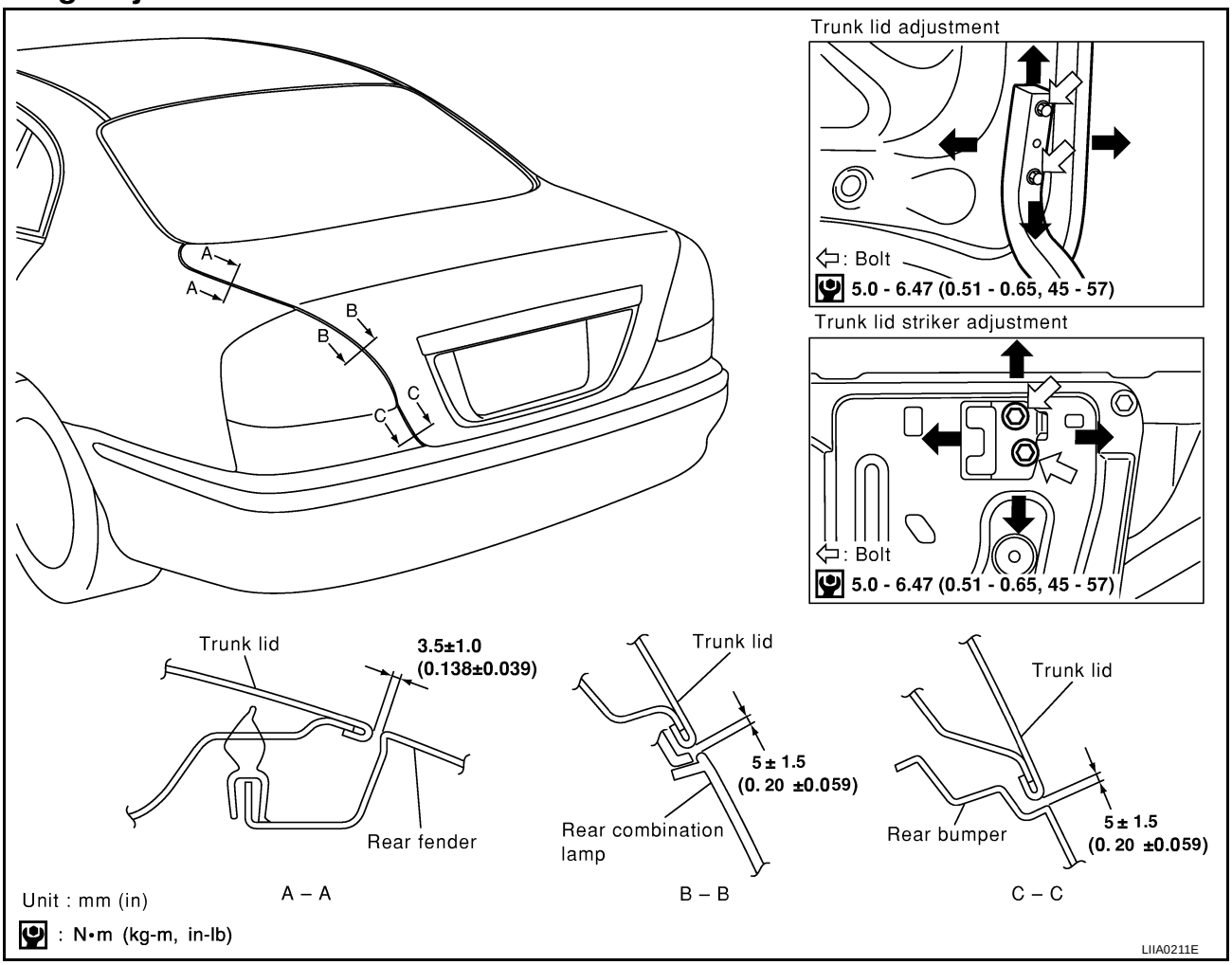
1. Align the actuator pivot with the cutout on the knob lever of the door lock assembly, then assemble the actuator.
2. Move the knob lever and the actuator pivot toward the lock-on direction, and check that it engages securely.

TRUNK LID

PFP:H4300

Fitting Adjustment

EIS000R5



LONGITUDINAL AND LATERAL CLEARANCE ADJUSTMENT

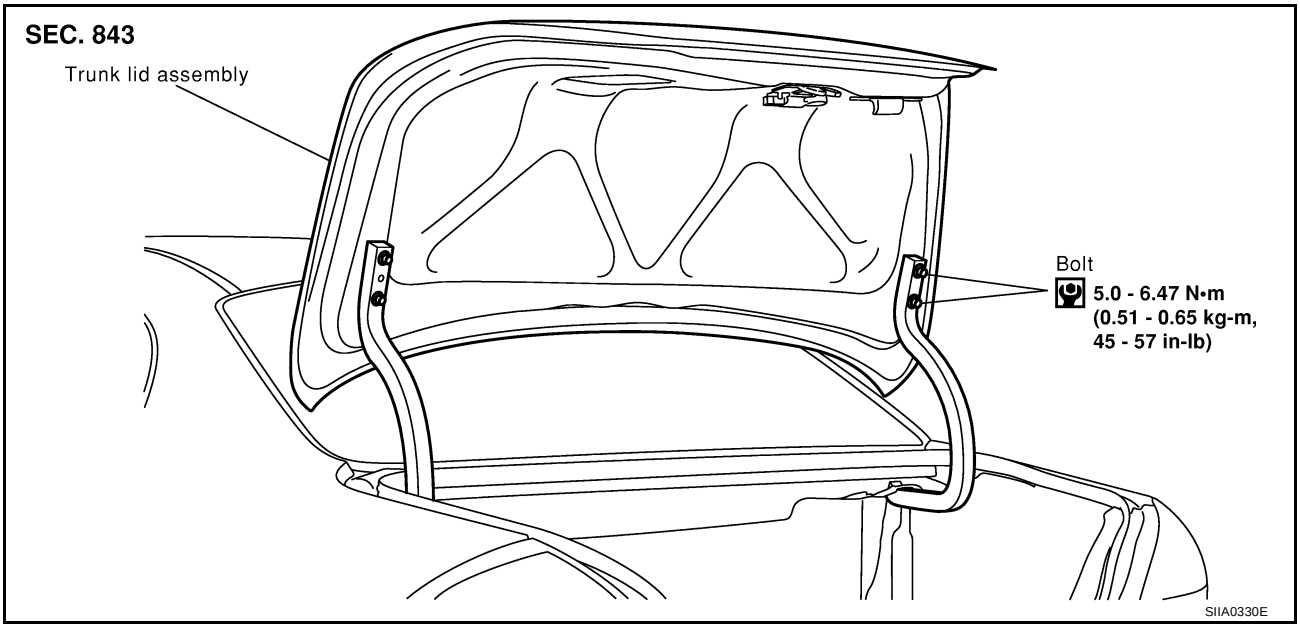
1. With the striker released, loosen the trunk lid hinge mounting bolts to close the trunk lid.
2. Make the lateral clearance and the clearance to the rear window glass equal, and open the trunk lid to tighten the mounting bolts to the specified torque.

SURFACE HEIGHT ADJUSTMENT

1. Loosen the striker mounting bolts. Raise the striker to the top position, and temporarily tighten the upper mounting bolt at the position.
2. Close the trunk lid lightly and adjust the surface height, then open the trunk lid to finally tighten the striker mounting bolts to the specified torque.

Removal and Installation of Trunk Lid Assembly

EIS000R6



1. Remove the trunk lid finisher. Refer to EI-35, "TRUNK ROOM TRIM & TRUNK LID FINISHER" .
2. Disconnect the connectors in the trunk lid, and remove the harness clamps to pull the harness out of the trunk lid.
3. Remove the mounting bolts, and remove the trunk lid assembly.

CAUTION:

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

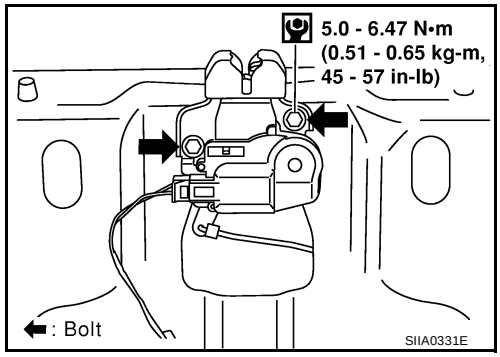
Install in the reverse order of removal.

Removal and Installation of Trunk Lid Lock

EIS000R7

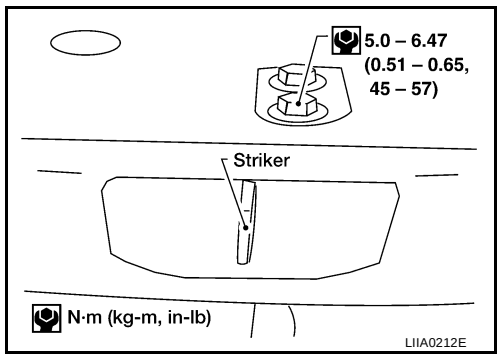
LOCK REMOVAL

1. Remove the trunk lid finisher. Refer to EI-35, "TRUNK ROOM TRIM & TRUNK LID FINISHER" .
2. Separate the key cylinder rod.
3. After removing the harness connector, remove the mounting bolts, and remove the trunk lid lock.



STRIKER REMOVAL

1. Remove the trunk rear plate and trunk rear finisher. Refer to EI-35, "TRUNK ROOM TRIM & TRUNK LID FINISHER" .
2. Remove the mounting bolts, and remove the trunk lock support from the vehicle.
3. After removing the harness connector, remove the mounting bolts, and remove the striker from the trunk lock support.



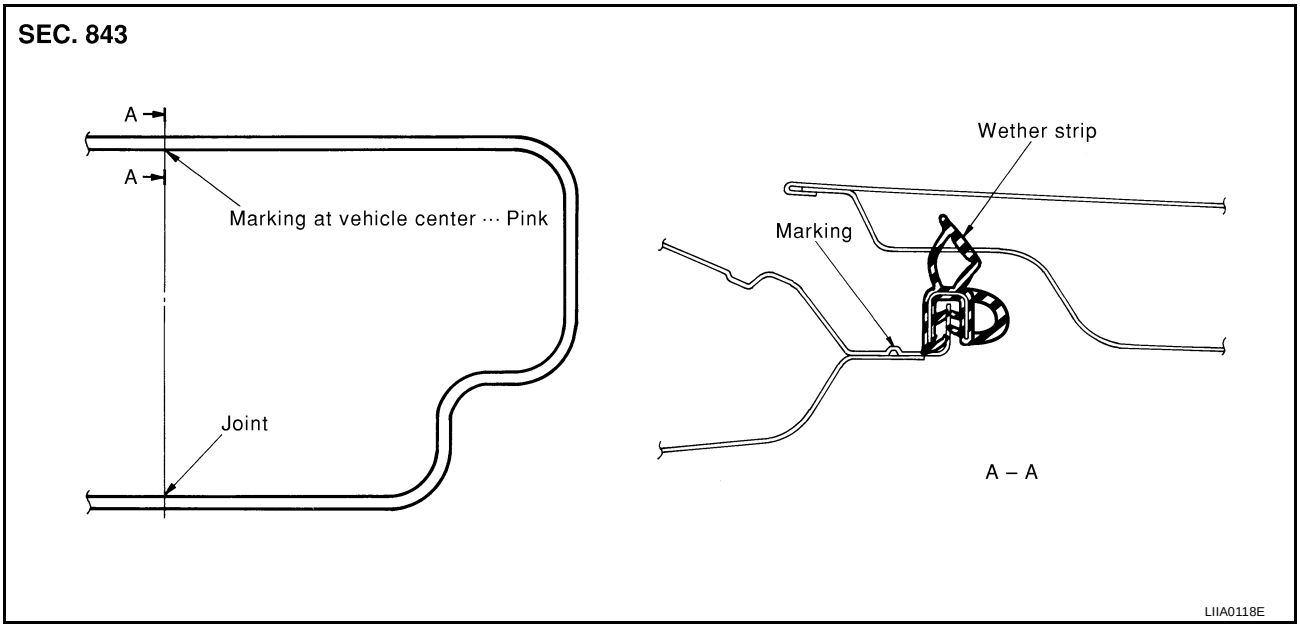
LOCK AND STRIKER INSTALLATION

1. Install in the reverse order of removal.

2. After installing, close the trunk lid lightly. Perform the lock and surface height adjustment. Refer to BL-82, "Fitting Adjustment" .
3. After installing, check the operation.

Removal and Installation of Trunk Lid Weatherstrip

EIS000R8



1. Install the weatherstrip from the front with the vehicle center mark aligned to the weatherstrip mark.
2. At rear side, align the weatherstrip seam to the center of the striker.
3. After installing, pull the weatherstrip lightly to check for looseness.

CAUTION:
The weatherstrip should fit tightly onto the corners and trunk lid rear plate.

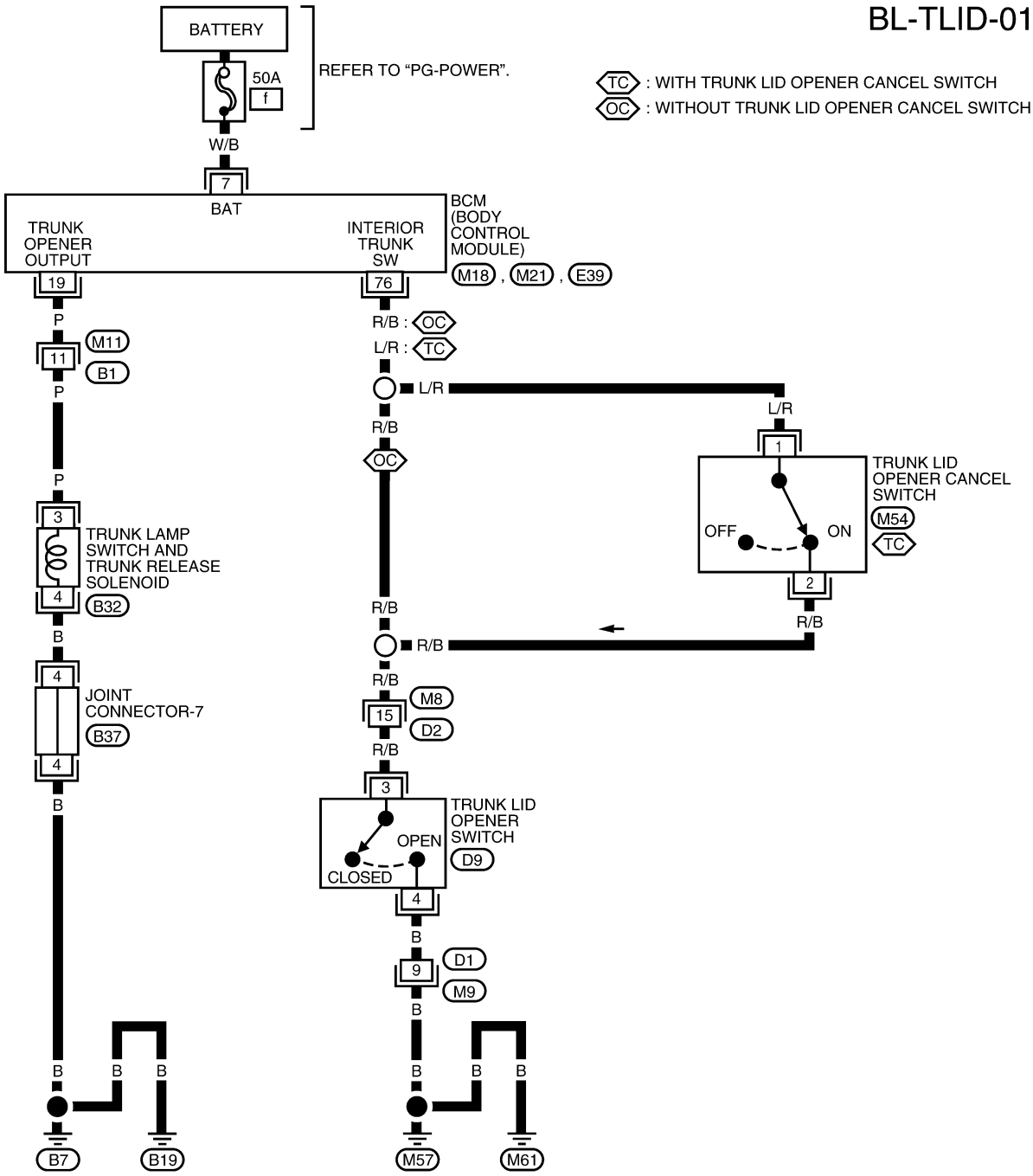
TRUNK LID OPENER

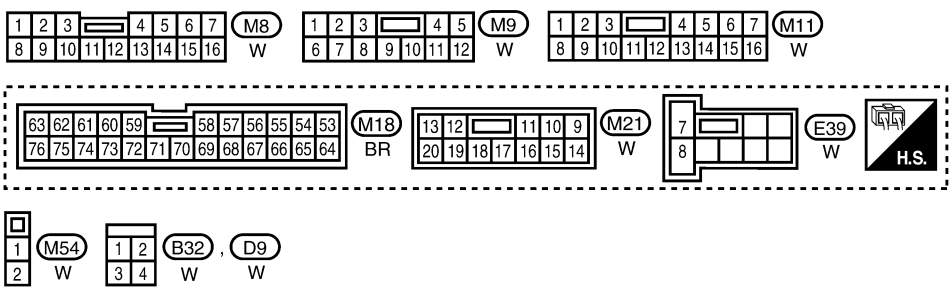
PFP:84640

Wiring Diagram -TLID-

EIS000R9

BL-TLID-01





REFER TO THE FOLLOWING.
B37 - JOINT CONNECTOR (J/C)

LIWA0029E

Terminals and Reference Value for BCM

EIS000RA

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE
7	W/B	BAT power supply	—	Battery voltage
19	P	Trunk lid opener release solenoid	When trunk lid opener release solenoid is operated using key fob (ON → OFF)	0V → Battery voltage
76	R/B*1, L/R*2	Trunk lid opener switch	OFF → ON	Battery voltage → 0V

NOTE:

*1: Without trunk lid opener cancel switch.

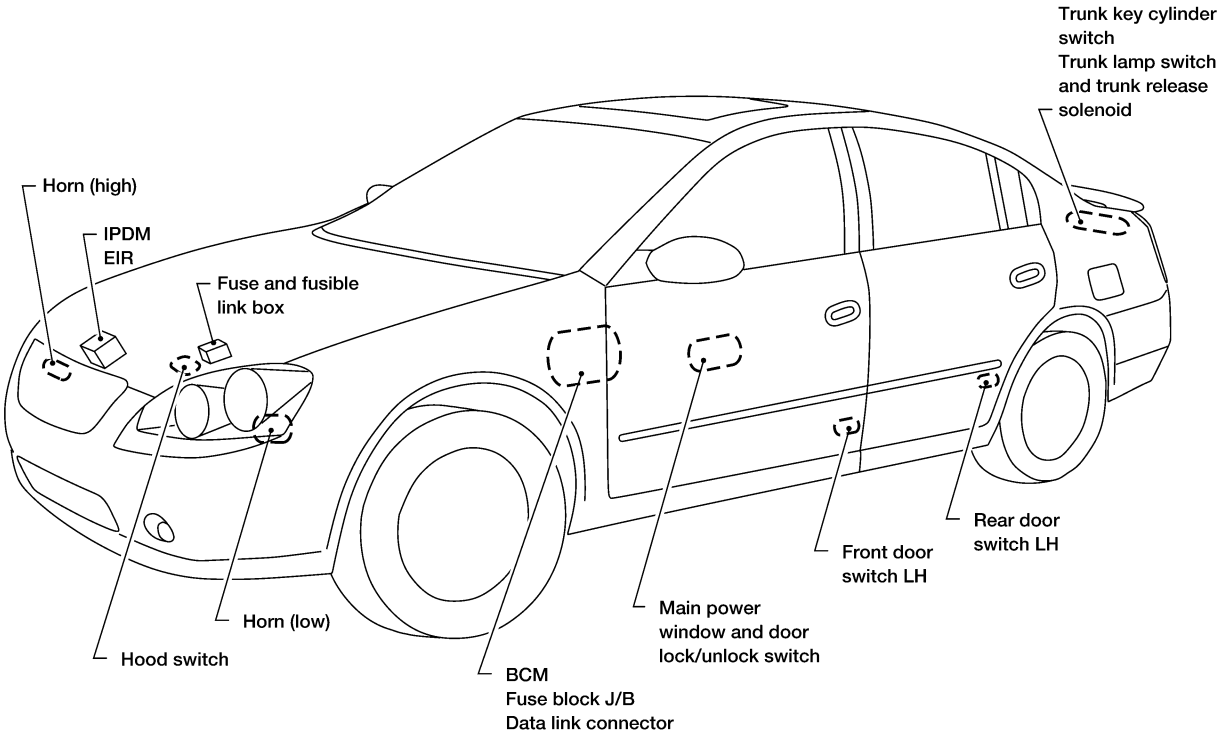
*2: With trunk lid opener cancel switch.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

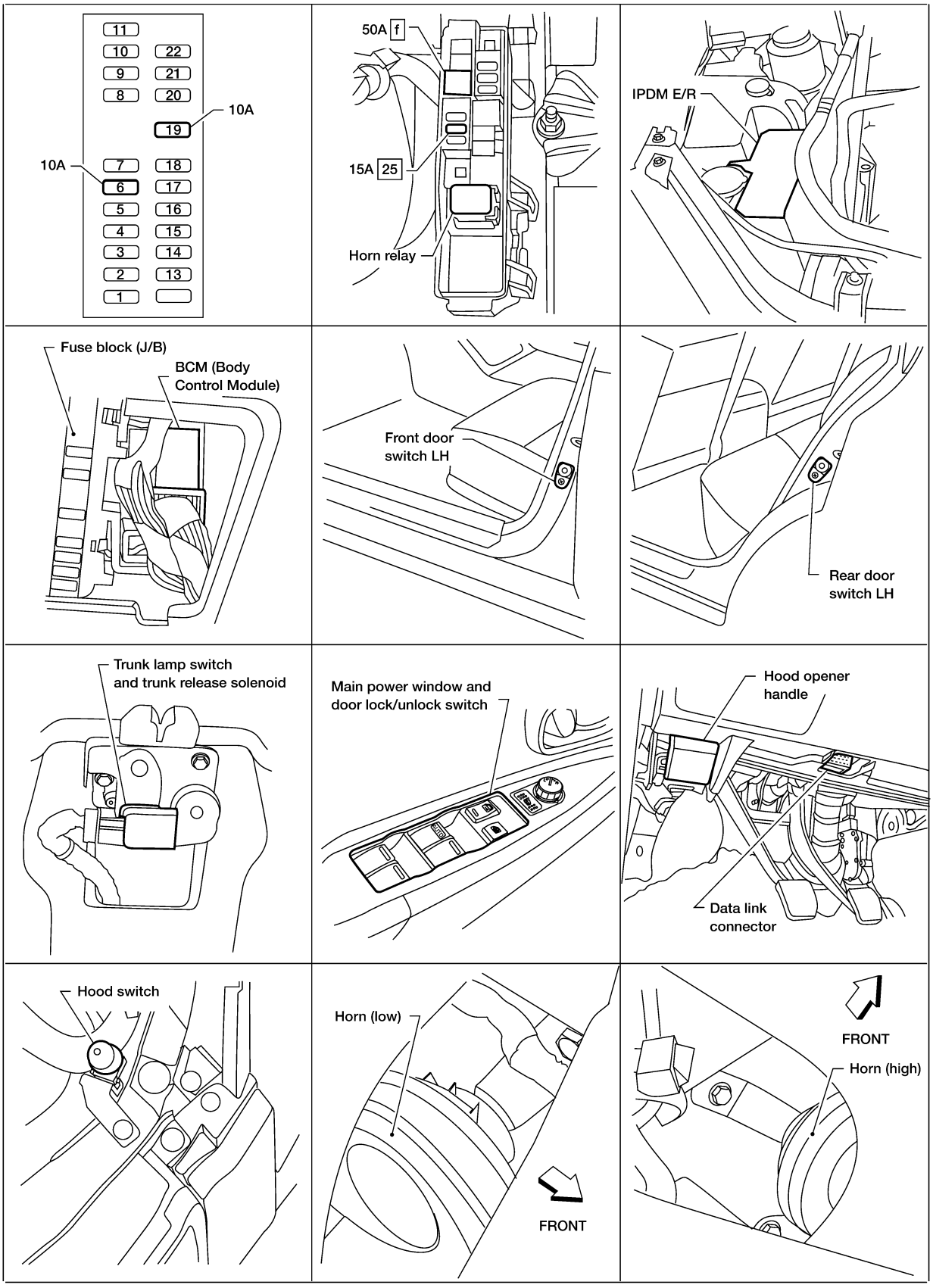
PFP:28491

Component Parts and Harness Connector Location

EIS000RB



LIIA0062E


11
10
22
9
21
8
20
10A
19
10A
7
18
6
17
5
16
4
15
3
14
2
13
1
50A f
15A 25
Horn relay
IPDM E/R
Fuse block (J/B)
BCM (Body Control Module)
Front door switch LH
Rear door switch LH
Trunk lamp switch and trunk release solenoid
Main power window and door lock/unlock switch
Hood opener handle
Data link connector
Hood switch
Horn (low)
FRONT
FRONT
Horn (high)

LIIA0063E

System Description

EIS000RC

DESCRIPTION

Setting the vehicle security system

Disarmed phase

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

Pre-armed phase and armed phase

- The vehicle security system turns into the "pre-armed" phase when hood, trunk lid and all doors are closed and locked by electronic key. The security indicator lamp illuminates for 30 seconds. then, the system automatically shifts into the "armed" phase.

Canceling the set vehicle security system

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

1. Unlock the doors with the key or the key fob.
2. Open the trunk lid with the key or the key fob. When the trunk lid is closed after opening the trunk lid with the key fob, the system returns to the armed phase.

Activating the alarm operation of the vehicle security system

Make sure the system is in the armed phase.
When one of the following operations is performed, the system sounds the horns and flashes the head-lamps for about 50 seconds.

1. Engine hood or any door is opened before unlocking door with key or key fob.
2. Door is unlocked without using key or key fob.
3. Trunk lid is opened without using key or key fob.

POWER SUPPLY

Power is supplied at all times

- through 10A fuse [No.19, located in the fuse block (J/B)]
- to security indicator lamp terminal 1 and
- to key switch and key lock solenoid terminal 3.

Power is supplied at all times

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

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

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

INITIAL CONDITION TO ACTIVATE THE SYSTEM

The operation of the vehicle security system is controlled by the doors, hood and trunk lid.
To activate the vehicle security system, BCM must receive signals indicating the doors, hood and trunk lid are closed and the doors are locked.
When a door is open, BCM terminal 10, 11 or 14 receives a ground signal from each door switch.
When front door LH is unlocked, BCM terminal 74 receives a signal from terminal 14 of main power window and door lock/unlock switch.
When front door RH is unlocked, BCM terminal 74 receives a signal from terminal 11 of front power window switch RH.
When the hood is open, IPDM E/R receives a ground signal

- from hood switch terminal 2
- to IPDM E/R terminal 51
- through body grounds E15 and E24.

The IPDM E/R then sends a signal to the BCM through the CAN SYSTEM.
When the trunk lid is open, BCM terminal 18 receives a ground signal

- from terminal 1 of the trunk lamp and trunk release solenoid switch
- through body grounds B7 and B19.

VEHICLE SECURITY SYSTEM ALARM OPERATION

The vehicle security system is triggered by

- opening a door
- opening the trunk lid
- opening the hood
- unlocking door without using the key or key fob.

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

- when BCM receives a ground signal at terminals 10, 11, 14 (door switch), 18 (trunk lamp and trunk release solenoid switch) or receives a signal from the IPDM E/R (hood switch).

Power is supplied at all times

- to horn relay terminal 1
- through 15A fuse (No. 25, located in fuse and fusible link box).

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

- from IPDM E/R terminal 53
- to headlamp high relay and
- to horn relay terminal 2.

The headlamps flash and the horn sounds intermittently.
The alarm automatically turns off after 50 seconds, but will reactivate if the vehicle is tampered with again.

VEHICLE SECURITY SYSTEM DEACTIVATION

To deactivate the vehicle security system, a door or the trunk lid must be unlocked with the key or key fob.
When the key is used to unlock a door, BCM terminal 74 receives signal

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

When the key is used to unlock the trunk lid, BCM terminal 17 receives a ground signal from terminal 1 of the trunk key cylinder switch (unlock switch).
When the BCM receives either one of these signals or unlock signal from key fob, the vehicle security system is deactivated. (Disarmed phase)

PANIC ALARM OPERATION

Remote keyless entry system may or may not operate vehicle security system (horn and headlamps) as required.
When the remote keyless entry system is triggered, ground is supplied intermittently

- from IPDM E/R terminal 53
- to headlamp high relay and
- to horn relay terminal 2.

The headlamp flashes and the horn sounds intermittently.
The alarm automatically turns off after 30 seconds or when BCM receives any signal from key fob.

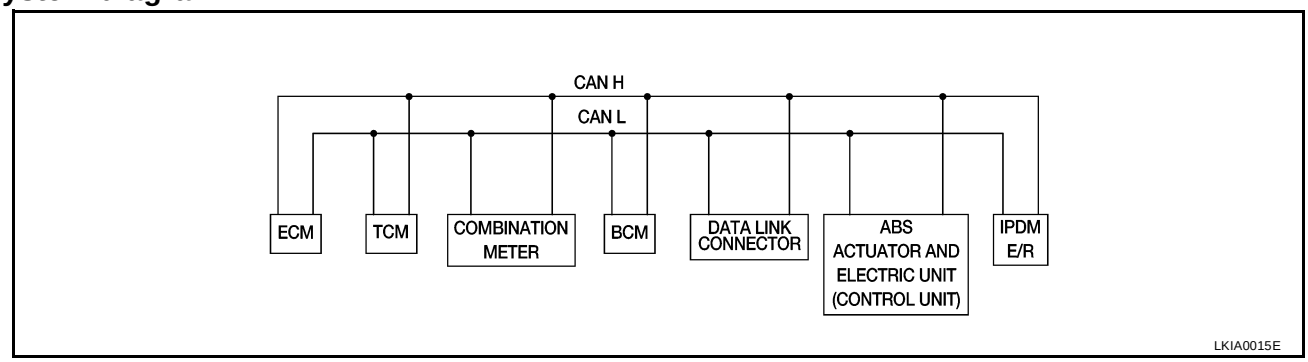
CAN Communication System Description

EIS000RD

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.

FOR TCS MODELS

System diagram



Input/output signal chart

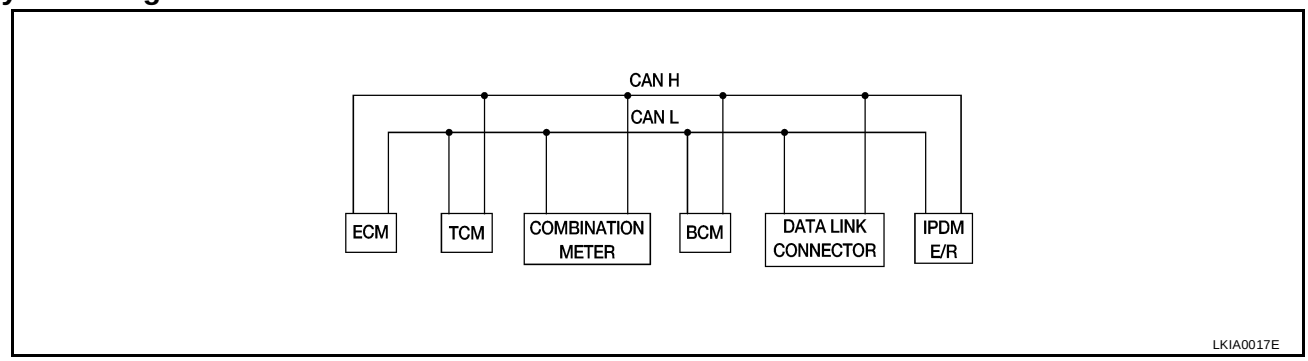
T: Transmit R: Receive

Signals	ECM	TCM	COMBINATION METER	BCM	ABS/TCS control unit	IPDM E/R
Engine speed signal	T		R		R	
Engine coolant temperature signal	T		R			
Accelerator pedal position signal	T					
Fuel consumption monitor signal	T		R			
A/T warning lamp signal		T	R			
A/T position indicator signal	R	T	R	R(R range only)	R	
ABS operation signal	R				T	
TCS operation signal	R	R			T	
Air conditioner switch signal	R			T		
Air conditioner compressor signal	R					T
A/C compressor request signal	T					R
Cooling fan motor operation signal	R					T
Cooling fan speed request signal	T					R
Position lights request			R	T		R
Position lights status				R		T
Low beam request				T		R
Low beam status	R			R		T
High beam request			R	T		R
High beam status	R			R		T
Front fog lights request				T		R
Front fog light status				R		T
OD cancel switch signal		R	T			R
Brake switch signal		R	T			
Vehicle speed signal	R		T			
	R		T	R		
Oil pressure switch			R			T
Sleep request1			R	T		
Sleep request2				T		R
N range switch signal		R	T			
P range switch signal		R	T			
Seat belt buckle switch signal			T	R		

Signals	ECM	TCM	COMBINA-TION METER	BCM	ABS/TCS control unit	IPDM E/R
Door switch signal			R	T		R
Tail lamp request			R	T		R
Turn indicator signal			R	T		
Buzzer output signal			R	T		
Trunk switch signal			R	T		
ASCD main switch signal	T		R			
ASCD cruise signal	T		R			
Wiper operation				R		T
Wiper stop position signal				R		T
Rear window defogger switch signal				T		R
Rear window defogger control signal	R			R		T

FOR A/T MODELS

System diagram



Input/output signal chart

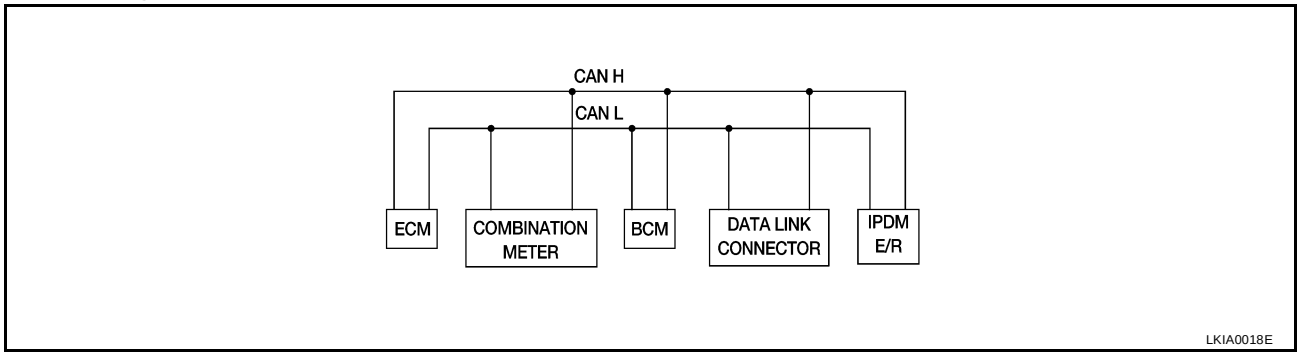
T: Transmit R: Receive

Signals	ECM	TCM	COMBINATION METER	BCM	IPDM E/R
Engine speed signal	T		R		
Engine coolant temperature signal	T		R		
Accelerator pedal position signal	T				R
Fuel consumption monitor signal	T		R		
A/T warning lamp signal		T	R		
A/T position indicator signal	R	T	R	R(R range only)	
Air conditioner switch signal	R			T	
Air conditioner compressor signal	R				T
A/C compressor request signal	T				R
Blower fan switch signal	R(QR25DE)			T	
Cooling fan motor operation signal	R			T	
Cooling fan speed request signal	T				R
Position lights request			R	T	R
Position lights status				R	T
Low beam request				T	R
Low beam status	R			R	T
High beam request			R	T	R

Signals	ECM	TCM	COMBINATION METER	BCM	IPDM E/R
High beam status	R			R	T
Front fog lights request				T	R
Front fog light status				R	T
OD cancel switch signal		R	T		R
Brake switch signal		R	T		
Vehicle speed signal	R		T		
	R		T	R	
Oil pressure switch			R		T
Sleep request1			R	T	
Sleep request2				T	R
N range switch signal		R	T		
P range switch signal		R	T		
Seat belt buckle switch signal			T	R	
Door switch signal			R	T	R
Tail lamp request			R	T	R
Turn indicator signal			R	T	
Buzzer output signal			R	T	
Trunk switch signal			R	T	
ASCD main switch signal	T		R		
ASCD cruise signal	T		R		
Wiper operation				R	T
Wiper stop position signal				R	T
Rear window defogger switch signal				T	R
Rear window defogger control signal	R			R	T

FOR M/T MODELS

System diagram



Input/output signal chart

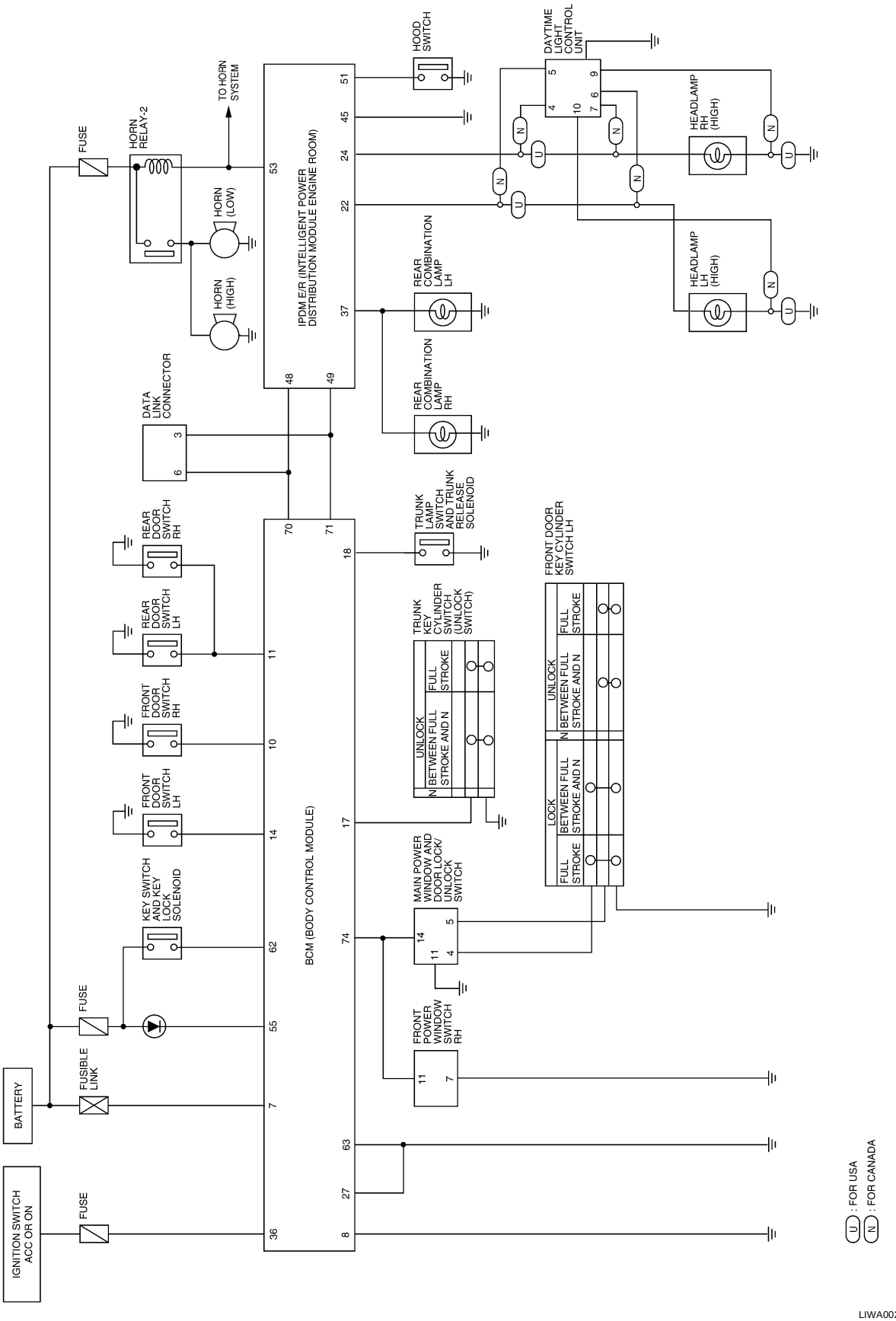
T: Transmit R: Receive

Signals	ECM	COMBINATION METER	BCM	IPDM E/R
Engine speed signal	T			
Engine coolant temperature signal	T			
Fuel consumption monitor signal	T			
Air conditioner switch signal	R		T	
Air conditioner compressor signal	R			T
A/C compressor request signal	T			R

Signals	ECM	COMBINATION METER	BCM	IPDM E/R
Blower fan switch signal	R(QR25DE)		T	
Cooling fan motor operation signal	R			T
Cooling fan speed request signal	T			R
Position lights request		R	T	R
Position lights status			R	T
Low beam request			T	R
Low beam status	R		R	T
High beam request		R	T	R
High beam status	R		R	T
Front fog lights request			T	R
Front fog light status			R	T
Vehicle speed signal	R	T		
Oil pressure switch		R		T
Sleep request1		R	T	
Sleep request2			T	R
Seat belt buckle switch signal		T	R	
Door switch signal		R	T	R
Tail lamp request		R	T	R
Turn indicator signal		R	T	
Buzzer output signal		R	T	
Trunk switch signal		R	T	
ASCD main switch signal	T	R		
ASCD cruise signal	T	R		
Wiper operation			R	T
Wiper stop position signal			R	T
Rear window defogger switch signal			T	R
Rear window defogger control signal	R		R	T

Schematic

EIS000RE

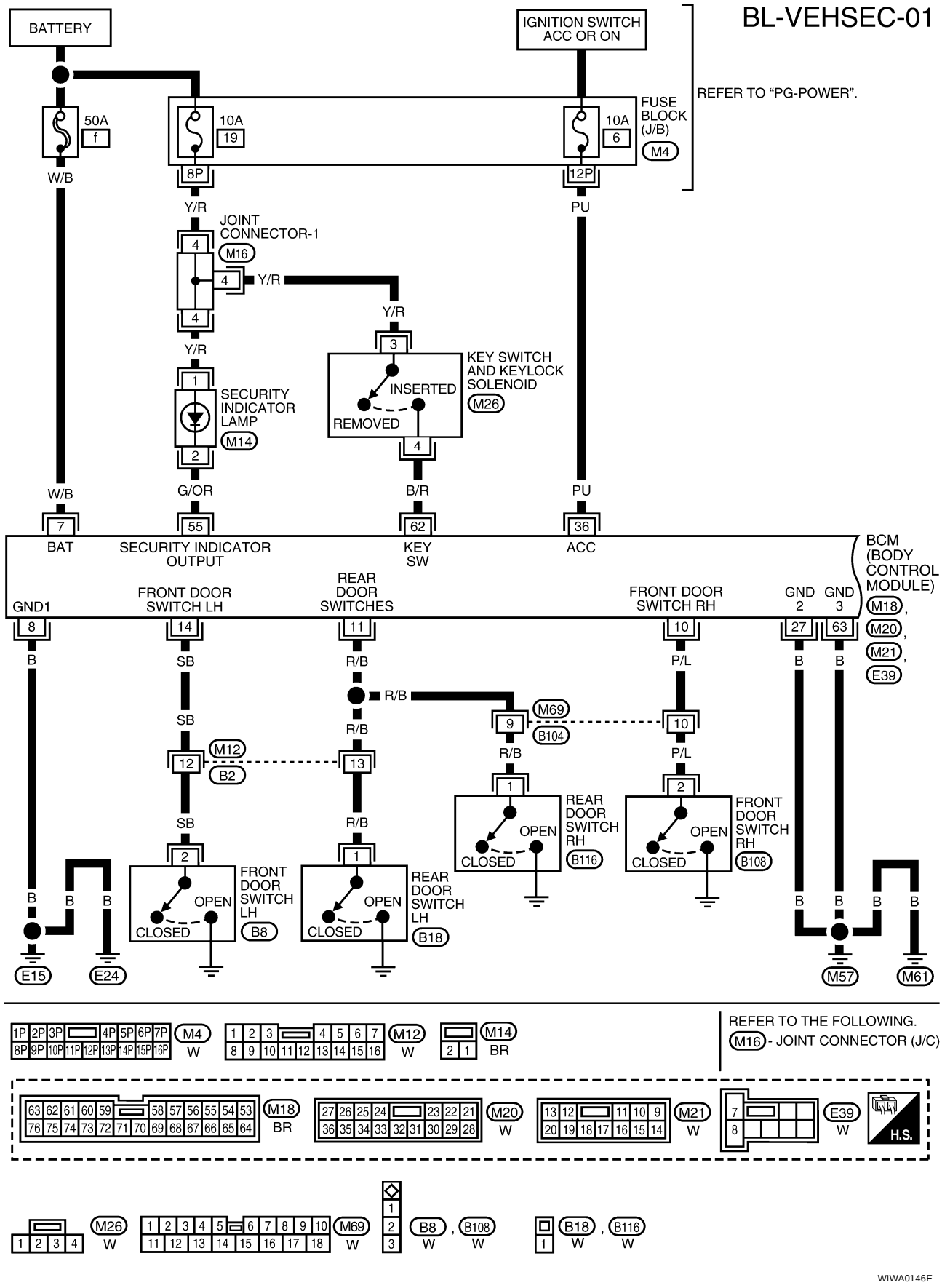


LIWA0023E

Wiring Diagram -VEHSEC-

EIS000RF

FIG. 1



WIWA0146E

FIG. 2

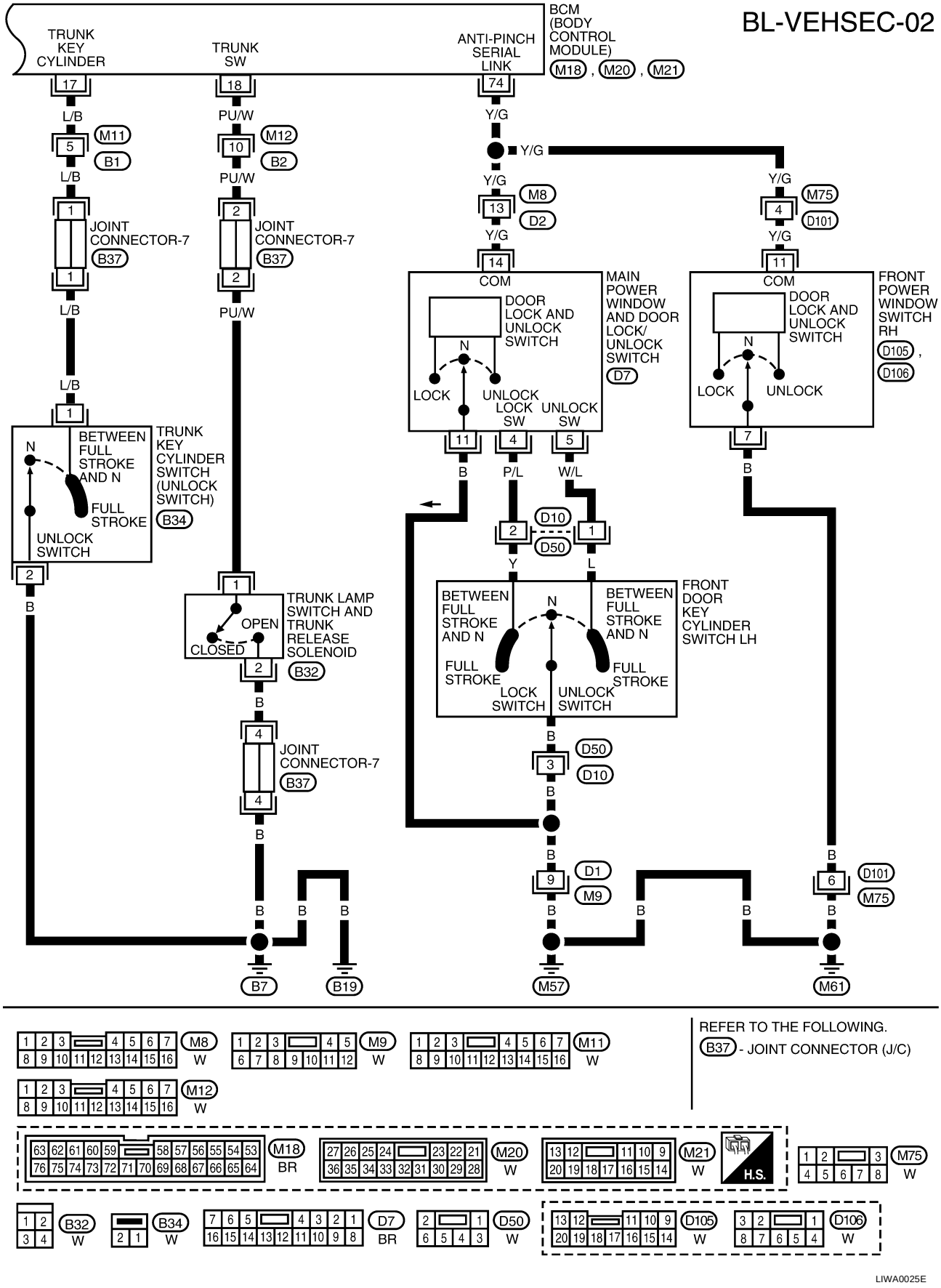
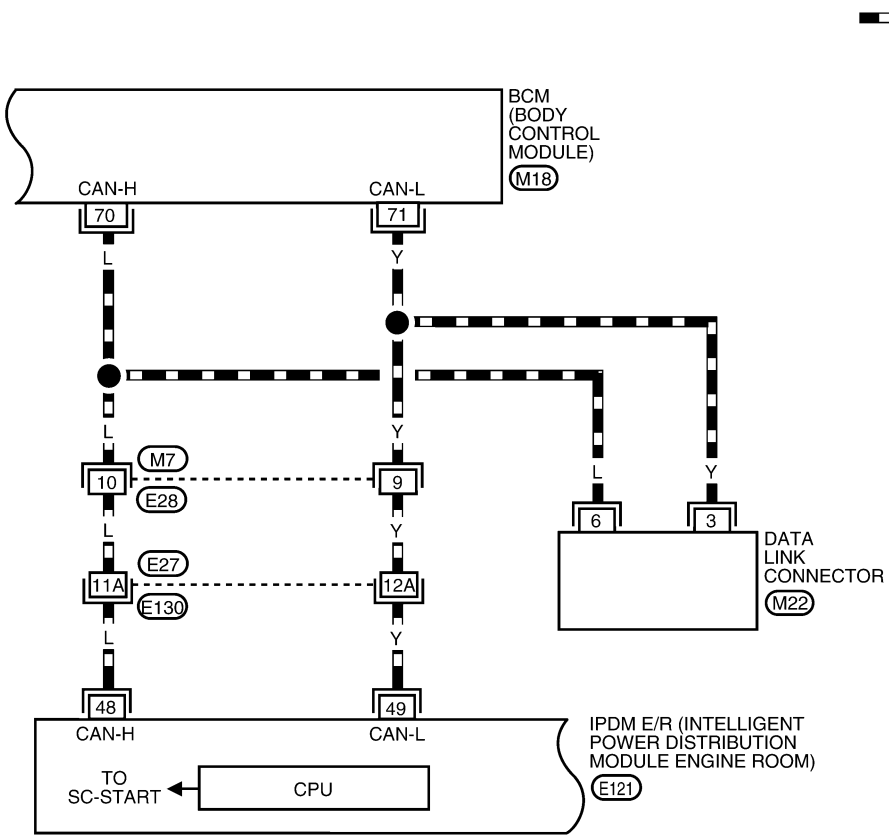
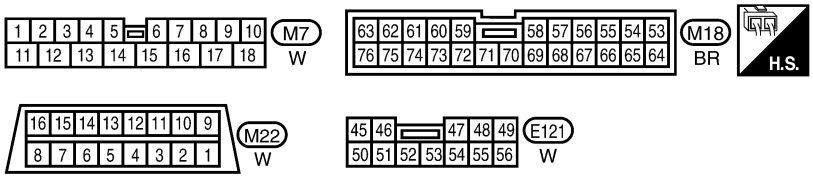

BL-VEHSEC-02
BCM (BODY CONTROL MODULE)
M18 , M20 , M21
TRUNK KEY CYLINDER
TRUNK SW
ANTI-PINCH SERIAL LINK
17
18
74
L/B
PU/W
Y/G
M11
M12
M8
M75
5
10
13
4
B1
B2
D2
D101
JOINT CONNECTOR-7
B37
MAIN POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH
D7
DOOR LOCK AND UNLOCK SWITCH
FRONT POWER WINDOW SWITCH RH
D105 , D106
COM
LOCK
UNLOCK
LOCK SW
UNLOCK SW
11
14
4
5
7
P/L
W/L
BETWEEN FULL STROKE AND N
FULL STROKE
UNLOCK SWITCH
TRUNK KEY CYLINDER SWITCH (UNLOCK SWITCH)
B34
TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID
OPEN
CLOSED
B32
D10
D50
FRONT DOOR KEY CYLINDER SWITCH LH
LOCK SWITCH
D1
M9
M57
M61
B7
B19
REFER TO THE FOLLOWING.
B37 - JOINT CONNECTOR (J/C)
M8 W
M9 W
M11 W
M12 W
M18 BR
M20 W
M21 W
H.S.
M75 W
B32 W
B34 W
D7 BR
D50 W
D105 W
D106 W
LIWA0025E

FIG. 3

BL-VEHSEC-03





REFER TO THE FOLLOWING.
E130 - SUPER MULTIPLE JUNCTION (SMJ)

LIWA0026E

FIG. 4

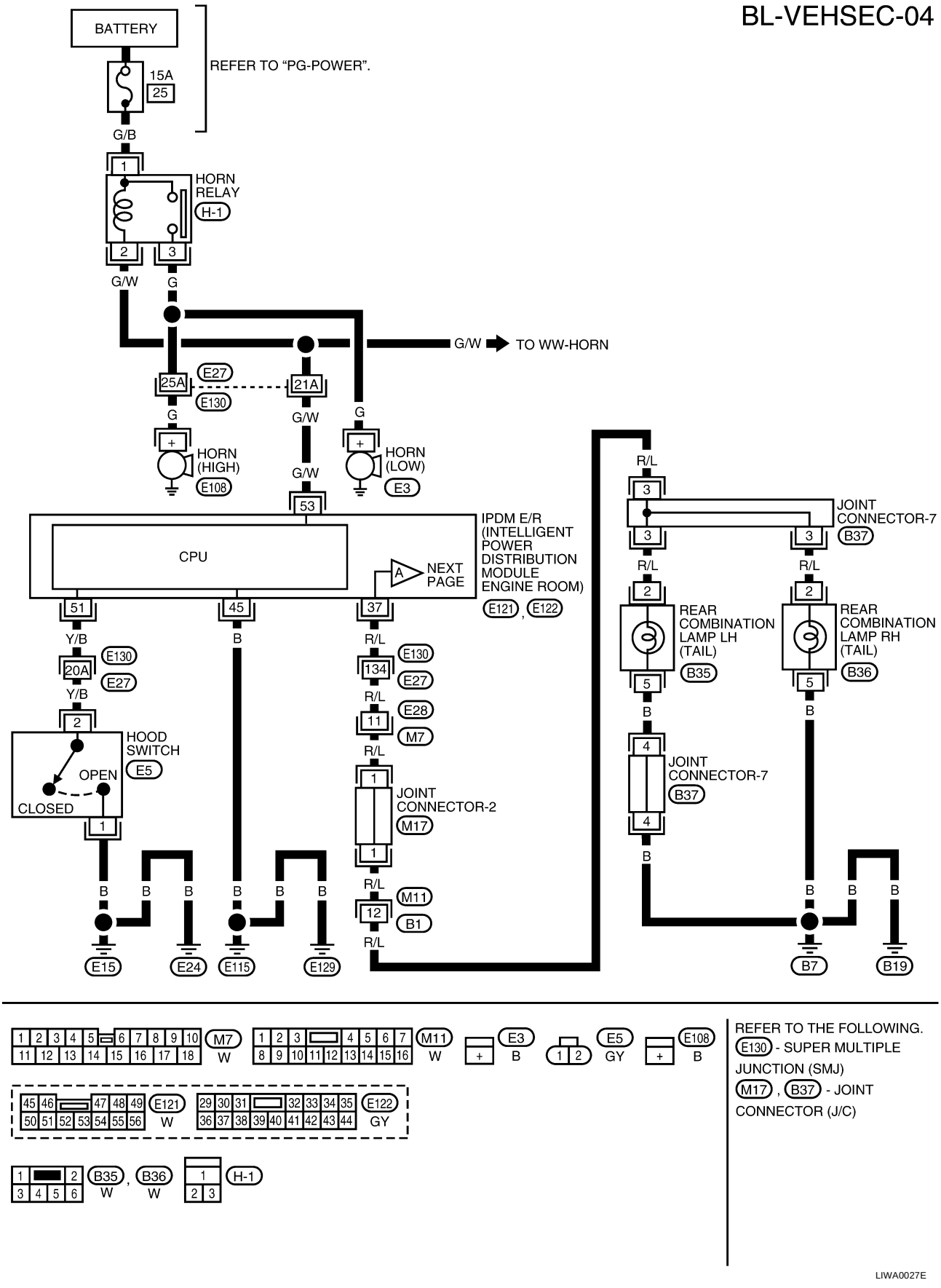
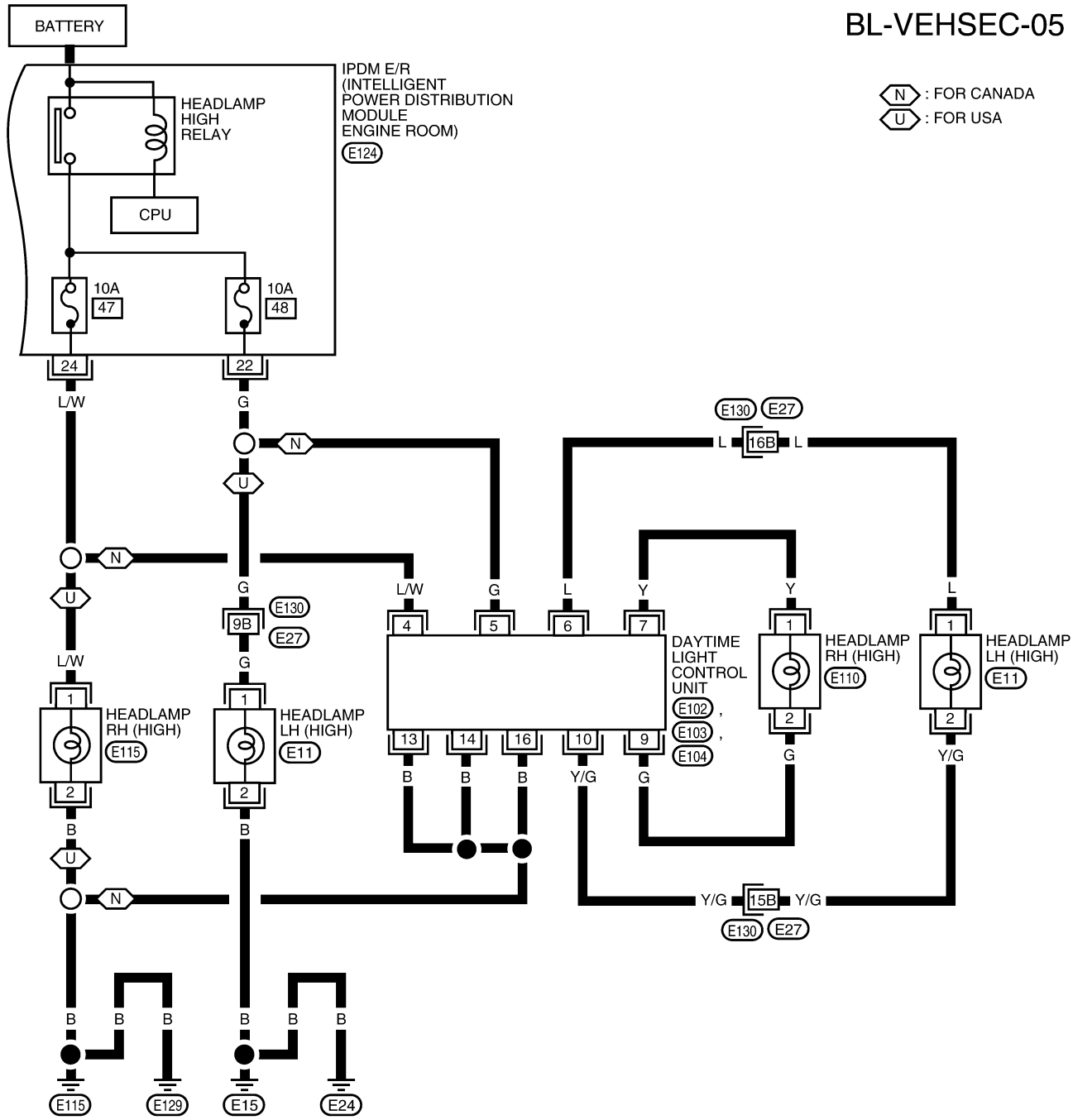
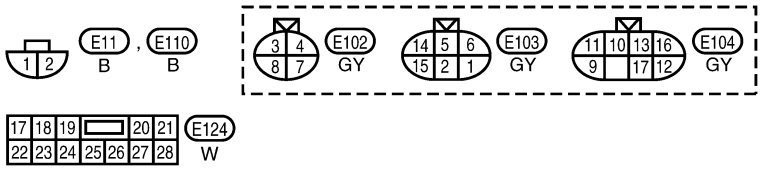

BL-VEHSEC-04
BATTERY
REFER TO "PG-POWER".
15A
25
G/B
HORN RELAY
H-1
G/W
G
TO WW-HORN
25A
E27
E130
21A
HORN (HIGH)
E108
HORN (LOW)
E3
53
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E121, E122
CPU
NEXT PAGE
51
45
37
Y/B
20A
B
R/L
134
11
1
JOINT CONNECTOR-2
M17
12
M11
B1
HOOD SWITCH
E5
OPEN
CLOSED
E15
E24
E115
E129
JOINT CONNECTOR-7
B37
REAR COMBINATION LAMP LH (TAIL)
B35
REAR COMBINATION LAMP RH (TAIL)
B36
B7
B19
M7
W
M11
E3
B
E5
GY
E108
E121
E122
B35, B36
H-1
REFER TO THE FOLLOWING.
E130 - SUPER MULTIPLE JUNCTION (SMJ)
M17, B37 - JOINT CONNECTOR (J/C)
LIWA0027E

FIG. 5





REFER TO THE FOLLOWING.
E130 - SUPER MULTIPLE JUNCTION (SMJ)

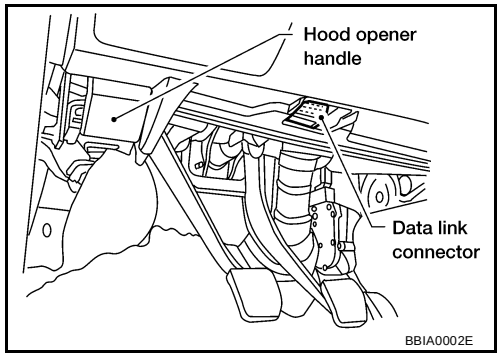
LIWA0028E

CONSULT-II Function

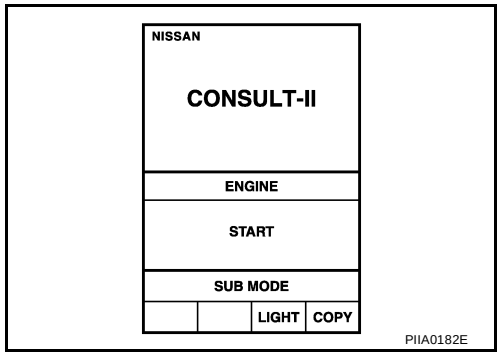
EIS000RG

CONSULT-II INSPECTION PROCEDURE

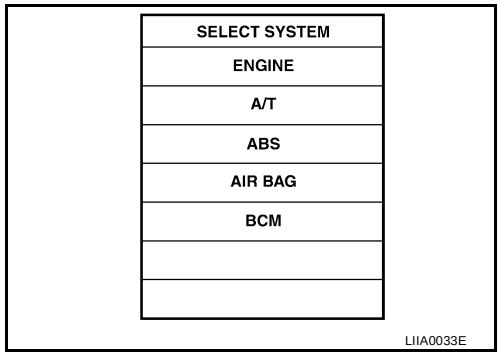
1. With the ignition switch OFF, connect CONSULT-II to the data link connector, and turn the ignition switch ON.



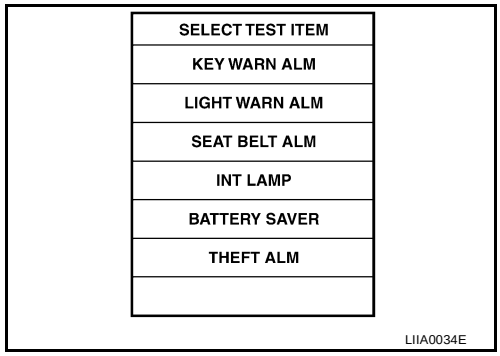
2. Touch "START".



3. Touch "BCM" on the "SELECT SYSTEM" screen.



4. Touch "THEFT ALM" on the "SELECT TEST ITEM" screen.
   - WORK SUPPORT, DATA MONITOR and ACTIVE TEST are available for the vehicle security system.



CONSULT-II APPLICATION ITEM

Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY CYL LK SW	Indicates [ON/OFF] condition of lock signal from key cylinder switch.
KEY CYL UN SW	Indicates [ON/OFF] condition of unlock signal from key cylinder switch.

Monitored Item	Description
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switches.
TRNK OPN MTR	Indicates [ON/OFF] condition of trunk opener motor.
TRNK OPNR SW	Indicates [ON/OFF] condition of trunk opener switch.
TRUNK KEY SW	Indicates [ON/OFF] condition of trunk key cylinder switch.
HOOD SWITCH	Indicates [ON/OFF] condition of hood switch.
LOCK SW DR/AS	Indicates [ON/OFF] condition of lock signal from door lock/unlock switch LH and RH.
UNLK SW DR/AS	Indicates [ON/OFF] condition of unlock signal from door lock/unlock switch LH and RH.
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from key fob.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from key fob.
TRUNK BTN/SIG	Indicates [ON/OFF] condition of trunk open signal from key fob.

Active Test

Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation. The lamp will be turned on when “ON” on CONSULT-II screen is touched.
HEADLAMP	This test is able to check vehicle security lamp operation. The headlamps will be activated for 0.5 seconds after “ON” on CONSULT-II screen is touched.
HORN	This test is able to check vehicle security horn operation. The horns will be activated for 0.5 seconds after “ON” on CONSULT-II screen is touched.

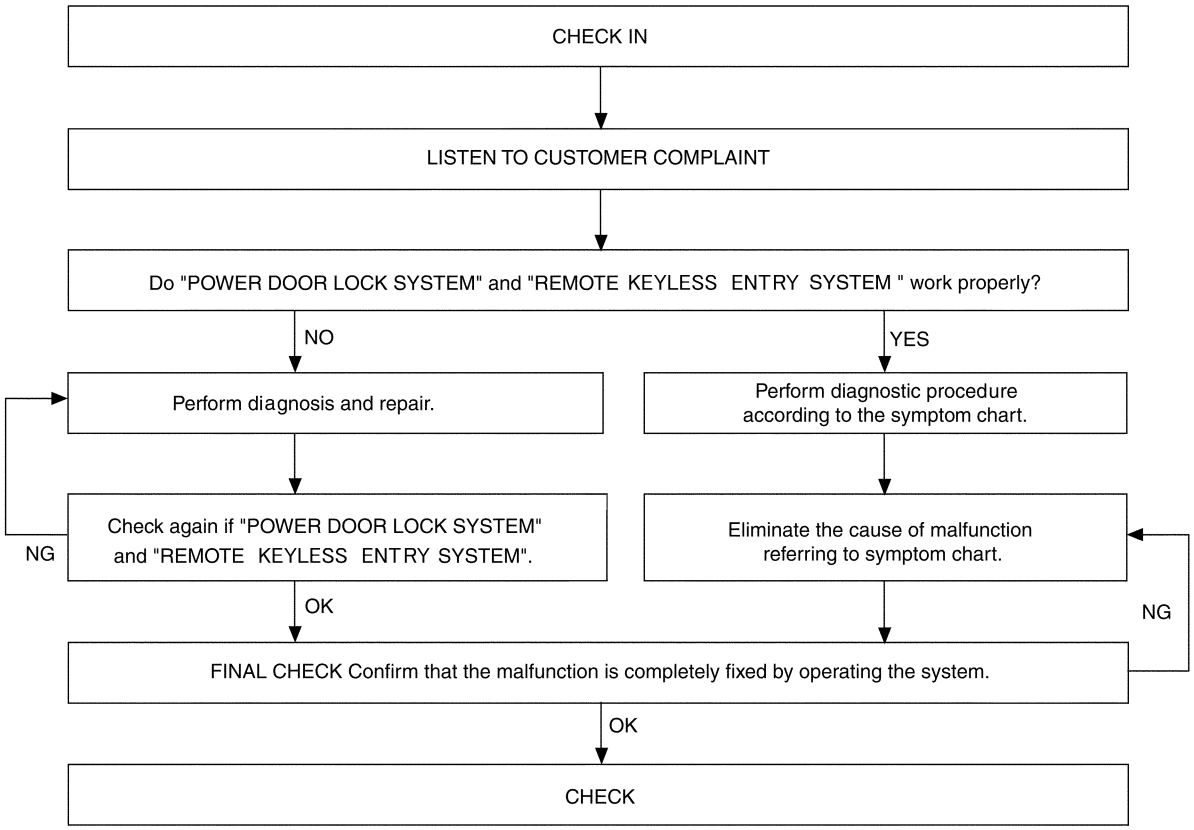
Work Support

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

Trouble Diagnosis

EIS000RH

WORK FLOW



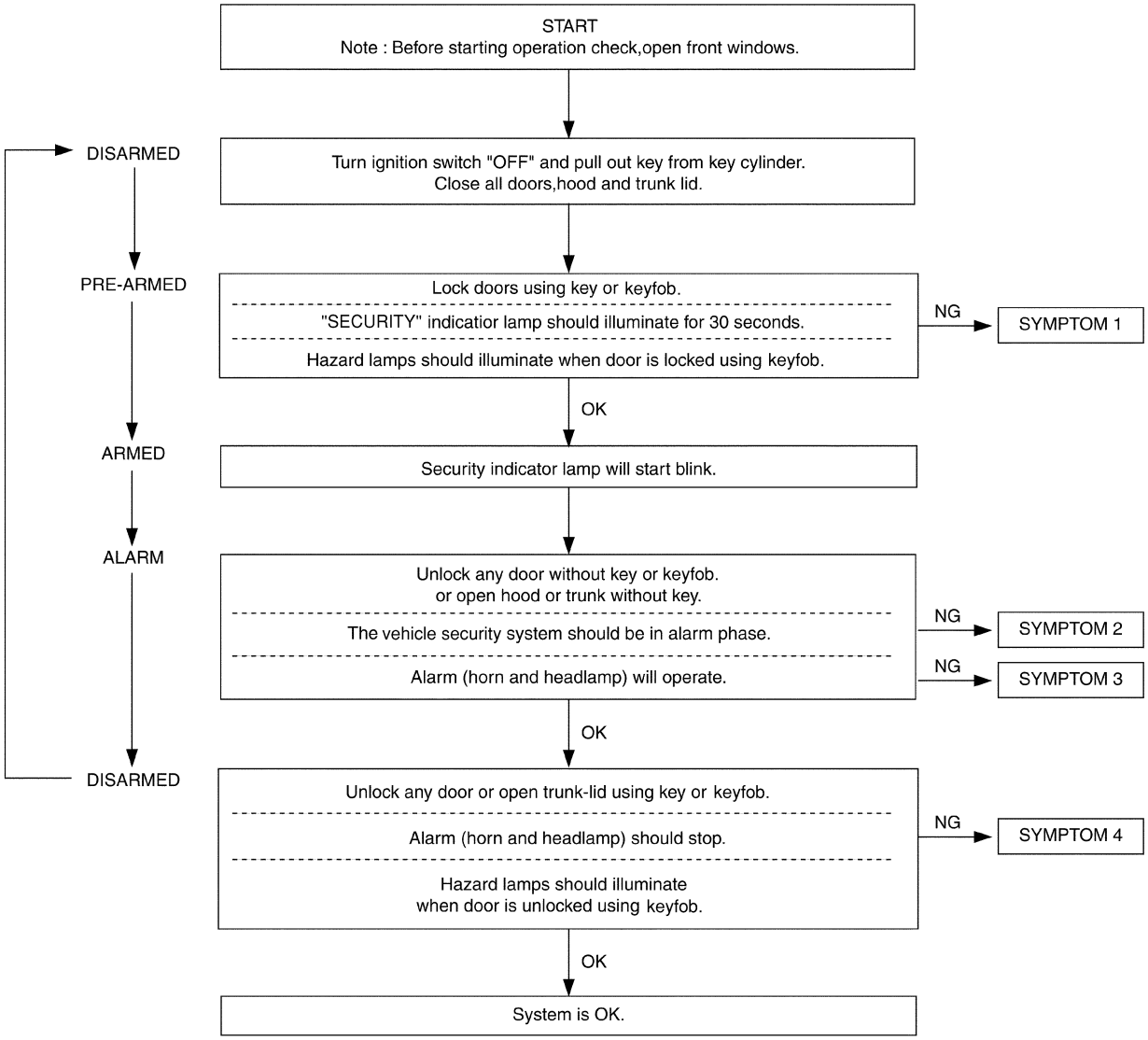
LIIA0123E

- “POWER DOOR LOCK SYSTEM” Diagnosis refer to BL-16, "POWER DOOR LOCK SYSTEM" .
- “REMOTE CONTROL SYSTEM” Diagnosis refer to BL-43, "REMOTE KEYLESS ENTRY SYSTEM" .

Preliminary Check

EIS000RI

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



LIIA0124E

After performing preliminary check, go to symptom chart.

Symptom Chart

EIS000RJ

PROCEDURE / SYMPTOM			Diagnostic procedure
1	Vehicle security system cannot be set by ····	All items	Diagnostic Procedure 1 (Door, hood and trunk lamp and trunk release solenoid switch check) Refer to BL-106, "Diagnostic Procedure 1" .
			If the above systems are “OK”, replace BCM.
		Lock/unlock switch	Diagnostic Procedure 7 (Door lock/unlock switch check) Refer to BL-115, "Diagnostic Procedure 7" .
			If the above systems are “OK”, check main power window and door lock/ unlock switch.
		Door outside key	Diagnostic Procedure 3 (Door key cylinder switch check) Refer to BL-110, "Diagnostic Procedure 3" .
			If the above systems are “OK”, check main power window and door lock/ unlock switch.
	Security indicator does not turn “ON”.		Diagnostic Procedure 2 (Security indicator lamp check) Refer to BL-109, "Diagnostic Procedure 2" .
			If the above systems are “OK”, replace BCM.
2	*1 Vehicle security system does not alarm when ….	Any door is opened.	Diagnostic Procedure 1 (Door, hood and trunk room lamp switch check) Refer to BL-106, "Diagnostic Procedure 1" .
			If the above systems are “OK”, replace BCM.
3	Vehicle security alarm does not activate.	Horn alarm	Diagnostic Procedure 5 (Vehicle security horn alarm check) Refer to BL-113, "Diagnostic Procedure 5" .
			If the above systems are “OK”, check horn system. Refer to WW-32, "HORN" .
		Head lamp alarm	Diagnostic Procedure 6 (Head lamp alarm check) Refer to BL-114, "Diagnostic Procedure 6" .
			If the above systems are “OK”, replace BCM.
4	Vehicle security system cannot be canceled by ····	Door outside key	Diagnostic Procedure 3 (Door key cylinder switch check) Refer to BL-110, "Diagnostic Procedure 3" .
			If the above systems are “OK”, check main power window and door lock/ unlock switch.
		Trunk lid key	Diagnostic Procedure 4 (Trunk lid key cylinder switch check) Refer to BL-112, "Diagnostic Procedure 4" .
			If the above systems are “OK”, replace BCM.
		Key fob	Refer to .
			If the above systems are “OK”, replace BCM.

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

Diagnostic Procedure 1

EIS000RK

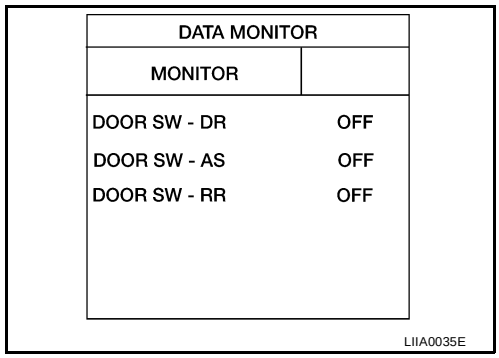
1 – 1 DOOR SWITCH CHECK

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

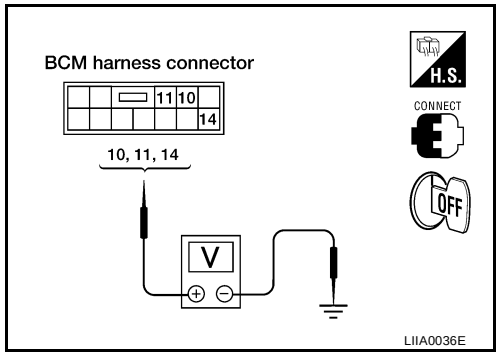
- Check door switch (“DOOR SW”) in "DATA MONITOR" mode with CONSULT-II.

When door is open : DOOR SW ON
When door is closed : DOOR SW OFF



Without CONSULT–II

- Check voltage between BCM harness connector M21 terminals 10 (P/L), 11 (R/B) or 14 (SB) and ground.



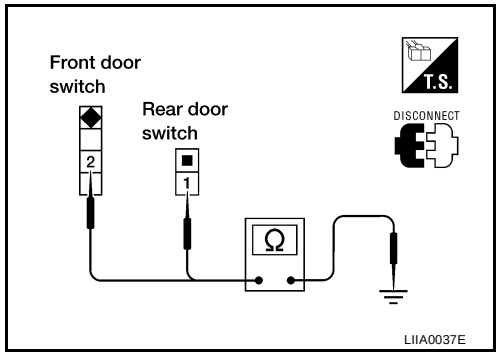
	Terminals	Condition	Voltage
Front door switch LH	14 (SB)– Ground	Open	0V
		Closed	Approx. 5V
Front door switch RH	11 (R/B)– Ground	Open	0V
		Closed	Approx. 5V
Rear door switches	10 (P/L)– Ground	Open	0V
		Closed	Approx. 5V

OK or NG

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

2. CHECK DOOR SWITCH

1. Disconnect door switch connector.
2. Check continuity between following terminals and body ground.



Door switch connector		Terminals	Condition	Continuity
Front door switch	LH : B8	2 – Ground	Pressed	No
	RH : B108		Released	Yes
Rear door switch	LH : B18	1 – Ground	Pressed	No
	RH : B116		Released	Yes

OK or NG

OK >> Check the following.
- Door switch ground condition
- Harness for open or short between door switch and BCM

NG >> Replace door switch.

1 – 2 HOOD SWITCH CHECK

1. CHECK HOOD SWITCH

Check hood switch and hood fitting condition.

OK or NG

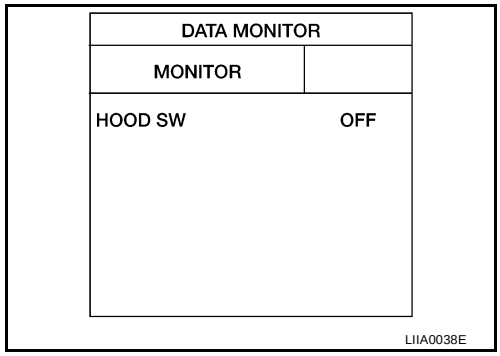
OK >> GO TO 2.
NG >> Adjust installation of hood switch.

2. CHECK HOOD SWITCH INPUT SIGNAL

With CONSULT-II

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

When hood is open : HOOD SW ON
When hood is closed : HOOD SW OFF

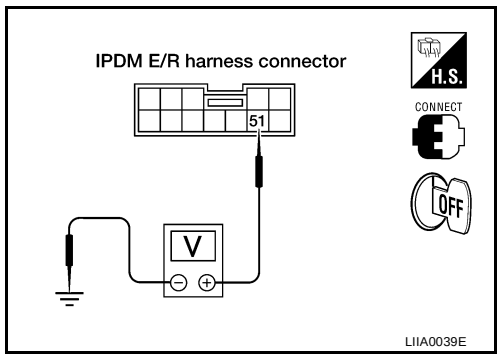


Without CONSULT-II

- Check voltage between IPDM E/R harness connector E121 terminal 51 (Y/B) and ground.
  Refer to BL-99, "FIG. 4" .

OK or NG

OK >> Hood switch is OK.
NG >> GO TO 3.



3. CHECK HOOD SWITCH

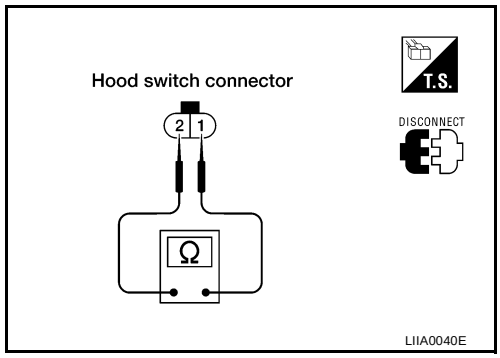
1. Disconnect hood switch connector.
2. Check continuity between hood switch connector E5 terminals 1 and 2.

Terminals	Condition	Continuity
1 – 2	Pressed	No
	Released	Yes

OK or NG

OK >> Check the following.
- Hood switch ground circuit
- Harness for open or short between hood switch and IPDM E/R

NG >> Replace hood switch.



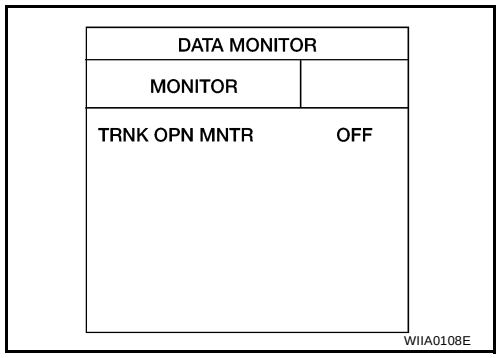
1 – 3 TRUNK LAMP AND TRUNK RELEASE SOLENOID SWITCH CHECK

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

With CONSULT-II

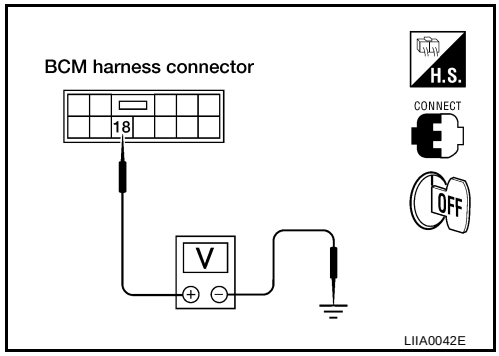
- Check “TRUNK SW” in "DATA MONITOR" mode with CONSULT-II.

When trunk lid is open : TRNK OPN MNTR ON
When trunk lid is closed : TRNK OPN MNTR OFF



Without CONSULT-II

- Check voltage between BCM harness connector M21 terminal 18 (PU/W) and ground.
  Refer to BL-97, "FIG. 2" .



OK or NG

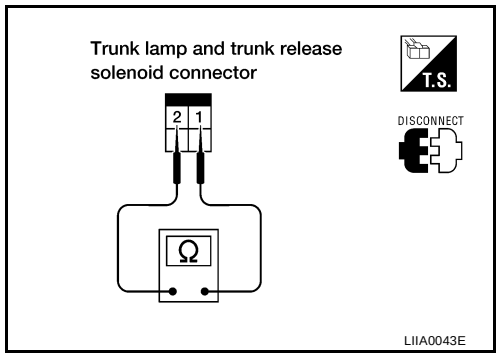
OK >> Trunk room lamp and trunk release solenoid switch is OK.

NG >> GO TO 2.

2. CHECK TRUNK LAMP AND TRUNK RELEASE SOLENOID SWITCH

1. Disconnect trunk lamp and trunk release solenoid switch connector.
2. Check continuity between trunk lamp and trunk release solenoid switch connector B32 terminals 1 and 2.

Connector	Terminals	Condition	Continuity
B32	1 – 2	Closed	No
		Open	Yes



OK or NG

OK >> Check the following.

- Trunk lamp and trunk release solenoid switch ground circuit
- Harness for open or short between trunk lamp and trunk release solenoid switch and BCM

NG >> Replace trunk lamp and trunk release solenoid switch.

Diagnostic Procedure 2

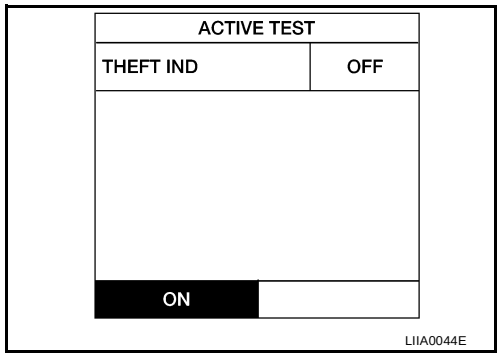
EIS000RL

SECURITY INDICATOR LAMP CHECK

1. SECURITY INDICATOR LAMP ACTIVE TEST

With CONSULT-II

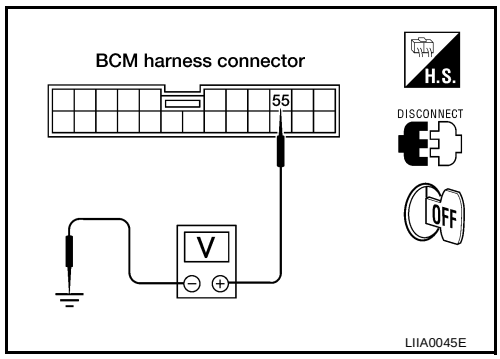
- Check "THEFT IND" in "ACTIVE TEST" mode with CONSULT-II.



Without CONSULT-II

1. Disconnect BCM harness connector M18.
2. Check voltage between BCM harness connector M18 terminal 55 (G/OR) and ground.

Battery voltage should exist.



OK or NG

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

2. SECURITY INDICATOR LAMP CHECK

Check indicator lamp condition.
Refer to BL-96, "FIG. 1" .

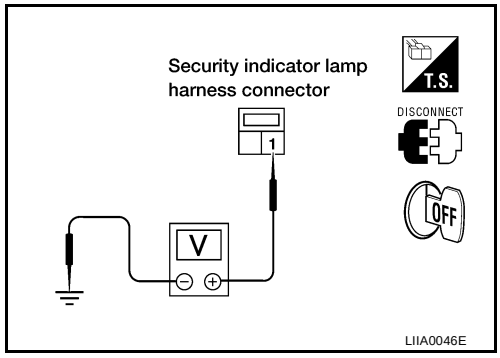
OK or NG

OK >> GO TO 3.
NG >> Replace indicator lamp.

3. CHECK POWER SUPPLY CIRCUIT FOR SECURITY INDICATOR LAMP

1. Disconnect security indicator lamp connector.
2. Check voltage between security indicator lamp harness connector M14 terminal 1 (Y/R) and ground.

Battery voltage should exist.



OK or NG

OK >> Check harness for open or short between security indicator lamp and BCM.
NG >> Check the following.
- 10A fuse [No. 19, located in fuse block (J/B)]
- Harness for open or short between security indicator lamp and fuse

Diagnostic Procedure 3

EIS000RM

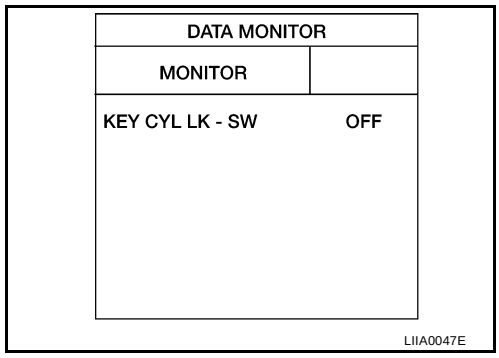
3–1 DOOR KEY CYLINDER LOCK SWITCH CHECK

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

With CONSULT-II

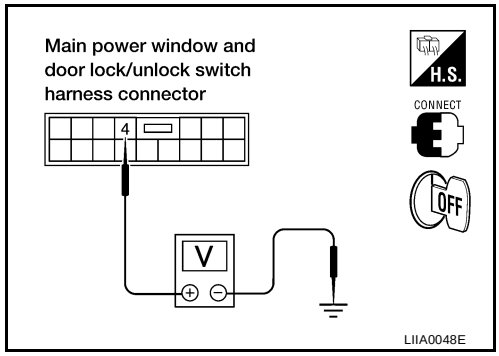
- Check front door key cylinder switch LH (“KEY CYL LK SW”) in "DATA MONITOR" mode with CONSULT-II.

“KEY CYL LK SW” should be “ON” when key inserted in door key cylinder was turned to lock.



Without CONSULT-II

Check voltage between main power window and door lock/unlock switch harness connector D7 terminal 4 (P/L) and ground.



Key position	Voltage
Neutral / Unlock	Approx. 5V
Lock	0V

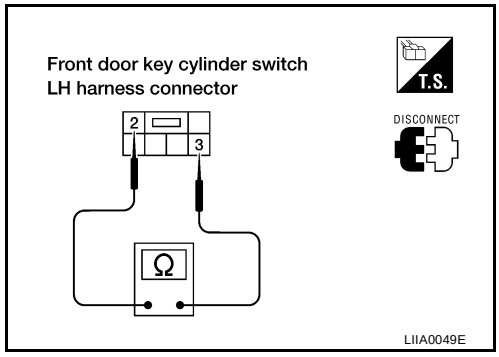
OK or NG

OK >> Front door key cylinder switch LH (lock) is OK.

NG >> GO TO 2.

2. CHECK FRONT DOOR KEY CYLINDER SWITCH LH

1. Disconnect front door key cylinder switch LH connector.
2. Check continuity between front door key cylinder switch LH connector D50 terminals 2 (Y) and 3 (B).



Key position	Continuity
Neutral / Unlock	No
Lock	Yes

OK or NG

OK >> Check the following.

- Front door key cylinder switch LH ground circuit
- Harness for open or short between main power window and door lock/unlock switch and front door key cylinder switch LH

NG >> Replace front door key cylinder switch LH.

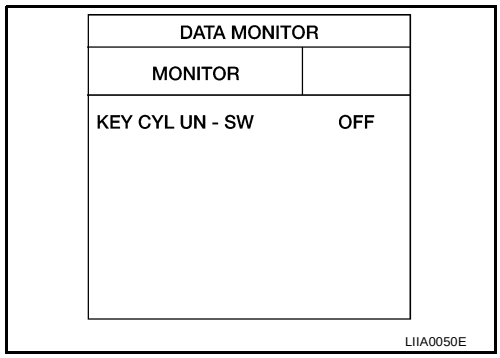
3–2 DOOR KEY CYLINDER UNLOCK SWITCH CHECK

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

With CONSULT-II

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

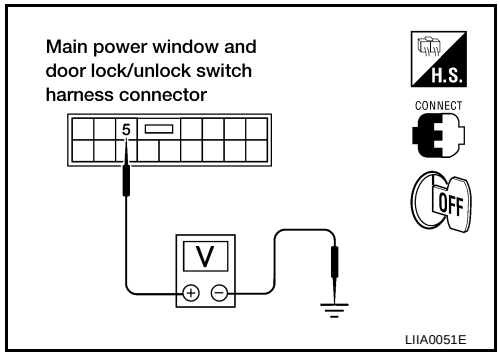
“KEY CYL UN SW” should be “ON” when key inserted in door key cylinder was turned to unlock.



Without CONSULT-II

Check voltage between main power window and door lock/unlock switch harness connector D7 terminal 5 (W/L) and ground.

Key position	Voltage
Neutral / Lock	Approx. 5V
Unlock	0V



OK or NG

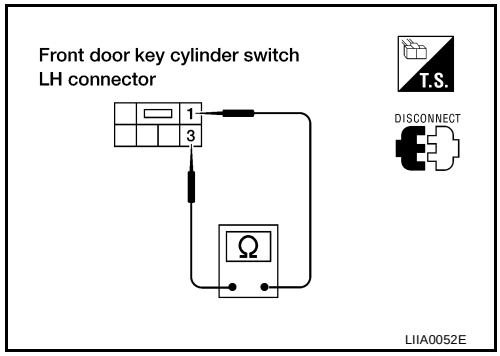
OK >> Front door key cylinder switch LH (unlock) is OK.

NG >> GO TO 2.

2. CHECK FRONT DOOR KEY CYLINDER SWITCH LH

1. Disconnect front door key cylinder switch LH connector.
2. Check continuity between front door key cylinder switch LH connector D50 terminals 1 (L) and 3 (B).

Key position	Continuity
Neutral / Lock	No
Unlock	Yes



OK or NG

OK >> Check the following.

- Front door key cylinder switch LH ground circuit
- Harness for open or short between main power window and door lock/unlock switch and front door key cylinder switch LH

NG >> Replace front door key cylinder switch LH.

Diagnostic Procedure 4

EIS000RN

TRUNK LID KEY UNLOCK SIGNAL CHECK

1. CHECK TRUNK KEY CYLINDER SWITCH INPUT SIGNAL (UNLOCK SIGNAL)

With CONSULT-II

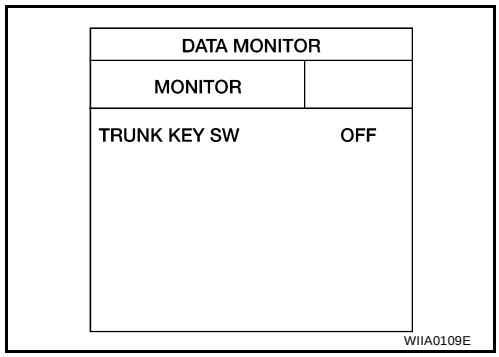
Check trunk key cylinder switch (“TRUNK KEY SW”) in "DATA MONITOR" mode with CONSULT-II.

- When key in key cylinder is at “NEUTRAL” position,

  TRUNK KEY SW : OFF

- When key is at “UNLOCK” position,

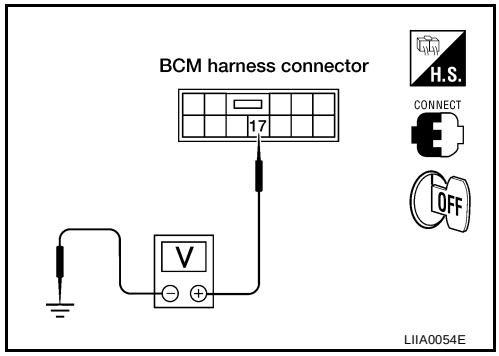
  TRUNK KEY SW : ON



Without CONSULT-II

- Check voltage between BCM harness connector M21 terminal 17 (L/B) and ground.

Condition	Voltage
Neutral	Approx. 5V
Unlocked	0V



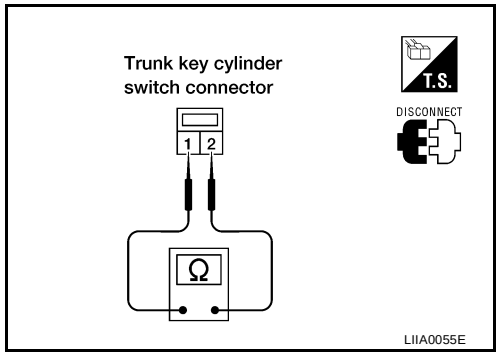
OK or NG

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

2. CHECK TRUNK KEY CYLINDER SWITCH (UNLOCK SWITCH)

1. Disconnect trunk key cylinder switch connector.
2. Check continuity between trunk key cylinder switch connector B34 terminals 1 and 2.

Condition	Continuity
Neutral	No
Unlocked	Yes



OK or NG

OK >> Check the following.
- Trunk key cylinder switch ground circuit
- Harness for open or short between trunk key cylinder switch and BCM

NG >> Replace trunk key cylinder switch.

Diagnostic Procedure 5

EIS000RO

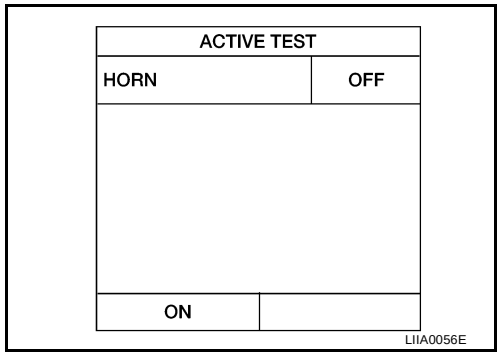
VEHICLE SECURITY HORN ALARM CHECK

1. CHECK VEHICLE SECURITY HORN ALARM OPERATION

With CONSULT-II

- Check horn relay “HORN” in "ACTIVE TEST" mode with CONSULT-II.
- Perform operation shown on display.

Vehicle security horn alarm should operate.



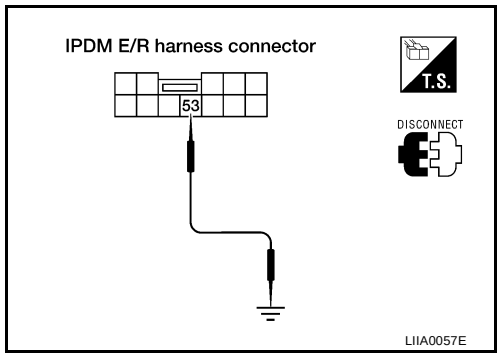
Without CONSULT-II

1. Disconnect IPDM E/R connector E121.
2. Apply ground to IPDM E/R harness connector E121 terminal 53 (G/W).

Does horn alarm activate?

OK or NG

OK >> Horn alarm is OK.
NG >> GO TO 2.



2. CHECK HORN RELAY

Check horn relay condition.

OK or NG

OK >> GO TO 3.
NG >> Replace horn relay.

3. CHECK POWER SUPPLY FOR HORN RELAY

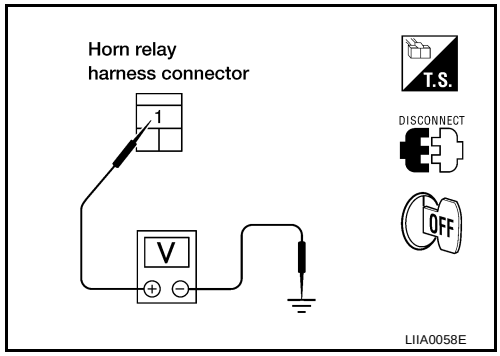
1. Disconnect horn relay connector.
2. Check voltage between horn relay connector H-1 terminal 1 and ground.

Battery voltage should exist.

OK or NG

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

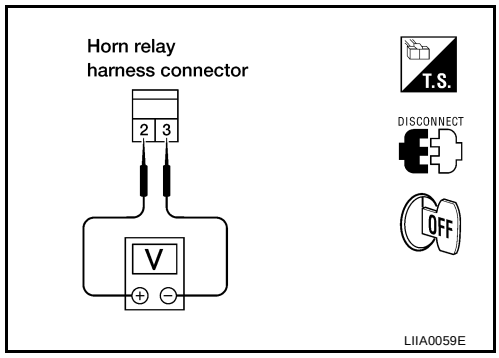
- 15A fuse (No. 25, located in the fuse and fusible link box)
- Harness for open or short between horn relay and fuse



4. CHECK HORN RELAY CIRCUIT

1. Disconnect horn relay connector.
2. Check voltage between horn relay connector H-1 terminals 2 and 3.

Battery voltage should exist



OK or NG

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

Diagnostic Procedure 6

EIS000RP

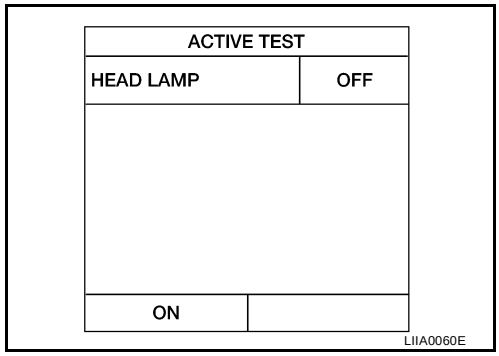
VEHICLE SECURITY HEADLAMP ALARM CHECK

1. CHECK VEHICLE SECURITY HEADLAMP ALARM OPERATION

With CONSULT-II

- Check head lamp relay “HEAD LAMP” in "ACTIVE TEST" mode with CONSULT-II.
- Perform operation shown on display.

Vehicle security headlamp alarm should operate.



NOTE:
If CONSULT-II is not available, skip this procedure and go to the next procedure.

OK or NG

OK >> Headlamp alarm is OK.
NG >> GO TO 2.

2. CHECK HEAD LAMP RELAY 1

- Does headlamp come on when turning lighting switch “ON”?

YES or NO

YES >> Headlamp alarm is OK.
NO >> Check headlamp system. Refer to LT-5, "HEADLAMP (FOR USA)" or LT-28, "HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -" .

Diagnostic Procedure 7

EIS000RQ

DOOR LOCK/UNLOCK SWITCH CHECK

1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT-II

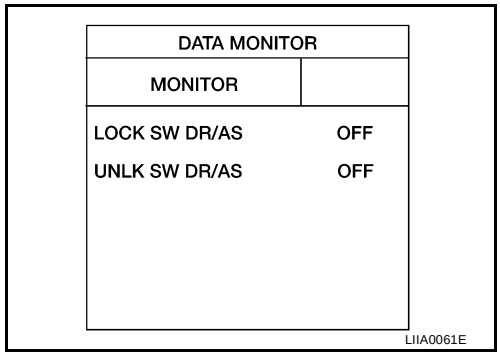
Check door lock/unlock switch (“LOCK SW DR/AS"/"UNLK SW DR/AS” in "DATA MONITOR" mode with CONSULT-II.

- When lock/unlock switch is turned to LOCK:

  LOCK SW DR/AS ON

- When lock/unlock switch is turned to UNLOCK:

  UNLK SW DR/AS ON



Without CONSULT-II

Do doors lock/unlock when using main power window and door lock/unlock switch or front power window switch RH?

YES or NO?

YES >> Door lock/unlock switch is OK.

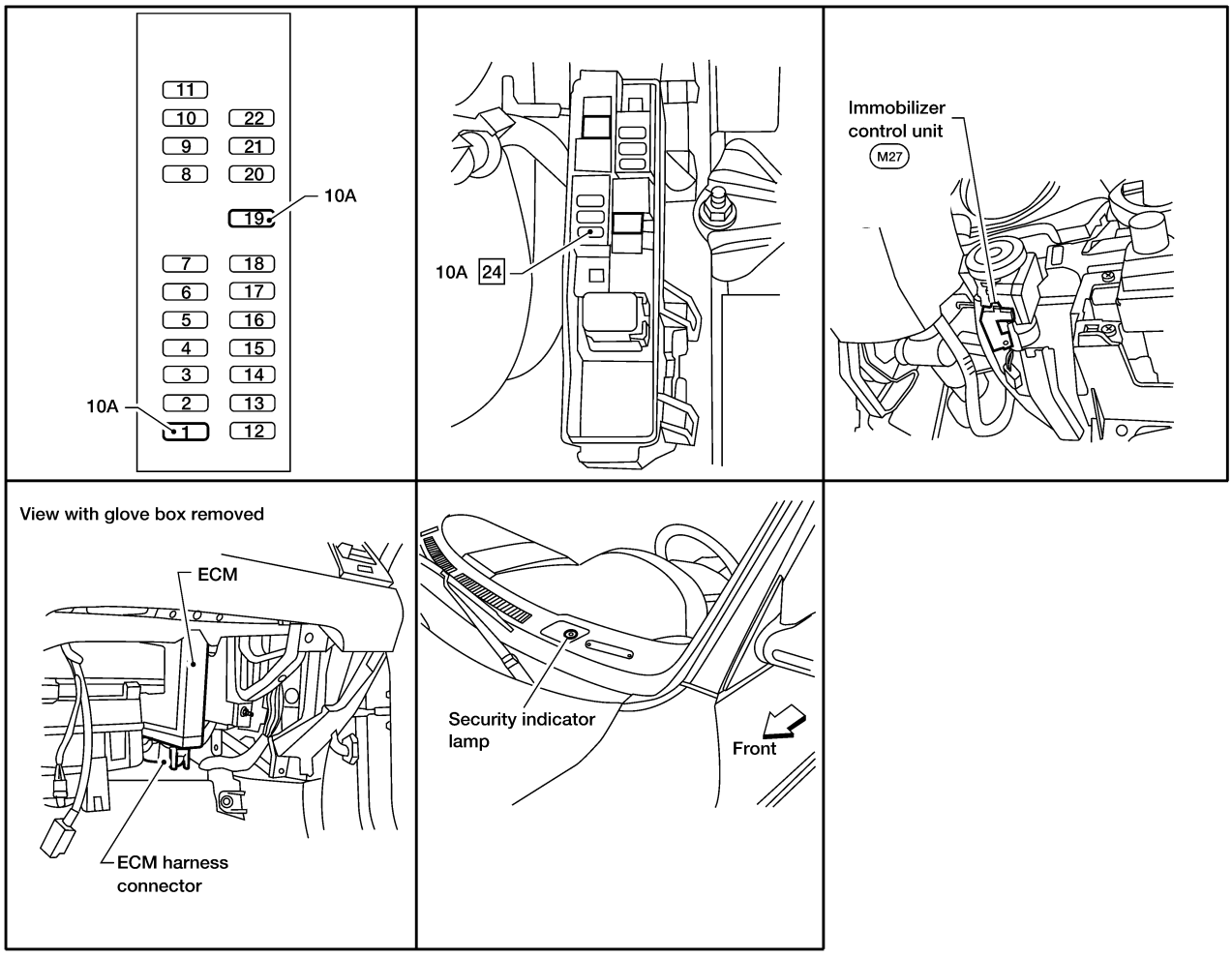
NO >> Refer to BL-33, "Door Lock/Unlock Switch Check (With left and right front power window anti–pinch system)" .

NVIS(NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

PFP:28591

Component Parts and Harness Connector Location

EIS000RR



LIIA0150E

System Description

EIS000RS

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

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

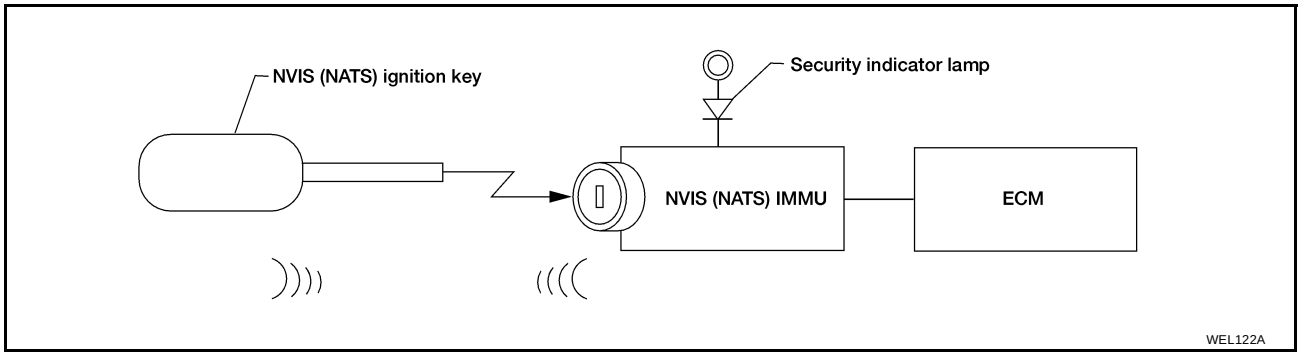
Therefore, be sure to receive ALL KEYS from vehicle owner.

System Composition

EIS000RT

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

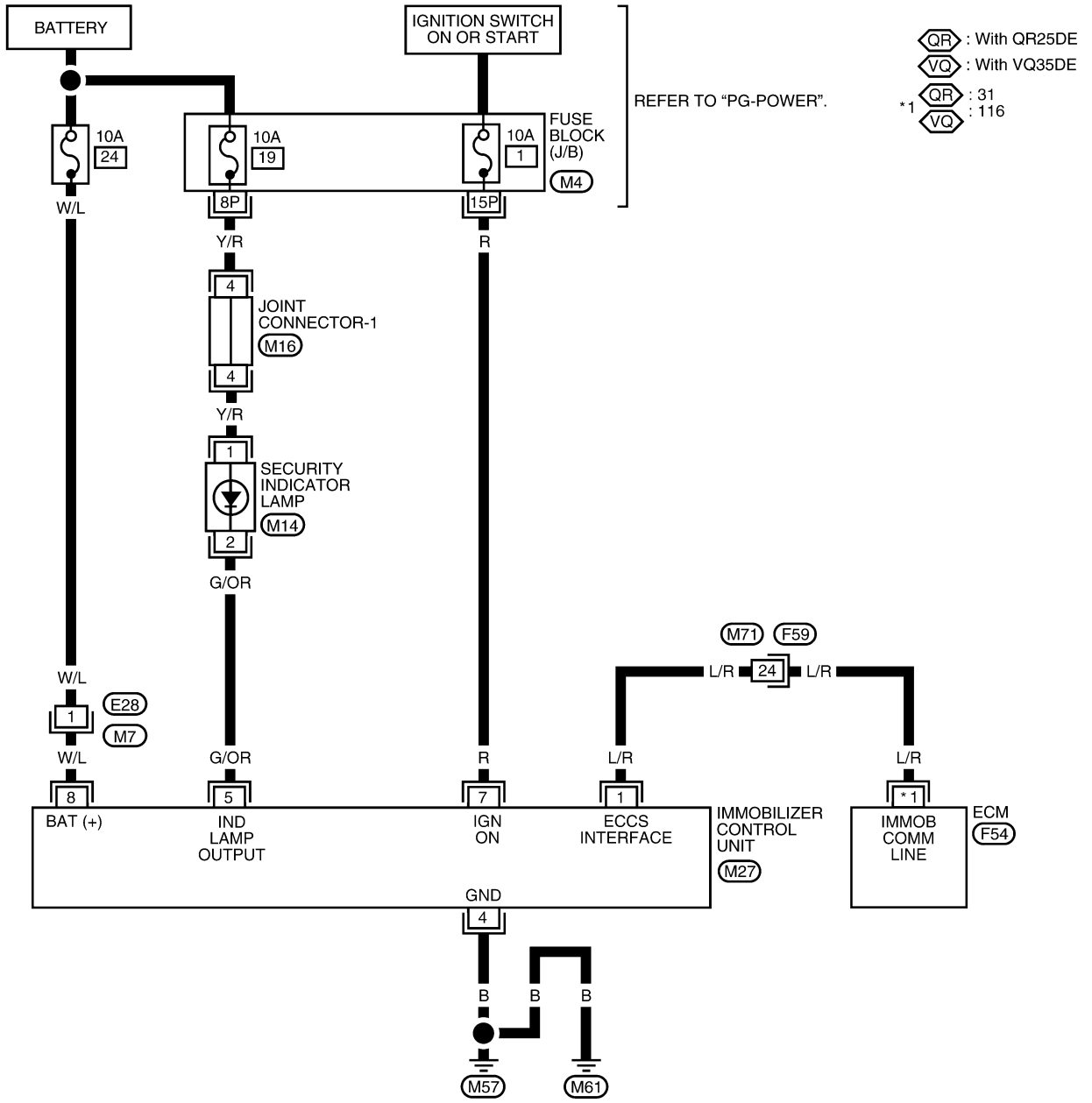
- NVIS (NATS) ignition key
- NVIS (NATS) immobilizer control unit (IMMU) located around the ignition key cylinder
- ECM
- Security indicator lamp

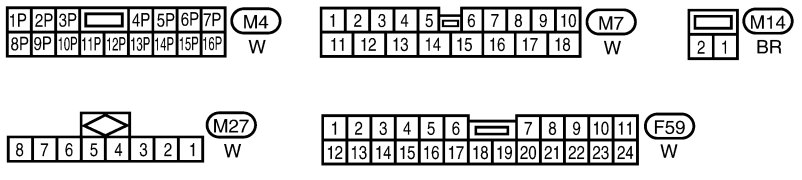


Wiring Diagram — NATS —

EIS000RU

BL-NATS-01





REFER TO THE FOLLOWING.
F54 - ELECTRICAL UNITS
M16 - JOINT CONNECTOR (J/C)

LIWA0022E

NVIS (NATS) IMMU CONTROL UNIT TERMINALS AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND

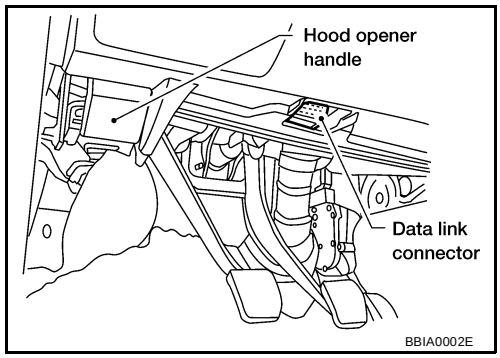
TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
4	B	GROUND	—	—
5	G/OR	VEHICLE SECURITY INDICATOR	GOES OFF	BATTERY VOLTAGE
			ILLUMINATES	APPROX. 0V
7	R	IGNITION SWITCH (ON)	IGNITION KEY IS IN ON POSITION	BATTERY VOLTAGE
		IGNITION SWITCH (START)	IGNITION KEY IS IN START POSITION	BATTERY VOLTAGE
8	W/L	POWER SOURCE (FUSE)	—	BATTERY VOLTAGE

CONSULT-II

EIS000RV

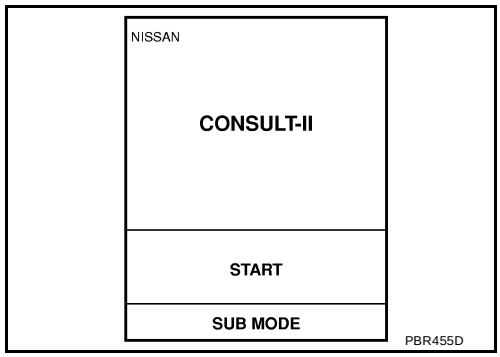
CONSULT-II INSPECTION PROCEDURE

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

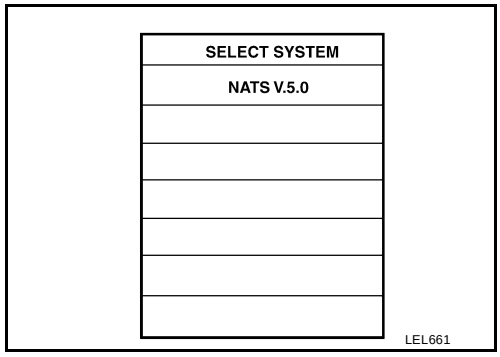


3. Insert NVIS (NATS) program card into CONSULT-II.

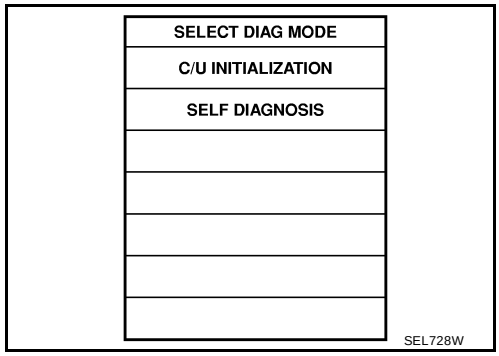
Program card : NATS (AEN00A)



4. Turn ignition switch ON.
5. Touch “START”.
6. Select “NATS V.5.0”.



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



For further information, see the "CONSULT-II OPERATION MANUAL IVIS/NVIS".

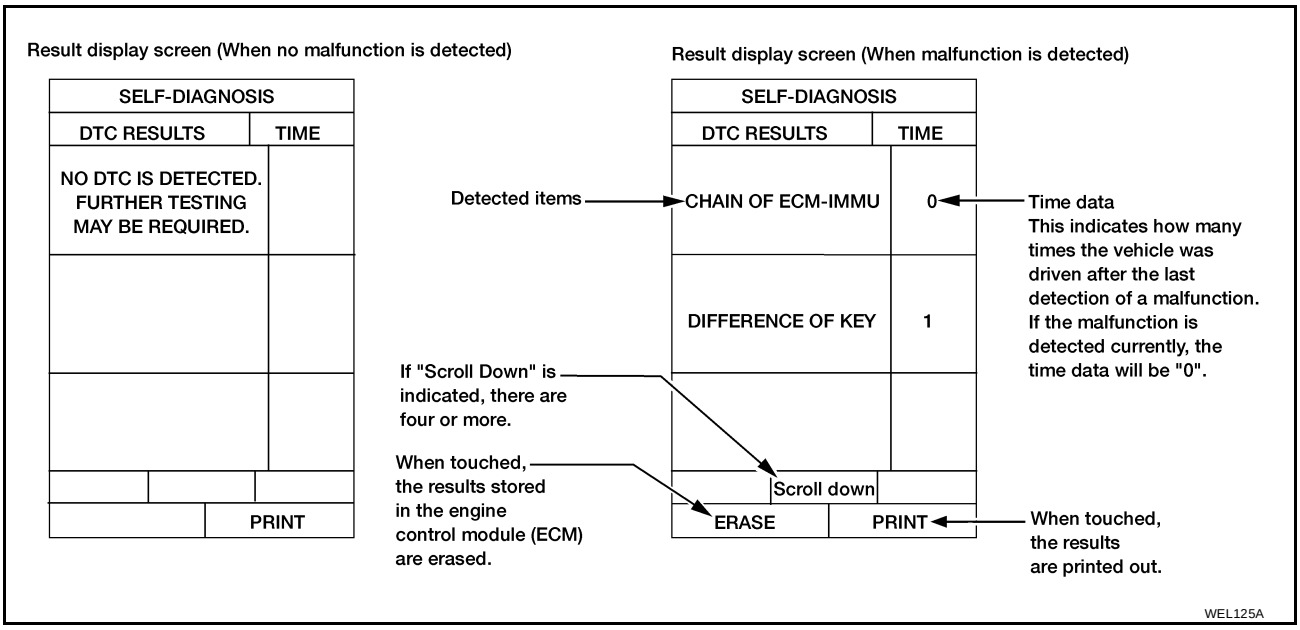
CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

CONSULT-II DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following three components, C/U initialization is necessary. [NVIS (NATS) ignition key/IMMU/ECM]
SELF DIAGNOSIS	Detected items (screen terms) are as shown in the chart below.

NOTE:

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



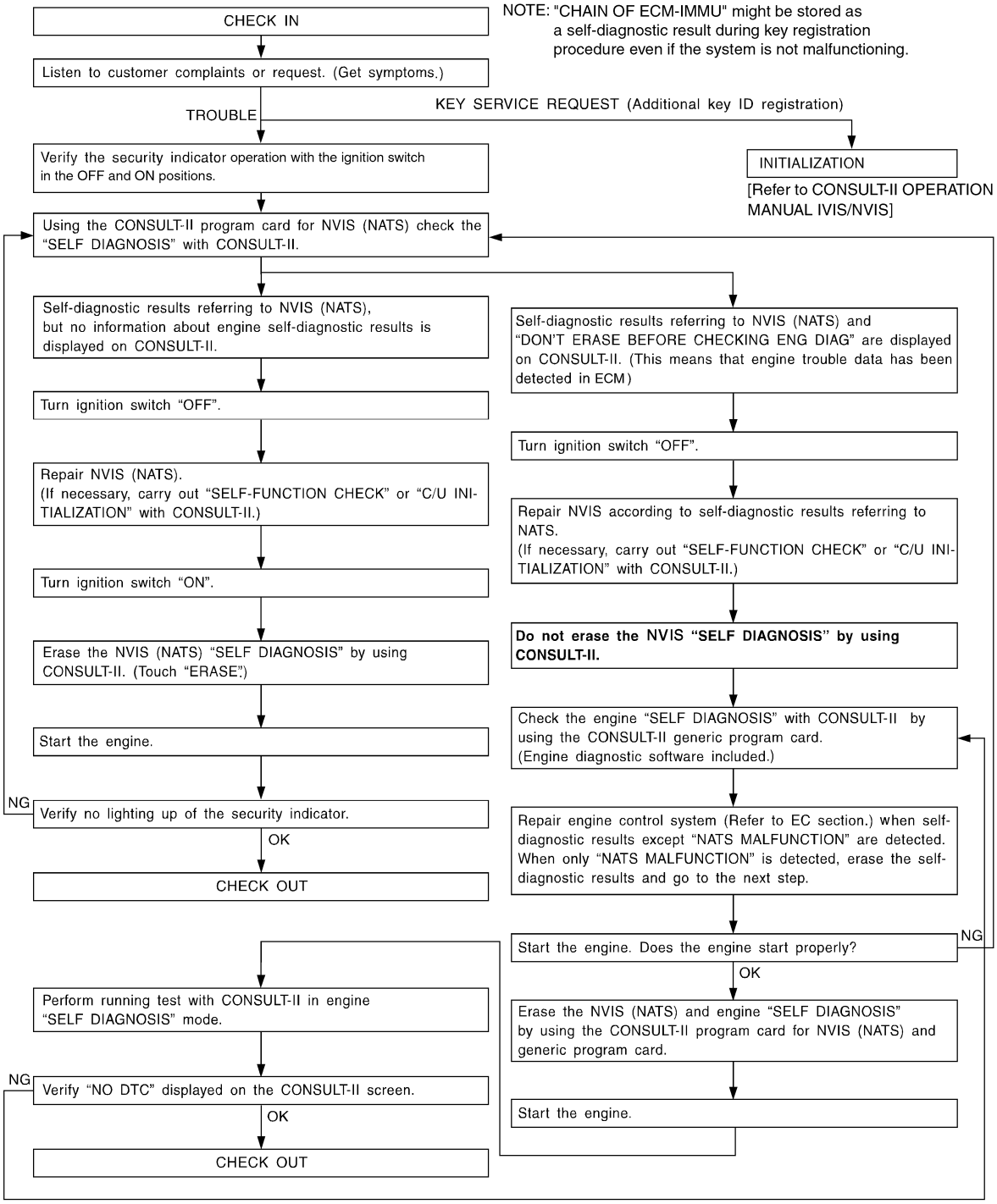
NVIS (NATS) SELF-DIAGNOSTIC RESULTS ITEM CHART

Detected items (NATS program card screen terms)	P No. Code (Self-diagnostic result of "ENGINE")	Malfunction is detected when	Reference page
ECM INT CIRC-IMMU	P1613	The malfunction of ECM internal circuit of IMMU communication line is detected.	BL-124
CHAIN OF ECM-IMMU	P1612	Communication impossible between ECM and IMMU (In rare cases, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.)	BL-125
DIFFERENCE OF KEY	P1615	IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG.	BL-128
CHAIN OF IMMU-KEY	P1614	IMMU cannot receive the key ID signal.	BL-129
ID DISCORD, IMM-ECM	P1611	The result of ID verification between IMMU and ECM is NG. System initialization is required.	BL-130
LOCK MODE	P1610	When the starting operation is carried out five or more times consecutively under the following conditions, NVIS (NATS) will shift the mode to one which prevents the engine from being started. ● Unregistered ignition key is used. ● IMMU or ECM is malfunctioning.	BL-133
DON'T ERASE BEFORE CHECKING ENG DIAG	—	Any engine trouble codes except NVIS (NATS) trouble codes have been detected in ECM.	BL-122

Trouble Diagnoses

EIS000RW

WORK FLOW



WEL126A

SYMPTOM MATRIX CHART 1 (SELF-DIAGNOSIS RELATED ITEM)

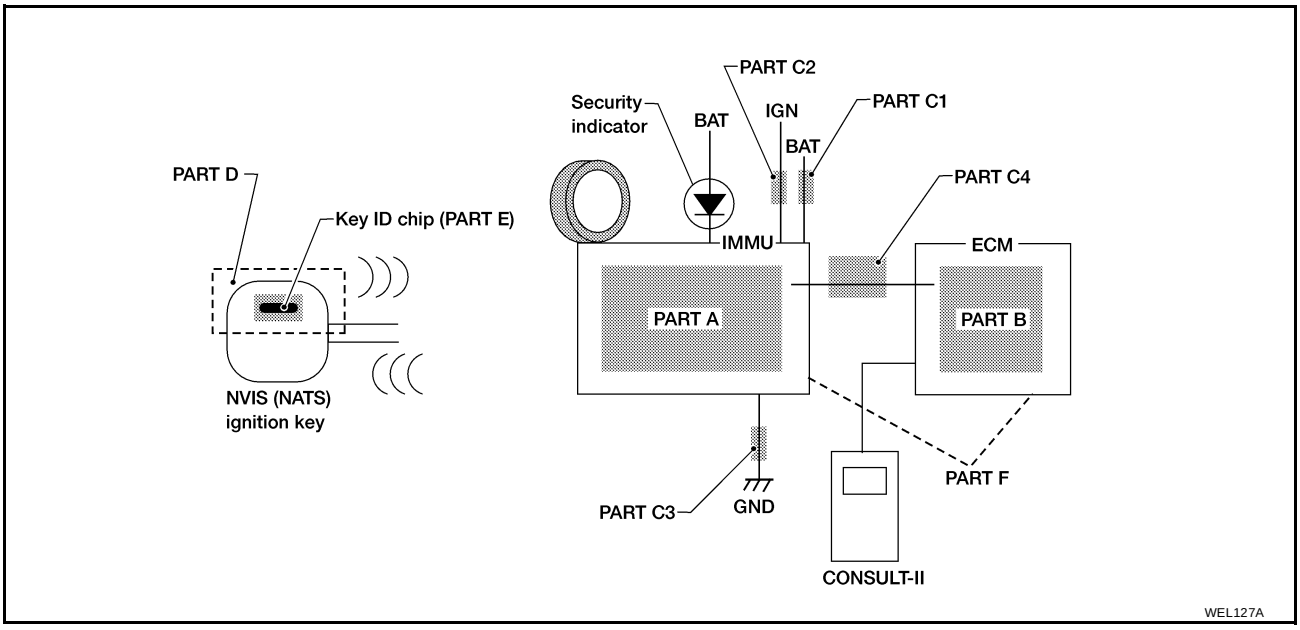
SYMPTOM	Displayed “SELF-DIAG RESULTS” on CONSULT-II screen.	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)	REFERENCE PART NO. OF ILLUSTRATION, BL-124
	ECM INT CIRC-IMMU	PROCEDURE 1 BL-124	ECM	B
● Security indicator lighting up* ● Engine cranks but will not start			In rare cases, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.	—
	CHAIN OF ECM-IMMU	PROCEDURE 2 BL-125	Open circuit in battery voltage line of IMMU circuit	C1
			Open circuit in ignition line of IMMU circuit	C2
			Open circuit in ground line of IMMU circuit	C3
			Open circuit in communication line between IMMU and ECM	C4
			Short circuit between IMMU and ECM communication line and battery voltage line	C4
			Short circuit between IMMU and ECM communication line and ground line	C4
			ECM	B
			IMMU	A
	DIFFERENCE OF KEY	PROCEDURE 3 BL-128	Unregistered key	D
			IMMU	A
	CHAIN OF IMMU-KEY	PROCEDURE 4 BL-129	Malfunction of key ID chip	E
			IMMU	A
	ID DISCORD, IMM-ECM	PROCEDURE 5 BL-130	System initialization has not yet been completed	F
			ECM	F
	LOCK MODE	PROCEDURE 7 BL-133	LOCK MODE	D
● MIL staying ON ● Security indicator lighting up*	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW BL-122	Engine trouble data and NVIS (NATS) trouble data have been detected in ECM	—

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

SYMPTOM MATRIX CHART 2 (NON SELF-DIAGNOSIS RELATED ITEM)

SYMPTOM	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)
Security indicator lamp does not light up.	PROCEDURE 6 BL-131	Security indicator lamp
		Open circuit between fuse and IMMU
		Continuation of initialization mode
		IMMU

DIAGNOSTIC SYSTEM DIAGRAM



DIAGNOSTIC PROCEDURE 1

Self-diagnostic results:
"ECM INT CIRC-IMMU" displayed on CONSULT-II screen

1. Confirm SELF-DIAGNOSTIC RESULTS "ECM INT CIRC-IMMU" displayed on CONSULT-II screen. Ref. part No. B.
2. Replace ECM.
3. Perform initialization with CONSULT-II.
   For initialization, refer to "CONSULT-II OPERATION MANUAL IVIS/NVIS".

SELF DIAGNOSIS	
DTC RESULTS	TIME
ECM INT CIRC-IMMU	0

SEL314W

DIAGNOSTIC PROCEDURE 2

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

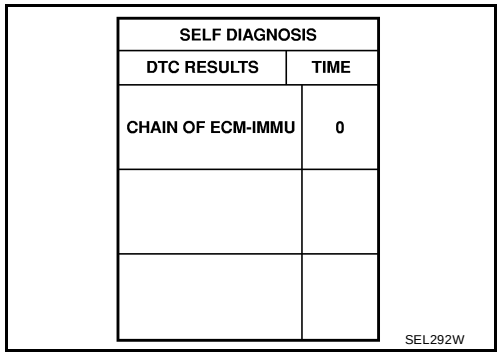
1. CONFIRM SELF-DIAGNOSTIC RESULTS

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

NOTE:
In rare cases, “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?

Yes >> GO TO 2.
No >> GO TO BL-123, "SYMPTOM MATRIX CHART 1 (SELF-DIAGNOSIS RELATED ITEM)" .



2. CHECK POWER SUPPLY CIRCUIT FOR NVIS (NATS) IMMU

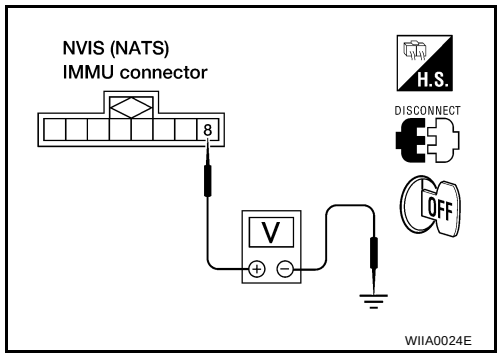
1. Disconnect NVIS (NATS) IMMU connector.
2. Check voltage between NVIS (NATS) IMMU harness connector M27 terminal 8 (W/L) and ground with CONSULT-II or tester.

Battery voltage should exist.

OK or NG

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

- 10A fuse (No. 24, located in the fuse and fusible link box)
- Harness for open or short between fuse and NVIS (NATS) IMMU connector
  Ref. Part No. C1



3. CHECK IGN SW. ON SIGNAL

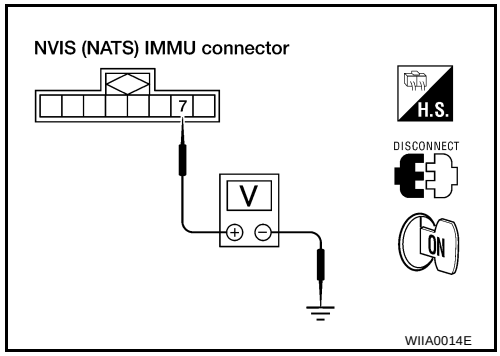
1. Turn ignition switch ON.
2. Check voltage between NVIS (NATS) IMMU harness connector M27 terminal 7 (R) and ground with CONSULT-II or tester.

Battery voltage should exist.

OK or NG

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

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



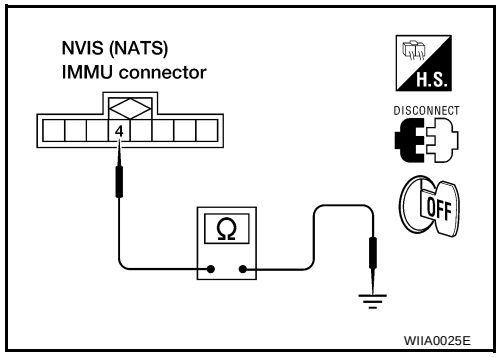
4. CHECK GROUND CIRCUIT FOR NVIS (NATS) IMMU

1. Turn ignition switch OFF.
2. Check harness continuity between NVIS (NATS) IMMU harness connector M27 terminal 4 (B) and ground.

Continuity should exist.

OK or NG

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



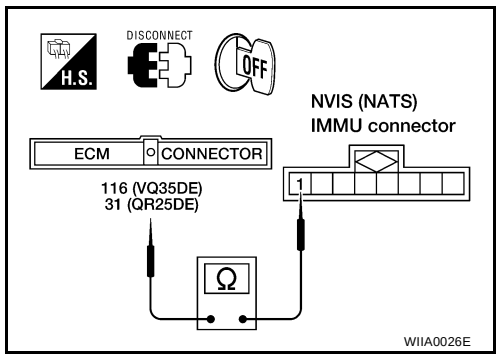
5. CHECK COMMUNICATION LINE OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check harness continuity between ECM harness connector F54 terminal 31 (QR25DE) or 116 (VQ35DE) (L/R) and NVIS (NATS) IMMU connector M27 terminal 1 (L/R).

Continuity should exist.

OK or NG

OK >> GO TO 6.
NG >> Repair harness or connector. Ref. part No. C4



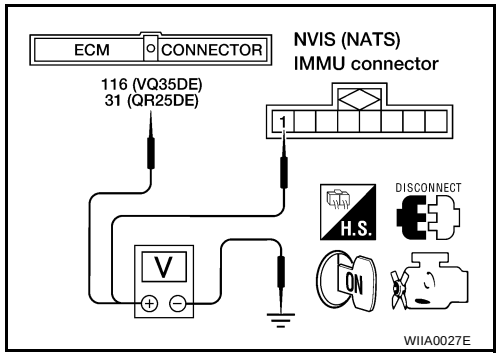
6. CHECK COMMUNICATION LINE BATTERY SHORT CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between ECM harness connector F54 terminal 31 (QR25DE) or 116 (VQ35DE) (L/R) or NVIS (NATS) IMMU harness connector M27 terminal 1 (L/R) and ground.

Voltage : 0V

OK or NG

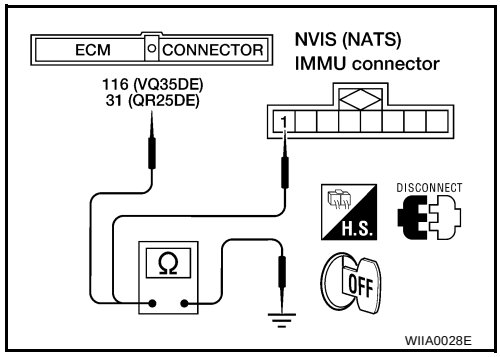
OK >> GO TO 7.
NG >>
- Communication line is short-circuited with battery voltage line or ignition switch ON line.
- Repair harness or connectors.
  Ref. part No. C4



7. CHECK COMMUNICATION LINE GROUND SHORT CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between ECM harness connector F54 terminal 31 (QR25DE) or 116 (VQ35DE) (L/R) or NVIS (NATS) IMMU connector M27 terminal 1 (L/R) and ground.

Continuity should not exist.



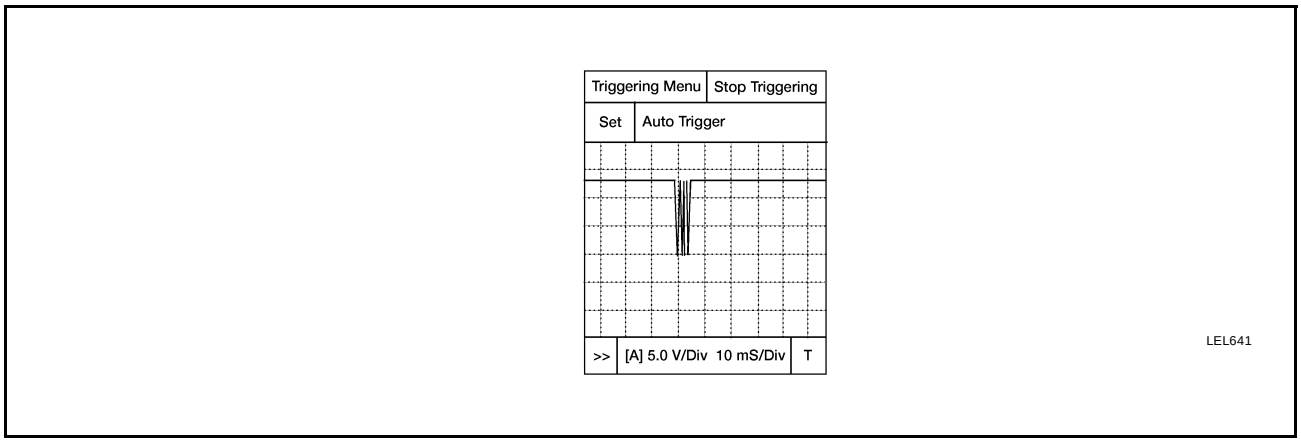
OK or NG

OK >> GO TO 8.

NG >>
- Communication line is short-circuited with ground line.
- Repair harness or connectors.
  Ref. part No. C4

8. SIGNAL FROM ECM TO NVIS (NATS) IMMU CHECK

1. Check the signal between ECM harness connector F54 terminal 31 (QR25DE) or 116 (VQ35DE) (L/R) and ground with CONSULT-II or oscilloscope when ignition switch is turned “ON”.
2. Make sure signals which are shown in the figure below can be detected during 750 msec. just after ignition switch is turned “ON”.



OK or NG

OK >>
- NVIS (NATS) IMMU is malfunctioning.
- Replace NVIS (NATS) IMMU. **Ref. part No. A**
- Perform initialization with CONSULT-II.
- For the operation of initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

NG >>
- ECM is malfunctioning.
- Replace ECM. **Ref. part No. B**
- Perform initialization with CONSULT-II.
- For the operation of initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

DIAGNOSTIC PROCEDURE 3

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.

SELF DIAGNOSIS	
DTC RESULTS	TIME
DIFFERENCE OF KEY	0

SEL293W

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.
No >> Go to BL-123, "SYMPTOM MATRIX CHART 1 (SELF-DIAGNOSIS RELATED ITEM)" .

2. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II. Re-register all NVIS (NATS) ignition key IDs.
For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

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

SEL297W

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

Can the system be initialized?

Yes >>
- Start engine. (END)
- (Ignition key ID was unregistered. **Ref. part No. D**)

No >>
- NVIS (NATS) IMMU is malfunctioning.
- Replace NVIS (NATS) IMMU. **Ref. part No. A**
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

DIAGNOSTIC PROCEDURE 4

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.

SELF DIAGNOSIS	
DTC RESULTS	TIME
CHAIN OF IMMU-KEY	0

SEL294W

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.
No >> Go to BL-123, "SYMPTOM MATRIX CHART 1 (SELF-DIAGNOSIS RELATED ITEM)" .

2. CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NVIS (NATS) ignition key.
Does the engine start?

Yes >>
- Ignition key ID chip is malfunctioning.
- Replace the ignition key.
- **Ref. part No. E**
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

No >> GO TO 3.

3. CHECK NVIS (NATS) IMMU INSTALLATION

Check NVIS (NATS) IMMU installation.
Refer to BL-134, "How to Replace NVIS (NATS) IMMU" .
OK or NG

OK >>
- NVIS (NATS) IMMU is malfunctioning.
- Replace NVIS (NATS) IMMU. **Ref. part No. A**
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

NG >> Reinstall NVIS (NATS) IMMU correctly.

DIAGNOSTIC PROCEDURE 5

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.

SELF DIAGNOSIS	
DTC RESULTS	TIME
ID DISCORD, IMM-ECM	0

SEL298W

NOTE:
“ID DISCORD IMM-ECM”:
Registered ID of NVIS (NATS) IMMU is in discord with that of ECM.

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.
No >> Go to BL-123, "SYMPTOM MATRIX CHART 1 (SELF-DIAGNOSIS RELATED ITEM)" .

2. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II. Re-register all NVIS (NATS) ignition key IDs.
For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

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

SEL297W

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

Can the system be initialized?

Yes >> ● Start engine. (END)
● (System initialization had not been completed. **Ref. part No. F**)

No >> ● ECM is malfunctioning.
● Replace ECM. **Ref. part No. F**
● Perform initialization with CONSULT-II.
● For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

DIAGNOSTIC PROCEDURE 6

“SECURITY INDICATOR LAMP DOES NOT LIGHT UP”

1. CHECK FUSE

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

Is 10A fuse OK?

Yes >> GO TO 2.
No >> Replace fuse.

2. CHECK SECURITY INDICATOR LAMP

1. Install 10A fuse.
2. Perform initialization with CONSULT-II.
   For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.
3. Turn ignition switch OFF.
4. Start engine and turn ignition switch OFF.
5. Check the security indicator lamp lighting.

Security indicator lamp should light up.

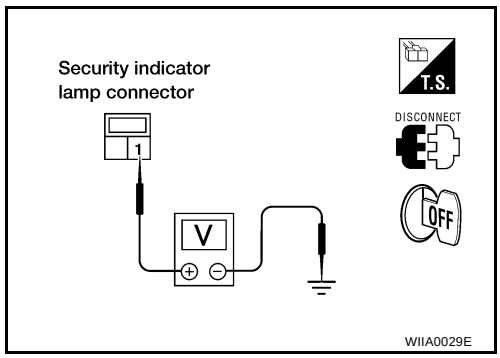
OK or NG

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

3. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

1. Disconnect security indicator lamp connector.
2. Check voltage between security indicator lamp connector M14 terminal 1 (Y/R) and ground.

Battery voltage should exist.



OK or NG

OK >> GO TO 4.
NG >> Check harness for open or short between fuse and security indicator lamp.

4. CHECK SECURITY INDICATOR LAMP

Check security indicator lamp.

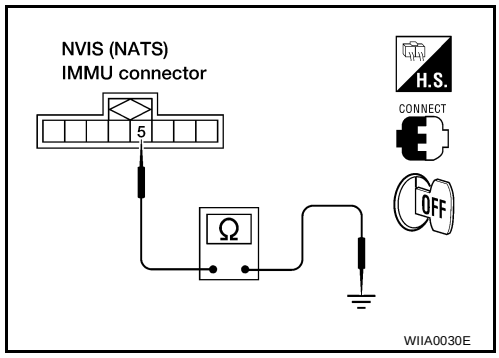
Is security indicator lamp OK?

Yes >> GO TO 5.
No >> Replace security indicator lamp.

5. CHECK NVIS (NATS) IMMU FUNCTION

1. Connect NVIS (NATS) IMMU connector.
2. Disconnect security indicator lamp connector.
3. Check continuity between NVIS (NATS) IMMU connector M27 terminal 5 (G/OR) and ground.

Continuity should exist intermittently.



OK or NG

OK >> Check harness for open or short between security indicator lamp and NVIS (NATS) IMMU.

NG >>
- NVIS (NATS) IMMU is malfunctioning.
- Replace NVIS (NATS) IMMU.
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

DIAGNOSTIC PROCEDURE 7

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.

SELF DIAGNOSIS	
DTC RESULTS	TIME
LOCK MODE	0

SEL295W

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.
No >> Go to BL-123, "SYMPTOM MATRIX CHART 1 (SELF-DIAGNOSIS RELATED ITEM)" .

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.
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. CHECK NVIS (NATS) IMMU ILLUSTRATION

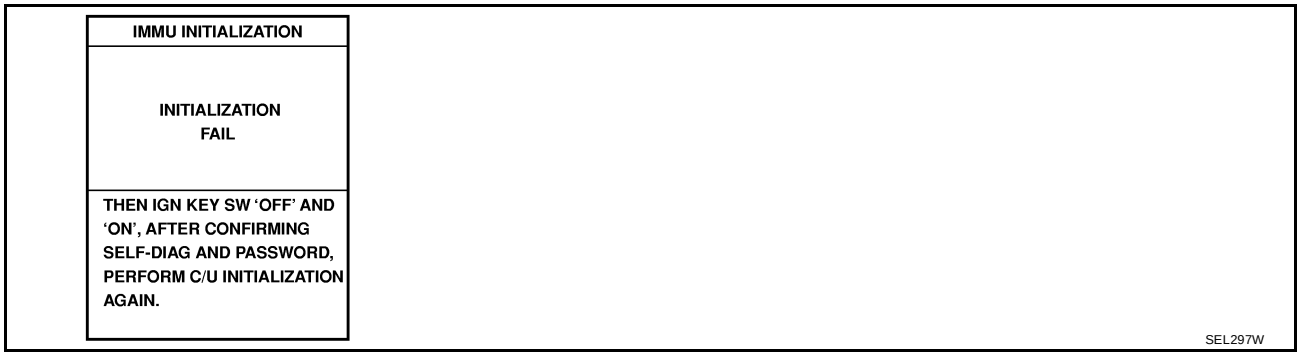
Check NVIS (NATS) IMMU installation. Refer to BL-134, "How to Replace NVIS (NATS) IMMU" .

OK or NG

OK >> GO TO 4.
NG >> Reinstall NVIS (NATS) IMMU correctly.

4. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II.
For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.



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

Can the system be initialized?

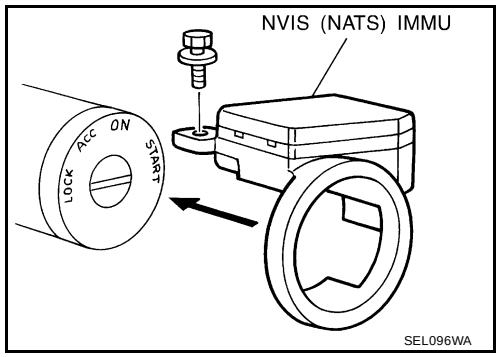
Yes >> System is OK.
No >> Check “CHAIN OF IMMU-KEY”. Refer to BL-129, "DIAGNOSTIC PROCEDURE 4" .

How to Replace NVIS (NATS) IMMU

EIS000RX

NOTE:

- **If NVIS (NATS) IMMU is not installed correctly, NVIS (NATS) system will not operate properly and SELF-DIAG RESULTS on CONSULT-II screen will show “LOCK MODE” or “CHAIN OF IMMU-KEY”.**



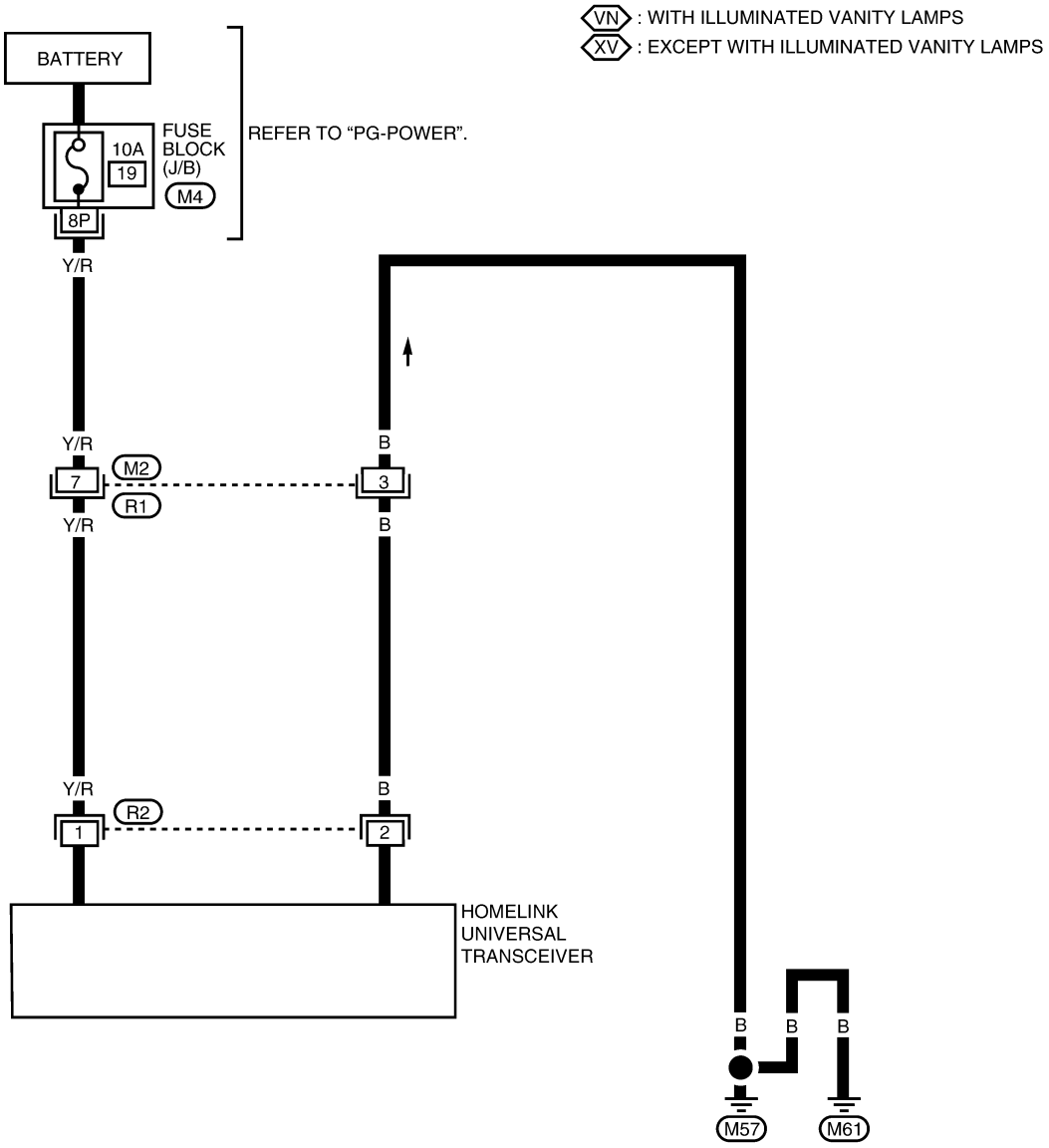
INTEGRATED HOMELINK TRANSMITTER

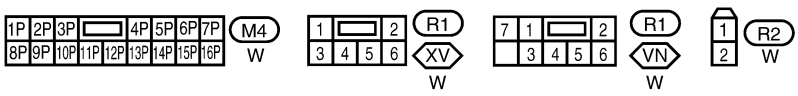
PFP:96401

Wiring Diagram —TRNSCV—

EIS000RY

BL-TRNSCV-01





LIWA0040E

Trouble Diagnoses

EIS000RZ

DIAGNOSTIC PROCEDURE

SYMPTOM: Transmitter does not activate receiver.

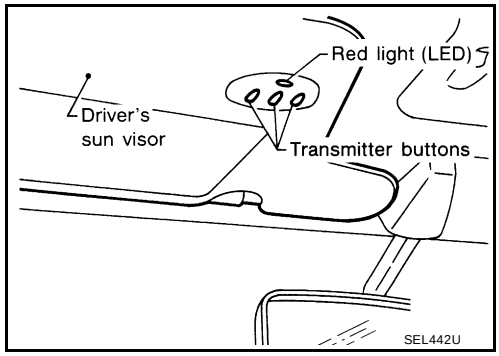
Before conducting the procedure given below, make sure that system receiver (garage door opener, etc.) operates with original, hand-held transmitter. If NG, receiver or hand-held transmitter is at fault, not vehicle related.

1. ILLUMINATE CHECK

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

YES or NO

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



2. TRANSMITTER CHECK

Check transmitter with Tool*.
*:For details, refer to Technical Service Bulletin.

OK or NG

OK >> Receiver or handheld transmitter malfunction, not vehicle related.
NG >> Replace transmitter with sun visor assembly.

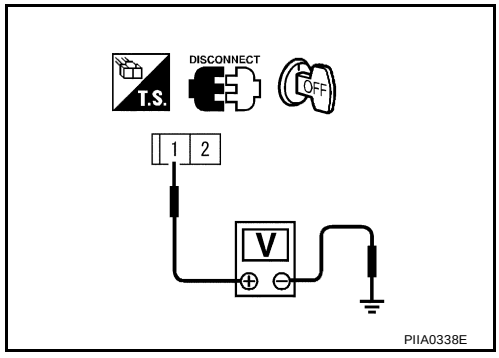
3. POWER SUPPLY CHECK

1. Disconnect transmitter connector.
2. Turn ignition switch “OFF”.
3. Check voltage between transmitter harness connector R2 terminal 1(Y/R) and body ground.

Battery voltage should exist.

OK or NG

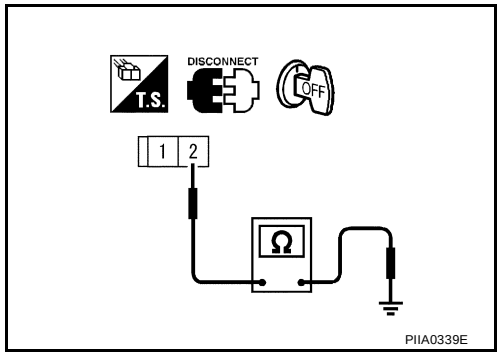
OK >> GO TO 4.
NG >>
- Check 10A fuse [No. 19 located in the fuse block (J/B) No.1]
- Harness for open or short between fuse and transmitter



4. GROUND CIRCUIT CHECK

Check continuity between transmitter harness connector R2 terminal 2 (B) and body ground.

Continuity should exist.



OK or NG

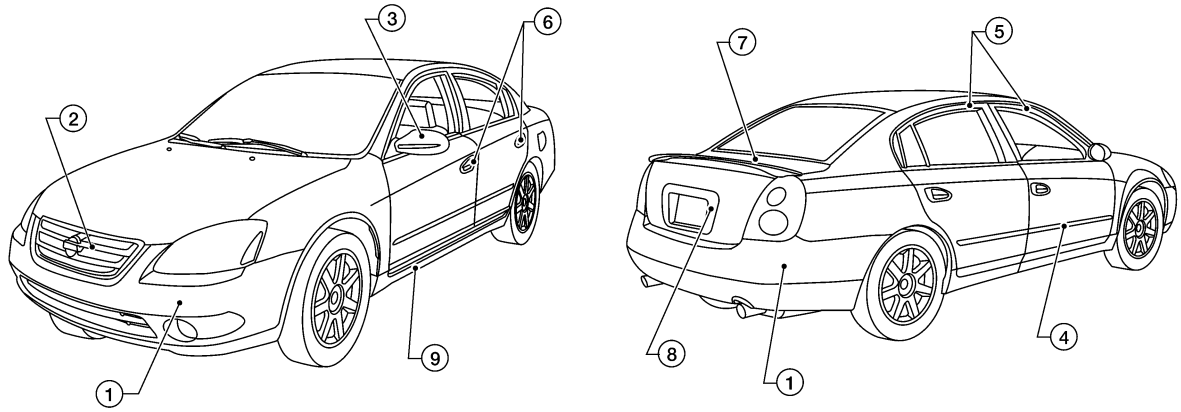
OK >> Replace transmitter with sun visor assembly.
NG >> Repair harness.

BODY REPAIR

PFP:60100

Body Exterior Paint Color

EIS000S0



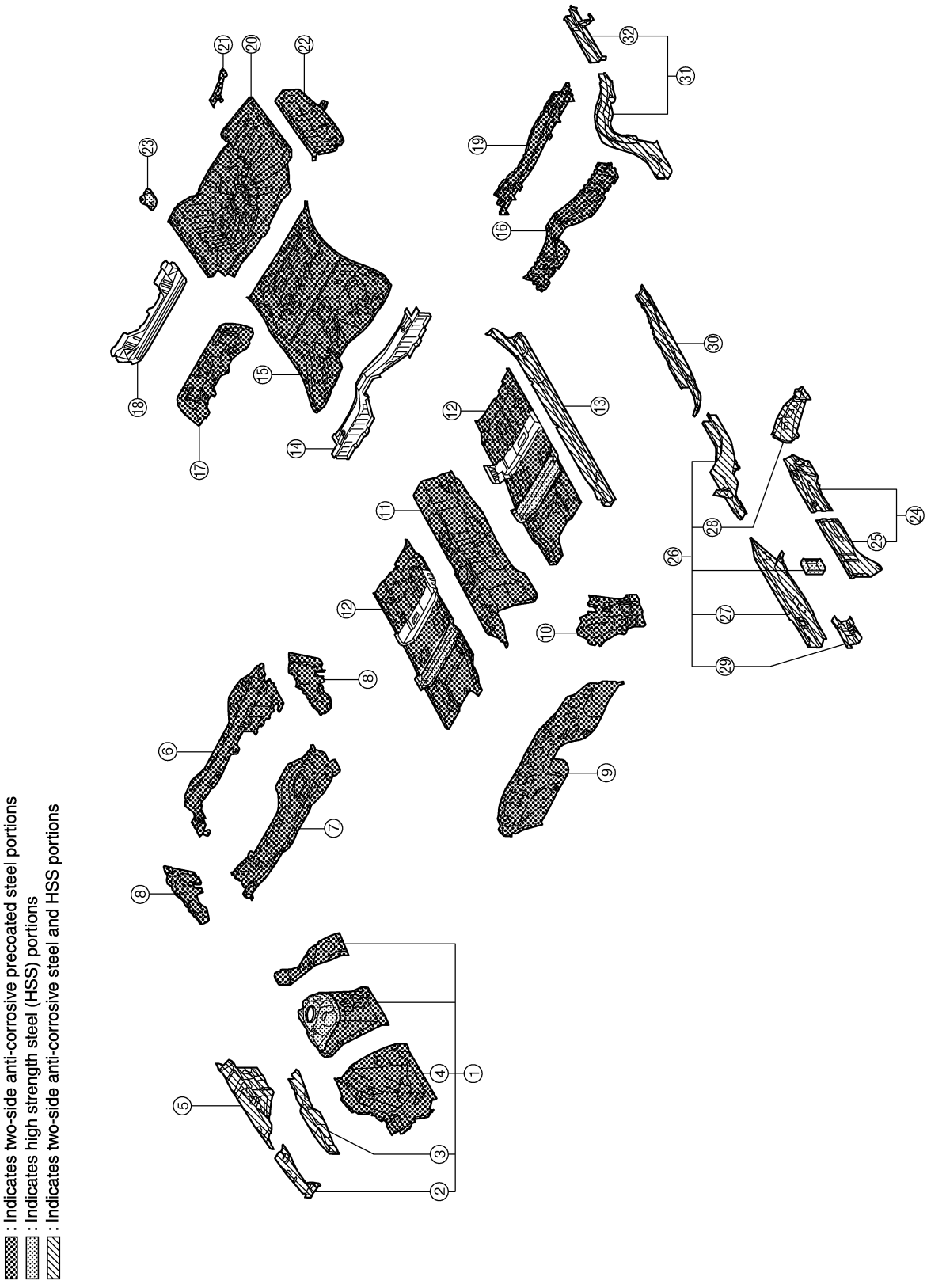
LIIA0126E

Component			Color code	BAX3	BBX4	BDY2	BEY1	BFY0	BKH3	BKY1	BKY2	BQM1	BQX3
			Description	Nouveau Ruby	Opal Blue Metallic	Mystic Emerald	Velvet Beige	Seascape	Super Black	Sheer Silver	Polished Pewter	Cloud White	Satin White
			Paint type	2P	2M	2M	2M	2M	2S	2M	2M	S	3P
			Hard clear coat	X	X	X	X	X	X	X	X	X	X
1	Bumper fascia	Body	Body color	BAX3	BBX4	BDY2	BEY1	BFY0	BKH3	BKY1	BKY2	BQM1	BQX3
2	Radiator grille	Center	Black	AG01	AG01	AG01	AG01	AG01	AG01	AG01	AG01	AG01	AG01
		Outer	Chrome	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
3	Outside mirror	Body	Body color	BAX3	BBX4	BDY2	BEY1	BFY0	BKH3	BKY1	BKY2	BQM1	BQX3
		Base	Black	AG01	AG01	AG01	AG01	AG01	AG01	AG01	AG01	AG01	AG01
4	Side guard molding	Body	Body color	BAX3	BBX4	BDY2	BEY1	BFY0	BKH3	BKY1	BKY2	BQM1	BQX3
		Base	Black	AG01	AG01	AG01	AG01	AG01	AG01	AG01	AG01	AG01	AG01
5	Door sash		Black tape	X	X	X	X	X	X	X	X	X	X
6	Outside handle		Body color	BAX3	BBX4	BDY2	BEY1	BFY0	BKH3	BKY1	BKY2	BQM1	BQX3
7	Rear Spoiler		Body color	BAX3	BBX4	BDY2	BEY1	BFY0	BKH3	BKY1	BKY2	BQM1	BQX3
8	Trunk lid finisher		Body color	BAX3	BBX4	BDY2	BEY1	BFY0	BKH3	BKY1	BKY2	BQM1	BQX3
9	Center mudgaurd		Body color	BAX3	BBX4	BDY2	BEY1	BFY0	BKH3	BKY1	BKY2	BQM1	BQX3

S: Solid Paint, 2S: Solid Color with Clear, 2M: Metallic with Clear, 2P:2-Coat Pearl, 3P:3-Coat Pearl

Body Component Parts
UNDERBODY COMPONENT PARTS

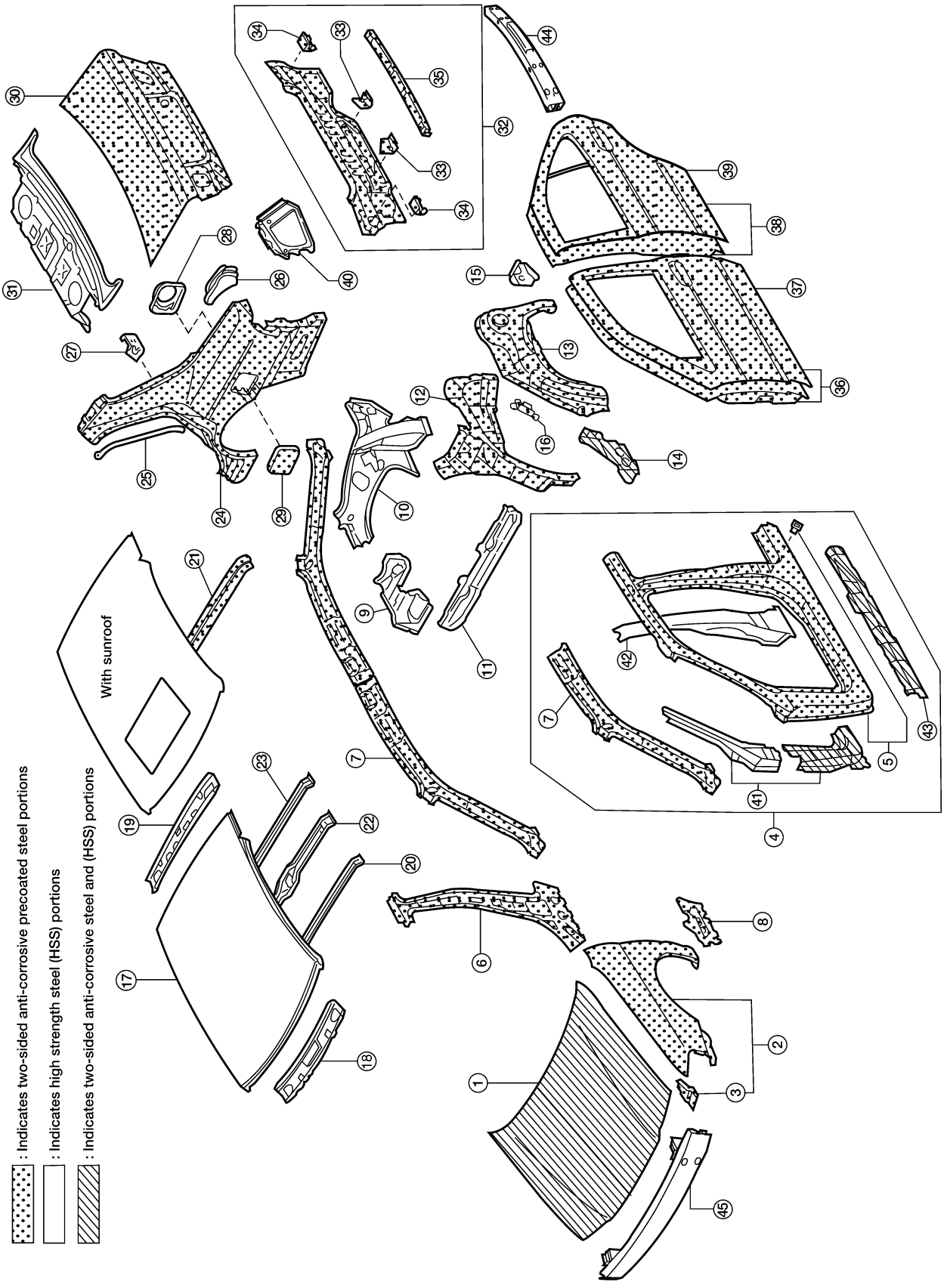
EIS001LF



LIIA0127E

1. Hoodledge assembly (RH, LH)
2. Hoodledge reinforcement (RH, LH)
3. Upper hoodledge (RH, LH)
4. Lower front hoodledge (RH, LH)
5. Rear hoodledge reinforcement (RH, LH)
6. Upper dash crossmember assembly
7. Upper dash assembly
8. Side cowl top
9. Lower dash
10. Side dash (RH, LH)
11. Front floor center
12. Front floor
13. Inner sill (RH, LH)
14. Rear seat crossmember assembly
15. Rear floor front
16. Rear seat crossmember
17. Rear floor belt anchor reinforcement
18. Rear seat back support assembly
19. Center rear crossmember
20. Rear floor rear
21. Muffler mounting bracket
22. Rear floor side (RH, LH)
23. Spare tire clamp bracket
24. Front side member closing plate assembly (RH, LH)
25. Front side member closing plate (RH, LH)
26. Front side member assembly (RH, LH)
27. Front side member (RH, LH)
28. Front side member outrigger assembly (RH, LH)
29. Front side member patch (RH, LH)
30. Front side member rear extension (RH, LH)
31. Rear side member (RH, LH)
32. Rear side member extension (RH, LH)

BODY COMPONENT PARTS



1. Hood
2. Front fender (RH, LH)
3. Front fender bracket (RH, LH)
4. Body side assembly (RH, LH)
5. Outer body side assembly (RH, LH)
6. Inner center pillar (RH, LH)
7. Upper inner front pillar (RH, LH)
8. Lower front pillar reinforcement (RH, LH)
9. Side parcel shelf (RH, LH)
10. Inner rear pillar (RH, LH)
11. Rear seat back support brace
12. Inner rear wheelhouse (RH, LH)
13. Outer rear wheelhouse (RH, LH)
14. Outer rear wheelhouse extension (RH, LH)
15. Rear floor side extension (RH, LH)
16. Rear seat crossmember reinforcement (RH, LH)
17. Roof
18. Front roof rail
19. Rear roof rail
20. Front roof bow
21. Roof reinforcement
22. Center roof bow
23. Rear roof bow
24. Rear fender (RH, LH)
25. Rear fender drip (RH, LH)
26. Rear fender corner (RH, LH)
27. Striker retainer (RH, LH)
28. Fuel filler lid base
29. Fuel filler lid
30. Trunk lid
31. Rear waist and parcel shelf
32. Rear panel assembly
33. Rear bumper side bracket
34. Rear bumper side bracket
35. Rear panel upper stiffener
36. Front door assembly (RH, LH)
37. Outer front door panel (RH, LH)
38. Rear door assembly (RH, LH)
39. Outer rear door panel (RH, LH)
40. Rear combination lamp base (RH, LH)
41. Front pillar reinforcement assembly (RH, LH)
42. Center pillar reinforcement (RH, LH)
43. Outer sill reinforcement
44. Rear bumper reinforcement
45. Front bumper reinforcement

Corrosion Protection

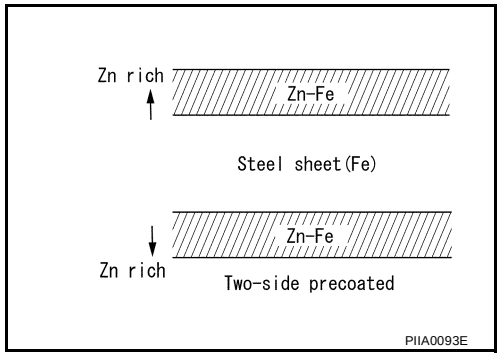
EIS001LG

DESCRIPTION

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

ANTI-CORROSIVE PRECOATED STEEL (GALVANNEALED STEEL)

To improve repairability and corrosion resistance, a new type of anti-corrosive precoated steel sheet has been adopted replacing conventional zinc-coated steel sheet.
Galvannealed steel is electroplated and heated to form Zinc-iron alloy, which provides excellent and long term corrosion resistance with cationic electrodeposition primer.



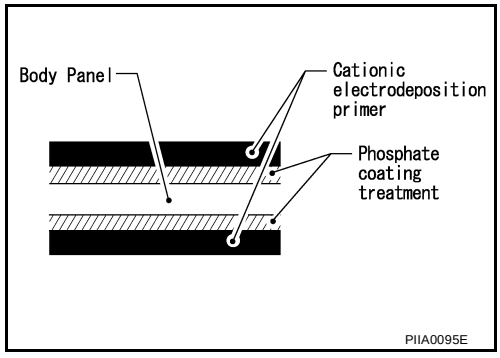
Nissan Genuine Service Parts are fabricated from galvannealed steel. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

PHOSPHATE COATING TREATMENT AND CATIONIC ELECTRODEPOSITION PRIMER

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

CAUTION:

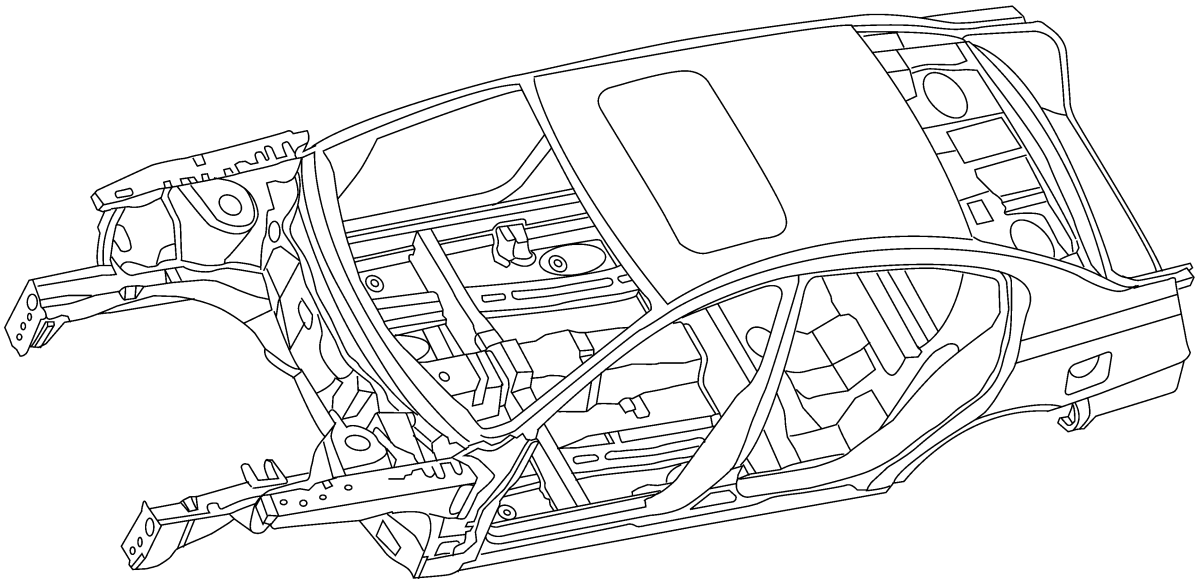
Confine paint removal during welding operations to an absolute minimum.

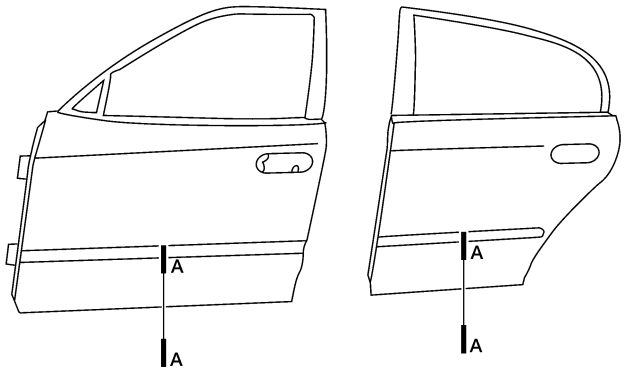


Nissan Genuine Service Parts are also treated in the same manner. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain anti-corrosive performance built into the vehicle at the factory.

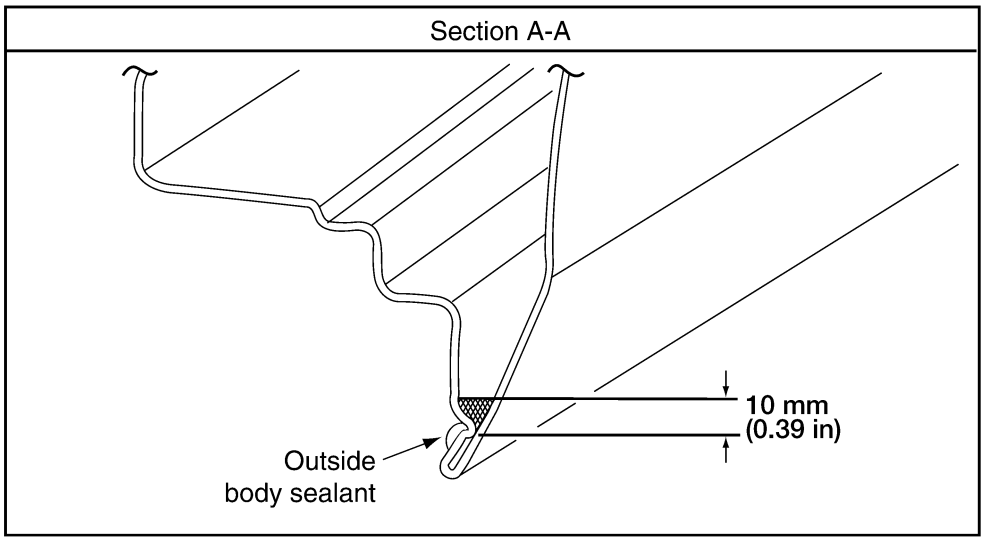
ANTI-CORROSIVE WAX

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





: Indicates anti-corrosive wax coated portions inside doors.



LIIA0005E

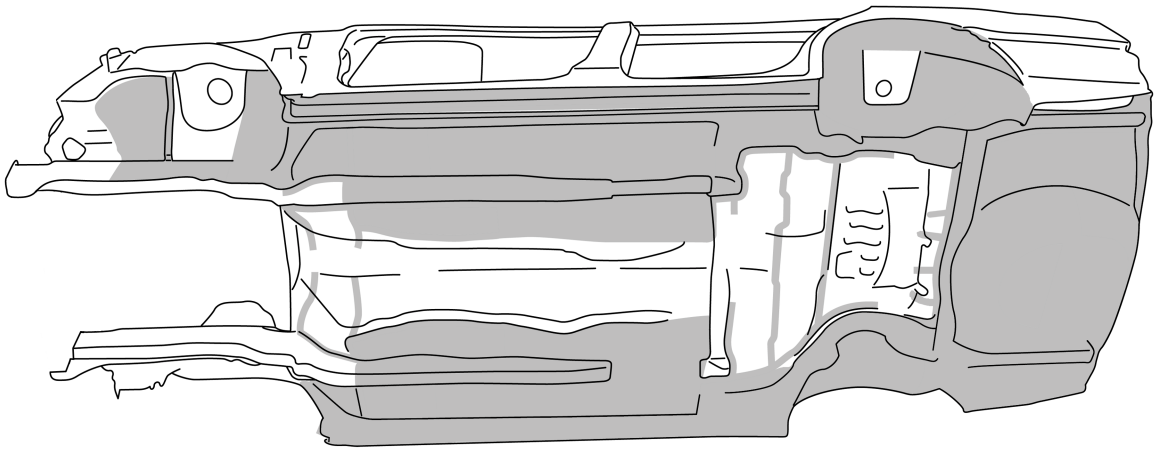
UNDERCOATING

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

Precautions in undercoating

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

: Indicates undercoated portions.



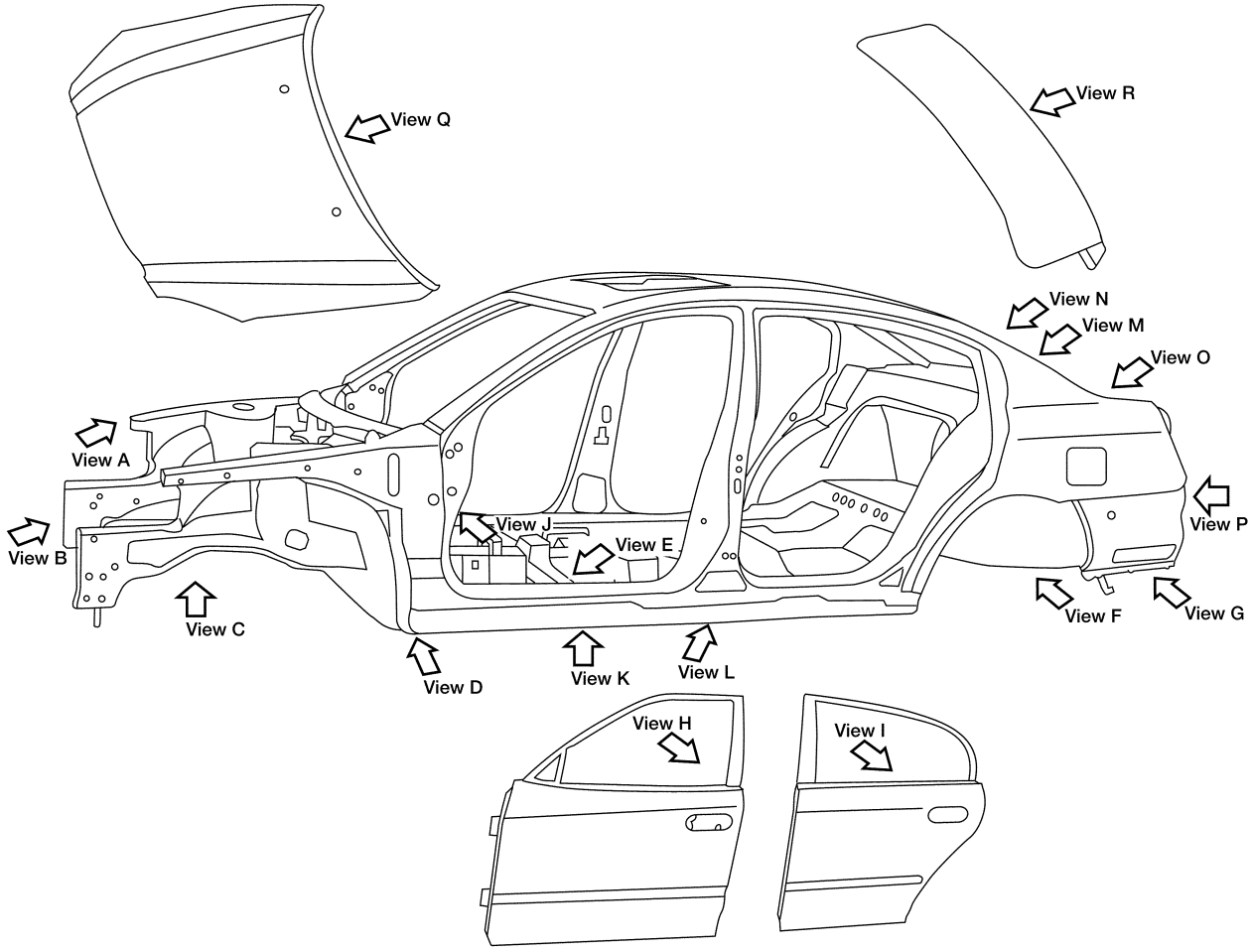
LIIA0129E

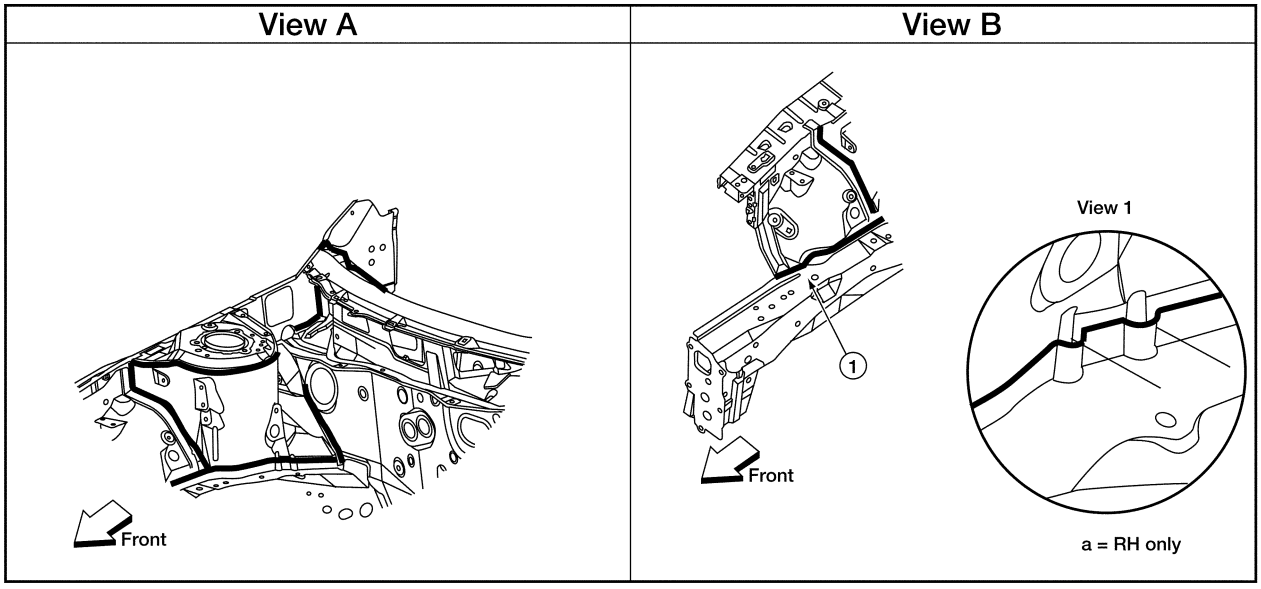
Body Sealing

EIS001LH

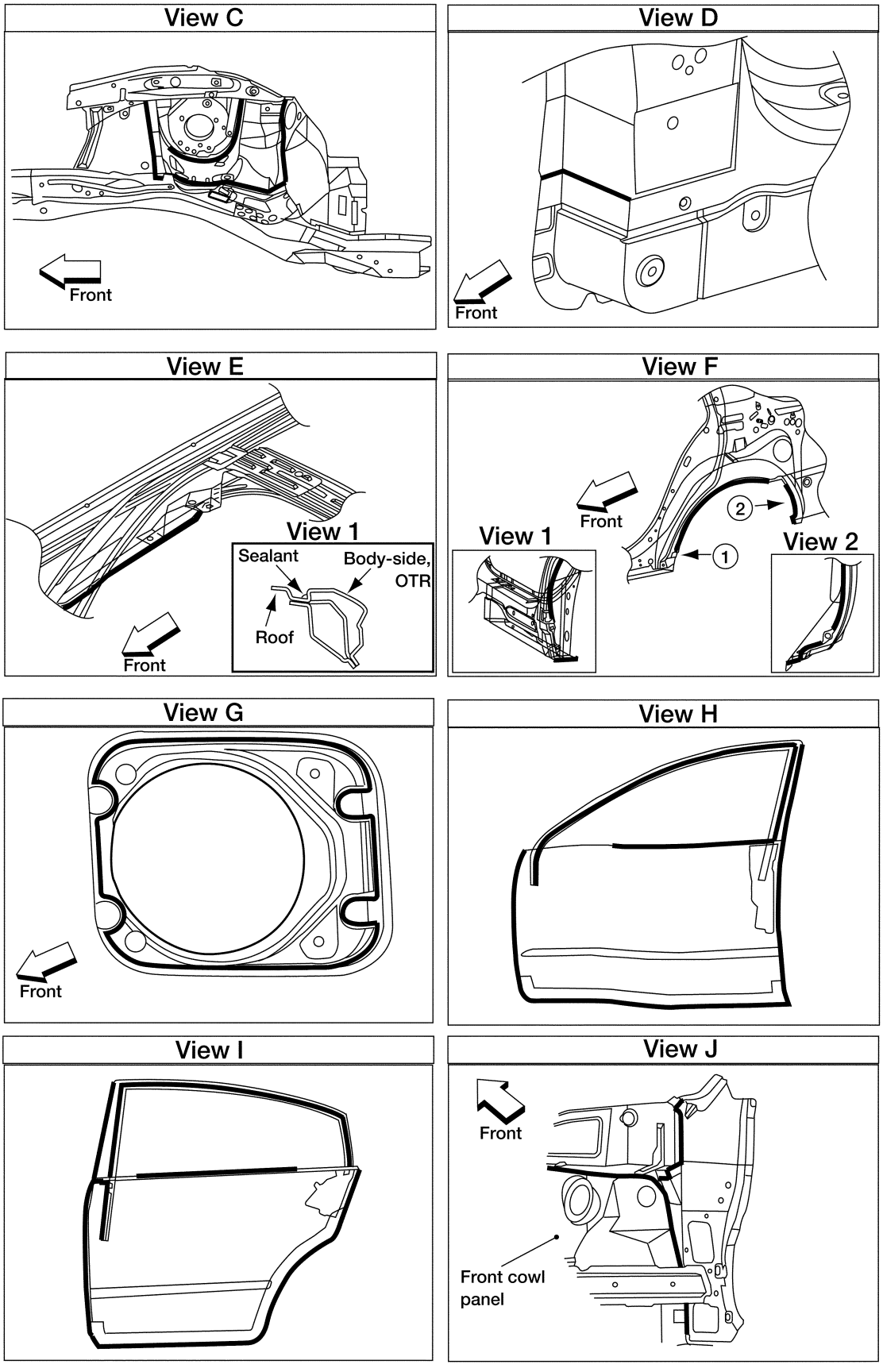
DESCRIPTION

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



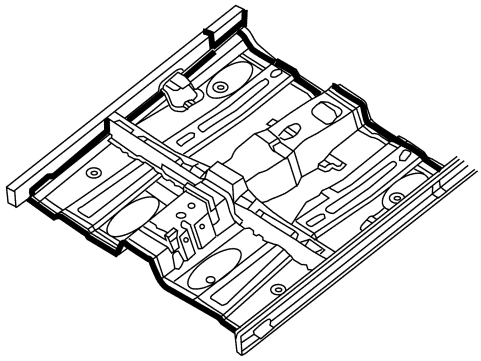


WIIA0138E

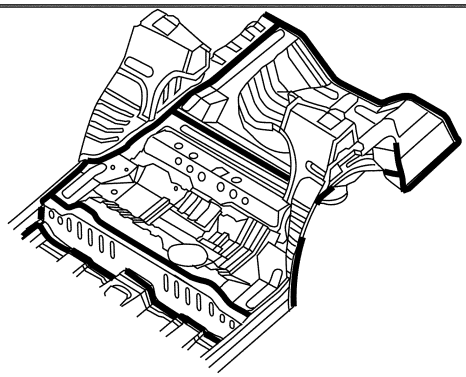

View C
Front
View D
Front
View E
View 1
Sealant
Body-side, OTR
Roof
Front
View F
Front
View 1
2
1
View 2
View G
Front
View H
View I
View J
Front
Front cowl panel

WIIA0129E

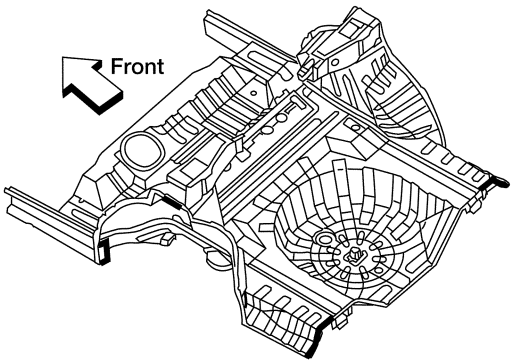
View K



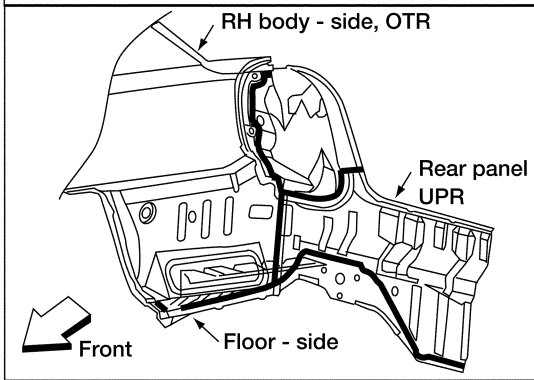
View L



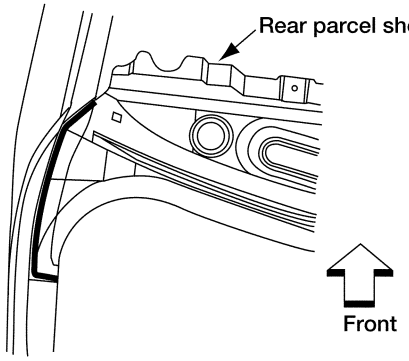
View M



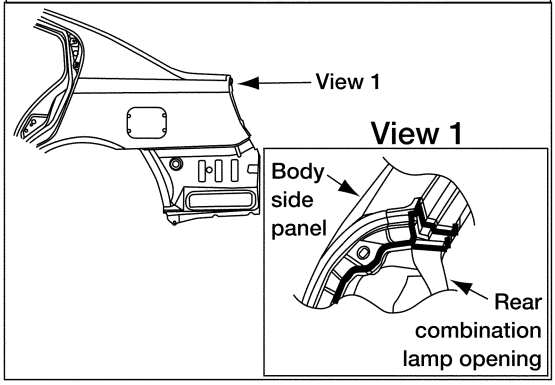
View N



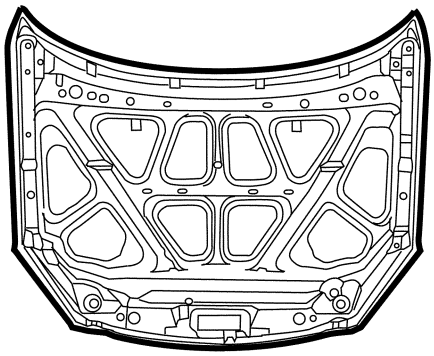
View O



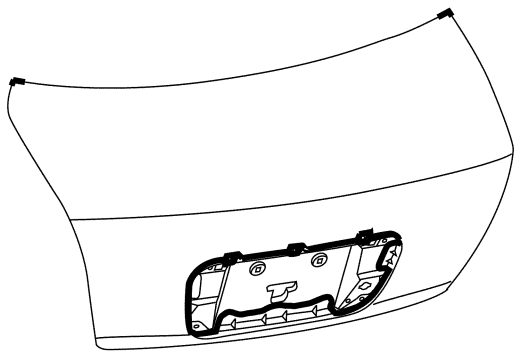
View P



View Q



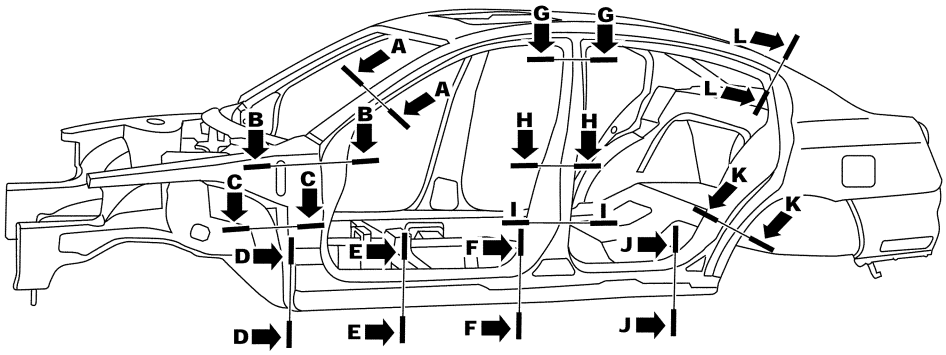
View R

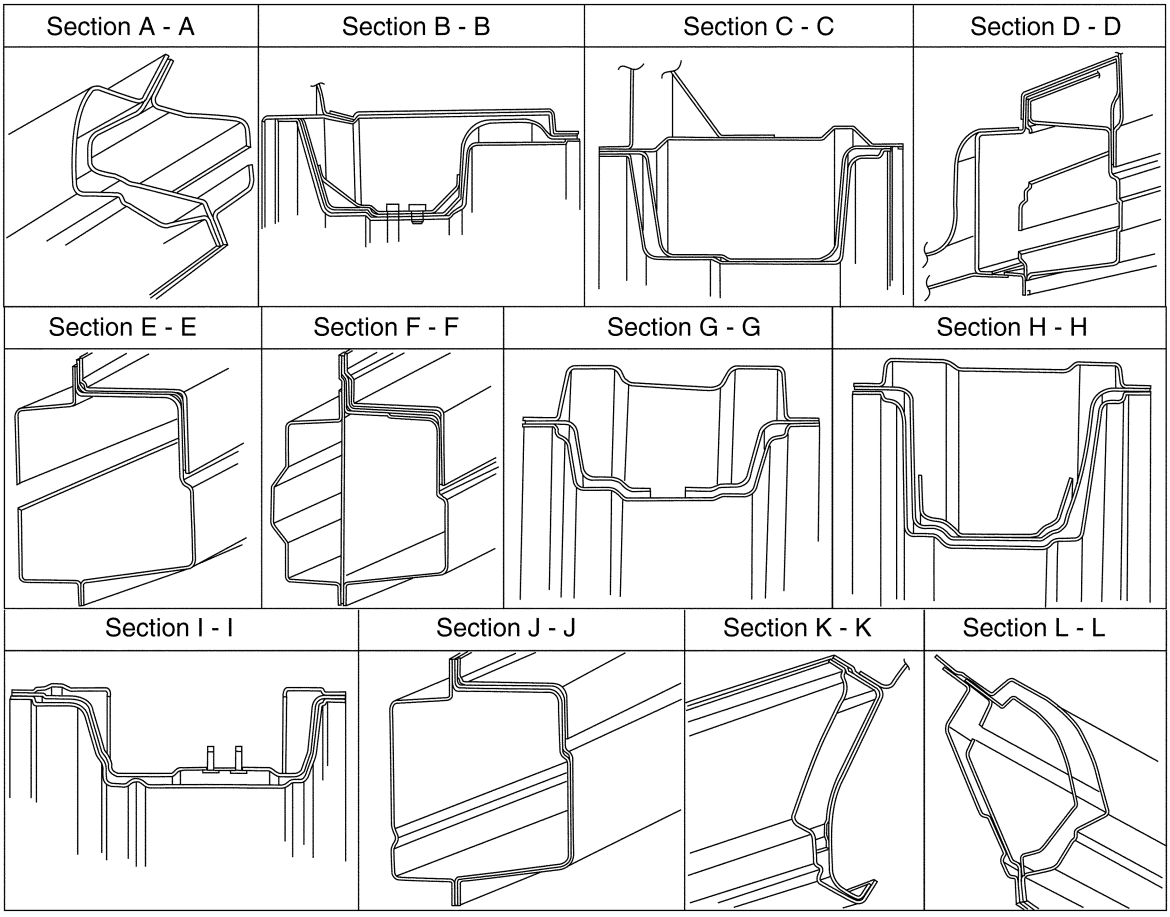


WIIA0130E

Body Construction
BODY CONSTRUCTION

EIS001LI





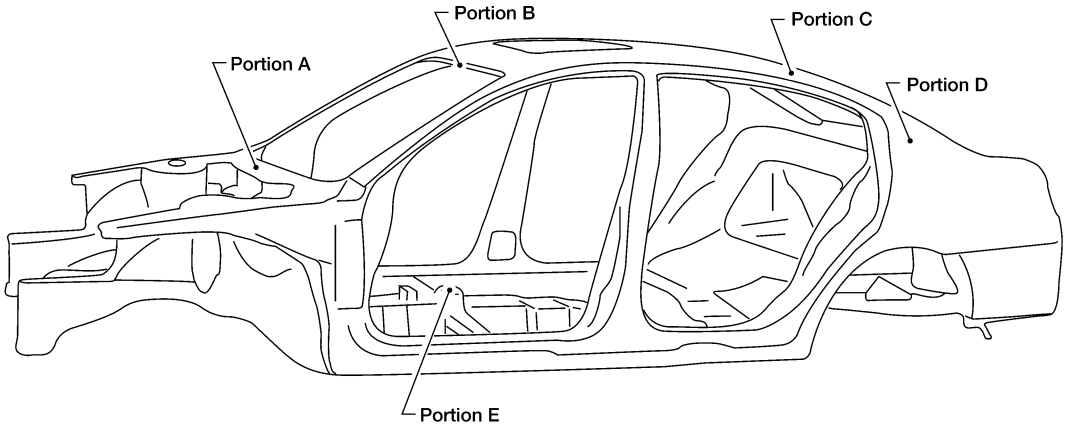
WIIA0131E

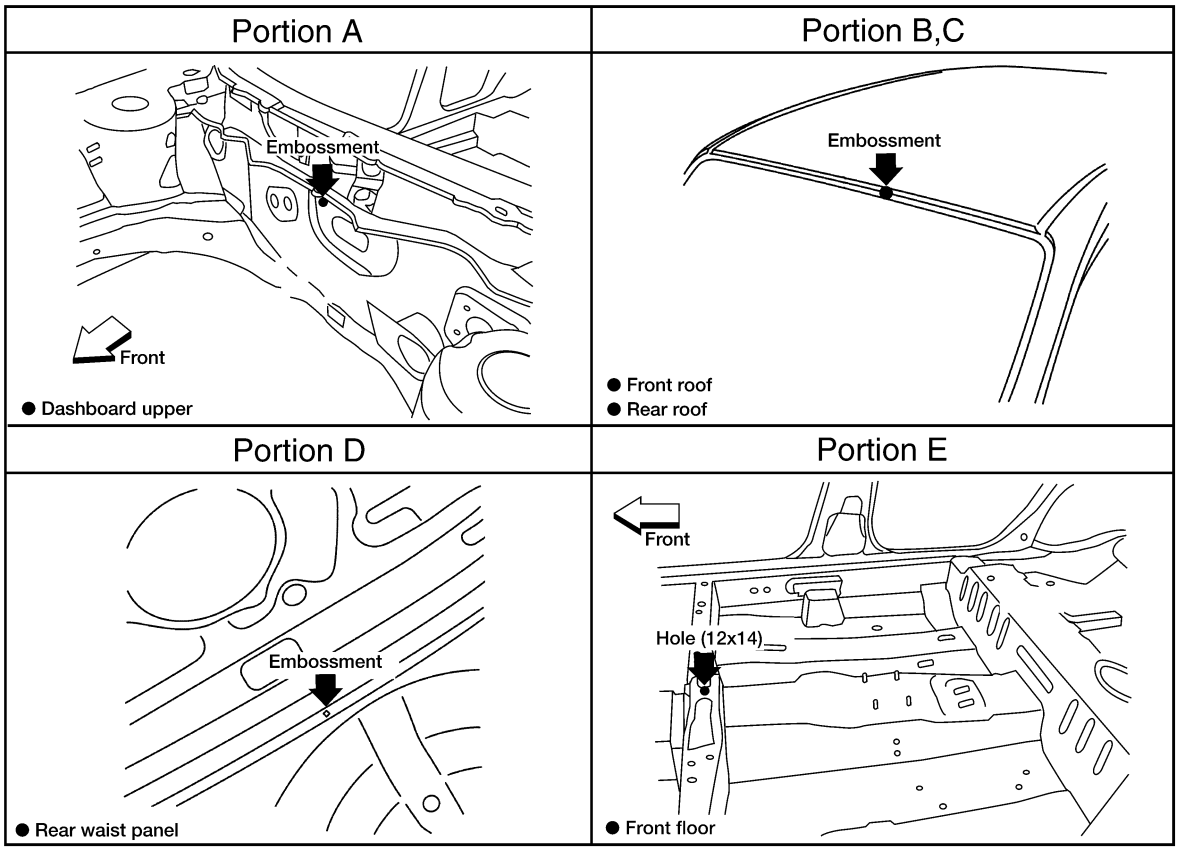
Body Alignment

EIS001LJ

BODY CENTER MARKS

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

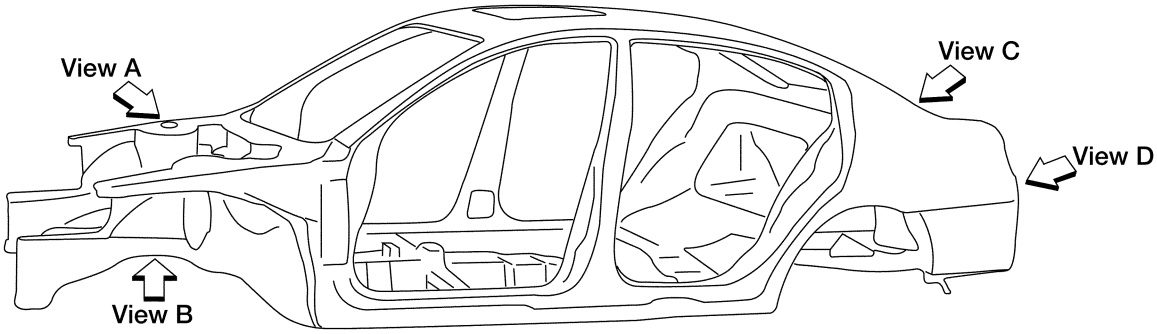


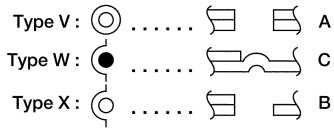


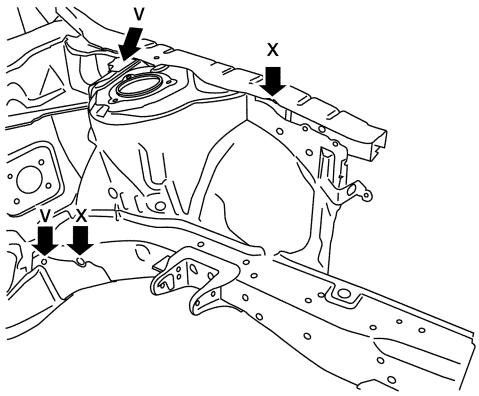
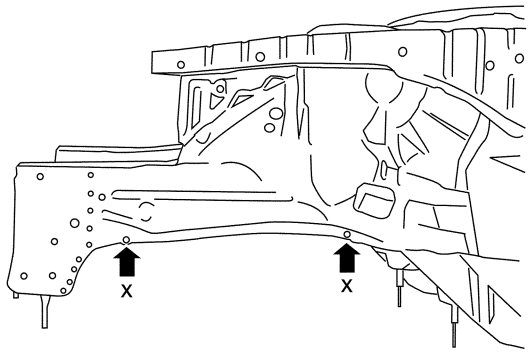
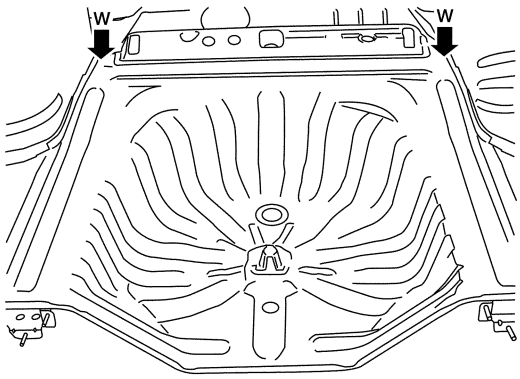
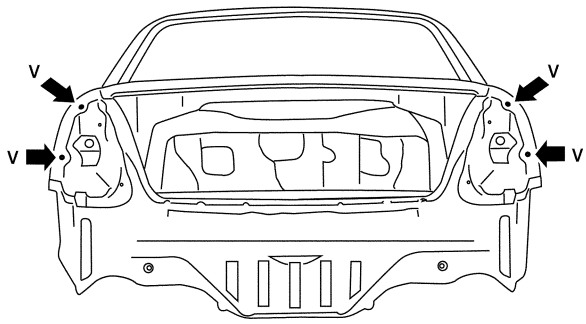
WIIA0147E

PANEL PARTS MATCHING MARKS

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



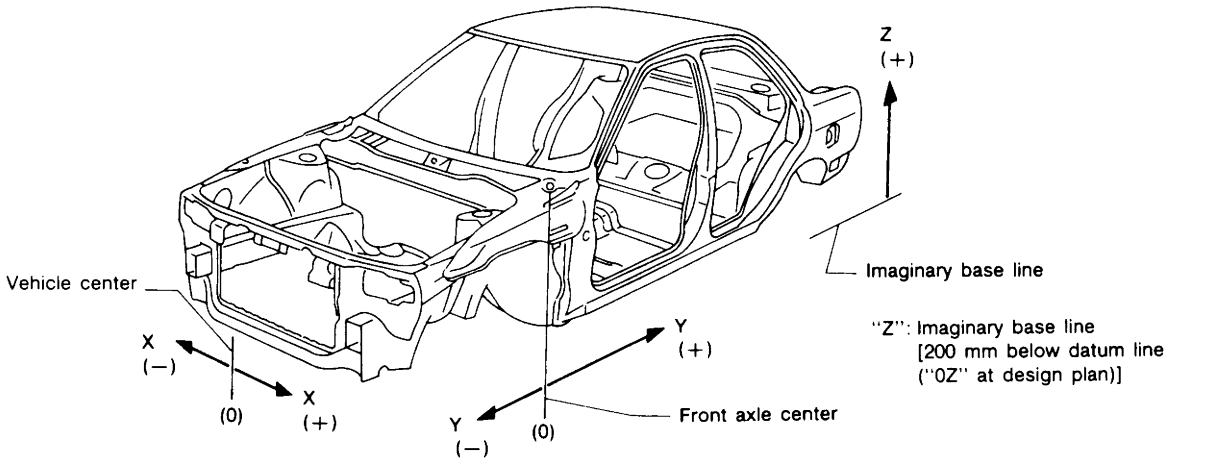


View A	View B
	
View C	**View D**
	

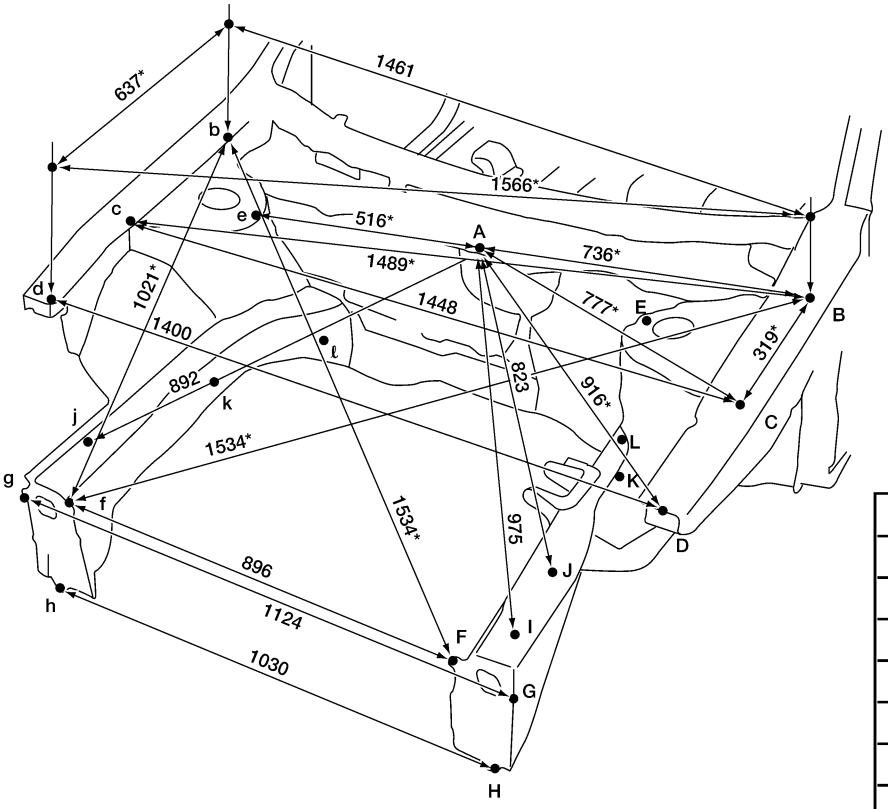
WIIA0132E

DESCRIPTION

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



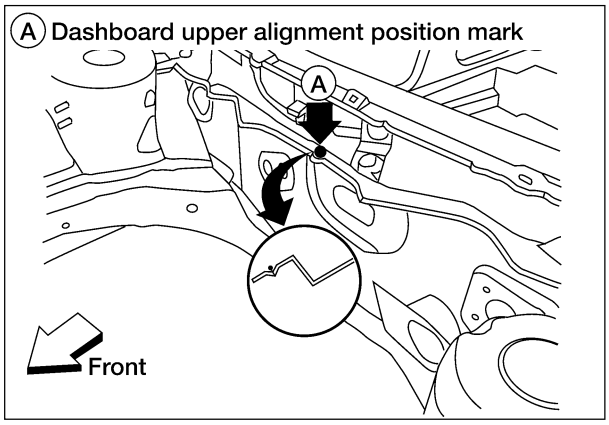
ENGINE COMPARTMENT
MEASUREMENT

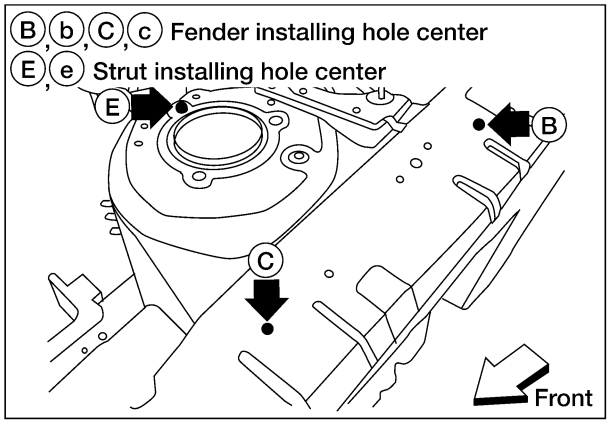


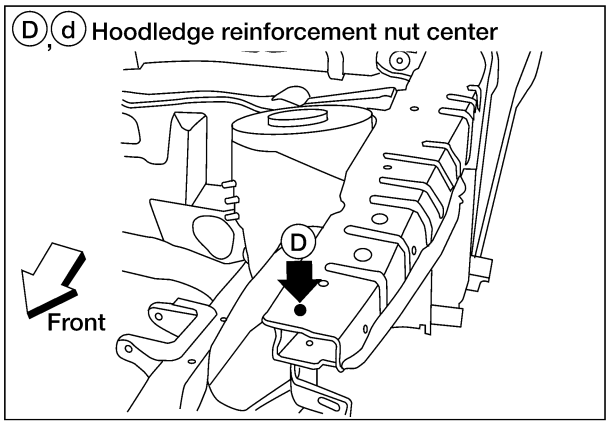
Point	Dimension
B-E	318*
B-e	1234*
E-e	973
E-d	483*
E-D	1263*
I-K	531
I-L	761
j-k	338
j-l	658

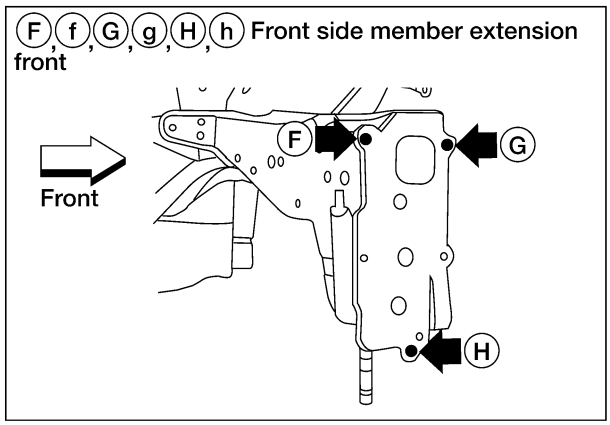
WIIA0148E

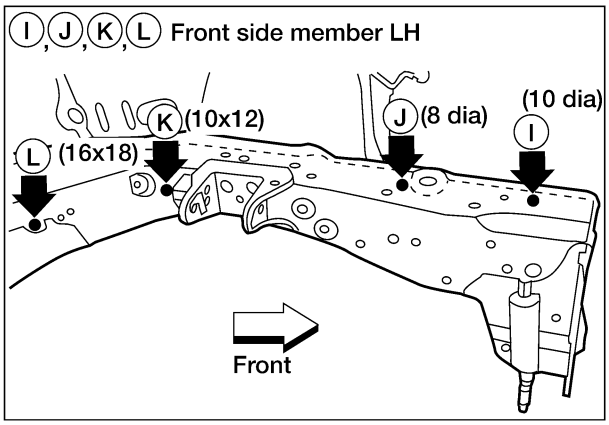
MEASUREMENT POINTS

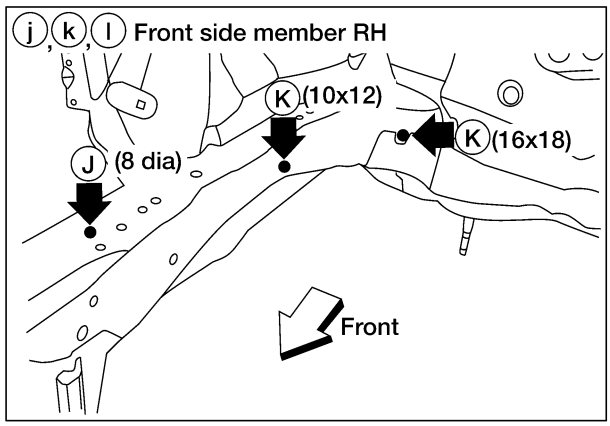








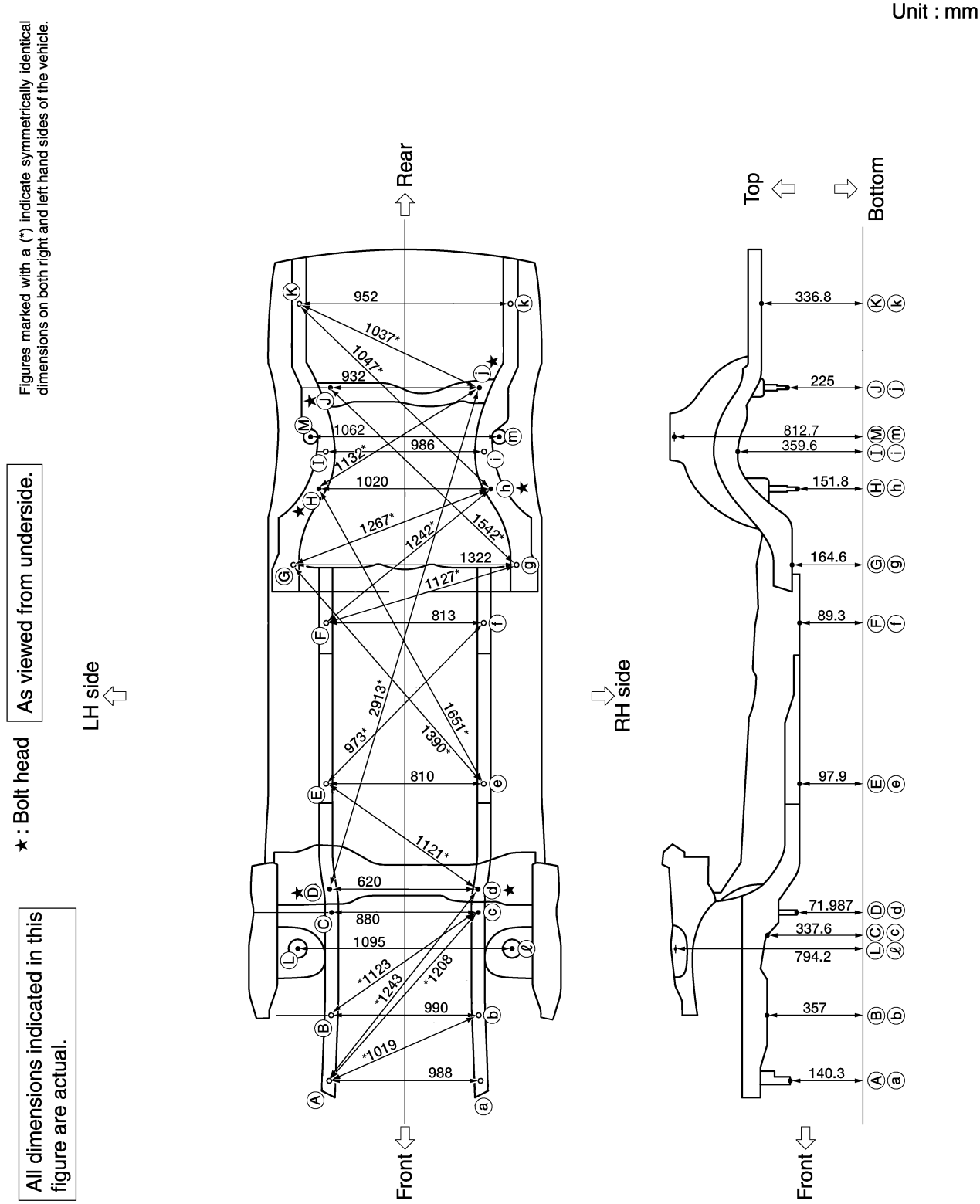




WIIA0149E

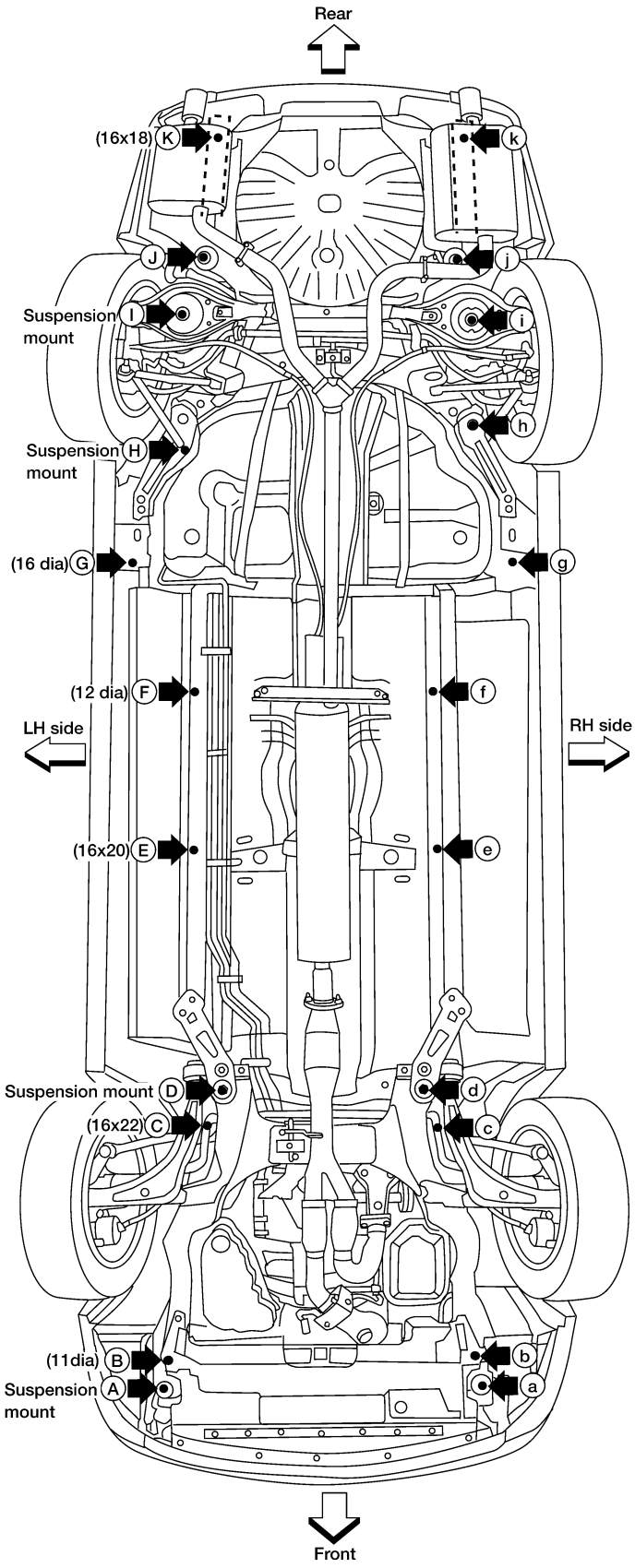
UNDERBODY MEASUREMENT

Unit : mm



LIIA0087E

MEASUREMENT POINTS



Coordinates:

Ⓐ,ⓐ
X : 494
Y : -617.5
Z : 140.3

Ⓑ,ⓑ
X : 495
Y : -500
Z : 357

Ⓒ,ⓒ
X : 440
Y : 122.2
Z : 337.6

Ⓓ,ⓓ
X : 310
Y : 327.5
Z : 71.987

Ⓔ,ⓔ
X : 405
Y : 1190
Z : 97.9

Ⓕ,ⓕ
X : 406.5
Y : 1727
Z : 89.3

Ⓖ,ⓖ
X : 661
Y : 2080
Z : 164.6

Ⓗ,ⓗ
X : 510
Y : 2563
Z : 151.8

Ⓘ,ⓘ
X : 496.0
Y : 2936.7
Z : 359.6

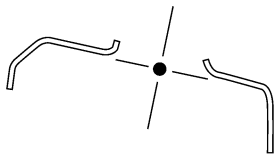
Ⓙ,ⓙ
X : 466
Y : 3132
Z : 225

Ⓚ,ⓚ
X : 476
Y : 3550
Z : 336.8

Strut tower centers

Coordinates:

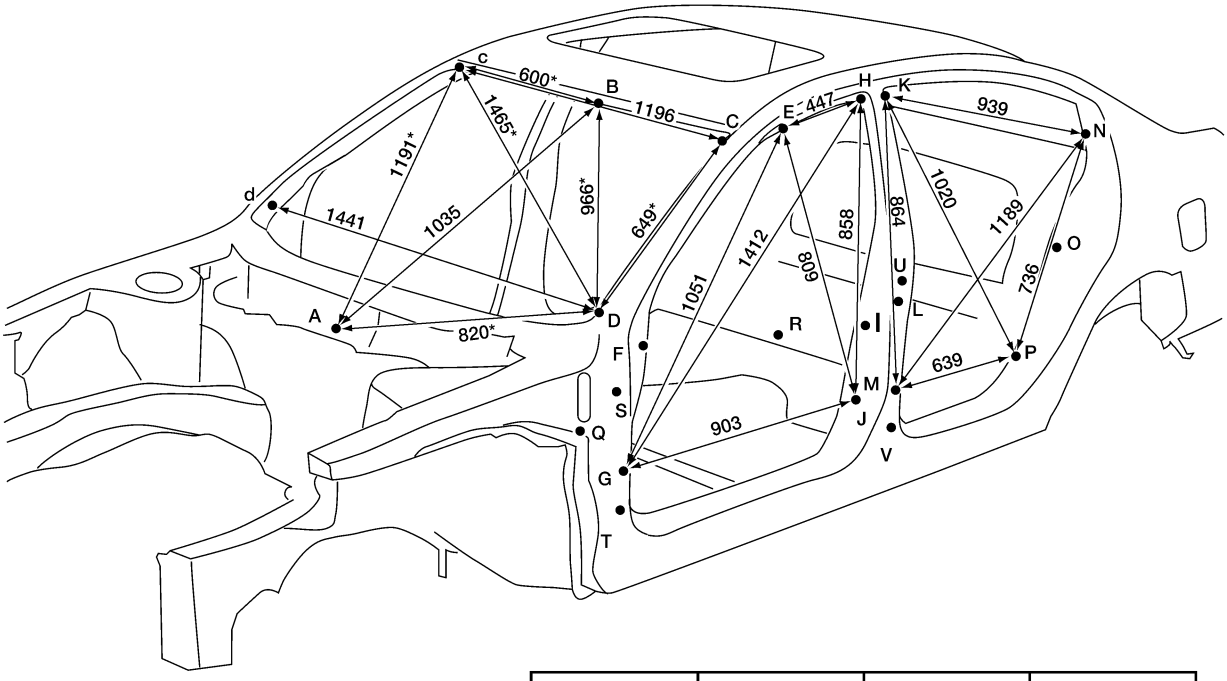
Ⓛ,ⓛ Front
X : 547.6
Y : 28.9
Z : 794.2



Ⓜ,ⓜ Rear
X : 531.1
Y : 2833.1
Z : 812.7

LIIA0086E

PASSENGER COMPARTMENT MEASUREMENT

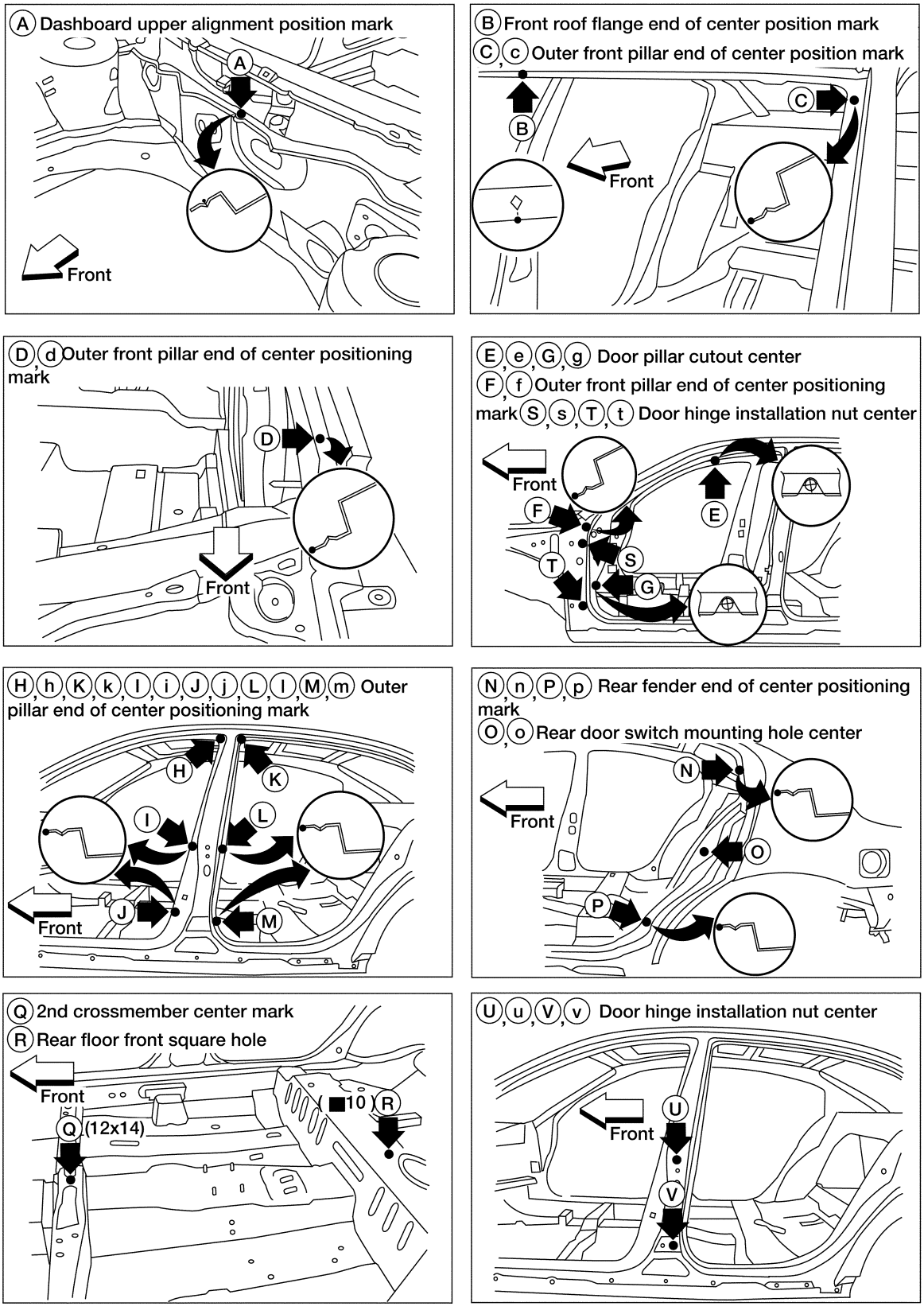


Point	Dimension	Point	Dimension
E-e	1192	Q-I*	939
F-f	1450	R-K	1075
G-g	1468	R-k	1167
I-i	1451	R-L	814
I-F	885	R-l	963
J-j	1467	R-M	751
L-l	1448	R-m	912
M-m	1469	R-N	1106
N-n	1332	R-n	1211
O-L*	840	R-P	697
P-p	1468	R-p	868
Q-G*	919	S-U*	1152
Q-H*	1255	T-V*	1132

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

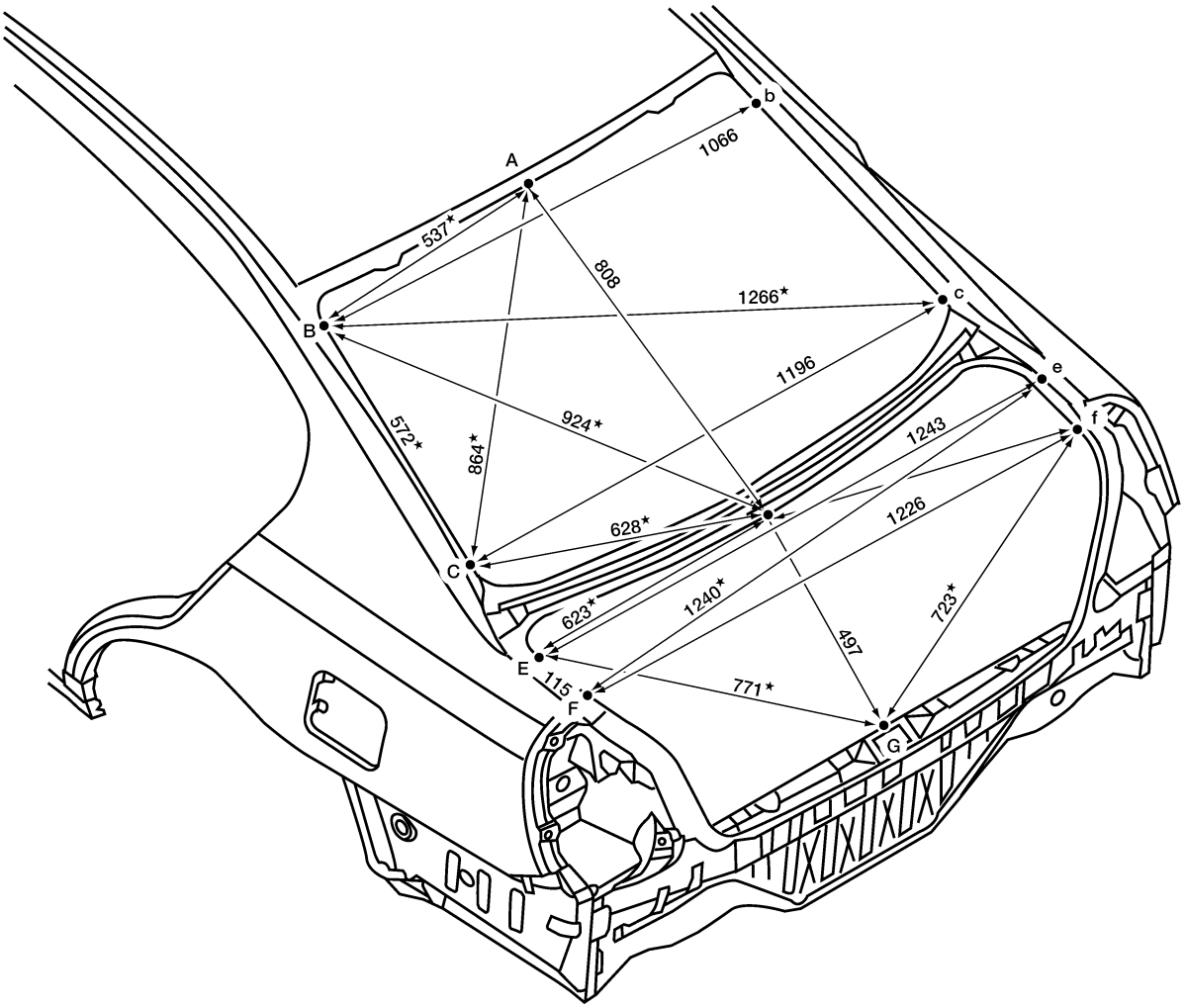
LIIA0090E

MEASUREMENT POINTS



WIIA0134E

REAR BODY
MEASUREMENT

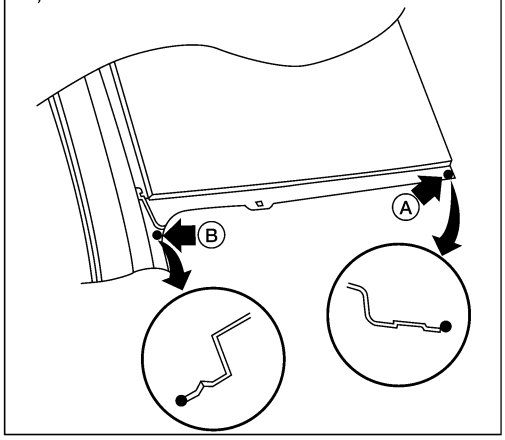


*= Figures marked with a (*) indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.

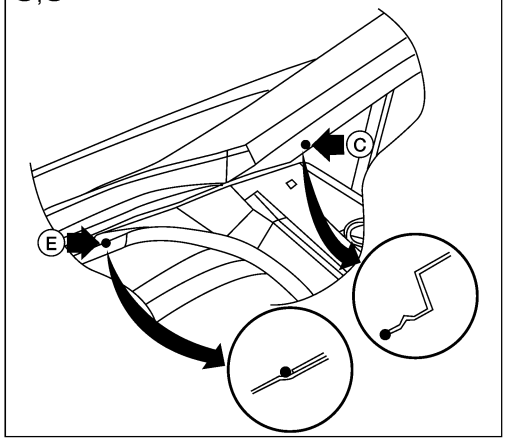
LIIA0065E

MEASUREMENT POINTS

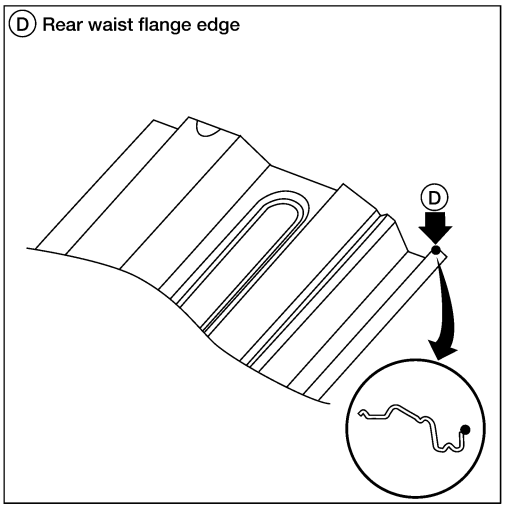
Ⓐ Rear roof edge of center position mark
Ⓑ, ⓑ Body side outer upper



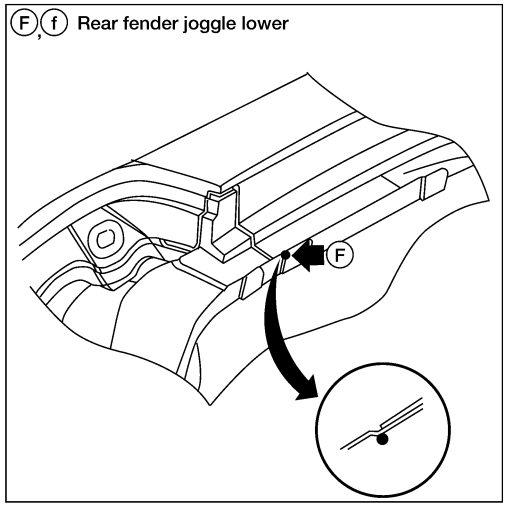
Ⓒ, ⓒ Body side outer
Ⓔ, ⓔ Rear fender joggle upper



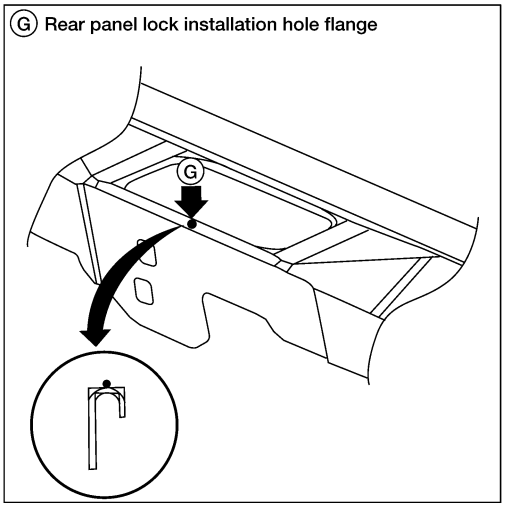
Ⓓ Rear waist flange edge



Ⓕ, ⓕ Rear fender joggle lower



Ⓖ Rear panel lock installation hole flange



LIIA0066E

Handling Precautions for Plastics

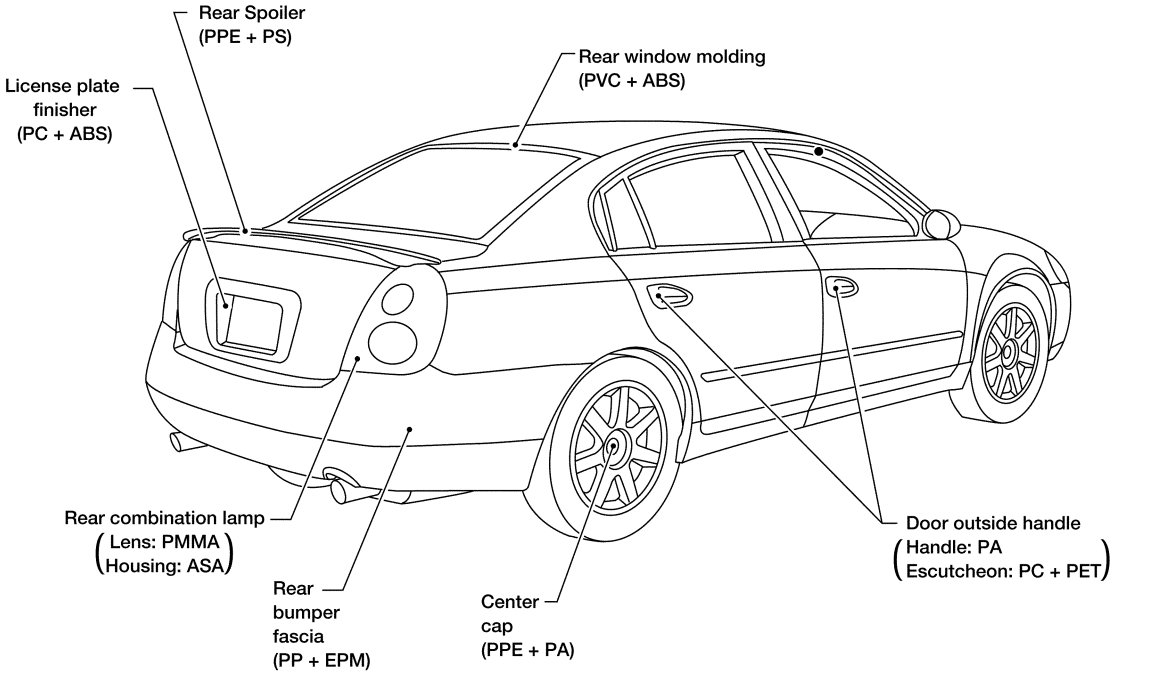
EIS001LK

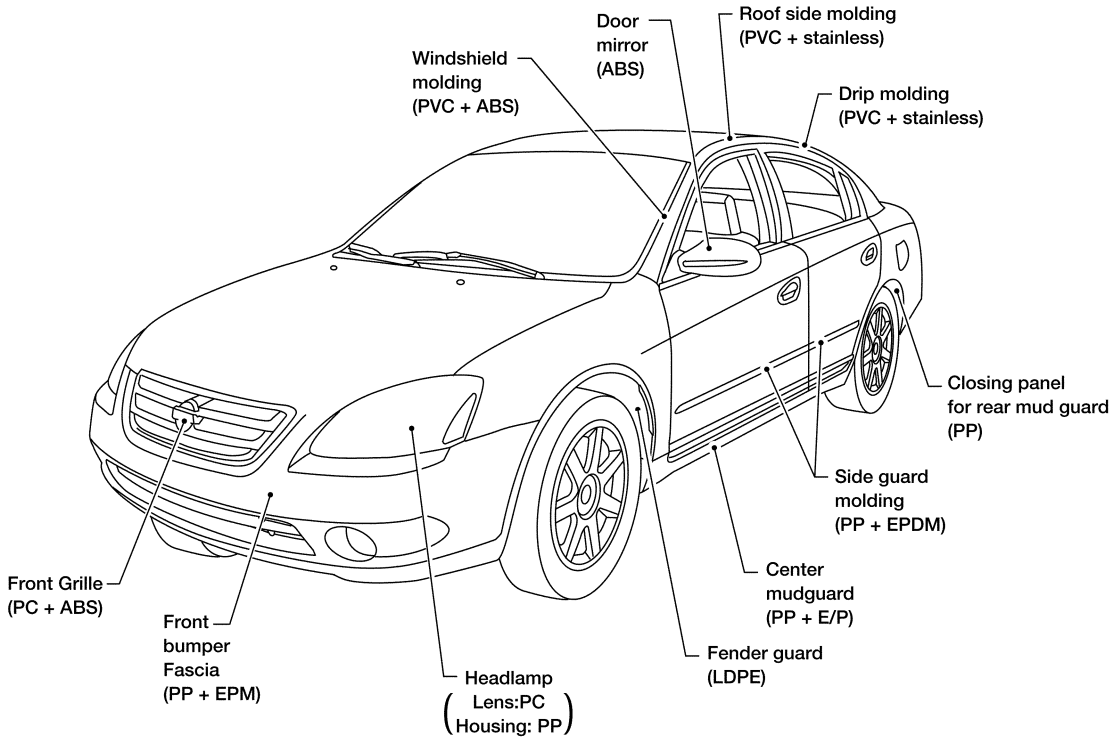
HANDLING PRECAUTIONS FOR PLASTICS

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

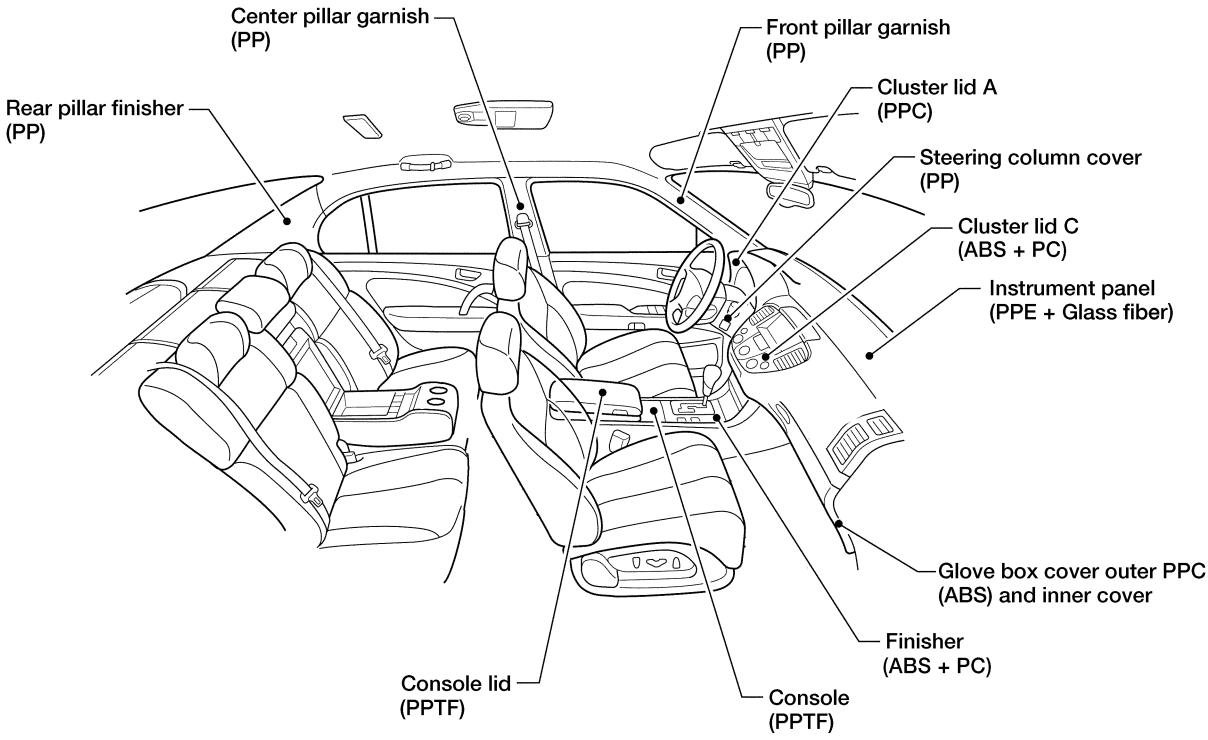
1. When repairing and painting a portion of the body adjacent to plastic parts, consider their characteristics (influence of heat and solvent) and remove them if necessary or take suitable measures to protect them.
2. Plastic parts should be repaired and painted using methods suiting the materials' characteristics.

LOCATION OF PLASTIC PARTS





WIIA0157E


Center pillar garnish
(PP)
Front pillar garnish
(PP)
Rear pillar finisher
(PP)
Cluster lid A
(PPC)
Steering column cover
(PP)
Cluster lid C
(ABS + PC)
Instrument panel
(PPE + Glass fiber)
Glove box cover outer PPC
(ABS) and inner cover
Finisher
(ABS + PC)
Console lid
(PPTF)
Console
(PPTF)

WIIA0150E

Precautions in Repairing High Strength Steel

EIS001LL

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

HIGH STRENGTH STEEL (HSS) USED IN NISSAN VEHICLES

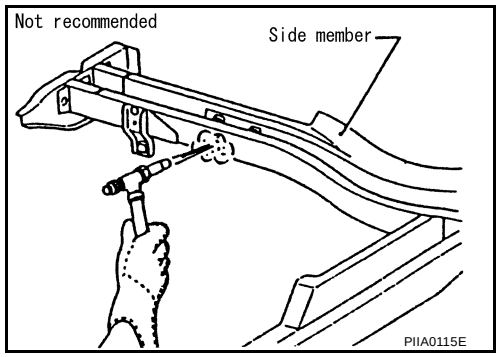
Tensile strength	Nissan/Infiniti designation	Major applicable parts
373 N/mm^2 (38kg/mm^2 ,54klb/sq in)	SP130	● Front side member assembly ● Upper hoodledge ● Upper pillar hinge brace assembly ● Rear side member extension ● Other reinforcements
785-981 N/mm^2 (80-100kg/mm^2 114-142klb/sq in)	SP150	● Front bumper reinforcement ● Rear bumper reinforcement

SP130 is the most commonly used HSS.
SP150 HSS is used only on parts that require much more strength.

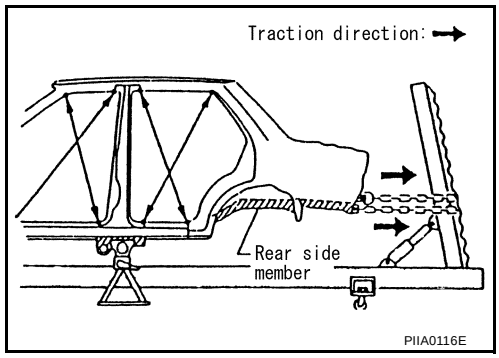
Read the following precautions when repairing HSS:

1. Additional points to consider

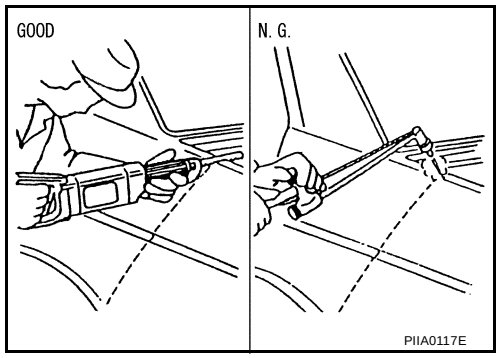
- The repair of reinforcements (such as side members) by heating is not recommended since it may weaken the component. When heating is unavoidable, do not heat HSS parts above 550°C (1,022°F).
  Verify heating temperature with a thermometer.
  (Crayon-type and other similar type thermometer are appropriate.)



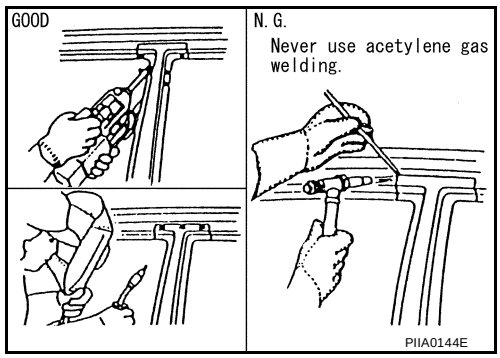
- When straightening body panels, use caution in pulling any HSS panel. Because HSS is very strong, pulling may cause deformation in adjacent portions of the body. In this case, increase the number of measuring points, and carefully pull the HSS panel.



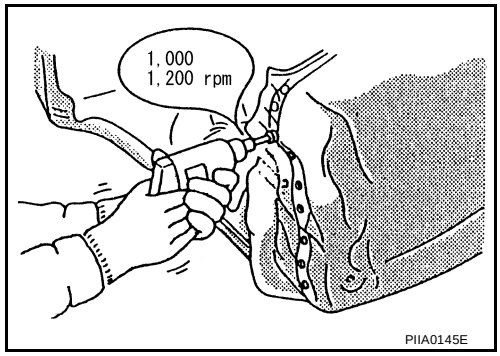
- When cutting HSS panels, avoid gas (torch) cutting if possible. Instead, use a saw to avoid weakening surrounding areas due to heat. If gas (torch) cutting is unavoidable, allow a minimum margin of 50 mm (1.97in).



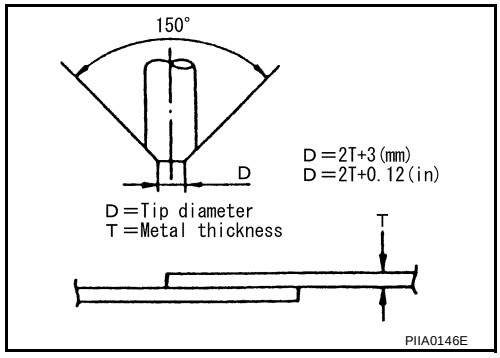
- When welding HSS panels, use spot welding whenever possible in order to minimize weakening surrounding areas due to heat.
  If spot welding is impossible, use M.I.G. welding. Do not use gas (torch) welding because it is inferior in welding strength.



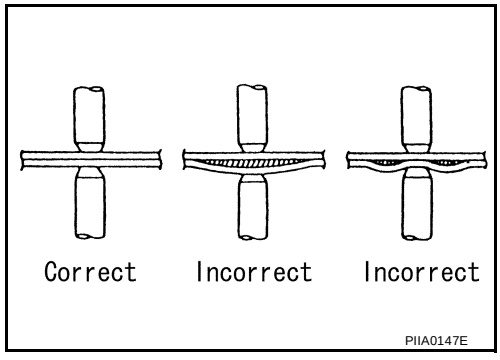
- The spot weld on HSS panels is harder than that of an ordinary steel panel.
  Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.
- SP150 HSS panels with a tensile strength of 785 to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



2. Precautions in spot welding HSS
   This work should be performed under standard working conditions. Always note the following when spot welding HSS:
   - The electrode tip diameter must be sized properly according to the metal thickness.



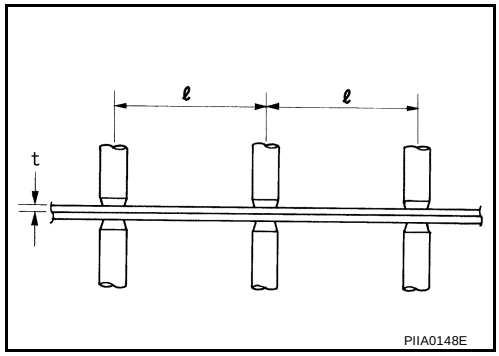
   - The panel surfaces must fit flush to each other, leaving no gaps.



- Follow the specifications for the proper welding pitch.

Unit:mm

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



Replacement Operations

EIS001LM

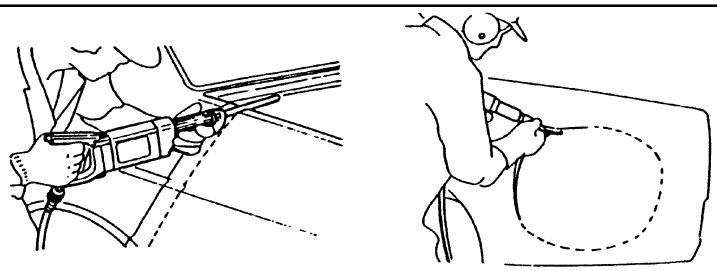
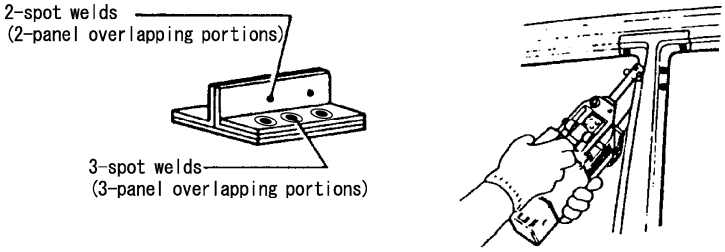
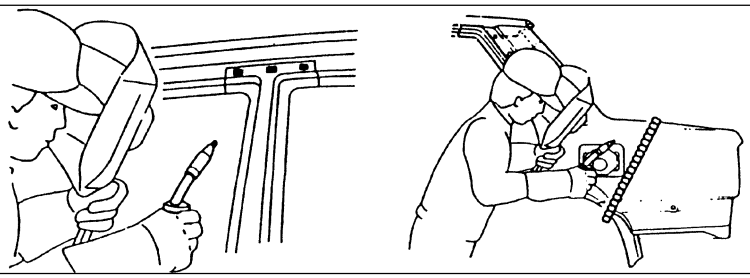
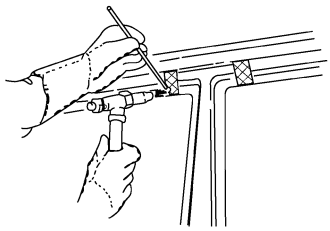
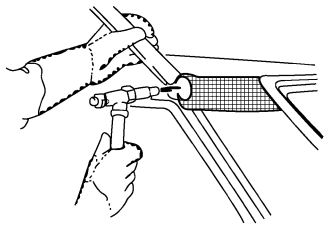
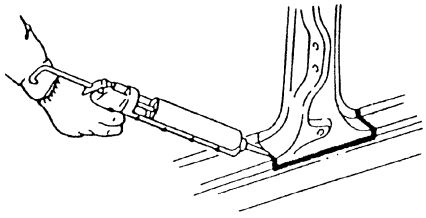
DESCRIPTION

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

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

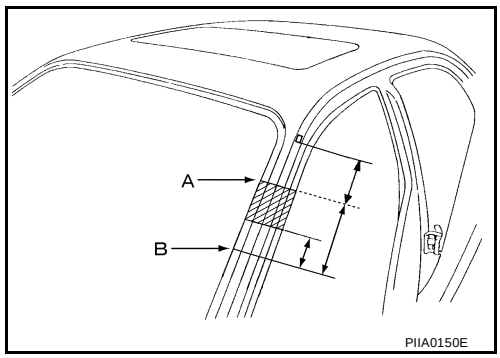
Please note that this information is prepared for worldwide usage, and as such, certain procedures may not apply in some regions or countries.

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

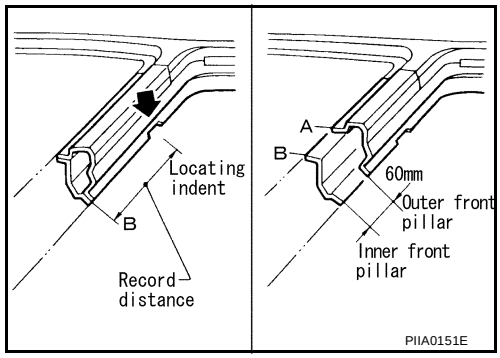
Saw cut or air chisel cut	
Spot weld 2-spot welds	
Spot weld 3-spot welds	
MIG plug weld	
MIG seam weld/ Point weld	
Brazing	
Soldering	
Sealing	

PIIA0149E

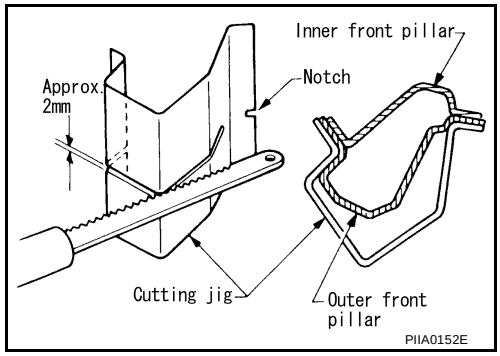
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle. Refer to the front pillar section.



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

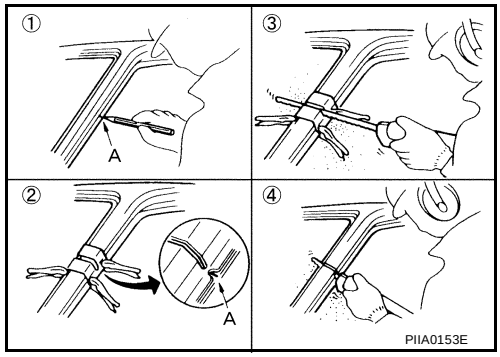


- Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit service part to be accurately cut at joint position.



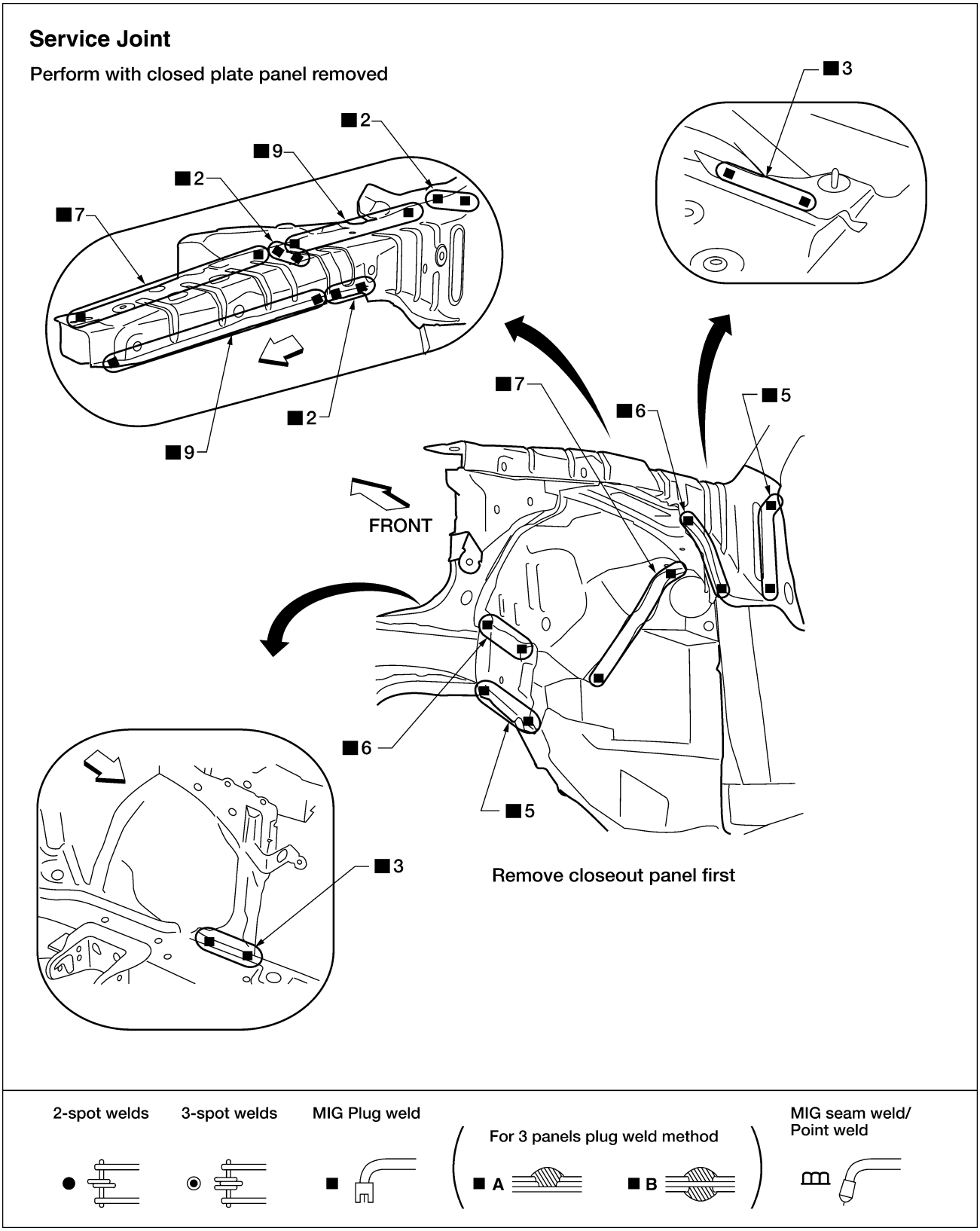
- An example of cutting operation using a cutting jig is as follows.

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



HOODLEDGE

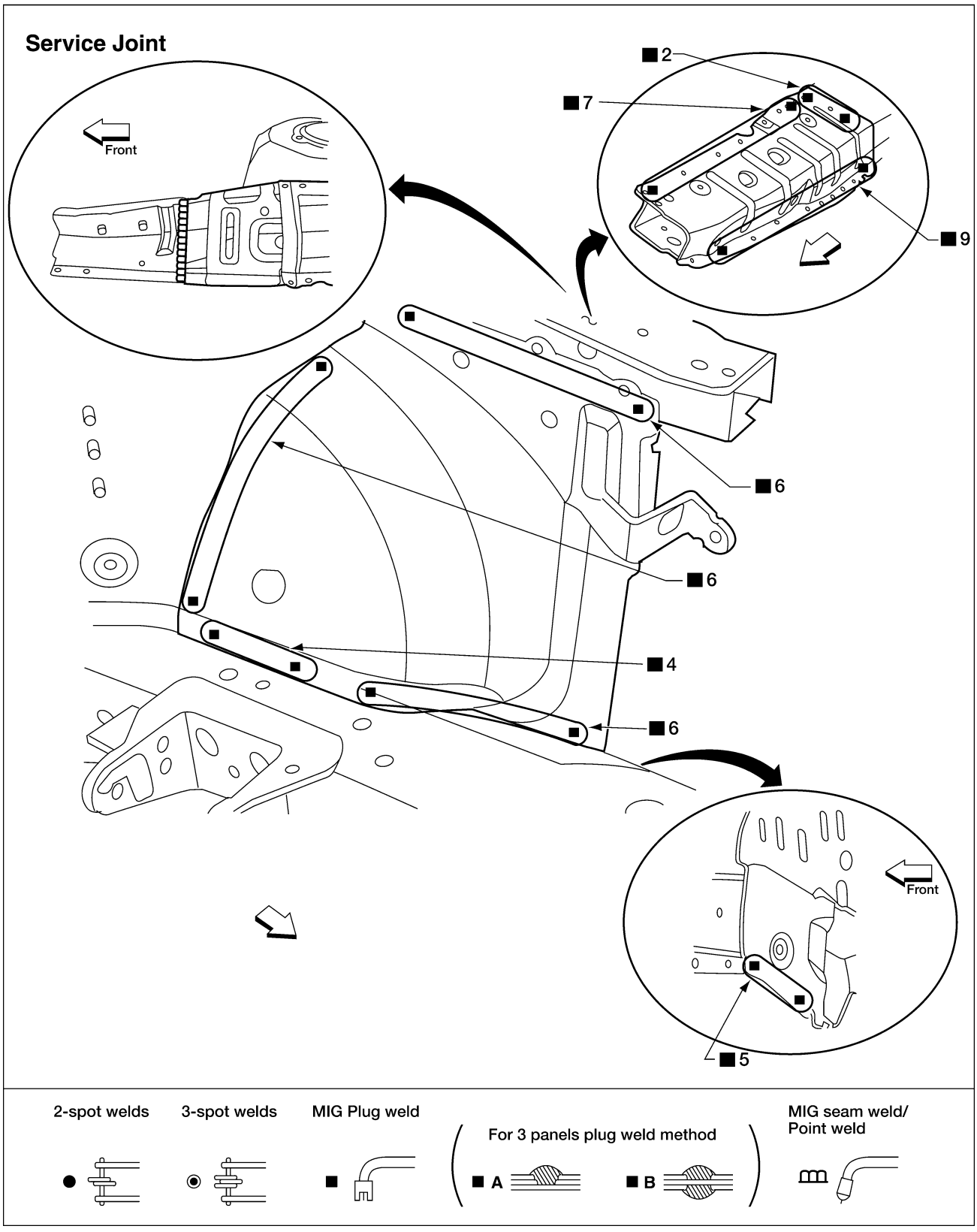
- Work after radiator core support has been removed.



WIIA0151E

HOODLEDGE (PARTIAL REPLACEMENT)

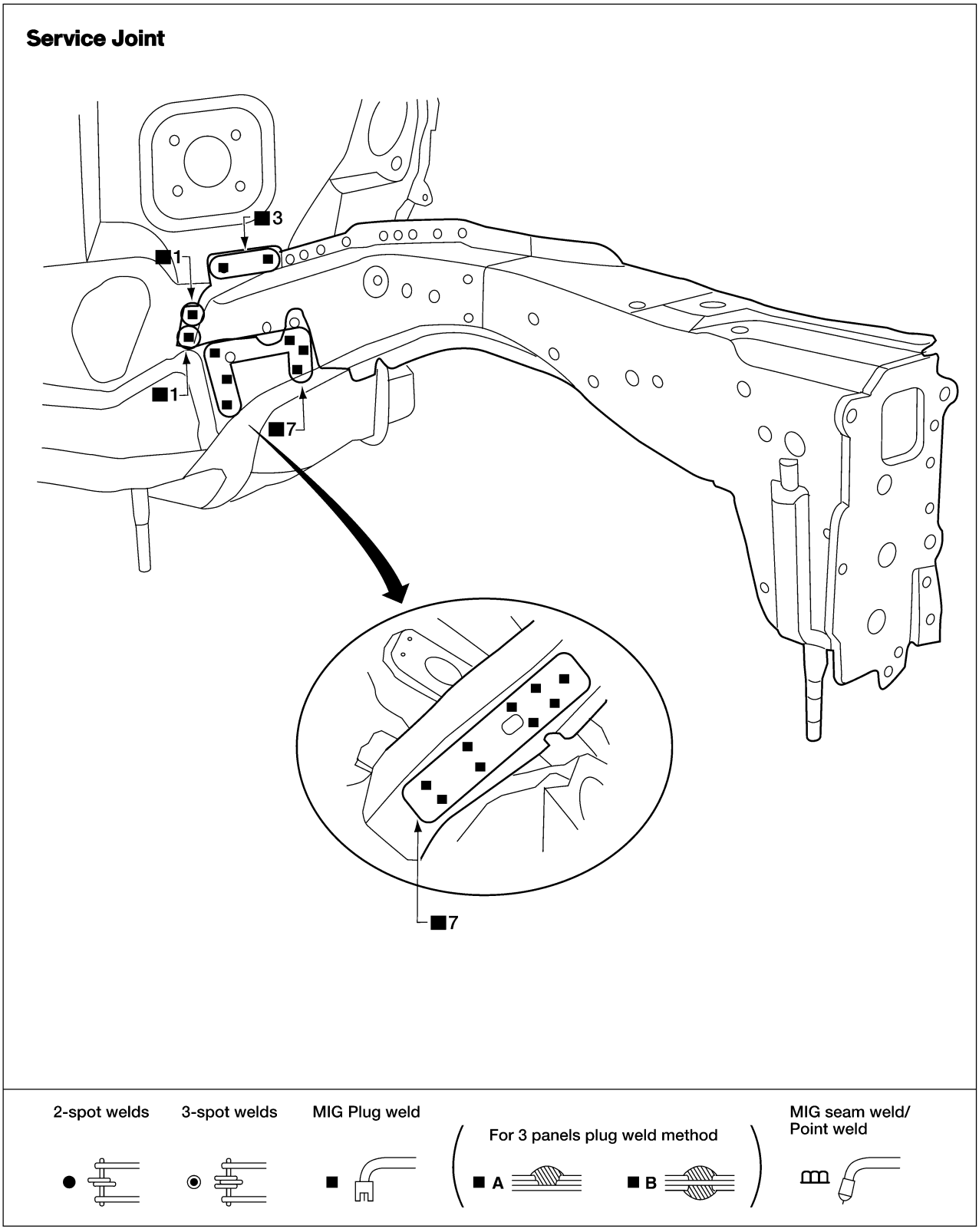
- Work after radiator core support has been removed.



WIIA0152E

FRONT SIDE MEMBER

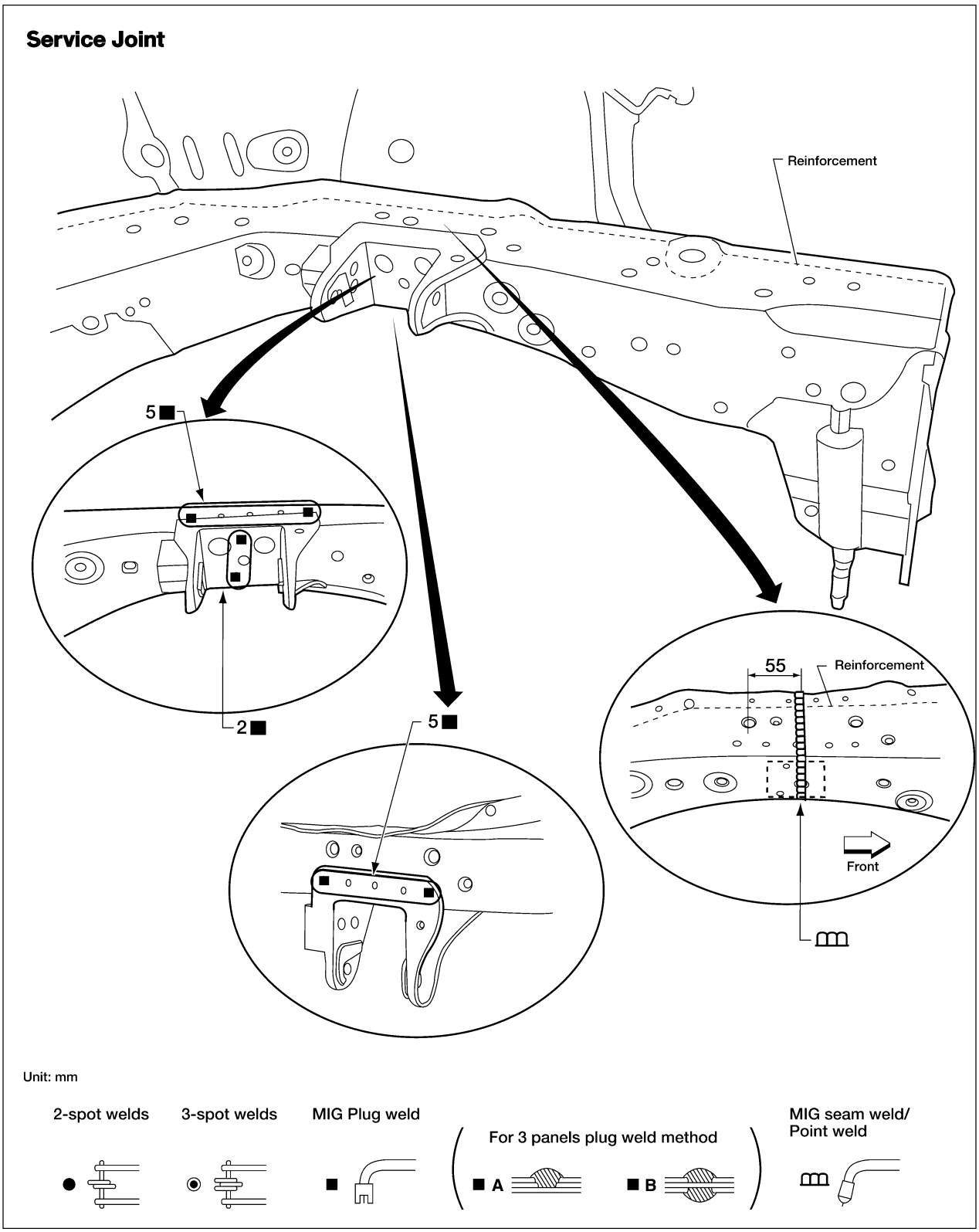
- Work after hoodledge and radiator core support have been removed.



LIIA0136E

FRONT SIDE MEMBER (PARTIAL REPLACEMENT)

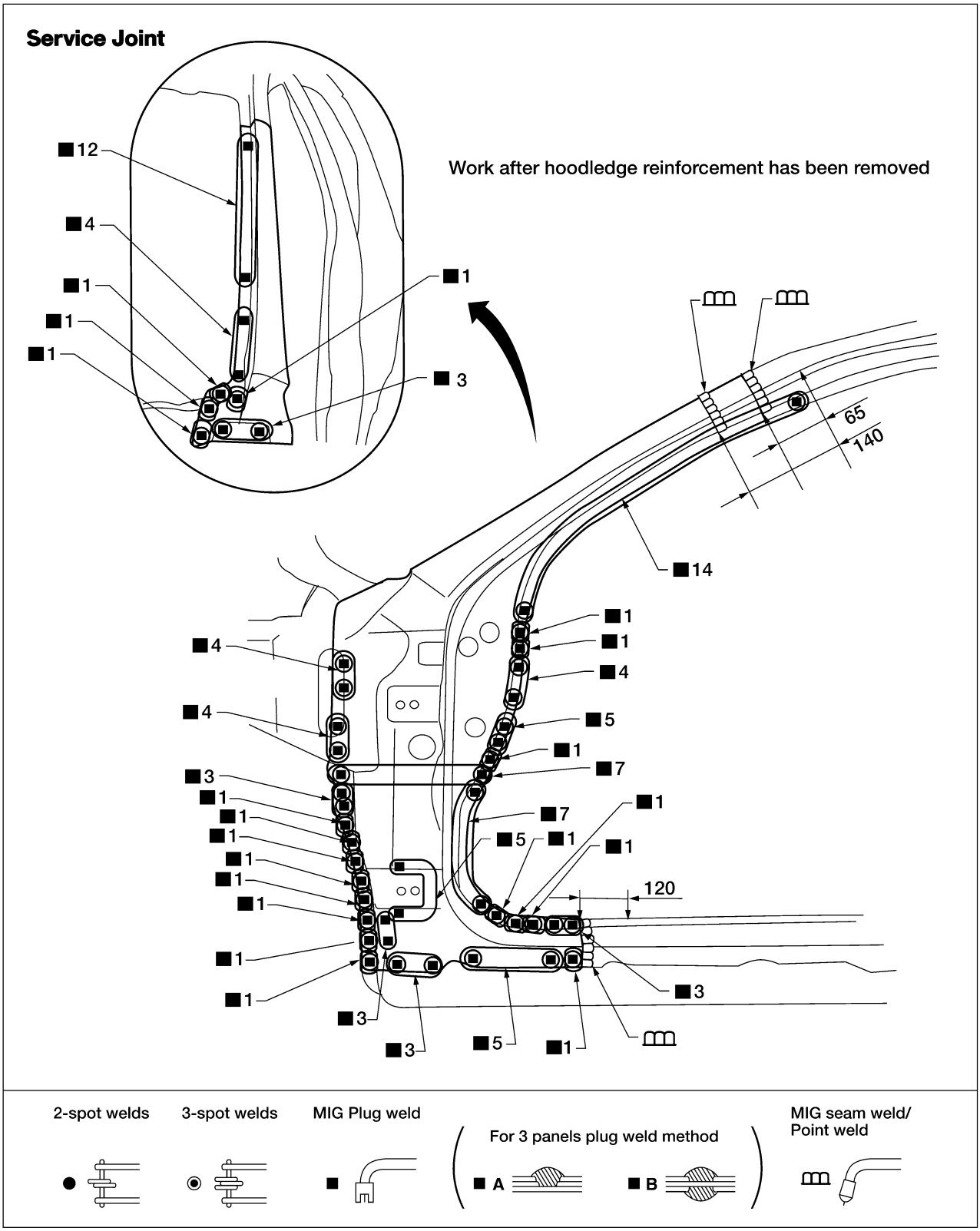
- Work after radiator core support has been removed.



WIIA0158E

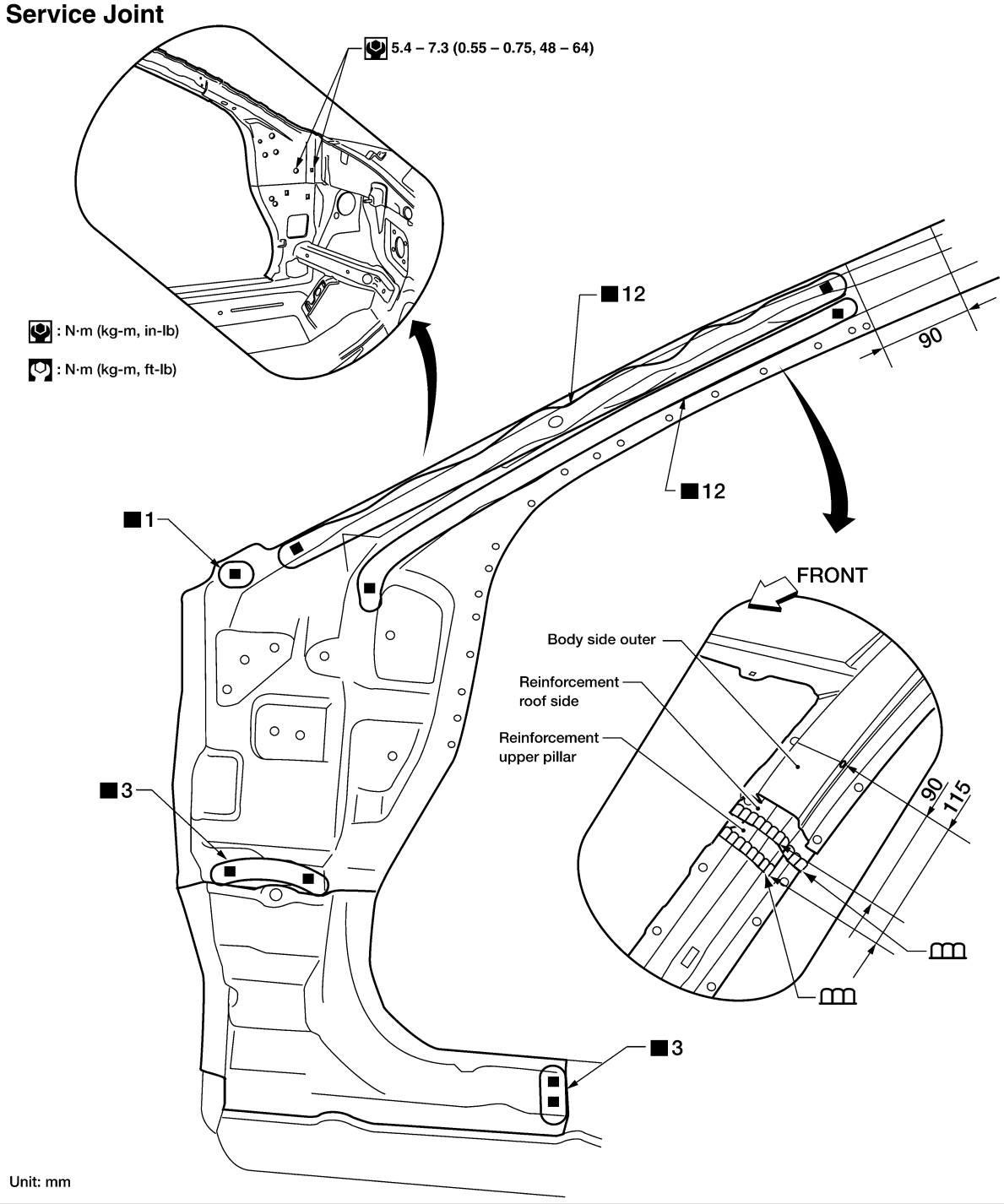
FRONT PILLAR

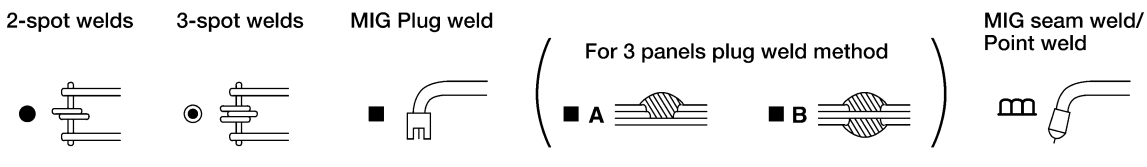
- Work after rear hoodledge reinforcement has been removed.



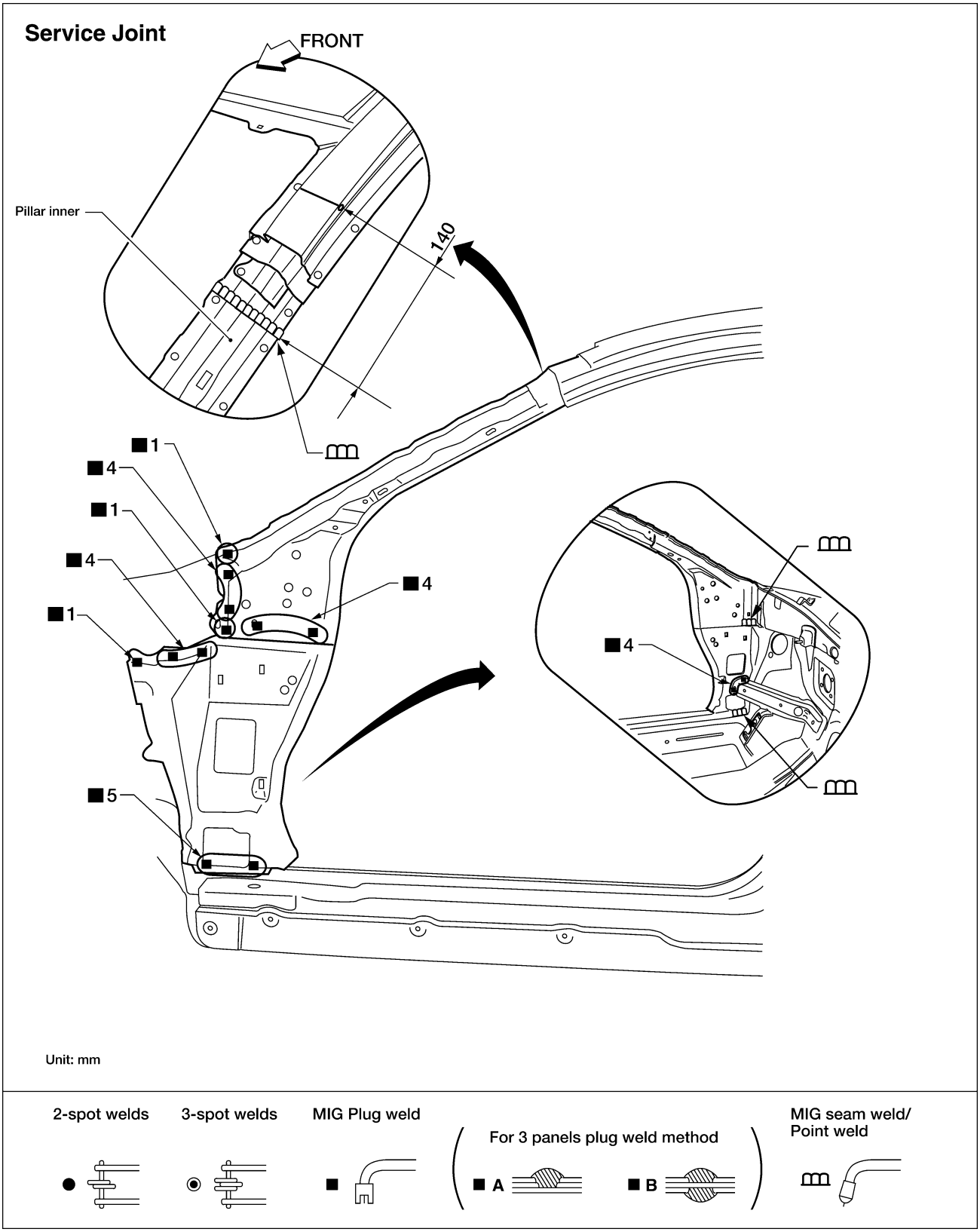
LIIA0138E

Service Joint



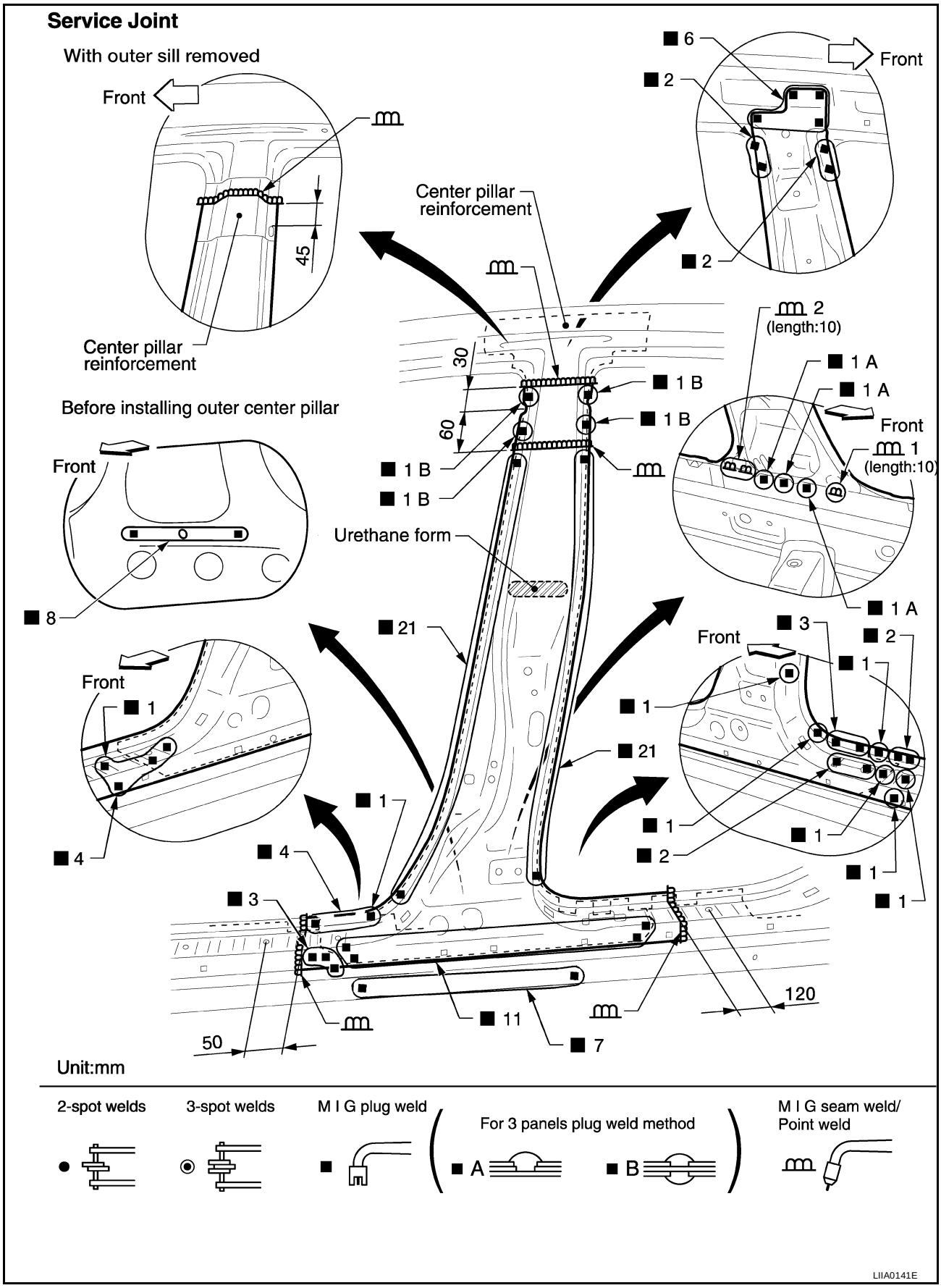


WIIA0153E

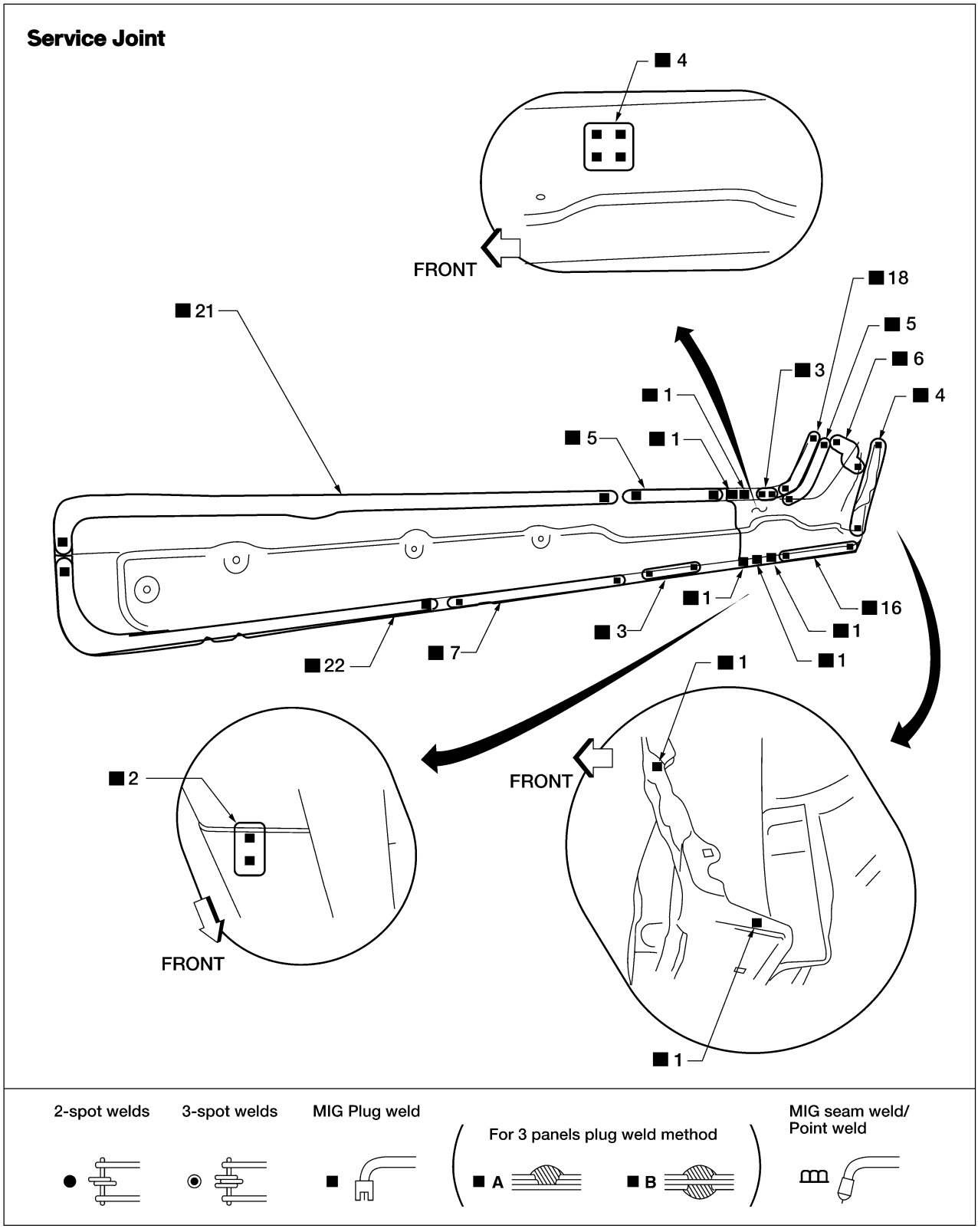

Service Joint
FRONT
Pillar inner
140
■1
■4
■1
■4
■1
■4
■5
■4
■4
2-spot welds
3-spot welds
MIG Plug weld
For 3 panels plug weld method
■A
■B
MIG seam weld/
Point weld
Unit: mm

WIIA0154E

CENTER PILLAR

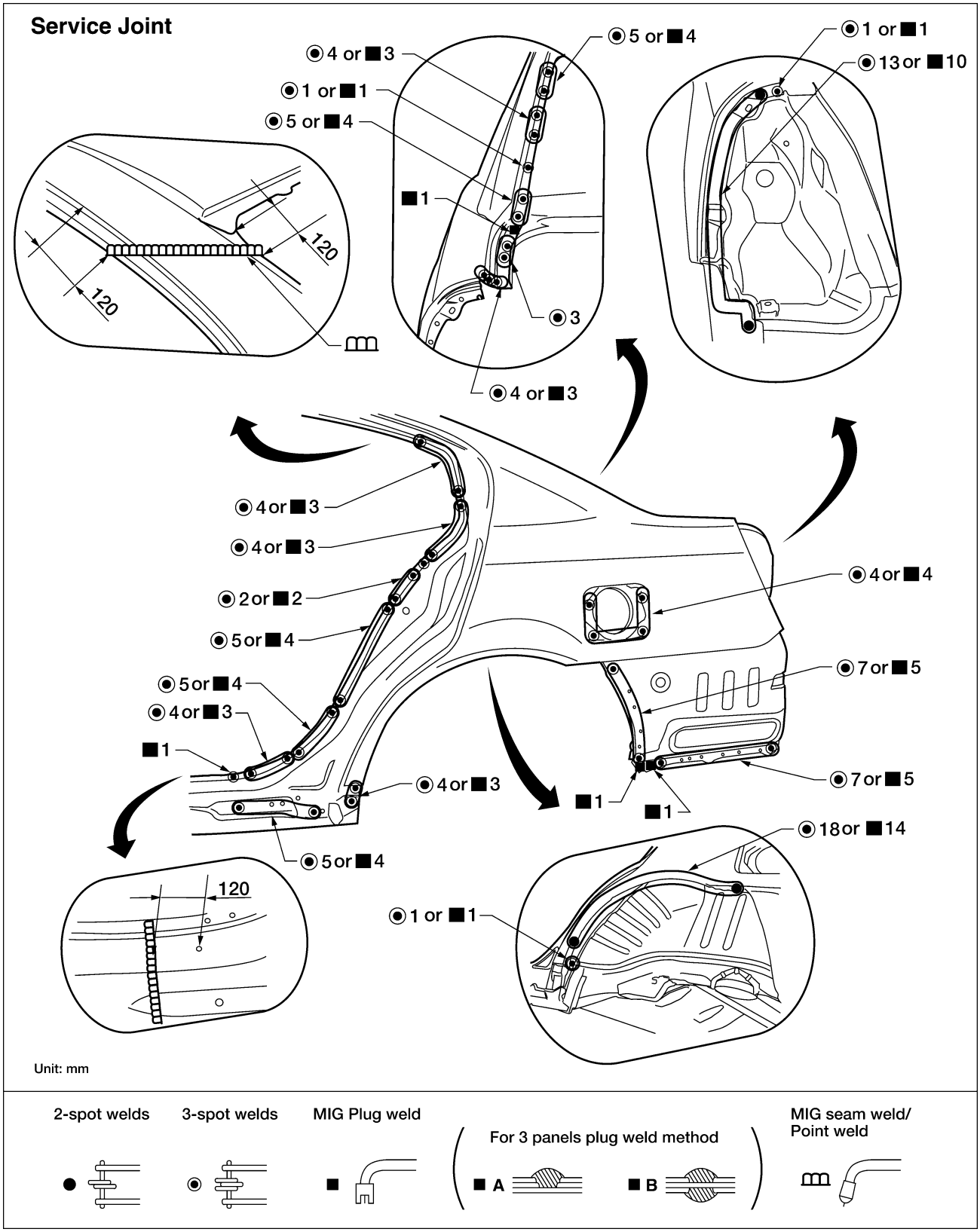


OUTER SILL



LIIA0142E

REAR FENDER

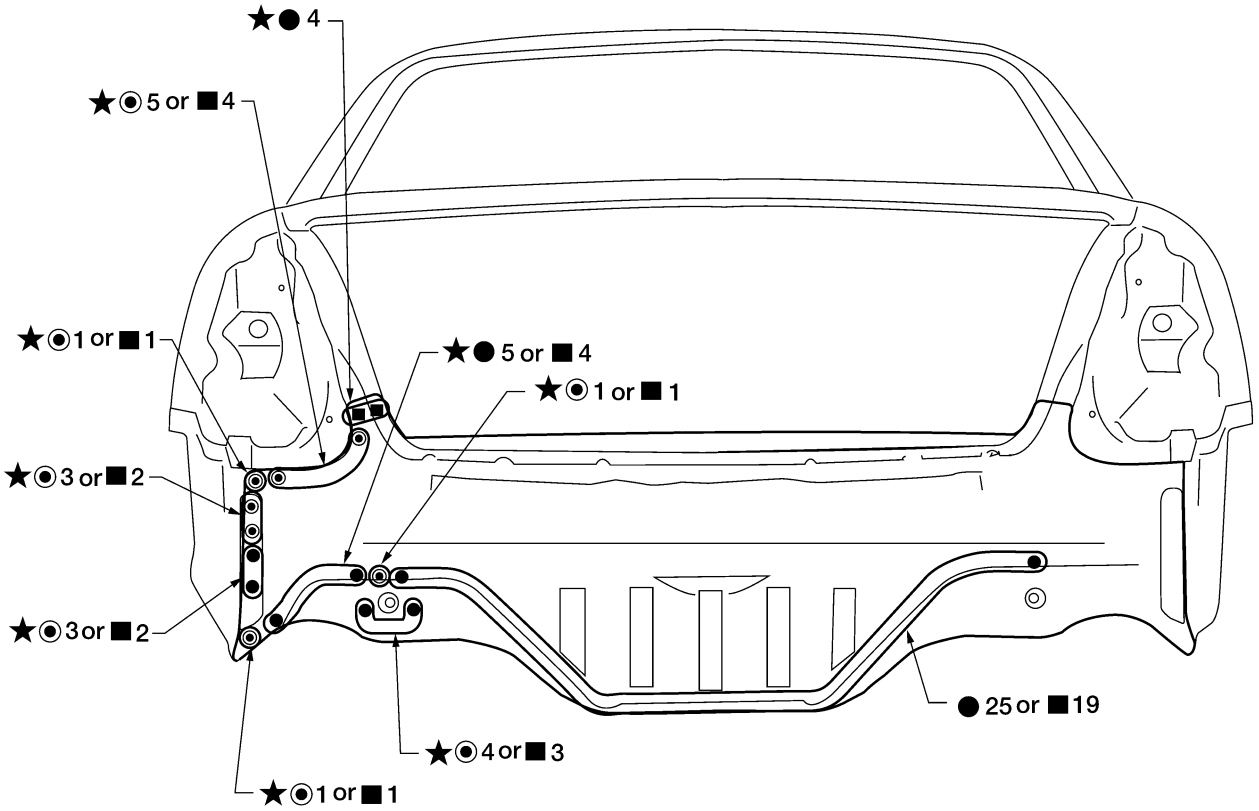


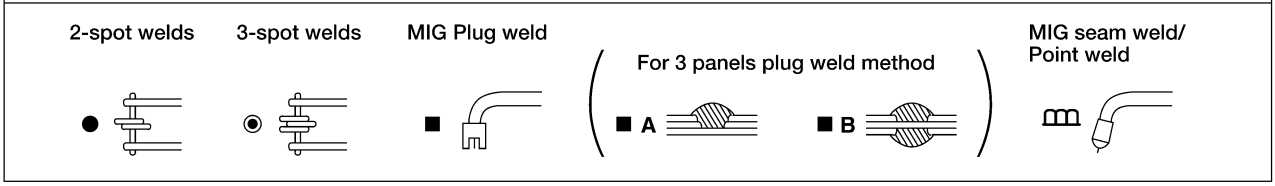
WIIA0155E

REAR PANEL

Service Joint

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

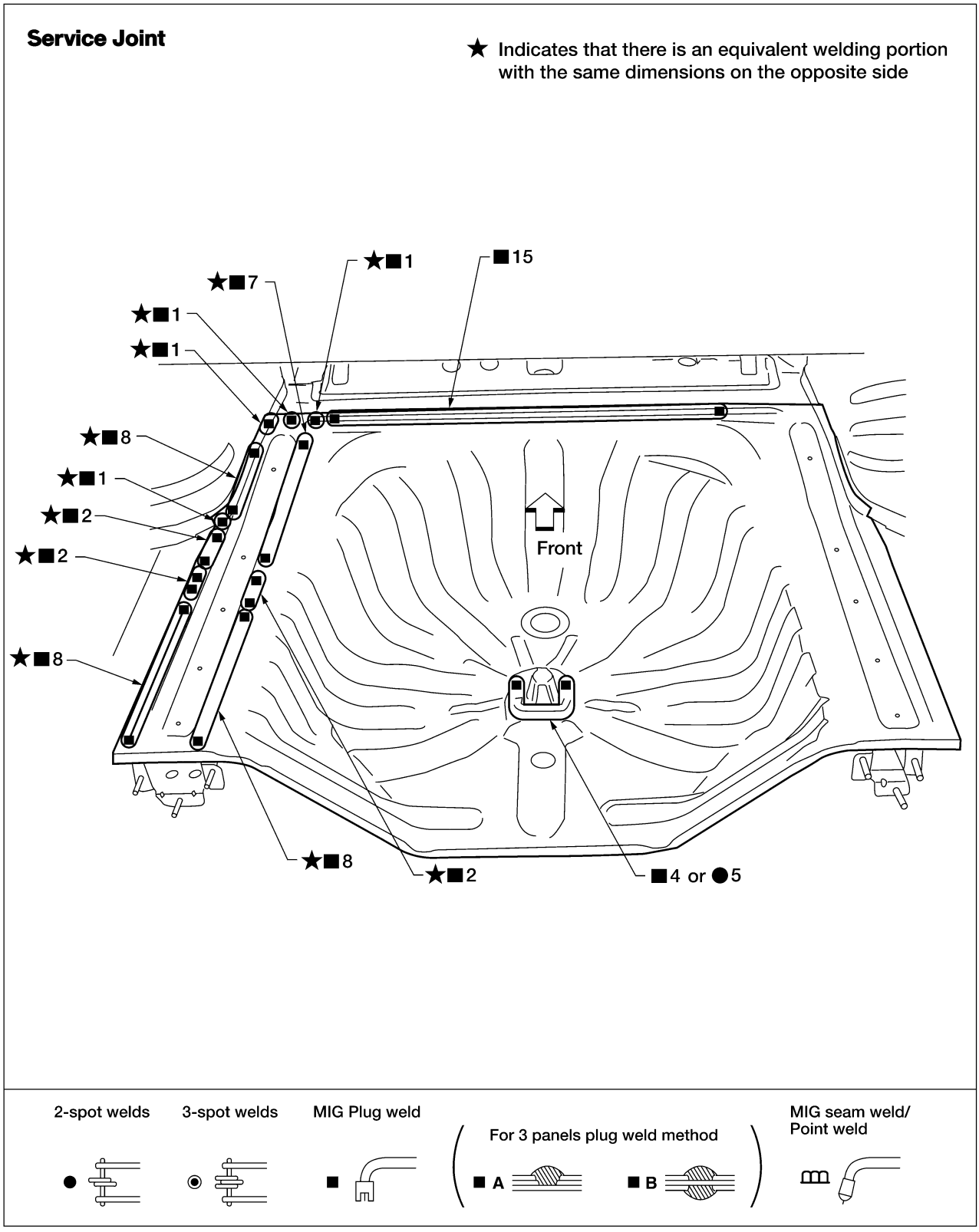




LIIA0144E

REAR FLOOR REAR

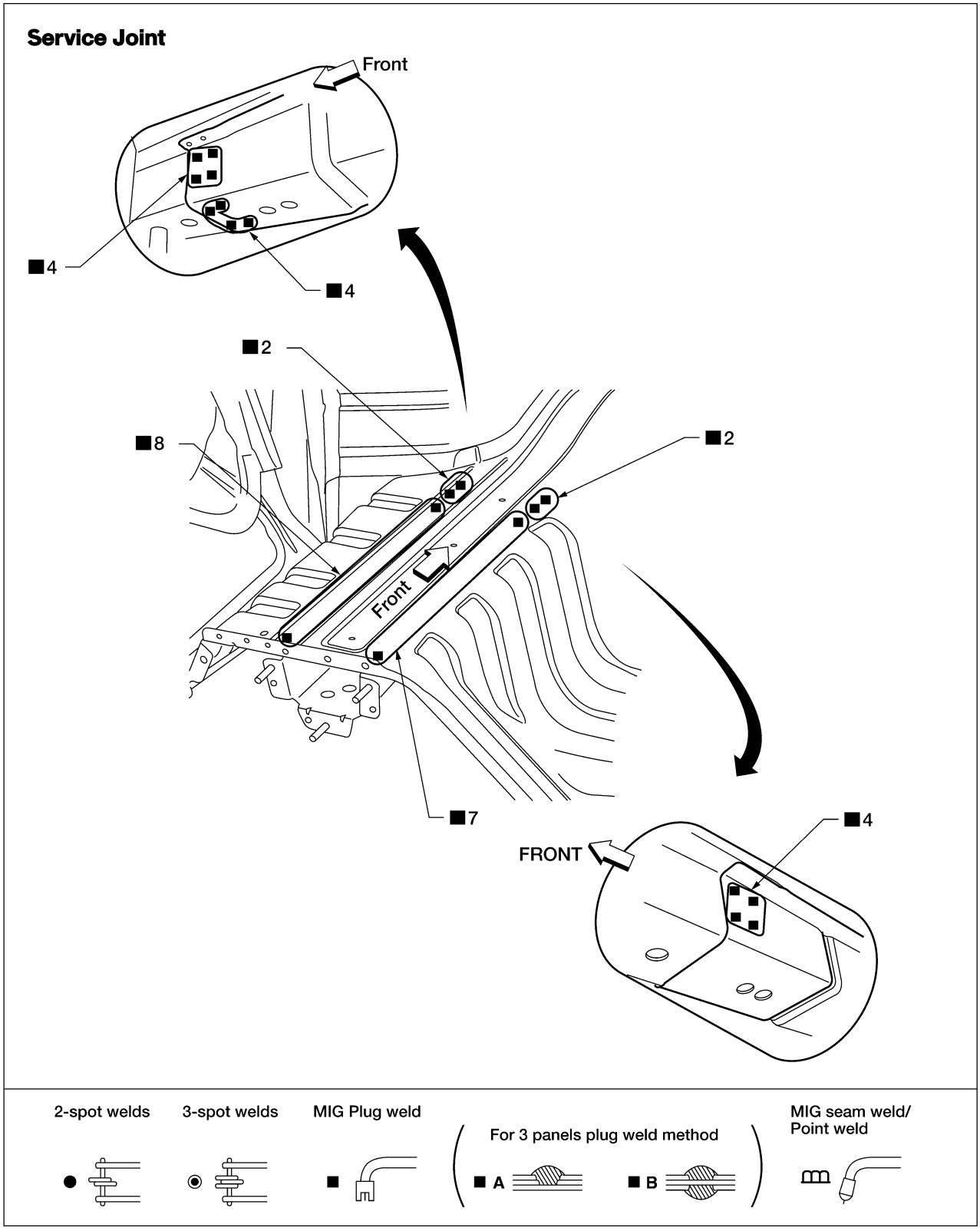
- Work after rear panel has been removed.



LIIA0145E

REAR SIDE MEMBER EXTENSION

- Work after rear panel and rear end crossmember have been removed.



LIIA0146E